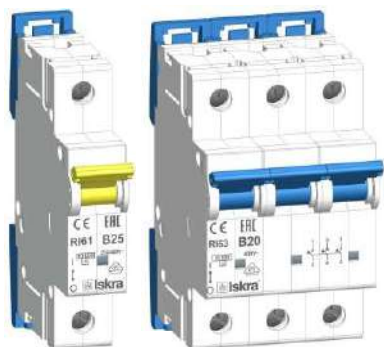


MINIATURE CIRCUIT BREAKERS - RI60



MINIATURE CIRCUIT BREAKERS OF RI 60 SERIES 50 ARE USED FOR OVER-CURRENT (OVERLOAD AND SHORT-CIRCUIT) PROTECTION OF INSTALLATIONS AND DEVICES, AND AS A DISCONNECTOR IN CASE OF ELECTRIC SHOCK.



BENEFITS

- RI 60 miniature circuit breakers are provided with two springs for assembly to a 35 mm wide mounting rail (EN 60715).
- The springs enable simple taking off irrespective of whether a busbar is positioned below or above
Special springs are available for fixing miniature circuit breakers with wo M5 screws
- A handle can be sealed in ON or OFF position
- Optional operation position
- Degree of protection IP20; degree of protection IP40 after installation in a distribution box
- Additional colour indication of the position of main contacts (red - contacts closed; green - contacts open)

TYPES

RI 61	single-pole
RI 62	two-pole
RI 63	three-pole
RI 64	four pole

MINIATURE CIRCUIT BREAKERS - RI60

Type	Symbol	Unit	RI60
Area of use			AC systems
Standards			IEC/EN 60898-1, IEC/EN 60947-2
Approvals			VDE, EAC, CE
Number of poles			1, 2, 3, 4
Tripping characteristics			C, D
Rated currents	I_n	A	6 ... 63
Rated voltage	U_n	V	230, 230/400, 400 (IEC/EN 60898-1) 230, 400 (IEC/EN 60947-2)
Rated DC voltage	U_n	V	max. 40 - 1-pole
Max. time constant for DC voltage	t	ms	15/60 V DC max.
Rated impulse withstand voltage	U_{imp}	kV	4
Rated insulation voltage	U_i	V	500
Rated frequency	f	Hz	50/60
Rated short-circuit breaking capacity	I_{cu} , I_{cs}	kA	10
Service short-circuit breaking capacity	I_{cs}	kA	7.5
Selectivity class			3
Electrical endurance		op.c.	6000
Mechanical endurance		op.c.	100 000
Terminal capacity		mm ²	1.5 ... 25 for Cu conductors 2.5 ... 25 for Al conductors
Screw type			M5
Screw head			PZ2
Tightening torque		Nm	2
Mounting			35 mm DIN rail acc. to 60715, with clip on panel
Degree of protection			IP 20 IP 40 from the front panel
Ambient temperature		°C	-25 ... 55
Altitude		m	up to 2000
Above max. altitude the voltages U_i and U_n are reduced by 1.2%, nominal rating I_n is reduced by 0.4% for every additional 100 m			
Mounting position			any
Resistance against vibrations			3 g (8 ... 50 Hz)
Accessories			Auxiliary and signal contacts PKJ, 2PKJ, PKJ+SKJ Shunt trip release VC60 Undervoltage release PC60

MINIATURE CIRCUIT BREAKERS - RI60

Internal impedances, power losses, loop impedance and rated currents corrections

Rated current I _n (A)	Internal impedance Z (mΩ)	Power losses P(W)	Max. impedance of fault loop Z(Ω)			Rated currents correction at the ambient air temperature from -20 °C to +60 °C										
			Char.B	Char.C	Char.D	-20 °C	-10 °C	0 °C	10 °C	20 °C	30 °C	40 °C	50 °C	60 °C		
	Characteristics C, D															
6	51	1.8	7.7	4.3	2.4	7.3	7.1	6.8	6.6	6.3	6.0	5.6	5.3	5.0		
10	14.8	1.5	4.6	2.6	1.4	12.1	11.8	11.4	11.0	10.5	10.0	9.3	8.8	8.3		
16	7.5	1.9	2.9	1.6	0.9	19.4	18.9	18.2	17.6	16.8	16.0	14.9	14.1	13.3		
20	6.3	2.5	2.3	1.3	0.7	24.2	23.6	22.8	22.0	21.0	20.0	18.6	17.6	16.7		
25	4.4	2.8	1.8	1.0	0.6	30.3	29.5	28.5	27.5	26.3	25.0	23.3	22.0	20.8		
32	3.1	3.2	1.4	0.8	0.4	38.7	37.8	36.5	35.2	33.6	32.0	29.8	28.2	26.7		
40	2.5	4.0	1.2	0.6	0.4	48.4	47.2	45.6	44.0	42.0	40.0	37.2	35.2	33.8		
63	1.6	6.4	0.7	0.4	0.2	76.2	74.3	71.8	69.3	66.2	63.0	58.6	55.5	52.5		

Selectivity of miniature circuit breakers RI60 of characteristic C with backup fuses (kA)

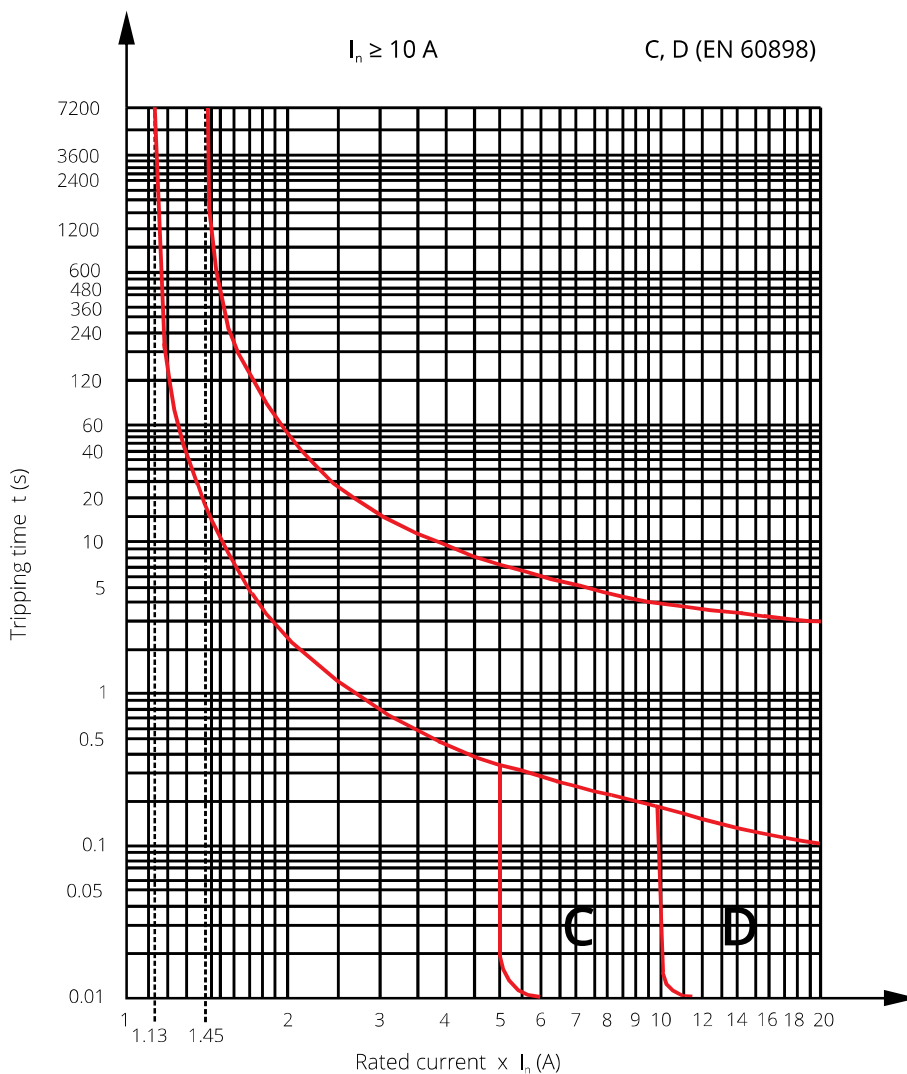
I _n (A)	NH gG								
	20	25	32	40	50	63	80	100	
6	0.5	0.8	1	2	2.3	3	8	10	
10		0.7	0.8	1.5	1.9	2.6	5	7	
16				1.3	1.7	2.4	3.8	6.1	
20				1.2	1.6	2.3	3.6	5.8	
25					1.5	2.2	3.4	5.3	
32						2.1	3.3	5.1	
40						2	3.1	4.8	
63									

MINIATURE CIRCUIT BREAKERS - RI60

Selectivity of miniature circuit breakers RI60 of characteristic D with backup fuses (kA)

I_n (A)	NH gG							
	20	25	32	40	50	63	80	100
6	0.6	1	1.4	2	2.4	3.5	7.5	10
10	0.5	0.8	1	1.5	2	2.6	4.5	10
16		0.6	0.8	1.3	1.7	2.4	3.8	6.1
20			0.5	1.2	1.6	2.3	3.6	5.8
25				1.1	1.5	2.2	3.4	5.3
32					1.4	2.1	3.3	5.1
40						1.9	3.1	4.8
63								4

Tripping characteristics



MINIATURE CIRCUIT BREAKERS - RI60

Correction of rated currents of miniature circuit breakers

Correction of rated currents of miniature circuit breakers installed side by side (A) Valid for reference temperature 30°C.

