

RCBO SERIES

Residual Current Circuit Breakers with
Overcurrent Protection



Products Overview of Residual Current Protective Devices

Product name	RCBO
Product range	EPMR-40D
Product picture	
Standard	IEC/EN 61009-1
Number of poles	2P
Electrical characteristics	
Rated current(A) In	6~40
Rated voltage(V)	AC 230/240
Rated residual current(mA)	30,100,300
Rated conditional short-circuit current(kA)	6,10
Tripping curve	B,C
Residual current operating characteristic	AC,A,A+G
Catalogue page NO.	29-32

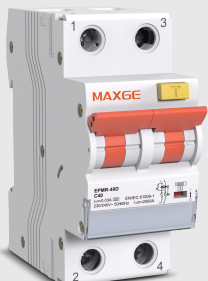
EPMR-40D Series Residual Current Circuit Breakers with Overcurrent Protection

Standard		EN/IEC 61009-1
Rated conditional short-circuit current(kA)		6,10
Rated current(A),I _n		6,10,13,15,16,20,25,32,40
Number of poles		2P
Rated sensitivity currents(mA),I _{Δn}		30,100,300
Tripping curve		B,C
Rated residual non-operating current		0.5XI _{Δn}
Rated impulse withstand voltage U _{imp} (kV)		4
Rated voltage(V)		AC 230/240
Ambient temperature (°C)		-25~+40,Max.95%humidity
Residual current off time		≤0.1s
Type of trip	Ground fault	Electro-magnetic
	Over current	Thermal-magnetic
Electrical endurance		4000
Mechanical endurance		10000
Terminal capacity		16mm ² flexible/25mm ² rigid
Protection degree		IP20
Installation		35mm DIN rail
Leakage type		AC type, A type, A+G type



EPMR-40D

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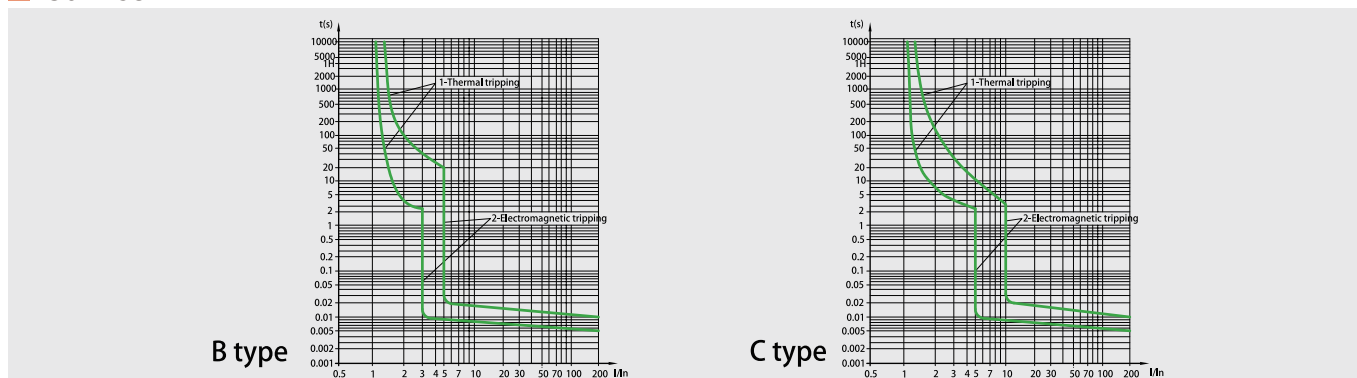
	Rated current(A)	$I_{\Delta n}$	Type AC 		Type A 		Packing unit
			B curve	C curve	B curve	C curve	
 Type AC 	6	30mA	EPMR-40D/B6/30	EPMR-40D/C6/30	EPMR-40D/B6/30-A	EPMR-40D/C6/30-A	6
	10		EPMR-40D/B10/30	EPMR-40D/C10/30	EPMR-40D/B10/30-A	EPMR-40D/C10/30-A	
	13		EPMR-40D/B13/30	EPMR-40D/C13/30	EPMR-40D/B13/30-A	EPMR-40D/C13/30-A	
	15		EPMR-40D/B15/30	EPMR-40D/C15/30	EPMR-40D/B15/30-A	EPMR-40D/C15/30-A	
	16		EPMR-40D/B16/30	EPMR-40D/C16/30	EPMR-40D/B16/30-A	EPMR-40D/C16/30-A	
	20		EPMR-40D/B20/30	EPMR-40D/C20/30	EPMR-40D/B20/30-A	EPMR-40D/C20/30-A	
	25		EPMR-40D/B25/30	EPMR-40D/C25/30	EPMR-40D/B25/30-A	EPMR-40D/C25/30-A	
	32		EPMR-40D/B32/30	EPMR-40D/C32/30	EPMR-40D/B32/30-A	EPMR-40D/C32/30-A	
	40		EPMR-40D/B40/30	EPMR-40D/C40/30	EPMR-40D/B40/30-A	EPMR-40D/C40/30-A	
	6	100mA	EPMR-40D/B6/100	EPMR-40D/C6/100	EPMR-40D/B6/100-A	EPMR-40D/C6/100-A	
 Type A 	10		EPMR-40D/B10/100	EPMR-40D/C10/100	EPMR-40D/B10/100-A	EPMR-40D/C10/100-A	
	13		EPMR-40D/B13/100	EPMR-40D/C13/100	EPMR-40D/B13/100-A	EPMR-40D/C13/100-A	
	15		EPMR-40D/B15/100	EPMR-40D/C15/100	EPMR-40D/B15/100-A	EPMR-40D/C15/100-A	
	16		EPMR-40D/B16/100	EPMR-40D/C16/100	EPMR-40D/B16/100-A	EPMR-40D/C16/100-A	
	20		EPMR-40D/B20/100	EPMR-40D/C20/100	EPMR-40D/B20/100-A	EPMR-40D/C20/100-A	
	25		EPMR-40D/B25/100	EPMR-40D/C25/100	EPMR-40D/B25/100-A	EPMR-40D/C25/100-A	
	32		EPMR-40D/B32/100	EPMR-40D/C32/100	EPMR-40D/B32/100-A	EPMR-40D/C32/100-A	
	40		EPMR-40D/B40/100	EPMR-40D/C40/100	EPMR-40D/B40/100-A	EPMR-40D/C40/100-A	
	6	300mA	EPMR-40D/B6/300	EPMR-40D/C6/300	EPMR-40D/B6/300-A	EPMR-40D/C6/300-A	
	10		EPMR-40D/B10/300	EPMR-40D/C10/300	EPMR-40D/B10/300-A	EPMR-40D/C10/300-A	
	13		EPMR-40D/B13/300	EPMR-40D/C13/300	EPMR-40D/B13/300-A	EPMR-40D/C13/300-A	
	15		EPMR-40D/B15/300	EPMR-40D/C15/300	EPMR-40D/B15/300-A	EPMR-40D/C15/300-A	
	16		EPMR-40D/B16/300	EPMR-40D/C16/300	EPMR-40D/B16/300-A	EPMR-40D/C16/300-A	
	20		EPMR-40D/B20/300	EPMR-40D/C20/300	EPMR-40D/B20/300-A	EPMR-40D/C20/300-A	
	25		EPMR-40D/B25/300	EPMR-40D/C25/300	EPMR-40D/B25/300-A	EPMR-40D/C25/300-A	
	32		EPMR-40D/B32/300	EPMR-40D/C32/300	EPMR-40D/B32/300-A	EPMR-40D/C32/300-A	
	40		EPMR-40D/B40/300	EPMR-40D/C40/300	EPMR-40D/B40/300-A	EPMR-40D/C40/300-A	

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	Rated current(A)	$I_{\Delta n}$	Type A+G 		Packing unit
			B curve	C curve	
 Type A+G 	6	30mA	EPMR-40D/B6/30-A+G	EPMR-40D/C6/30-A+G	6
	10		EPMR-40D/B10/30-A+G	EPMR-40D/C10/30-A+G	
	13		EPMR-40D/B13/30-A+G	EPMR-40D/C13/30-A+G	
	15		EPMR-40D/B15/30-A+G	EPMR-40D/C15/30-A+G	
	16		EPMR-40D/B16/30-A+G	EPMR-40D/C16/30-A+G	
	20		EPMR-40D/B20/30-A+G	EPMR-40D/C20/30-A+G	
	25		EPMR-40D/B25/30-A+G	EPMR-40D/C25/30-A+G	
	32		EPMR-40D/B32/30-A+G	EPMR-40D/C32/30-A+G	
	40		EPMR-40D/B40/30-A+G	EPMR-40D/C40/30-A+G	
	6	100mA	EPMR-40D/B6/100-A+G	EPMR-40D/C6/100-A+G	
	10		EPMR-40D/B10/100-A+G	EPMR-40D/C10/100-A+G	
	13		EPMR-40D/B13/100-A+G	EPMR-40D/C13/100-A+G	
	15		EPMR-40D/B15/100-A+G	EPMR-40D/C15/100-A+G	
	16		EPMR-40D/B16/100-A+G	EPMR-40D/C16/100-A+G	
	20		EPMR-40D/B20/100-A+G	EPMR-40D/C20/100-A+G	
	25		EPMR-40D/B25/100-A+G	EPMR-40D/C25/100-A+G	
	32		EPMR-40D/B32/100-A+G	EPMR-40D/C32/100-A+G	
	40		EPMR-40D/B40/100-A+G	EPMR-40D/C40/100-A+G	
	6	300mA	EPMR-40D/B6/300-A+G	EPMR-40D/C6/300-A+G	
	10		EPMR-40D/B10/300-A+G	EPMR-40D/C10/300-A+G	
	13		EPMR-40D/B13/300-A+G	EPMR-40D/C13/300-A+G	
	15		EPMR-40D/B15/300-A+G	EPMR-40D/C15/300-A+G	
	16		EPMR-40D/B16/300-A+G	EPMR-40D/C16/300-A+G	
	20		EPMR-40D/B20/300-A+G	EPMR-40D/C20/300-A+G	
	25		EPMR-40D/B25/300-A+G	EPMR-40D/C25/300-A+G	
	32		EPMR-40D/B32/300-A+G	EPMR-40D/C32/300-A+G	
	40		EPMR-40D/B40/300-A+G	EPMR-40D/C40/300-A+G	

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Curves



Breaking time of residual current

Max. breaking time					
$I_n(A)$	$I_{\Delta n}(A)$	$I_{\Delta n}$	$2 I_{\Delta n}$	$5 I_{\Delta n}$	$5-500A$
6-40	0.03, 0.1, 0.3	0.1s	0.08s	0.04s	0.04s

Wiring (The suitable conductors should be used for connection, see table below for relative parameters)

Rated current $I_n(A)$	Cross section area $s(mm^2)$	Tightening torque(N.m)
6	1	2.0
10	1.5	
13	1.5	
16-20	2.5	
25	4	
32	6	
40	10	

Types

Type AC: For which tripping is ensured for residual sinusoidal alternating currents, whether suddenly applied or slowly rising.

Type A: For which tripping is ensured for residual sinusoidal alternating currents and residual pulsating direct currents, whether suddenly applied or slowly rising.

Type G: RCD with short-term delay, with non-operation time of at least 10 ms.

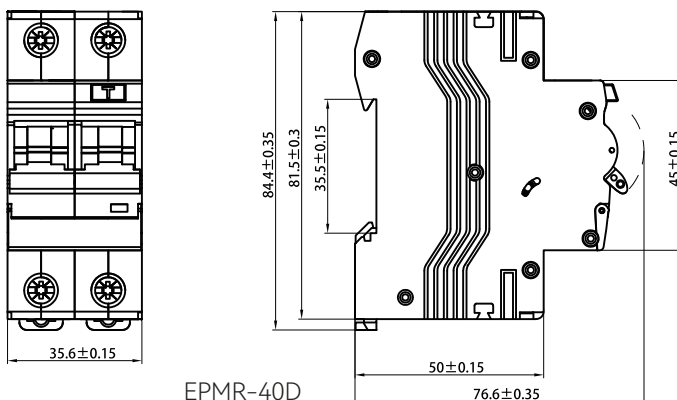
· Increased resistance to peak currents to 3 kA (8/20 μs).

· Upper limit of tripping time is the same as in RCDs for general use - with sensitivity of 30 mA fulfils the conditions of additional protection.

· Limitation of unwanted tripping of RCDs by short current surges (coordination with class II and III surge voltage protectors) etc.

· It is not specified in IEC standards, but resistance to undesirable tripping cannot be guaranteed without it.

Overall and mounting dimensions



EPMR-40D