

RCBO SERIES

Residual Current Circuit Breakers with
Overcurrent Protection



Products Overview of Residual Current Protective Devices

Product name	RCBO
Product range	EPBR-40L
Product picture	
Standard	IEC/EN 61009-1
Number of poles	1P+N
Electrical characteristics	
Rated current(A) In	6~40
Rated voltage(V)	AC 230/240
Rated residual current(mA)	10,30,100,300
Rated conditional short-circuit current(kA)	6
Tripping curve	B,C
Residual current operating characteristic	AC,A
Catalogue page NO.	22-24

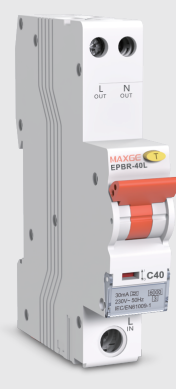
EPBR -40L Series Residual Current Circuit Breakers with Overcurrent Protection

Standard		EN/IEC61009-1
Rated conditional short-circuit current(kA)		6
Rated current(A),I _n		6,10,13,16,20,25,32,40
Number of poles		1P+N(Switched Neutral)
Rated sensitivity currents(mA),I _{Δn}		10,30,100,300
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	Electronic
	Over current	Thermal-magnetic
Electrical endurance		4000
Mechanical endurance		10000
Terminal capacity		10mm ² flexible / 16mm ² rigid
Protection degree		IP20
Installation		35mm DIN rail
Certification		  



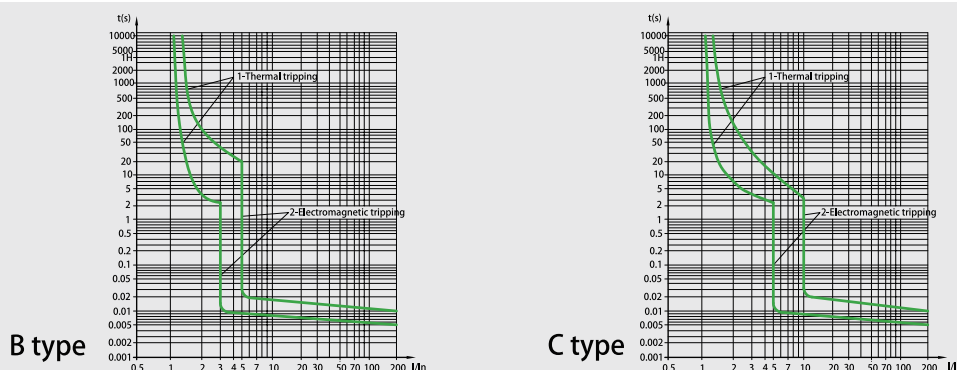
EPBR-40L

EPBR -40L Series Residual Current Circuit Breakers with Overcurrent Protection

	Rated current(A)	$I_{\Delta n}$	Type AC 		Type A 		Packing unit
			B curve	C curve	B curve	C curve	
 Type AC 	6	10mA	EPBR-40L/B6/10	EPBR-40L/C6/10	EPBR-40L/B6/10-A	EPBR-40L/C6/10-A	1
	10		EPBR-40L/B10/10	EPBR-40L/C10/10	EPBR-40L/B10/10-A	EPBR-40L/C10/10-A	
	13		EPBR-40L/B13/10	EPBR-40L/C13/10	EPBR-40L/B13/10-A	EPBR-40L/C13/10-A	
	16		EPBR-40L/B16/10	EPBR-40L/C16/10	EPBR-40L/B16/10-A	EPBR-40L/C16/10-A	
	20		EPBR-40L/B20/10	EPBR-40L/C20/10	EPBR-40L/B20/10-A	EPBR-40L/C20/10-A	
	25		EPBR-40L/B25/10	EPBR-40L/C25/10	EPBR-40L/B25/10-A	EPBR-40L/C25/10-A	
	32		EPBR-40L/B32/10	EPBR-40L/C32/10	EPBR-40L/B32/10-A	EPBR-40L/C32/10-A	
	40		EPBR-40L/B40/10	EPBR-40L/C40/10	EPBR-40L/B40/10-A	EPBR-40L/C40/10-A	
	6	30mA	EPBR-40L/B6/30	EPBR-40L/C6/30	EPBR-40L/B6/30-A	EPBR-40L/C6/30-A	
	10		EPBR-40L/B10/30	EPBR-40L/C10/30	EPBR-40L/B10/30-A	EPBR-40L/C10/30-A	
	13		EPBR-40L/B13/30	EPBR-40L/C13/30	EPBR-40L/B13/30-A	EPBR-40L/C13/30-A	
	16		EPBR-40L/B16/30	EPBR-40L/C16/30	EPBR-40L/B16/30-A	EPBR-40L/C16/30-A	
	20		EPBR-40L/B20/30	EPBR-40L/C20/30	EPBR-40L/B20/30-A	EPBR-40L/C20/30-A	
	25		EPBR-40L/B25/30	EPBR-40L/C25/30	EPBR-40L/B25/30-A	EPBR-40L/C25/30-A	
	32		EPBR-40L/B32/30	EPBR-40L/C32/30	EPBR-40L/B32/30-A	EPBR-40L/C32/30-A	
	40		EPBR-40L/B40/30	EPBR-40L/C40/30	EPBR-40L/B40/30-A	EPBR-40L/C40/30-A	
 Type A 	6	100mA	EPBR-40L/B6/100	EPBR-40L/C6/100	EPBR-40L/B6/100-A	EPBR-40L/C6/100-A	
	10		EPBR-40L/B10/100	EPBR-40L/C10/100	EPBR-40L/B10/100-A	EPBR-40L/C10/100-A	
	13		EPBR-40L/B13/100	EPBR-40L/C13/100	EPBR-40L/B13/100-A	EPBR-40L/C13/100-A	
	16		EPBR-40L/B16/100	EPBR-40L/C16/100	EPBR-40L/B16/100-A	EPBR-40L/C16/100-A	
	20		EPBR-40L/B20/100	EPBR-40L/C20/100	EPBR-40L/B20/100-A	EPBR-40L/C20/100-A	
	25		EPBR-40L/B25/100	EPBR-40L/C25/100	EPBR-40L/B25/100-A	EPBR-40L/C25/100-A	
	32		EPBR-40L/B32/100	EPBR-40L/C32/100	EPBR-40L/B32/100-A	EPBR-40L/C32/100-A	
	40		EPBR-40L/B40/100	EPBR-40L/C40/100	EPBR-40L/B40/100-A	EPBR-40L/C40/100-A	
	6	300mA	EPBR-40L/B6/300	EPBR-40L/C6/300	EPBR-40L/B6/300-A	EPBR-40L/C6/300-A	
	10		EPBR-40L/B10/300	EPBR-40L/C10/300	EPBR-40L/B10/300-A	EPBR-40L/C10/300-A	
	13		EPBR-40L/B13/300	EPBR-40L/C13/300	EPBR-40L/B13/300-A	EPBR-40L/C13/300-A	
	16		EPBR-40L/B16/300	EPBR-40L/C16/300	EPBR-40L/B16/300-A	EPBR-40L/C16/300-A	
	20		EPBR-40L/B20/300	EPBR-40L/C20/300	EPBR-40L/B20/300-A	EPBR-40L/C20/300-A	
	25		EPBR-40L/B25/300	EPBR-40L/C25/300	EPBR-40L/B25/300-A	EPBR-40L/C25/300-A	
	32		EPBR-40L/B32/300	EPBR-40L/C32/300	EPBR-40L/B32/300-A	EPBR-40L/C32/300-A	
	40		EPBR-40L/B40/300	EPBR-40L/C40/300	EPBR-40L/B40/300-A	EPBR-40L/C40/300-A	

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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	0.01,0.03,0.1,0.3	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	M5 2.0 M4 1.2
10	1.5	
13	1.5	
16-20	2.5	
25	4	
32	6	
40	10	

Types

Both RCCBs and RCBOs are divided into types depending on the operating function:

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.

Tripping sensitivity data

RCD with a rated residual current of maximum 30mA are used for personnel,material and fire protection, as well as for protection against direct contact.

RCD with a rated residual current of maximum 300mA are used as preventative fire protection in case of insulation faults.

RCD with a rated residual current of 100mA co-ordinated with the earth system according to the formula $I_{\Delta n} < 50/R$, to provide protection again indirect contacts.

Overall and mounting dimensions

