

Technical Data

Bi directional RCBO 1 Module Double Pole 6kA B & C Curve 30mA



Brief Product Description

Double pole bidirectional RCBO type A, 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

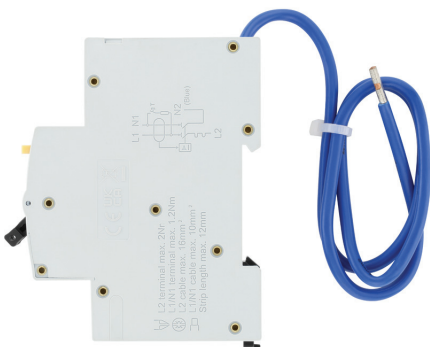
- Bidirectional
- Both pole isolation
- BS7671 Amendment 3 compliant device
- Pollution degree 3 tested
- -25°C - +40°C operating temperature range
- Single module
- Type A >6mA pulsed DC detection
- 6kA
- Available in 6-40A
- B & C Curve

Technical Specifications (6A - 40A)

Bidirectional	Yes
Neutral position	Right
Number of poles	2 P
Type of pole	1P+N
Fixing mode	DIN rail type 35mm
Curve	B & C
Rated operational voltage Ue	230 V
Pollution degree	3
Frequency	50 Hz
Type of supply voltage	AC
Rated insulation voltage	400 V
Max operating voltage	264 V
Rated impulse withstand voltage	4 kV
Rated residual operating current	30 mA
RCD type	Type A
Total power loss under IN	18 W
Electric endurance in number of cycles	2,000
Number of mechanical operations	5,000
Screw terminal	Yes - Pozidrive 2
Terminal torque	L2 - 2Nm L1/N1 - 1.2Nm
Max cable capacity	L2 - 16mm L1/N1 - 10mm
Neutral cable length & size	480mm, 4mm

Standards IEC/EN61009-01 EN1822 Amendment 3

Product Images



B Curve		C Curve	
Cat No.	Rating	Cat No.	Rating
CUCRB6DPA	6A	CUCRC6DPA	6A
CUCRB10DPA	10A	CUCRC10DPA	10A
CUCRB16DPA	16A	CUCRC16DPA	16A
CUCRB20DPA	20A	CUCRC20DPA	20A
CUCRB25DPA	25A	CUCRC25DPA	25A
CUCRB32DPA	32A	CUCRC32DPA	32A
CUCRB40DPA	40A	CUCRC40DPA	40A

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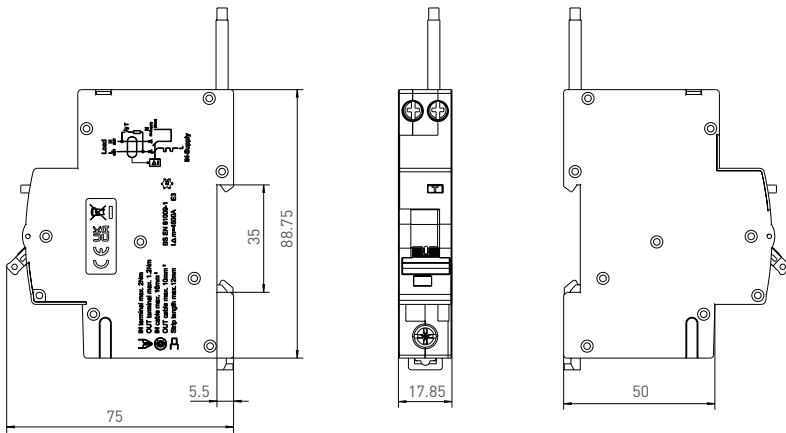
Operating Temperature

The rated value of the current of a double pole bidirectional RCBO 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

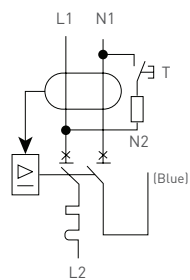
Height: 88.75 mm
Width: 17.85 mm
Depth: 75 mm

Maintenance

The RCBO should be tested on a regular basis by pressing the test button (T) in accordance with the latest edition of the IET Wiring regulations BS7671.

Make sure all terminations are tightened to the correct torque level supplied in this document.

Wiring Diagram



What to do if an MCB/RCBO trips

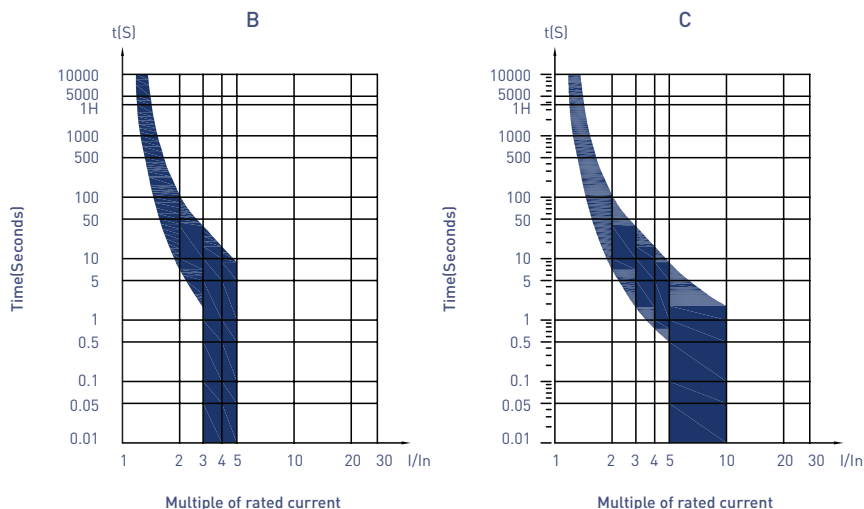
Reset tripped MCB/RCBO to the ON position. If device trips again, disconnect all appliances connected to this circuit. Switch RCBO ON and safely connect appliances one at a time to identify which one trips the device. In all cases, once the faulty appliance has been identified, do not continue to use the item until it has been checked.

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Trip Curve Data



Test Parameter (AC Setting)	Result
0.5x In	RCBO will not trip
1.0x In	0 & 180° RCBO must trip within 300ms
5.0x In	0 & 180° RCBO must trip within 40ms

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 41.5 – Maximum Earth Loop Impedance Values – BS7671 IET Wiring Regulations

Maximum earth loop impedance (Z_s) for non delayed and time delayed 'S' type RCD to BSEN61008-01 and BSEN61009-1 for U_o of 230V (see regulation 411.5.3).

Rated residual operating current (mA)	Maximum earth fault loop impedance Z_s (ohms)
30	1667*
100	500*
300	167*
500	100

Disconnection shall be within the times stated in table 41.1. in BS7671 IET Wiring Regulations.

NOTE1: Figures for Z_s result from the application of regulation 411.5.3 (i) and (ii).

NOTE2: * the resistance of the installation earth electrode should be as low as practicable. A value exceeding 200 ohms may not be stable. Refer to Regulation 542.2.4.

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 electrical 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.