

Products Overview of Residual Current Protective Devices

Product name	RCBO			
Product range	SGBR-40L	SGBR-32M/H	SGBR-40AFD	SGBR2-40AFD
Product picture				
Standard	IEC/EN 61009-1		IEC/EN 62606,IEC/EN 61009-1	
Number of poles	1P+N	1P+N	1P+N	1P+N
Electrical characteristics				
Rated current(A) In	6~40	6~32	6~40	
Rated voltage(V)	AC 230/240			
Rated residual current(mA)	10,30,100,300			
Rated conditional short-circuit current(kA)	6,10	4.5,6	6	6,10
Tripping curve	B,C			
Residual current operating characteristic	AC,A			
Catalogue page NO.	48-50	51-54	56-58	59-62

SGMR-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),In		6,10,13,15,16,20,25,32,40
Number of poles		2P/3P+N
Rated sensitivity currents(mA),IΔn		30,100,300
Tripping curve		B,C
Rated residual non-operating current		0.5XIΔn
Rated impulse withstand voltage Uimp(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		16mm² flexible/25mm² rigid
Protection degree		IP20
Installation		35mm DIN rail



SGMR-40D 2P



SGMR-40D 3P+N

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

	Rated current(A)	I _{Δn}	Type AC 		Type A 		Packing unit
			B curve	C curve	B curve	C curve	
	6	30mA	SGMR-40D-2/B6/30	SGMR-40D-2/C6/30	SGMR-40D-2/B6/30-A	SGMR-40D-2/C6/30-A	6
	10		SGMR-40D-2/B10/30	SGMR-40D-2/C10/30	SGMR-40D-2/B10/30-A	SGMR-40D-2/C10/30-A	
	13		SGMR-40D-2/B13/30	SGMR-40D-2/C13/30	SGMR-40D-2/B13/30-A	SGMR-40D-2/C13/30-A	
	15		SGMR-40D-2/B15/30	SGMR-40D-2/C15/30	SGMR-40D-2/B15/30-A	SGMR-40D-2/C15/30-A	
	16		SGMR-40D-2/B16/30	SGMR-40D-2/C16/30	SGMR-40D-2/B16/30-A	SGMR-40D-2/C16/30-A	
	20		SGMR-40D-2/B20/30	SGMR-40D-2/C20/30	SGMR-40D-2/B20/30-A	SGMR-40D-2/C20/30-A	
	25		SGMR-40D-2/B25/30	SGMR-40D-2/C25/30	SGMR-40D-2/B25/30-A	SGMR-40D-2/C25/30-A	
	32		SGMR-40D-2/B32/30	SGMR-40D-2/C32/30	SGMR-40D-2/B32/30-A	SGMR-40D-2/C32/30-A	
	40		SGMR-40D-2/B40/30	SGMR-40D-2/C40/30	SGMR-40D-2/B40/30-A	SGMR-40D-2/C40/30-A	
	6	100mA	SGMR-40D-2/B6/100	SGMR-40D-2/C6/100	SGMR-40D-2/B6/100-A	SGMR-40D-2/C6/100-A	
	10		SGMR-40D-2/B10/100	SGMR-40D-2/C10/100	SGMR-40D-2/B10/100-A	SGMR-40D-2/C10/100-A	
	13		SGMR-40D-2/B13/100	SGMR-40D-2/C13/100	SGMR-40D-2/B13/100-A	SGMR-40D-2/C13/100-A	
	15		SGMR-40D-2/B15/100	SGMR-40D-2/C15/100	SGMR-40D-2/B15/100-A	SGMR-40D-2/C15/100-A	
	16		SGMR-40D-2/B16/100	SGMR-40D-2/C16/100	SGMR-40D-2/B16/100-A	SGMR-40D-2/C16/100-A	
	20		SGMR-40D-2/B20/100	SGMR-40D-2/C20/100	SGMR-40D-2/B20/100-A	SGMR-40D-2/C20/100-A	
	25		SGMR-40D-2/B25/100	SGMR-40D-2/C25/100	SGMR-40D-2/B25/100-A	SGMR-40D-2/C25/100-A	
	32		SGMR-40D-2/B32/100	SGMR-40D-2/C32/100	SGMR-40D-2/B32/100-A	SGMR-40D-2/C32/100-A	
	40		SGMR-40D-2/B40/100	SGMR-40D-2/C40/100	SGMR-40D-2/B40/100-A	SGMR-40D-2/C40/100-A	
	6	300mA	SGMR-40D-2/B6/300	SGMR-40D-2/C6/300	SGMR-40D-2/B6/300-A	SGMR-40D-2/C6/300-A	
	10		SGMR-40D-2/B10/300	SGMR-40D-2/C10/300	SGMR-40D-2/B10/300-A	SGMR-40D-2/C10/300-A	
	13		SGMR-40D-2/B13/300	SGMR-40D-2/C13/300	SGMR-40D-2/B13/300-A	SGMR-40D-2/C13/300-A	
	15		SGMR-40D-2/B15/300	SGMR-40D-2/C15/300	SGMR-40D-2/B15/300-A	SGMR-40D-2/C15/300-A	
	16		SGMR-40D-2/B16/300	SGMR-40D-2/C16/300	SGMR-40D-2/B16/300-A	SGMR-40D-2/C16/300-A	
	20		SGMR-40D-2/B20/300	SGMR-40D-2/C20/300	SGMR-40D-2/B20/300-A	SGMR-40D-2/C20/300-A	
	25		SGMR-40D-2/B25/300	SGMR-40D-2/C25/300	SGMR-40D-2/B25/300-A	SGMR-40D-2/C25/300-A	
	32		SGMR-40D-2/B32/300	SGMR-40D-2/C32/300	SGMR-40D-2/B32/300-A	SGMR-40D-2/C32/300-A	
	40		SGMR-40D-2/B40/300	SGMR-40D-2/C40/300	SGMR-40D-2/B40/300-A	SGMR-40D-2/C40/300-A	

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

	Rated current(A)	I _{Δn}	Type A+G 		Packing unit
			B curve	C curve	
	6	30mA	SGMR-40D-2/B6/30-A+G	SGMR-40D-2/C6/30-A+G	6
	10		SGMR-40D-2/B10/30-A+G	SGMR-40D-2/C10/30-A+G	
	13		SGMR-40D-2/B13/30-A+G	SGMR-40D-2/C13/30-A+G	
	15		SGMR-40D-2/B15/30-A+G	SGMR-40D-2/C15/30-A+G	
	16		SGMR-40D-2/B16/30-A+G	SGMR-40D-2/C16/30-A+G	
	20		SGMR-40D-2/B20/30-A+G	SGMR-40D-2/C20/30-A+G	
	25		SGMR-40D-2/B25/30-A+G	SGMR-40D-2/C25/30-A+G	
	32		SGMR-40D-2/B32/30-A+G	SGMR-40D-2/C32/30-A+G	
	40		SGMR-40D-2/B40/30-A+G	SGMR-40D-2/C40/30-A+G	
	6	100mA	SGMR-40D-2/B6/100-A+G	SGMR-40D-2/C6/100-A+G	
	10		SGMR-40D-2/B10/100-A+G	SGMR-40D-2/C10/100-A+G	
	13		SGMR-40D-2/B13/100-A+G	SGMR-40D-2/C13/100-A+G	
	15		SGMR-40D-2/B15/100-A+G	SGMR-40D-2/C15/100-A+G	
	16		SGMR-40D-2/B16/100-A+G	SGMR-40D-2/C16/100-A+G	
	20		SGMR-40D-2/B20/100-A+G	SGMR-40D-2/C20/100-A+G	
	25		SGMR-40D-2/B25/100-A+G	SGMR-40D-2/C25/100-A+G	
	32		SGMR-40D-2/B32/100-A+G	SGMR-40D-2/C32/100-A+G	
	40		SGMR-40D-2/B40/100-A+G	SGMR-40D-2/C40/100-A+G	
	6	300mA	SGMR-40D-2/B6/300-A+G	SGMR-40D-2/C6/300-A+G	
	10		SGMR-40D-2/B10/300-A+G	SGMR-40D-2/C10/300-A+G	
	13		SGMR-40D-2/B13/300-A+G	SGMR-40D-2/C13/300-A+G	
	15		SGMR-40D-2/B15/300-A+G	SGMR-40D-2/C15/300-A+G	
	16		SGMR-40D-2/B16/300-A+G	SGMR-40D-2/C16/300-A+G	
	20		SGMR-40D-2/B20/300-A+G	SGMR-40D-2/C20/300-A+G	
	25		SGMR-40D-2/B25/300-A+G	SGMR-40D-2/C25/300-A+G	
	32		SGMR-40D-2/B32/300-A+G	SGMR-40D-2/C32/300-A+G	
	40		SGMR-40D-2/B40/300-A+G	SGMR-40D-2/C40/300-A+G	

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

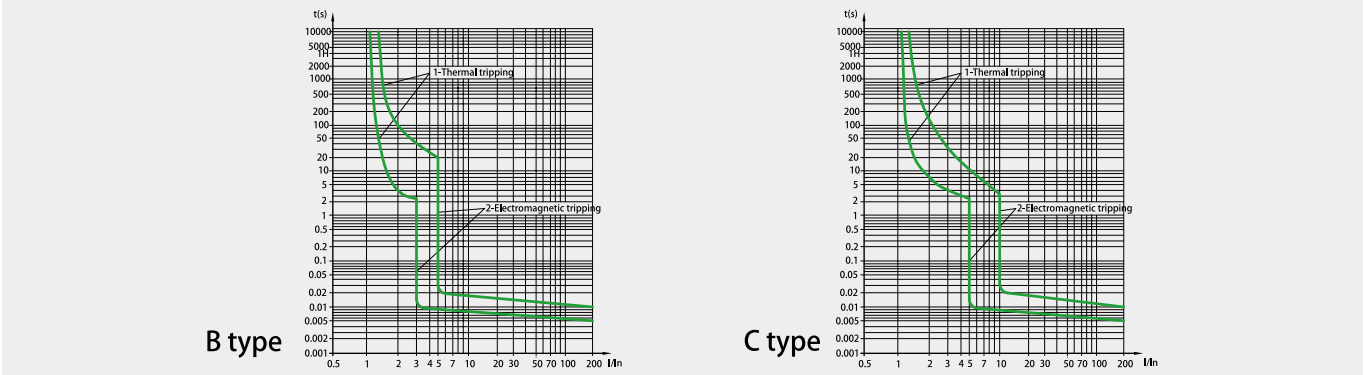
	Rated current(A)	I _{Δn}	Type AC 		Type A 		Packing unit
			B curve	C curve	B curve	C curve	
	6	30mA	SGMR-40D-4/B6/30	SGMR-40D-4/C6/30	SGMR-40D-4/B6/30-A	SGMR-40D-4/C6/30-A	3
	10		SGMR-40D-4/B10/30	SGMR-40D-4/C10/30	SGMR-40D-4/B10/30-A	SGMR-40D-4/C10/30-A	
	13		SGMR-40D-4/B13/30	SGMR-40D-4/C13/30	SGMR-40D-4/B13/30-A	SGMR-40D-4/C13/30-A	
	15		SGMR-40D-4/B15/30	SGMR-40D-4/C15/30	SGMR-40D-4/B15/30-A	SGMR-40D-4/C15/30-A	
	16		SGMR-40D-4/B16/30	SGMR-40D-4/C16/30	SGMR-40D-4/B16/30-A	SGMR-40D-4/C16/30-A	
	20		SGMR-40D-4/B20/30	SGMR-40D-4/C20/30	SGMR-40D-4/B20/30-A	SGMR-40D-4/C20/30-A	
	25		SGMR-40D-4/B25/30	SGMR-40D-4/C25/30	SGMR-40D-4/B25/30-A	SGMR-40D-4/C25/30-A	
	32		SGMR-40D-4/B32/30	SGMR-40D-4/C32/30	SGMR-40D-4/B32/30-A	SGMR-40D-4/C32/30-A	
	40		SGMR-40D-4/B40/30	SGMR-40D-4/C40/30	SGMR-40D-4/B40/30-A	SGMR-40D-4/C40/30-A	
	6	100mA	SGMR-40D-4/B6/100	SGMR-40D-4/C6/100	SGMR-40D-4/B6/100-A	SGMR-40D-4/C6/100-A	
	10		SGMR-40D-4/B10/100	SGMR-40D-4/C10/100	SGMR-40D-4/B10/100-A	SGMR-40D-4/C10/100-A	
	13		SGMR-40D-4/B13/100	SGMR-40D-4/C13/100	SGMR-40D-4/B13/100-A	SGMR-40D-4/C13/100-A	
	15		SGMR-40D-4/B15/100	SGMR-40D-4/C15/100	SGMR-40D-4/B15/100-A	SGMR-40D-4/C15/100-A	
	16		SGMR-40D-4/B16/100	SGMR-40D-4/C16/100	SGMR-40D-4/B16/100-A	SGMR-40D-4/C16/100-A	
	20		SGMR-40D-4/B20/100	SGMR-40D-4/C20/100	SGMR-40D-4/B20/100-A	SGMR-40D-4/C20/100-A	
	25		SGMR-40D-4/B25/100	SGMR-40D-4/C25/100	SGMR-40D-4/B25/100-A	SGMR-40D-4/C25/100-A	
	32		SGMR-40D-4/B32/100	SGMR-40D-4/C32/100	SGMR-40D-4/B32/100-A	SGMR-40D-4/C32/100-A	
	40		SGMR-40D-4/B40/100	SGMR-40D-4/C40/100	SGMR-40D-4/B40/100-A	SGMR-40D-4/C40/100-A	
	6	300mA	SGMR-40D-4/B6/300	SGMR-40D-4/C6/300	SGMR-40D-4/B6/300-A	SGMR-40D-4/C6/300-A	
	10		SGMR-40D-4/B10/300	SGMR-40D-4/C10/300	SGMR-40D-4/B10/300-A	SGMR-40D-4/C10/300-A	
	13		SGMR-40D-4/B13/300	SGMR-40D-4/C13/300	SGMR-40D-4/B13/300-A	SGMR-40D-4/C13/300-A	
	15		SGMR-40D-4/B15/300	SGMR-40D-4/C15/300	SGMR-40D-4/B15/300-A	SGMR-40D-4/C15/300-A	
	16		SGMR-40D-4/B16/300	SGMR-40D-4/C16/300	SGMR-40D-4/B16/300-A	SGMR-40D-4/C16/300-A	
	20		SGMR-40D-4/B20/300	SGMR-40D-4/C20/300	SGMR-40D-4/B20/300-A	SGMR-40D-4/C20/300-A	
	25		SGMR-40D-4/B25/300	SGMR-40D-4/C25/300	SGMR-40D-4/B25/300-A	SGMR-40D-4/C25/300-A	
	32		SGMR-40D-4/B32/300	SGMR-40D-4/C32/300	SGMR-40D-4/B32/300-A	SGMR-40D-4/C32/300-A	
	40		SGMR-40D-4/B40/300	SGMR-40D-4/C40/300	SGMR-40D-4/B40/300-A	SGMR-40D-4/C40/300-A	

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

	Rated current(A)	I _{Δn}	Type A+G 		Packing unit
			B curve	C curve	
	6	30mA	SGMR-40D-4/B6/30-A+G	SGMR-40D-4/C6/30-A+G	3
	10		SGMR-40D-4/B10/30-A+G	SGMR-40D-4/C10/30-A+G	
	13		SGMR-40D-4/B13/30-A+G	SGMR-40D-4/C13/30-A+G	
	15		SGMR-40D-4/B15/30-A+G	SGMR-40D-4/C15/30-A+G	
	16		SGMR-40D-4/B16/30-A+G	SGMR-40D-4/C16/30-A+G	
	20		SGMR-40D-4/B20/30-A+G	SGMR-40D-4/C20/30-A+G	
	25		SGMR-40D-4/B25/30-A+G	SGMR-40D-4/C25/30-A+G	
	32		SGMR-40D-4/B32/30-A+G	SGMR-40D-4/C32/30-A+G	
	40		SGMR-40D-4/B40/30-A+G	SGMR-40D-4/C40/30-A+G	
	6	100mA	SGMR-40D-4/B6/100-A+G	SGMR-40D-4/C6/100-A+G	
	10		SGMR-40D-4/B10/100-A+G	SGMR-40D-4/C10/100-A+G	
	13		SGMR-40D-4/B13/100-A+G	SGMR-40D-4/C13/100-A+G	
	15		SGMR-40D-4/B15/100-A+G	SGMR-40D-4/C15/100-A+G	
	16		SGMR-40D-4/B16/100-A+G	SGMR-40D-4/C16/100-A+G	
	20		SGMR-40D-4/B20/100-A+G	SGMR-40D-4/C20/100-A+G	
	25		SGMR-40D-4/B25/100-A+G	SGMR-40D-4/C25/100-A+G	
	32		SGMR-40D-4/B32/100-A+G	SGMR-40D-4/C32/100-A+G	
	40		SGMR-40D-4/B40/100-A+G	SGMR-40D-4/C40/100-A+G	
	6	300mA	SGMR-40D-4/B6/300-A+G	SGMR-40D-4/C6/300-A+G	
	10		SGMR-40D-4/B10/300-A+G	SGMR-40D-4/C10/300-A+G	
	13		SGMR-40D-4/B13/300-A+G	SGMR-40D-4/C13/300-A+G	
	15		SGMR-40D-4/B15/300-A+G	SGMR-40D-4/C15/300-A+G	
	16		SGMR-40D-4/B16/300-A+G	SGMR-40D-4/C16/300-A+G	
	20		SGMR-40D-4/B20/300-A+G	SGMR-40D-4/C20/300-A+G	
	25		SGMR-40D-4/B25/300-A+G	SGMR-40D-4/C25/300-A+G	
	32		SGMR-40D-4/B32/300-A+G	SGMR-40D-4/C32/300-A+G	
	40		SGMR-40D-4/B40/300-A+G	SGMR-40D-4/C40/300-A+G	

SGMR-40D 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
6-40	0.03,0.1,0.3	0.1s	0.08s	0.04s	0.04s

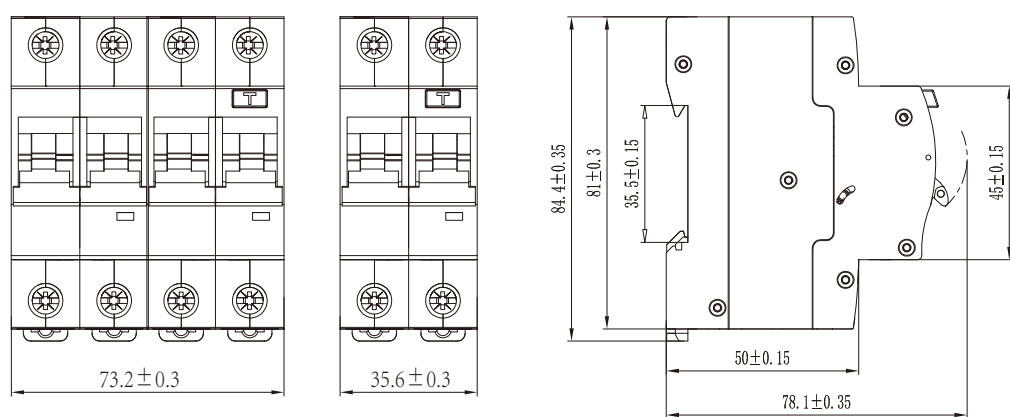
Wiring (The suitable conductors should be used for connection,see table below for relative parameters)

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 ensued 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 us).
 - 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



SGBR-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		0.5X I _{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		16mm ² flexible/25mm ² rigid
Protection degree		IP20
Installation		35mm DIN rail
Certification		

