

# MULTI 9™ System Catalog

## UL Recognized NC100H Supplementary Protectors

### Standard Features

- Fast closing: Allows increased withstand to the high inrush currents of some loads
- Trip-free mechanism: Contacts cannot be held in the on position when the supplementary protector is tripped automatically
- Isolation with positive break indication—Green strip on the circuit breaker's operation handle indicates that all poles are open
- Number of operating cycles (O–C): 20,000
- Tropicalization: Treatment 2 (relative humidity: 95% at 131°F/55°C)
- Degree of protection (see page 83):
  - Case: IP40 as per IEC 529
  - Terminals: IP20
- Temperature:
  - Operation: 23 to 140°F (–5 to 60°C)
  - Storage: –40 to 212°F (–40 to 100°C)

### Interrupting Ratings

Rating (A) 77°F/25°C	Number of Poles	Voltage	Interrupting Rating (A)	
			UL 1077	IEC 947-2
10–40	1P	240 Vac	20,000	10,000
	2P/3P/4P	240 Vac	20,000	20,000
	1P	277 Vac	10,000	—
	2P/3P/4P	415 Vac	—	10,000
		480Y/277 Vac	10,000	—
		1P	125 Vdc	10,000
50–80	2P	250 Vdc	10,000	10,000
	1P	240 Vac	5,000	10,000
	2P/3P/4P	240 Vac	5,000	20,000
		415 Vac	—	10,000
		440 Vac	—	6,000
		1P	65 Vdc	10,000
	2P	125 Vdc	10,000	10,000

### Compliance with Standards

- UL 1077 Supplementary Protectors File #E90509
- CSA C22.2 No. 235-M89 Supplementary Protectors File #LR80849
- IEC 947-2, VDE 0660
- CE Marked

### Time-Current Curves

- B Curve**—Overcurrent protection for sensitive equipment (computers, electronic devices etc.):
- Ratings: 80 A set at 77°F (25°C)
  - Tripping curve: The magnetic operates between 3.2 and 4.8 times ampere rating
- C Curve**—Overcurrent protection for all application types:
- Ratings: 10–80 A set at 77°F (25°C)
  - Tripping curve: The magnetic operates between 7 and 10 times ampere rating
- D Curve**—Overcurrent protection for loads with high inrush currents. (motors, transformers etc.):
- Ratings: 10–40 A set at 77°F (25°C)
  - Tripping curve: The magnetic operates between 10 and 14 times ampere rating

### Weight (oz./g)

Type	1P	2P	3P	4P
NC100H	6.35/180	12.70/360	19.05/540	25.40/720

### Connection

- 10–40 A: #18–#2 AWG (1–35 mm<sup>2</sup>) cables
- 50–80 A: #8–#1 AWG (10–50 mm<sup>2</sup>) cables

### Ground-fault Protection

IEC Rated; not UL Recognized (see page 38)



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### UL Recognized NC100H Supplementary Protectors

#### B Curve—NC100H Supplementary Protectors

Rating (A)	1P 3 Modules	2P 6 Modules	3P 9 Modules	4P 12 Modules
80	MG27164	MG27175	MG27186	MG27197

#### C Curve—NC100H Supplementary Protectors

Rating (A)	1P 3 Modules	2P 6 Modules	3P 9 Modules	4P 12 Modules
10	MG27154	MG27166	MG27177	MG27188
15	MG18256	MG18271	MG18286	—
16	MG27155	MG27167	MG27178	MG27189
20	MG27156	MG27168	MG27179	MG27190
25	MG27157	MG27169	MG27180	MG27191
30	MG18257	MG27170	MG18287	—
32	MG27158	MG27170	MG27181	MG27192

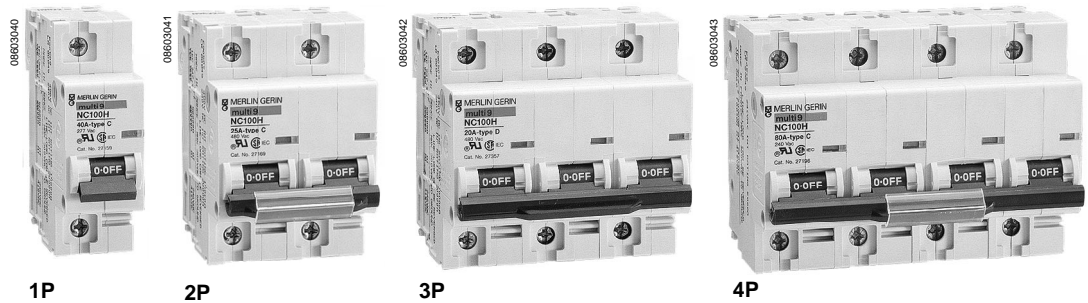
Rating (A)	1P 3 Modules	2P 6 Modules	3P 9 Modules	4P 12 Modules
35	MG18258	MG18273	MG18288	—
40	MG27159	MG27171	MG27182	MG27193
50	MG27160	MG27172	MG27183	MG27194
60	MG18259	MG18274	MG18289	—
63	MG27162	MG27173	MG27184	MG27195
80	MG27163	MG27174	MG27185	MG27196

#### D Curve—NC100H Supplementary Protectors

Rating (A)	1P 3 Modules	2P 6 Modules	3P 9 Modules	4P 12 Modules
10	MG27333	MG27344	MG27355	MG27366
15	MG18261	MG18276	MG18291	—
16	MG27334	MG27345	MG27356	MG27367
20	MG27335	MG27346	MG27357	MG27368
25	MG27336	MG27347	MG27358	MG27369

Rating (A)	1P 3 Modules	2P 6 Modules	3P 9 Modules	4P 12 Modules
30	MG18262	MG18277	MG18292	—
32	MG27337	MG27348	MG27359	MG27370
35	MG18263	MG18278	MG18293	—
40	MG27338	MG27349	MG27360	MG27371

NOTE: Width of one module = 0.354 in. (9 mm).




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
## UL Recognized NC100H Electrical Accessories

### Remote Tripping

Remote tripping is possible by means of an MX shunt trip or MN undervoltage release. A tripped supplementary protector is indicated by a red indicator flag on the front panel.

- MX + OF shunt trip—When energized, trips the associated supplementary protector
  - Is equipped with a cut-off switch
  - Is equipped with an O + F switch that indicates the “open” or “closed” position of the supplementary protector
- MN undervoltage release—When voltage drops to 70–35% of supply voltage, the associated supplementary protector trips and is prevented from reclosing until supply voltage is restored
  - Complies with UL, CSA and IEC Standards
  - Uses emergency stop via push button
  - Uses safety feature on circuit supplying several machines preventing uncontrolled restarting of the motors
- MN  time-delayed undervoltage release
  - Is equipped with undervoltage release which controls the opening of the associated supplementary protector
  - Allows a 0.5 second time delay on a short supply interruption of voltage drop
  - IEC Rated; not UL Recognized

### Power Consumption of MX and MN Accessories

Type	Voltage	VA or W
MX (inrush)	220–240 Vac	50
	48–130 Vac	200
	110–130 Vdc	10
	48 Vac/Vdc	22
	24 Vac/Vdc	120
MN (holding)	220–240 Vac	2.3
	48/130 Vac	2.2
	110/130 Vac	2.0
	48 Vac/Vdc	2.0
	24 Vac/Vdc	2.3
MN  (holding)	220–240	4.1

### Remote Indication

- OF auxiliary switch—Indicates the “open” or “closed” position of the circuit breaker
- SD alarm switch—Indicates the “tripped-on-fault” position of the circuit breaker with a red indicator flag on the front panel
- Operation—Test button allows simulation of the OF and SD functions without operating the circuit breaker

### Electrical Ratings

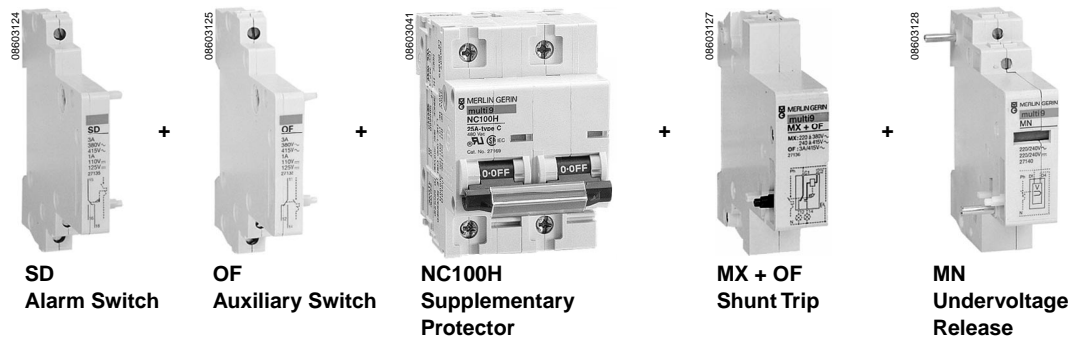
Voltage	Breaking Capacity (A)
277 Vac	3
≤ 240 Vac	6
130 Vdc	1
≤ 48 Vdc	2
≤ 24 Vdc	6

### Connection

Terminal screws for:

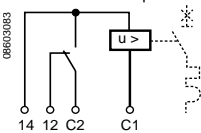
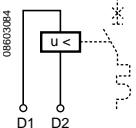
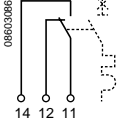
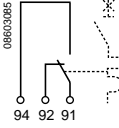
- Two #16 AWG (1.5 mm<sup>2</sup>) cables, or
- One #14 AWG (2.5 mm<sup>2</sup>) cable

### Possible Accessory Combinations

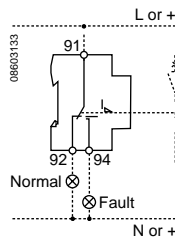


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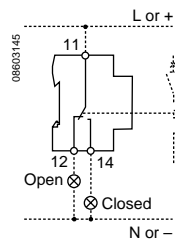
## UL Recognized NC100H Accessories

Type	Control Voltage		Width in Modules	Cat. No.	
	Vac	Vdc		UL/IEC	IEC
MX + OF Shunt Trip 	24-48	24-48	2	MG27130	27138
	110-220	110-130	2	MG27129	27137
	220-277	—	2	MG27128	—
	220-415	—	2	—	27136
MN Undervoltage Release 	Instantaneous	110-130	—	MG27126	—
		220-240	—	MG27125	27140
		220-240	220-240	—	27140
	Time-delayed	220-240	220-240	—	27143
OF Auxiliary Switch 			1	MG27121	27132
SD Alarm Switch 			1	MG27122	27135

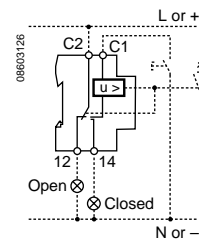
NOTE: Width of one module = 0.345 in. (9 mm).



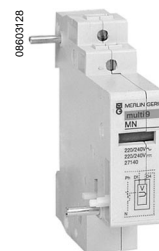
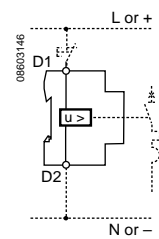
**SD**  
Alarm  
Switch



**OF**  
Auxiliary  
Switch



**MX + OF**  
Shunt Trip and  
Auxiliary Switch



**MN**  
Undervoltage  
Release

