

Thermal Magnetic Circuit Breaker

TMC 42-01/42-02

One- and two-pole thermal magnetic circuit breaker with tease-free, trip-free, snap action mechanism and two-button operation (M-type TMCBE to IEC 934). The one-pole features a narrow profile housing, recessed terminals, standard DIN rail-mounting and precision CBE performance.

Typical Applications

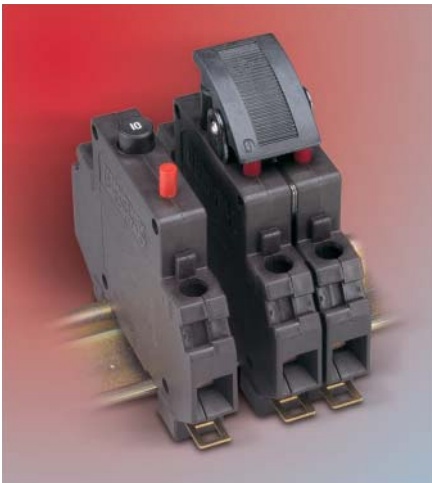
Circuit protection for process control systems, equipment manufacturers and instrumentation.

Approvals

Authority	Voltage Ratings	Current Ratings
VDE, Demko	AC 250V, DC 65 V	0.10 to 16 A
UL 1077, CSA	AC 250V, DC 80 V	0.10 to 16 A

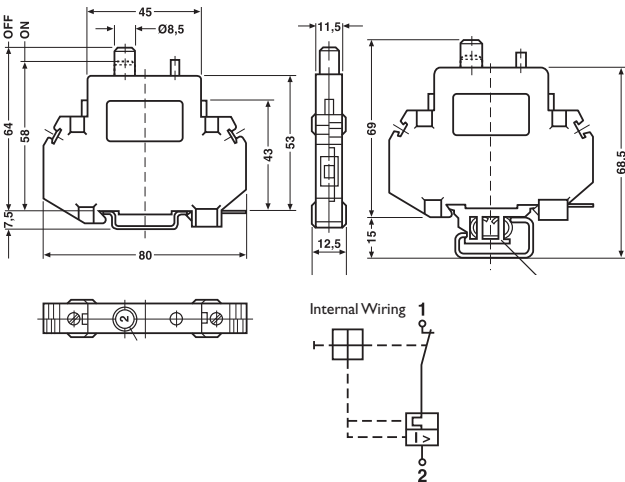
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Technical Data			
Maximum Voltage Rating	250 V AC, 50 / 60 Hz; 80 V DC		
Current Rating Range	42-01 : 0.10...16 A		
Typical Life	5,000 operations at 2 x I _N		
Temperature Range	0° to 55° C (32° to 131° F)		
Creepage Resistance	PTI 600 to IEC 112		
Insulation Coordination (IEC 664 and 664A)	Rated Impulse Withstand Voltage	Pollution Degree	
	Operating Area	4k V	3
Dielectric Strength (IEC 664 and 664A)	Test Voltage		
	Operating Area	AC 4,000 V (double insulation)	
Insulation Resistance	>100 MΩ (DC 500 V)		
Interrupting Capacity (VDE 0660, Part 101, P-2)	0.05 to 0.8 A	Self Limiting	
	1 to 2 A	200 A	
	2.5 to 16 A	400 A	
Interrupting Capacity (UL 1077/EN60934 PC1)	I _N	U _N	Self Limiting
	0.05 to 16 A	250 V AC	1,000 A
	0.05 to 16 A	80 V DC	1,000 A
Environmental Protection (IEC 529/DIN 40050)	Operating Area IP 40, Terminal Area IP 20		
	Vibration 5g (57-50 Hz), +0.38 mm (10-57 Hz) to IEC 68-2-6, Test Fc 10 frequency cycles/axis		
Shock	25g (11ms) to IEC 68-2-27, Test Ea		
Corrosion	96 hours at 5% salt spray to IEC 68-2-11, Test Ka		
Humidity	240 hours at 95% RH to IEC 68-2-3, Test Ca		
Weight	Approx. 60g		
Conductor Size	0.5-6mm ² (AWG 20-AWG 10)		
Recommended Torque	0.8 Nm max		
Mounting Adapter	5650505 (TMC 42 C-Rail Adapter)		

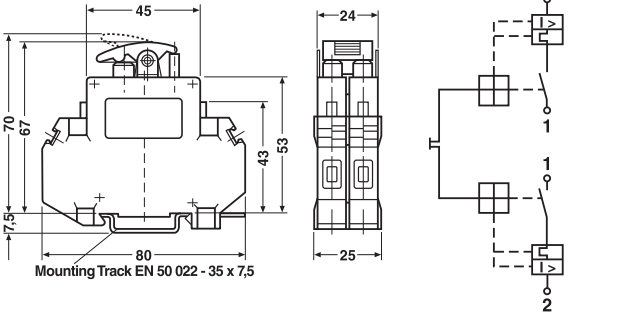


Dimension

One-Pole



Two-Pole

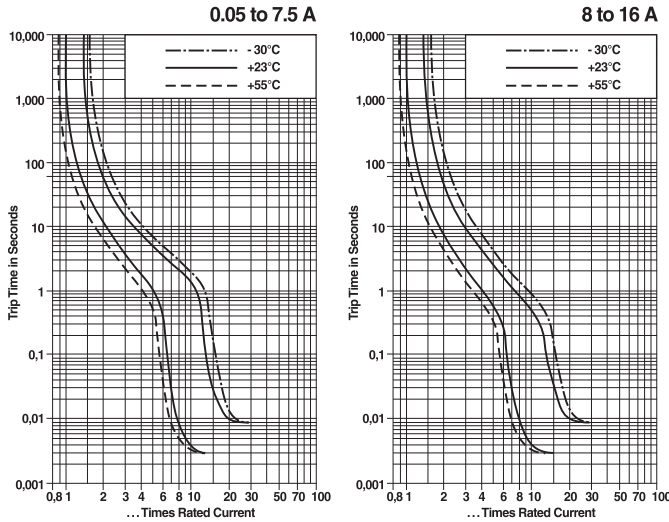


Standard current ratings and typical internal resistance values

Thermal Magnetic Circuit Breakers					
		TMC 42-01 One-Pole		TMC 42-02 Two-Pole	
Ohms	Current Rating	Type	Part#	Type	Part #
447.00	0.05	TMC42-01-0.05 A	5600509*	N/A	N/A
131.00	0.10	TMC42-01-0.1 A	5530915	TMC42-02-0.1 A	5650123*
40.00	0.20	TMC42-01-0.2 A	5650102*	TMC42-02-0.2 A	5650124*
19.30	0.30	TMC42-01-0.3 A	5650103*	TMC42-02-0.3 A	5650127*
10.40	0.40	TMC42-01-0.4 A	5530944	TMC42-02-0.4 A	5531244*
7.10	0.50	TMC42-01-0.5 A	5650106*	TMC42-02-0.5 A	5531257*
4.30	0.60	TMC42-01-0.6 A	5530960*	TMC42-02-0.6 A	5531260*
3.30	0.70	N/A	N/A	TMC42-02-0.7 A	5650128*
2.50	0.80	TMC42-01-0.8 A	5530986*	TMC42-02-0.8 A	5531286*
1.67	1.00	TMC42-01-1.0 A	5650108	TMC42-02-1.0 A	5531299
1.22	1.22	TMC42-01-1.2 A	5531008*	TMC42-02-1.2 A	5531309*
0.61	1.50	TMC42-01-1.5 A	5650109	TMC42-02-1.5 A	5650129*
0.55	1.80	TMC42-01-1.8 A	5650110*	TMC42-02-1.8 A	5531325*
0.38	2.00	TMC42-01-2.0 A	5600314	TMC42-02-2.0 A	5531338
0.24	2.50	TMC42-01-2.5 A	5650113*	TMC42-02-2.5 A	5650130*
0.19	3.00	TMC42-01-3.0 A	5650114	TMC42-02-3.0 A	5650131
0.16	3.50	TMC42-01-3.5 A	5531053*	TMC42-02-3.5 A	5531367*
0.09	4.00	TMC42-01-4.0 A	5531066	TMC42-02-4.0 A	5650134*
0.09	4.50	TMC42-01-4.5 A	5650115*	TMC42-02-4.5 A	5650135*
0.06	5.00	TMC42-01-5.0 A	5531082	TMC42-02-5.0 A	5651396
0.07	5.50	TMC42-01-5.5 A	5531095*	TMC42-02-5.5 A	5531406*
0.04	6.00	TMC42-01-6.0 A	5531105	TMC42-02-6.0 A	5650136*
0.04	6.50	TMC42-01-6.5 A	5650116*	TMC42-02-6.5 A	5650137*
0.03	7.00	TMC42-01-7.0 A	5650117*	TMC42-02-7.0 A	5531435*
0.02	8.00	TMC42-01-8.0 A	5650120	TMC42-02-8.0 A	5650138*
0.02	9.00	TMC42-01-9.0 A	5531147*	TMC42-02-9.0 A	5531451*
<0.02	10.00	TMC42-01-10 A	5650121	TMC42-02-10 A	5531464
<0.02	11.00	TMC42-01-11 A	5531163*	TMC42-02-11 A	5531477*
<0.02	12.00	TMC42-01-12 A	5650122*	TMC42-02-12 A	5650141*
<0.02	13.00	TMC42-01-13 A	5531189*	TMC42-02-13 A	5531493*
<0.02	14.00	TMC42-01-14 A	5531192*	TMC42-02-14 A	5531503*
<0.02	15.00	TMC42-01-15 A	5600310	TMC42-02-15 A	5600309
<0.02	16.00	TMC42-01-16 A	5531202	TMC42-02-16 A	5650142*

* Indicates breakers that are made-to-order and may require an 8 to 10 week lead time.

Typical time / current characteristics at 23 degrees Celsius



Direct Current – Magnetic tripping currents are increased by 30 percent in DC circuits with the effect of shifting the magnetic trip range 30 percent to the right of AC trip curves.

The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, multiply the circuit breaker current ratings by the derating factor shown below.

Ambient temperature								
°F	-22	-4	14	32	73.4	104	122	140
°C	-30	-20	-10	0	23	40	50	60
Derating factor	0.76	0.79	0.83	0.88	1	1.08	1.16	1.24