

# Thermal-Magnetic Circuit Breaker | TMC 42-01/42-02

Single pole thermal-magnetic circuit breaker with tease-free, triple-free, snap action mechanism and two button operation (M-type TMCBE to IEC 934). Featuring 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 65V	0.10 to 16 A
UL 1077, CSA	AC 250V, DC 80V	0.10 to 16 A
ABS, BV, LRoS	AC 250V, DC 65V	0.3 to 16 A

## Label Slot

ZB6 Marking System



## Technical Data

<b>Maximum Voltage Rating</b>	AC 250V, 50/60 Hz; DC 80V	
<b>Current Rating Range</b>	42-01 : 0.10...16 A	
<b>Typical Life</b>	5,000 operations at 2xI <sub>N</sub>	
<b>Temperature Range</b>	0° to 55°C (+32° to +131°F)	
<b>Creepage Resistance</b>	PTI 600 to IEC 112	
<b>Insulation Co-ordination (IEC 664 and 664A)</b>	Rated Impulse Withstand Voltage	Pollution Degree
Operating Area	4kV	3
<b>Dielectric Strength (IEC 664 and 664A)</b>	Test Voltage	
Operating Area	AC 4,000V (double insulation)	
<b>Insulation Resistance</b>		
<b>Interrupting Capacity (VDE 0660, Part 101, P-2)</b>	0.05 to 0.8 A	Self Limiting
	1 to 2 A	200 A
	2.5 to 16 A	400 A

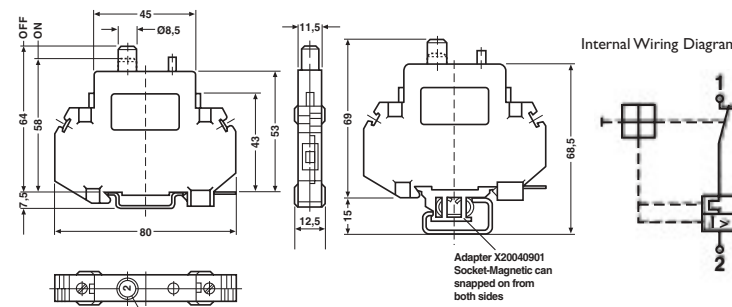
Interrupting Capacity (UL 1077/EN60934 PC1)	I <sub>N</sub>	U <sub>N</sub>	Self Limiting
	0.05 to 4.5 A	250 V AC	200 A
	0.05 to 16 A	250 V AC	1,000 A
	0.05 to 16 A	80V DC	1,000 A

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 Ea
	Test Fc 10 frequency cycles/axis

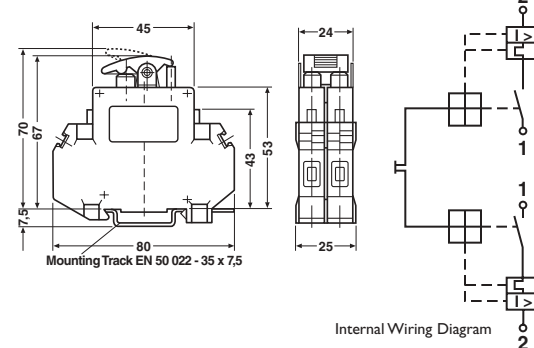
<b>Shock</b>	25g (11ms) to IEC 68-2-27, Test Ea
<b>Corrosion</b>	96 hours at 5% saltspray to IEC 68-2-11, Test Ka
<b>Humidity</b>	240 hours at 95% RH to IEC 68-2-3, Test Ca
<b>Weight</b>	Approx. 60g
<b>Conductor Size</b>	0.5-6mm <sup>2</sup> (AWG 20-AWG 10)
<b>Recommended Torque</b>	0.8 Nm max
<b>C-Rail Adapter</b>	5650505

## Dimensions

### Single Pole



### Double Pole

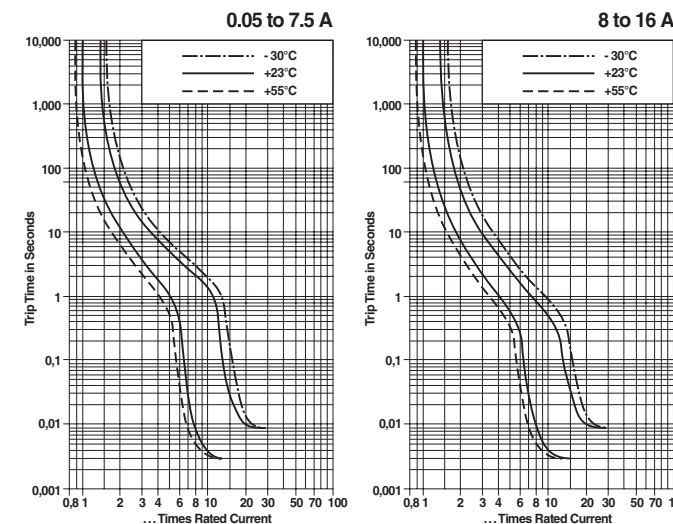


## Standard current ratings and typical internal resistance values

Thermal-Magnetic Circuit Breakers					
Ohms	Current Rating	TMC 42-01 Single Pole		TMC 42-02 Double Pole	
		Type	Part#	Type	Part #
131.00	0.10	TMC42-01-0.1 A	5530915*	TMC42-02-0.1 A	5650123*
40.00	0.20	<b>TMC42-01-0.2 A</b>	<b>5650102</b>	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	<b>TMC42-01-0.5 A</b>	<b>5650106</b>	TMC42-02-0.5 A	5531257*
4.30	0.60	TMC42-01-0.6 A	5530960*	TMC42-02-0.6 A	5531260*
2.50	0.80	TMC42-01-0.8 A	5530986*	TMC42-02-0.8 A	5531286*
1.67	1.00	<b>TMC42-01-1.0 A</b>	<b>5650108</b>	<b>TMC42-02-1.0 A</b>	<b>5531299</b>
1.22	1.22	TMC42-01-1.2 A	5531008*	TMC42-02-1.2 A	5531309*
0.61	1.50	<b>TMC42-01-1.5 A</b>	<b>5650109</b>	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	<b>TMC42-01-2.0 A</b>	<b>5600314</b>	<b>TMC42-02-2.0 A</b>	<b>5531388</b>
0.24	2.50	TMC42-01-2.5 A	5650113*	TMC42-02-2.5 A	5650130*
0.19	3.00	<b>TMC42-01-3.0 A</b>	<b>5650114</b>	<b>TMC42-02-3.0 A</b>	<b>5650131</b>
0.16	3.50	TMC42-01-3.5 A	5531053*	TMC42-02-3.5 A	5531367*
0.09	4.00	<b>TMC42-01-4.0 A</b>	<b>5531066</b>	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	<b>TMC42-01-5.0 A</b>	<b>5531082</b>	<b>TMC42-02-5.0 A</b>	<b>5651396</b>
0.07	5.50	TMC42-01-5.5 A	5531095*	TMC42-02-5.5 A	5531406*
0.04	6.00	<b>TMC42-01-6.0 A</b>	<b>5531105</b>	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	<b>TMC42-01-8.0 A</b>	<b>5650120</b>	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	<b>TMC42-01-10 A</b>	<b>5650121</b>	<b>TMC42-02-10 A</b>	<b>5531464</b>
<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	<b>TMC42-01-15 A</b>	<b>5600310</b>	<b>TMC42-02-15 A</b>	<b>5600309</b>
<0.02	16.00	<b>TMC42-01-16 A</b>	<b>5531202</b>	TMC42-02-16 A	5650142*

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

## Typical time/current characteristics at 23°C



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

The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please 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
<b>Derating factor</b>		<b>0.76</b>	<b>0.79</b>	<b>0.83</b>	<b>0.88</b>	<b>1</b>	<b>1.08</b>	<b>1.16</b>	<b>1.24</b>