

Utilization Categories

Utilization categories for Switches, Disconnectors, Switch-Disconnectors and Fuse-Combination Units

Type of Current	Utilization Category		Typical applications
	Frequent operation	Occasional operation	
AC	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 utilization categories isn't permitted in the USA.

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

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

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

²⁾ 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 lamps shall be subject to special agreements between manufacturer and user.