Technical Data

Bidirectional MCB 1 Module
Single Pole 6kA B & C Curve

Brief Product Description

Single pole bidirectional MCB, providing superior protection for both circuits and people where current has the ability to flow in 2 directions through the device such as a PV/ Solar application.

The single module compact design will fit in any BG consumer unit or enclosure via a standard DIN rail fit.

Features

- Bidirectional
- BS7671 Amendment 4 compliant device
- Pollution degree 3 tested
- -25°C - +40°C operating temperature range
- Single module
- 6kA
- 6 - 55A B Curve
- 6 - 50A C Curve

Part Codes

B Curve		C Curve	
Cat No.	Rating	Cat No.	Rating
CUMB6	6A	CUMC6	6A
CUMB10	10A	CUMC10	10A
CUMB16	16A	CUMC16	16A
CUMB20	20A	CUMC20	20A
CUMB25	25A	CUMC25	25A
CUMB32	32A	CUMC32	32A
CUMB40	40A	CUMC40	40A
CUMB45	45A		
CUMB50	50A	CUMC50	50A
CUMB55	55A		

Technical Specifications (6A – 55A)

Bidirectional	Yes
Number of Poles	1
Type of Pole	L
Fixing Mode	DIN Rail Type 35mm
Curve	B & C
Rated Operational Voltage Ue	230V
Pollution Degree	3
Frequency	50Hz
Type of Supply Voltage	AC
Rated Insulation Voltage	500V
Max Operating Voltage	264V
Rated Impulse Withstand Voltage	4kV
Electric Endurance In Number of Cycles	4,000
Number of Mechanical Operations	10,000
Screw Terminal	Yes - Pozidrive 2
Terminal Torque	2Nm
Max cable Capacity	6A - 20A16mm², 32A - 55A 25mm²
Standards	IEC/EN 60898

Product Images

BRITISH BG GENERAL CIRCUIT PROTECTION

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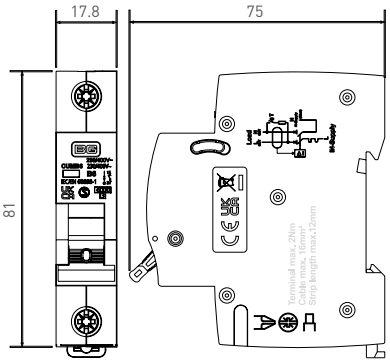
Operating Temperature

The rated value of the current of a double pole bidirectional MCB B & C curve characteristic refers to ambient temperature of 30°C.

The following table contains the derating of the load capacity at ambient temperatures from -30°C to 70°C for B & C characteristics.

	Maximum operating current at ambient temperature T																				
Rated Current In	**-30**	**-25**	**-20**	**-15**	**-10**	**-5**	**0**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**
6	8.05	7.9	7.74	7.58	7.42	7.26	7.09	6.92	6.74	6.56	6.37	6.18	6	5.81	5.6	5.38	5.15	4.91	4.65	4.38	4.08
10	12.23	12.06	11.89	11.71	11.53	11.35	11.16	10.98	10.78	10.59	10.39	10.19	10	9.81	9.59	9.37	9.17	8.91	8.68	8.43	8.18
13	17.27	16.86	16.26	15.83	15.26	14.82	14.56	14.26	13.98	13.74	13.49	13.24	13	12.76	12.53	12.22	11.96	11.7	11.46	11.21	10.98
16	19.4	19.13	18.87	18.6	18.33	18.05	17.77	17.48	17.19	16.9	16.6	16.29	16	15.7	15.38	15.05	14.71	14.36	14	13.64	13.26
20	24.31	23.98	23.65	23.31	22.96	22.61	22.25	21.89	21.52	21.15	20.77	20.38	20	19.62	19.2	18.78	18.35	17.91	17.45	16.99	16.51
25	30.4	29.98	29.56	29.14	28.71	28.27	27.82	27.37	26.91	26.44	25.96	25.48	25	24.51	24	23.47	22.93	22.38	21.81	21.23	20.63
32	38.15	37.67	37.19	36.7	36.21	35.71	35.2	34.68	34.16	33.13	33.09	32.54	32	31.45	30.87	30.28	29.68	29.07	28.44	27.8	27.14
40	47.88	47.25	46.85	46.26	45.86	45.22	44.56	43.78	43.05	42.33	41.56	40.77	40	39.19	38.35	37.46	36.66	35.74	34.88	34.03	33.26

Dimensional Line Drawing



Dimensions of product

Height: 81 mm

Width: 17.8 mm

Depth: 75 mm

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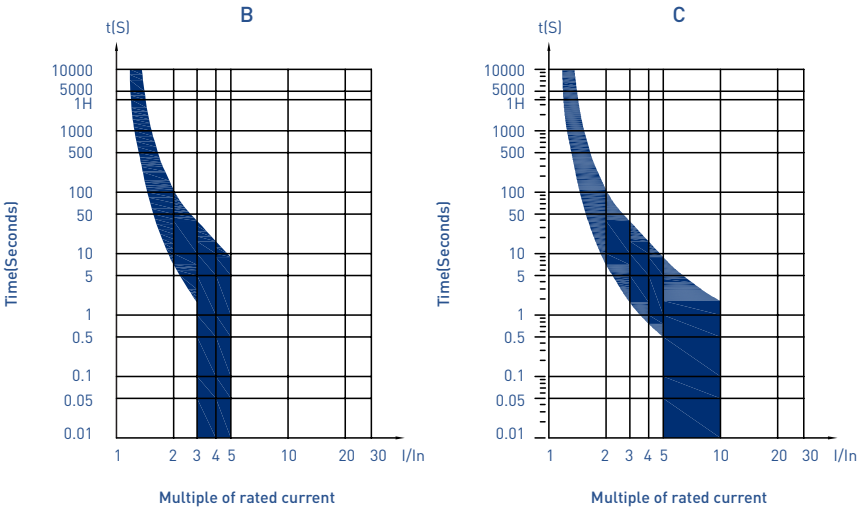
Trip Curve Data



Type B - Domestic and light commercial installations such as lighting and power circuits running low power appliances.

Type C - Domestic and light commercial installations such as lighting and power circuits running higher current appliances that may cause nuisance tripping of a B Curve RCBO.

Table 41.3 – Maximum Earth Loop Impedance (Z_s) for circuit breakers with U^0 of 230V, for operation giving compliance with the 0.4 s disconnection time of Regulation 411.3.2..2 and 5s disconnection time of Regulation 411.3.3.3 **– BS7671 IET Wiring Regulations.**

Type B circuit breakers to BS EN 60898 and the overcurrent characteristics of RCBOs to BS EN 61009-01													
Rating (amperes)	6	10	16	20	25	32	40	50	63	80	100	125	I_n
Z_s (ohms)	7.28	4.37	2.73	2.19	1.75	1.37	1.09	0.87	0.69	0.55	0.44	0.35	230 x 0.95/(5I_n)
Type C circuit breakers to BS EN 60898 and the overcurrent characteristics of RCBOs to BS EN 61009-01													
Rating (amperes)	6	10	16	20	25	32	40	50	63	80	100	125	I_n
Z_s (ohms)	3.64	2.19	1.37	1.09	0.87	0.68	0.55	0.44	0.35	0.27	0.22	0.17	230 x 0.95/(5I_n)

Rated Diversity Factor (RDF)/Values of assumed loading

CU Ways	RDF
1 Way	1
2-3 Ways	0.8
4-5 Ways	0.7
6-9 Ways	0.6
10 Ways+	0.5

Adjacent thermal magnetic RCBOs/MCBs should not be continuously loaded at their nominal rated currents when mounted within enclosures.

A rated diversity factor (RDF) should be applied to the nominal current rating of the RCBO/MCB where it is intended to load the circuits continuously and simultaneously.

Pollution Degree 3 Definition

This is an approval rating given when testing has been performed on devices or elecrical items. It ensures that both conductive pollution or dry non-conductive pollution does not become conductive when natural condensation is present.

Natural condensation can occur when an enclosure containing electrical devices/products is installed externally or in more harsh conditions than an internal application and could potentially be exposed to lower or higher ambient temperatures which could generate natural condensation which may harm the internal electrical components inside the enclosure.

BG Devices are tested to pollution degree 3 and also temperature tested to -25°C to + 40°C.