

Description

Miniaturised two pole thermal-magnetic circuit breakers with trip-free mechanism and toggle actuation (S-type TM CBE to EN 60934). Fitted with panel mounting flange and push-on termination, also suitable for mounting on Euro Cards. Available with auxiliary contacts and a choice of fast, medium or long delay characteristics. Complies with CBE standard EN 60934 (IEC 60934).

Typical applications

Control equipment, communications systems, instrumentation.

Ordering information

Type No.	2215	double pole thermal-magnetic circuit breaker
Mounting	F1	flange mounting, with M3 mounting thread
Number of poles	2	2-pole protected
	5	2-pole, protected on one pole only
Accessories	0	without
Terminal design (main contacts)	P1	blade terminals 6.3x0.8mm (QC .250) without shunt terminal
Characteristic curve	F1	fast acting: 1.01-1.4xI _N ; magn. 2-4xI _N DC (DC only)
	M1	standard delay: therm. 1.01-1.4xI _N ; magn. 4.5-10.5xI _N DC; magn. 3.5-8xI _N AC
	T1	delayed: therm. 1.01-1.4xI _N ; magn. 8-17xI _N DC; magn. 6-13xI _N AC
	T3	delayed: therm. 1.01-1.4xI _N ; magn. 13-20xI _N DC magn. 9.5-15.5xI _N AC
Auxiliary contacts	S0	without auxiliary contacts
	S1	with auxiliary contacts (change over)
	S2	with auxiliary contact on pole 1 only
Auxiliary contact - terminal design	1	blade terminals 6.3x0.8
Current ratings		0.05...10 A
2215 - F1 2 0 - P1 F1 - S1 1 - 0.5 A ordering example		

Standard current ratings and typical internal resistance values

Current ratings (A)	Internal resistance per pole (Ω)	Current ratings (A)	Internal resistance per pole (Ω)
0.05	440	1.5	0.55
0.1	108	2	0.34
0.2	29.9	2.5	0.21
0.3	14.2	3	0.15
0.4	7.9	4	0.096
0.5	5.0	5	0.069
0.6	3.5	6	0.055
0.8	1.8	8	≤ 0.02
1	1.2	10	≤ 0.02



2215-F1...

Technical data

Voltage rating	AC 250 V (50/60 Hz); DC 50 V (UL: AC 250 V; DC 75 V) (higher DC voltage to special order)
Current rating range	0.05...10 A
Auxiliary circuit	1 A, AC 250 V/DC 28 V resistive load
Typical life	10,000 operations at 1 x I _N
Ambient temperature	-30...+60 °C (-22...+140 °F)
Insulation co-ordination (IEC 60664 and 60664 A)	rated impulse withstand voltage 2.5 kV reinforced insulation in operating area
Dielectric strength (IEC 60664 and 60664A)	test voltage operating area AC 3,000 V pole/pole AC 1,500 V main/aux. circuit AC 1,500 V
Insulation resistance	> 100 MΩ (DC 500 V)
Interrupting capacity I _{cn}	600 A
Degree of protection (IEC 60529/DIN 40050)	operating area IP30 terminal area IP00
Vibration	curve F1: 6 g (57-500 Hz), ± 0.46 mm (10-57 Hz) curves M1, T1, T3: 8 g (57-500 Hz), ± 0.61 mm (10-57 Hz) to IEC 60068-2-6, test Fc 10 frequency cycles/axis
Shock	curves F1, M1, T1, T3: 30 g (11 ms), directions 1, 2, 3, 4, 5 curve F1: 10 g (11 ms), direction 6 curves M1, T1, T3: 15 g (11 ms) direction 6 to IEC 60068-2-27, test Ea
Corrosion	96 hours at 5 % salt mist to IEC 60068-2-11, test Ka
Humidity	240 hours at 95 % RH to IEC 60068-2-78, test Cab
Mass	approx. 50 g

Typical time/current characteristics

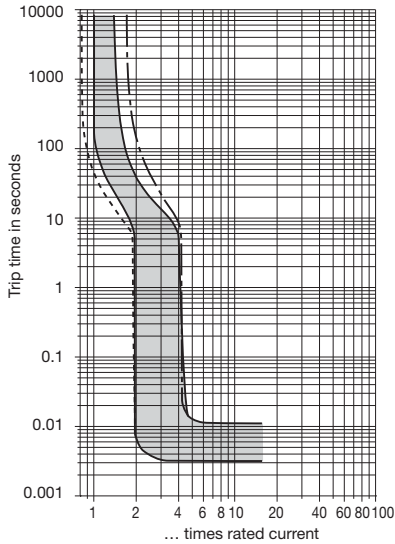
The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section 9 - Technical information.

0.05...10 A:

Ambient temperature °F	-22	-4	+14	+32	+50	+73.4	+86	+104	+122	+140
°C	-30	-20	-10	0	+10	+23	+30	+40	+50	+60
Derating factor	0.76	0.79	0.83	0.88	0.93	1	1.04	1.11	1.19	1.29

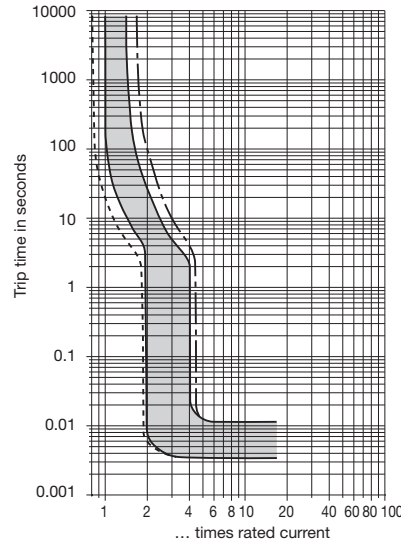
-F1 0.05 ... 6 A

DC only



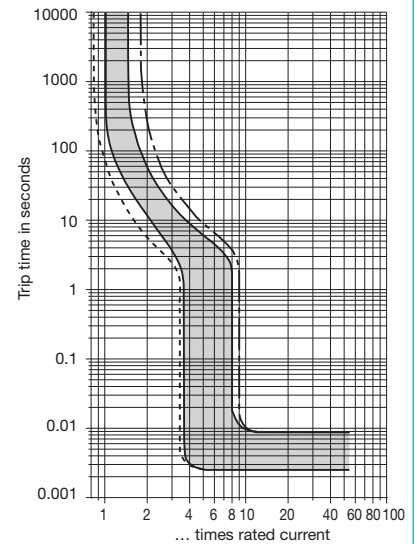
-F1 8 ... 10 A

DC only



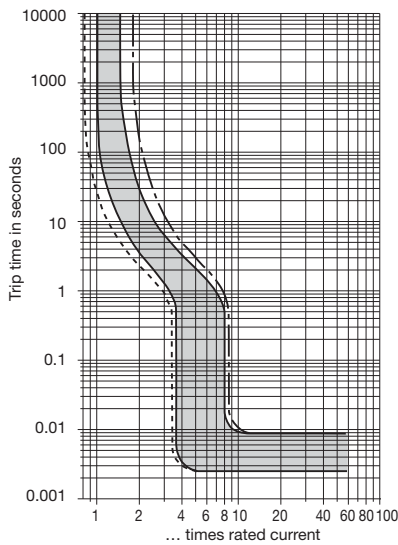
-M1 0.05 ... 6 A

AC/DC ¹⁾



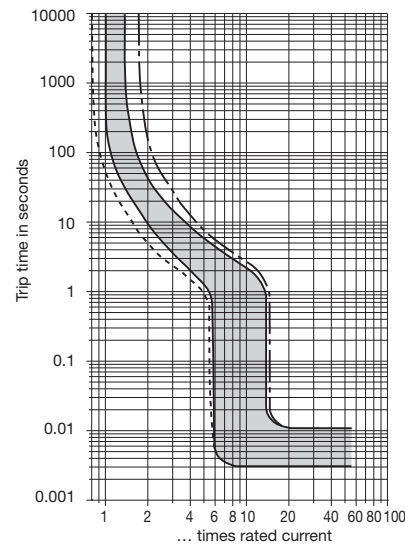
-M1 8 ... 10 A

AC/DC ¹⁾



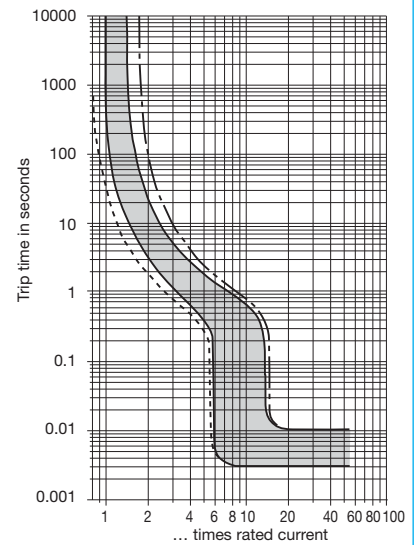
-T1 0.05 ... 6 A

AC/DC ¹⁾



-T1 8 ... 10 A

AC/DC ¹⁾



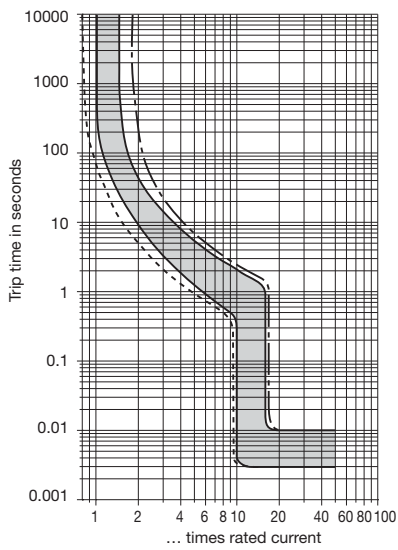
--- +60 °C +140 °F ——— +23 °C +73.4 °F - · - · -30 °C -22 °F

¹⁾ Magnetic tripping currents are increased by 30% on DC supplies (curve M1 and T1).

Typical time/current characteristics

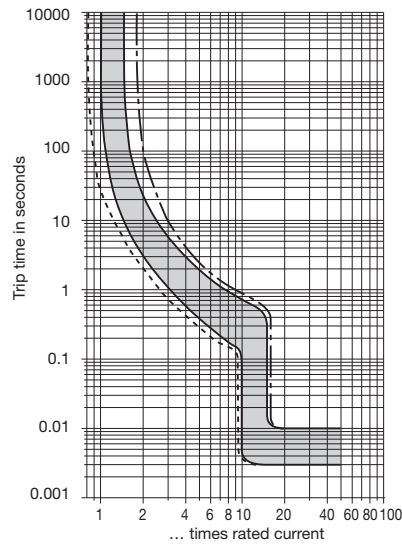
-T3 0.05 ... 6 A

AC/DC ¹⁾



-T3 8 ... 10 A

AC/DC ¹⁾



- - - +60 °C
 +140 °F
 — +23 °C
 +73.4 °F
 - · - -30 °C
 -22 °F

¹⁾ Magnetic tripping currents are increased by 30% on DC supplies.