

# OF, SD, MX + OF, MN C60



They remotely trip or indicate circuit breakers or supplementary protectors.

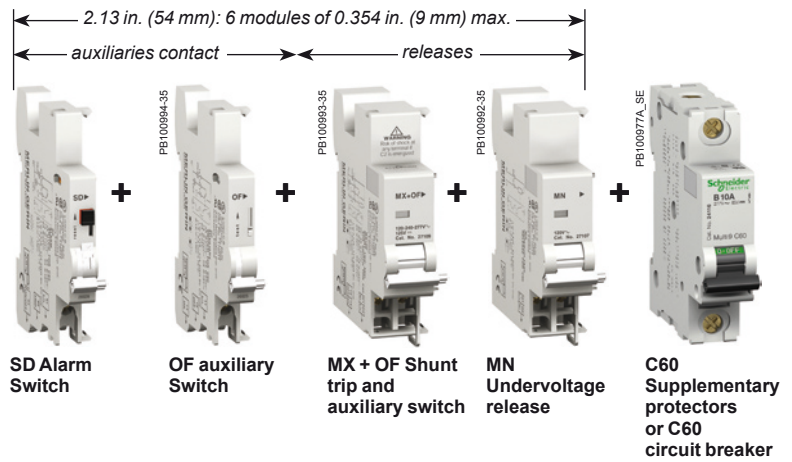
## Compliance with electrical auxiliaries standards

- For UL 489 circuit breaker File #217688.
- For CSA C22.2 No. 5.2 circuit breakers File #179014.
- For UL 1077 Supplementary Protectors File #E90509.
- For CSA C22.2 No. 235-M04 Supplementary Protectors File #179014.
- For IEC 60947-2 and IEC 60947-5-1 circuit-breakers.
- CE Marked.

## Possible electrical auxiliary combinations

Auxiliaries are mounted to the left of the circuit breaker and/or the supplementary protectors for a total width of 2.13 in (54 mm) max. :

- they are fixed using clips (no tools)
- a maximum of 3 indication auxiliaries (OF), (SD) on the same device
- a maximum of 2 tripping auxiliaries (MX + OF) or (MN) on the same device.



## Connection for copper cables UL 486A file #E216919

- Terminal pads for:
  - two #16 AWG (1.5 mm<sup>2</sup>) cables, or one #14 AWG (2.5 mm<sup>2</sup>) cable
  - torque 9 lb.in.

Type	Control voltage		Width in modules 0.354 in. (9 mm)	Cat. no. UL/CSA
	V ~	V ≡		
<b>OF auxiliary switch</b>				
			1	26925
<b>SD alarm switch</b>				
			1	26928
<b>MX + OF shunt trip</b>				
	24	12 to 24	2	27118
	48	48	2	27110
	110 to 277	110 to 130	2	27109
<b>MN undervoltage release</b>				
Instantaneous	24	24	2	27108
	48	48	2	27106
	120	-	2	27107
	220 to 240	-	2	27105

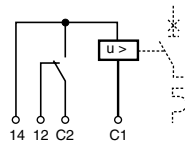


## Remote tripping

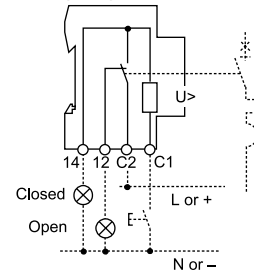
Remote tripping is possible by means of a shunt trip (MX+OF) or undervoltage release (MN). A tripped device is indicated by a red indicator flag on the front panel.

### MX + OF shunt trip

- When energized, trips the associated device:
- equipped with an O + F switch that indicates the "open" or "closed" position of the device
- realize a self-interrupting allowing the control circuit to remain on.

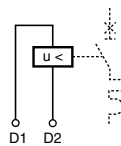


### Wiring diagrams

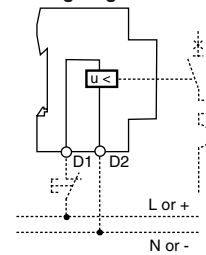


### MN Undervoltage Release

- When the voltage drops to 70–35% of the supply voltage, the associated device trips and is prevented from reclosing until the supply voltage is restored:
- uses emergency stop via push button
- uses safety feature on circuit supplying several machines preventing uncontrolled restarting of the motors.



### Wiring diagrams



# OF, SD, MX + OF, MN C60

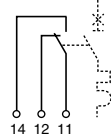


## Remote Indication

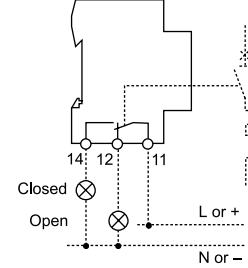
Operation test button on the front panel of the auxiliary (OF) and alarm switches (SD) allows simulation of the OF and SD functions without operating the device.

### OF auxiliary switch

■ Indicates the “open” or “closed” position of the device.

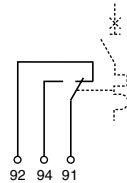


#### Wiring diagrams

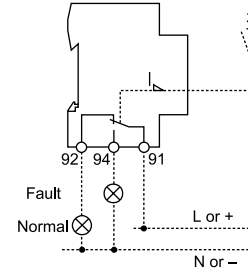


### SD Alarm Switch

■ Indicates the “tripped-on-fault” position of the device with a red indicator flag on the front panel.



#### Wiring diagrams



## OF and SD position contact depending on status of combined circuit breaker:

C60 Position	ON	■		
	OFF		■	
	Trip			■
Switch	11/14	ON	OFF	OFF
OF	11/12	OFF	ON	ON
Switch	91/94	OFF	OFF	ON
SD	91/92	ON	ON	OFF



## MN, MX + OF releases technical data

Releases	MN						
Cat. no.	27105	27106			27107	27108	
Nominal line voltage (V) (10, -20%)	220 to 240	48	48	48	120	24	24
Alternating current (∩)	■	■	-	-	■	■	-
Direct current (---)	-	-	■	-	-	-	■
Operating frequency 50/60 Hz	■	■	-	-	■	■	-
Min. cut-in voltage (V)	187	40.8	40.8	40.8	102	20.4	20.4
Min. tripping voltage (V)	Between 0.35 and 0.70 Un						
Holding current (A)	0.014	0.03	0.02	0.02	0.011	0.04	0.02
Power consumption (VA)	3.3	1.6	1.1	1.1	1.3	1	0.5
Min. voltage dip time (ms)	30	8	8	8	8	10	10

Releases	MX+OF									
	27109			27110			27118			
Nominal line voltage (V) (+10, -20%)	120	240	277	110	125	48	48	12	24	24
Alternating current (∩)	■	■	■	-	-	■	-	-	■	-
Direct current (---)	-	-	-	■	■	-	■	■	-	■
Operating frequency 50/60 Hz	■	■	■	-	-	■	-	-	■	-
Min. cut-out voltage (V)	60.5	60.5	60.5	60.5	60.5	26.4	26.4	6.6	6.6	6.6
Inrush current (A)	0.4	0.8	1	0.3	0.3	1	0.7	2.5	7.7	5.6
Inrush power (VA)	44	184	277	38	45	48	33.6	30	185	135
Min. control impulse duration (ms)	8					8		8		
Power circuit breaking time (ms)	18					18		18		
OF contact rated operational current Ie (A)	See the auxiliary contact table									

## OF, SD auxiliary contacts technical data

- Degree of protection: IP20.
- Rating of auxiliary contact short-circuit protection device:
  - circuit breaker: C60 - 2P - C curve - 6 A - limitation class 3
  - fuse: 6 A, 500 V, type Gg, 10.3 x 38 mm.

### Contact rated operational current Ie (A) to IEC 60947-5

Auxiliary contacts	OF, SD		
Cat. no.	26925 / 26928		
Rated operational voltage Ue (V)	∩	277 V	3
	Cat. AC12	220 to 240 V	6
	---	12 to 24 V	6
	Cat. DC12	48 V	2
		60 V	1.5
		130 V	1

## Common technical data of auxiliary contacts and releases

### Common technical data

Operating temperature when live (°C)	-25°C to +50°C
Storage temperature	-40°C to +85°C

## Dimensions

