Cam switches

Cam switches
Overview

Use and designs

Eaton cam switches and switch-disconnectors are used as:

① Main switches, main switches used as Emergency-Stop devices,
② ON-OFF switches,
③ Safety switches,
④ Changeover switches,
⑤ Reversing switches, star-delta switches, multi-speed switches,
⑥ Step switches, control switches, coding switches, meter selector switches.

The following designs are available:

⑦ Flush mounting,
⑧ Centre mounting,
⑨ Surface mounting,
⑩ Service distribution board mounting,
⑪ Rear mounting.

Refer to the latest issue of our main catalog for “Industrial Switchgear”.

Other contact arrangements are listed in the K115 special catalog in addition to the switches listed in the main catalog. (www.eaton.com/moeller/support (Catalogs)).

Basic part number	I_u	Use as						Design				
	[A]	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪
TM	10	–	x	–	x	–	x	○	○	–	○	–
T0	20	x	x	–	x	x	x	+	○	○	○	+
T3	32	x	x	–	x	x	–	+	○	○	○	+
T5B	63	x	x	x	x	x	–	+	–	○	–	+
T5	100	x	–	x	x	–	–	+	–	○	–	+
T6	160	x	–	–	x	–	–	–	–	+	–	+
T8	315[1)]	x	–	–	x	–	–	–	–	+	–	+
P1-25	25	x	x	x	–	–	–	+	○	+	○	+
P1-32	32	x	x	x	–	–	–	+	○	+	○	+
P3-63	63	x	x	x	–	–	–	+	–	+	○	+
P3-100	100	x	x	x	–	–	–	+	–	+	○	+
P5-125	125	x	x	–	–	–	–	+	–	–	–	+
P5-160	160	x	x	–	–	–	–	+	–	–	–	+
P5-250	250	x	x	–	–	–	–	+	–	–	–	+
P5-315	315	x	x	–	–	–	–	+	–	–	–	+

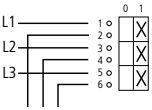
I_u = max. Rated uninterrupted current
1) In enclosed version (surface mounting), max. 275 A.
○ Irrespective of the number of contact units, function and process.
+ Irrespective of the number of contact units, function and contact sequence.

Cam switches
ON-OFF switches, main switches, maintenance switches

On-Off switches, main switches

T0-2-1
P1-25
P1-32
P3-63
P3-100
P5-125
P5-160
P5-250
P5-315

FS 908



These switches can also be used as switch-disconnectors for lighting, heating or combined loads.

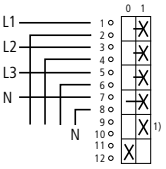
Main switches to IEC/EN 60204; for rear mounting switches with door interlock, padlocking feature, finger proof incoming terminals, N and PE terminal, red thumb-grip handle (black, if required), warning label.

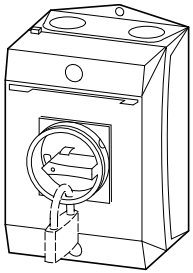
If it is not clear which drive is associated with which main switch, an additional maintenance switch is required close to each drive.

Maintenance switches (safety switches) with auxiliary contacts

T0-3-15680

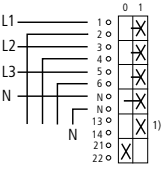
FS 908





P1-25/.../
P1-32/.../
P3-63/.../
P3-100/.../
...N/NHI11

FS 908



Maintenance switches are fitted to electrical machines or installations to provide safe working conditions in accordance with the safety regulations.

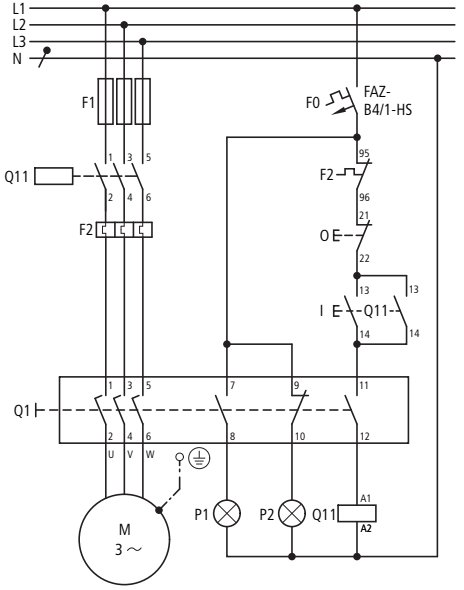
By attaching his own padlock to the SVB padlocking feature, the electrician can protect himself against anyone switching on without authorization
(→ Section "Circuit diagram example for maintenance switches with a load shedding contact and (or) switch position indicator", page 4-4).

[1)] Load shedding contact

Cam switches
ON-OFF switches, main switches, maintenance switches

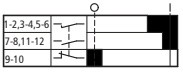
Circuit diagram example for maintenance switches with a load shedding contact and (or) switch position indicator

T0(3)-3-15683 maintenance switch



P1: On
P2: Off
Q11: Load shedding

T0(3)-3-15683 circuit symbol



Function

Load shedding: When switching on, the main current contacts close first, then the contactor is activated via the late-make N/O contact. When switching off, the contactor is first disconnected by opening the early-make contact, then the main contacts isolate the motor supply.

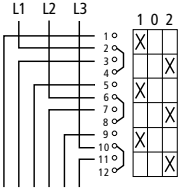
Switch position indication: The position of the switch can be signalled to the control panel or control room via additional NO and NC contacts.

Cam switches
Changeover switches, reversing switches

Changeover switch

T0-3-8212
T3-3-8212
T5B-3-8212
T5-3-8212
T6-3-8212
T8-3-8212

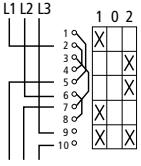
FS 684



Reversing switches

T0-3-8401
T3-3-8401
T5B-3-8401
T5-3-8401

FS 684



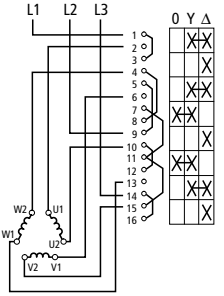
Cam switches
(Reversing) star-delta switches

Star-delta switches

T0-4-8410
T3-4-8410

FS 635

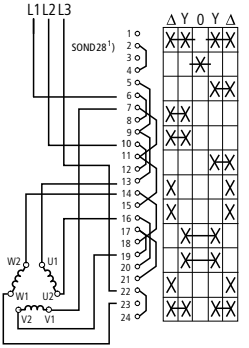
T5B-4-8410
T5-4-8410



Reversing star-delta switches

T0-6-15877
T3-6-15877

FS 638



1) Standard contactor interlock
→ Section “Interlock circuits”, page 4-11

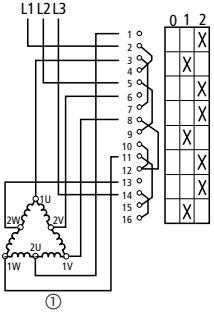
Cam switches
Multi-Speed Switches

2 speeds, 1 operating direction

Tapped winding

T0-4-8440
T3-4-8440
T5B-4-8440
T5-4-8440

FS 644

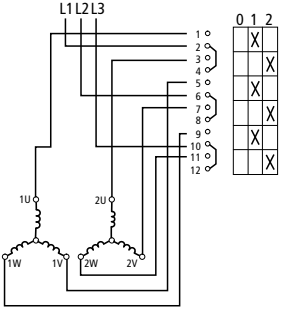


① without connections

2 separate windings

T0-3-8451
T3-3-8451
T5B-3-8451
T5-3-8451

FS 644



4

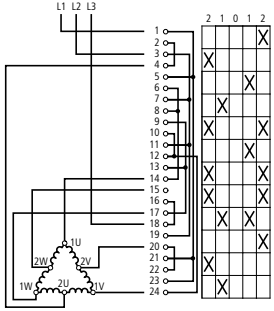
Cam switches
Multi-Speed Switches

2 speeds, 2 operating directions

Tapped winding

T0-6-15866
T3-6-15866

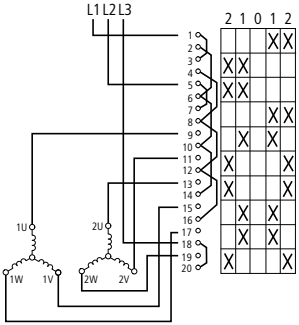
FS 629



2 separate windings, 2 operating directions

T0-5-8453
T3-5-8453

FS 629



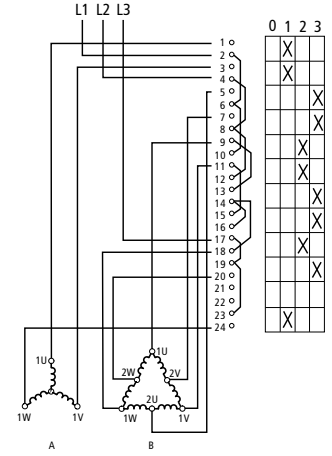
Cam switches
Multi-Speed Switches

3 speeds, 1 operating direction

Tapped winding arrangement, single winding for low speed

T0-6-8455
T3-6-8455
T5B-6-8455
T5-6-8455

FS 616



0-(A)⋎- (B)△ = (B)⋎⋎

Cam switches
Multi-Speed Switches

3 speeds, 1 operating direction

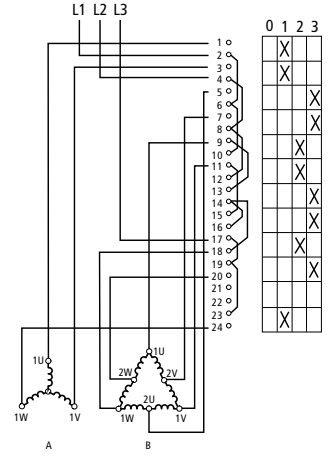
Tapped winding arrangement, single winding for high speed

T0-6-8459
T3-6-8459

FS 616

T5B-6-8459
T5-6-8459

FS 420



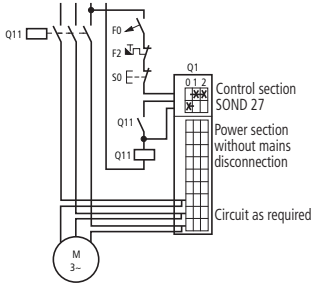
0-(B)△- (B)ᛉᛉ-(A)ᛉ

Cam switches
Interlock circuits

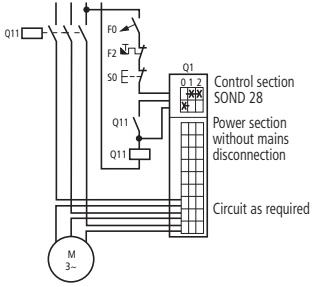
Interlock circuits between cam switches and contactors with overload relays provide neat and economical solutions for many switching drive tasks. The following points are common to all interlock circuits:

- Protection against automatic restarting after a motor overload or voltage failure
- The facility for remote disconnection (e.g. emergency-stop) can be provided by one or more Off pushbuttons.

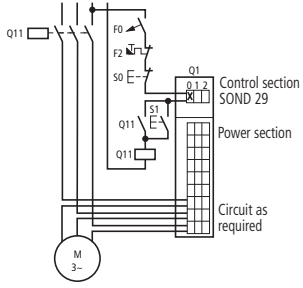
Without mains disconnection (SOND 27)
Mains disconnection only by contactor primarily for star-delta connection



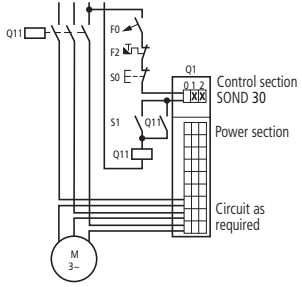
With mains disconnection (SOND 28)
Mains disconnection by contactor and switch



Interlock with contactor (SOND 29)
Contactor can be energized only when switch is in an operating position



Interlock with contactor (SOND 30)
Contactor can be energized only when switch is in an operating position



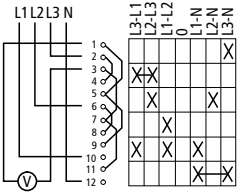
Cam switches
Single-phase approach circuits

Meter changeover switches enable you to measure currents, voltages and power in three-phase systems with only one measuring device.

Voltmeter changeover switches

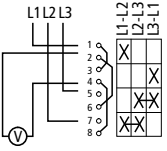
T0-3-8007
3 x phase to phase
3 x phase to neutral with off position

FS 1410759



T0-2-15922
3 x phase to neutral without off position

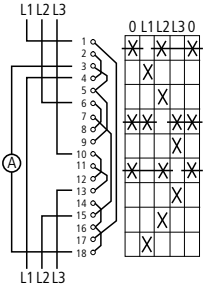
FS 164854



Ammeter changeover switches

T0-5-15925
T3-5-15925
For direct measurement

FS 9440

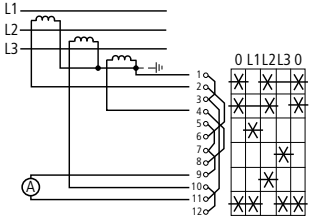


Cam switches
Meter changeover Switches

Ammeter changeover switch

T0-3-8048
T3-3-8048
For measurement via transformers, complete rotation possible

FS 9440

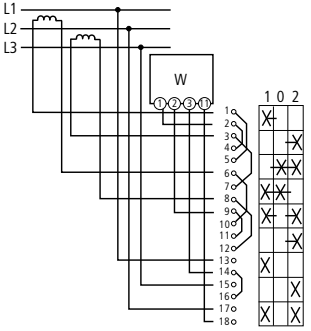


Power monitoring-changeover switches

T0-5-8043
T3-5-8043
Two-phase method (Aron circuit) for three-cable installations loaded as required. The total wattage is calculated by adding together the two wattages.

FS 953

The Aron circuit will give a correct result for four-cable systems only when the sum of the currents equals zero, i.e. only when the four-cable system is balanced.

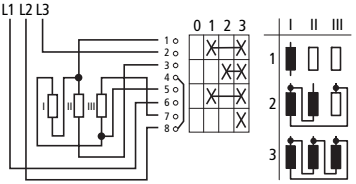


Cam switches
Heater switches

1 pole disconnection, 3 steps

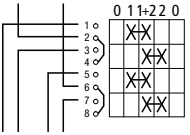
T0-2-8316
T3-2-8316
T5B-2-8316

FS 420



T0-2-15114, complete rotation possible

FS 193840



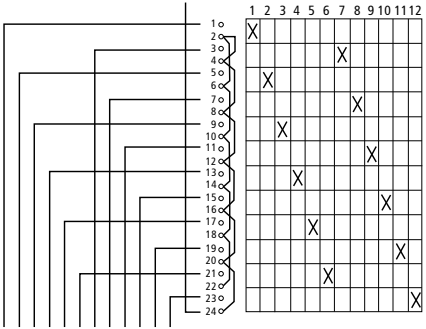
Further heater switches, 2 and 3 pole, with alternative circuitry, output stages, and number of steps are described in the main catalog, "Industrial Switchgear" and in the special catalog K 115D/F/GB (Article no. 077643).

Cam switches
Step switches

One step closed in each position, complete rotation possible

T0-6-8239
T3-6-8239

FS 301

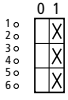


Cam switches
Step switches

Stay-put switches

On-Off stay-put switch
1 pole: T0-1-15401
2 pole: T0-1-15402
3-pole: T0-2-15403

FS 415

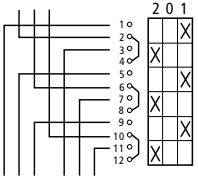


4

Changeover switches

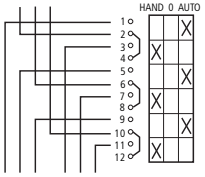
1 pole: T0-1-15421
2 pole: T0-2-15422
3-pole: T0-3-15423

FS 429



1 pole: T0-1-15431
2 pole: T0-2-15432
3-pole: T0-3-15433

FS 1401



On-Off stay-put switches

1 pole: T0-1-15521
2 pole: T0-2-15522
3-pole: T0-3-15523
With pulsed contact in the intermediate position

FS 908