

RCBO SERIES

Residual Current Circuit Breakers with
Overcurrent Protection



Products Overview of Residual Current Protective Devices

Product name	RCBO
Product range	EPBR-63M/H
Product picture	 A white and orange MAXGE EPBR-63H RCBO. It features a red test button and a red reset button. The device is labeled with 'MAXGE EPBR-63H', 'C63 I_{in}=300mA', '230/240V ~', 'I_{pn}=500A', 'IEC/EN 61009-1', and 'TUV CE'.
Standard	IEC/EN 61009-1
Number of poles	1P+N
Electrical characteristics	
Rated current(A) I _n	6~63
Rated voltage(V)	AC 230/240
Rated residual current(mA)	10,30,100,300
Rated conditional short-circuit current(kA)	6,10
Tripping curve	B,C
Residual current operating characteristic	AC,A
Catalogue page NO.	25-28

EPBR-63M/H Series Residual Current Circuit Breakers with Overcurrent Protection

Standard		EN/IEC61009-1
Rated conditional short-circuit current(kA)		6,10
Rated current(A),I _n		6,10,13,16,20,25,32,40,50,63
Number of poles		1P+N
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-63M



EPBR-63H

EPBR-63M 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-63M-B6/10	EPBR-63M-C6/10	EPBR-63M-B6/10-A	EPBR-63M-C6/10-A	6
	10		EPBR-63M-B10/10	EPBR-63M-C10/10	EPBR-63M-B10/10-A	EPBR-63M-C10/10-A	
	13		EPBR-63M-B13/10	EPBR-63M-C13/10	EPBR-63M-B13/10-A	EPBR-63M-C13/10-A	
	16		EPBR-63M-B16/10	EPBR-63M-C16/10	EPBR-63M-B16/10-A	EPBR-63M-C16/10-A	
	20		EPBR-63M-B20/10	EPBR-63M-C20/10	EPBR-63M-B20/10-A	EPBR-63M-C20/10-A	
	25		EPBR-63M-B25/10	EPBR-63M-C25/10	EPBR-63M-B25/10-A	EPBR-63M-C25/10-A	
	32		EPBR-63M-B32/10	EPBR-63M-C32/10	EPBR-63M-B32/10-A	EPBR-63M-C32/10-A	
	40		EPBR-63M-B40/10	EPBR-63M-C40/10	EPBR-63M-B40/10-A	EPBR-63M-C40/10-A	
	50		EPBR-63M-B50/10	EPBR-63M-C50/10	EPBR-63M-B50/10-A	EPBR-63M-C50/10-A	
	63		EPBR-63M-B63/10	EPBR-63M-C63/10	EPBR-63M-B63/10-A	EPBR-63M-C63/10-A	
	6	30mA	EPBR-63M-B6/30	EPBR-63M-C6/30	EPBR-63M-B6/30-A	EPBR-63M-C6/30-A	
	10		EPBR-63M-B10/30	EPBR-63M-C10/30	EPBR-63M-B10/30-A	EPBR-63M-C10/30-A	
	13		EPBR-63M-B13/30	EPBR-63M-C13/30	EPBR-63M-B13/30-A	EPBR-63M-C13/30-A	
	16		EPBR-63M-B16/30	EPBR-63M-C16/30	EPBR-63M-B16/30-A	EPBR-63M-C16/30-A	
	20		EPBR-63M-B20/30	EPBR-63M-C20/30	EPBR-63M-B20/30-A	EPBR-63M-C20/30-A	
	25		EPBR-63M-B25/30	EPBR-63M-C25/30	EPBR-63M-B25/30-A	EPBR-63M-C25/30-A	
	32		EPBR-63M-B32/30	EPBR-63M-C32/30	EPBR-63M-B32/30-A	EPBR-63M-C32/30-A	
	40		EPBR-63M-B40/30	EPBR-63M-C40/30	EPBR-63M-B40/30-A	EPBR-63M-C40/30-A	
	50		EPBR-63M-B50/30	EPBR-63M-C50/30	EPBR-63M-B50/30-A	EPBR-63M-C50/30-A	
	63		EPBR-63M-B63/30	EPBR-63M-C63/30	EPBR-63M-B63/30-A	EPBR-63M-C63/30-A	
 Type A 	6	100mA	EPBR-63M-B6/100	EPBR-63M-C6/100	EPBR-63M-B6/100-A	EPBR-63M-C6/100-A	
	10		EPBR-63M-B10/100	EPBR-63M-C10/100	EPBR-63M-B10/100-A	EPBR-63M-C10/100-A	
	13		EPBR-63M-B13/100	EPBR-63M-C13/100	EPBR-63M-B13/100-A	EPBR-63M-C13/100-A	
	16		EPBR-63M-B16/100	EPBR-63M-C16/100	EPBR-63M-B16/100-A	EPBR-63M-C16/100-A	
	20		EPBR-63M-B20/100	EPBR-63M-C20/100	EPBR-63M-B20/100-A	EPBR-63M-C20/100-A	
	25		EPBR-63M-B25/100	EPBR-63M-C25/100	EPBR-63M-B25/100-A	EPBR-63M-C25/100-A	
	32		EPBR-63M-B32/100	EPBR-63M-C32/100	EPBR-63M-B32/100-A	EPBR-63M-C32/100-A	
	40		EPBR-63M-B40/100	EPBR-63M-C40/100	EPBR-63M-B40/100-A	EPBR-63M-C40/100-A	
	50		EPBR-63M-B50/100	EPBR-63M-C50/100	EPBR-63M-B50/100-A	EPBR-63M-C50/100-A	
	63		EPBR-63M-B63/100	EPBR-63M-C63/100	EPBR-63M-B63/100-A	EPBR-63M-C63/100-A	
	6	300mA	EPBR-63M-B6/300	EPBR-63M-C6/300	EPBR-63M-B6/300-A	EPBR-63M-C6/300-A	
	10		EPBR-63M-B10/300	EPBR-63M-C10/300	EPBR-63M-B10/300-A	EPBR-63M-C10/300-A	
	13		EPBR-63M-B13/300	EPBR-63M-C13/300	EPBR-63M-B13/300-A	EPBR-63M-C13/300-A	
	16		EPBR-63M-B16/300	EPBR-63M-C16/300	EPBR-63M-B16/300-A	EPBR-63M-C16/300-A	
	20		EPBR-63M-B20/300	EPBR-63M-C20/300	EPBR-63M-B20/300-A	EPBR-63M-C20/300-A	
	25		EPBR-63M-B25/300	EPBR-63M-C25/300	EPBR-63M-B25/300-A	EPBR-63M-C25/300-A	
	32		EPBR-63M-B32/300	EPBR-63M-C32/300	EPBR-63M-B32/300-A	EPBR-63M-C32/300-A	
	40		EPBR-63M-B40/300	EPBR-63M-C40/300	EPBR-63M-B40/300-A	EPBR-63M-C40/300-A	
	50		EPBR-63M-B50/300	EPBR-63M-C50/300	EPBR-63M-B50/300-A	EPBR-63M-C50/300-A	
	63		EPBR-63M-B63/300	EPBR-63M-C63/300	EPBR-63M-B63/300-A	EPBR-63M-C63/300-A	

EPBR-63H 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	
	6	10mA	EPBR-63H-B6/10	EPBR-63H-C6/10	EPBR-63H-B6/10-A	EPBR-63H-C6/10-A	6
	10		EPBR-63H-B10/10	EPBR-63H-C10/10	EPBR-63H-B10/10-A	EPBR-63H-C10/10-A	
	13		EPBR-63H-B13/10	EPBR-63H-C13/10	EPBR-63H-B13/10-A	EPBR-63H-C13/10-A	
	16		EPBR-63H-B16/10	EPBR-63H-C16/10	EPBR-63H-B16/10-A	EPBR-63H-C16/10-A	
	20		EPBR-63H-B20/10	EPBR-63H-C20/10	EPBR-63H-B20/10-A	EPBR-63H-C20/10-A	
	25		EPBR-63H-B25/10	EPBR-63H-C25/10	EPBR-63H-B25/10-A	EPBR-63H-C25/10-A	
	32		EPBR-63H-B32/10	EPBR-63H-C32/10	EPBR-63H-B32/10-A	EPBR-63H-C32/10-A	
	40		EPBR-63H-B40/10	EPBR-63H-C40/10	EPBR-63H-B40/10-A	EPBR-63H-C40/10-A	
	50		EPBR-63H-B50/10	EPBR-63H-C50/10	EPBR-63H-B50/10-A	EPBR-63H-C50/10-A	
	63		EPBR-63H-B63/10	EPBR-63H-C63/10	EPBR-63H-B63/10-A	EPBR-63H-C63/10-A	
	6	30mA	EPBR-63H-B6/30	EPBR-63H-C6/30	EPBR-63H-B6/30-A	EPBR-63H-C6/30-A	
	10		EPBR-63H-B10/30	EPBR-63H-C10/30	EPBR-63H-B10/30-A	EPBR-63H-C10/30-A	
	13		EPBR-63H-B13/30	EPBR-63H-C13/30	EPBR-63H-B13/30-A	EPBR-63H-C13/30-A	
	16		EPBR-63H-B16/30	EPBR-63H-C16/30	EPBR-63H-B16/30-A	EPBR-63H-C16/30-A	
	20		EPBR-63H-B20/30	EPBR-63H-C20/30	EPBR-63H-B20/30-A	EPBR-63H-C20/30-A	
	25		EPBR-63H-B25/30	EPBR-63H-C25/30	EPBR-63H-B25/30-A	EPBR-63H-C25/30-A	
	32		EPBR-63H-B32/30	EPBR-63H-C32/30	EPBR-63H-B32/30-A	EPBR-63H-C32/30-A	
	40		EPBR-63H-B40/30	EPBR-63H-C40/30	EPBR-63H-B40/30-A	EPBR-63H-C40/30-A	
	50		EPBR-63H-B50/30	EPBR-63H-C50/30	EPBR-63H-B50/30-A	EPBR-63H-C50/30-A	
	63		EPBR-63H-B63/30	EPBR-63H-C63/30	EPBR-63H-B63/30-A	EPBR-63H-C63/30-A	
	6	100mA	EPBR-63H-B6/100	EPBR-63H-C6/100	EPBR-63H-B6/100-A	EPBR-63H-C6/100-A	
	10		EPBR-63H-B10/100	EPBR-63H-C10/100	EPBR-63H-B10/100-A	EPBR-63H-C10/100-A	
	13		EPBR-63H-B13/100	EPBR-63H-C13/100	EPBR-63H-B13/100-A	EPBR-63H-C13/100-A	
	16		EPBR-63H-B16/100	EPBR-63H-C16/100	EPBR-63H-B16/100-A	EPBR-63H-C16/100-A	
	20		EPBR-63H-B20/100	EPBR-63H-C20/100	EPBR-63H-B20/100-A	EPBR-63H-C20/100-A	
	25		EPBR-63H-B25/100	EPBR-63H-C25/100	EPBR-63H-B25/100-A	EPBR-63H-C25/100-A	
	32		EPBR-63H-B32/100	EPBR-63H-C32/100	EPBR-63H-B32/100-A	EPBR-63H-C32/100-A	
	40		EPBR-63H-B40/100	EPBR-63H-C40/100	EPBR-63H-B40/100-A	EPBR-63H-C40/100-A	
	50		EPBR-63H-B50/100	EPBR-63H-C50/100	EPBR-63H-B50/100-A	EPBR-63H-C50/100-A	
	63		EPBR-63H-B63/100	EPBR-63H-C63/100	EPBR-63H-B63/100-A	EPBR-63H-C63/100-A	
	6	300mA	EPBR-63H-B6/300	EPBR-63H-C6/300	EPBR-63H-B6/300-A	EPBR-63H-C6/300-A	
	10		EPBR-63H-B10/300	EPBR-63H-C10/300	EPBR-63H-B10/300-A	EPBR-63H-C10/300-A	
	13		EPBR-63H-B13/300	EPBR-63H-C13/300	EPBR-63H-B13/300-A	EPBR-63H-C13/300-A	
	16		EPBR-63H-B16/300	EPBR-63H-C16/300	EPBR-63H-B16/300-A	EPBR-63H-C16/300-A	
	20		EPBR-63H-B20/300	EPBR-63H-C20/300	EPBR-63H-B20/300-A	EPBR-63H-C20/300-A	
	25		EPBR-63H-B25/300	EPBR-63H-C25/300	EPBR-63H-B25/300-A	EPBR-63H-C25/300-A	
	32		EPBR-63H-B32/300	EPBR-63H-C32/300	EPBR-63H-B32/300-A	EPBR-63H-C32/300-A	
	40		EPBR-63H-B40/300	EPBR-63H-C40/300	EPBR-63H-B40/300-A	EPBR-63H-C40/300-A	
	50		EPBR-63H-B50/300	EPBR-63H-C50/300	EPBR-63H-B50/300-A	EPBR-63H-C50/300-A	
	63		EPBR-63H-B63/300	EPBR-63H-C63/300	EPBR-63H-B63/300-A	EPBR-63H-C63/300-A	

Type AC

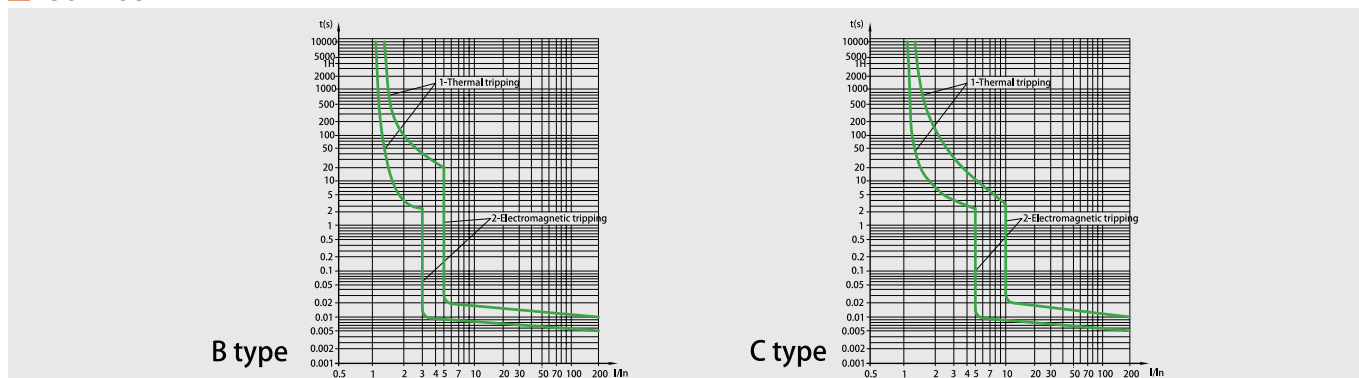


Type A



EPBR-63M/H Series Residual Current Circuit Breakers with Overcurrent Protection

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
6-63	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	2.0
10	1.5	
13	1.5	
16-20	2.5	
25	4	
32	6	
40-50	10	
63	16	

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.

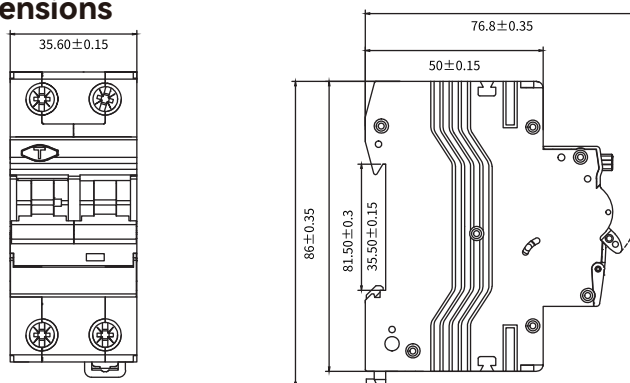
Tripping sensitivity data

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 against indirect contacts.

Overall and mounting dimensions



EPBR-63M/H