

# Low Voltage Switchgear

## Rotary Cam Switches





**Innovation. Technology. Quality.**

**Switchgear from Sälzer: Solutions for the future!**

**Since 1956 Sälzer has specialised in the development, manufacture and sale of low voltage switchgear.**

The large selection of types, switching programmes and mounting forms mean that practical reliable solutions can be achieved quickly. Whatever the switch, all individual parts are optimally co-ordinated, easy to assemble and combine.

Whether in switching and automation systems, mechanical engineering and construction, in the heating, climatic and ventilation industry, environmental technology or other areas: Sälzer switches provide safety!

Product support, training and service as well as a Certified Quality Management to DIN EN ISO 9001 are an essential part of our daily work. Our switches comply with national and international standards (IEC / cUL) and are suitable for world-wide application.

### **Special requirements?**

Call us, we'll help you find an individual solution for your switching needs.

Our Project Engineers are here to understand the special requirements of your project and assist to develop a solution as a partner.

Should your requirements not be covered by our extensive standard product range we have our own Design and Development Department for special switches in order to flexibly, promptly and cost effectively meet your individual requirements.

# Rotary Cam Switches

as of p.6

Safe Switching and Controlling

## SMD – Sälzer Modular Design



### **Faster delivery by SMD!**

The SMD (Sälzer Modular Design) is based on a modular product idea so that very high flexibility in product options is possible.

SMD modules are individually prefabricated and tested complete modules. By combining these basic elements, different switch configurations can be realised within short time spans. The switches required by you, the customer, are available for despatch following the assembly of the basic switch module to the mounting form and operator modules (SMD Service).

Within 24 hours, the solution matched to your requirements is ready for despatch – worldwide.

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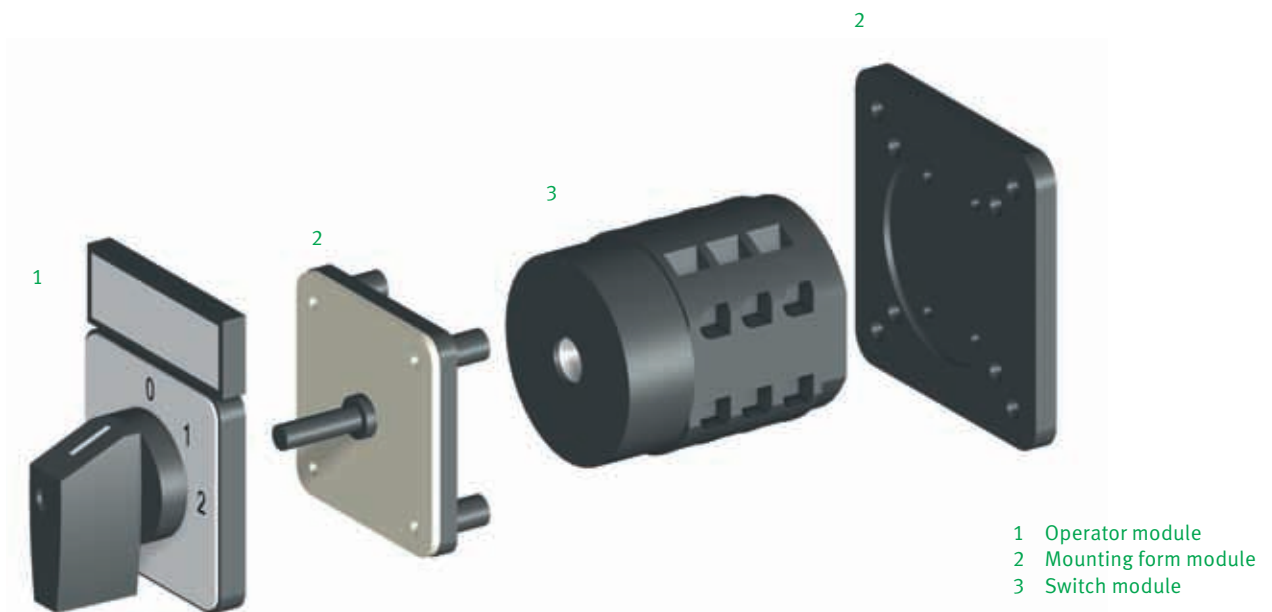
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# Rotary Cam Switches





## Rotary Cam Switches

### Safe Switching and Controlling

Rotary Cam Switches from Sälzer Electric are independently programmable, manually operated control switches for main and auxiliary circuits with up to 24 contacts and are offered with switching angles of 30°, 45°, 60° or 90°. Therefore a maximum of 12 switching positions can be provided.

#### Design and Function

- 30°, 45°, 60° or 90° switching angle
- forced open contacts
- finger protected (degree of protection up to IP20)
- short-circuit rating
- fulfills the load break requirements up to 480 V
- terminal screws in open position

#### Applications

Rotary Cam Switches offer ideal features for their use as:

- ON-OFF Switches
- Changeover Switches
- Multi-step Switches
- Code Switches
- Gang Switches
- Instrument Switches
- Motor Switches

#### Conformity

Our products are designed, manufactured and tested according to the following standards:

- IEC 60947
- IEC 60204-1
- EN 60947
- EN 60204-1
- UL 60947

# Rotary Cam Switches

Product overview

## Mounting options:



### Front mounting

- Two hole mounting
- Four hole mounting
- Single hole mounting
- Flush wall mounting



### Base mounting

- Snap-on mounting  
(DIN rail 35 mm DIN EN 60715)
- Four hole mounting



### Enclosed switches

- Insulated enclosure

Our modular technology allows us to build custom switching solutions for up to 24 poles!

All products are available  
in different versions



### Setup of order code number:

The 16 digit order code number for complete switches consists of the three ident numbers for type, switching programme and mounting form:



- the **type** specifies the physical size and power rating of the switch
- the **switching programme** specifies the switching arrangement and the switching angle
- the **mounting form** specifies the mounting, types of handle and optional extras.

In addition to the order code number, each complete switch is assigned a machine readable 13 digit EAN Code.

#### Ordering example:



**Order code number: M220 - 61040 - 003M1**

- **Type M220**  
for a switch of the product line M200, operational current  $I_e = 20 \text{ A}$
- **Switching programme 61199**  
for a 4 pole Changeover Switch without OFF
- **Mounting form 003M1**  
for a front mounting switch with four hole mounting  $36 \times 36 \text{ mm}$   
and M-handle silver/black.

Additional switching programmes can be found from page 56 where the new order code number for the switching programme can be identified. Please note that the identification number of the switching programme must now be replaced by the new selection.

# Rotary Cam Switches

Front mounting Two hole mounting 20 mm

## Front mounting switches with two hole mounting 20 mm

- 10 A
- 1 up to 16 contacts
- IP66 (front)



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

Setup of order code number: Type - Switching programme - Mounting form

Ordering example:

2 pole Multi-Step Switch without OFF, 10 A, M-handle silver/black →

|                       |                         |           |
|-----------------------|-------------------------|-----------|
| Type                  | Switching programme     | Mtg. form |
| P110                  | 61070                   | 003M1     |
| <b>Order code no.</b> | <b>P110-61070-003M1</b> |           |

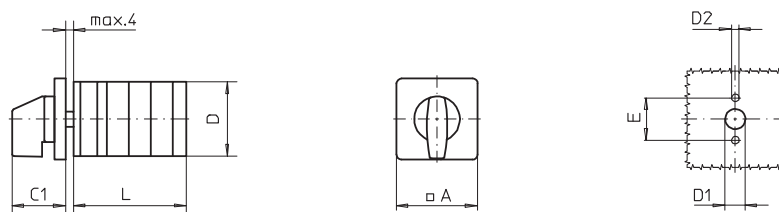
| Type | Rated data (IEC 60947)    |                                  |            | Degree of Protection | Terminal accessibility                       |
|------|---------------------------|----------------------------------|------------|----------------------|--|
|      | Operational current $I_e$ | Operational power (at 380–440 V) |            |                      |  |
|      | AC-21A (A)                | AC-23A (kW)                      | AC-3A (kW) | Terminals            |  |
| P110 | 10                        | 3                                | 2.2        | IP20                 | Terminals accessible from mounting direction |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61351               | 1      | 1        | ON-OFF Switch with spring return, 1 pole       |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61049               | 2      | 3        | Multi-step Switch without OFF, 3 steps, 1 pole |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61070               | 4      | 8        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61109               | 1      | 2        | Gang Switch, 2 gangs, 1 pole                   |
| 61111               | 3      | 6        | Gang Switch, 2 gangs, 3 pole                   |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 003M1         | M-handle silver/black |

Dimensions in mm:



| Type | A  | C1 | D  | D1 | D2  | E  | L with ... stages (max. 8) |    |    |    |    |    |     |     |
|------|----|----|----|----|-----|----|----------------------------|----|----|----|----|----|-----|-----|
|      |    |    |    |    |     |    | 1                          | 2  | 3  | 4  | 5  | 6  | 7   | 8   |
| P110 | 30 | 24 | 29 | 8  | 3.2 | 20 | 39                         | 51 | 63 | 75 | 87 | 99 | 111 | 123 |

# Rotary Cam Switches

Front mounting Two hole mounting 20 mm

## Front mounting switches with two hole mounting 20 mm

- 10 A
- 1 up to 16 contacts
- IP66 (front)



- Main/Emergency-Off Switch
- Main Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>1 pole Main/Emergency-Off Switch 90°, 10 A, padlock device with M-handle yellow/red → | Type                                   | Switching programme | Mtg. form |
|   | P110                                   | 61191               | 033M4     |
|   | <b>Order code no. P110-61191-033M4</b> |                     |           |

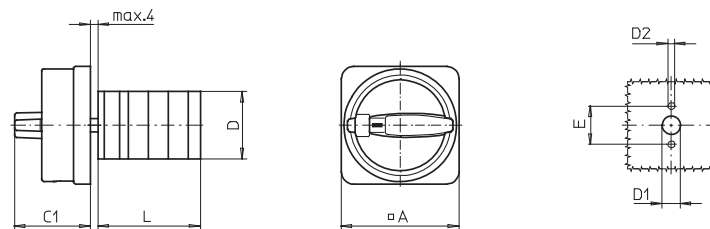
| Type | Rated data (IEC 60947)                           |   |     | Degree of Protection<br>Terminals | Terminal accessibility                       |
|------|--|---|-----|-----------------------------------|--|
|      | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |     |                                   |  |
| P110 | 10   | 3   | 2.2 | IP20                              | Terminals accessible from mounting direction |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                               |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                               |
| 61199               | 2      | 3        | ON-OFF Switch 90°, 3 pole                               |
| 61194               | 2      | 4        | ON-OFF Switch 90°, 4 pole, 1 pole early make/late break |
| 61906               | 3      | 6        | ON-OFF Switch 90°, 6 pole                               |
| 61919               | 4      | 8        | ON-OFF Switch 90°, 8 pole, 2 pole early make/late break |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator | Main/Emergency-Off Switch               | Mounting form | Operator | Main Switch                        |
|---------------|----------|---|---------------|----------|------------------------------------|
| 033M4         |          | padlock device with M-handle yellow/red | 033M1         |          | padlock device with M-handle black |

Dimensions in mm:



| Type | A  | C1 | D  | D1 | D2  | E  | L with ... stages (max. 8) |    |    |    |    |    |     |     |
|------|----|----|----|----|-----|----|----------------------------|----|----|----|----|----|-----|-----|
|      |    |    |    |    |     |    | 1                          | 2  | 3  | 4  | 5  | 6  | 7   | 8   |
| P110 | 48 | 31 | 29 | 8  | 3.2 | 20 | 39                         | 51 | 63 | 75 | 87 | 99 | 111 | 123 |

# Rotary Cam Switches

Front mounting Four hole mounting 36 × 36 mm

## Front mounting switches with four hole mounting 36 × 36 mm

- 20 A / 25 A / 32 A
- 1 up to 24 contacts
- IP66 (front)



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

Setup of order code number: Type - Switching programme - Mounting form

Ordering example:

4 pole Changeover Switch without OFF 60°, 20 A, M-handle silver/black →

| Type                  | Switching programme     | Mtg. form |
|-----------------------|-------------------------|-----------|
| M220                  | 61040                   | 003M1     |
| <b>Order code no.</b> | <b>M220-61040-003M1</b> |           |

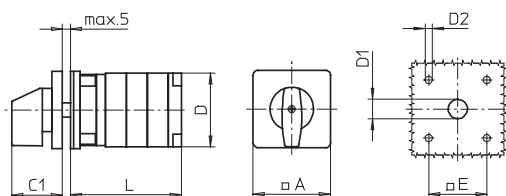
| Type         | Rated data (IEC 60947)                           |   |            | Degree of Protection<br>Terminals | Terminal accessibility                       |
|--------------|--|---|------------|-----------------------------------|--|
|              | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |            |                                   |  |
| P220<br>P225 | 20<br>25   | 7.5<br>11   | 5.5<br>7.5 | IP1B<br>IP1B                      | Terminals accessible from mounting direction |
| M220<br>M225 | 20<br>25   | 7.5<br>11   | 5.5<br>7.5 | IP20<br>IP20                      | Terminals accessible laterally               |
| T225         | 32   | 15  | 11         | IP20                              | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole   |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole   |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole   |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole   |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole                                       |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole                                       |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole                                       |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole   |
| 61040               | 4      | 8        | Changeover Switch without OFF 60°, 4 pole   |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole                                      |
| 61313               | 3      | 6        | Voltmeter Selector Switch with centre OFF, 3 phase line to line + 3 phase line to N |
| 61325               | 3      | 6        | Ammeter Selector Switch with centre OFF, 3 transformers, 1 pole                     |
| 61211               | 3      | 5        | Motor Reversing Switch, 3 pole  |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 003M1         | M-handle silver/black |

Dimensions in mm:



| Type | L with ... stages (max. 12) |    |    |    |     |    |    |    |    |    |     | each additional |
|------|-----------------------------|----|----|----|-----|----|----|----|----|----|-----|-----------------|
|      | A                           | C1 | D  | D1 | D2  | E  | 1  | 2  | 3  | 4  | 5   |                 |
| P220 | 48                          | 32 | 44 | 12 | 4.5 | 36 | 47 | 60 | 73 | 86 | 99  | 13              |
| P225 | 48                          | 32 | 46 | 12 | 4.5 | 36 | 51 | 66 | 81 | 96 | 111 | 15              |
| M220 | 48                          | 32 | 46 | 12 | 4.5 | 36 | 40 | 50 | 60 | 70 | 80  | 10              |
| M225 | 48                          | 32 | 48 | 12 | 4.5 | 36 | 43 | 56 | 69 | 82 | 95  | 13              |
| T225 | 48                          | 32 | 50 | 12 | 4.5 | 36 | 45 | 60 | 75 | 90 | 105 | 15              |

# Rotary Cam Switches

Front mounting Four hole mounting 36 × 36 mm

## Front mounting switches with four hole mounting 36 × 36 mm

- with dust protective cover
- 20 A / 25 A / 32 A
- 1 up to max. 8 contacts
- IP66



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

Setup of order code number: Type - Switching programme - Mounting form

Ordering example:

2 pole Changeover Switch with centre OFF and spring return 60°, 20 A, M-handle silver/black →

| Type                  | Switching programme     | Mtg. form |
|-----------------------|-------------------------|-----------|
| M220                  | 61362                   | 005M1     |
| <b>Order code no.</b> | <b>M220-61362M005M1</b> |           |

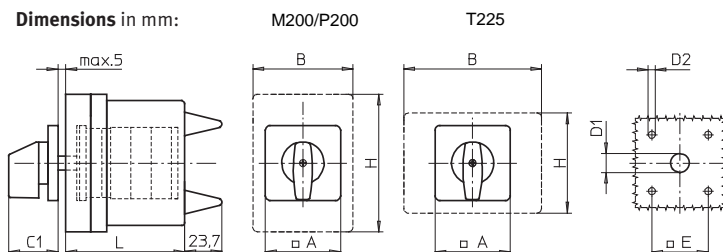
| Type                       | Contacts         | Rated data (IEC 60947)                  |   |            | Degree of Protection<br>Terminals | Terminal accessibility                       |
|----------------------------|------------------|---|---|------------|-----------------------------------|--|
|                            |                  | Operational current $I_e$<br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |            |                                   |  |
| <b>P220</b><br><b>P225</b> | 1 to 6<br>1 to 4 | 20<br>25                                | 7.5<br>11   | 5.5<br>7.5 | IP66<br>IP66                      | Terminals accessible from mounting direction |
| <b>M220</b><br><b>M225</b> | 1 to 8<br>1 to 6 | 20<br>25                                | 7.5<br>11   | 5.5<br>7.5 | IP66<br>IP66                      | Terminals accessible laterally               |
| <b>T225</b>                | 1 to 4           | 32                                      | 15  | 11         | IP66                              | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                                       |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                                       |
| 61199               | 2      | 3        | ON-OFF Switch 90°, 3 pole                                       |
| 61194               | 2      | 4        | ON-OFF Switch 90°, 4 pole, 1 pole early make/late break         |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                                       |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                                       |
| 61003               | 2      | 3        | ON-OFF Switch 60°, 3 pole                                       |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole                   |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole                   |
| 61362               | 2      | 4        | Changeover Switch with centre OFF and spring return 60°, 2 pole |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole                       |
| 61049               | 2      | 3        | Multi-step Switch without OFF, 3 steps, 1 pole                  |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole                  |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 005M1         | M-handle silver/black |

Dimensions in mm:



| Type        | L with ... stages |    |    |    |     |    |    | L with ... stages |    |    |    |
|-------------|-------------------|----|----|----|-----|----|----|-------------------|----|----|----|
|             | A                 | B  | C1 | D1 | D2  | E  | H  | 1                 | 2  | 3  | 4  |
| <b>P220</b> | 48                | 64 | 32 | 12 | 4.5 | 36 | 88 | 80                | 80 | 80 | -  |
| <b>P225</b> | 48                | 64 | 32 | 12 | 4.5 | 36 | 88 | 80                | 80 | -  | -  |
| <b>M220</b> | 48                | 64 | 32 | 12 | 4.5 | 36 | 88 | 80                | 80 | 80 | 80 |
| <b>M225</b> | 48                | 64 | 32 | 12 | 4.5 | 36 | 88 | 80                | 80 | 80 | -  |
| <b>T225</b> | 48                | 88 | 32 | 12 | 4.5 | 36 | 64 | 80                | 80 | -  | -  |

# Rotary Cam Switches

Front mounting Four hole mounting 36 × 36 mm

## Front mounting switches with four hole mounting 36 × 36 mm

- 20 A / 25 A / 32 A
- 1 up to 24 contacts
- IP66 (front)



- Main/Emergency-Off Switch
- Main Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>2 pole Main/Emergency-Off Switch 90°, 20 A, padlock device with M-handle yellow/red → | Type                                   | Switching programme | Mtg. form |
|   | M220                                   | 61192               | 033M4     |
|   | <b>Order code no. M220-61192-033M4</b> |                     |           |

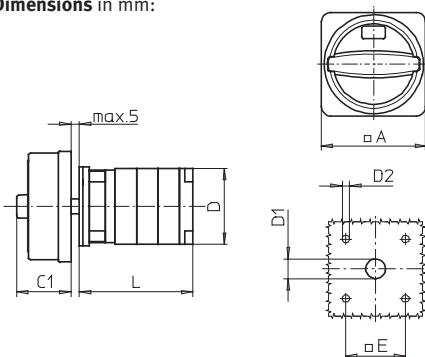
| Type         | Rated data (IEC 60947)                           |   |            | Degree of Protection<br>Terminals | Terminal accessibility                       |
|--------------|--|---|------------|-----------------------------------|--|
|              | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW) | AC-3A (kW) |                                   |  |
| P220<br>P225 | 20<br>25   | 7.5<br>11                                       | 5.5<br>7.5 | IP1B<br>IP1B                      | Terminals accessible from mounting direction |
| M220<br>M225 | 20<br>25   | 7.5<br>11                                       | 5.5<br>7.5 | IP20<br>IP20                      | Terminals accessible laterally               |
| T225         | 32   | 15  | 11         | IP20                              | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                               |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                               |
| 61199               | 2      | 3        | ON-OFF Switch 90°, 3 pole                               |
| 61194               | 2      | 4        | ON-OFF Switch 90°, 4 pole, 1 pole early make/late break |
| 61906               | 3      | 6        | ON-OFF Switch 90°, 6 pole                               |
| 61919               | 4      | 8        | ON-OFF Switch 90°, 8 pole, 2 pole early make/late break |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator | Main/Emergency-Off Switch               | Mounting form | Operator | Main Switch                            |
|---------------|----------|---|---------------|----------|--|
| 033N4         |          | padlock device with N-handle yellow/red | 033N1         |          | padlock device with N-handle black     |
| 033M4         |          | padlock device with M-handle yellow/red | 033M1         |          | padlock device with M-handle black     |
| 033V4         |          | padlockable with V-handle yellow/red    | 033V1         |          | padlockable with V-handle silver/black |

Dimensions in mm:



| Type | Mounting form | A  | C1 | D  | D1 | D2  | E  | L with ... stages (max. 12) |    |    |    |     | each additional |
|------|---------------|----|----|----|----|-----|----|-----------------------------|----|----|----|-----|-----------------|
|      |               |    |    |    |    |     |    | 1                           | 2  | 3  | 4  | 5   |                 |
| P220 | 033N4/033N1   | 67 | 33 | 44 | 15 | 4.5 | 36 | 47                          | 60 | 73 | 86 | 99  | 13              |
|      | 033M4/033M1   | 67 | 38 | 44 | 15 | 4.5 | 36 | 47                          | 60 | 73 | 86 | 99  | 13              |
|      | 033V4/033V1   | 48 | 32 | 44 | 12 | 4.5 | 36 | 47                          | 60 | 73 | 86 | 99  | 13              |
| P225 | 033N4/033N1   | 67 | 33 | 46 | 15 | 4.5 | 36 | 51                          | 66 | 81 | 96 | 111 | 15              |
|      | 033M4/033M1   | 67 | 38 | 46 | 15 | 4.5 | 36 | 51                          | 66 | 81 | 96 | 111 | 15              |
|      | 033V4/033V1   | 48 | 32 | 46 | 12 | 4.5 | 36 | 51                          | 66 | 81 | 96 | 111 | 15              |
| M220 | 033N4/033N1   | 67 | 33 | 46 | 15 | 4.5 | 36 | 40                          | 50 | 60 | 70 | 80  | 10              |
|      | 033M4/033M1   | 67 | 38 | 46 | 15 | 4.5 | 36 | 40                          | 50 | 60 | 70 | 80  | 10              |
|      | 033V4/033V1   | 48 | 32 | 46 | 12 | 4.5 | 36 | 40                          | 50 | 60 | 70 | 80  | 10              |
| M225 | 033N4/033N1   | 67 | 33 | 48 | 15 | 4.5 | 36 | 43                          | 56 | 69 | 82 | 95  | 13              |
|      | 033M4/033M1   | 67 | 38 | 48 | 15 | 4.5 | 36 | 43                          | 56 | 69 | 82 | 95  | 13              |
|      | 033V4/033V1   | 48 | 32 | 48 | 12 | 4.5 | 36 | 43                          | 56 | 69 | 82 | 95  | 13              |
| T225 | 033N4/033N1   | 67 | 33 | 50 | 15 | 4.5 | 36 | 45                          | 60 | 75 | 90 | 105 | 15              |
|      | 033M4/033M1   | 67 | 38 | 50 | 15 | 4.5 | 36 | 45                          | 60 | 75 | 90 | 105 | 15              |
|      | 033V4/033V1   | 48 | 32 | 50 | 12 | 4.5 | 36 | 45                          | 60 | 75 | 90 | 105 | 15              |

# Rotary Cam Switches

Front mounting Four hole mounting 48 × 48 mm

## Front mounting switches with four hole mounting 48 × 48 mm

- 50 A / 63 A
- 1 up to 24 contacts
- IP55 (front)



- ON-OFF Switch
- Multi-step Switch
- Changeover Switch
- Motor Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>3 pole ON-OFF Switch 90°, 50 A, M-handle silver/black → | Type                                   | Switching programme | Mtg. form |
|   | S432                                   | 61199               | 003M1     |
|   | <b>Order code no. S432-61199-003M1</b> |                     |           |

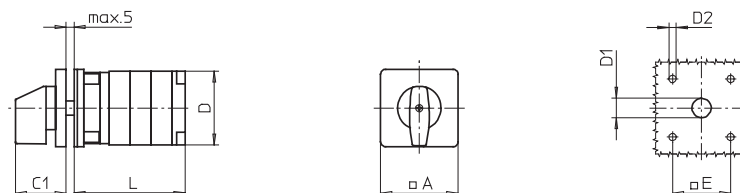
| Type | Rated data (IEC 60947)                  |   |    | Terminal accessibility         |
|------|---|---|----|--------------------------------|
|      | Operational current $I_n$<br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |    |                                |
| S432 | 50                                      | 22  | 22 | Terminals accessible laterally |
| S440 | 63                                      | 30  | 30 |                                |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                               |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                               |
| 61199               | 2      | 3        | ON-OFF Switch 90°, 3 pole                               |
| 61194               | 2      | 4        | ON-OFF Switch 90°, 4 pole, 1 pole early make/late break |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                               |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                               |
| 61003               | 2      | 3        | ON-OFF Switch 60°, 3 pole                               |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole           |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole           |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole               |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole          |
| 61211               | 3      | 5        | Motor Reversing Switch, 3 pole                          |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 003M1         | M-handle silver/black |

Dimensions in mm:



| Type | A  | C1 | D  | D1 | D2 | E  | L with ... stages (max. 12) |    |    |     |     |     |     | each additional |
|------|----|----|----|----|----|----|-----------------------------|----|----|-----|-----|-----|-----|-----------------|
|      |    |    |    |    |    |    | 1                           | 2  | 3  | 4   | 5   | 6   | 7   |                 |
| S432 | 64 | 39 | 65 | 12 | 5  | 48 | 51                          | 69 | 87 | 105 | 123 | 141 | 159 | 18              |
| S440 | 64 | 39 | 70 | 12 | 5  | 48 | 56                          | 77 | 98 | 119 | 140 | 161 | 182 | 21              |

# Rotary Cam Switches

Front mounting Four hole mounting 68 × 68 mm

## Front mounting switches with four hole mounting 68 × 68 mm

- 80 A / 100 A / 160 A
- 1 up to 24 contacts
- IP55 (front)



- ON-OFF Switch
- Multi-step Switch
- Changeover Switch
- Motor Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>3 pole ON-OFF Switch 90°, 80 A, G-handle silver/black → | Type                                   | Switching programme | Mtg. form |
|   | S606                                   | 61199               | 003G1     |
|   | <b>Order code no. S606-61199-003G1</b> |                     |           |

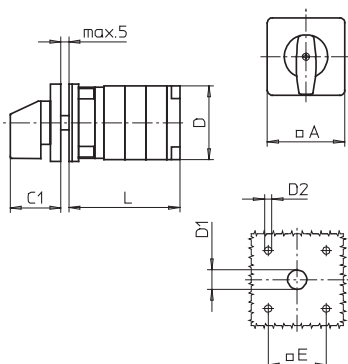
| Type        | Rated data (IEC 60947)                           |                                  |            | Terminal accessibility         |
|-------------|--|----------------------------------|------------|--------------------------------|
|             | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                                |
|             |  | AC-23A (kW)                      | AC-3A (kW) |                                |
| <b>S606</b> | 80   | 45                               | 30         | Terminals accessible laterally |
| <b>S608</b> | 100  | 55                               | 37         |                                |
| <b>S612</b> | 160  | 75                               | 45         |                                |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| <b>61191</b>        | 1      | 1        | ON-OFF Switch 90°, 1 pole                               |
| <b>61192</b>        | 1      | 2        | ON-OFF Switch 90°, 2 pole                               |
| <b>61199</b>        | 2      | 3        | ON-OFF Switch 90°, 3 pole                               |
| <b>61194</b>        | 2      | 4        | ON-OFF Switch 90°, 4 pole, 1 pole early make/late break |
| <b>61001</b>        | 1      | 1        | ON-OFF Switch 60°, 1 pole                               |
| <b>61002</b>        | 1      | 2        | ON-OFF Switch 60°, 2 pole                               |
| <b>61003</b>        | 2      | 3        | ON-OFF Switch 60°, 3 pole                               |
| <b>61025</b>        | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole           |
| <b>61027</b>        | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole           |
| <b>61037</b>        | 1      | 2        | Changeover Switch without OFF 60°, 1 pole               |
| <b>61050</b>        | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole          |
| <b>61211</b>        | 3      | 5        | Motor Reversing Switch, 3 pole                          |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              | Mounting form | Operator              |
|---------------|-----------------------|---------------|-----------------------|
| <b>003M1</b>  | M-handle silver/black | <b>003G1</b>  | G-handle silver/black |

Dimensions in mm:



| Type        | Mtg. form | A  | C1 | D  | D1 | D2  | E  | L with ... stages (max. 12) |     |     |     |     | each additional |
|-------------|-----------|----|----|----|----|-----|----|-----------------------------|-----|-----|-----|-----|-----------------|
|             |           |    |    |    |    |     |    | 1                           | 2   | 3   | 4   | 5   |                 |
| <b>S606</b> | 003M1     | 88 | 52 | 84 | 15 | 5.5 | 68 | 59                          | 81  | 103 | 125 | 147 | 22              |
|             | 003G1     | 88 | 66 | 84 | 15 | 5.5 | 68 | 59                          | 81  | 103 | 125 | 147 | 22              |
| <b>S608</b> | 003M1     | 88 | 52 | 88 | 15 | 5.5 | 68 | 66                          | 92  | 118 | 144 | 170 | 26              |
|             | 003G1     | 88 | 66 | 88 | 15 | 5.5 | 68 | 66                          | 92  | 118 | 144 | 170 | 26              |
| <b>S612</b> | 003M1     | 88 | 52 | 88 | 15 | 5.5 | 68 | 72                          | 104 | 136 | 168 | 200 | 32              |
|             | 003G1     | 88 | 66 | 88 | 15 | 5.5 | 68 | 72                          | 104 | 136 | 168 | 200 | 32              |



# Rotary Cam Switches

Front mounting Four hole mounting 104 × 104 mm

## Front mounting switches with four hole mounting 104 × 104 mm

- 315 A
- 1 up to 24 contacts
- IP55 (front)



- ON-OFF Switch
- Multi-step Switch
- Changeover Switch
- Motor Switch

|  |  |                     |           |
|--|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>4 pole ON-OFF Switch 90°, 315 A, G-handle silver/black → | Type                                   | Switching programme | Mtg. form |
|  | S825                                   | 61194               | 003G1     |
|  | <b>Order code no. S825-61194-003G1</b> |                     |           |

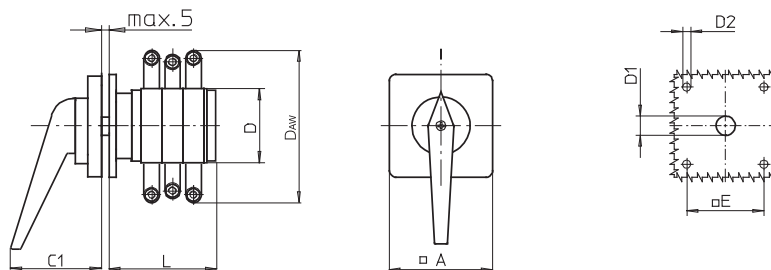
| Type | Rated data (IEC 60947)                           |                                  |            | Terminal accessibility         |
|------|--|----------------------------------|------------|--------------------------------|
|      | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                                |
|      |  | AC-23A (kW)                      | AC-3A (kW) |                                |
| S825 | 315  | 132                              | 55         | Terminals accessible laterally |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                               |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                               |
| 61199               | 2      | 3        | ON-OFF Switch 90°, 3 pole                               |
| 61194               | 2      | 4        | ON-OFF Switch 90°, 4 pole, 1 pole early make/late break |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                               |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                               |
| 61003               | 2      | 3        | ON-OFF Switch 60°, 3 pole                               |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole           |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole           |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole               |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole          |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 003G1         | G-handle silver/black |

Dimensions in mm:



| Type | A   | C1 | D   | D <sub>AW</sub> | D1 | D2  | E   | L with ... stages (max. 12) |     |     |     |     |     |     | each additional |
|------|-----|----|-----|-----------------|----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|-----|-----------------|
|      |     |    |     |                 |    |     |     | 1                           | 2   | 3   | 4   | 5   | 6   | 7   |                 |
| S825 | 130 | 74 | 120 | 210             | 20 | 5.5 | 104 | 89                          | 125 | 161 | 197 | 233 | 269 | 305 | 36              |

# Rotary Cam Switches

Front mounting Single hole mounting Ø 16 mm/22.5 mm

## Front mounting switches with single hole mounting Ø 16 mm/22.5 mm

- 10 A
- 1 up to 16 contacts
- IP66 (front)



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

Setup of order code number: Type - Switching programme - Mounting form

Ordering example:

4 pole Changeover Switch with centre OFF 60°, 10 A, M-handle silver/black →

| Type                  | Switching programme | Mtg. form               |
|-----------------------|---------------------|-------------------------|
| P110                  | 61028               | 219M1                   |
| <b>Order code no.</b> |                     | <b>P110-61028-219M1</b> |

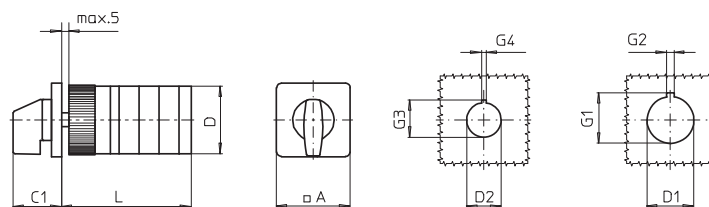
| Type | Rated data (IEC 60947)                           |   |     | Degree of Protection<br>Terminals | Terminal accessibility                       |
|------|--|---|-----|-----------------------------------|--|
|      | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |     |                                   |  |
| P110 | 10   | 3   | 2.2 | IP20                              | Terminals accessible from mounting direction |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61351               | 1      | 1        | ON-OFF Switch with spring return, 1 pole       |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61028               | 4      | 8        | Changeover Switch with centre OFF 60°, 4 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61049               | 2      | 3        | Multi-step Switch without OFF, 3 steps, 1 pole |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61109               | 1      | 2        | Gang Switch, 2 gangs, 1 pole                   |
| 61111               | 3      | 6        | Gang Switch, 2 gangs, 3 pole                   |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 219M1         | M-handle silver/black |

Dimensions in mm:



| Type | A  | C1 | D  | D1   | D2   | G1 | G2  | G3   | G4  | L with ... stages (max. 8) |    |    |    | each additional |
|------|----|----|----|------|------|----|-----|------|-----|----------------------------|----|----|----|-----------------|
|      |    |    |    |      |      |    |     |      |     | 1                          | 2  | 3  | 4  |                 |
| P110 | 30 | 26 | 29 | 22.5 | 16.2 | 20 | 3.2 | 17.9 | 1.7 | 57                         | 69 | 81 | 93 | 12              |

# Rotary Cam Switches

Front mounting Single hole mounting  $\varnothing$  16 mm/22.5 mm

## Front mounting switches with single hole mounting $\varnothing$ 16 mm/22.5 mm

- with front ring
- 10 A
- 1 up to 16 contacts
- IP66 (front)



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

|  |  |                     |           |
|--|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>4 pole Changeover Switch with centre OFF 60°, 10 A, M-handle with front ring black/black → | Type                                   | Switching programme | Mtg. form |
|  | P110                                   | 61028               | 218M1     |
|  | <b>Order code no. P110-61028-218M1</b> |                     |           |

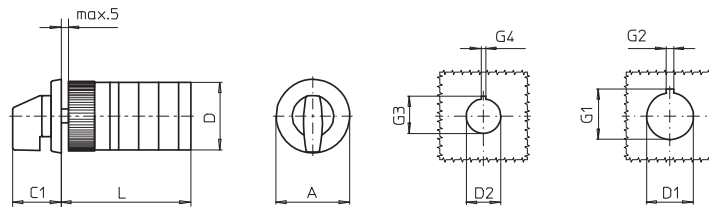
| Type | Rated data (IEC 60947)                  |   |     | Degree of Protection<br>Terminals | Terminal accessibility                       |
|------|---|---|-----|-----------------------------------|--|
|      | Operational current $I_e$<br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |     |                                   |  |
| P110 | 10                                      | 3   | 2.2 | IP20                              | Terminals accessible from mounting direction |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61351               | 1      | 1        | ON-OFF Switch with spring return, 1 pole       |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61028               | 4      | 8        | Changeover Switch with centre OFF 60°, 4 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61049               | 2      | 3        | Multi-step Switch without OFF, 3 steps, 1 pole |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61109               | 1      | 2        | Gang Switch, 2 gangs, 1 pole                   |
| 61111               | 3      | 6        | Gang Switch, 2 gangs, 3 pole                   |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator                             |
|---------------|--------------------------------------|
| 218M1         | M-handle with front ring black/black |

Dimensions in mm:



| Type | A  | C1 | D  | D1   | D2   | G1   | G2  | G3   | G4  | L with ... stages (max. 8) |    |    |    | each additional |
|------|----|----|----|------|------|------|-----|------|-----|----------------------------|----|----|----|-----------------|
|      |    |    |    |      |      |      |     |      |     | 1                          | 2  | 3  | 4  |                 |
| P110 | 30 | 26 | 29 | 22.5 | 16.2 | 24.2 | 3.2 | 17.9 | 1.7 | 57                         | 69 | 81 | 93 | 12              |

# Rotary Cam Switches

Front mounting Single hole mounting  $\varnothing$  16 mm/22.5 mm

## Front mounting switches with single hole mounting $\varnothing$ 16 mm/22.5 mm

- key operated
- 10 A
- 1 up to 16 contacts
- IP40 (front)



- Control Switch
- Instrument Switch
- ON-OFF Switch
- Changeover Switch
- Multi-step Switch
- Motor Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>1 pole Multi-step Switch without OFF, 10 A, key operated, key removable at 9h → | Type                                   | Switching programme | Mtg. form |
|   | P110                                   | 61050               | S001A     |
|   | <b>Order code no. P110-61050-S001A</b> |                     |           |

| Type | Rated data (IEC 60947)                  |   |     | Degree of Protection<br>Terminals | Terminal accessibility                       |
|------|---|---|-----|-----------------------------------|--|
|      | Operational current $I_e$<br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |     |                                   |  |
| P110 | 10                                      | 3   | 2.2 | IP20                              | Terminals accessible from mounting direction |

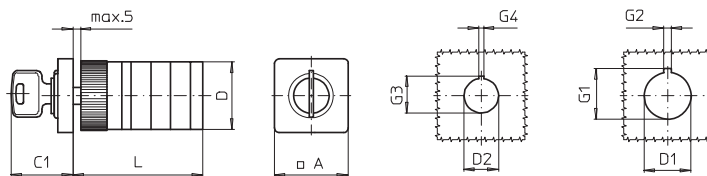
| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61351               | 1      | 1        | ON-OFF Switch with spring return, 1 pole       |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61049               | 2      | 3        | Multi-step Switch without OFF, 3 steps, 1 pole |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61109               | 1      | 2        | Gang Switch, 2 gangs, 1 pole                   |
| 61111               | 3      | 6        | Gang Switch, 2 gangs, 3 pole                   |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator   |
|---------------|--|
| S001.*        | Key operated, silver/metal key<br>Ronis cylinder lock L001, 2 keys (further lock types and security lock on request) |

\* The dot in the order code number must be replaced by the classification letter which identifies the key removable positions, see page 85.

Dimensions in mm:



| Type | A  | C1 | D  | D1   | D2   | G1   | G2  | G3   | G4  | L with ... stages (max. 8) |    |    |    | each additional |
|------|----|----|----|------|------|------|-----|------|-----|----------------------------|----|----|----|-----------------|
|      |    |    |    |      |      |      |     |      |     | 1                          | 2  | 3  | 4  |                 |
| P110 | 30 | 26 | 29 | 22.5 | 16.2 | 24.2 | 3.2 | 17.9 | 1.7 | 57                         | 69 | 81 | 93 | 12              |

# Rotary Cam Switches

Front mounting Single hole mounting Ø 16 mm/22.5 mm

## Front mounting switches with single hole mounting Ø 16 mm/22.5 mm

- key operated with front ring
- 10 A
- 1 up to 16 contacts
- IP40 (front)



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

|  |                       |                         |           |
|--|-----------------------|-------------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>3 pole Changeover Switch without OFF, 10 A, front ring, key operated, key removable at 11h/01h/05h/07h → | Type                  | Switching programme     | Mtg. form |
|  | P110                  | 61039                   | R001A     |
|  | <b>Order code no.</b> | <b>P110-61039-R001O</b> |           |

| Type | Rated data (IEC 60947)                           |   |     | Degree of Protection<br>Terminals | Terminal accessibility                       |
|------|--|---|-----|-----------------------------------|--|
|      | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |     |                                   |  |
| P110 | 10   | 3   | 2.2 | IP20                              | Terminals accessible from mounting direction |

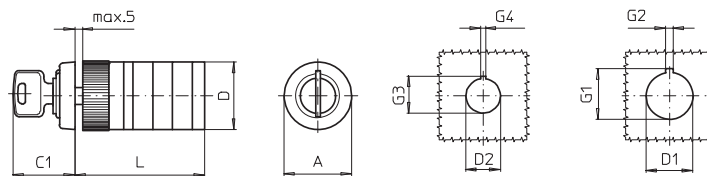
| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61351               | 1      | 1        | ON-OFF Switch with spring return, 1 pole       |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61039               | 3      | 6        | Changeover Switch without OFF 60°, 3 pole      |
| 61049               | 2      | 3        | Multi-step Switch without OFF, 3 steps, 1 pole |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61109               | 1      | 2        | Gang Switch, 2 gangs, 1 pole                   |
| 61111               | 3      | 6        | Gang Switch, 2 gangs, 3 pole                   |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator  |
|---------------|---|
| R001. *       | key operated, with front ring black/metal key<br>Ronis cylinder lock L001, 2 keys (further lock types and security lock on request) |

\* The dot in the order code number must be replaced by the classification letter which identifies the key removable positions, see page 85.

Dimensions in mm:



| Type | A  | C1 | D  | D1   | D2   | G1   | G2  | G3   | G4  | L with ... stages (max. 8) |    |    |    | each additional |
|------|----|----|----|------|------|------|-----|------|-----|----------------------------|----|----|----|-----------------|
|      |    |    |    |      |      |      |     |      |     | 1                          | 2  | 3  | 4  |                 |
| P110 | 30 | 26 | 29 | 22.5 | 16.2 | 24.2 | 3.2 | 17.9 | 1.7 | 57                         | 69 | 81 | 93 | 12              |

# Rotary Cam Switches

Front mounting Single hole mounting Ø 22.5 mm

## Front mounting switches with single hole mounting Ø 22.5 mm

- 20 A / 25 A / 32 A
- 1 up to 24 contacts
- IP66 (front)



- Control Switch
- Instrument Switch
- ON-OFF Switch
- Changeover Switch
- Multi-step Switch
- Motor Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>4 pole ON-OFF Switch 60°, 20 A, M-handle silver/black → | Type                                   | Switching programme | Mtg. form |
|   | M220                                   | 61004               | 219M1     |
|   | <b>Order code no. M220-61004-219M1</b> |                     |           |

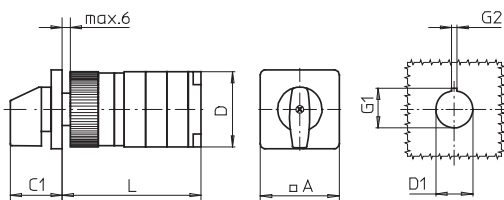
| Type         | Rated data (IEC 60947)                           |   |            | Degree of Protection<br>Terminals | Terminal accessibility                       |
|--------------|--|---|------------|-----------------------------------|--|
|              | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |            |                                   |  |
| P220<br>P225 | 20<br>25   | 7.5<br>11   | 5.5<br>7.5 | IP1B<br>IP1B                      | Terminals accessible from mounting direction |
| M220<br>M225 | 20<br>25   | 7.5<br>11   | 5.5<br>7.5 | IP20<br>IP20                      | Terminals accessible laterally               |
| T225         | 32   | 15  | 11         | IP20                              | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole   |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole   |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole   |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole   |
| 61004               | 2      | 4        | ON-OFF Switch 60°, 4 pole   |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole                                       |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole                                       |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole                                       |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole   |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole                                      |
| 61313               | 3      | 6        | Voltmeter Selector Switch with centre OFF, 3 phase line to line + 3 phase line to N |
| 61325               | 3      | 6        | Ammeter Selector Switch with centre OFF, 3 transformers, 1 pole                     |
| 61211               | 3      | 5        | Motor Reversing Switch, 3 pole  |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 219M1         | M-handle silver/black |

Dimensions in mm:



| Type | L with ... stages (max. 12) |    |    |      |      |     |    |    |     |     |     | each additional |
|------|-----------------------------|----|----|------|------|-----|----|----|-----|-----|-----|-----------------|
|      | A                           | C1 | D  | D1   | G1   | G2  | 1  | 2  | 3   | 4   | 5   |                 |
| P220 | 48                          | 32 | 44 | 22.5 | 24.2 | 3.2 | 66 | 79 | 92  | 105 | 118 | 13              |
| P225 | 48                          | 32 | 46 | 22.5 | 24.2 | 3.2 | 70 | 85 | 100 | 115 | 130 | 15              |
| M220 | 48                          | 32 | 46 | 22.5 | 24.2 | 3.2 | 59 | 69 | 79  | 89  | 99  | 10              |
| M225 | 48                          | 32 | 48 | 22.5 | 24.2 | 3.2 | 62 | 75 | 88  | 101 | 114 | 13              |
| T225 | 48                          | 32 | 50 | 22.5 | 24.2 | 3.2 | 64 | 79 | 94  | 109 | 124 | 15              |

# Rotary Cam Switches

Front mounting Single hole mounting  $\varnothing$  22.5 mm

## Front mounting switches with single hole mounting $\varnothing$ 22.5 mm

- with front ring
- 20 A / 25 A / 32 A
- 1 up to 24 contacts
- IP66 (front)



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

Setup of order code number: Type - Switching programme - Mounting form

Ordering example:

4 pole Changeover Switch with centre OFF 60°, 20 A, M-handle black/black →

| Type                                   | Switching programme | Mtg. form |
|--|---------------------|-----------|
| P220                                   | 61028               | 218M1     |
| <b>Order code no. P220-61028-218M1</b> |                     |           |

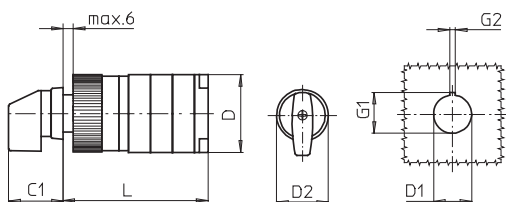
| Type         | Rated data (IEC 60947)                  |   |            | Degree of Protection<br>Terminals | Terminal accessibility                       |
|--------------|---|---|------------|-----------------------------------|--|
|              | Operational current $I_e$<br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |            |                                   |  |
| P220<br>P225 | 20<br>25                                | 7.5<br>11   | 5.5<br>7.5 | IP1B<br>IP1B                      | Terminals accessible from mounting direction |
| M220<br>M225 | 20<br>25                                | 7.5<br>11   | 5.5<br>7.5 | IP20<br>IP20                      | Terminals accessible laterally               |
| T225         | 32                                      | 15  | 11         | IP20                              | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole   |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole   |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole   |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole   |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole                                       |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole                                       |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole                                       |
| 61028               | 4      | 8        | Changeover Switch with centre OFF 60°, 4 pole                                       |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole   |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole                                      |
| 61313               | 3      | 6        | Voltmeter Selector Switch with centre OFF, 3 phase line to line + 3 phase line to N |
| 61325               | 3      | 6        | Ammeter Selector Switch with centre OFF, 3 transformers, 1 pole                     |
| 61211               | 3      | 5        | Motor Reversing Switch, 3 pole  |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator                             |
|---------------|--------------------------------------|
| 218M1         | M-handle with front ring black/black |

Dimensions in mm:



| Type | C1 | D  | D1   | D2   | G1   | G2  | L with ... stages (max. 12) |    |     |     |     | each additional |
|------|----|----|------|------|------|-----|-----------------------------|----|-----|-----|-----|-----------------|
|      |    |    |      |      |      |     | 1                           | 2  | 3   | 4   | 5   |                 |
| P220 | 32 | 44 | 22.5 | 30.5 | 24.2 | 3.2 | 66                          | 79 | 92  | 105 | 118 | 13              |
| P225 | 32 | 46 | 22.5 | 30.5 | 24.2 | 3.2 | 70                          | 85 | 100 | 115 | 130 | 15              |
| M220 | 32 | 46 | 22.5 | 30.5 | 24.2 | 3.2 | 59                          | 69 | 79  | 89  | 99  | 10              |
| M225 | 32 | 48 | 22.5 | 30.5 | 24.2 | 3.2 | 62                          | 75 | 88  | 101 | 114 | 13              |
| T225 | 32 | 50 | 22.5 | 30.5 | 24.2 | 3.2 | 64                          | 79 | 94  | 109 | 124 | 15              |

# Rotary Cam Switches

Front mounting Single hole mounting Ø 22.5 mm

## Front mounting switches with single hole mounting Ø 22.5 mm

- key operated
- 20 A / 25 A / 32 A
- 1 up to 16 contacts
- IP40 (front)



- Control Switch
- Instrument Switch
- ON-OFF Switch
- Changeover Switch
- Multi-step Switch
- Motor Switch

|  |  |                     |           |
|--|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>3 pole Changeover Switch without OFF, 20 A, key operated, key removable at 11h/01h/05h/07h → | Type                                   | Switching programme | Mtg. form |
|  | M220                                   | 61039               | S001A     |
|  | <b>Order code no. M220-61039-S0010</b> |                     |           |

| Type        | Contacts | Rated data (IEC 60947)                           |                                  |            | Degree of Protection<br>Terminals | Terminal accessibility                       |
|-------------|----------|--|----------------------------------|------------|-----------------------------------|--|
|             |          | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                                   |  |
|             |          |  | AC-23A (kW)                      | AC-3A (kW) |                                   |  |
| <b>P220</b> | 1 to 16  | 20   | 7.5                              | 5.5        | IP1B                              | Terminals accessible from mounting direction |
| <b>P225</b> | 1 to 16  | 25   | 11                               | 7.5        | IP1B                              |  |
| <b>M220</b> | 1 to 16  | 20   | 7.5                              | 5.5        | IP20                              | Terminals accessible laterally               |
| <b>M225</b> | 1 to 16  | 25   | 11                               | 7.5        | IP20                              |  |
| <b>T225</b> | 1 to 12  | 32   | 15                               | 11         | IP20                              | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole   |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole   |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole   |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole   |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole                                       |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole                                       |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole                                       |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole   |
| 61039               | 3      | 6        | Changeover Switch without OFF 60°, 3 pole   |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole                                      |
| 61313               | 3      | 6        | Voltmeter Selector Switch with centre OFF, 3 phase line to line + 3 phase line to N |
| 61325               | 3      | 6        | Ammeter Selector Switch with centre OFF, 3 transformers, 1 pole                     |
| 61211               | 3      | 5        | Motor Reversing Switch, 3 pole  |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator   |
|---------------|--|
| S001.*        | Key operated, silver/metal key<br>Ronis cylinder lock C001, 2 keys (further lock types and security lock on request) |

\* The dot in the order code number must be replaced by the classification letter which identifies the key removable positions, see page 85.

**Dimensions in mm:**

| Type        | L with ... stages (max. 8) |    |    |      |      |     |    |    |     |     | each additional |    |
|-------------|----------------------------|----|----|------|------|-----|----|----|-----|-----|-----------------|----|
|             | A                          | C1 | D  | D1   | G1   | G2  | 1  | 2  | 3   | 4   |                 | 5  |
| <b>P220</b> | 48                         | 33 | 44 | 22.5 | 24.2 | 3.2 | 66 | 79 | 92  | 105 | 118             | 13 |
| <b>P225</b> | 48                         | 33 | 46 | 22.5 | 24.2 | 3.2 | 70 | 85 | 100 | 115 | 130             | 15 |
| <b>M220</b> | 48                         | 33 | 46 | 22.5 | 24.2 | 3.2 | 59 | 69 | 79  | 89  | 99              | 10 |
| <b>M225</b> | 48                         | 33 | 48 | 22.5 | 24.2 | 3.2 | 62 | 75 | 88  | 101 | 114             | 13 |
| <b>T225</b> | 48                         | 33 | 50 | 22.5 | 24.2 | 3.2 | 64 | 79 | 94  | 109 | 124             | 15 |



# Rotary Cam Switches



Front mounting Single hole mounting Ø 22.5 mm

## Front mounting switches with single hole mounting Ø 22.5 mm

- key operated with front ring
- 20 A / 25 A / 32 A
- 1 up to 16 contacts
- IP40 (front)



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

### Setup of order code number: Type - Switching programme - Mounting form

Ordering example:

3 pole Changeover Switch without OFF, 20 A, key operated, key removable at 11h/01h/05h/07h →

| Type                  | Switching programme     | Mtg. form |
|-----------------------|-------------------------|-----------|
| M220                  | 61039                   | R001A     |
| <b>Order code no.</b> | <b>M220-61039-R0010</b> |           |

| Type        | Contacts | Rated data (IEC 60947)                           |                                  |            | Degree of Protection<br>Terminals | Terminal accessibility                       |
|-------------|----------|--|----------------------------------|------------|-----------------------------------|--|
|             |          | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                                   |  |
|             |          |  | AC-23A (kW)                      | AC-3A (kW) |                                   |  |
| <b>P220</b> | 1 to 16  | 20   | 7.5                              | 5.5        | IP1B                              | Terminals accessible from mounting direction |
| <b>P225</b> | 1 to 16  | 25   | 11                               | 7.5        | IP1B                              |  |
| <b>M220</b> | 1 to 16  | 20   | 7.5                              | 5.5        | IP20                              | Terminals accessible laterally               |
| <b>M225</b> | 1 to 16  | 25   | 11                               | 7.5        | IP20                              |  |
| <b>T225</b> | 1 to 12  | 32   | 15                               | 11         | IP20                              | Terminals accessible laterally               |

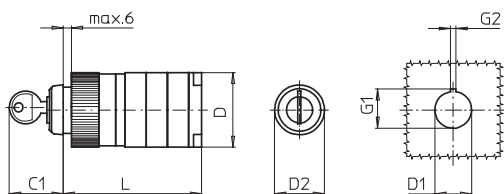
| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| <b>61191</b>        | 1      | 1        | ON-OFF Switch 90°, 1 pole   |
| <b>61192</b>        | 1      | 2        | ON-OFF Switch 90°, 2 pole   |
| <b>61001</b>        | 1      | 1        | ON-OFF Switch 60°, 1 pole   |
| <b>61002</b>        | 1      | 2        | ON-OFF Switch 60°, 2 pole   |
| <b>61025</b>        | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole                                       |
| <b>61026</b>        | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole                                       |
| <b>61027</b>        | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole                                       |
| <b>61037</b>        | 1      | 2        | Changeover Switch without OFF 60°, 1 pole   |
| <b>61039</b>        | 3      | 6        | Changeover Switch without OFF 60°, 3 pole   |
| <b>61050</b>        | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole                                      |
| <b>61313</b>        | 3      | 6        | Voltmeter Selector Switch with centre OFF, 3 phase line to line + 3 phase line to N |
| <b>61325</b>        | 3      | 6        | Ammeter Selector Switch with centre OFF, 3 transformers, 1 pole                     |
| <b>61211</b>        | 3      | 5        | Motor Reversing Switch, 3 pole  |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator  |
|---------------|---|
| <b>R001.*</b> | key operated, with front ring black/metal key<br>Ronis cylinder lock C001, 2 keys (further lock types and security lock on request) |

\* The dot in the order code number must be replaced by the classification letter which identifies the key removable positions, see page 85.

### Dimensions in mm:



| Type        | L with ... stages (max. 8) |    |      |      |      | each additional |    |    |     |     |     |    |
|-------------|----------------------------|----|------|------|------|-----------------|----|----|-----|-----|-----|----|
|             | C1                         | D  | D1   | D2   | G1   |                 |    |    |     |     |     |    |
| <b>P220</b> | 33                         | 44 | 22.5 | 30.5 | 24.2 | 3.2             | 66 | 79 | 92  | 105 | 118 | 13 |
| <b>P225</b> | 33                         | 46 | 22.5 | 30.5 | 24.2 | 3.2             | 70 | 85 | 100 | 115 | 130 | 15 |
| <b>M220</b> | 33                         | 46 | 22.5 | 30.5 | 24.2 | 3.2             | 59 | 69 | 79  | 89  | 99  | 10 |
| <b>M225</b> | 33                         | 48 | 22.5 | 30.5 | 24.2 | 3.2             | 62 | 75 | 88  | 101 | 114 | 13 |
| <b>T225</b> | 33                         | 50 | 22.5 | 30.5 | 24.2 | 3.2             | 64 | 79 | 94  | 109 | 124 | 15 |

# Rotary Cam Switches

Front mounting Single hole mounting Ø 22.5 mm

## Front mounting switches with single hole mounting Ø 22.5 mm

- 20 A / 25 A / 32 A
- 1 up to 24 contacts
- IP66 (front)



- Main/Emergency-Off Switch
- Main Switch

|  |                       |                         |           |
|--|-----------------------|-------------------------|-----------|
| Setup of order code number: Type - Switching programme - Mounting form<br>Ordering example:<br>3 pole Main/Emergency-Off Switch 90°, 20 A, padlock device with M-handle yellow/red → | Type                  | Switching programme     | Mtg. form |
|  | M220                  | 61199                   | 206M4     |
|  | <b>Order code no.</b> | <b>M220-61199-206M4</b> |           |

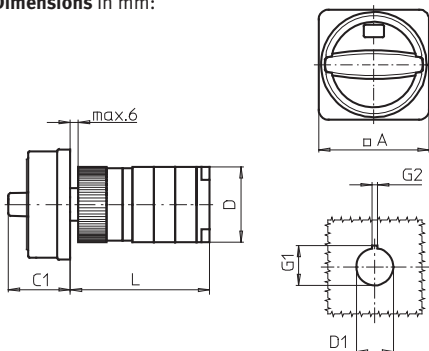
| Type         | Rated data (IEC 60947)                           |   |            | Degree of Protection<br>Terminals | Terminal accessibility                       |
|--------------|--|---|------------|-----------------------------------|--|
|              | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |            |                                   |  |
| P220<br>P225 | 20<br>25   | 7.5<br>11   | 5.5<br>7.5 | IP1B<br>IP1B                      | Terminals accessible from mounting direction |
| M220<br>M225 | 20<br>25   | 7.5<br>11   | 5.5<br>7.5 | IP20<br>IP20                      | Terminals accessible laterally               |
| T225         | 32   | 15  | 11         | IP20                              | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                               |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                               |
| 61199               | 2      | 3        | ON-OFF Switch 90°, 3 pole                               |
| 61194               | 2      | 4        | ON-OFF Switch 90°, 4 pole, 1 pole early make/late break |
| 61906               | 3      | 6        | ON-OFF Switch 90°, 6 pole                               |
| 61919               | 4      | 8        | ON-OFF Switch 90°, 8 pole, 2 pole early make/late break |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator | Main/Emergency-Off Switch               | Mounting form | Operator | Main Switch                            |
|---------------|----------|---|---------------|----------|--|
| 206N4         |          | padlock device with N-handle yellow/red | 206N1         |          | padlock device with N-handle black     |
| 206M4         |          | padlock device with M-handle yellow/red | 206M1         |          | padlock device with M-handle black     |
| 206V4         |          | padlockable with V-handle yellow/red    | 206V1         |          | padlockable with V-handle silver/black |

Dimensions in mm:



| Type | Mounting form | A  | C1 | D  | D1   | G1   | G2  | L with ... stages (max. 12) |    |     |     |     | each additional |
|------|---------------|----|----|----|------|------|-----|-----------------------------|----|-----|-----|-----|-----------------|
|      |               |    |    |    |      |      |     | 1                           | 2  | 3   | 4   | 5   |                 |
| P220 | 206N4/206N1   | 67 | 33 | 44 | 22.5 | 24.2 | 3.2 | 66                          | 79 | 92  | 105 | 118 | 13              |
|      | 206M4/206M1   | 67 | 38 | 44 | 22.5 | 24.2 | 3.2 | 66                          | 79 | 92  | 105 | 118 | 13              |
|      | 206V4/206V1   | 48 | 32 | 44 | 22.5 | 24.2 | 3.2 | 66                          | 79 | 92  | 105 | 118 | 13              |
| P225 | 206N4/206N1   | 67 | 33 | 46 | 22.5 | 24.2 | 3.2 | 70                          | 85 | 100 | 115 | 130 | 15              |
|      | 206M4/206M1   | 67 | 38 | 46 | 22.5 | 24.2 | 3.2 | 70                          | 85 | 100 | 115 | 130 | 15              |
|      | 206V4/206V1   | 48 | 32 | 46 | 22.5 | 24.2 | 3.2 | 70                          | 85 | 100 | 115 | 130 | 15              |
| M220 | 206N4/206N1   | 67 | 33 | 46 | 22.5 | 24.2 | 3.2 | 59                          | 69 | 79  | 89  | 99  | 10              |
|      | 206M4/206M1   | 67 | 38 | 46 | 22.5 | 24.2 | 3.2 | 59                          | 69 | 79  | 89  | 99  | 10              |
|      | 206V4/206V1   | 48 | 32 | 46 | 22.5 | 24.2 | 3.2 | 59                          | 69 | 79  | 89  | 99  | 10              |
| M225 | 206N4/206N1   | 67 | 33 | 48 | 22.5 | 24.2 | 3.2 | 62                          | 75 | 88  | 101 | 114 | 13              |
|      | 206M4/206M1   | 67 | 38 | 48 | 22.5 | 24.2 | 3.2 | 62                          | 75 | 88  | 101 | 114 | 13              |
|      | 206V4/206V1   | 48 | 32 | 48 | 22.5 | 24.2 | 3.2 | 62                          | 75 | 88  | 101 | 114 | 13              |
| T225 | 206N4/206N1   | 67 | 33 | 50 | 22.5 | 24.2 | 3.2 | 64                          | 79 | 94  | 109 | 124 | 15              |
|      | 206M4/206M1   | 67 | 38 | 50 | 22.5 | 24.2 | 3.2 | 64                          | 79 | 94  | 109 | 124 | 15              |
|      | 206V4/206V1   | 48 | 32 | 50 | 22.5 | 24.2 | 3.2 | 64                          | 79 | 94  | 109 | 124 | 15              |

Front mounting Flush wall mounting

## Front mounting switches for flush wall mounting

- 20 A / 25 A
- 1 up to max. 6 contacts
- IP30 (front)
- for plaster depth box



- Control Switch
- Instrument Switch
- ON-OFF Switch
- Changeover Switch
- Multi-step Switch
- Motor Switch

|   |                       |                         |           |
|---|-----------------------|-------------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>1 pole ON-OFF Switch 90°, 20 A, N-handle silver/white → | Type                  | Switching programme     | Mtg. form |
|   | P220                  | 61191                   | 025N3     |
|   | <b>Order code no.</b> | <b>P220-61191-025N3</b> |           |

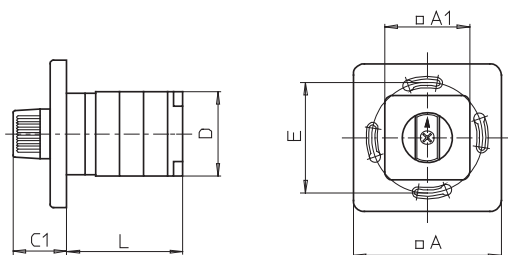
| Type        | Contacts | Rated data (IEC 60947)                           |                                  |            | Degree of Protection | Terminal accessibility                       |
|-------------|----------|--|----------------------------------|------------|----------------------|--|
|             |          | Operational current I <sub>o</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                      |  |
|             |          |  | AC-23A (kW)                      | AC-3A (kW) |                      |  |
| <b>P220</b> | 1 to 4   | 20   | 7.5                              | 5.5        | IP1B                 | Terminals accessible from mounting direction |
| <b>P225</b> | 1 to 2   | 25   | 11                               | 7.5        | IP1B                 |  |
| <b>M220</b> | 1 to 6   | 20   | 7.5                              | 5.5        | IP20                 | Terminals accessible laterally               |
| <b>M225</b> | 1 to 2   | 25   | 11                               | 7.5        | IP20                 |  |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61199               | 2      | 3        | ON-OFF Switch 90°, 3 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61003               | 2      | 3        | ON-OFF Switch 60°, 3 pole                      |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61038               | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| 61049               | 2      | 3        | Multi-step Switch without OFF, 3 steps, 1 pole |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 025N3         | N-handle silver/white |

Dimensions in mm:



| Type        | A  | A1 | C1 | D  | E  | L with ... stages |    |    |
|-------------|----|----|----|----|----|-------------------|----|----|
|             |    |    |    |    |    | 1                 | 2  | 3  |
| <b>P220</b> | 80 | 46 | 31 | 44 | 60 | 43                | 56 | -  |
| <b>P225</b> | 80 | 46 | 31 | 46 | 60 | 47                | -  | -  |
| <b>M220</b> | 80 | 46 | 31 | 46 | 60 | 36                | 46 | 56 |
| <b>M225</b> | 80 | 46 | 31 | 48 | 60 | 39                | -  | -  |

# Rotary Cam Switches

Base mounting Snap on mounting

## Base mounting switches with snap on mounting

- 20 A / 25 A / 32 A
- 1 up to 24 contacts
- IP66 (front)
- Four hole front mounting 36 × 36 mm



- Control Switch
- Instrument Switch
- ON-OFF Switch
- Changeover Switch
- Multi-step Switch
- Motor Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>2 pole Changeover Switch with centre OFF 60°, 20 A, M-handle silver/black → | Type                                   | Switching programme | Mtg. form |
|   | P220                                   | 61026               | 021M1     |
|   | <b>Order code no. P220-61026-021M1</b> |                     |           |

| Type         | Rated data (IEC 60947)                           |   |            | Degree of Protection<br>Terminals | Terminal accessibility                       |
|--------------|--|---|------------|-----------------------------------|--|
|              | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |            |                                   |  |
| P220<br>P225 | 20<br>25   | 7.5<br>11   | 5.5<br>7.5 | IP1B<br>IP1B                      | Terminals accessible from mounting direction |
| M220<br>M225 | 20<br>25   | 7.5<br>11   | 5.5<br>7.5 | IP20<br>IP20                      | Terminals accessible laterally               |
| T225         | 32   | 15  | 11         | IP20                              | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61038               | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| 61049               | 2      | 3        | Multi-step Switch without OFF, 3 steps, 1 pole |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61211               | 3      | 5        | Motor Reversing Switch, 3 pole                 |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 021M1         | M-handle silver/black |

**Dimensions in mm:**

| Type | A  | C1 | D  | D1 | D2  | E  | L with ... stages (max. 12) |    |    |    |     | each additional |
|------|----|----|----|----|-----|----|-----------------------------|----|----|----|-----|-----------------|
|      |    |    |    |    |     |    | 1                           | 2  | 3  | 4  | 5   |                 |
| P220 | 48 | 32 | 44 | 12 | 4.5 | 36 | 46                          | 59 | 72 | 85 | 98  | 13              |
| P225 | 48 | 32 | 46 | 12 | 4.5 | 36 | 48                          | 63 | 78 | 93 | 108 | 15              |
| M220 | 48 | 32 | 46 | 12 | 4.5 | 36 | 43                          | 53 | 63 | 73 | 83  | 10              |
| M225 | 48 | 32 | 48 | 12 | 4.5 | 36 | 46                          | 59 | 72 | 85 | 98  | 13              |
| T225 | 48 | 32 | 50 | 12 | 4.5 | 36 | 48                          | 63 | 78 | 93 | 108 | 15              |

## Base mounting switches with snap on mounting for DIN Rail

- 20 A / 25 A / 32 A
- 1 up to 24 contacts
- IP40 (front)
- Installation mounting for 45 mm aperture in Panel/Distribution boards



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>1 pole Multi-step Switch with OFF, 20 A, N-handle silver/grey → | Type                                   | Switching programme | Mtg. form |
|   | P220                                   | 61060               | 026N2     |
|   | <b>Order code no. P220-61060-026N2</b> |                     |           |

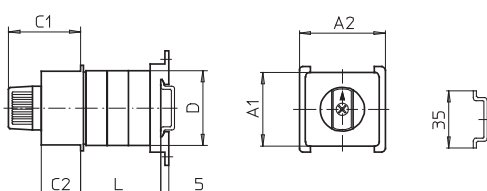
| Type         | Rated data (IEC 60947)                  |   |            | Degree of Protection<br>Terminals | Terminal accessibility                       |
|--------------|---|---|------------|-----------------------------------|--|
|              | Operational current $I_e$<br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |            |                                   |  |
| P220<br>P225 | 20<br>25                                | 7.5<br>11   | 5.5<br>7.5 | IP1B<br>IP1B                      | Terminals accessible from mounting direction |
| M220<br>M225 | 20<br>25                                | 7.5<br>11   | 5.5<br>7.5 | IP20<br>IP20                      | Terminals accessible laterally               |
| T225         | 32                                      | 15  | 11         | IP20                              | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole   |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole   |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole   |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole   |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole                                       |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole                                       |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole                                       |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole   |
| 61060               | 2      | 3        | Multi-step Switch with OFF, 3 steps, 1 pole   |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole                                      |
| 61313               | 3      | 6        | Voltmeter Selector Switch with centre OFF, 3 phase line to line + 3 phase line to N |
| 61325               | 3      | 6        | Ammeter Selector Switch with centre OFF, 3 transformers, 1 pole                     |
| 61211               | 3      | 5        | Motor Reversing Switch, 3 pole  |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator             |
|---------------|----------------------|
| 026N2         | N-handle silver/grey |

Dimensions in mm:



| Type | L with ... stages (max. 12) |      |    |    |    | each additional   |
|------|-----------------------------|------|----|----|----|-------------------|
|      | A1                          | A2   | C1 | C2 | D  |                   |
| P220 | 45                          | 52.2 | 45 | 24 | 44 | 28 41 54 67 80 13 |
| P225 | 45                          | 52.2 | 45 | 24 | 46 | 30 45 60 75 90 15 |
| M220 | 45                          | 52.2 | 45 | 24 | 46 | 25 35 45 55 65 10 |
| M225 | 45                          | 52.2 | 45 | 24 | 48 | 28 41 54 67 80 13 |
| T225 | 45                          | 52.2 | 45 | 24 | 50 | 30 45 60 75 90 15 |

# Rotary Cam Switches

**Base mounting** Snap on mounting / Door clutch with modular shaft extension

## Base mounting switches with snap on mounting / Door clutch with modular shaft extension

- 20 A / 25 A / 32 A    ■ 1 up to 24 contacts
- IP66 (front)
- Four hole front mounting 36 × 36 mm



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

|  |                       |                         |           |
|--|-----------------------|-------------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>1 pole Multi-step Switch with OFF, 20 A, M-handle silver/black → | Type                  | Switching programme     | Mtg. form |
|  | M220                  | 61061                   | 241M1     |
|  | <b>Order code no.</b> | <b>M220-61061-241M1</b> |           |

| Type         | Rated data (IEC 60947)                  |                                  |            | Degree of Protection | Terminal accessibility                       |
|--------------|---|----------------------------------|------------|----------------------|--|
|              | Operational current $I_e$<br>AC-21A (A) | Operational power (at 380–440 V) |            |                      |  |
|              |   | AC-23A (kW)                      | AC-3A (kW) | Terminals            |  |
| P220<br>P225 | 20<br>25                                | 7.5<br>11                        | 5.5<br>7.5 | IP1B<br>IP1B         | Terminals accessible from mounting direction |
| M220<br>M225 | 20<br>25                                | 7.5<br>11                        | 5.5<br>7.5 | IP20<br>IP20         | Terminals accessible laterally               |
| T225         | 32                                      | 15                               | 11         | IP20                 | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61038               | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| 61061               | 2      | 4        | Multi-step Switch with OFF, 4 steps, 1 pole    |
| 61049               | 2      | 3        | Multi-step Switch without OFF, 3 steps, 1 pole |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61211               | 3      | 5        | Motor Reversing Switch, 3 pole                 |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 241M1         | M-handle silver/black |

**Dimensions in mm:**

Modular shaft extensions see page 84.

| Type | A  | C <sub>min</sub> | C <sub>max</sub> | C1 | D  | D1 | D2  | E  | L with ... stages (max. 12) each additional |    |    |    |    |
|------|----|------------------|------------------|----|----|----|-----|----|---|----|----|----|----|
|      |    |                  |                  |    |    |    |     |    | 1   | 2  | 3  | 4  |    |
| P220 | 48 | 42               | 59               | 32 | 44 | 12 | 4.5 | 36 | 40  | 53 | 66 | 79 | 13 |
| P225 | 48 | 42               | 59               | 32 | 46 | 12 | 4.5 | 36 | 42  | 57 | 72 | 87 | 15 |
| M220 | 48 | 42               | 59               | 32 | 46 | 12 | 4.5 | 36 | 37  | 47 | 57 | 67 | 10 |
| M225 | 48 | 42               | 59               | 32 | 48 | 12 | 4.5 | 36 | 40  | 53 | 66 | 79 | 13 |
| T225 | 48 | 42               | 59               | 32 | 50 | 12 | 4.5 | 36 | 42  | 57 | 72 | 87 | 15 |

# Rotary Cam Switches



**Base mounting** Snap on mounting / Door clutch with modular shaft extension

## Base mounting switches with snap on mounting / Door clutch with modular shaft extension

- 20 A / 25 A / 32 A    ■ 1 up to 24 contacts
- IP66 (front)
- Four hole front mounting 36 × 36 mm



- Main/Emergency-Off Switch
- Main Switch

|  |                       |                         |           |
|--|-----------------------|-------------------------|-----------|
| Setup of order code number: Type - Switching programme - Mounting form<br>Ordering example:<br>4 pole Main/Emergency-Off Switch 90°, 20 A, padlock device with N-handle yellow/red → | Type                  | Switching programme     | Mtg. form |
|  | M220                  | 61194                   | 232N4     |
|  | <b>Order code no.</b> | <b>M220-61194-232N4</b> |           |

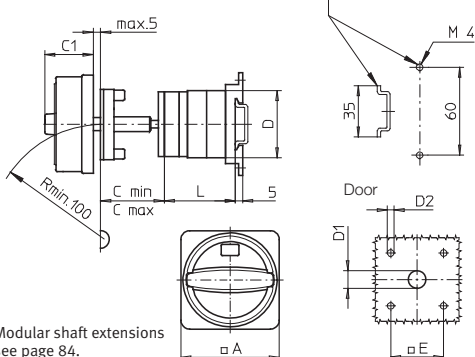
| Type                       | Rated data (IEC 60947)                           |                                  |            | Degree of Protection | Terminal accessibility                       |
|----------------------------|--|----------------------------------|------------|----------------------|--|
|                            | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                      |  |
|                            |  | AC-23A (kW)                      | AC-3A (kW) | Terminals            |  |
| <b>P220</b><br><b>P225</b> | 20<br>25   | 7.5<br>11                        | 5.5<br>7.5 | IP1B<br>IP1B         | Terminals accessible from mounting direction |
| <b>M220</b><br><b>M225</b> | 20<br>25   | 7.5<br>11                        | 5.5<br>7.5 | IP20<br>IP20         | Terminals accessible laterally               |
| <b>T225</b>                | 32   | 15                               | 11         | IP20                 | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                               |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                               |
| 61199               | 2      | 3        | ON-OFF Switch 90°, 3 pole                               |
| 61194               | 2      | 4        | ON-OFF Switch 90°, 4 pole, 1 pole early make/late break |
| 61906               | 3      | 6        | ON-OFF Switch 90°, 6 pole                               |
| 61919               | 4      | 8        | ON-OFF Switch 90°, 8 pole, 2 pole early make/late break |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator | Main/Emergency-Off Switch               | Mounting form | Operator | Main Switch                            |
|---------------|----------|---|---------------|----------|--|
| 232N4         |          | padlock device with N-handle yellow/red | 232N1         |          | padlock device with N-handle black     |
| 232M4         |          | padlock device with M-handle yellow/red | 232M1         |          | padlock device with M-handle black     |
| 232V4         |          | padlockable with V-handle yellow/red    | 232V1         |          | padlockable with V-handle silver/black |

Dimensions in mm:



| Type        | Mounting form | A  | C <sub>min</sub> | C <sub>max</sub> | C1 | D  | D1 | D2  | E  | L with ... stages (max. 12) each additional |    |    |    |    |
|-------------|---------------|----|------------------|------------------|----|----|----|-----|----|---|----|----|----|----|
|             |               |    |                  |                  |    |    |    |     |    | 1   | 2  | 3  | 4  |    |
| <b>P220</b> | 232N4/232N1   | 67 | 42               | 59               | 33 | 44 | 15 | 4.5 | 36 | 40  | 53 | 66 | 79 | 13 |
|             | 232M4/232M1   | 67 | 42               | 59               | 38 | 44 | 15 | 4.5 | 36 | 40  | 53 | 66 | 79 | 13 |
|             | 232V4/232V1   | 48 | 42               | 59               | 32 | 44 | 12 | 4.5 | 36 | 40  | 53 | 66 | 79 | 13 |
| <b>P225</b> | 232N4/232N1   | 67 | 42               | 59               | 33 | 46 | 15 | 4.5 | 36 | 42  | 57 | 72 | 87 | 15 |
|             | 232M4/232M1   | 67 | 42               | 59               | 38 | 46 | 15 | 4.5 | 36 | 42  | 57 | 72 | 87 | 15 |
|             | 232V4/232V1   | 48 | 42               | 59               | 32 | 46 | 12 | 4.5 | 36 | 42  | 57 | 72 | 87 | 15 |
| <b>M220</b> | 232N4/232N1   | 67 | 42               | 59               | 33 | 46 | 15 | 4.5 | 36 | 37  | 47 | 57 | 67 | 10 |
|             | 232M4/232M1   | 67 | 42               | 59               | 38 | 46 | 15 | 4.5 | 36 | 37  | 47 | 57 | 67 | 10 |
|             | 232V4/232V1   | 48 | 42               | 59               | 32 | 46 | 12 | 4.5 | 36 | 37  | 47 | 57 | 67 | 10 |
| <b>M225</b> | 232N4/232N1   | 67 | 42               | 59               | 33 | 48 | 15 | 4.5 | 36 | 40  | 53 | 66 | 79 | 13 |
|             | 232M4/232M1   | 67 | 42               | 59               | 38 | 48 | 15 | 4.5 | 36 | 40  | 53 | 66 | 79 | 13 |
|             | 232V4/232V1   | 48 | 42               | 59               | 32 | 48 | 12 | 4.5 | 36 | 40  | 53 | 66 | 79 | 13 |
| <b>T225</b> | 232N4/232N1   | 67 | 42               | 59               | 33 | 50 | 15 | 4.5 | 36 | 42  | 57 | 72 | 87 | 15 |
|             | 232M4/232M1   | 67 | 42               | 59               | 38 | 50 | 15 | 4.5 | 36 | 42  | 57 | 72 | 87 | 15 |
|             | 232V4/232V1   | 48 | 42               | 59               | 32 | 50 | 12 | 4.5 | 36 | 42  | 57 | 72 | 87 | 15 |

# Rotary Cam Switches

**Base mounting** Snap on mounting / Door interlock with modular shaft extension

## Base mounting switches with snap on mounting / Door interlock with modular shaft extension

- with N/PE connection link
- 20 A / 25 A / 32 A
- IP66 (front)
- 1 up to 24 contacts
- Four hole front mounting 36 × 36 mm

- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch



|   |                       |                         |           |
|---|-----------------------|-------------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b> | Type                  | Switching programme     | Mtg. form |
| Ordering example:<br>3 pole ON-OFF Switch 90°, 20 A, M-handle silver/black →  | M220                  | 61199                   | 242M1     |
|   | <b>Order code no.</b> | <b>M220-61199-242M1</b> |           |

| Type         | Rated data (IEC 60947)                           |   |            | Degree of Protection<br>Terminals | Terminal accessibility                       |
|--------------|--|---|------------|-----------------------------------|--|
|              | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |            |                                   |  |
| P220<br>P225 | 20<br>25   | 7.5<br>11   | 5.5<br>7.5 | IP1B<br>IP1B                      | Terminals accessible from mounting direction |
| M220<br>M225 | 20<br>25   | 7.5<br>11   | 5.5<br>7.5 | IP20<br>IP20                      | Terminals accessible laterally               |
| T225         | 32   | 15  | 11         | IP20                              | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61199               | 2      | 3        | ON-OFF Switch 90°, 3 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61038               | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| 61049               | 2      | 3        | Multi-step Switch without OFF, 3 steps, 1 pole |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61211               | 3      | 5        | Motor Reversing Switch, 3 pole                 |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 242M1         | M-handle silver/black |

**Dimensions in mm:**

Modular shaft extensions see page 84.

| Type | A  | C <sub>min</sub> | C <sub>max</sub> | C1 | D  | D1 | D2  | E  | L with ... stages (max. 12) each |    |    |    |    | additional |
|------|----|------------------|------------------|----|----|----|-----|----|----------------------------------|----|----|----|----|------------|
|      |    |                  |                  |    |    |    |     |    | 1                                | 2  | 3  | 4  |    |            |
| P220 | 48 | 42               | 57               | 32 | 44 | 12 | 4.5 | 36 | 40                               | 53 | 66 | 79 | 13 |            |
| P225 | 48 | 42               | 57               | 32 | 46 | 12 | 4.5 | 36 | 42                               | 57 | 72 | 87 | 15 |            |
| M220 | 48 | 42               | 57               | 32 | 46 | 12 | 4.5 | 36 | 37                               | 47 | 57 | 67 | 10 |            |
| M225 | 48 | 42               | 57               | 32 | 48 | 12 | 4.5 | 36 | 40                               | 53 | 66 | 79 | 13 |            |
| T225 | 48 | 42               | 57               | 32 | 50 | 12 | 4.5 | 36 | 42                               | 57 | 72 | 87 | 15 |            |



# Rotary Cam Switches



Base mounting Snap on mounting / Door interlock with modular shaft extension

## Base mounting switches with snap on mounting / Door interlock with modular shaft extension

- with N/PE connection link
- 20 A / 25 A / 32 A     ■ 1 up to 24 contacts
- IP66 (front)             ■ Four hole front mounting 36 × 36 mm

- Main/Emergency-Off Switch
- Main Switch



|   |                       |                         |           |
|---|-----------------------|-------------------------|-----------|
| Setup of order code number: Type - Switching programme - Mounting form<br>Ordering example:<br>4 pole Main Switch 90°, 20 A, padlock device with M-handle black → | Type                  | Switching programme     | Mtg. form |
|   | P220                  | 61194                   | 234M1     |
|   | <b>Order code no.</b> | <b>P220-61194-234M1</b> |           |

| Type         | Rated data (IEC 60947)                           |   |            | Degree of Protection<br>Terminals | Terminal accessibility                       |
|--------------|--|---|------------|-----------------------------------|--|
|              | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |            |                                   |  |
| P220<br>P225 | 20<br>25   | 7.5<br>11   | 5.5<br>7.5 | IP1B<br>IP1B                      | Terminals accessible from mounting direction |
| M220<br>M225 | 20<br>25   | 7.5<br>11   | 5.5<br>7.5 | IP20<br>IP20                      | Terminals accessible laterally               |
| T225         | 32   | 15  | 11         | IP20                              | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                               |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                               |
| 61199               | 2      | 3        | ON-OFF Switch 90°, 3 pole                               |
| 61194               | 2      | 4        | ON-OFF Switch 90°, 4 pole, 1 pole early make/late break |
| 61906               | 3      | 6        | ON-OFF Switch 90°, 6 pole                               |
| 61919               | 4      | 8        | ON-OFF Switch 90°, 8 pole, 2 pole early make/late break |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator | Main/Emergency-Off Switch               | Mounting form | Operator | Main Switch                            |
|---------------|----------|---|---------------|----------|--|
| 234N4         |          | padlock device with N-handle yellow/red | 234N1         |          | padlock device with N-handle black     |
| 234M4         |          | padlock device with M-handle yellow/red | 234M1         |          | padlock device with M-handle black     |
| 234V4         |          | padlockable with V-handle yellow/red    | 234V1         |          | padlockable with V-handle silver/black |

**Dimensions in mm:**

Door

Base alternatively

Modular shaft extensions see page 84.

| Type | Mounting form | A  | C <sub>min</sub> | C <sub>max</sub> | C1 | D  | D1 | D2  | E  | L with ... stages (max. 12) |    |    |    | each additional |
|------|---------------|----|------------------|------------------|----|----|----|-----|----|-----------------------------|----|----|----|-----------------|
|      |               |    |                  |                  |    |    |    |     |    | 1                           | 2  | 3  | 4  |                 |
| P220 | 234N4/234N1   | 67 | 42               | 57               | 33 | 44 | 15 | 4.5 | 36 | 40                          | 53 | 66 | 79 | 13              |
|      | 234M4/234M1   | 67 | 42               | 57               | 38 | 44 | 15 | 4.5 | 36 | 40                          | 53 | 66 | 79 | 13              |
|      | 234V4/234V1   | 48 | 42               | 57               | 32 | 44 | 12 | 4.5 | 36 | 40                          | 53 | 66 | 79 | 13              |
| P225 | 234N4/234N1   | 67 | 42               | 57               | 33 | 46 | 15 | 4.5 | 36 | 42                          | 57 | 72 | 87 | 15              |
|      | 234M4/234M1   | 67 | 42               | 57               | 38 | 46 | 15 | 4.5 | 36 | 42                          | 57 | 72 | 87 | 15              |
|      | 234V4/234V1   | 48 | 42               | 57               | 32 | 46 | 12 | 4.5 | 36 | 42                          | 57 | 72 | 87 | 15              |
| M220 | 234N4/234N1   | 67 | 42               | 57               | 33 | 46 | 15 | 4.5 | 36 | 37                          | 47 | 57 | 67 | 10              |
|      | 234M4/234M1   | 67 | 42               | 57               | 38 | 46 | 15 | 4.5 | 36 | 37                          | 47 | 57 | 67 | 10              |
|      | 234V4/234V1   | 48 | 42               | 57               | 32 | 46 | 12 | 4.5 | 36 | 37                          | 47 | 57 | 67 | 10              |
| M225 | 234N4/234N1   | 67 | 42               | 57               | 33 | 48 | 15 | 4.5 | 36 | 40                          | 53 | 66 | 79 | 13              |
|      | 234M4/234M1   | 67 | 42               | 57               | 38 | 48 | 15 | 4.5 | 36 | 40                          | 53 | 66 | 79 | 13              |
|      | 234V4/234V1   | 48 | 42               | 57               | 32 | 48 | 12 | 4.5 | 36 | 40                          | 53 | 66 | 79 | 13              |
| T225 | 234N4/234N1   | 67 | 42               | 57               | 33 | 50 | 15 | 4.5 | 36 | 42                          | 57 | 72 | 87 | 15              |
|      | 234M4/234M1   | 67 | 42               | 57               | 38 | 50 | 15 | 4.5 | 36 | 42                          | 57 | 72 | 87 | 15              |
|      | 234V4/234V1   | 48 | 42               | 57               | 32 | 50 | 12 | 4.5 | 36 | 42                          | 57 | 72 | 87 | 15              |

# Rotary Cam Switches

**Base mounting** Four hole mounting 68 × 68 mm

## Base mounting switches with four hole mounting 68 × 68 mm

- 50 A / 63 A
- 1 up to 24 contacts
- IP55 (front)
- Four hole front mounting 48 × 48 mm



- ON-OFF Switch
- Multi-step Switch
- Changeover Switch
- Motor Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>3 pole Changeover Switch with centre OFF 60°, 50 A, M-handle silver/black → | Type                                   | Switching programme | Mtg. form |
|   | S432                                   | 61027               | 002M1     |
|   | <b>Order code no. S432-61027-002M1</b> |                     |           |

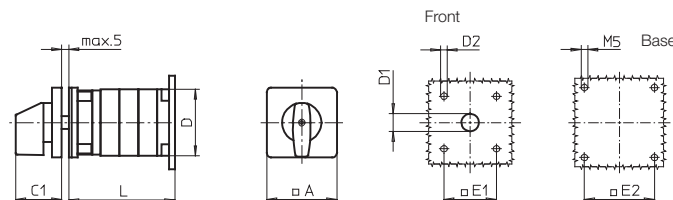
| Type | Rated data (IEC 60947)                           |                                  |            | Terminal accessibility         |
|------|--|----------------------------------|------------|--------------------------------|
|      | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                                |
|      |  | AC-23A (kW)                      | AC-3A (kW) |                                |
| S432 | 50   | 22                               | 22         | Terminals accessible laterally |
| S440 | 63   | 30                               | 30         |                                |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61003               | 2      | 3        | ON-OFF Switch 60°, 3 pole                      |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61038               | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61211               | 3      | 5        | Motor Reversing Switch, 3 pole                 |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 002M1         | M-handle silver/black |

Dimensions in mm:



| Type | A  | C1 | D  | D1 | D2 | E1 | E2 | L with ... stages (max. 12) |    |     |     |     |     | each additional |
|------|----|----|----|----|----|----|----|-----------------------------|----|-----|-----|-----|-----|-----------------|
|      |    |    |    |    |    |    |    | 1                           | 2  | 3   | 4   | 5   | 6   |                 |
| S432 | 64 | 39 | 65 | 12 | 5  | 48 | 68 | 56                          | 74 | 92  | 110 | 128 | 146 | 18              |
| S440 | 64 | 39 | 70 | 12 | 5  | 48 | 68 | 61                          | 82 | 103 | 124 | 145 | 166 | 21              |

# Rotary Cam Switches

**Base mounting** Four hole mounting 68 × 68 mm

## Base mounting switches with four hole mounting 68 × 68 mm

- 80 A / 100 A / 160 A
- 1 up to 24 contacts
- IP55 (front)
- Four hole front mounting 68 × 68 mm



- ON-OFF Switch
- Changeover Switch
- Multi-step Switch
- Motor Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>3 pole Changeover Switch with centre OFF 60°, 80 A, M-handle silver/black → | Type                                   | Switching programme | Mtg. form |
|   | S606                                   | 61027               | 002M1     |
|   | <b>Order code no. S606-61027-002M1</b> |                     |           |

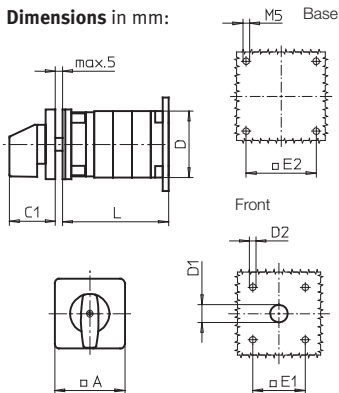
| Type | Rated data (IEC 60947)                           |                                  |            | Terminal accessibility         |
|------|--|----------------------------------|------------|--------------------------------|
|      | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                                |
|      |  | AC-23A (kW)                      | AC-3A (kW) |                                |
| S606 | 80   | 45                               | 30         | Terminals accessible laterally |
| S608 | 100  | 55                               | 37         |                                |
| S612 | 160  | 75                               | 45         |                                |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61003               | 2      | 3        | ON-OFF Switch 60°, 3 pole                      |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61038               | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61211               | 3      | 5        | Motor Reversing Switch, 3 pole                 |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              | Mounting form | Operator              |
|---------------|-----------------------|---------------|-----------------------|
| 002M1         | M-handle silver/black | 002G1         | G-handle silver/black |

Dimensions in mm:



| Type | Mtg. form | A  | C1 | D  | D1 | D2  | E1 | E2 | L with ... stages (max. 12) |     |     |     | each additional |
|------|-----------|----|----|----|----|-----|----|----|-----------------------------|-----|-----|-----|-----------------|
|      |           |    |    |    |    |     |    |    | 1                           | 2   | 3   | 4   |                 |
| S606 | 002M1     | 88 | 52 | 84 | 15 | 5.5 | 68 | 68 | 64                          | 86  | 108 | 130 | 22              |
|      | 002G1     | 88 | 66 | 84 | 15 | 5.5 | 68 | 68 | 64                          | 86  | 108 | 130 | 22              |
| S608 | 002M1     | 88 | 52 | 88 | 15 | 5.5 | 68 | 68 | 71                          | 97  | 123 | 149 | 26              |
|      | 002G1     | 88 | 66 | 88 | 15 | 5.5 | 68 | 68 | 71                          | 97  | 123 | 149 | 26              |
| S612 | 002M1     | 88 | 52 | 88 | 15 | 5.5 | 68 | 68 | 77                          | 109 | 141 | 173 | 32              |
|      | 002G1     | 88 | 66 | 88 | 15 | 5.5 | 68 | 68 | 77                          | 109 | 141 | 173 | 32              |

# Rotary Cam Switches

**Base mounting** Four hole mounting 68 × 68 mm / Door clutch

**Base mounting switches** with four hole mounting 68 × 68 mm / Door clutch

- 50 A / 63 A
- IP55 (front)
- Four hole front mounting 48 × 48 mm
- 1 up to 24 contacts

- ON-OFF Switch
- Multi-step Switch
- Changeover Switch
- Motor Switch



|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>3 pole ON-OFF Switch 60°, 50 A, M-handle silver/black → | Type                                   | Switching programme | Mtg. form |
|   | S432                                   | 61006               | 041M1     |
|   | <b>Order code no. S432-61006-041M1</b> |                     |           |

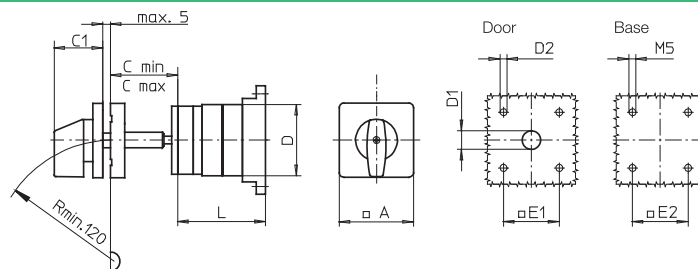
| Type | Rated data (IEC 60947)                           |                                  |            | Terminal accessibility         |
|------|--|----------------------------------|------------|--------------------------------|
|      | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                                |
|      |  | AC-23A (kW)                      | AC-3A (kW) |                                |
| S432 | 50   | 22                               | 22         | Terminals accessible laterally |
| S440 | 63   | 30                               | 30         |                                |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61003               | 2      | 3        | ON-OFF Switch 60°, 3 pole                      |
| 61006               | 3      | 6        | ON-OFF Switch 60°, 6 pole                      |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61038               | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61211               | 3      | 5        | Motor Reversing Switch, 3 pole                 |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 041M1         | M-handle silver/black |

Dimensions in mm:



| Type | A  | C <sub>min</sub> | C <sub>max</sub> | C1 | D  | D1 | D2 | E1 | E2 | L with ... stages (max. 12) |    |    |     | each additional |
|------|----|------------------|------------------|----|----|----|----|----|----|-----------------------------|----|----|-----|-----------------|
|      |    |                  |                  |    |    |    |    |    |    | 1                           | 2  | 3  | 4   |                 |
| S432 | 64 | 42               | 56               | 39 | 65 | 12 | 5  | 48 | 68 | 51                          | 69 | 87 | 105 | 18              |
| S440 | 64 | 42               | 56               | 39 | 70 | 12 | 5  | 48 | 68 | 56                          | 77 | 98 | 119 | 21              |

# Rotary Cam Switches

**Base mounting** Four hole mounting 68 × 68 mm / Door clutch

## Base mounting switches with four hole mounting 68 × 68 mm / Door clutch

- **80 A / 100 A / 160 A**    ■ 1 up to 24 contacts
- IP55 (front)
- Four hole front mounting 68 × 68 mm



- ON-OFF Switch
- Changeover Switch
- Multi-step Switch
- Motor Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b> | Type                                   | Switching programme | Mtg. form |
| Ordering example:<br>3 pole ON-OFF Switch 90°, 80 A, M-handle silver/black →  | S606                                   | 61199               | 041M1     |
|   | <b>Order code no. S606-61199-041M1</b> |                     |           |

| Type        | Rated data (IEC 60947)                           |                                  |            | Terminal accessibility             |
|-------------|--|----------------------------------|------------|------------------------------------|
|             | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                                    |
|             |  | AC-23A (kW)                      | AC-3A (kW) |                                    |
| <b>S606</b> | 80   | 45                               | 30         | <br>Terminals accessible laterally |
| <b>S608</b> | 100  | 55                               | 37         |                                    |
| <b>S612</b> | 160  | 75                               | 45         |                                    |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| <b>61192</b>        | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| <b>61199</b>        | 2      | 3        | ON-OFF Switch 90°, 3 pole                      |
| <b>61001</b>        | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| <b>61002</b>        | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| <b>61003</b>        | 2      | 3        | ON-OFF Switch 60°, 3 pole                      |
| <b>61025</b>        | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| <b>61026</b>        | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| <b>61027</b>        | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole  |
| <b>61037</b>        | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| <b>61038</b>        | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| <b>61050</b>        | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| <b>61211</b>        | 3      | 5        | Motor Reversing Switch, 3 pole                 |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              | Mounting form | Operator              |
|---------------|-----------------------|---------------|-----------------------|
| <b>041M1</b>  | M-handle silver/black | <b>041G1</b>  | G-handle silver/black |

**Dimensions in mm:**

| Type        | Mtg. form | A  | C <sub>min</sub> | C <sub>max</sub> | C1 | D  | D1 | D2  | E1 | E2 | L with ... stages (max. 12) |     |     |     | each additional |
|-------------|-----------|----|------------------|------------------|----|----|----|-----|----|----|-----------------------------|-----|-----|-----|-----------------|
|             |           |    |                  |                  |    |    |    |     |    |    | 1                           | 2   | 3   | 4   |                 |
| <b>S606</b> | 041M1     | 88 | 48               | 60               | 52 | 84 | 18 | 5.5 | 68 | 68 | 58                          | 80  | 107 | 129 | 22              |
|             | 041G1     | 88 | 48               | 60               | 66 | 84 | 18 | 5.5 | 68 | 68 | 58                          | 80  | 107 | 129 | 22              |
| <b>S608</b> | 041M1     | 88 | 48               | 60               | 52 | 88 | 18 | 5.5 | 68 | 68 | 65                          | 91  | 117 | 143 | 26              |
|             | 041G1     | 88 | 48               | 60               | 66 | 88 | 18 | 5.5 | 68 | 68 | 65                          | 91  | 117 | 143 | 26              |
| <b>S612</b> | 041M1     | 88 | 48               | 60               | 52 | 88 | 18 | 5.5 | 68 | 68 | 71                          | 103 | 135 | 167 | 32              |
|             | 041G1     | 88 | 48               | 60               | 66 | 88 | 18 | 5.5 | 68 | 68 | 71                          | 103 | 135 | 167 | 32              |

# Rotary Cam Switches

**Base mounting** Four hole mounting 68 × 68 mm / Door interlock

**Base mounting switches** with four hole mounting 68 × 68 mm / Door interlock

- 50 A / 63 A
- IP55 (front)
- Four hole front mounting 48 × 48 mm
- 1 up to 24 contacts



- ON-OFF Switch
- Multi-step Switch
- Changeover Switch
- Motor Switch

|   |                       |                         |           |
|---|-----------------------|-------------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b> | Type                  | Switching programme     | Mtg. form |
| Ordering example:<br>3 pole ON-OFF Switch 90°, 50 A, M-handle silver/black →  | S432                  | 61199                   | 042M1     |
|   | <b>Order code no.</b> | <b>S432-61199-042M1</b> |           |

| Type | Rated data (IEC 60947)                           |   |    | Terminal accessibility             |
|------|--|---|----|------------------------------------|
|      | Operational current I <sub>o</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |    |                                    |
| S432 | 50   | 22  | 22 | <br>Terminals accessible laterally |
| S440 | 63   | 30  | 30 |                                    |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61199               | 2      | 3        | ON-OFF Switch 90°, 3 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61003               | 2      | 3        | ON-OFF Switch 60°, 3 pole                      |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61038               | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61211               | 3      | 5        | Motor Reversing Switch, 3 pole                 |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator                  |
|---------------|---------------------------|
| 042M1         | <br>M-handle silver/black |

**Dimensions in mm:**

| Type | A  | C <sub>min</sub> | C <sub>max</sub> | C1 | D  | D1 | D2 | E1 | E2 | L with ... stages (max. 12) |    |    |     | each additional |
|------|----|------------------|------------------|----|----|----|----|----|----|-----------------------------|----|----|-----|-----------------|
|      |    |                  |                  |    |    |    |    |    |    | 1                           | 2  | 3  | 4   |                 |
| S432 | 64 | 42               | 56               | 39 | 65 | 15 | 5  | 48 | 68 | 51                          | 69 | 87 | 105 | 18              |
| S440 | 64 | 42               | 56               | 39 | 70 | 15 | 5  | 48 | 68 | 56                          | 77 | 98 | 119 | 21              |

# Rotary Cam Switches

**Base mounting** Four hole mounting 68 × 68 mm / Door interlock

## Base mounting switches with four hole mounting 68 × 68 mm / Door interlock

- **80 A / 100 A / 160 A**    ■ 1 up to 24 contacts
- IP55 (front)
- Four hole front mounting 68 × 68 mm



- ON-OFF Switch
- Changeover Switch
- Multi-step Switch
- Motor Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b> | Type                                   | Switching programme | Mtg. form |
| Ordering example:<br>3 pole ON-OFF Switch 90°, 80 A, M-handle silver/black →  | S606                                   | 61199               | 042M1     |
|   | <b>Order code no. S606-61199-042M1</b> |                     |           |

| Type        | Rated data (IEC 60947)                           |                                  |            | Terminal accessibility             |
|-------------|--|----------------------------------|------------|------------------------------------|
|             | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                                    |
|             |  | AC-23A (kW)                      | AC-3A (kW) |                                    |
| <b>S606</b> | 80   | 45                               | 30         | <br>Terminals accessible laterally |
| <b>S608</b> | 100  | 55                               | 37         |                                    |
| <b>S612</b> | 160  | 75                               | 45         |                                    |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| <b>61192</b>        | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| <b>61199</b>        | 2      | 3        | ON-OFF Switch 90°, 3 pole                      |
| <b>61001</b>        | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| <b>61002</b>        | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| <b>61003</b>        | 2      | 3        | ON-OFF Switch 60°, 3 pole                      |
| <b>61025</b>        | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| <b>61026</b>        | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| <b>61027</b>        | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole  |
| <b>61037</b>        | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| <b>61038</b>        | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| <b>61050</b>        | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| <b>61211</b>        | 3      | 5        | Motor Reversing Switch, 3 pole                 |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              | Mounting form | Operator              |
|---------------|-----------------------|---------------|-----------------------|
| <b>042M1</b>  | M-handle silver/black | <b>042G1</b>  | G-handle silver/black |

**Dimensions in mm:**

| Type        | Mtg. form | A  | C <sub>min</sub> | C <sub>max</sub> | C1 | D  | D1 | D2  | E1 | E2 | L with ... stages (max. 12) |     |     |     | each additional |
|-------------|-----------|----|------------------|------------------|----|----|----|-----|----|----|-----------------------------|-----|-----|-----|-----------------|
|             |           |    |                  |                  |    |    |    |     |    |    | 1                           | 2   | 3   | 4   |                 |
| <b>S606</b> | 042M1     | 88 | 48               | 60               | 52 | 84 | 18 | 5.5 | 68 | 68 | 58                          | 80  | 107 | 129 | 22              |
|             | 042G1     | 88 | 48               | 60               | 66 | 84 | 18 | 5.5 | 68 | 68 | 58                          | 80  | 107 | 129 | 22              |
| <b>S608</b> | 042M1     | 88 | 48               | 60               | 52 | 88 | 18 | 5.5 | 68 | 68 | 65                          | 91  | 117 | 143 | 26              |
|             | 042G1     | 88 | 48               | 60               | 66 | 88 | 18 | 5.5 | 68 | 68 | 65                          | 91  | 117 | 143 | 26              |
| <b>S612</b> | 042M1     | 88 | 48               | 60               | 52 | 88 | 18 | 5.5 | 68 | 68 | 71                          | 103 | 135 | 167 | 32              |
|             | 042G1     | 88 | 48               | 60               | 66 | 88 | 18 | 5.5 | 68 | 68 | 71                          | 103 | 135 | 167 | 32              |

# Rotary Cam Switches

**Base mounting** Four hole mounting 104 × 104 mm


## Base mounting switches with four hole mounting 104 × 104 mm

- **315 A**
- 1 up to 24 contacts
- IP55 (front)
- Four hole front mounting 104 × 104 mm



- ON-OFF Switch
- Multi-step Switch
- Changeover Switch
- Motor Switch

|  |  |                     |           |
|--|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>2 pole Changeover Switch with centre OFF 60°, 315 A, G-handle silver/black → | Type                                   | Switching programme | Mtg. form |
|  | S825                                   | 61026               | 002G1     |
|  | <b>Order code no. S825-61026-002G1</b> |                     |           |

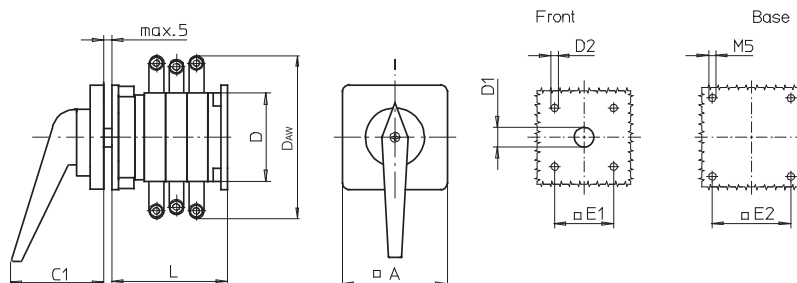
| Type | Rated data (IEC 60947)                  |   |    | Terminal accessibility  |
|------|---|---|----|---|
|      | Operational current $I_e$<br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |    |   |
| S825 | 315                                     | 132   | 55 |  Terminals accessible laterally |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61003               | 2      | 3        | ON-OFF Switch 60°, 3 pole                      |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61038               | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator  |
|---------------|---|
| 002G1         |  G-handle silver/black |

Dimensions in mm:



| Type | A   | C1 | D   | $D_{AW}$ | D1 | D2  | E1  | E2  | L with ... stages (max. 12) |     |     |     |     |     | each additional |
|------|-----|----|-----|----------|----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|-----------------|
|      |     |    |     |          |    |     |     |     | 1                           | 2   | 3   | 4   | 5   | 6   |                 |
| S825 | 130 | 74 | 120 | 210      | 20 | 5.5 | 104 | 104 | 96                          | 132 | 168 | 204 | 240 | 276 | 36              |



# Rotary Cam Switches

**Base mounting** Four hole mounting 104 × 104 mm / Door clutch

**Base mounting switches** with four hole mounting 104 × 104 mm / Door clutch

- **315 A**                                ■ 1 up to 24 contacts
- IP55 (front)
- Four hole front mounting 104 × 104 mm



- ON-OFF Switch
- Multi-step Switch
- Changeover Switch
- Motor Switch

|  |                       |                         |           |
|--|-----------------------|-------------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>3 pole Changeover Switch with centre OFF 60°, 315 A, G-handle silver/black → | Type                  | Switching programme     | Mtg. form |
|  | S825                  | 61027                   | 041G1     |
|  | <b>Order code no.</b> | <b>S825-61027-041G1</b> |           |

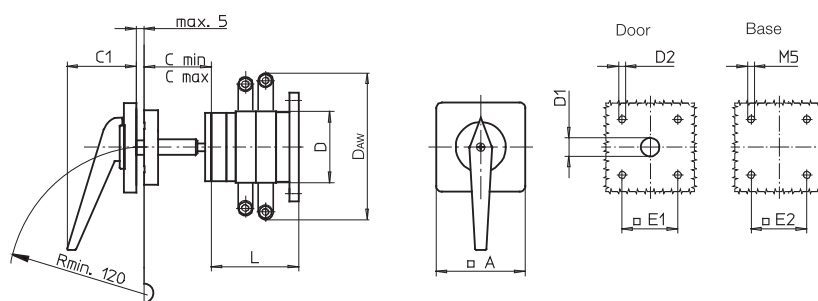
| Type | Rated data (IEC 60947)                           |   |    | Terminal accessibility         |
|------|--|---|----|--------------------------------|
|      | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |    |                                |
| S825 | 315  | 132   | 55 | Terminals accessible laterally |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61003               | 2      | 3        | ON-OFF Switch 60°, 3 pole                      |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61038               | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 041G1         | G-handle silver/black |

Dimensions in mm:



| Type | A   | C <sub>min</sub> | C <sub>max</sub> | C1 | D   | D <sub>AW</sub> | D1 | D2  | E1  | E2  | L with ... stages (max. 12) |     |     |     | each additional |
|------|-----|------------------|------------------|----|-----|-----------------|----|-----|-----|-----|-----------------------------|-----|-----|-----|-----------------|
|      |     |                  |                  |    |     |                 |    |     |     |     | 1                           | 2   | 3   | 4   |                 |
| S825 | 130 | 75               | 102              | 74 | 120 | 210             | 20 | 5.5 | 104 | 104 | 90                          | 126 | 162 | 198 | 36              |

# Rotary Cam Switches

**Base mounting** Four hole mounting 104 × 104 mm / Door interlock

**Base mounting switches** with four hole mounting 104 × 104 mm / Door interlock

- **315 A**                                    ■ 1 up to 24 contacts
- IP55 (front)
- Four hole front mounting 104 × 104 mm

- ON-OFF Switch
- Changeover Switch
- Multi-step Switch
- Motor Switch



|  |  |                     |           |
|--|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>3 pole ON-OFF Switch 90°, 315 A, G-handle silver/black → | Type                                   | Switching programme | Mtg. form |
|  | S825                                   | 61199               | 042G1     |
|  | <b>Order code no. S825-61199-042G1</b> |                     |           |

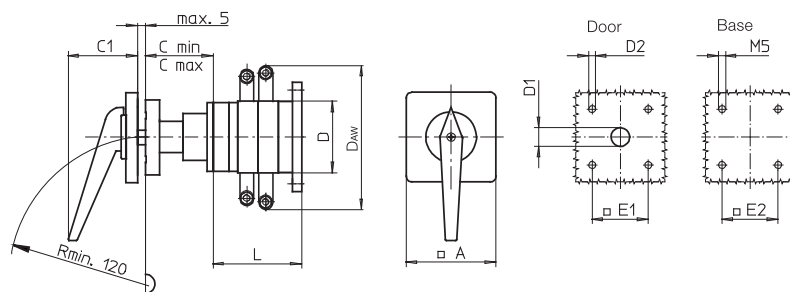
| Type | Rated data (IEC 60947)                           |   |    | Terminal accessibility         |
|------|--|---|----|--------------------------------|
|      | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |    |                                |
| S825 | 315  | 132   | 55 | Terminals accessible laterally |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61199               | 2      | 3        | ON-OFF Switch 90°, 3 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61003               | 2      | 3        | ON-OFF Switch 60°, 3 pole                      |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61038               | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 042G1         | G-handle silver/black |

Dimensions in mm:



| Type | A   | C <sub>min</sub> | C <sub>max</sub> | C1 | D   | D <sub>AW</sub> | D1 | D2  | E1  | E2  | L with ... stages (max. 12) |     |     |     | each additional |
|------|-----|------------------|------------------|----|-----|-----------------|----|-----|-----|-----|-----------------------------|-----|-----|-----|-----------------|
|      |     |                  |                  |    |     |                 |    |     |     |     | 1                           | 2   | 3   | 4   |                 |
| S825 | 130 | 75               | 102              | 74 | 120 | 210             | 20 | 5.5 | 104 | 104 | 90                          | 126 | 162 | 198 | 36              |

# Rotary Cam Switches

Enclosed Switches with insulated enclosure 68 × 68 × 53 mm

## Enclosed Switches with insulated enclosure 68 × 68 × 53 mm

- 20 A
- 1 up to 4 contacts
- IP65
- Insulated polycarbonate enclosure



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>1 pole Multi-step Switch without OFF, 20 A, N-handle silver/black → | Type                                   | Switching programme | Mtg. form |
|   | M220                                   | 61049               | 107M1     |
|   | <b>Order code no. M220-61049-107M1</b> |                     |           |

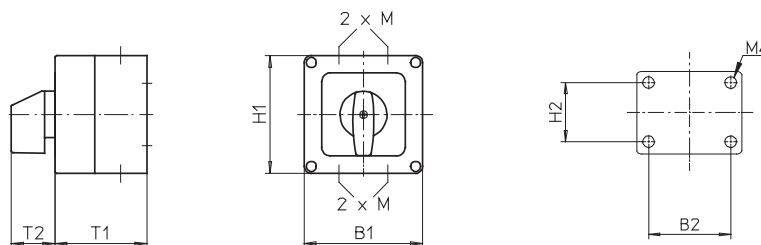
| Type | Rated data (IEC 60947)                           |                                  |            | Terminal accessibility         |
|------|--|----------------------------------|------------|--------------------------------|
|      | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                                |
|      |  | AC-23A (kW)                      | AC-3A (kW) |                                |
| M220 | 20   | 7.5                              | 5.5        | Terminals accessible laterally |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                               |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                               |
| 61199               | 2      | 3        | ON-OFF Switch 90°, 3 pole                               |
| 61194               | 2      | 4        | ON-OFF Switch 90°, 4 pole, 1 pole early make/late break |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                               |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                               |
| 61003               | 2      | 3        | ON-OFF Switch 60°, 3 pole                               |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole           |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole           |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole               |
| 61049               | 2      | 3        | Multi-step Switch without OFF, 3 steps, 1 pole          |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole          |
| 61210               | 2      | 4        | Motor Reversing Switch, 2 pole                          |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 107M1         | M-handle silver/black |

Dimensions in mm:



| Type | H1 | B1 | T1 | T2 | 2 × M | H2 | B2 |
|------|----|----|----|----|-------|----|----|
| M220 | 68 | 68 | 53 | 25 | 16    | 36 | 50 |

# Rotary Cam Switches

Enclosed Switches with insulated enclosure 68 × 68 × 53 mm


## Enclosed Switches with insulated enclosure 68 × 68 × 53 mm

- 20 A
- 1 up to 4 contacts
- IP65
- Insulated polycarbonate enclosure

- Main/Emergency-Off Switch
- Main Switch







|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>2 pole Main/Emergency-Off Switch 90°, 20 A, padlock device with M-handle yellow/red → | Type                                   | Switching programme | Mtg. form |
|   | M220                                   | 61192               | 117M4     |
|   | <b>Order code no. M220-61192-117M4</b> |                     |           |

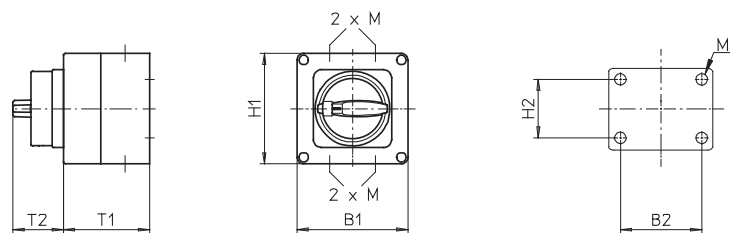
| Type | Rated data (IEC 60947)                           |   |     | Terminal accessibility  |
|------|--|---|-----|---|
|      | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |     |   |
| M220 | 20   | 7.5   | 5.5 |  Terminals accessible laterally |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                               |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                               |
| 61199               | 2      | 3        | ON-OFF Switch 90°, 3 pole                               |
| 61194               | 2      | 4        | ON-OFF Switch 90°, 4 pole, 1 pole early make/late break |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator  | Main/Emergency-Off Switch               | Mounting form | Operator   | Main Switch                        |
|---------------|---|---|---------------|--|------------------------------------|
| 117M4         |   | padlock device with M-handle yellow/red | 117M1         |   | padlock device with M-handle black |

Dimensions in mm:



| Type | H1 | B1 | T1 | T2 | 2 × M | H2 | B2 |
|------|----|----|----|----|-------|----|----|
| M220 | 68 | 68 | 53 | 31 | 16    | 36 | 50 |

# Rotary Cam Switches

Enclosed Switches with insulated enclosure 100 × 80 × 65 mm

## Enclosed Switches with insulated enclosure 100 × 80 × 65 mm

- 20 A
- 1 up to max. 4 contacts
- IP66
- Insulated polycarbonate enclosure



- Control Switch
- Instrument Switch
- ON-OFF Switch
- Changeover Switch
- Multi-step Switch
- Motor Switch

|   |                       |                         |           |
|---|-----------------------|-------------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>2 pole Changeover Switch without OFF 60°, 20 A, M-handle silver/black → | Type                  | Switching programme     | Mtg. form |
|   | M220                  | 61038                   | 076M1     |
|   | <b>Order code no.</b> | <b>M220-61038-076M1</b> |           |

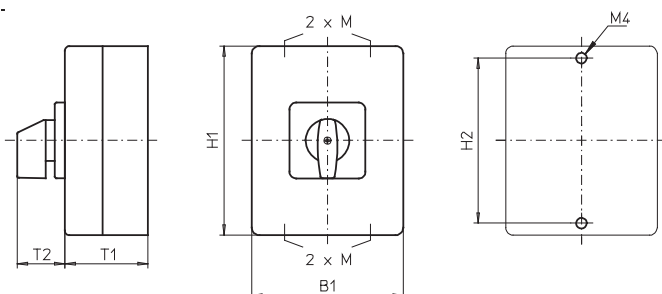
| Type | Contacts | Rated data (IEC 60947)                           |                                  |            | Terminal accessibility                       |
|------|----------|--|----------------------------------|------------|--|
|      |          | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |  |
|      |          |  | AC-23A (kW)                      | AC-3A (kW) |  |
| P220 | 1 to 2   | 20   | 7.5                              | 5.5        | Terminals accessible from mounting direction |
| M220 | 1 to 4   | 20   | 7.5                              | 5.5        | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191 for type P220 | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192 for type P220 | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61001 for type P220 | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002 for type P220 | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61025 for type P220 | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61037 for type P220 | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61003 for type M220 | 2      | 3        | ON-OFF Switch 60°, 3 pole                      |
| 61026 for type M220 | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61038 for type M220 | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| 61049 for type M220 | 2      | 3        | Multi-step Switch without OFF, 3 steps, 1 pole |
| 61050 for type M220 | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61210 for type M220 | 2      | 4        | Motor Reversing Switch, 2 pole                 |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| 076M1         | M-handle silver/black |

Dimensions in mm:



| Type | H1  | B1 | T1 | T2 | 2 × M | H2 |
|------|-----|----|----|----|-------|----|
| P220 | 100 | 80 | 65 | 32 | 20    | 90 |
| M220 | 100 | 80 | 65 | 32 | 20    | 90 |

# Rotary Cam Switches

Enclosed Switches with insulated enclosure 100 × 80 × 65 mm

## Enclosed Switches with insulated enclosure 100 × 80 × 65 mm

- 20 A
- 1 up to max. 4 contacts
- IP66
- Insulated polycarbonate enclosure



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

|   |                       |                         |           |
|---|-----------------------|-------------------------|-----------|
| Setup of order code number: Type - Switching programme - Mounting form<br>Ordering example:<br>2 pole Changeover Switch 90°, 20 A, padlockable with V-handle silver/black → | Type                  | Switching programme     | Mtg. form |
|   | M220                  | 61152                   | 076V1     |
|   | <b>Order code no.</b> | <b>M220-61152-076V1</b> |           |

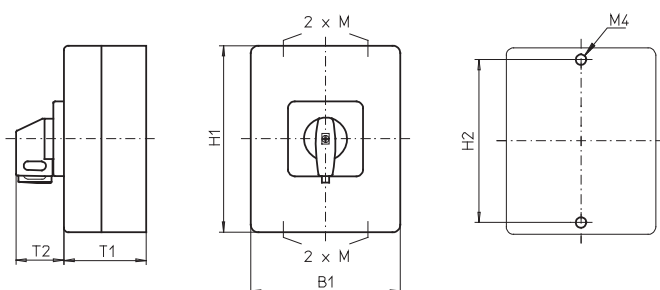
| Type | Contacts | Rated data (IEC 60947)                           |                                  |            | Terminal accessibility                       |
|------|----------|--|----------------------------------|------------|--|
|      |          | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |  |
|      |          |  | AC-23A (kW)                      | AC-3A (kW) |  |
| P220 | 1 to 2   | 20   | 7.5                              | 5.5        | Terminals accessible from mounting direction |
| M220 | 1 to 4   | 20   | 7.5                              | 5.5        | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description                                   |
|---------------------|--------|----------|---|
| 61001 for type P220 | 1      | 1        | ON-OFF Switch 60°, 1 pole                     |
| 61002 for type P220 | 1      | 2        | ON-OFF Switch 60°, 2 pole                     |
| 61025 for type P220 | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole |
| 61151 for type P220 | 1      | 2        | Changeover Switch with centre OFF 90°, 1 pole |
| 61003 for type M220 | 2      | 3        | ON-OFF Switch 60°, 3 pole                     |
| 61026 for type M220 | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole |
| 61151 for type M220 | 1      | 2        | Changeover Switch with centre OFF 90°, 1 pole |
| 61152 for type M220 | 2      | 4        | Changeover Switch with centre OFF 90°, 2 pole |
| 61210 for type M220 | 2      | 4        | Motor Reversing Switch, 2 pole                |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator                               | Padlockable options   |
|---------------|--|---|
| 076V1         | padlockable with V-handle silver/black | padlockable 12h   |
| 078V1         | padlockable with V-handle silver/black | 3 positions padlockable (9h/12h/03h)<br>(only for Changeover Switches with 90° switching angle) |

Dimensions in mm:



| Type | H1  | B1 | T1 | T2 | 2 × M | H2 |
|------|-----|----|----|----|-------|----|
| P220 | 100 | 80 | 65 | 32 | 20    | 90 |
| M220 | 100 | 80 | 65 | 32 | 20    | 90 |

# Rotary Cam Switches

Enclosed Switches with insulated enclosure 100 × 80 × 65 mm

## Enclosed Switches with insulated enclosure 100 × 80 × 65 mm

- 20 A
- 1 up to max. 4 contacts
- IP66
- Insulated polycarbonate enclosure



- Main/Emergency-Off Switch
- Main Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>2 pole Main Switch 90°, 20 A, padlock device with N-handle yellow/red → | Type                                   | Switching programme | Mtg. form |
|   | P220                                   | 61192               | 077N4     |
|   | <b>Order code no. P220-61192-077N4</b> |                     |           |

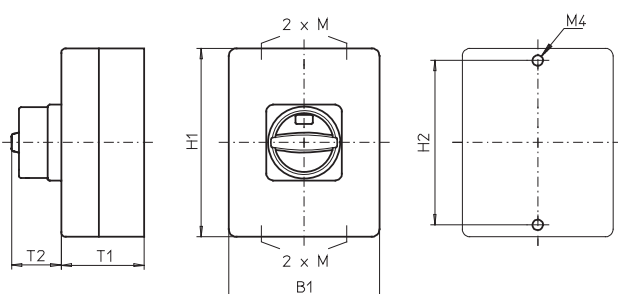
| Type | Contacts | Rated data (IEC 60947)                           |                                  |            | Terminal accessibility                       |
|------|----------|--|----------------------------------|------------|--|
|      |          | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |  |
|      |          |  | AC-23A (kW)                      | AC-3A (kW) |  |
| P220 | 1 to 2   | 20   | 7.5                              | 5.5        | Terminals accessible from mounting direction |
| M220 | 1 to 4   | 20   | 7.5                              | 5.5        | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61191 for type P220 | 1      | 1        | ON-OFF Switch 90°, 1 pole                               |
| 61192 for type P220 | 1      | 2        | ON-OFF Switch 90°, 2 pole                               |
| 61191 for type M220 | 1      | 1        | ON-OFF Switch 90°, 1 pole                               |
| 61192 for type M220 | 1      | 2        | ON-OFF Switch 90°, 2 pole                               |
| 61199 for type M220 | 2      | 3        | ON-OFF Switch 90°, 3 pole                               |
| 61194 for type M220 | 2      | 4        | ON-OFF Switch 90°, 4 pole, 1 pole early make/late break |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator | Main/Emergency-Off Switch               | Mounting form | Operator | Main Switch                            |
|---------------|----------|---|---------------|----------|--|
| 077N4         |          | padlock device with N-handle yellow/red | 077N1         |          | padlock device with N-handle black     |
| 077M4         |          | padlock device with M-handle yellow/red | 077M1         |          | padlock device with M-handle black     |
| 077V4         |          | padlockable with V-handle yellow/red    | 077V1         |          | padlockable with V-handle silver/black |

Dimensions in mm:



| Mounting form | H1  | B1 | T1 | T2 | 2 × M | H2 |
|---------------|-----|----|----|----|-------|----|
| 077N4/077N1   | 100 | 80 | 65 | 33 | 20    | 90 |
| 077M4/077M1   | 100 | 80 | 65 | 38 | 20    | 90 |
| 077V4/077V1   | 100 | 80 | 65 | 32 | 20    | 90 |

# Rotary Cam Switches

Enclosed Switches with insulated enclosure 100 × 80 × 85 mm

## Enclosed Switches with insulated enclosure 100 × 80 × 85 mm

- 20 A
- 3 up to max. 8 contacts
- IP66
- Insulated polycarbonate enclosure

- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch



|   |                       |                         |           |
|---|-----------------------|-------------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>4 pole Changeover Switch without OFF 60°, 20 A, M-handle silver/black → | Type                  | Switching programme     | Mtg. form |
|   | M220                  | 61040                   | 176M1     |
|   | <b>Order code no.</b> | <b>M220-61040-176M1</b> |           |

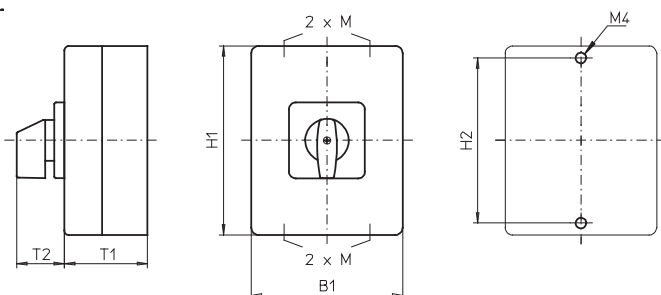
| Type | Contacts | Rated data (IEC 60947)                           |                                  |            | Terminal accessibility                       |
|------|----------|--|----------------------------------|------------|--|
|      |          | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |  |
|      |          |  | AC-23A (kW)                      | AC-3A (kW) |  |
| P220 | 3 to 6   | 20   | 7.5                              | 5.5        | Terminals accessible from mounting direction |
| M220 | 5 to 8   | 20   | 7.5                              | 5.5        | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61199 for type P220 | 2      | 3        | ON-OFF Switch 90°, 3 pole                               |
| 61194 for type P220 | 2      | 4        | ON-OFF Switch 90°, 4 pole, 1 pole early make/late break |
| 61026 for type P220 | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole           |
| 61038 for type P220 | 2      | 4        | Changeover Switch without OFF 60°, 2 pole               |
| 61049 for type P220 | 2      | 3        | Multi-step Switch without OFF, 3 steps, 1 pole          |
| 61211 for type P220 | 3      | 5        | Motor Reversing Switch, 3 pole                          |
| 61906 for type M220 | 3      | 6        | ON-OFF Switch 90°, 6 pole                               |
| 61919 for type M220 | 4      | 8        | ON-OFF Switch 90°, 8 pole, 2 pole early make/late break |
| 61028 for type M220 | 4      | 8        | Changeover Switch with centre OFF 60°, 4 pole           |
| 61039 for type M220 | 3      | 6        | Changeover Switch without OFF 60°, 3 pole               |
| 61040 for type M220 | 4      | 8        | Changeover Switch without OFF 60°, 4 pole               |
| 61211 for type M220 | 3      | 5        | Motor Reversing Switch, 3 pole                          |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator  |
|---------------|---|
| 176M1         |  M-handle silver/black |

Dimensions in mm:



| Type | H1  | B1 | T1 | T2 | 2 × M | H2 |
|------|-----|----|----|----|-------|----|
| P220 | 100 | 80 | 85 | 32 | 20    | 90 |
| M220 | 100 | 80 | 85 | 32 | 20    | 90 |



# Rotary Cam Switches



Enclosed Switches with insulated enclosure 100 × 80 × 85 mm

## Enclosed Switches with insulated enclosure 100 × 80 × 85 mm

- 20 A
- 3 up to max. 8 contacts
- IP66
- Insulated polycarbonate enclosure



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

|   |                       |                         |           |
|---|-----------------------|-------------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b>                     | Type                  | Switching programme     | Mtg. form |
| Ordering example:<br>2 pole Changeover Switch 90°, 20 A, padlockable with V-handle silver/black → | P220                  | 61152                   | 178V1     |
|   | <b>Order code no.</b> | <b>P220-61152-178V1</b> |           |

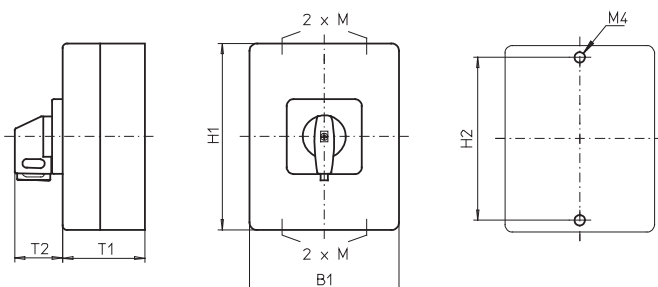
| Type | Contacts | Rated data (IEC 60947)                           |   |     | Terminal accessibility                       |
|------|----------|--|---|-----|--|
|      |          | Operational current I <sub>o</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |     |  |
| P220 | 1 to 2   | 20   | 7.5   | 5.5 | Terminals accessible from mounting direction |
| M220 | 1 to 4   | 20   | 7.5   | 5.5 | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description                                   |
|---------------------|--------|----------|---|
| 61003 for type P220 | 2      | 3        | ON-OFF Switch 60°, 3 pole                     |
| 61027 for type P220 | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole |
| 61152 for type P220 | 2      | 4        | Changeover Switch with centre OFF 90°, 2 pole |
| 61153 for type P220 | 3      | 6        | Changeover Switch with centre OFF 90°, 3 pole |
| 61211 for type P220 | 3      | 5        | Motor Reversing Switch, 3 pole                |
| 61027 for type M220 | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole |
| 61028 for type M220 | 4      | 8        | Changeover Switch with centre OFF 60°, 4 pole |
| 61153 for type M220 | 3      | 6        | Changeover Switch with centre OFF 90°, 3 pole |
| 61211 for type M220 | 3      | 5        | Motor Reversing Switch, 3 pole                |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator                               | Padlockable options   |
|---------------|--|---|
| 176V1         | padlockable with V-handle silver/black | padlockable 12h   |
| 178V1         | padlockable with V-handle silver/black | 3 positions padlockable (9h/12h/03h)<br>(only for Changeover Switches with 90° switching angle) |

Dimensions in mm:



| Type | H1  | B1 | T1 | T2 | 2 × M | H2 |
|------|-----|----|----|----|-------|----|
| P220 | 100 | 80 | 85 | 32 | 20    | 90 |
| M220 | 100 | 80 | 85 | 32 | 20    | 90 |

# Rotary Cam Switches

Enclosed Switches with insulated enclosure 100 × 80 × 85 mm


## Enclosed Switches with insulated enclosure 100 × 80 × 85 mm

- key operated
- 20 A                      ■ 1 up to 6 contacts
- IP40
- Insulated polycarbonate enclosure




- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

|  |  |                     |           |
|--|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>3 pole Changeover Switch with centre OFF 60°, 20 A, key operated, key removable at 12h → | Type                                   | Switching programme | Mtg. form |
|  | M220                                   | 61027               | E001B     |
|  | <b>Order code no. M220-61027CE001B</b> |                     |           |

| Type | Rated data (IEC 60947)                           |   |     | Terminal accessibility  |
|------|--|---|-----|---|
|      | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |     |   |
| M220 | 20   | 7.5   | 5.5 |  Terminals accessible laterally |

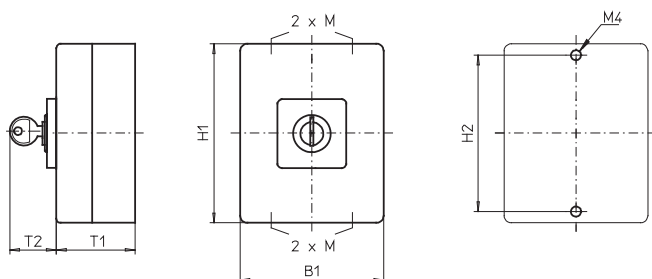
| Switching programme | Stages | Contacts | Description                                    |
|---------------------|--------|----------|--|
| 61191               | 1      | 1        | ON-OFF Switch 90°, 1 pole                      |
| 61192               | 1      | 2        | ON-OFF Switch 90°, 2 pole                      |
| 61001               | 1      | 1        | ON-OFF Switch 60°, 1 pole                      |
| 61002               | 1      | 2        | ON-OFF Switch 60°, 2 pole                      |
| 61025               | 1      | 2        | Changeover Switch with centre OFF 60°, 1 pole  |
| 61026               | 2      | 4        | Changeover Switch with centre OFF 60°, 2 pole  |
| 61027               | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole  |
| 61037               | 1      | 2        | Changeover Switch without OFF 60°, 1 pole      |
| 61038               | 2      | 4        | Changeover Switch without OFF 60°, 2 pole      |
| 61049               | 2      | 3        | Multi-step Switch without OFF, 3 steps, 1 pole |
| 61050               | 2      | 4        | Multi-step Switch without OFF, 4 steps, 1 pole |
| 61211               | 3      | 5        | Motor Reversing Switch, 3 pole                 |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator   |
|---------------|--|
| E001.*        |  Key operated, silver/metal key<br>Ronis cylinder lock C001, 2 keys (further lock types and security lock on request) |

\* The dot in the order code number must be replaced by the classification letter which identifies the key removable positions, see page 85.

Dimensions in mm:



| Type | H1  | B1 | T1 | T2 | 2 × M | H2 |
|------|-----|----|----|----|-------|----|
| M220 | 100 | 80 | 85 | 33 | 20    | 90 |

# Rotary Cam Switches

Enclosed Switches with insulated enclosure 100 × 80 × 85 mm

## Enclosed Switches with insulated enclosure 100 × 80 × 85 mm

- 20 A
- 3 up to max. 8 contacts
- IP66
- Insulated polycarbonate enclosure



- Main/Emergency-Off Switch
- Main Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>6 pole ON-OFF Switch 90°, 20 A, padlock device with N-handle yellow/red → | Type                                   | Switching programme | Mtg. form |
|   | M220                                   | 61906               | 177N4     |
|   | <b>Order code no. M220-61906-177N4</b> |                     |           |

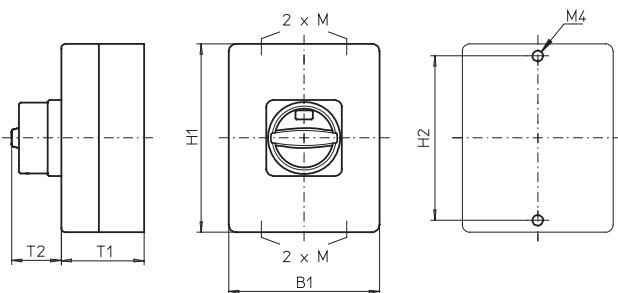
| Type | Contacts | Rated data (IEC 60947)                           |                                  |            | Terminal accessibility                       |
|------|----------|--|----------------------------------|------------|--|
|      |          | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |  |
|      |          |  | AC-23A (kW)                      | AC-3A (kW) |  |
| P220 | 3 to 6   | 20   | 7.5                              | 5.5        | Terminals accessible from mounting direction |
| M220 | 5 to 8   | 20   | 7.5                              | 5.5        | Terminals accessible laterally               |

| Switching programme | Stages | Contacts | Description   |
|---------------------|--------|----------|---|
| 61199 for type P220 | 2      | 3        | ON-OFF Switch 90°, 3 pole                               |
| 61194 for type P220 | 2      | 4        | ON-OFF Switch 90°, 4 pole, 1 pole early make/late break |
| 61906 for type P220 | 3      | 6        | ON-OFF Switch 90°, 6 pole                               |
| 61906 for type M220 | 3      | 6        | ON-OFF Switch 90°, 6 pole                               |
| 61919 for type M220 | 4      | 8        | ON-OFF Switch 90°, 8 pole, 2 pole early make/late break |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator | Main/Emergency-Off Switch               | Mounting form | Operator | Main Switch                            |
|---------------|----------|---|---------------|----------|--|
| 177N4         |          | padlock device with N-handle yellow/red | 177N1         |          | padlock device with N-handle black     |
| 177M4         |          | padlock device with M-handle yellow/red | 177M1         |          | padlock device with M-handle black     |
| 177V4         |          | padlockable with V-handle yellow/red    | 177V1         |          | padlockable with V-handle silver/black |

Dimensions in mm:



| Mounting form | H1  | B1 | T1 | T2 | 2 × M | H2 |
|---------------|-----|----|----|----|-------|----|
| 177N4/177N1   | 100 | 80 | 85 | 33 | 20    | 90 |
| 177M4/177M1   | 100 | 80 | 85 | 38 | 20    | 90 |
| 177V4/177V1   | 100 | 80 | 85 | 32 | 20    | 90 |

# Rotary Cam Switches

Enclosed Switches with insulated enclosure 125 × 100 × 133 mm

Enclosed Switches with insulated enclosure 125 × 100 × 133 mm

- without cover interlock
- 20 A / 25 A / 32 A    ■ 1 up to max. 16 contacts
- IP66
- Insulated polycarbonate enclosure



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

|   |                       |                         |           |
|---|-----------------------|-------------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b>   | Type                  | Switching programme     | Mtg. form |
| Ordering example:<br>Reversing Star-Delta Switch, 25 A, M-handle silver/black → | M225                  | 61203                   | 276M1     |
|   | <b>Order code no.</b> | <b>M225-61203-276M1</b> |           |

| Type        | Contacts | Rated data (IEC 60947)                           |                                  |            | Degree of Protection<br>Terminals | Terminal accessibility                       |
|-------------|----------|--|----------------------------------|------------|-----------------------------------|--|
|             |          | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                                   |  |
|             |          |  | AC-23A (kW)                      | AC-3A (kW) |                                   |  |
| <b>P220</b> | 1 to 12  | 20   | 7.5                              | 5.5        | IP66                              | Terminals accessible from mounting direction |
| <b>P225</b> | 1 to 10  | 25   | 11                               | 7.5        | IP66                              |  |
| <b>M220</b> | 1 to 16  | 20   | 7.5                              | 5.5        | IP66                              | Terminals accessible laterally               |
| <b>M225</b> | 1 to 12  | 25   | 11                               | 7.5        | IP66                              |  |
| <b>T225</b> | 1 to 10  | 32   | 15                               | 11         | IP66                              | Terminals accessible laterally               |

| Switching programme                   | Stages | Contacts | Description   |
|---------------------------------------|--------|----------|---|
| <b>61906</b> for types P220/P225      | 3      | 6        | ON-OFF Switch 90°, 6 pole                               |
| <b>61905</b> for types P220/P225      | 3      | 5        | ON-OFF Switch 90°, 5 pole, 3 pole early make/late break |
| <b>61029</b> for types P220/P225      | 5      | 10       | Changeover Switch with centre OFF 60°, 5 pole           |
| <b>61089</b> for types P220/P225      | 5      | 9        | Multi-step Switch without OFF, 3 steps, 3 pole          |
| <b>61211</b> for types P220/P225      | 3      | 5        | Motor Reversing Switch, 3 pole                          |
| <b>61203</b> for types P220/P225      | 5      | 10       | Reversing Star-Delta Switch                             |
| <b>61906</b> for types M220/M225/T225 | 3      | 6        | ON-OFF Switch 90°, 6 pole                               |
| <b>61919</b> for types M220/M225/T225 | 4      | 8        | ON-OFF Switch 90°, 8 pole, 2 pole early make/late break |
| <b>61030</b> for types M220/M225      | 6      | 12       | Changeover Switch with centre OFF 60°, 6 pole           |
| <b>61041</b> for types M220/M225/T225 | 5      | 10       | Changeover Switch without OFF 60°, 5 pole               |
| <b>61040</b> for types M220/M225/T225 | 4      | 8        | Changeover Switch without OFF 60°, 4 pole               |
| <b>61211</b> for types M220/M225/T225 | 3      | 5        | Motor Reversing Switch, 3 pole                          |
| <b>61203</b> for types M220/M225/T225 | 5      | 10       | Reversing Star-Delta Switch                             |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator              |
|---------------|-----------------------|
| <b>276M1</b>  | M-handle silver/black |

**Dimensions in mm:**

| Type        | H1  | B1  | T1  | T2 | 2 × M | H2  |
|-------------|-----|-----|-----|----|-------|-----|
| <b>P220</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |
| <b>P225</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |
| <b>M220</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |
| <b>M225</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |
| <b>T225</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |

# Rotary Cam Switches



Enclosed Switches with insulated enclosure 125 × 100 × 133 mm

## Enclosed Switches with insulated enclosure 125 × 100 × 133 mm

- without cover interlock
- 20 A / 25 A / 32 A    ■ 1 up to max. 16 contacts
- IP66
- Insulated polycarbonate enclosure



- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

|  |  |                     |           |
|--|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>4 pole Changeover Switch 90°, 25 A, padlockable with V-handle silver/black → | Type                                   | Switching programme | Mtg. form |
|  | P220                                   | 61154               | 276V1     |
|  | <b>Order code no. P220-61154-276V1</b> |                     |           |

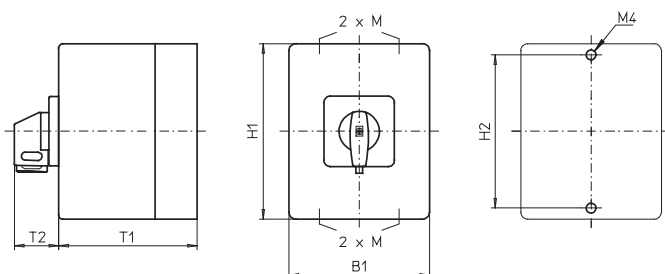
| Type        | Contacts | Rated data (IEC 60947)                           |   |     | Degree of Protection<br>Terminals | Terminal accessibility                       |
|-------------|----------|--|---|-----|-----------------------------------|--|
|             |          | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V)<br>AC-23A (kW)    AC-3A (kW) |     |                                   |  |
| <b>P220</b> | 1 to 12  | 20   | 7.5   | 5.5 | IP66                              | Terminals accessible from mounting direction |
| <b>P225</b> | 1 to 10  | 25   | 11  | 7.5 | IP66                              |  |
| <b>M220</b> | 1 to 16  | 20   | 7.5   | 5.5 | IP66                              | Terminals accessible laterally               |
| <b>M225</b> | 1 to 12  | 25   | 11  | 7.5 | IP66                              |  |
| <b>T225</b> | 1 to 10  | 32   | 15  | 11  | IP66                              | Terminals accessible laterally               |

| Switching programme                   | Stages | Contacts | Description  |
|---------------------------------------|--------|----------|--|
| <b>61027</b> for types P220/P225      | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole                    |
| <b>61154</b> for types P220/P225      | 4      | 8        | Changeover Switch with centre OFF 90°, 4 pole                    |
| <b>61363</b> for types P220/P225      | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole with spring return |
| <b>61211</b> for types P220/P225      | 3      | 5        | Motor Reversing Switch, 3 pole                                   |
| <b>61029</b> for types M220/M225/T225 | 5      | 10       | Changeover Switch with centre OFF 60°, 5 pole                    |
| <b>61032</b> for types M220/M225      | 8      | 16       | Changeover Switch with centre OFF 60°, 8 pole                    |
| <b>61008</b> for types M220/M225/T225 | 4      | 8        | ON-OFF Switch 60°, 8 pole  |
| <b>61217</b> for types M220/M225      | 6      | 12       | Reversing Multi-Speed Switch, single winding, 2 speeds           |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator                               | Padlockable options |
|---------------|--|---------------------|
| 276V1         | padlockable with V-handle silver/black | padlockable 12h     |

Dimensions in mm:



| Type        | H1  | B1  | T1  | T2 | 2 × M | H2  |
|-------------|-----|-----|-----|----|-------|-----|
| <b>P220</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |
| <b>P225</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |
| <b>M220</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |
| <b>M225</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |
| <b>T225</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |

# Rotary Cam Switches

Enclosed Switches with insulated enclosure 125 × 100 × 133 mm

Enclosed Switches with insulated enclosure 125 × 100 × 133 mm

- with cover interlock, interlocked in ON positions
- 20 A / 25 A / 32 A    ■ 1 up to max. 12 contacts
- IP66
- Insulated polycarbonate enclosure

- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch



|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>3 pole Motor Reversing Switch, 32 A, padlockable with V-handle silver/black → | Type                                   | Switching programme | Mtg. form |
|   | T225                                   | 61154               | 273V1     |
|   | <b>Order code no. T225-61154-273V1</b> |                     |           |

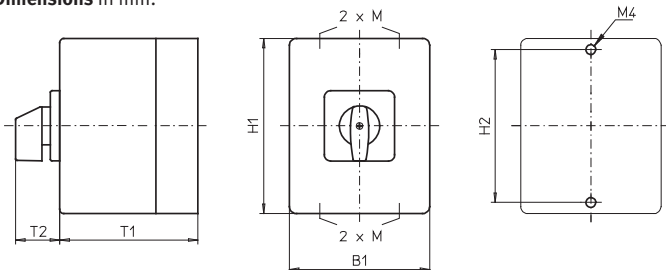
| Type        | Contacts | Rated data (IEC 60947)                           |                                  |            | Degree of Protection<br>Terminals | Terminal accessibility                       |
|-------------|----------|--|----------------------------------|------------|-----------------------------------|--|
|             |          | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                                   |  |
|             |          |  | AC-23A (kW)                      | AC-3A (kW) |                                   |  |
| <b>P220</b> | 1 to 10  | 20   | 7.5                              | 5.5        | IP66                              | Terminals accessible from mounting direction |
| <b>P225</b> | 1 to 8   | 25   | 11                               | 7.5        | IP66                              |  |
| <b>M220</b> | 1 to 12  | 20   | 7.5                              | 5.5        | IP66                              | Terminals accessible laterally               |
| <b>M225</b> | 1 to 10  | 25   | 11                               | 7.5        | IP66                              |  |
| <b>T225</b> | 1 to 8   | 32   | 15                               | 11         | IP66                              | Terminals accessible laterally               |

| Switching programme                   | Stages | Contacts | Description  |
|---------------------------------------|--------|----------|--|
| <b>61008</b> for types P220/P225      | 4      | 8        | ON-OFF Switch 60°, 8 pole  |
| <b>61027</b> for types P220/P225      | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole                    |
| <b>61028</b> for types P220/P225      | 4      | 8        | Changeover Switch with centre OFF 60°, 4 pole                    |
| <b>61363</b> for types P220/P225      | 3      | 6        | Changeover Switch with centre OFF 60°, 3 pole with spring return |
| <b>61211</b> for types P220/P225      | 3      | 5        | Motor Reversing Switch, 3 pole                                   |
| <b>61010</b> for types M220/M225      | 5      | 10       | ON-OFF Switch 60°, 10 pole                                       |
| <b>61028</b> for types M220/M225/T225 | 4      | 8        | Changeover Switch with centre OFF 60°, 4 pole                    |
| <b>61029</b> for types M220/M225      | 5      | 10       | Changeover Switch with centre OFF 60°, 5 pole                    |
| <b>61154</b> for types M220/M225/T225 | 4      | 8        | Changeover Switch with centre OFF 90°, 4 pole                    |
| <b>61211</b> for types M220/M225/T225 | 3      | 5        | Motor Reversing Switch, 3 pole                                   |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator                               | Padlockable options |
|---------------|--|---------------------|
| <b>273V1</b>  | padlockable with V-handle silver/black | padlockable 12h     |
| <b>273M1</b>  | M-handle silver/black                  |                     |

Dimensions in mm:



| Type        | H1  | B1  | T1  | T2 | 2 × M | H2  |
|-------------|-----|-----|-----|----|-------|-----|
| <b>P220</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |
| <b>P225</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |
| <b>M220</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |
| <b>M225</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |
| <b>T225</b> | 125 | 100 | 133 | 32 | 20/25 | 115 |

# Rotary Cam Switches

Enclosed Switches with insulated enclosure 125 × 100 × 133 mm

## Enclosed Switches with insulated enclosure 125 × 100 × 133 mm

- with cover interlock, interlocked in ON position
- 20 A / 25 A / 32 A    ■ 1 up to max. 12 contacts
- IP66
- Insulated polycarbonate enclosure



- Main/Emergency-Off Switch
- Main Switch

|   |  |                     |           |
|---|--|---------------------|-----------|
| <b>Setup of order code number: Type - Switching programme - Mounting form</b><br>Ordering example:<br>6 pole ON-OFF Switch 90°, 20 A, padlock device with N-handle yellow/red → | Type                                   | Switching programme | Mtg. form |
|   | M220                                   | 61907               | 275N4     |
|   | <b>Order code no. M220-61907-275N4</b> |                     |           |

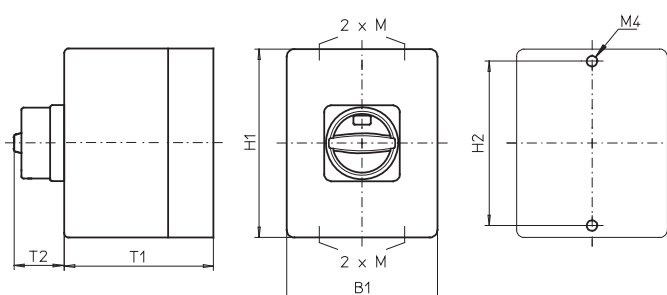
| Type | Contacts | Rated data (IEC 60947)                           |                                  |            | Degree of Protection | Terminal accessibility                       |
|------|----------|--|----------------------------------|------------|----------------------|--|
|      |          | Operational current I <sub>e</sub><br>AC-21A (A) | Operational power (at 380–440 V) |            |                      |  |
|      |          |  | AC-23A (kW)                      | AC-3A (kW) |                      |  |
| P220 | 1 to 10  | 20   | 7.5                              | 5.5        | IP66                 | Terminals accessible from mounting direction |
| P225 | 1 to 8   | 25   | 11                               | 7.5        | IP66                 |  |
| M220 | 1 to 12  | 20   | 7.5                              | 5.5        | IP66                 | Terminals accessible laterally               |
| M225 | 1 to 10  | 25   | 11                               | 7.5        | IP66                 |  |
| T225 | 1 to 8   | 32   | 15                               | 11         | IP66                 | Terminals accessible laterally               |

| Switching programme            | Stages | Contacts | Description   |
|--------------------------------|--------|----------|---|
| 61919 for types P220/P225      | 4      | 8        | ON-OFF Switch 90°, 8 pole, 2 pole early make/late break |
| 61918 for types P220/P225      | 4      | 8        | ON-OFF Switch 90°, 8 pole                               |
| 61910 for type P220            | 5      | 10       | ON-OFF Switch 90°, 10 pole                              |
| 61907 for types M220/M225/T225 | 4      | 8        | ON-OFF Switch 90°, 6 pole, 2 auxiliary contacts         |
| 61910 for types M220/M225      | 5      | 10       | ON-OFF Switch 90°, 10 pole                              |

Switching diagrams and further switching programmes from page 56.

| Mounting form | Operator | Main/Emergency-Off Switch               | Mounting form | Operator | Main Switch                            |
|---------------|----------|---|---------------|----------|--|
| 275N4         |          | padlock device with N-handle yellow/red | 275N1         |          | padlock device with N-handle black     |
| 275M4         |          | padlock device with M-handle yellow/red | 275M1         |          | padlock device with M-handle black     |
| 275V4         |          | padlockable with V-handle yellow/red    | 275V1         |          | padlockable with V-handle silver/black |

Dimensions in mm:



| Mounting form | H1  | B1  | T1  | T2 | 2 × M | H2  |
|---------------|-----|-----|-----|----|-------|-----|
| 275N4/275N1   | 125 | 100 | 133 | 33 | 20/25 | 115 |
| 275M4/275M1   | 125 | 100 | 133 | 38 | 20/25 | 115 |
| 275V4/275V1   | 125 | 100 | 133 | 32 | 20/25 | 115 |

# Rotary Cam Switches

## Technical Information Switching programmes

### ON-OFF Switches 90°

| Description                          | Stages | Contacts | Ident No.     | Ident No. with inscription                |
|--------------------------------------|--------|----------|---------------|---|
| 1 pole                               | 1      | 1        | <b>61191.</b> |   |
| 2 pole                               | 1      | 2        | <b>61192.</b> |   |
| 3 pole                               | 2      | 3        | <b>61199.</b> |   |
| 3 pole with N/PE terminals           | 2      | 4        | <b>61178.</b> |   |
| 3 pole with N terminals              | 2      | 4        | <b>61908.</b> |   |
| 4 pole                               | 2      | 4        | <b>61914.</b> |   |
| 4 pole, 1 pole early make/late break | 2      | 4        | <b>61194.</b> |   |
| 4 pole, 3 pole early make/late break | 2      | 4        | <b>61904.</b> |   |
| 5 pole, 3 pole early make/late break | 3      | 5        | <b>61905.</b> |   |
| 6 pole                               | 3      | 6        | <b>61906.</b> |   |
| 6 pole, 2 auxiliary contacts         | 4      | 8        | <b>61907.</b> | <b>61...F</b> <b>61...H</b> <b>61...K</b> |
| 7 pole                               | 4      | 7        | <b>61917.</b> |   |
| 8 pole                               | 4      | 8        | <b>61918.</b> |   |
| 8 pole, 2 pole early make/late break | 4      | 8        | <b>61919.</b> |   |
| 9 pole                               | 5      | 9        | <b>61909.</b> |   |
| 10 pole                              | 5      | 10       | <b>61910.</b> |   |
| 12 pole                              | 6      | 12       | <b>61912.</b> |   |
| <b>Complete rotation</b>             |        |          |               |   |
| 2 pole                               | 1      | 2        | <b>61198.</b> |   |
| 3 pole                               | 2      | 3        | <b>61197.</b> |   |
|                                      |        |          |               |   |
|                                      |        |          |               | <b>61...-</b> <b>61...A</b> <b>61...B</b> |

### ON-OFF Switches 60°

| Description | Stages | Contacts | Ident No.     | Ident No. with inscription  |
|-------------|--------|----------|---------------|---|
| 1 pole      | 1      | 1        | <b>61001.</b> |   |
| 2 pole      | 1      | 2        | <b>61002.</b> |   |
| 3 pole      | 2      | 3        | <b>61003.</b> |   |
| 4 pole      | 2      | 4        | <b>61004.</b> |   |
| 5 pole      | 3      | 5        | <b>61005.</b> |   |
| 6 pole      | 3      | 6        | <b>61006.</b> |   |
| 7 pole      | 4      | 7        | <b>61007.</b> |   |
| 8 pole      | 4      | 8        | <b>61008.</b> |   |
| 9 pole      | 5      | 9        | <b>61009.</b> |   |
| 10 pole     | 5      | 10       | <b>61010.</b> |   |
| 11 pole     | 6      | 11       | <b>61011.</b> |   |
| 12 pole     | 6      | 12       | <b>61012.</b> |   |
|             |        |          |               | <b>61...F</b> <b>61...G</b> <b>61...H</b> <b>61...K</b> <b>61...L</b> |

### ON-OFF Switches with spring return

| Description                 | Stages | Contacts | Ident No.     | Ident No. with inscription  |
|-----------------------------|--------|----------|---------------|-----------------------------|
| <b>Spring return to OFF</b> |        |          |               |                             |
| 1 pole                      | 1      | 1        | <b>61351.</b> |                             |
| 2 pole                      | 1      | 2        | <b>61352.</b> |                             |
| 3 pole                      | 2      | 3        | <b>61353.</b> |                             |
| 4 pole                      | 2      | 4        | <b>61354.</b> | <b>61...-</b> <b>61...A</b> |
| <b>Spring return to ON</b>  |        |          |               |                             |
| 1 pole                      | 1      | 1        | <b>61302.</b> |                             |
|                             |        |          |               |                             |
|                             |        |          |               | <b>61302-</b> <b>61302A</b> |



### Changeover Switches with centre OFF, 60°

| Description     | Stages | Contacts | Ident No.     | Ident No. with inscription |
|-----------------|--------|----------|---------------|----------------------------|
| 1 pole          | 1      | 2        | <b>61025.</b> |                            |
| 2 pole          | 2      | 4        | <b>61026.</b> |                            |
| 3 pole          | 3      | 6        | <b>61027.</b> |                            |
| 4 pole          | 4      | 8        | <b>61028.</b> |                            |
| 5 pole          | 5      | 10       | <b>61029.</b> |                            |
| 6 pole          | 6      | 12       | <b>61030.</b> |                            |
| 7 pole          | 7      | 14       | <b>61031.</b> |                            |
| 8 pole          | 8      | 16       | <b>61032.</b> |                            |
| without jumpers |        |          |               |                            |
| 1 pole          | 1      | 2        | <b>61625.</b> |                            |
| 2 pole          | 2      | 4        | <b>61626.</b> |                            |
| 3 pole          | 3      | 6        | <b>61627.</b> |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |
|                 |        |          |               |                            |

### Changeover Switches with centre OFF, 90°

| Description | Stages | Contacts | Ident No.     | Ident No. with inscription |
|-------------|--------|----------|---------------|----------------------------|
| 1 pole      | 1      | 2        | <b>61151.</b> |                            |
| 2 pole      | 2      | 4        | <b>61152.</b> |                            |
| 3 pole      | 3      | 6        | <b>61153.</b> |                            |
| 4 pole      | 4      | 8        | <b>61154.</b> |                            |
|             |        |          |               |                            |
|             |        |          |               |                            |
|             |        |          |               |                            |
|             |        |          |               |                            |

### Changeover Switches with centre OFF and spring return

| Description                    | Stages | Contacts | Ident No.     | Ident No. with inscription |
|--------------------------------|--------|----------|---------------|----------------------------|
| <b>Spring return to centre</b> |        |          |               |                            |
| 1 pole                         | 1      | 2        | <b>61361.</b> |                            |
| 2 pole                         | 2      | 4        | <b>61362.</b> |                            |
| 3 pole                         | 3      | 6        | <b>61363.</b> |                            |
| without jumpers                |        |          |               |                            |
| 1 pole                         | 1      | 2        | <b>61761.</b> |                            |
| 2 pole                         | 2      | 4        | <b>61762.</b> |                            |
|                                |        |          |               |                            |
|                                |        |          |               |                            |
|                                |        |          |               |                            |
|                                |        |          |               |                            |
|                                |        |          |               |                            |
|                                |        |          |               |                            |
|                                |        |          |               |                            |
|                                |        |          |               |                            |
|                                |        |          |               |                            |
|                                |        |          |               |                            |
|                                |        |          |               |                            |
|                                |        |          |               |                            |
|                                |        |          |               |                            |
|                                |        |          |               |                            |









# Rotary Cam Switches

## Technical Information Switching programmes







### Changeover Switches with centre OFF and spring return

| Description                              | Stages | Contacts | Ident No.     | Ident No. with inscription  |
|--|--------|----------|---------------|---|
| <b>Spring return from left to centre</b> |        |          |               |   |
| 1 pole                                   | 1      | 2        | <b>61364.</b> | <br>61...- |
| 2 pole                                   | 2      | 4        | <b>61365.</b> |   |
| 3 pole                                   | 3      | 6        | <b>61369.</b> |   |

### Changeover Switches without OFF

| Description          | Stages | Contacts | Ident No.     | Ident No. with inscription   |
|----------------------|--------|----------|---------------|--|
| 1 pole               | 1      | 2        | <b>61037.</b> |      |
| 2 pole               | 2      | 4        | <b>61038.</b> |  |
| 3 pole               | 3      | 6        | <b>61039.</b> |  |
| 4 pole               | 4      | 8        | <b>61040.</b> |  |
| 5 pole               | 5      | 10       | <b>61041.</b> |  |
| 6 pole               | 6      | 12       | <b>61042.</b> |  |
| 7 pole               | 7      | 14       | <b>61043.</b> |      |
| 8 pole               | 8      | 16       | <b>61044.</b> |  |
| 9 pole               | 9      | 18       | <b>61045.</b> |  |
| 10 pole              | 10     | 20       | <b>61046.</b> |  |
| 11 pole              | 11     | 22       | <b>61047.</b> |  |
| 12 pole              | 12     | 24       | <b>61048.</b> |  |
| without jumpers      |        |          |               |  |
| 1 pole               | 1      | 2        | <b>61637.</b> |  |
| 2 pole               | 2      | 4        | <b>61638.</b> |  |
| 3 pole               | 3      | 6        | <b>61639.</b> |  |
| 4 pole               | 4      | 8        | <b>61640.</b> |  |
| overlapping contacts |        |          |               |  |
| 1 pole               | 1      | 2        | <b>61737.</b> |  |
| 2 pole               | 2      | 4        | <b>61738.</b> |  |
| 3 pole               | 3      | 6        | <b>61739.</b> |  |
| 4 pole               | 4      | 8        | <b>61740.</b> |  |

### Changeover Switches without OFF with spring return

| Description                  | Stages | Contacts | Ident No.     | Ident No. with inscription   |
|------------------------------|--------|----------|---------------|--|
| <b>Spring return to left</b> |        |          |               |  |
| 1 pole                       | 1      | 2        | <b>61371.</b> |       |
| 2 pole                       | 2      | 4        | <b>61372.</b> |  |
| 3 pole                       | 3      | 6        | <b>61373.</b> |  |
| without jumpers              |        |          |               |  |
| 1 pole                       | 1      | 2        | <b>61771.</b> |  |















### Multi-step Switches with OFF

| Description     | Stages | Contacts | Ident No.     | Ident No. with inscription  |
|-----------------|--------|----------|---------------|---|
| <b>2 steps</b>  |        |          |               |   |
| 1 pole          | 1      | 2        | <b>61059.</b> |   |
| 2 pole          | 2      | 4        | <b>61079.</b> |   |
| 3 pole          | 3      | 6        | <b>61099.</b> |   |
| 4 pole          | 4      | 8        | <b>61130.</b> | <b>61...-</b> <b>61...A</b> <b>61...B</b>                             |
| 5 pole          | 5      | 10       | <b>61134.</b> |   |
| 6 pole          | 6      | 12       | <b>61137.</b> |   |
| <b>3 steps</b>  |        |          |               |   |
| 1 pole          | 2      | 3        | <b>61060.</b> |   |
| 2 pole          | 3      | 6        | <b>61080.</b> |   |
| 3 pole          | 5      | 9        | <b>61100.</b> |   |
| 4 pole          | 6      | 12       | <b>61131.</b> | <b>61...-</b> <b>61...A</b> <b>61...B</b> <b>61...C</b> <b>61...D</b> |
| 5 pole          | 8      | 15       | <b>61135.</b> |   |
| <b>4 steps</b>  |        |          |               |   |
| 1 pole          | 2      | 4        | <b>61061.</b> |   |
| 2 pole          | 4      | 8        | <b>61081.</b> |   |
| 3 pole          | 6      | 12       | <b>61101.</b> |   |
| 4 pole          | 8      | 16       | <b>61132.</b> | <b>61...-</b> <b>61...A</b>   |
| <b>5 steps</b>  |        |          |               |   |
| 1 pole          | 3      | 5        | <b>61062.</b> |   |
| 2 pole          | 5      | 10       | <b>61082.</b> |   |
| 3 pole          | 8      | 15       | <b>61102.</b> | <b>61...-</b> <b>61...A</b>   |
| <b>6 steps</b>  |        |          |               |   |
| 1 pole          | 3      | 6        | <b>61063.</b> |   |
| 2 pole          | 6      | 12       | <b>61083.</b> |   |
| 3 pole          | 9      | 18       | <b>61103.</b> | <b>61...-</b> <b>61...A</b>   |
| <b>7 steps</b>  |        |          |               |   |
| 1 pole          | 4      | 7        | <b>61064.</b> |   |
| 2 pole          | 7      | 14       | <b>61084.</b> |   |
|                 |        |          |               | <b>61...-</b> <b>61...A</b>   |
| <b>8 steps</b>  |        |          |               |   |
| 1 pole          | 4      | 8        | <b>61065.</b> |   |
|                 |        |          |               | <b>61065-</b> <b>61065A</b>   |
| <b>9 steps</b>  |        |          |               |   |
| 1 pole          | 5      | 9        | <b>61066.</b> |   |
|                 |        |          |               | <b>61066-</b> <b>61066A</b>   |
| <b>10 steps</b> |        |          |               |   |
| 1 pole          | 5      | 10       | <b>61067.</b> |   |
|                 |        |          |               | <b>61067-</b> <b>61067A</b>   |
| <b>11 steps</b> |        |          |               |   |
| 1 pole          | 6      | 11       | <b>61068.</b> |   |
|                 |        |          |               | <b>61068-</b> <b>61068A</b>   |

# Rotary Cam Switches

## Technical Information Switching programmes

### Multi-step Switches without OFF

| Description     | Stages | Contacts | Ident No.     | Ident No. with inscription   |
|-----------------|--------|----------|---------------|--|
| <b>3 steps</b>  |        |          |               |  |
| 1 pole          | 2      | 3        | <b>61049.</b> |       |
| 2 pole          | 3      | 6        | <b>61069.</b> |  |
| 3 pole          | 5      | 9        | <b>61089.</b> |  |
| 4 pole          | 6      | 12       | <b>61120.</b> |  |
| 5 pole          | 8      | 15       | <b>61124.</b> |  |
| 6 pole          | 9      | 18       | <b>61126.</b> |  |
| without jumpers |        |          |               |  |
| 1 pole          | 2      | 3        | <b>61649.</b> |  |
| 2 pole          | 3      | 6        | <b>61669.</b> |  |
| <b>4 steps</b>  |        |          |               |  |
| 1 pole          | 2      | 4        | <b>61050.</b> |       |
| 2 pole          | 4      | 8        | <b>61070.</b> |  |
| 3 pole          | 6      | 12       | <b>61090.</b> |  |
| 4 pole          | 8      | 16       | <b>61121.</b> |  |
| 5 pole          | 10     | 20       | <b>61125.</b> |  |
| 6 pole          | 12     | 24       | <b>61127.</b> |  |
| without jumpers |        |          |               |  |
| 1 pole          | 2      | 4        | <b>61650.</b> |  |
| 2 pole          | 4      | 8        | <b>61670.</b> |  |
| <b>5 steps</b>  |        |          |               |  |
| 1 pole          | 3      | 5        | <b>61051.</b> |     |
| 2 pole          | 5      | 10       | <b>61071.</b> |  |
| 3 pole          | 8      | 15       | <b>61091.</b> |  |
| 4 pole          | 10     | 20       | <b>61122.</b> |  |
| <b>6 steps</b>  |        |          |               |  |
| 1 pole          | 3      | 6        | <b>61052.</b> |   |
| 2 pole          | 6      | 12       | <b>61072.</b> |  |
| 3 pole          | 9      | 18       | <b>61092.</b> |  |
| <b>7 steps</b>  |        |          |               |  |
| 1 pole          | 4      | 7        | <b>61053.</b> |   |
| 2 pole          | 7      | 14       | <b>61073.</b> |  |
| 3 pole          | 11     | 21       | <b>61093.</b> |  |
| <b>8 steps</b>  |        |          |               |  |
| 1 pole          | 4      | 8        | <b>61054.</b> |   |
| 2 pole          | 8      | 16       | <b>61074.</b> |  |
| 3 pole          | 12     | 24       | <b>61094.</b> |  |
| <b>9 steps</b>  |        |          |               |  |
| 1 pole          | 5      | 9        | <b>61055.</b> |   |
| <b>10 steps</b> |        |          |               |  |
| 1 pole          | 5      | 10       | <b>61056.</b> |   |
| <b>11 steps</b> |        |          |               |  |
| 1 pole          | 6      | 11       | <b>61057.</b> |   |
| <b>12 steps</b> |        |          |               |  |
| 1 pole          | 6      | 12       | <b>61058.</b> |   |

### Code Switches

| Description         | Stages | Contacts | Ident No.     | Ident No. with inscription |
|---------------------|--------|----------|---------------|----------------------------|
| <b>Binary code</b>  |        |          |               |                            |
| 0 - 7               | 2      | 3        | <b>61920.</b> | <br><b>61...-</b>          |
| 0 - 7 complement    | 2      | 3        | <b>61921.</b> |                            |
| 0 - 7 + complement  | 3      | 6        | <b>61922.</b> |                            |
| 0 - 11              | 2      | 4        | <b>61923.</b> | <br><b>61...-</b>          |
| 0 - 11 + complement | 4      | 8        | <b>61924.</b> |                            |
| <b>BCD Code</b>     |        |          |               |                            |
| 0 - 9               | 2      | 4        | <b>61930.</b> | <br><b>61...-</b>          |
| 0 - 9 complement    | 2      | 4        | <b>61931.</b> |                            |
| 0 - 9 + complement  | 4      | 8        | <b>61932.</b> |                            |

### Gang Switches

| Description                     | Stages | Contacts | Ident No.     | Ident No. with inscription |
|---------------------------------|--------|----------|---------------|----------------------------|
| <b>2 gangs</b>                  |        |          |               |                            |
| 1 pole                          | 1      | 2        | <b>61109.</b> | <br><b>61...-</b>          |
| 2 pole                          | 2      | 4        | <b>61117.</b> |                            |
| 3 pole                          | 3      | 6        | <b>61111.</b> |                            |
|                                 |        |          |               | <br><b>61...A</b>          |
|                                 |        |          |               | <br><b>61...B</b>          |
| <b>3 gangs</b>                  |        |          |               |                            |
| 1 pole                          | 2      | 3        | <b>61110.</b> | <br><b>61...-</b>          |
| 2 pole                          | 3      | 6        | <b>61118.</b> |                            |
| 3 pole                          | 5      | 9        | <b>61112.</b> |                            |
|                                 |        |          |               | <br><b>61...A</b>          |
| <b>Series-gang Switches</b>     |        |          |               |                            |
| <b>2 gangs</b>                  |        |          |               |                            |
| 1 pole                          | 1      | 2        | <b>61113.</b> |                            |
| 2 pole                          | 2      | 4        | <b>61115.</b> |                            |
| 3 pole                          | 3      | 6        | <b>61114.</b> |                            |
| <b>Series-parallel Switches</b> |        |          |               |                            |
| <b>2 gangs</b>                  |        |          |               |                            |
| 2 pole                          | 2      | 4        | <b>61116.</b> |                            |

### Voltmeter Selector Switches with OFF

| Description               | Stages | Contacts | Ident No.     | Ident No. with inscription |
|---------------------------|--------|----------|---------------|----------------------------|
| 3 phase line to line, 30° | 2      | 4        | <b>61312.</b> |                            |
|                           |        |          |               | <br><b>61312-</b>          |
|                           |        |          |               | <br><b>61312A</b>          |
|                           |        |          |               | <br><b>61312B</b>          |
|                           |        |          |               | <br><b>61312C</b>          |
|                           |        |          |               | <br><b>61312D</b>          |
|                           |        |          |               | <br><b>61312E</b>          |
|                           |        |          |               | <br><b>61312F</b>          |
| 3 phase line to line, 60° | 2      | 4        | <b>61485.</b> |                            |
|                           |        |          |               | <br><b>61485-</b>          |
|                           |        |          |               | <br><b>61485A</b>          |
|                           |        |          |               | <br><b>6485B</b>           |

# Rotary Cam Switches

## Technical Information Switching programmes

### Voltmeter Selector Switches with OFF

| Description                                 | Stages | Contacts | Ident No. | Ident No. with inscription   |
|---|--------|----------|-----------|--|
| 3 phase line to N                           | 2      | 4        | 61311.    | <br><b>61311-</b> <b>61311A</b> <b>61311B</b> <b>61311C</b> <b>61311D</b> <b>61311E</b>                                    |
| 3 phase line to line +<br>3 phase line to N | 3      | 6        | 61313.    | <br><b>61313-</b> <b>61313A</b> <b>61313B</b> <b>61313C</b> <b>61313D</b> <b>61313E</b><br><br><b>61313F</b> <b>61313G</b> |
| 3 phase line to line +<br>1 phase line to N | 3      | 5        | 61317.    | <br><b>61317-</b> <b>61317A</b> <b>61317B</b> <b>61317C</b> <b>61317D</b> <b>61317E</b>                                    |
| 3 phase line to line<br>for 2 sources       | 4      | 8        | 61318.    | <br><b>61318-</b> <b>61318A</b> <b>61318B</b> <b>61318C</b> <b>61318D</b> <b>61318E</b><br><br><b>61318F</b> <b>61318G</b> |
| 2 pole, 1 phase                             | 1      | 2        | 61198.    | <br><b>61198-</b> <b>61198A</b> <b>61198B</b> <b>61198C</b>  |

### Voltmeter Selector Switches without OFF

| Description                                 | Stages | Contacts | Ident No. | Ident No. with inscription                    |
|---|--------|----------|-----------|---|
| 3 phase line to line                        | 2      | 4        | 61319.    | <br><b>61319-</b> <b>61319A</b> <b>61319B</b> |
| 3 phase line to line +<br>3 phase line to N | 3      | 6        | 61314.    | <br><b>61314-</b> <b>61314A</b> <b>61314B</b> |

### Ammeter Selector Switches with OFF

| Description                      | Stages | Contacts | Ident No.     | Ident No. with inscription                           |
|----------------------------------|--------|----------|---------------|--|
| 1 transformer, 1 pole            | 1      | 2        | <b>61321.</b> | <br><b>61321- 61321A 61321B 61321C 61321G</b>        |
| 2 transformers, 1 pole (3 phase) | 2      | 4        | <b>61331.</b> | <br><b>61...- 61...A 61...B 61...C 61...D 61...E</b> |
| 3 transformers, 1 pole           | 3      | 6        | <b>61325.</b> |  |
| 3 transformers, 2 pole           | 5      | 9        | <b>61328.</b> |  |
|                                  |        |          |               | <br><b>61...F</b>                                    |
| 2 transformers, 2 pole           | 3      | 6        | <b>61327.</b> | <br><b>61327- 61327A 61327E</b>                      |

### Ammeter Selector Switches without OFF

| Description            | Stages | Contacts | Ident No.     | Ident No. with inscription |
|------------------------|--------|----------|---------------|----------------------------|
| 3 transformers, 1 pole | 3      | 6        | <b>61384.</b> | <br><b>61...- 61...A</b>   |
| 3 transformers, 2 pole | 5      | 9        | <b>61329.</b> |                            |
| 4 transformers, 1 pole | 4      | 8        | <b>61326.</b> | <br><b>61...- 61...A</b>   |
| 4 transformers, 2 pole | 6      | 12       | <b>61330.</b> |                            |

### Volt-Ammeter Selector Switches

| Description   | Stages | Contacts | Ident No.     | Ident No. with inscription             |
|---|--------|----------|---------------|--|
| 1 phase line to line,<br>2 phase voltages L-N, 2 currents | 4      | 8        | <b>61334.</b> | <br><b>61334- 61334A 61334B</b>        |
| 3 voltages L-L, 3 currents                                | 5      | 10       | <b>61336.</b> | <br><b>61...- 61...A 61...B 61...C</b> |
| 3 phase voltages L-N, 3 currents                          | 5      | 9        | <b>61338.</b> |  |
| 4 voltages, 3 currents                                    | 6      | 11       | <b>61337.</b> | <br><b>61337- 61337A 61337B</b>        |

# Rotary Cam Switches

## Technical Information Switching programmes

### Control Switches with spring return

| Description                                      | Stages | Contacts | Ident No.     | Ident No. with inscription                              |
|--|--------|----------|---------------|---|
| <b>Control Switches</b>                          |        |          |               |   |
| 1 pole   | 1      | 2        | <b>61300.</b> |   |
| 2 pole   | 2      | 4        | <b>61388.</b> |   |
| without jumpers                                  |        |          |               |   |
| 1 pole   | 1      | 2        | <b>61700.</b> | <b>61...-</b> <b>61...A</b> <b>61...B</b> <b>61...C</b> |
| <b>Control Switches with position indication</b> |        |          |               |   |
| 1 pole   | 1      | 2        | <b>61301.</b> |   |
| without jumpers                                  |        |          |               |   |
| 1 pole   | 1      | 2        | <b>61701.</b> | <b>61...-</b> <b>61...A</b> <b>61...B</b> <b>61...C</b> |
| <b>Controlling two contactors</b>                |        |          |               |   |
| Standard   | 2      | 3        | <b>61307.</b> |   |
| without jumpers                                  | 2      | 3        | <b>61707.</b> |   |
|  |        |          |               | <b>61...-</b> <b>61...A</b> <b>61...B</b>               |
| <b>With spring return</b>                        |        |          |               |   |
| 4 auxiliary contacts                             | 2      | 4        | <b>61366.</b> |   |
| Motor voltage control switch                     | 2      | 3        | <b>61271.</b> |   |
| single winding contactor                         | 4      | 8        | <b>61272.</b> |   |
|  |        |          |               | <b>61...-</b> <b>61...T</b>                             |

### Motor Reversing Switches

| Description               | Stages | Contacts | Ident No.     | Ident No. with inscription                |
|---------------------------|--------|----------|---------------|---|
| 2 pole                    | 2      | 4        | <b>61210.</b> |   |
| 3 pole                    | 3      | 5        | <b>61211.</b> |   |
|                           |        |          |               | <b>61...-</b> <b>61...A</b> <b>61...B</b> |
| 3 pole with spring return | 3      | 5        | <b>61253.</b> |   |
|                           |        |          |               | <b>61253-</b> <b>61253T</b>               |
| 3 pole, complete rotation | 3      | 5        | <b>61214.</b> |   |
|                           |        |          |               | <b>61214-</b> <b>61214A</b>               |

### Star-Delta Switches

| Description                       | Stages | Contacts | Ident No.     | Ident No. with inscription                              |
|-----------------------------------|--------|----------|---------------|---|
| Standard                          | 4      | 8        | <b>61200.</b> |   |
| Contact closed in "OFF"/"STOP"    | 5      | 9        | <b>61239.</b> |   |
|                                   |        |          |               | <b>61...-</b> <b>61...A</b> <b>61...B</b> <b>61...C</b> |
| Spring return from START to "OFF" | 4      | 8        | <b>61201.</b> |   |
|                                   |        |          |               | <b>61201-</b> <b>61201A</b>                             |



### Star-Delta Switches

| Description                                      | Stages | Contacts | Ident No.     | Ident No. with inscription                    |
|--|--------|----------|---------------|---|
| for use with contactor                           | 4      | 7        | <b>61240.</b> | <br><b>61240-</b> <b>61240A</b> <b>61240B</b> |
| <b>Reversing Star-Delta Switches</b><br>Standard | 5      | 10       | <b>61203.</b> | <br><b>61203-</b> <b>61203A</b>               |

### Multi-Speed Switches

| Description   | Stages | Contacts | Ident No.     | Ident No. with inscription                    |
|---|--------|----------|---------------|---|
| <b>2 speeds</b><br>single winding                                 | 4      | 8        | <b>61212.</b> |   |
| single winding –<br>contactor control                             | 5      | 10       | <b>61215.</b> | <b>61...-</b> <b>61...A</b>                   |
| 2 separate windings   | 3      | 6        | <b>61219.</b> |   |
| <b>2 speeds</b><br>single winding                                 | 4      | 8        | <b>61213.</b> | <br><b>61213-</b> <b>61213A</b>               |
| <b>3 speeds</b><br>speed 1+3 Dahlander                            | 6      | 11       | <b>61226.</b> | <br><b>61...-</b> <b>61...A</b>               |
| speed 2+3 Dahlander   | 6      | 11       | <b>61243.</b> |   |
| <b>Reversing Multi-Speed Switches</b><br>2 speeds, single winding | 6      | 12       | <b>61217.</b> | <br><b>61217-</b> <b>61217A</b> <b>61217B</b> |

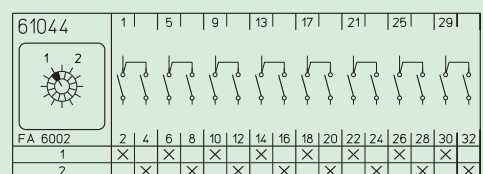
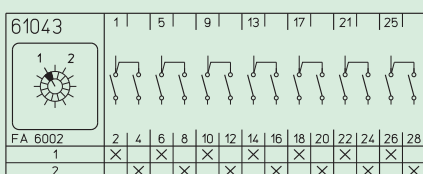
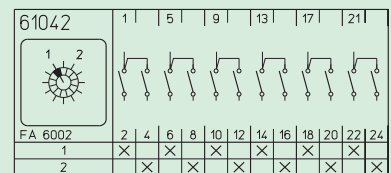
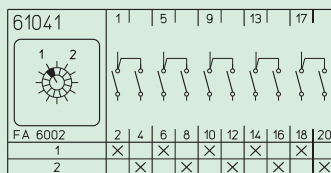
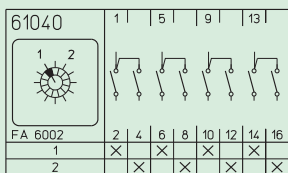
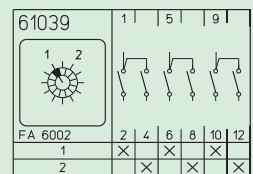
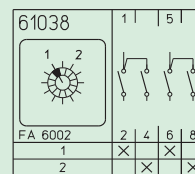
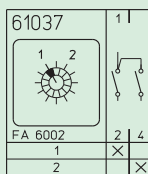
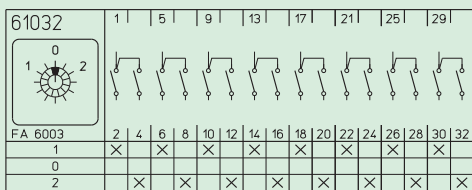
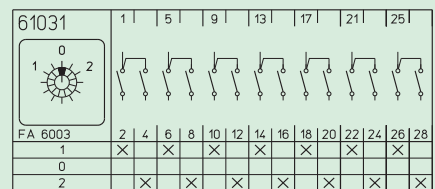
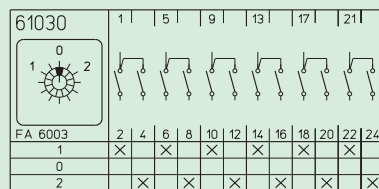
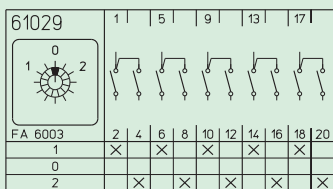
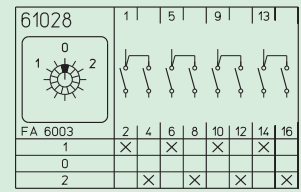
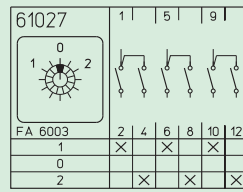
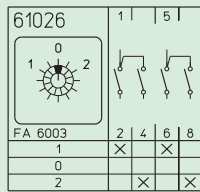
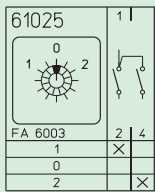
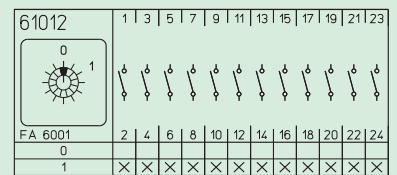
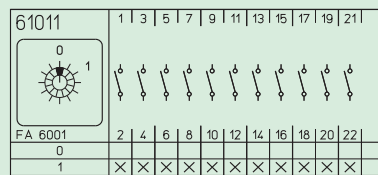
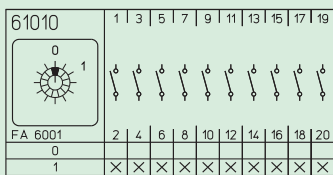
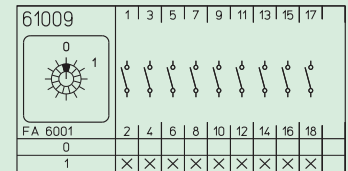
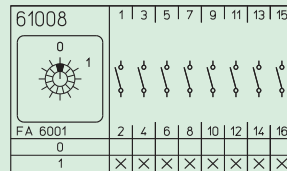
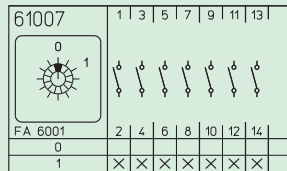
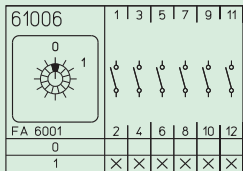
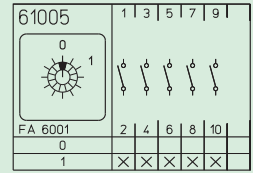
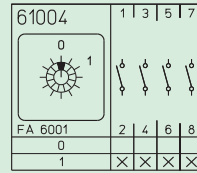
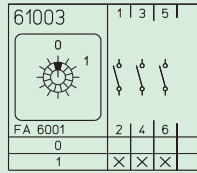
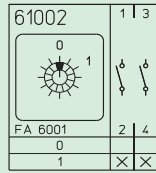
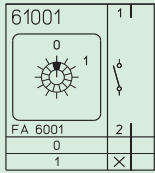
### Auxiliary Phase Switches

| Description                                   | Stages | Contacts | Ident No.     | Ident No. with inscription                                  |
|---|--------|----------|---------------|---|
| Standard                                      | 2      | 3        | <b>61208.</b> | <br><b>61208-</b> <b>61208A</b> <b>61208B</b> <b>61208C</b> |
| 2 directions                                  | 3      | 6        | <b>61209.</b> | <br><b>61209-</b> <b>61209A</b> <b>61209B</b>               |
| 2 directions<br>phase continuously under load | 3      | 6        | <b>61270.</b> | <br><b>61270-</b> <b>61270A</b>                             |

# Rotary Cam Switches

## Technical Information Switching diagrams

### Switching diagrams 61001–61044



### Switching diagrams 61045–61062

**61045**

| FA 6002 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |
|---------|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| 2       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |

**61046**

| FA 6002 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 |
|---------|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| 2       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |

**61047**

| FA 6002 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 |
|---------|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| 2       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |

**61048**

| FA 6002 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 |
|---------|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| 2       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |

**61049**

| FA 6005 | 2 | 4 | 6 |
|---------|---|---|---|
| 1       | X | X | X |
| 2       | X | X | X |
| 3       | X | X | X |

**61050**

| FA 6006 | 2 | 4 | 6 | 8 |
|---------|---|---|---|---|
| 1       | X | X | X | X |
| 2       | X | X | X | X |
| 3       | X | X | X | X |
| 4       | X | X | X | X |

**61051**

| FA 6007 | 2 | 4 | 6 | 8 | 10 |
|---------|---|---|---|---|----|
| 1       | X | X | X | X | X  |
| 2       | X | X | X | X | X  |
| 3       | X | X | X | X | X  |
| 4       | X | X | X | X | X  |
| 5       | X | X | X | X | X  |

**61052**

| FA 6008 | 2 | 4 | 6 | 8 | 10 | 12 |
|---------|---|---|---|---|----|----|
| 1       | X | X | X | X | X  | X  |
| 2       | X | X | X | X | X  | X  |
| 3       | X | X | X | X | X  | X  |
| 4       | X | X | X | X | X  | X  |
| 5       | X | X | X | X | X  | X  |
| 6       | X | X | X | X | X  | X  |

**61053**

| FA 3015 | 2 | 4 | 6 | 8 | 10 | 12 | 14 |
|---------|---|---|---|---|----|----|----|
| 1       | X | X | X | X | X  | X  | X  |
| 2       | X | X | X | X | X  | X  | X  |
| 3       | X | X | X | X | X  | X  | X  |
| 4       | X | X | X | X | X  | X  | X  |
| 5       | X | X | X | X | X  | X  | X  |
| 6       | X | X | X | X | X  | X  | X  |
| 7       | X | X | X | X | X  | X  | X  |

**61054**

| FA 3016 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
|---------|---|---|---|---|----|----|----|----|
| 1       | X | X | X | X | X  | X  | X  | X  |
| 2       | X | X | X | X | X  | X  | X  | X  |
| 3       | X | X | X | X | X  | X  | X  | X  |
| 4       | X | X | X | X | X  | X  | X  | X  |
| 5       | X | X | X | X | X  | X  | X  | X  |
| 6       | X | X | X | X | X  | X  | X  | X  |
| 7       | X | X | X | X | X  | X  | X  | X  |
| 8       | X | X | X | X | X  | X  | X  | X  |

**61055**

| FA 3017 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 |
|---------|---|---|---|---|----|----|----|----|----|
| 1       | X | X | X | X | X  | X  | X  | X  | X  |
| 2       | X | X | X | X | X  | X  | X  | X  | X  |
| 3       | X | X | X | X | X  | X  | X  | X  | X  |
| 4       | X | X | X | X | X  | X  | X  | X  | X  |
| 5       | X | X | X | X | X  | X  | X  | X  | X  |
| 6       | X | X | X | X | X  | X  | X  | X  | X  |
| 7       | X | X | X | X | X  | X  | X  | X  | X  |
| 8       | X | X | X | X | X  | X  | X  | X  | X  |
| 9       | X | X | X | X | X  | X  | X  | X  | X  |

**61056**

| FA 3018 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
|---------|---|---|---|---|----|----|----|----|----|----|
| 1       | X | X | X | X | X  | X  | X  | X  | X  | X  |
| 2       | X | X | X | X | X  | X  | X  | X  | X  | X  |
| 3       | X | X | X | X | X  | X  | X  | X  | X  | X  |
| 4       | X | X | X | X | X  | X  | X  | X  | X  | X  |
| 5       | X | X | X | X | X  | X  | X  | X  | X  | X  |
| 6       | X | X | X | X | X  | X  | X  | X  | X  | X  |
| 7       | X | X | X | X | X  | X  | X  | X  | X  | X  |
| 8       | X | X | X | X | X  | X  | X  | X  | X  | X  |
| 9       | X | X | X | X | X  | X  | X  | X  | X  | X  |
| 10      | X | X | X | X | X  | X  | X  | X  | X  | X  |

**61057**

| FA 3019 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 |
|---------|---|---|---|---|----|----|----|----|----|----|----|
| 1       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  |
| 2       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  |
| 3       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  |
| 4       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  |
| 5       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  |
| 6       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  |
| 7       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  |
| 8       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  |
| 9       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  |
| 10      | X | X | X | X | X  | X  | X  | X  | X  | X  | X  |
| 11      | X | X | X | X | X  | X  | X  | X  | X  | X  | X  |

**61058**

| FA 3020 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |
|---------|---|---|---|---|----|----|----|----|----|----|----|----|
| 1       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  |
| 2       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  |
| 3       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  |
| 4       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  |
| 5       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  |
| 6       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  |
| 7       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  |
| 8       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  |
| 9       | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  |
| 10      | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  |
| 11      | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  |
| 12      | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  |

**61059**

| FA 6020 | 2 | 4 |
|---------|---|---|
| 0       | X | X |
| 1       | X | X |
| 2       | X | X |

**61060**

| FA 6021 | 2 | 4 | 6 |
|---------|---|---|---|
| 0       | X | X | X |
| 1       | X | X | X |
| 2       | X | X | X |
| 3       | X | X | X |

**61061**

| FA 6022 | 2 | 4 | 6 | 8 |
|---------|---|---|---|---|
| 0       | X | X | X | X |
| 1       | X | X | X | X |
| 2       | X | X | X | X |
| 3       | X | X | X | X |
| 4       | X | X | X | X |

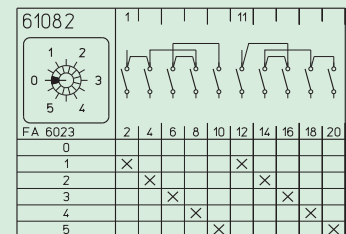
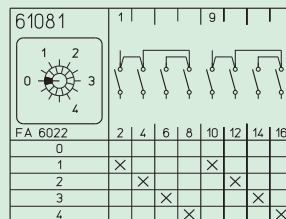
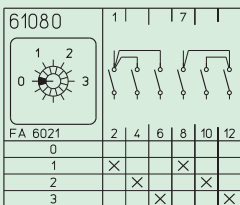
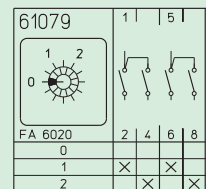
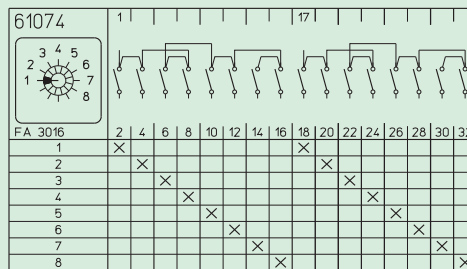
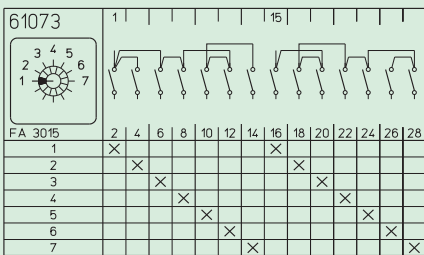
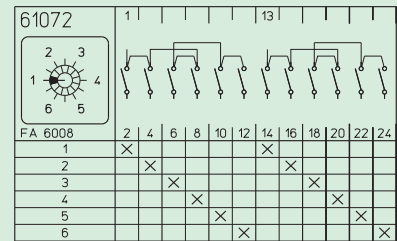
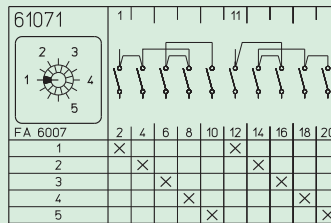
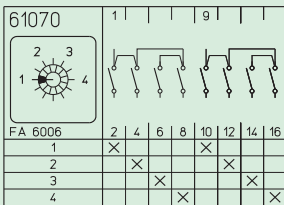
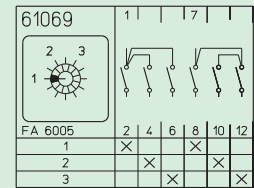
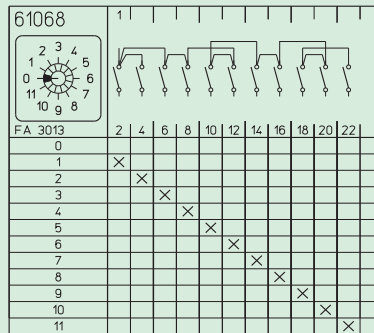
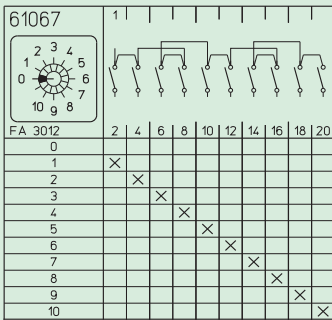
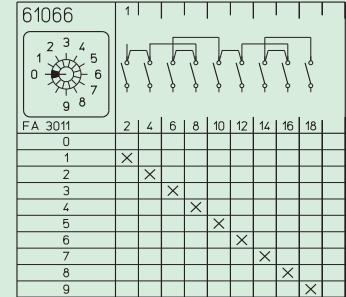
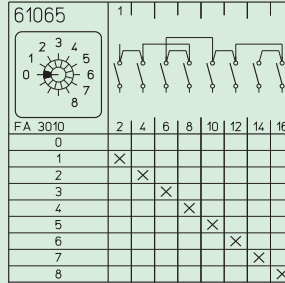
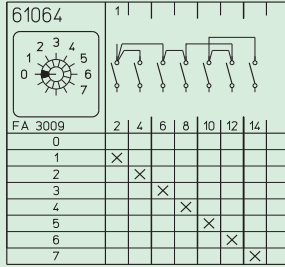
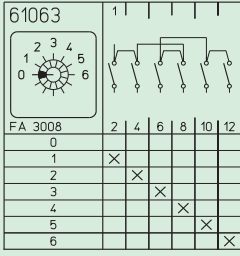
**61062**

| FA 6023 | 2 | 4 | 6 | 8 | 10 |
|---------|---|---|---|---|----|
| 0       | X | X | X | X | X  |
| 1       | X | X | X | X | X  |
| 2       | X | X | X | X | X  |
| 3       | X | X | X | X | X  |
| 4       | X | X | X | X | X  |
| 5       | X | X | X | X | X  |

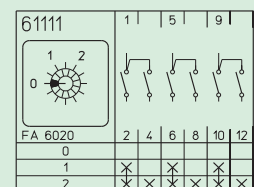
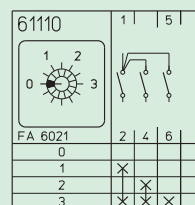
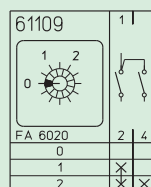
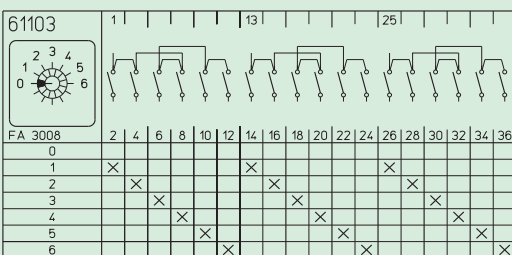
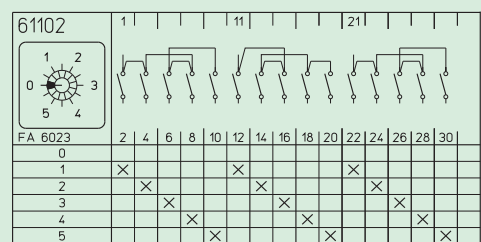
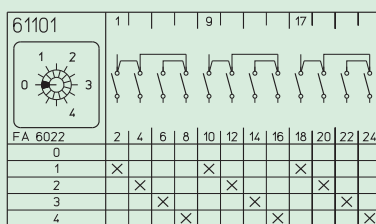
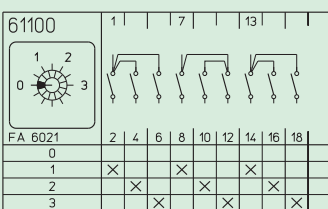
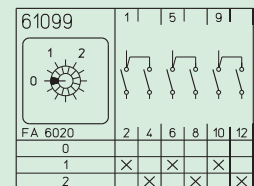
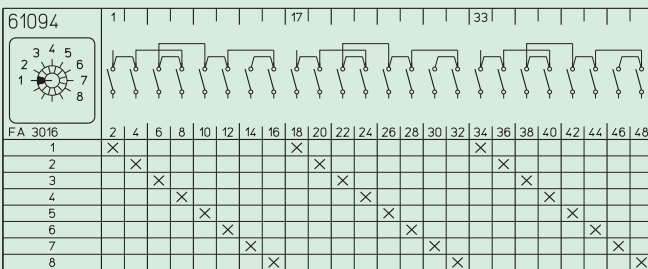
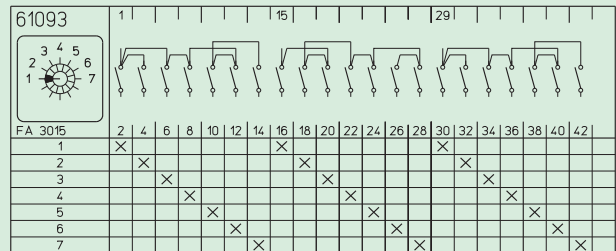
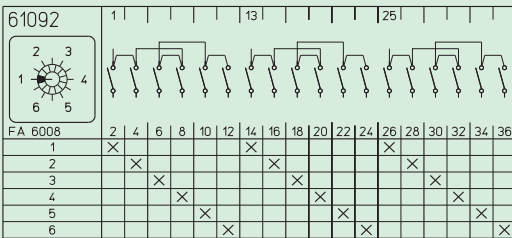
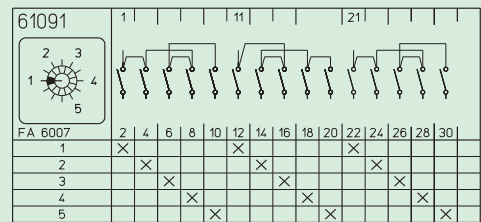
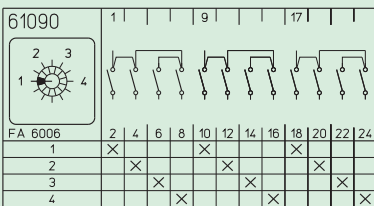
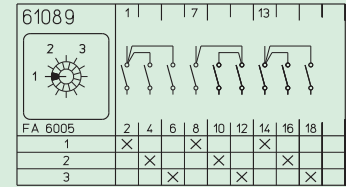
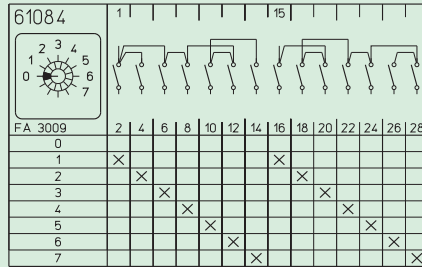
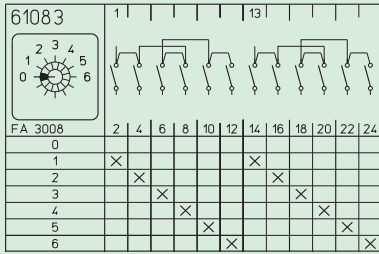
# Rotary Cam Switches

## Technical Information Switching diagrams

### Switching diagrams 61063–61082

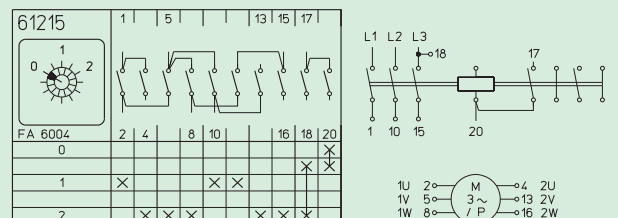
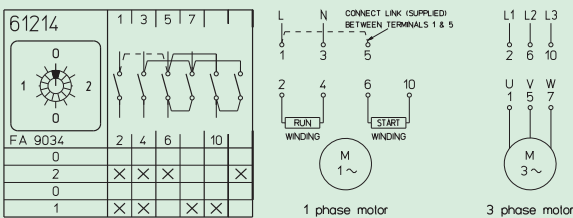
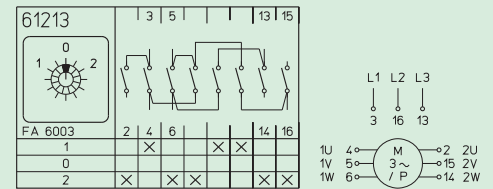
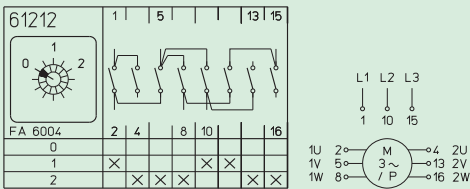
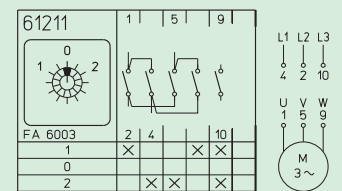
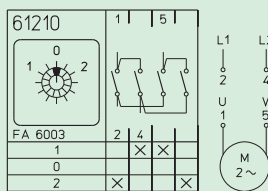
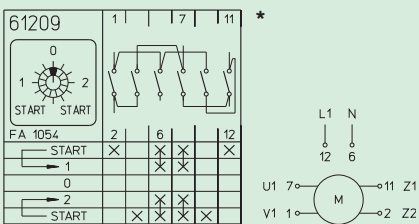
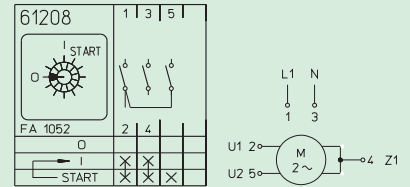
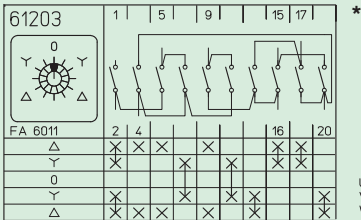
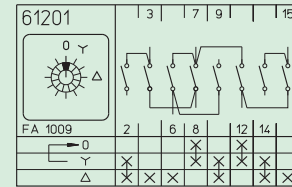
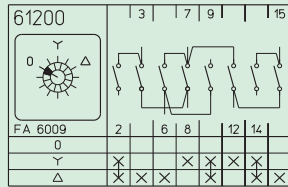
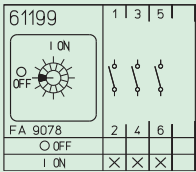
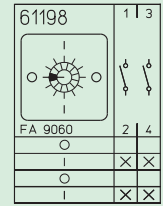
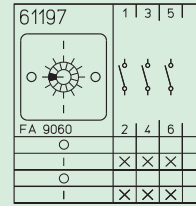
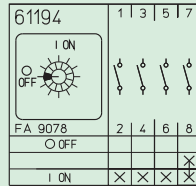
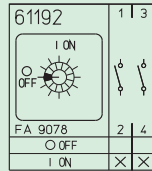
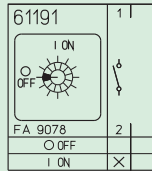
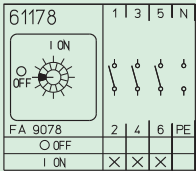
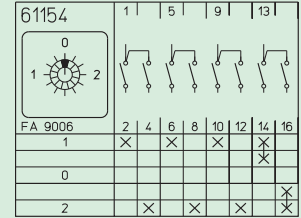
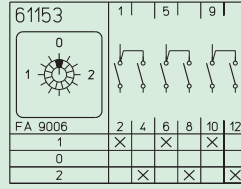
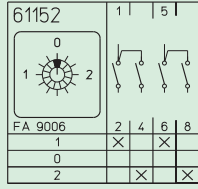
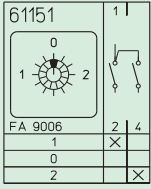


### Switching diagrams 61083–61111





### Switching diagrams 61151–61215

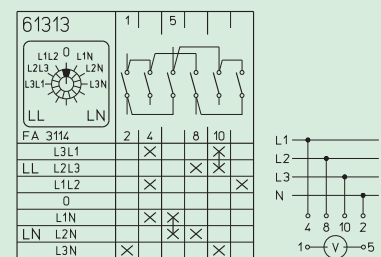
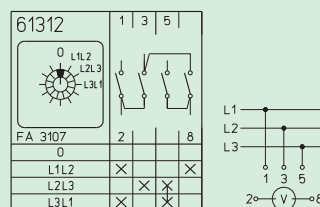
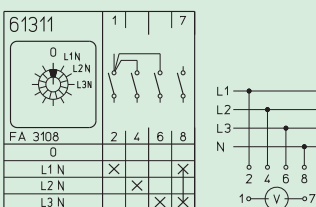
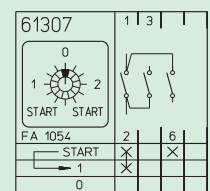
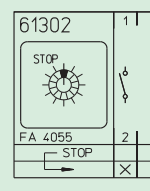
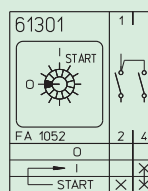
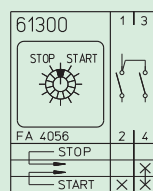
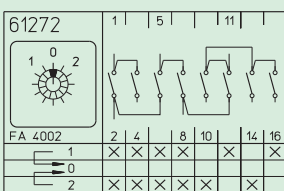
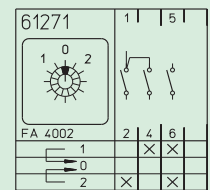
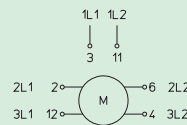
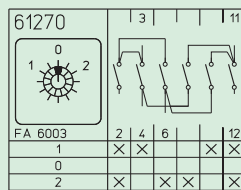
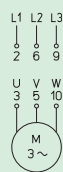
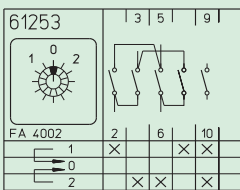
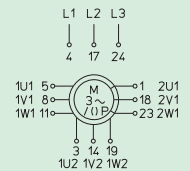
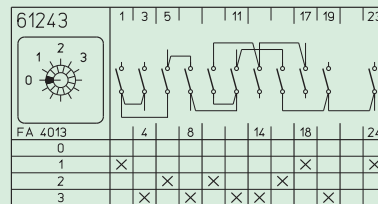
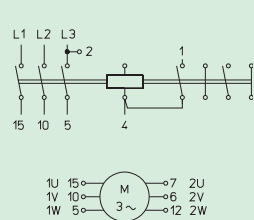
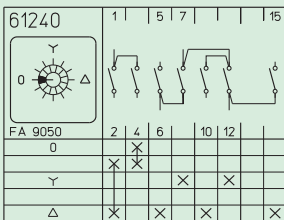
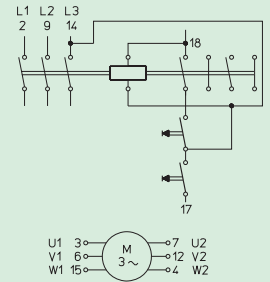
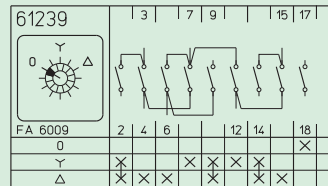
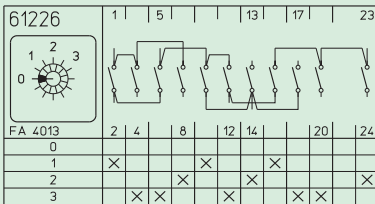
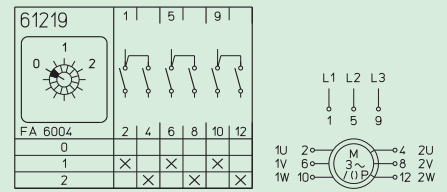
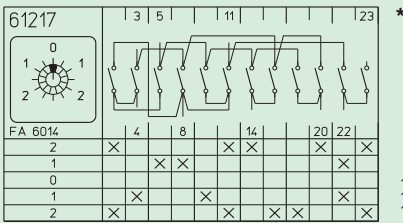


\* Please note further information regarding product lines S600 and S825

# Rotary Cam Switches

## Technical Information Switching diagrams

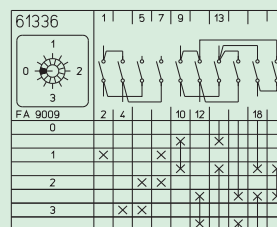
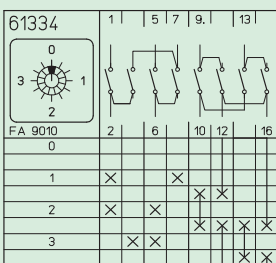
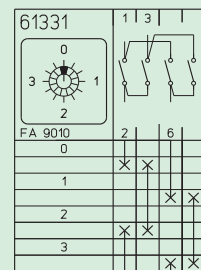
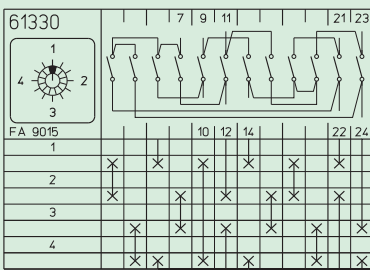
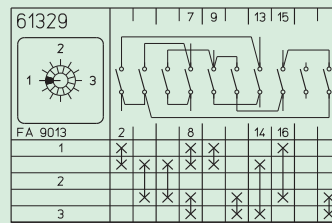
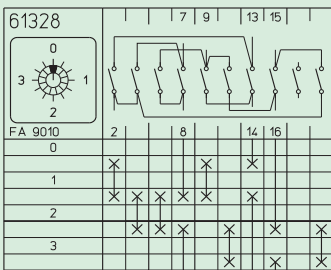
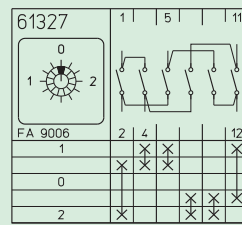
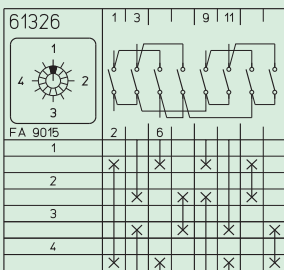
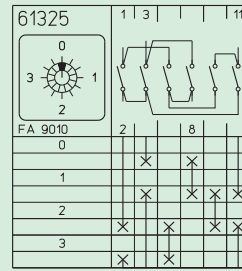
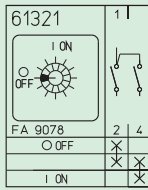
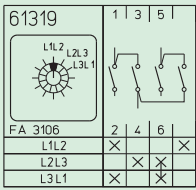
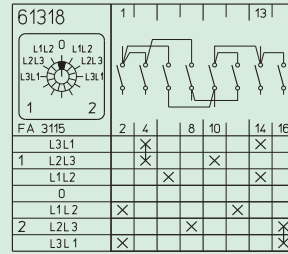
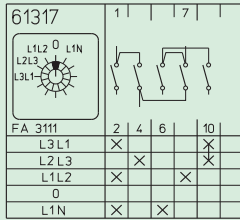
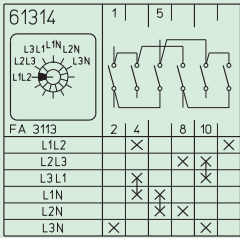
### Switching diagrams 61217–61313



\*Please note further information regarding product lines S600 and S825



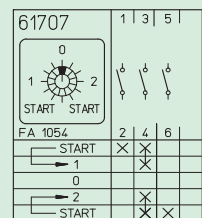
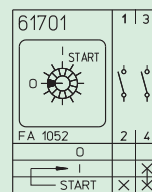
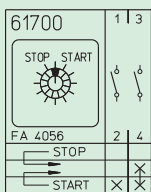
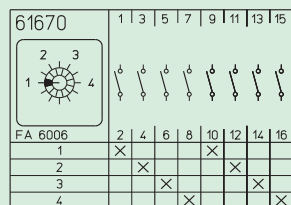
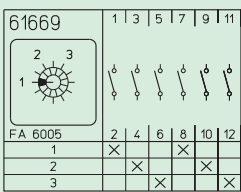
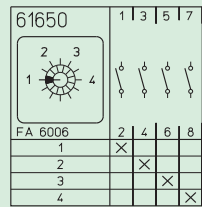
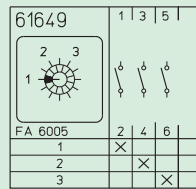
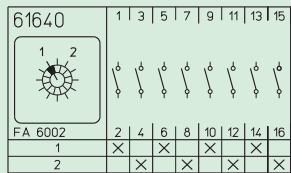
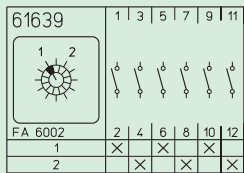
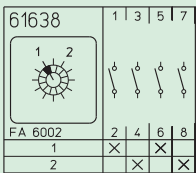
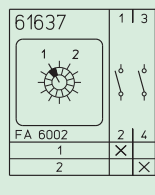
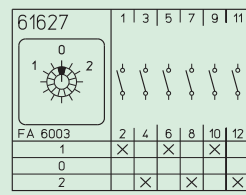
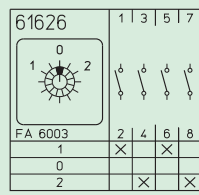
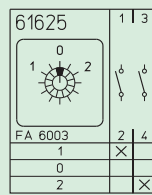
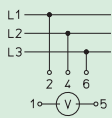
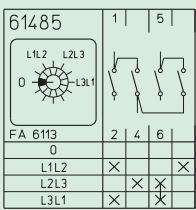
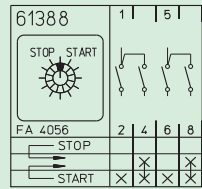
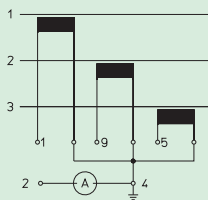
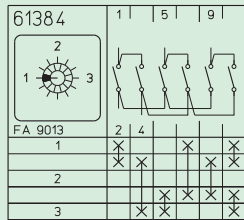
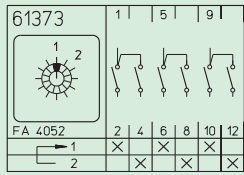
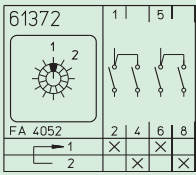
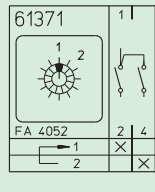
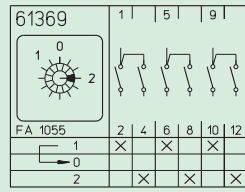
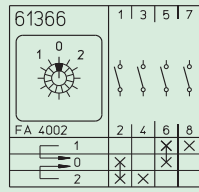
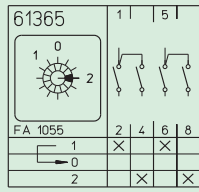
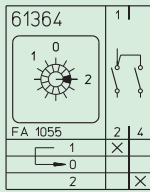
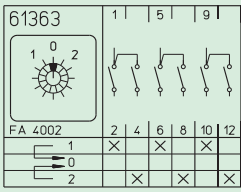
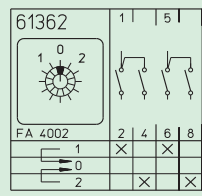
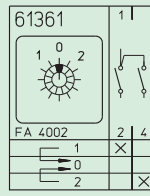
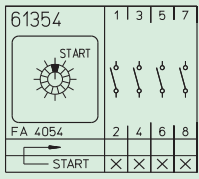
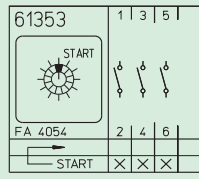
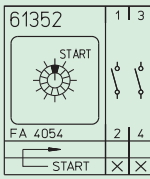
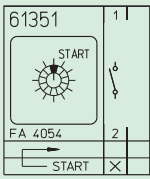
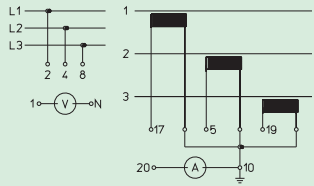
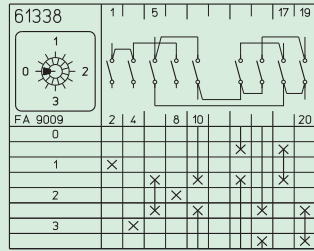
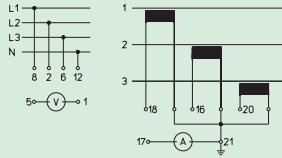
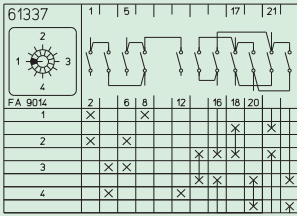
### Switching diagrams 61314–61336



# Rotary Cam Switches

## Technical Information Switching diagrams

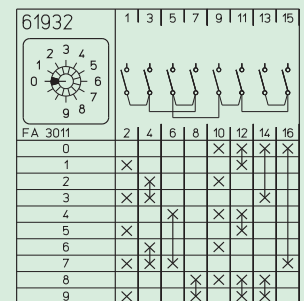
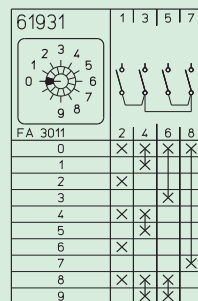
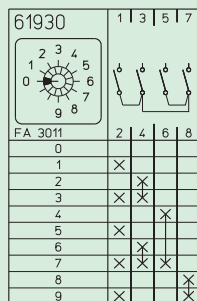
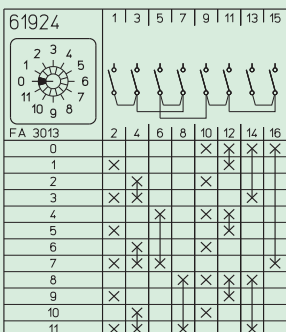
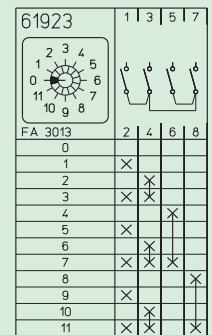
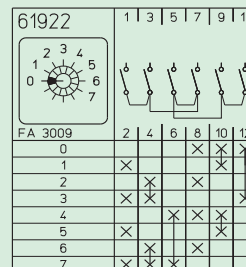
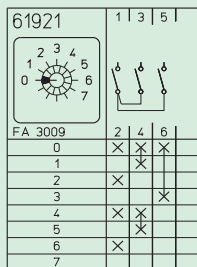
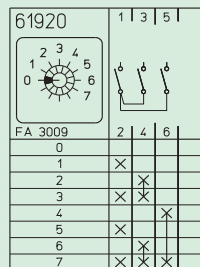
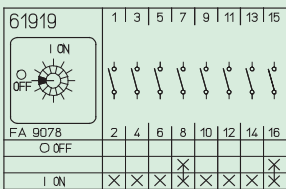
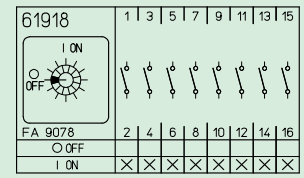
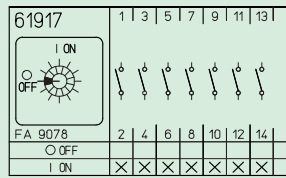
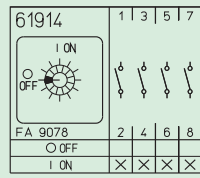
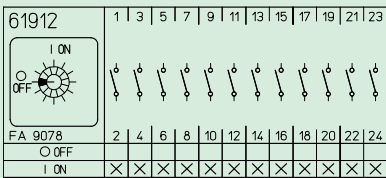
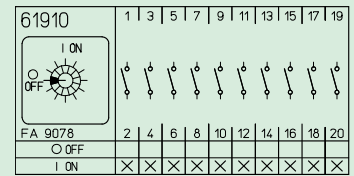
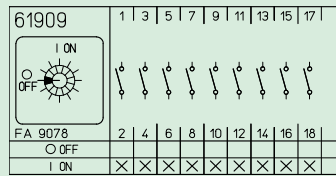
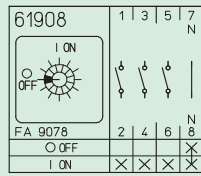
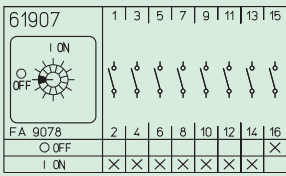
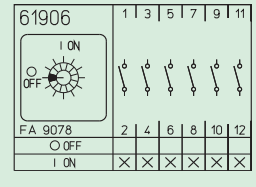
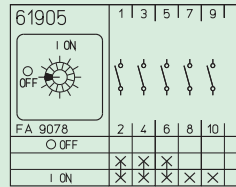
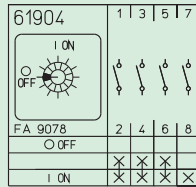
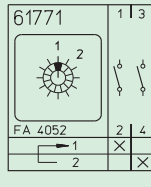
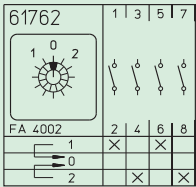
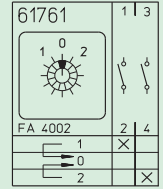
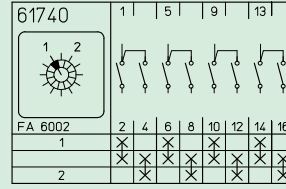
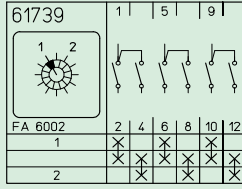
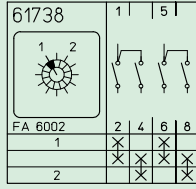
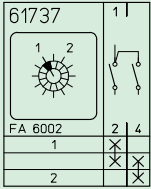
### Switching diagrams 61337–61707



# Rotary Cam Switches

## Technical Information Switching diagrams

### Switching diagrams 61737–61932



Order form for rotary cam switches with special switching programmes page 88.

# Rotary Cam Switches

## Technical Information Legend plates

### 2 switch positions

#### 45° switching angle



FA 4018



FA 4020



FA 4022



FA 4047



FA 4048



FA 4052



FA 4054



FA 4055



FA 4056



FA 4066



FA 4073



FA 4077



FA 4078



FA 4080

#### 60° switching angle



FA 6001



FA 6002



FA 6018



FA 6025



FA 6026



FA 6027



FA 6028



FA 6029



FA 6030



FA 6033



FA 6051



FA 6053



FA 6055



FA 6056



FA 6057



FA 6058



FA 6129



FA 6134



FA 6135



FA 6140



FA 6149

#### 90° switching angle



FA 9011



FA 9016



FA 9017



FA 9018



FA 9021



FA 9026



FA 9031



FA 9032



FA 9033



FA 9057



FA 9058



FA 9078



FA 9079



FA 9080

### 3 switch positions

#### 30° switching angle



FA 3028



FA 3030



FA 3046



FA 3103



FA 3104



FA 3105



FA 3106



FA 3116



FA 3117



FA 3118



FA 3119



FA 3120



FA 3121

### 3 switch positions

#### 45° switching angle

|                |                |                |                |                |                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                |                |                |                |                |                |                |                |                |                |                |
| <b>FA 4001</b> | <b>FA 4002</b> | <b>FA 4006</b> | <b>FA 4012</b> | <b>FA 4024</b> | <b>FA 4025</b> | <b>FA 4026</b> | <b>FA 4027</b> | <b>FA 4028</b> | <b>FA 4029</b> | <b>FA 4030</b> |
|                |                |                |                |                |                |                |                |                |                |                |
| <b>FA 4031</b> | <b>FA 4032</b> | <b>FA 4033</b> | <b>FA 4034</b> | <b>FA 4035</b> | <b>FA 4036</b> | <b>FA 4037</b> | <b>FA 4038</b> | <b>FA 4045</b> | <b>FA 4067</b> | <b>FA 4068</b> |
|                |                |                |                |                |                |                |                |                |                |                |
| <b>FA 4069</b> | <b>FA 4070</b> | <b>FA 4071</b> | <b>FA 4072</b> | <b>FA 4074</b> | <b>FA 4076</b> | <b>FA 4079</b> | <b>FA 4081</b> | <b>FA 4082</b> |                |                |

#### 60° switching angle

|                |                |                |                |                |                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                |                |                |                |                |                |                |                |                |                |                |
| <b>FA 6003</b> | <b>FA 6004</b> | <b>FA 6005</b> | <b>FA 6009</b> | <b>FA 6010</b> | <b>FA 6017</b> | <b>FA 6019</b> | <b>FA 6020</b> | <b>FA 6034</b> | <b>FA 6035</b> | <b>FA 6036</b> |
|                |                |                |                |                |                |                |                |                |                |                |
| <b>FA 6038</b> | <b>FA 6039</b> | <b>FA 6044</b> | <b>FA 6045</b> | <b>FA 6060</b> | <b>FA 6061</b> | <b>FA 6062</b> | <b>FA 6063</b> | <b>FA 6064</b> | <b>FA 6065</b> | <b>FA 6067</b> |
|                |                |                |                |                |                |                |                |                |                |                |
| <b>FA 6068</b> | <b>FA 6069</b> | <b>FA 6070</b> | <b>FA 6071</b> | <b>FA 6072</b> | <b>FA 6073</b> | <b>FA 6074</b> | <b>FA 6075</b> | <b>FA 6076</b> | <b>FA 6077</b> | <b>FA 6091</b> |
|                |                |                |                |                |                |                |                |                |                |                |
| <b>FA 6103</b> | <b>FA 6105</b> | <b>FA 6116</b> | <b>FA 6117</b> | <b>FA 6126</b> | <b>FA 6131</b> | <b>FA 6132</b> | <b>FA 6133</b> | <b>FA 6136</b> | <b>FA 6141</b> | <b>FA 6142</b> |
|                |                |                |                |                |                |                |                |                |                |                |
| <b>FA 6143</b> | <b>FA 6144</b> | <b>FA 6146</b> | <b>FA 6147</b> | <b>FA 6148</b> | <b>FA 6150</b> | <b>FA 6151</b> | <b>FA 6152</b> |                |                |                |

#### 90° switching angle

|                |                |                |                |                |                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                |                |                |                |                |                |                |                |                |                |                |
| <b>FA 9006</b> | <b>FA 9008</b> | <b>FA 9013</b> | <b>FA 9023</b> | <b>FA 9024</b> | <b>FA 9027</b> | <b>FA 9037</b> | <b>FA 9038</b> | <b>FA 9050</b> | <b>FA 9081</b> | <b>FA 9083</b> |

#### Miscellaneous switching angles

|                |                |                |                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                |                |                |                |                |                |                |                |                |
| <b>FA 1009</b> | <b>FA 1015</b> | <b>FA 1020</b> | <b>FA 1052</b> | <b>FA 1053</b> | <b>FA 1055</b> | <b>FA 1059</b> | <b>FA 1061</b> | <b>FA 1063</b> |

# Rotary Cam Switches

## Technical Information Legend plates

### 4 switch positions

#### 30° switching angle



FA 3014



FA 3021



FA 3022



FA 3029



FA 3047



FA 3056



FA 3058



FA 3087



FA 3088



FA 3089



FA 3090



FA 3107



FA 3108



FA 3109



FA 3110

#### 45° switching angle



FA 4007



FA 4013



FA 4075



FA 4083



FA 4084



FA 4085

#### 60° switching angle



FA 6006



FA 6013



FA 6021



FA 6041



FA 6049



FA 6104



FA 6113



FA 6114



FA 6119



FA 6127



FA 6137



FA 6138



FA 6145



FA 6153

#### 90° switching angle



FA 9004



FA 9005



FA 9007



FA 9009



FA 9010



FA 9014



FA 9015



FA 9019



FA 9020



FA 9025



FA 9028



FA 9029



FA 9034



FA 9035



FA 9039



FA 9046



FA 9047



FA 9048



FA 9049



FA 9052



FA 9060



FA 9082



FA 9084

#### Miscellaneous switching angles



FA 1017



FA 1022



FA 1056



FA 1057

## 5 switch positions

### 30° switching angle



FA 3006



FA 3031



FA 3033



FA 3034



FA 3048



FA 3063



FA 3064



FA 3092



FA 3093



FA 3111



FA 3112

### 45° switching angle



FA 4003



FA 4008



FA 4014



FA 4039



FA 4040



FA 4041



FA 4059



FA 4060

### 60° switching angle



FA 6007



FA 6011



FA 6014



FA 6022



FA 6037



FA 6042



FA 6046



FA 6078



FA 6139

### Miscellaneous switching angles



FA 1007



FA 1008



FA 1011



FA 1014



FA 1018



FA 1019



FA 1054



FA 1058



FA 1060



FA 1062

## 6 switch positions

### 30° switching angle



FA 3007



FA 3032



FA 3049



FA 3100



FA 3113



FA 3122

### 45° switching angle



FA 4009



FA 4015



FA 4091

# Rotary Cam Switches

## Technical Information Legend plates

### 6 switch positions

#### 60° switching angle



FA 6008



FA 6012



FA 6015



FA 6023



FA 6024



FA 6040



FA 6043



FA 6047



FA 6081



FA 6083



FA 6085



FA 6098



FA 6118

### 7 switch positions

#### 30° switching angle



FA 3004



FA 3008



FA 3015



FA 3023



FA 3035



FA 3043



FA 3050



FA 3060



FA 3062



FA 3065



FA 3067



FA 3082



FA 3083



FA 3084



FA 3114



FA 3115

#### 45° switching angle



FA 4004



FA 4010



FA 4016



FA 4086



FA 4087



FA 4088



FA 4089



FA 4090

### 8 switch positions

#### 30° switching angle



FA 3009



FA 3016



FA 3051

#### 45° switching angle



FA 4011



FA 4017



FA 4046



FA 4058



FA 4061



FA 4092



## 9 switch positions

### 30° switching angle



FA 3010



FA 3017



FA 3025



FA 3044



FA 3052

## 10 switch positions

### 30° switching angle



FA 3011



FA 3018



FA 3053

## 11 switch positions

### 30° switching angle



FA 3012



FA 3019



FA 3054

## 12 switch positions

### 30° switching angle



FA 3013



FA 3020



FA 3055



FA 3123

## Other



FA 1001

# Rotary Cam Switches

## Technical Information Legend plates

### Additional top escutcheon plates

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

### How to order legend plates

#### Standard escutcheon 30 × 30 mm

Legend plate silver, inscription black  
 Legend plate yellow, inscription black  
 Legend plate black, inscription silver  
 Legend plate white, inscription black  
 Legend plate black, inscription white

#### Order code number

FAS1-.... (+FA number)  
 FBS1-.... (+FA number)  
 FCS1-.... (+FA number)  
 FDS1-.... (+FA number)  
 FES1-.... (+FA number)

#### Standard escutcheon 48 × 48 mm

Legend plate silver, inscription black  
 Legend plate yellow, inscription black  
 Legend plate black, inscription silver  
 Legend plate white, inscription black  
 Legend plate black, inscription white

#### Order code number

FAS2-.... (+FA number)  
 FBS2-.... (+FA number)  
 FCS2-.... (+FA number)  
 FDS2-.... (+FA number)  
 FES2-.... (+FA number)

#### Standard escutcheon 64 × 64 mm

Legend plate silver, inscription black  
 Legend plate yellow, inscription black  
 Legend plate black, inscription silver  
 Legend plate white, inscription black  
 Legend plate black, inscription white

#### Order code number

FAS4-.... (+FA number)  
 FBS4-.... (+FA number)  
 FCS4-.... (+FA number)  
 FDS4-.... (+FA number)  
 FES4-.... (+FA number)

#### Standard escutcheon 88 × 88 mm

Legend plate silver, inscription black  
 Legend plate yellow, inscription black  
 Legend plate black, inscription silver  
 Legend plate white, inscription black  
 Legend plate black, inscription white

#### Order code number

FAS6-.... (+FA number)  
 FBS6-.... (+FA number)  
 FCS6-.... (+FA number)  
 FDS6-.... (+FA number)  
 FES6-.... (+FA number)

#### Standard escutcheon 130 × 130 mm

Legend plate silver, inscription black  
 Legend plate yellow, inscription black  
 Legend plate black, inscription silver  
 Legend plate white, inscription black  
 Legend plate black, inscription white

#### Order code number

FAS8-.... (+FA number)  
 FBS8-.... (+FA number)  
 FCS8-.... (+FA number)  
 FDS8-.... (+FA number)  
 FES8-.... (+FA number)

#### Additional top escutcheon plates

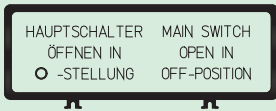
Legend plate silver, inscription black  
 Legend plate yellow, inscription black  
 Legend plate black, inscription silver  
 Legend plate white, inscription black  
 Legend plate black, inscription white

#### Order code number

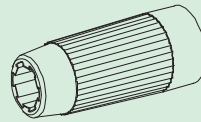
FAS2-8... (+FA number)  
 FBS2-8... (+FA number)  
 FCS2-8... (+FA number)  
 FDS2-8... (+FA number)  
 FES2-8... (+FA number)

Order form for Rotary cam switches  
 with special inscriptions page 90.

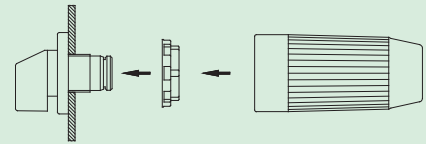
## Additional top escutcheon plates/Assembly tool



FAZ2-8041



218098



### Additional top escutcheon plates

with additional inscription to be clipped on the escutcheons and padlock devices

### Order code number

|   |                             |
|---|-----------------------------|
| Escutcheon frame plate black, legend plate silver, without inscription (can be engraved)                | <b>FAZ2 - 8000</b>          |
| Escutcheon frame plate black, legend plate silver, inscription black, inscription FA 8... (see page 82) | <b>FAZ2 - 8...</b>          |
| Escutcheon frame plate black, legend plate silver, inscription black, special engraving                 | <b>FAZ2 - (special no.)</b> |
| Escutcheon frame plate black, legend plate yellow, without inscription (can be engraved)                | <b>FBZ2 - 8000</b>          |
| Escutcheon frame plate black, legend plate yellow, inscription black, inscription FA 8... (see page 82) | <b>FBZ2 - 8</b>             |
| Escutcheon frame plate black, legend plate yellow, inscription black, special engraving                 | <b>FBZ2 - (special no.)</b> |
| Escutcheon frame plate black, legend plate black, without inscription (can be engraved)                 | <b>FCZ2 - 8000</b>          |
| Escutcheon frame plate black, legend plate black, inscription silver, inscription FA 8... (see page 82) | <b>FCZ2 - 8...</b>          |
| Escutcheon frame plate black, legend plate black, inscription silver, special engraving                 | <b>FCZ2 - (special no.)</b> |
| Escutcheon frame plate black, legend plate white, without inscription (can be engraved)                 | <b>FDZ2 - 8000</b>          |
| Escutcheon frame plate black, legend plate white, inscription black, inscription FA 8... (see page 82)  | <b>FDZ2 - 8...</b>          |
| Escutcheon frame plate black, legend plate white, inscription black, special engraving                  | <b>FDZ2 - (special no.)</b> |
| Escutcheon frame plate black, legend plate black, without inscription (can be engraved)                 | <b>FEZ2 - 8000</b>          |
| Escutcheon frame plate black, legend plate black, inscription white, inscription FA 8... (see page 82)  | <b>FEZ2 - 8...</b>          |
| Escutcheon frame plate black, legend plate black, inscription white, special engraving                  | <b>FEZ2 - (special no.)</b> |
| Escutcheon frame plate black (without legend plate)   | <b>FAZ2</b>                 |

### Legend plates for additional top escutcheon plates

|   |                             |
|---|-----------------------------|
| Legend plate silver, without inscription (can be engraved)                | <b>FAS2 - 8000</b>          |
| Legend plate silver, inscription black, inscription FA 8... (see page 82) | <b>FAS2 - 8...</b>          |
| Legend plate silver, inscription black, special engraving                 | <b>FAS2 - (special no.)</b> |
| Legend plate yellow, without inscription (can be engraved)                | <b>FBS2 - 8000</b>          |
| Legend plate yellow, inscription black, inscription FA 8... (see page 82) | <b>FBS2 - 8...</b>          |
| Legend plate yellow, inscription black, special engraving                 | <b>FBS2 - (special no.)</b> |
| Legend plate black, without inscription (can be engraved)                 | <b>FCS2 - 8000</b>          |
| Legend plate black, inscription silver, inscription FA 8... (see page 82) | <b>FCS2 - 8...</b>          |
| Legend plate black, inscription silver, special engraving                 | <b>FCS2 - (special no.)</b> |
| Legend plate white, without inscription (can be engraved)                 | <b>FDS2 - 8000</b>          |
| Legend plate white, inscription black, inscription FA 8... (see page 82)  | <b>FDS2 - 8...</b>          |
| Legend plate white, inscription black, special engraving                  | <b>FDS2 - (special no.)</b> |
| Legend plate black, inscription white, inscription FA 8... (see page 82)  | <b>FES2 - 8...</b>          |
| Legend plate black, inscription white, special engraving                  | <b>FES2 - (special no.)</b> |

### Assembly tool for single hole mounting

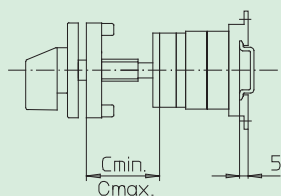
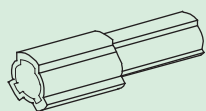
suitable for the fast assembly of escutcheons and padlock devices

| Types                                   | Order code number |
|---|-------------------|
| P110 / P220 / P225 / M220 / M225 / T225 | <b>218098</b>     |

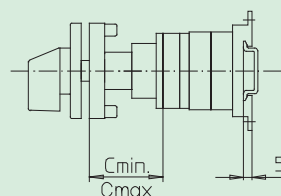
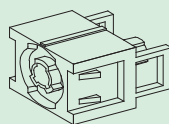
# Rotary Cam Switches

## Technical Information Accessories

### Shaft extensions



AVD2



AVC2-

#### Modular shaft extensions for mounting forms with door clutch or door interlock














| $C_{min}$             | $C_{max}$ | number | Order code number |  |
|-----------------------|-----------|--------|-------------------|--|
| <b>Door clutch</b>    |           |        |                   |  |
| 42 mm                 | 59 mm     | –      | –                 |  |
| 60 mm                 | 84 mm     | 1      | <b>AVD2</b>       |  |
| 85 mm                 | 109 mm    | 2      | <b>AVD2</b>       |  |
| 110 mm                | 134 mm    | 3      | <b>AVD2</b>       |  |
| 135 mm                | 159 mm    | 4      | <b>AVD2</b>       |  |
| 160 mm                | 184 mm    | 5      | <b>AVD2</b>       |  |
| 185 mm                | 209 mm    | 6      | <b>AVD2</b>       |  |
| <b>Door interlock</b> |           |        |                   |  |
| 42 mm                 | 57 mm     | –      | –                 |  |
| 64 mm                 | 82 mm     | 1      | <b>AVC2 - 1</b>   |  |
| 89 mm                 | 107 mm    | 1      | <b>AVC2 - 2</b>   |  |
| 114 mm                | 132 mm    | 1      | <b>AVC2 - 3</b>   |  |
| 139 mm                | 157 mm    | 1      | <b>AVC2 - 4</b>   |  |
| 164 mm                | 182 mm    | 1      | <b>AVC2 - 5</b>   |  |
| 189 mm                | 207 mm    | 1      | <b>AVC2 - 6</b>   |  |

Please note: AVC-2 to AVC2-6 have additional parts to aid the stability of the extended shaft modules

The dot in the order code number must be replaced by the classification letter which identifies the key removable positions. Due to the construction of the locking cylinder the key can also be removed at 180 degrees of the designated position.




















### Type P110

Standard cylinder lock L001. Further lock types and security lock on request.

|   |   |
|---|---|
|  key removable at<br>09h / 03h                         |  key removable at<br>01h / 07h                         |
|  key removable at<br>12h / 06h                         |  key removable at<br>10h / 12h / 02h / 04h / 06h / 08h |
|  key removable at<br>09h / 12h / 03h / 06h             |  key removable at<br>11h / 01h / 05h / 07h             |
|  key removable at<br>09h / 11h / 01h / 03h / 05h / 07h |  key removable at<br>10h / 12h / 04h / 06h             |
|  key removable at<br>10h / 04h                         |  key removable at<br>12h / 02h / 06h / 08h             |
|  key removable at<br>02h / 08h                         |  key removable at<br>10h / 02h / 04h / 08h             |
|  key removable at<br>11h / 05h                        |   |

### Types P220 / P225 / M220 / M225 / T225


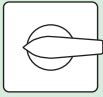





Standard cylinder lock C001. Further lock types and security lock on request.

|  |   |
|--|---|
|  key removable at<br>09h / 03h  |  key removable at<br>11h / 05h                         |
|  key removable at<br>12h / 06h  |  key removable at<br>01h / 07h                         |
|  key removable at<br>09h / 12h / 03h / 06h  |  key removable at<br>10h / 12h / 02h / 04h / 06h / 08h |
|  key removable at<br>09h / 11h / 01h / 03h / 05h / 07h  |  key removable at<br>11h / 01h / 05h / 07h             |
|  key removable at<br>10h / 04h  |  key removable at<br>10h / 12h / 04h / 06h             |
|  key removable at<br>02h / 08h  |  key removable at<br>12h / 02h / 06h / 08h             |
|  key removable at<br>09h / 10.30h / 12h / 01.30h /<br>03h / 04.30h / 06h / 07.30h             |  key removable at<br>10h / 02h / 04h / 08h             |
|  key removable at<br>10.30h / 04.30h  |  key removable at<br>09h / 10.30h / 03h / 04.30h       |
|  key removable at<br>01.30h / 07.30h  |  key removable at<br>10.30h / 12h / 04.30h / 06h       |
|  key removable at<br>09h / 10h / 11h / 12h / 01h / 02h /<br>03h / 04h / 05h / 06h / 07h / 08h |   |

# Rotary Cam Switches

## Technical Information Operators

### Operator variants for mounting forms with escutcheon and handle

| Operator<br>Suitable for Types   |   | Colour<br>escutcheon   | Colour<br>legend plate  | Colour<br>operator | Change of<br>order code number |       |                      |
|--|---|--|---|--------------------|--------------------------------|-------|----------------------|
| <b>M-handle</b><br><br>P110, P220, P225,<br>M220, M225, T225,<br>S432, S440,<br>S606, S608, S612 |    | black  | silver  | black              | .... - ..... - ...M1           |       |                      |
|  |   | grey   | silver  | grey               | .... - ..... - ...M2           |       |                      |
|  |   | white  | silver  | white              | .... - ..... - ...M3           |       |                      |
|  |   | black  | yellow  | red                | .... - ..... - ...M4           |       |                      |
|  |   | black  | silver  | red                | .... - ..... - ...M5           |       |                      |
|  |   | black  | black   | black              | .... - ..... - ...M8           |       |                      |
|  |   | <b>F-handle</b><br><br>P220, P225,<br>M220, M225,<br>T225                |    | black              | silver                         | black | .... - ..... - ...F1 |
|  |   |  |   | grey               | silver                         | grey  | .... - ..... - ...F2 |
| white  | silver  |  |   | white              | .... - ..... - ...F3           |       |                      |
| black  | yellow  |  |   | red                | .... - ..... - ...F4           |       |                      |
| black  | silver  |  |   | red                | .... - ..... - ...F5           |       |                      |
| black  | black   |  |   | black              | .... - ..... - ...F8           |       |                      |
| <b>B-handle</b><br><br>P220, P225,<br>M220, M225, T225,<br>S432, S440,<br>S606, S608, S612, S825 |    |  |   | black              | silver                         | black | .... - ..... - ...B1 |
|  |   |  |   | grey               | silver                         | grey  | .... - ..... - ...B2 |
|  |   | white  | silver  | white              | .... - ..... - ...B3           |       |                      |
|  |   | black  | yellow  | red                | .... - ..... - ...B4           |       |                      |
|  |   | black  | silver  | red                | .... - ..... - ...B5           |       |                      |
|  |   | black  | black   | black              | .... - ..... - ...B8           |       |                      |
|  |   | <b>N-handle</b><br><br>P220, P225,<br>M220, M225,<br>T225,<br>S432, S440 |   | black              | silver                         | black | .... - ..... - ...N1 |
|  |   |  |   | grey               | silver                         | grey  | .... - ..... - ...N2 |
| white  | silver  |  |   | white              | .... - ..... - ...N3           |       |                      |
| black  | yellow  |  |   | red                | .... - ..... - ...N4           |       |                      |
| black  | silver  |  |   | red                | .... - ..... - ...N5           |       |                      |
| black  | black   |  |   | black              | .... - ..... - ...N8           |       |                      |
| <b>G-handle</b><br><br>S432, S440,<br>S606, S608, S612,<br>S825                                  |  |  |   | black              | silver                         | black | .... - ..... - ...G1 |
|  |   |  |   | black              | yellow                         | red   | .... - ..... - ...G4 |
|  |   | black  | silver  | red                | .... - ..... - ...G5           |       |                      |
|  |   | black  | black   | black              | .... - ..... - ...G8           |       |                      |
|  |   | <b>R-handle</b><br><br>P220, P225,<br>M220, M225,<br>T225,<br>S432, S440 |  | black              | silver                         | black | .... - ..... - ...R1 |
|  |   |  |   | grey               | silver                         | grey  | .... - ..... - ...R2 |
|  |   |  |   | white              | silver                         | white | .... - ..... - ...R3 |
|  |   |  |   | black              | yellow                         | red   | .... - ..... - ...R4 |
| black  | silver  |  |   | red                | .... - ..... - ...R5           |       |                      |
| <b>Installation mounting for 45 mm aperture in Panel/Distribution boards:</b>                    |   |  |   |                    |                                |       |                      |
| <b>M-handle</b><br><br>P220, P225,<br>M220, M225<br>T225   |  |  |   | grey               | silver                         | black | .... - ..... - ...M1 |
|  |   |  |   | grey               | silver                         | grey  | .... - ..... - ...M2 |
|  |   | grey   | yellow  | red                | .... - ..... - ...M4           |       |                      |
|  |   | <b>N-handle</b><br><br>P220, P225,<br>M220, M225,<br>T225                |  | grey               | silver                         | black | .... - ..... - ...N1 |
| grey   | silver  |  |   | grey               | .... - ..... - ...N2           |       |                      |
| grey   | yellow  |  |   | red                | .... - ..... - ...N4           |       |                      |

### Operator variants for mounting forms with padlock device

| Operator<br>Suitable for Types   |  | Colour<br>escutcheon   | Colour<br>legend plate                        | Colour<br>operator   | Change of<br>order code number |
|--|--|--|---|--|--------------------------------|
| <b>N-padlock device</b><br><br>P220, P225,<br>M220, M225,<br>T225,<br>S432, S440,<br>S606, S608, S612          |  | black  | white   | black  | ... - ... - ...N1              |
|  |  | grey   | white   | grey   | ... - ... - ...N2              |
|  |  | yellow   | white   | red  | ... - ... - ...N4              |
|  |  | grey   | white   | black  | ... - ... - ...N6              |
|  |  | yellow   | white   | black  | ... - ... - ...N7              |
|  |  | <b>operator external dimension</b><br>67 x 67 mm<br>88 x 88 mm                   | <b>max. number of padlocks</b><br>3<br>4      | <b>hasp diameter of padlock</b><br>4 mm (min) / 8 mm (max)<br>5 mm (min) / 9 mm (max)                            |                                |
| <b>M-padlock device</b><br><br>P110,<br>P220, P225,<br>M220, M225,<br>T225,<br>S432, S440,<br>S606, S608, S612 |  | black  | white   | black  | ... - ... - ...M1              |
|  |  | grey   | white   | grey   | ... - ... - ...M2              |
|  |  | yellow   | white   | red  | ... - ... - ...M4              |
|  |  | grey   | white   | black  | ... - ... - ...M6              |
|  |  | yellow   | white   | black  | ... - ... - ...M7              |
|  |  | <b>operator external dimension</b><br>48 x 48 mm<br>67 x 67 mm<br>88 x 88 mm     | <b>max. number of padlocks</b><br>3<br>3<br>4 | <b>hasp diameter of padlock</b><br>3 mm (min) / 5 mm (max)<br>4 mm (min) / 8 mm (max)<br>5 mm (min) / 9 mm (max) |                                |
| <b>B-padlock device</b><br><br>S432, S440,<br>S606, S608, S612,<br>S825  |  | black  | silver  | black  | ... - ... - ...B1              |
|  |  | black  | yellow  | red  | ... - ... - ...B4              |
|  |  | black  | black   | black  | ... - ... - ...B8              |
|  |  | <b>operator external dimension</b><br>75 x 114 mm<br>98 x 142 mm<br>130 x 178 mm | <b>max. number of padlocks</b><br>4<br>4<br>4 | <b>hasp diameter of padlock</b><br>5 mm (min) / 8 mm (max)<br>5 mm (min) / 8 mm (max)<br>5 mm (min) / 8 mm (max) |                                |
| <b>H-padlock device</b><br><br>S432, S440,<br>S606, S608, S612,<br>S825  |  | black  | silver  | black  | ... - ... - ...H1              |
|  |  | black  | yellow  | red  | ... - ... - ...H4              |
|  |  | black  | black   | black  | ... - ... - ...H8              |
|  |  | <b>operator external dimension</b><br>75 x 114 mm<br>98 x 142 mm<br>130 x 178 mm | <b>max. number of padlocks</b><br>4<br>4<br>4 | <b>hasp diameter of padlock</b><br>5 mm (min) / 8 mm (max)<br>5 mm (min) / 8 mm (max)<br>5 mm (min) / 8 mm (max) |                                |
| <b>Padlockable with V-handle</b><br><br>P110, P220, P225,<br>M220, M225, T225,<br>S432, S440                   |  | black  | silver  | black  | ... - ... - ...V1              |
|  |  | black  | yellow  | red  | ... - ... - ...V4              |
|  |  | <b>operator external dimension</b><br>48 x 48 mm<br>64 x 64 mm                   | <b>max. number of padlocks</b><br>2<br>3      | <b>hasp diameter of padlock</b><br>3 mm (min) / 5 mm (max)<br>4 mm (min) / 6 mm (max)                            |                                |
| <b>Padlockable with L-handle</b><br><br>P110, P220, P225,<br>M220, M225,<br>T225                               |  | black  | silver  | black  | ... - ... - ...L1              |
|  |  | black  | yellow  | red  | ... - ... - ...L4              |
|  |  | <b>operator external dimension</b><br>48 x 48 mm                                 | <b>max. number of padlocks</b><br>2           | <b>hasp diameter of padlock</b><br>3 mm (min) / 5 mm (max)   |                                |
| <b>Installation mounting for 45 mm aperture in Panel/Distribution boards:</b>                                  |  |  |   |  |                                |
| <b>Padlockable with V-handle</b><br><br>P220, P225,<br>M220, M225<br>T225                                      |  | grey   | silver  | black  | ... - ... - ...V1              |
|  |  | grey   | yellow  | red  | ... - ... - ...V4              |
|  |  | <b>operator external dimension</b><br>45 x 52.5 mm                               | <b>max. number of padlocks</b><br>2           | <b>hasp diameter of padlock</b><br>3 mm (min) / 5 mm (max)   |                                |
| <b>Padlockable with L-handle</b><br><br>P220, P225,<br>M220, M225,<br>T225                                     |  | grey   | silver  | black  | ... - ... - ...L1              |
|  |  | grey   | yellow  | red  | ... - ... - ...L4              |
|  |  | <b>operator external dimension</b><br>45 x 52.5 mm                               | <b>max. number of padlocks</b><br>2           | <b>hasp diameter of padlock</b><br>3 mm (min) / 5 mm (max)   |                                |

# Rotary Cam Switches

## Technical Information Special switches

### How to order special switches

Special switching programmes can be produced by means of prefabricated modules either by us or by our authorized workshops all over the world.

For description of the desired course of switching please use our form on page 89. In case of more than 18 contacts an additional form can be used as page 2.

When determining the desired switch the following has to be considered:

- Indicate terminal designations at connection points only and use figures, if possible.
- Mark initial position and/or "OFF" position on the handle with an arrow.
- Mark escutcheon engraving on the escutcheon and indicate it in the column "Switch positions". In the case of special engraving if the space is not sufficient, use the form for special legend plates (refer to page 91) or enclose a sketch.
- Determine the desired switching angle. If necessary due to technical reasons we may suggest a different switching angle.
- The column "locked positions" is to be filled in only in case of interlockings (e.g. key removable position) and locking mechanisms.
- At the bottom of the order form 6 areas are identified (1 to 6). Areas 1 to 3 must always be specified. Areas 4 to 6 have to be completed in case of deviations from the standard equipment of the design and/or upon demand. Area 7 "Order code no." is specified on your first order. For all subsequent orders the indication of this order code number is sufficient.

### Ordering example

|   |      |   |   |
|---|------|---|---|
| Bestel-Nr./Order no.  |      | <b>sälzer</b>   |   |
| Frontschild/Escutcheon plate<br>  |      |   |   |
| Schaltwinkel<br>Switching angle   |      | 60°   |   |
| Schaltstellungen<br>Switch positions                                      |      | ↓   |   |
| X   | 0    |   | X   |
|   | 1    | X   | X   |
| X   | 2    |   | X   |
| X   | H    | X   | X   |
| X   | A    | X   | X   |
| <input checked="" type="checkbox"/> Gesperrte Stellung<br>Locked position |      | <input checked="" type="checkbox"/> Kontakt geschlossen<br>Contact closed | <input checked="" type="checkbox"/> Kontakt über mehrere<br>Stellungen geschlossen<br>Contact closed without interruption |
| <input type="checkbox"/> Rückzug<br>Spring return                         |      |   |   |
| 1) Typ<br>Type  | P220 | 2) Bauform<br>Mounting form   | 060M1   |
| 4) Bedienelemente<br>Operator   |      | 3) Anschlag<br>Stop   | mit<br>ohne<br>X  |
| 5) Aufschrift<br>Marking  |      | 7) Zusatzeinrichtungen<br>Optional extras                                 |   |
| 6) Griff<br>Handle  |      | Firma/Company   | Datum/Date  |
|   |      | Name/Name   |   |



Copy form for special switches

|  |    |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--|----|---|---|--|----|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| <sup>7</sup> Bestell-Nr./Order no.                               |    |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Frontschild/Escutcheon plate<br>                                 |    | <table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="width: 20px;">1</td><td style="width: 20px;">3</td><td style="width: 20px;">5</td><td style="width: 20px;">7</td><td style="width: 20px;">9</td><td style="width: 20px;">11</td><td style="width: 20px;">13</td><td style="width: 20px;">15</td><td style="width: 20px;">17</td><td style="width: 20px;">19</td><td style="width: 20px;">21</td><td style="width: 20px;">23</td><td style="width: 20px;">25</td><td style="width: 20px;">27</td><td style="width: 20px;">29</td><td style="width: 20px;">31</td><td style="width: 20px;">33</td><td style="width: 20px;">35</td> </tr> <tr> <td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td><td style="text-align: center;">○</td> </tr> <tr> <td style="width: 20px;">2</td><td style="width: 20px;">4</td><td style="width: 20px;">6</td><td style="width: 20px;">8</td><td style="width: 20px;">10</td><td style="width: 20px;">12</td><td style="width: 20px;">14</td><td style="width: 20px;">16</td><td style="width: 20px;">18</td><td style="width: 20px;">20</td><td style="width: 20px;">22</td><td style="width: 20px;">24</td><td style="width: 20px;">26</td><td style="width: 20px;">28</td><td style="width: 20px;">30</td><td style="width: 20px;">32</td><td style="width: 20px;">34</td><td style="width: 20px;">36</td> </tr> </table> |   | 1  | 3  | 5  | 7  | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |
| 1  | 3  | 5   | 7 | 9  | 11 | 13   | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ○  | ○  | ○   | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○  |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 2  | 4  | 6   | 8 | 10   | 12 | 14   | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Schaltwinkel<br>Switching angle                                  |    | ○   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Schaltstellungen<br>Switch positions                             |    | ↓   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 1  |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 2  |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 3  |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 4  |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 5  |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 6  |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 7  |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 8  |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 9  |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 10 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 11 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 12 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 13 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 14 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 15 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 16 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 17 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 18 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 19 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 20 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 21 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 22 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 23 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|  | 24 |   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ↕ <input type="checkbox"/> Gesperrte Stellung<br>Locked position |    | <input type="checkbox"/> Kontakt geschlossen<br>Contact closed  |   | <input type="checkbox"/> Kontakt über mehrere<br>Stellungen geschlossen<br>Contact closed without interruption |    | <input type="checkbox"/> Rückzug<br>Spring return          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| <sup>1</sup> Typ<br>Type   |    | <sup>2</sup> Bauform<br>Mounting form   |   | <sup>3</sup> Anschlag<br>Stop  |    | mit <input type="checkbox"/> ohne <input type="checkbox"/> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| <sup>4</sup> Bedienelemente<br>Operator                          |    | <sup>5</sup> Zusatzeinrichtungen<br>Optional extras   |   |  |    |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| <sup>5</sup> Aufschrift<br>Marking                               |    | Firma/Company   |   | Datum/Date   |    | Name/Name  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

# Rotary Cam Switches

## Technical Information Special engravings

### How to order special engravings

For descriptions of the desired special engraving please use our order forms. On page 91 you will find order forms for switches with switching angle 30°/60° and 45°/90°.

When determining the desired engraving the following has to be considered:

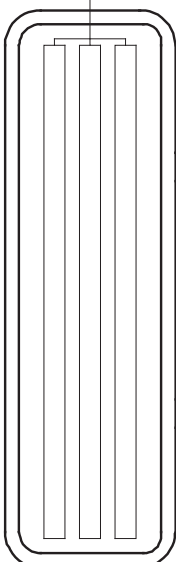
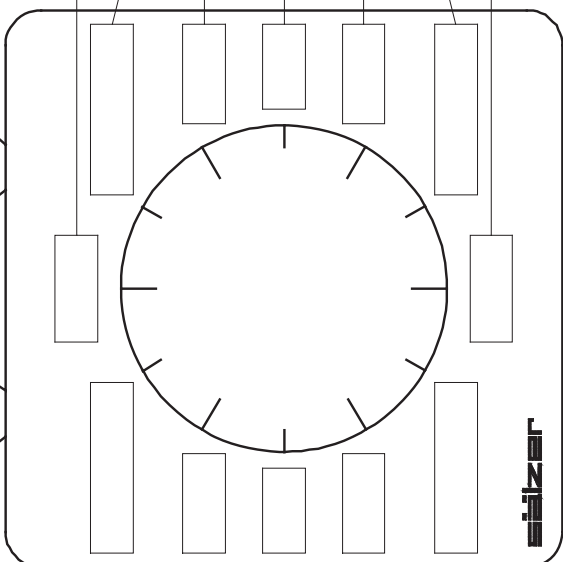
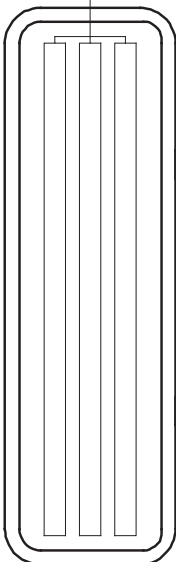
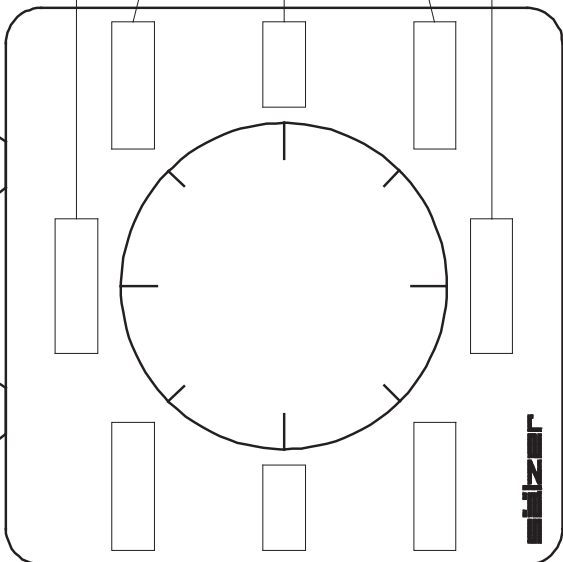
- For standard engraving capital letters or figures type Helvetica in black are used.
- Engravings deviating from the standard design like small size text, symbols or graphical symbols please enclose a drawing or a file.
- The max. quantity of letters (symbols) is specified in the order form.
- The max. letter height is for 

|            |   |        |   |        |
|------------|---|--------|---|--------|
| escutcheon | □ | 30 mm  | = | 3.5 mm |
| escutcheon | □ | 48 mm  | = | 4.0 mm |
| escutcheon | □ | 64 mm  | = | 4.5 mm |
| escutcheon | □ | 88 mm  | = | 6.5 mm |
| escutcheon | □ | 130 mm | = | 8.0 mm |

When utilizing the max. letter (symbol) quantity the letter height might be reduced.

- With the first order a FAX no. for the legend plate and a FAZ no. for the additional legend plate is fixed for every special engraving that will remain valid for all subsequent orders.

Copy form for special engravings

|            |               |  |            |           |
|------------|---------------|--|------------|-----------|
| FAX<br>FAZ | <b>Sälzer</b> | <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>24</p>  </div> <div style="text-align: center;"> <p>click!</p>  </div> </div> <p style="font-size: 2em; margin-top: 20px;"><math>30^\circ/60^\circ</math></p>   | Datum/Date | Name/Name |
| FAX<br>FAZ | <b>Sälzer</b> | <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>24</p>  </div> <div style="text-align: center;"> <p>click!</p>  </div> </div> <p style="font-size: 2em; margin-top: 20px;"><math>45^\circ/90^\circ</math></p> | Datum/Date | Name/Name |
|            |               | Firma/Company  |            |           |

# Rotary Cam Switches

## Technical Information Utilisation Categories

### Utilisation Categories

Utilisation categories for Switches, Disconnectors, Switch-Disconnectors and Fuse-Combination Units according to IEC/EN 60947-3

| Type of Current | Utilisation Category |                      | Typical applications  |
|-----------------|----------------------|----------------------|---|
|                 | Frequent operation   | Occasional operation |   |
| AC              | AC-15A               | AC-15B               | Controlling electromagnetic load  |
|                 | AC-20A *             | AC-20B *             | Making and breaking without load  |
|                 | AC-21A               | AC-21B               | Switching resistive loads including low overloads   |
|                 | AC-22A               | AC-22B               | Switching mixed resistive and inductive loads, including low overloads                      |
|                 | AC-23A               | AC-23B               | Switching motors and other highly inductive loads   |
| DC              | DC-20A *             | DC-20B *             | Making and breaking without load  |
|                 | DC-21A               | DC-21B               | Switching resistive loads including low overloads   |
|                 | DC-22A               | DC-22B               | Switching mixed resistive and inductive loads, including low overloads (e. g. shunt motors) |
|                 | DC-23A               | DC-23B               | Switching highly inductive loads (e. g. series motors)                                      |

\* The application of these utilisation categories isn't permitted in the USA.

Category AC-23 includes occasional switching of individual motors. The utilisation categories in the above table do not apply to an equipment normally used to start, accelerate and/or stop individual motors. The utilisation categories for such an equipment are dealt with the following table:

| Type of Current | Utilisation Category | Typical applications  |
|-----------------|----------------------|---|
| AC              | AC-2                 | Slip-ring motors: starting, plugging <sup>1)</sup> , switching off  |
|                 | AC-3                 | Squirrel-cage motors: starting, switching off running motors  |
|                 | AC-4                 | Squirrel-cage motors: starting, plugging <sup>1)</sup> , inching <sup>2)</sup>                            |
| DC              | DC-3                 | Shunt motors: starting, plugging <sup>1)</sup> , inching <sup>2)</sup> , dynamic breaking of d.c. motors  |
|                 | DC-4                 | Series motors: starting, plugging <sup>1)</sup> , inching <sup>2)</sup> , dynamic breaking of d.c. motors |

<sup>1)</sup> Plugging is understood to mean stopping or reversing the motor rapidly by reversing motor primary connections while the motor is running.

<sup>2)</sup> Inching (jogging) is understood to mean energizing a motor once or repeatedly for short periods to obtain small movements of the driven mechanism.

Note: The switching of rotor circuits, capacitors or tungsten filament/discharge lamps shall be subject to special agreements between manufacturer and user.

### Rated currents of three-phase motors (approximate figures for squirrel-cage motors)

| Motor rating |       |                           | Motor full-load current<br>A | Fuse starting |          | Motor full-load current<br>A | Fuse starting |          |
|--------------|-------|---------------------------|------------------------------|---------------|----------|------------------------------|---------------|----------|
| kW           | cos φ | Percent efficiency η<br>% |                              | D.O.L.<br>A   | Y/Δ<br>A |                              | D.O.L.<br>A   | Y/Δ<br>A |
|              |       |                           | <b>230 V</b>                 |               |          | <b>400 V</b>                 |               |          |
| 0.06         | 0.7   | 58                        | 0.37                         | 2             | —        | 0.21                         | 2             | —        |
| 0.09         | 0.7   | 60                        | 0.54                         | 2             | —        | 0.31                         | 2             | —        |
| 0.12         | 0.7   | 60                        | 0.72                         | 4             | 2        | 0.41                         | 2             | —        |
| 0.18         | 0.7   | 62                        | 1.04                         | 4             | 2        | 0.6                          | 2             | —        |
| 0.25         | 0.7   | 62                        | 1.4                          | 4             | 2        | 0.8                          | 4             | 2        |
| 0.37         | 0.72  | 66                        | 2                            | 6             | 4        | 1.1                          | 4             | 2        |
| 0.55         | 0.75  | 69                        | 2.7                          | 10            | 4        | 1.5                          | 4             | 2        |
| 0.75         | 0.79  | 74                        | 3.2                          | 10            | 4        | 1.9                          | 6             | 4        |
| 1.1          | 0.81  | 74                        | 4.6                          | 10            | 6        | 2.6                          | 6             | 4        |
| 1.5          | 0.81  | 74                        | 6.3                          | 16            | 10       | 3.6                          | 6             | 4        |
| 2.2          | 0.81  | 78                        | 8.7                          | 20            | 10       | 5                            | 10            | 6        |
| 3            | 0.82  | 80                        | 11.5                         | 25            | 16       | 6.6                          | 16            | 10       |
| 4            | 0.82  | 83                        | 14.8                         | 32            | 16       | 8.5                          | 20            | 10       |
| 5.5          | 0.82  | 86                        | 19.6                         | 32            | 25       | 11.3                         | 25            | 16       |
| 7.5          | 0.82  | 87                        | 26.4                         | 50            | 32       | 15.2                         | 32            | 16       |
| 11           | 0.84  | 87                        | 38                           | 80            | 40       | 21.7                         | 40            | 25       |
| 15           | 0.84  | 88                        | 51                           | 100           | 63       | 29.3                         | 63            | 32       |
| 18.5         | 0.84  | 88                        | 63                           | 125           | 80       | 36                           | 63            | 40       |
| 22           | 0.84  | 92                        | 71                           | 125           | 80       | 41                           | 80            | 50       |
| 30           | 0.85  | 92                        | 96                           | 200           | 100      | 55                           | 100           | 63       |
| 37           | 0.86  | 92                        | 117                          | 200           | 125      | 68                           | 125           | 80       |
| 45           | 0.86  | 93                        | 141                          | 250           | 160      | 81                           | 160           | 100      |
| 55           | 0.86  | 93                        | 173                          | 250           | 200      | 99                           | 200           | 125      |
| 75           | 0.86  | 94                        | 233                          | 315           | 250      | 134                          | 200           | 160      |
| 90           | 0.86  | 94                        | 279                          | 400           | 315      | 161                          | 250           | 200      |
| 110          | 0.86  | 94                        | 342                          | 500           | 400      | 196                          | 315           | 200      |
| 132          | 0.87  | 95                        | 401                          | 630           | 500      | 231                          | 400           | 250      |
| 160          | 0.87  | 95                        | 486                          | 630           | 630      | 279                          | 400           | 315      |
| 200          | 0.87  | 95                        | 607                          | 800           | 630      | 349                          | 500           | 400      |
| 250          | 0.87  | 95                        | —                            | —             | —        | 437                          | 630           | 500      |
| 315          | 0.87  | 96                        | —                            | —             | —        | 544                          | 800           | 630      |
| 400          | 0.88  | 96                        | —                            | —             | —        | 683                          | 1000          | 800      |
|              |       |                           | <b>500 V</b>                 |               |          | <b>690 V</b>                 |               |          |
| 0.06         | 0.7   | 58                        | 0.17                         | 2             | —        | 0.12                         | 2             | —        |
| 0.09         | 0.7   | 60                        | 0.25                         | 2             | —        | 0.18                         | 2             | —        |
| 0.12         | 0.7   | 60                        | 0.33                         | 2             | —        | 0.24                         | 2             | —        |
| 0.18         | 0.7   | 62                        | 0.48                         | 2             | —        | 0.35                         | 2             | —        |
| 0.25         | 0.7   | 62                        | 0.7                          | 2             | —        | 0.5                          | 2             | —        |
| 0.37         | 0.72  | 66                        | 0.9                          | 2             | 2        | 0.7                          | 2             | —        |
| 0.55         | 0.75  | 69                        | 1.2                          | 4             | 2        | 0.9                          | 4             | 2        |
| 0.75         | 0.79  | 74                        | 1.5                          | 4             | 2        | 1.1                          | 4             | 2        |
| 1.1          | 0.81  | 74                        | 2.1                          | 6             | 4        | 1.5                          | 4             | 2        |
| 1.5          | 0.81  | 74                        | 2.9                          | 6             | 4        | 2.1                          | 6             | 4        |
| 2.2          | 0.81  | 78                        | 4                            | 10            | 4        | 2.9                          | 10            | 4        |
| 3            | 0.82  | 80                        | 5.3                          | 16            | 6        | 3.8                          | 10            | 4        |
| 4            | 0.82  | 83                        | 6.8                          | 16            | 10       | 4.9                          | 16            | 6        |
| 5.5          | 0.82  | 86                        | 9                            | 20            | 16       | 6.5                          | 16            | 10       |
| 7.5          | 0.82  | 87                        | 12.1                         | 25            | 16       | 8.8                          | 25            | 10       |
| 11           | 0.84  | 87                        | 17.4                         | 32            | 20       | 12.6                         | 25            | 16       |
| 15           | 0.84  | 88                        | 23.4                         | 50            | 25       | 17                           | 32            | 20       |
| 18.5         | 0.84  | 88                        | 28.9                         | 50            | 32       | 20.9                         | 32            | 25       |
| 22           | 0.84  | 92                        | 33                           | 63            | 32       | 23.8                         | 50            | 25       |
| 30           | 0.85  | 92                        | 44                           | 80            | 50       | 32                           | 63            | 32       |
| 37           | 0.86  | 92                        | 54                           | 100           | 63       | 39                           | 80            | 50       |
| 45           | 0.86  | 93                        | 65                           | 125           | 80       | 47                           | 80            | 63       |
| 55           | 0.86  | 93                        | 79                           | 160           | 80       | 58                           | 100           | 63       |
| 75           | 0.86  | 94                        | 107                          | 200           | 125      | 78                           | 160           | 100      |
| 90           | 0.86  | 94                        | 129                          | 200           | 160      | 93                           | 160           | 100      |
| 110          | 0.86  | 94                        | 157                          | 250           | 160      | 114                          | 200           | 125      |
| 132          | 0.87  | 95                        | 184                          | 250           | 200      | 134                          | 250           | 160      |
| 160          | 0.87  | 95                        | 224                          | 315           | 250      | 162                          | 250           | 200      |
| 200          | 0.87  | 95                        | 279                          | 400           | 315      | 202                          | 315           | 250      |
| 250          | 0.87  | 95                        | 349                          | 500           | 400      | 253                          | 400           | 315      |
| 315          | 0.87  | 96                        | 436                          | 630           | 500      | 316                          | 500           | 400      |
| 400          | 0.88  | 96                        | 547                          | 800           | 630      | 396                          | 630           | 400      |

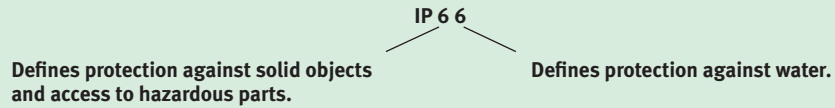
The rated motor currents are for standard 1500 r.p.m. motors with normal inner and outer surface cooling  
 Fuse: This table applies to "slow" or "gl"  
 D.O.L. starting: Maximum starting current: 6 × rated current. Maximum starting time: 5 sec.  
 Y/Δ starting: Maximum starting current: 2 × rated current. Maximum starting time: 15 sec.



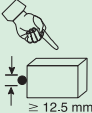
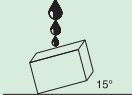
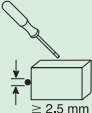
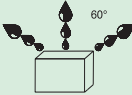
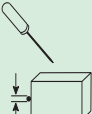
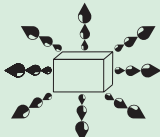
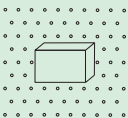
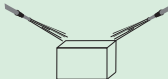
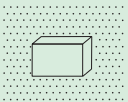
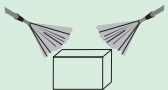
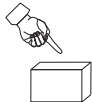
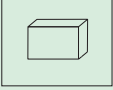
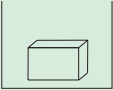
# Rotary Cam Switches

## Technical Information Degree of Protection

### IP Codes

A coding system is defined by IEC/EN 60529 for the classification of degrees of protection provided by enclosures of electrical equipment against solid objects and water. This coding comprises the letters 'IP' followed by a two digit code as follows:



| 1 <sup>st</sup> digit | protection against solid objects and access to hazardous parts  | 2 <sup>nd</sup> digit | Protection against water   |
|-----------------------|---|-----------------------|--|
| 0                     | No protection.  | 0                     | No protection.   |
| 1                     |  No ingress by solid objects $\geq 50$ mm dia nor access to hazardous parts with the back of the hand.   | 1                     |  Vertically falling drops of water shall have no harmful effect.   |
| 2                     |  No ingress by solid objects $\geq 12.5$ mm dia nor access to hazardous parts with a finger.   | 2                     |  Vertically falling drops of water shall have no harmful effect when the enclosure is tilted at any angle up to 15° from vertical. |
| 3                     |  No ingress by solid objects $\geq 2.5$ mm dia nor access to hazardous parts with a tool.  | 3                     |  Water sprayed at up to 60° from the vertical shall have no harmful effect.  |
| 4                     |  No ingress by solid objects $\geq 1.0$ mm dia nor access to hazardous parts with a wire.  | 4                     |  Water splashed from any direction shall have no harmful effect.   |
| 5                     |  Dust protected. Ingress of dust is not completely prevented, but there should be no harmful deposits. No access to hazardous parts with a wire. | 5                     |  Jets of water projected from any direction shall have no harmful effect.  |
| 6                     |  Dust tight. No ingress of dust. No access to hazardous parts with a wire.   | 6                     |  Strong jets of water projected from any direction shall have no harmful effect.   |
| 1B                    |  Test finger penetration to a maximum of 80 mm must not contact hazardous parts.   | 7                     |  Temporary immersion in water shall not result in ingress of harmful quantities of water.  |
|                       |   | 8                     |  Continuous immersion in water shall not result in ingress of harmful quantities of water.   |

## Mounting form table

| Mtg. form | Type of mounting                                    | page | Mtg. form | Type of mounting                                    | page |
|-----------|---|------|-----------|---|------|
| 002G1     | Base mounting/Four hole mounting 68×68 mm           | 35   | 177M4     | Enclosed/Insulated enclosure 100×80×85 mm           | 51   |
| 002G1     | Base mounting/Four hole mounting 104×104 mm         | 40   | 177N1     | Enclosed/Insulated enclosure 100×80×85 mm           | 51   |
| 002M1     | Base mounting/Four hole mounting 68×68 mm           | 34   | 177N4     | Enclosed/Insulated enclosure 100×80×85 mm           | 51   |
| 002M1     | Base mounting/Four hole mounting 68×68 mm           | 35   | 177V1     | Enclosed/Insulated enclosure 100×80×85 mm           | 51   |
| 003G1     | Front mounting/Four hole mounting 104×104 mm        | 17   | 177V4     | Enclosed/Insulated enclosure 100×80×85 mm           | 51   |
| 003G1     | Front mounting/Four hole mounting 68×68 mm          | 16   | 178V1     | Enclosed/Insulated enclosure 100×80×85 mm           | 49   |
| 003M1     | Front mounting/Four hole mounting 36×36 mm          | 12   | 206M1     | Front mounting/Single hole mounting ø 22.5 mm       | 26   |
| 003M1     | Front mounting/Four hole mounting 48×48 mm          | 15   | 206M4     | Front mounting/Single hole mounting ø 22.5 mm       | 26   |
| 003M1     | Front mounting/Four hole mounting 68×68 mm          | 16   | 206N1     | Front mounting/Single hole mounting ø 22.5 mm       | 26   |
| 003M1     | Front mounting/Two hole mounting 20 mm              | 10   | 206N4     | Front mounting/Single hole mounting ø 22.5 mm       | 26   |
| 005M1     | Front mounting/Four hole mounting 36×36 mm          | 13   | 206V1     | Front mounting/Single hole mounting ø 22.5 mm       | 26   |
| 021M1     | Base mounting/Snap on mounting                      | 28   | 206V4     | Front mounting/Single hole mounting ø 22.5 mm       | 26   |
| 025N3     | Front mounting/Flush wall mounting                  | 27   | 218M1     | Front mounting/Single hole mounting ø 16 mm/22.5 mm | 19   |
| 026N2     | Base mounting/Snap on mounting/DIN rail             | 29   | 218M1     | Front mounting/Single hole mounting ø 22.5 mm       | 23   |
| 033M1     | Front mounting/Four hole mounting 36×36 mm          | 14   | 219M1     | Front mounting/Single hole mounting ø 16 mm/22.5 mm | 18   |
| 033M1     | Front mounting/Two hole mounting 20 mm              | 11   | 219M1     | Front mounting/Single hole mounting ø 22.5 mm       | 22   |
| 033M4     | Front mounting/Four hole mounting 36×36 mm          | 14   | 232M1     | Base mounting/Snap on mounting/door clutch          | 31   |
| 033M4     | Front mounting/Two hole mounting 20 mm              | 11   | 232M4     | Base mounting/Snap on mounting/door clutch          | 31   |
| 033N1     | Front mounting/Four hole mounting 36×36 mm          | 14   | 232N1     | Base mounting/Snap on mounting/door clutch          | 31   |
| 033N4     | Front mounting/Four hole mounting 36×36 mm          | 14   | 232N4     | Base mounting/Snap on mounting/door clutch          | 31   |
| 033V1     | Front mounting/Four hole mounting 36×36 mm          | 14   | 232V1     | Base mounting/Snap on mounting/door clutch          | 31   |
| 033V4     | Front mounting/Four hole mounting 36×36 mm          | 14   | 232V4     | Base mounting/Snap on mounting/door clutch          | 31   |
| 041G1     | Base mtg../Four hole mtg. 104×104 mm/door clutch    | 41   | 234M1     | Base mounting/Snap on mounting/door interlock       | 33   |
| 041G1     | Base mtg../Four hole mtg. 68×68 mm/door clutch      | 37   | 234M4     | Base mounting/Snap on mounting/door interlock       | 33   |
| 041M1     | Base mtg../Four hole mtg. 68×68 mm/door clutch      | 36   | 234N1     | Base mounting/Snap on mounting/door interlock       | 33   |
| 041M1     | Base mtg../Four hole mtg. 68×68 mm/door clutch      | 37   | 234N4     | Base mounting/Snap on mounting/door interlock       | 33   |
| 042G1     | Base mtg../Four hole mtg. 104×104 mm/door interlock | 42   | 234V1     | Base mounting/Snap on mounting/door interlock       | 33   |
| 042G1     | Base mtg../Four hole mtg. 68×68 mm/door interlock   | 39   | 234V4     | Base mounting/Snap on mounting/door interlock       | 33   |
| 042M1     | Base mtg../Four hole mtg. 68×68 mm/door interlock   | 38   | 241M1     | Base mounting/Snap on mounting/door clutch          | 30   |
| 042M1     | Base mtg../Four hole mtg. 68×68 mm/door interlock   | 39   | 242M1     | Base mounting/Snap on mounting/door interlock       | 32   |
| 076M1     | Enclosed/Insulated enclosure 100×80×65 mm           | 45   | 273M1     | Enclosed/Insulated enclosure 125×100×133 mm         | 54   |
| 076V1     | Enclosed/Insulated enclosure 100×80×65 mm           | 46   | 273V1     | Enclosed/Insulated enclosure 125×100×133 mm         | 54   |
| 077M1     | Enclosed/Insulated enclosure 100×80×65 mm           | 47   | 275M1     | Enclosed/Insulated enclosure 125×100×133 mm         | 55   |
| 077M4     | Enclosed/Insulated enclosure 100×80×65 mm           | 47   | 275M4     | Enclosed/Insulated enclosure 125×100×133 mm         | 55   |
| 077N1     | Enclosed/Insulated enclosure 100×80×65 mm           | 47   | 275N1     | Enclosed/Insulated enclosure 125×100×133 mm         | 55   |
| 077N4     | Enclosed/Insulated enclosure 100×80×65 mm           | 47   | 275N4     | Enclosed/Insulated enclosure 125×100×133 mm         | 55   |
| 077V1     | Enclosed/Insulated enclosure 100×80×65 mm           | 47   | 275V1     | Enclosed/Insulated enclosure 125×100×133 mm         | 55   |
| 077V4     | Enclosed/Insulated enclosure 100×80×65 mm           | 47   | 275V4     | Enclosed/Insulated enclosure 125×100×133 mm         | 55   |
| 078V1     | Enclosed/Insulated enclosure 100×80×65 mm           | 46   | 276M1     | Enclosed/Insulated enclosure 125×100×133 mm         | 52   |
| 107M1     | Enclosed/Insulated enclosure 68×68×53 mm            | 43   | 276V1     | Enclosed/Insulated enclosure 125×100×133 mm         | 53   |
| 117M1     | Enclosed/Insulated enclosure 68×68×53 mm            | 44   | E001.*    | Enclosed/Insulated enclosure 100×80×85 mm           | 50   |
| 117M4     | Enclosed/Insulated enclosure 68×68×53 mm            | 44   | R001.*    | Front mounting/Single hole mounting ø 16 mm/22.5 mm | 21   |
| 176M1     | Enclosed/Insulated enclosure 100×80×85 mm           | 48   | R001.*    | Front mounting/Single hole mounting ø 22.5 mm       | 25   |
| 176V1     | Enclosed/Insulated enclosure 100×80×85 mm           | 49   | S001.*    | Front mounting/Single hole mounting ø 16 mm/22.5 mm | 20   |
| 177M1     | Enclosed/Insulated enclosure 100×80×85 mm           | 51   | S001.*    | Front mounting/Single hole mounting ø 22.5 mm       | 24   |

# Rotary Cam Switches

## Technical Information Technical Data

### Rated data

| Rated data  |                  |                    | P110   | M220<br>P220 | M221*<br>P221* | P225 | M225<br>P226* | T225 | S432            | S440            | S606            | S608             | S612             | S825             |
|---|------------------|--------------------|--|--------------|----------------|------|---------------|------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| Operational voltage $U_e$                                   | (V AC)           |                    | 440  | 690          | 690            | 690  | 690           | 690  | 690             | 690             | 690             | 690              | 690              | 690              |
| Impulse withstand voltage $U_{imp}$                         | (kV)             |                    | 4  | 4            | 4              | 6    | 6             | 6    | 6               | 6               | 6               | 6                | 6                | 6                |
| Overvoltage category  |                  |                    | III  | III          | III            | III  | III           | III  | III             | III             | III             | III              | III              | III              |
| Pollution degree  |                  |                    | 3  | 3            | 3              | 3    | 3             | 3    | 3               | 3               | 3               | 3                | 3                | 3                |
| Uninterrupted current $I_u / I_{th} / I_{the}$              | (A)              |                    | 10   | 20           | 20             | 25   | 25            | 32   | 50              | 63              | 80              | 100              | 160              | 315              |
| Load carrying capacity in intermittent operation (class 12) | (AB)             |                    | DF: 60% = $1.3 \times I_e / 40\% = 1.6 \times I_e / 25\% = 2 \times I_e$ |              |                |      |               |      |                 |                 |                 |                  |                  |                  |
| Breaking capacity   | 220–240V         | (A)                | 90   | 180          | 180            | 255  | 255           | 370  | 520             | 550             | 600             | 700              | 900              | 1800             |
|   | 380–440V         | (A)                | 70   | 150          | 150            | 230  | 230           | 300  | 430             | 500             | 550             | 600              | 850              | 1650             |
|   | 500–690V         | (A)                | —  | 90           | 90             | 270  | 270           | 210  | 280             | 380             | 420             | 450              | 340              | 350              |
| short-circuit rating (max. fuse)                            | (gL)             |                    | 10   | 20           | 20             | 25   | 25            | 32   | 50              | 63              | 80              | 100              | 160              | 315              |
| Conditional short-circuit current                           | ( $kA_{eff}$ )   |                    | 3  | 10           | 10             | 10   | 10            | 15   | 20              | 20              | 25              | 25               | 25               | 25               |
| Isolating characteristics (to EN 60947)                     | (up to ... V AC) |                    | 480  | 480          | 480            | 690  | 690           | 690  | 690             | 690             | 690             | 690              | 690              | 690              |
| Switching angle   |                  |                    | 30° / 45° / 60° / 90°  |              |                |      |               |      |                 |                 |                 |                  |                  |                  |
| Contacts (Current paths) (max.)                             |                  |                    | 16   | 24           | 24             | 24   | 24            | 24   | 24              | 24              | 24              | 24               | 24               | 24               |
| Current heat loss per contact at $I_u$                      | (W)              |                    | 0.3  | 0.65         | 0.65           | 0.75 | 0.75          | 1    | 3               | 3.5             | 4               | 5                | 11               | 28.5             |
| Terminal capacity   |                  |                    |  |              |                |      |               |      |                 |                 |                 |                  |                  |                  |
| solid or stranded   | min.             | (mm <sup>2</sup> ) | 0.75   | 1            | 1              | 1.5  | 1.5           | 2.5  | 2.5             | 4               | 6               | 10               | 10               | 185 <sup>1</sup> |
|   | max.             | (mm <sup>2</sup> ) | 1.5  | 2.5          | 2.5            | 4    | 4             | 6    | 10              | 16              | 25              | 35               | 70               | 185 <sup>1</sup> |
| flexible or multiwire (including ferrule)                   | min.             | (mm <sup>2</sup> ) | 0.75   | 1            | 1              | 1.5  | 1.5           | 1.5  | 2.5             | 2.5             | 6               | 10               | 10               | 185 <sup>1</sup> |
|   | max.             | (mm <sup>2</sup> ) | 1.5  | 2.5          | 2.5            | 2.5  | 2.5           | 4    | 6               | 10              | 16              | 25               | 50               | 185 <sup>1</sup> |
| American Wire Gauge   | (AWG)            |                    | 16   | 12           | 12             | 10   | 10            | 10   | 6               | 4               | 4               | 1/0              | 2/0              | 350MCM           |
| Thread dimensions for terminal screw                        |                  |                    | M2.5   | M3           | M3             | M3.5 | M3.5          | M4   | M5              | M5              | 2×M4            | 2×M5             | 2×M6             | M12              |
| Terminal tightening torque                                  | min.             | (Nm)               | 0.4  | 0.5          | 0.5            | 0.8  | 0.8           | 1.2  | 2               | 2               | 1.2             | 2                | 2.5              | 14               |
|   | max.             | (Nm)               | 0.6  | 1            | 1              | 1.5  | 1.5           | 2.5  | 4               | 4               | 2.5             | 4                | 6                | 25               |
| Operational current $I_e$                                   |                  |                    |  |              |                |      |               |      |                 |                 |                 |                  |                  |                  |
| AC-21A  | (A)              |                    | 10   | 20           | 20             | 25   | 25            | 32   | 50              | 63              | 80              | 100              | 160              | 315              |
| AC-22A  | 220–500V         | (A)                | 10   | 20           | 20             | 25   | 25            | 32   | 50              | 63              | 80              | 100              | 160              | 315              |
|   | 660–690V         | (A)                | —  | 20           | 20             | 25   | 25            | 32   | 50              | 60              | 80              | 80               | 125              | 125              |
| AC-23A ( $\cos \phi = 0.65$ )                               | 440V             | (A)                | 6  | 16           | 16             | 22   | 22            | 30   | 44              | 50              | 65              | 80               | 120              | 285              |
| cUL General Use   | 300V AC          | (A)                | 10   | 20           | 20             | 25   | 25            | 35   | 55 <sup>1</sup> | 70 <sup>1</sup> | 95 <sup>1</sup> | 110 <sup>1</sup> | 175 <sup>1</sup> | 240              |
|   | 600V AC          | (A)                | —  | —            | 20             | —    | 25            | 35   | 55 <sup>1</sup> | 70 <sup>1</sup> | 95 <sup>1</sup> | 110 <sup>1</sup> | 175 <sup>1</sup> | 240              |
| Operational power 50–60 Hz (3 phase)                        |                  |                    |  |              |                |      |               |      |                 |                 |                 |                  |                  |                  |
| AC-23A  | 220–240V         | (kW)               | 1.8  | 4            | 4              | 5.5  | 5.5           | 7.5  | 11              | 15              | 30              | 30               | 37               | 75               |
|   | 380–440V         | (kW)               | 3  | 7.5          | 7.5            | 11   | 11            | 15   | 22              | 30              | 45              | 55               | 75               | 132              |
|   | 500V             | (kW)               | —  | 7.5          | 7.5            | 11   | 11            | 15   | 30              | 45              | 55              | 55               | 90               | 132              |
|   | 660–690V         | (kW)               | —  | 7.5          | 7.5            | 11   | 11            | 15   | 30              | 37              | 45              | 45               | 55               | 55               |
| AC-3  | 220–240V         | (kW)               | 1.5  | 3            | 3              | 4    | 4             | 5.5  | 11              | 15              | 15              | 22               | 22               | 37               |
|   | 380–440V         | (kW)               | 2.2  | 5.5          | 5.5            | 7.5  | 7.5           | 11   | 22              | 30              | 30              | 37               | 45               | 55               |
|   | 500V             | (kW)               | —  | 5.5          | 5.5            | 7.5  | 7.5           | 11   | 22              | 30              | 30              | 37               | 45               | 55               |
|   | 660–690V         | (kW)               | —  | 5.5          | 5.5            | 7.5  | 7.5           | 11   | 22              | 30              | 30              | 37               | 45               | 55               |
| cUL   | 110–120V AC      | (HP)               | 0.5  | 1            | 1              | 1.5  | 1.5           | 3    | 5               | 7.5             | 10              | 10               | 15               | 25               |
|   | 208V AC          | (HP)               | 0.5  | 2            | 2              | 5    | 5             | 7.5  | 7.5             | 7.5             | 10              | 15               | 15               | 30               |
|   | 220–240V AC      | (HP)               | 0.5  | 2            | 2              | 5    | 5             | 7.5  | 10              | 15              | 15              | 15               | 15               | 30               |
|   | 440–480V AC      | (HP)               | —  | —            | 5              | —    | 10            | 10   | 20              | 30              | 30              | 30               | 40               | 50               |
| 550–600V AC   | (HP)             | —                  | —  | 5            | —              | 10   | 10            | 25   | 40              | 50              | 50              | 50               | 50               |                  |

<sup>\*</sup> use this version for 600V AC UL/CSA application

<sup>1</sup> with terminal extensions for cable lug connection



### Rated data

| Rated data (auxiliary contacts)                |                         | P110 | M220<br>P220 | M221*<br>P221* | P225 | M225<br>P226* | T225 | S432 | S440 | S606 | S608 | S612 | S825             |
|--|-------------------------|------|--------------|----------------|------|---------------|------|------|------|------|------|------|------------------|
| Operational voltage $U_e$                      | (V AC)                  | 440  | 500          | 500            | 500  | 500           | 500  | 500  | 500  | 500  | 500  | 500  | 500              |
| Uninterrupted current $I_u / I_{th} / I_{the}$ | (A)                     | 10   | 20           | 20             | 25   | 25            | 32   | 50   | 63   | 80   | 100  | 160  | 315              |
| Operational current $I_e$                      |                         |      |              |                |      |               |      |      |      |      |      |      |                  |
| AC-21A   | (A)                     | 10   | 20           | 20             | 25   | 25            | 32   | 50   | 63   | 80   | 100  | 160  | 315              |
|  | 110–240V (A)            | 2.5  | 6            | 6              | 6    | 6             | 14   | 16   | 16   | 16   | 16   | 16   | 16               |
| AC-15  | 380–440V (A)            | 1.5  | 4            | 4              | 5    | 5             | 6    | 7    | 7    | 7    | 7    | 7    | 7                |
|  | 500V (A)                | 0.8  | 2            | 2              | 2.5  | 2.5           | 3    | 3.5  | 3.5  | 3.5  | 3.5  | 3.5  | 3.5              |
| cUL General Use                                | 600V AC (A)             | —    | —            | 20             | —    | 25            | 35   | 55   | 70   | 70   | 110  | 175  | 240              |
| Heavy Pilot Duty                               |                         | B300 | A300         | A600           | A300 | A600          | A600 | A600 | A600 | A600 | A600 | A600 | A600             |
| Short-circuit rating (max. fuse)               | (gL)                    | 10   | 20           | 20             | 25   | 25            | 32   | 50   | 63   | 80   | 100  | 160  | 315              |
| Conditional short-circuit current              | ( $kA_{eff}$ )          | 3    | 10           | 10             | 10   | 10            | 15   | 20   | 20   | 25   | 25   | 25   | 25               |
| Terminal capacity                              |                         |      |              |                |      |               |      |      |      |      |      |      |                  |
| flexible or multiwire                          | min. (mm <sup>2</sup> ) | 0.75 | 1            | 1              | 1.5  | 1.5           | 1.5  | 2.5  | 2.5  | 6    | 10   | 10   | 185 <sup>1</sup> |
| (including ferrule)                            | max. (mm <sup>2</sup> ) | 2.5  | 2.5          | 2.5            | 2.5  | 2.5           | 2.5  | 2.5  | 2.5  | 2.5  | 2.5  | 2.5  | 2.5              |
| American Wire Gauge                            | (AWG)                   | 16   | 12           | 12             | 10   | 10            | 10   | 6    | 4    | 4    | 1/0  | 2/0  | 350MCM           |

\* use this version for 600V AC UL/CSA application      <sup>1</sup> with terminal extensions for cable lug connection

### General

| General                     |               | P110   | M220<br>P220     | M221*<br>P221*   | P225             | M225<br>P226*    | T225             | S432             | S440             | S606             | S608             | S612             | S825             |
|-----------------------------|---------------|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Standards                   |               | IEC 60947 / EN 60947 / IEC 60204 / UL 60947-1 / CSA 22.2, No. 14 / VDE 0660 Teil 107 |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Mechanical lifespan         |               | ≥10 <sup>6</sup>   | ≥10 <sup>6</sup> | ≥10 <sup>6</sup> | ≥10 <sup>6</sup> | ≥10 <sup>6</sup> | ≥10 <sup>6</sup> | ≥10 <sup>6</sup> | ≥10 <sup>6</sup> | ≥10 <sup>5</sup> | ≥10 <sup>5</sup> | ≥10 <sup>5</sup> | ≥10 <sup>5</sup> |
| Max. operating frequency/h  |               | 50   | 50               | 50               | 50               | 50               | 50               | 50               | 50               | 50               | 50               | 50               | 50               |
| Climatic resistance         | constant      | to IEC 60068-2-78  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| (damp heat)                 | cyclic        | to IEC 60068-2-30  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Ambient temperature         | open (°C)     | –25 / +50  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| (min. / max.)               | enclosed (°C) | –25 / +40  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Mounting position           |               | as required  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Mechanical shock resistance | (g)           | ≥10  | ≥10              | ≥10              | ≥10              | ≥10              | ≥10              | ≥10              | ≥10              | ≥10              | ≥10              | ≥10              | ≥10              |
| (shock duration 20 ms)      |               |  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Rated frequency             | (Hz)          | 50 to 60 (other frequencies on request)  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |

\* use this version for 600V AC UL/CSA application

### Conformity

Sälzer Electric Rotary Cam Switches are conform to the regulations of 'Directive 2014/35/EU on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits', specified as Low Voltage Directive (LVD).

The conformity is proved by the complete compliance of the harmonized european standards EN 60947-1, EN 60947-3, EN 60947-5-1, EN 60204-1. Rotary Cam Switches from Sälzer are approved according to ANSI/UL 60947-1 and ANSI/UL 60947-4-1A.

Sälzer Electric products are developed, manufactured and tested according to the UL, IEC and EN standards. The markings on all our products prove the conformity to the directives.

The latest information concerning the regulatory requirements (LVD, RoHS, REACH) can be found on our website.



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