

FI, NFI



- Residual current circuit breakers are used for protection against indirect contact, fire protection and additional protection against direct contact.
- They are suitable for isolation.
- No overload protection or short-circuit protection is built in RCCB.
- RCCBs are manufactured in two versions:
 - Type A (marked NFI) – sensitive to alternating and pulsating dc residual currents.
 - Type AC (marked FI) – sensitive to alternating residual currents of sine form.
- Assembly to a 35 mm wide mounting rail in accordance with EN 60715.
- Optional operation position.
- Degree of protection IP20, degree of protection IP40 after installation in a distribution box.
- Additional colour display of the position of main contacts (red: contacts closed, green: contacts open).
- A terminal shape prevents connection of a conductor outside the connection area.
- Special versions:

- **Type S:** A switch with delayed break enabling selectivity regarding a general type and a short-time delayed type (type G) connected on the load side. Break time is longer than 40 ms. The switches excel in high resistance to surge currents (up to 3 kA), which prevents unwanted trippings. Their rated currents are from 25 to 100 A, and rated residual operating currents are 0.1 A and 0.3 A. This is type A, and a customer can choose between NFI2S two-pole and NFI4S four-pole switches.

- **Type G:** a short-time delayed breaking characteristic (min. non-actuating period is 10 ms). The switches are resistant to unwanted trippings at current impulses or when built-in in special critical conditions. They excel in high resistance to surge currents (up to 3 kA) and a reliable operation in case of high making currents. Rated currents are from 25 to 100 A, and rated residual operating currents are 0.03 A, 0.1 A, 0.3 A and 0.5 A. This is type A, and a customer can choose between a NFI2K two-pole and NFI4K four-pole switches. Versions S and G comply with the EN 61008 standard. Regarding tripping times, type G also complies with ÖVE/ ÖNORM E 8601 (supplement to ÖVE EN 61008). Both types are VDE approved.

- **FIR – FIT combination:** It is used for the protection in circuits where operational currents are higher than rated currents of residual current circuit breakers. An actuating relay FIR is separated from a FI transformer (FIT). The function of load switching is performed by the contactor or a circuit-breaker with an undervoltage release. A combination rated current therefore depends on selected switching devices. It is limited with cable cross-sections which can be inserted through the hole of the FI transformer. Rated differential currents are 0.3 A, 0.5 A, 1 A and 2 A.

RESIDUAL CURRENT CIRCUIT BREAKERS



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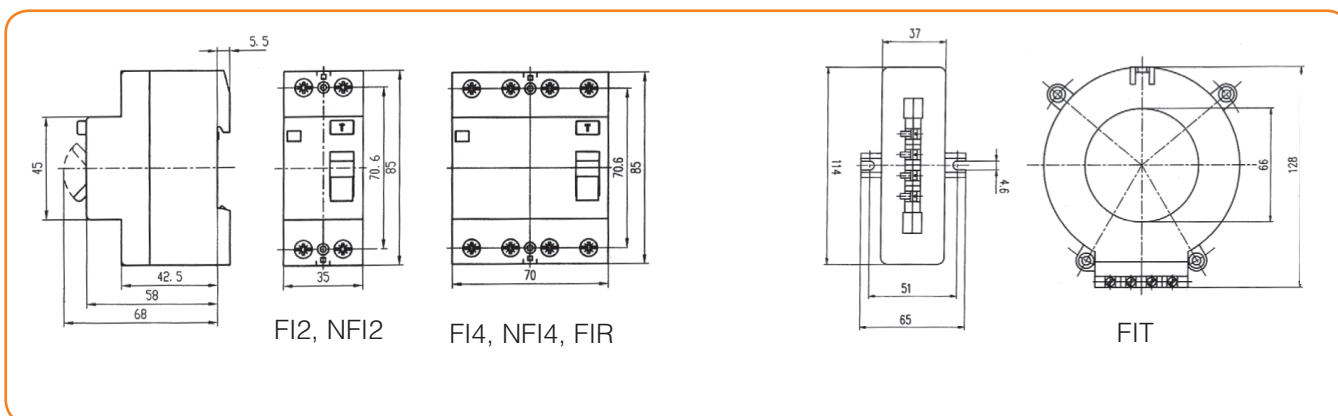
TECHNICAL DATA

Type	AC A	FI2-16 NFI2-16	FI2-25 NFI2-25	FI2-40 NFI2-40	FI2-63 NFI2-63	FI2-80 NFI2-80	FI2-100 NFI2-100	FI4-25 NFI4-25	FI4-40 NFI4-40	FI4-63 NFI4-63	FI4-80 NFI4-80	FI4-100 NFI4-100		
Standards		IEC/EN 61008												
Approvals		VDE, GOST-R												
No. of poles		2						4						
Rated voltage	U_n	V	230						230/400					
Rated impulse voltage	U_{imp}	kV	4											
Rated frequency	f	Hz	50/60											
Rated current	I_n	A	16	25	40	63	80	100	25	40	63	80	100	
Rated residual operating current	$I_{\Delta n}$	A	0.01	0.01	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
			0.03	0.03	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
			0.1	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
			0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Rated making and breaking capacity = Rated residual making and breaking capacity	$I_m = I_{\Delta m}$	A	800						1000	800				1000
Max. back-up fuse for short-circuit protection gL	I_v	A	63	63	63	80	80	100	63	63	80	80	100	
Rated conditional short-circuit current	I_{cn}	kA	10											
Terminal capacity	S	mm ²	1 ... 35											
Tripping times	s		at $1 \times I_{\Delta n} < 0.2$; at $5 \times I_{\Delta n} < 0.04$											
Ambient temperature	$^{\circ}C$		-25 ... +40											
Weight	kg		0.23						0.39					
Tightening torque	Nm		2.0											

ACCESSORIES

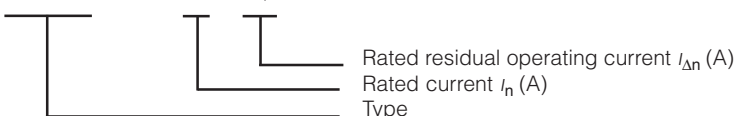
A sealing cover for two-pole (SCNF12) and four-pole (SCNF14) switches

DIMENSIONS



ORDERING DATA

FI2 - 25 /0,03
NFI4 - 40 /0,3



RESIDUAL CURRENT CIRCUIT BREAKERS

RFI2



- RFI2 is a combination of a residual current circuit breaker and a miniature circuit breaker
- A built-in protection against overload and short-circuit
- The following protection measures are available:
 - fault protection (protection against indirect contact)
 - protection against fire
 - additional protection against direct contact
- Protection against over- currents
- The switch is type A which means that it is sensitive to alternating and pulsating dc residual currents
- Sealing in ON or OFF position
- Assembly to a 35 mm wide mounting rail in accordance with EN 60715
- 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)

ACCESSORIES

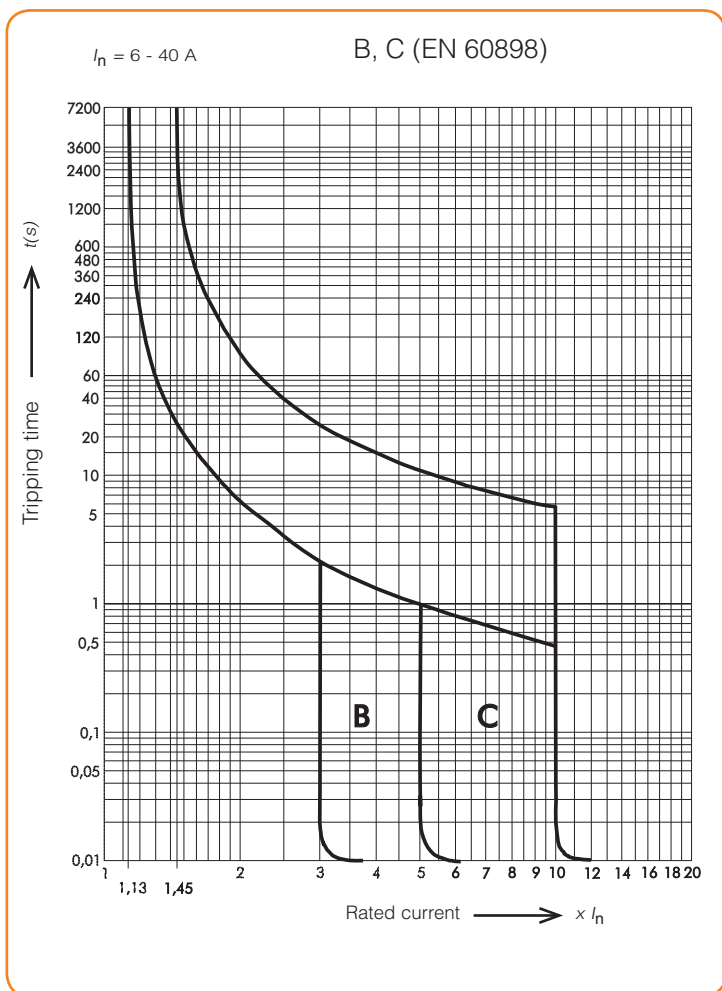
Type		A	RFI2-6	RFI2-10	RFI2-16	RFI2-20	RFI2-25	RFI2-32	RFI2-40
Standards			IEC/EN 61009						
Approvals			VDE, GOST-R						
No. of poles			2						
Tripping characteristic			B, C						
Rated voltage	U_n	V	230						
Rated impulse voltage	U_{imp}	kV	4						
Rated current	I_n	A	6	10	16	20	25	32	40
Rated residual operating current	$I_{\Delta n}$	A	0.01	0.01	0.01	0.01	0.01	-	-
			0.03	0.03	0.03	0.03	0.03	0.03	0.03
			0.1	0.1	0.1	0.1	0.1	0.1	0.1
			0.3	0.3	0.3	0.3	0.3	0.3	0.3
			0.5	0.5	0.5	0.5	0.5	0.5	0.5
Rated short-circuit capacity		kA	10						
Selectivity class			3						
Ambient temperature		°C	-25 ... +40						
Terminal capacity	S	mm ²	1.5 ... 25						
Accessories			Auxiliary and signal changeover contacts						

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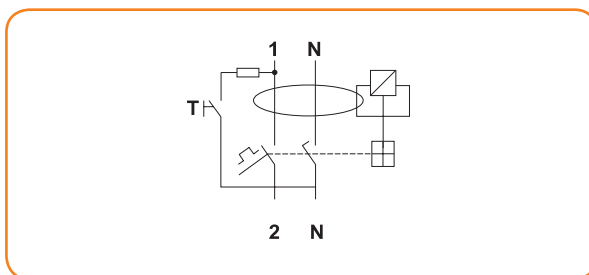


RFI2

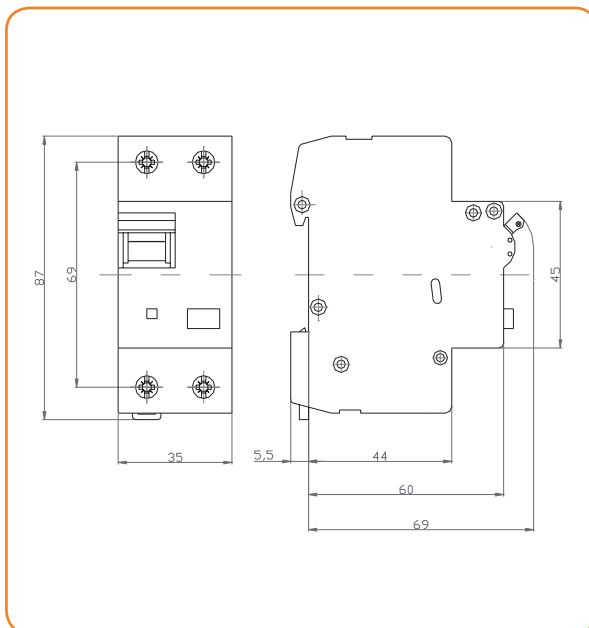
TRIPPING CHARACTERISTIC



CONNECTION DIAGRAM



DIMENSIONS



ORDERING DATA

