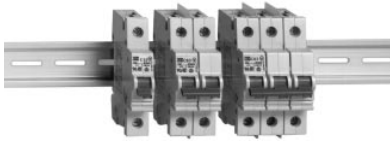


# Miniature Circuit Breakers SPCL Supplementary Protectors

Cutler-Hammer

March 1999

## Supplementary Protectors Current Limiting Type Cable-in/Cable-out DIN Rail



### Description

#### UL 1077 Supplementary Protectors

Type SPCL Supplementary Protectors are IEC circuit breakers that are recognized by UL under UL 1077. They are intended for use as over-current protection within an appliance or electrical equipment where branch circuit protection (for example a UL listed Molded Case Circuit Breaker) has already been provided or is not required.

#### Equipment and Control Circuit Protection

These protectors are ideal for replacing fuses in control circuits. Applications include protecting motor control circuits, small control circuit transformers, relays, contactor coils, power supplies, PLC I/O points, appliances, and electronic equipment.

### Product Features

The Type SPCL Supplementary Protectors are provided in light gray cases with charcoal gray handles.

**DIN-Rail Mounting:** A quick snap-on clip design allows easy installation on 35mm DIN Rail.

**Current-Limiting Design:** Fast short circuit interruption reduces let-through energy, reducing damage to the circuit.

**Thermal-Magnetic Overcurrent Protection:** Types B and C overcurrent curves provide maximum reliability and accuracy. Type B protection is normally used for low inrush applications. Type C protection is used for general purpose industrial applications that require higher inrush tolerance.

**Center Trip Position:** The breaker handle has a unique center trip "Reset" position that indicates an overcurrent trip. "Off" (O) and "On" (I) handle positions are visually indicated by red and green flags.

### SPCL Specifications

Standards and Approvals	Number of Poles	Electrical Ratings			
		Continuous Current (Amperes)	Vac 50/60 Hz	Vdc	Ampere Interrupting Capacity
UL 1077 File No. E162396 CSA 22.2 File No. LR105580-1	1	0.5-63	120	12-65	10 kA
	2	0.5-63	240	12-130 <sup>①</sup>	10 kA
	3-4	0.5-63	240		10 kA
	1	0.5-63	277		6 kA
EN60898 VDE0660	2-4	0.5-63	480		5 kA
	1-4	0.5-63	240/415		10 kA
Overcurrent Curves	Overcurrent Curve Type B (3-5X) and Type C (5-10X) per VDE 0641, Part 11.				
Degree of Protection	IP20.				
Connecting Terminals	Suitable for Single-Core, Standard, and Flexible Conductors from #14 to #6 AWG (Cu). Recommended Torque is 27 Inch-Pounds.				

### SPCL Supplementary Protector Catalog Numbers

Continuous Ampere Rating	Catalog Number			
	1-Pole	2-Pole	3-Pole	4-Pole

#### C Curve

0.5	SPCL1C00 <sup>Ⓢ</sup>	SPCL2C00 <sup>Ⓢ</sup>	SPCL3C00 <sup>Ⓢ</sup>	SPCL4C00 <sup>Ⓢ</sup>
1	SPCL1C01 <sup>Ⓢ</sup>	SPCL2C01 <sup>Ⓢ</sup>	SPCL3C01 <sup>Ⓢ</sup>	SPCL4C01 <sup>Ⓢ</sup>
2	SPCL1C02 <sup>Ⓢ</sup>	SPCL2C02 <sup>Ⓢ</sup>	SPCL3C02 <sup>Ⓢ</sup>	SPCL4C02 <sup>Ⓢ</sup>
3	SPCL1C03 <sup>Ⓢ</sup>	SPCL2C03 <sup>Ⓢ</sup>	—	—
4	SPCL1C04 <sup>Ⓢ</sup>	SPCL2C04 <sup>Ⓢ</sup>	SPCL3C04 <sup>Ⓢ</sup>	SPCL4C04 <sup>Ⓢ</sup>
5	SPCL1C05 <sup>Ⓢ</sup>	SPCL2C05 <sup>Ⓢ</sup>	—	—
6	SPCL1C06 <sup>Ⓢ</sup>	SPCL2C06 <sup>Ⓢ</sup>	SPCL3C06 <sup>Ⓢ</sup>	SPCL4C06 <sup>Ⓢ</sup>
7	SPCL1C07 <sup>Ⓢ</sup>	SPCL2C07 <sup>Ⓢ</sup>	—	—
8	SPCL1C08 <sup>Ⓢ</sup>	SPCL2C08 <sup>Ⓢ</sup>	—	—
10	SPCL1C10 <sup>Ⓢ</sup>	SPCL2C10 <sup>Ⓢ</sup>	SPCL3C10 <sup>Ⓢ</sup>	SPCL4C10 <sup>Ⓢ</sup>
13	SPCL1C13 <sup>Ⓢ</sup>	—	—	—
16	SPCL1C16 <sup>Ⓢ</sup>	SPCL2C16 <sup>Ⓢ</sup>	SPCL3C16 <sup>Ⓢ</sup>	SPCL4C16 <sup>Ⓢ</sup>
20	SPCL1C20 <sup>Ⓢ</sup>	SPCL2C20 <sup>Ⓢ</sup>	SPCL3C20 <sup>Ⓢ</sup>	SPCL4C20 <sup>Ⓢ</sup>
25	SPCL1C25 <sup>Ⓢ</sup>	SPCL2C25 <sup>Ⓢ</sup>	SPCL3C25 <sup>Ⓢ</sup>	SPCL4C25 <sup>Ⓢ</sup>
32	SPCL1C32 <sup>Ⓢ</sup>	SPCL2C32 <sup>Ⓢ</sup>	SPCL3C32 <sup>Ⓢ</sup>	SPCL4C32 <sup>Ⓢ</sup>
40	SPCL1C40 <sup>Ⓢ</sup>	SPCL2C40 <sup>Ⓢ</sup>	SPCL3C40 <sup>Ⓢ</sup>	SPCL4C40 <sup>Ⓢ</sup>
50	SPCL1C50 <sup>Ⓢ</sup>	SPCL2C50 <sup>Ⓢ</sup>	SPCL3C50 <sup>Ⓢ</sup>	SPCL4C50 <sup>Ⓢ</sup>
63	SPCL1C63 <sup>Ⓢ</sup>	SPCL2C63 <sup>Ⓢ</sup>	SPCL3C63 <sup>Ⓢ</sup>	SPCL4C63 <sup>Ⓢ</sup>

#### B Curve

6	SPCL1B06 <sup>Ⓢ</sup>	SPCL2B06 <sup>Ⓢ</sup>	SPCL3B06 <sup>Ⓢ</sup>	SPCL4B06 <sup>Ⓢ</sup>
10	SPCL1B10 <sup>Ⓢ</sup>	SPCL2B10 <sup>Ⓢ</sup>	SPCL3B10 <sup>Ⓢ</sup>	SPCL4B10 <sup>Ⓢ</sup>
13	SPCL1B13 <sup>Ⓢ</sup>	—	—	—
16	SPCL1B16 <sup>Ⓢ</sup>	SPCL2B16 <sup>Ⓢ</sup>	SPCL3B16 <sup>Ⓢ</sup>	SPCL4B16 <sup>Ⓢ</sup>
20	SPCL1B20 <sup>Ⓢ</sup>	SPCL2B20 <sup>Ⓢ</sup>	SPCL3B20 <sup>Ⓢ</sup>	SPCL4B20 <sup>Ⓢ</sup>
25	SPCL1B25 <sup>Ⓢ</sup>	SPCL2B25 <sup>Ⓢ</sup>	SPCL3B25 <sup>Ⓢ</sup>	SPCL4B25 <sup>Ⓢ</sup>
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63	SPCL1B63 <sup>Ⓢ</sup>	SPCL2B63 <sup>Ⓢ</sup>	SPCL3B63 <sup>Ⓢ</sup>	SPCL4B63 <sup>Ⓢ</sup>

### Shipping Data

	Packed in Cartons of:	Carton Dimensions Inches (mm)	Approximate Weight Lbs. (Kgs)
1-Pole Units	12	9.000 (228.60) x 4.000 (101.60) x 4.000 (101.60)	10.000 (4.54)
2-Pole Units	6	9.000 (228.60) x 4.000 (101.60) x 4.000 (101.60)	10.000 (4.54)
3-Pole Units	4	9.000 (228.60) x 4.000 (101.60) x 4.000 (101.60)	10.000 (4.54)
4-Pole Units	3	9.000 (228.60) x 4.000 (101.60) x 4.000 (101.60)	10.000 (4.54)

① 130 Vdc rating based on 2 poles connected in series.

Ⓢ Normally stocked.

Ⓢ Special order, contact Cutler-Hammer. Minimum quantities apply.

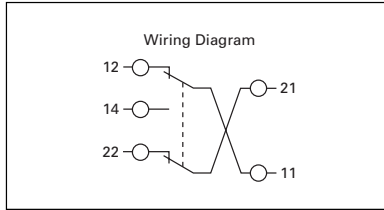
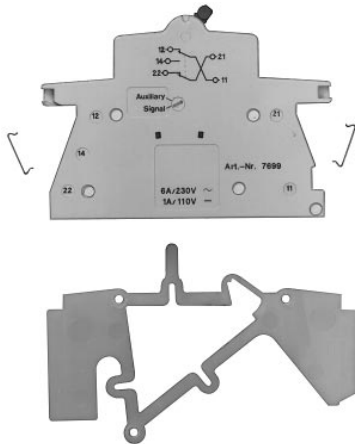
### CE Mark

SPCL protectors carry the CE mark in accordance with Low Voltage Directive (LVD) (73/23/EEC)

**SPCL Accessories**

**Auxiliary/Signal Switch Kit**

Catalog Number SPCLUAUX is a field mountable switch kit that attaches to the left side of a SPCL Protector. It is field selectable to auxiliary or signal (bell alarm) configuration. The switch is UL and CSA approved for general purpose ratings of 6 ampere at 240 Vac or 1 ampere at 125 Vdc. Contacts are provided as indicated on the wiring diagram. Screw-type terminals are provided to accommodate up to #16 AWG wire. Recommended torque is approximately 13 inch-pounds.



**Contact Charts**

Contacts	Auxiliary Switch Mode	
	Protector Open	Protector Closed
11 to 12	X	0
11 to 14	0	X
21 to 22	X	0

11 to 12	X	0
11 to 14	0	X
21 to 22	X	0

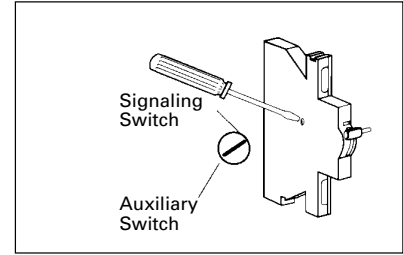
Contacts	Signal Switch Mode		
	Protector Open	Protector Closed	Protector Tripped
11 to 12	0	0	X
11 to 14	X	X	0
21 to 22	0	0	X

11 to 12	0	0	X
11 to 14	X	X	0
21 to 22	0	0	X

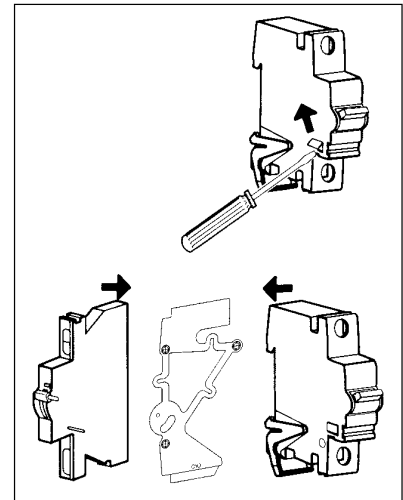
**Technical Data**

Rated Voltage:	230 Vac/110 Vdc
Rated Current:	6A Ac/1A Dc
Conductor Cross Section:	To 1.5 mm <sup>2</sup> (No 16 AWG)
Tightening Torque:	1 Nm (13 inch-pounds)
Product:	Catalog Number
Universal Auxiliary Switch:	<b>SPCLUAUX</b>

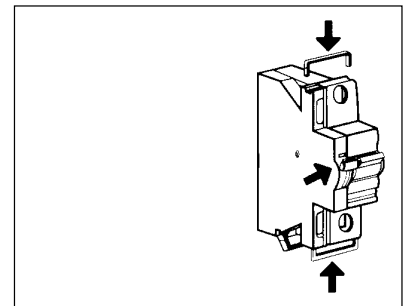
**Figure 1**



**Figure 2**



**Figure 3**



## Supplementary Protectors Current Limiting Type Cable-in/Cable-out DIN Rail

### SPCL Accessories

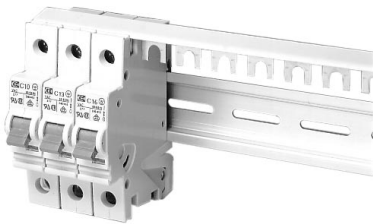
#### Lock-off Devices



#### Lock-off Devices

Catalog Number	Description
SPCLPLDEV	Padlockable device, mounts on protector and includes provisions to accept catalog number SPCLOCKEY Padlock
SPCLOCKEY	Padlock with 3 keys

#### Bus Bar Systems



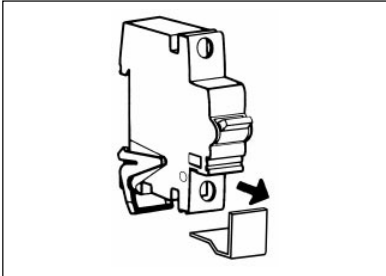
#### Bus Bar Systems

Catalog Number	Description
SPCLPB10MM	Single-phase 240 Vac VDE approved Bus Bar, 1 meter in length, 10mm <sup>2</sup> density
SPCLPB16MM	Single-phase 240 Vac VDE approved Bus Bar, 1 meter in length, 16mm <sup>2</sup> density

#### Maximum Bus Bar Current<sup>①</sup>

Conductor Density	End Connect	Center Connect
10 sq. mm	50 Amperes	100 Amperes
16 sq. mm	65 Amperes	130 Amperes

#### Finger Proofing Shield



#### Finger Proofing Shield

Catalog Number	Description
SPCL2000	Clip-on finger proofing shield to enhance finger protection on SPCL protectors. Plastic finger proofing shield clips into upper or lower terminal poles as required.

<sup>①</sup> Per VDE 0606.