

## EFFICIENT INSTALLATIONS



## RESIDUAL CURRENT CIRCUIT BREAKERS TYPE F - NF1F

- **RELEVANT FOR** PROTECTION WHEN USING WASHING MACHINES, VACUUM CLEANERS, DISHWASHERS, HEATING PUMPS, LIGHTING SYSTEMS
- **CAPABLE OF DETECTING** MIXED FREQUENCIES UP TO 1 KHz

# RESIDUAL CURRENT CIRCUIT BREAKERS

## NFIF

### FEATURES

- ISKRA **NFIF ARE TYPE F RESIDUAL CURRENT CIRCUIT BREAKERS (RCCB) FOR WHICH TRIPPING IS ENSURED AS FOR TYPE A AND IN ADDITION FOR RESIDUAL CURRENTS WITH MIXED FREQUENCIES** THAT CAN RESULT FROM SINGLE-PHASE ELECTRICAL LOADS WITH FREQUENCY INVERTERS.
- **INTENDED FOR PROTECTION WHEN USING WASHING MACHINES, VACUUM CLEANERS, DISHWASHERS, HEATING PUMPS, LIGHTING SYSTEMS ...**
- **CAPABLE OF DETECTING MIXED FREQUENCIES UP TO 1 KHz**
- THE **TRIPPING CHARACTERISTIC OF TYPE F IS NOT INFLUENCED** BY SMOOTH D.C. RESIDUAL CURRENTS **UP TO 10 mA**.
- **FUNCTIONS OF DETECTION, EVALUATION AND INTERRUPTION** FOR TYPE F RESIDUAL CURRENTS DO NOT DEPEND ON THE LINE VOLTAGE.
- **VERSIONS:**
  - NF12F, NF14F: SHORT-TIME DELAY TRIPPING
  - NF12FS, NF14FS: SELECTIVE TYPE
- **INCREASED UNWANTED TRIPPING AND SURGE CURRENT WITHSTAND CAPABILITY** WITH CURRENT WAVEFORM 8/20  $\mu$ s UP TO 3 kA
- OPTIONAL OPERATING POSITION
- **DEGREE OF PROTECTION IP20**; AFTER INSTALLATION IN A **DISTRIBUTION BOX IP40**.

**INTENDED FOR**  
**PROTECTION**  
**PROTECTION**  
**PROTECTION**



### OTHER TYPES AVAILABLE

**TYPE AC, A: SWITCH WITH INSTANTANEOUS TRIPPING.** TYPE AC IS SENSITIVE TO RESIDUAL SINUSOIDAL ALTERNATING CURRENTS ONLY AND TYPE A IS SENSITIVE TO RESIDUAL SINUSOIDAL ALTERNATING CURRENTS AND RESIDUAL PULSATING DIRECT CURRENTS.

**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. SWITCHES EXCEL IN HIGH RESISTANCE TO SURGE CURRENTS (UP TO 3 kA), WHICH PREVENT UNWANTED TRIPPINGS. THEIR RATED CURRENTS ARE FROM 25 TO 100 A, AND RATED RESIDUAL CURRENTS ARE 100, 300 AND 500 mA. THIS IS TYPE A, AND CUSTOMER CAN CHOOSE BETWEEN NF12S TWO-POLE AND NF14S FOUR-POLE SWITCHES.

**TYPE G: A SHORT-TIME DELAYED BREAKING CHARACTERISTIC (MINIMUM NON-ACTUATING PERIOD IS 10 Ms).** THE SWITCHES ARE RESISTANT TO UNWANTED TRIPPING AT CURRENT IMPULSES AND HAVE SURGE CURRENT WITHSTAND CAPABILITY UP TO 3 kA. THEIR RATED CURRENTS ARE FROM 25 TO 100 A, AND RATED RESIDUAL CURRENTS ARE 30, 100, 300 AND 500 mA. THIS IS TYPE A, AND CUSTOMER CAN CHOOSE BETWEEN NF12K TWO-POLE AND NF14K FOUR-POLE SWITCHES.

**ALL TYPES ARE VDE APPROVED.**

# RESIDUAL CURRENT CIRCUIT BREAKERS

## NFIF

TECHNICAL DATA				NFI2F NFI2FS	NFI4F NFI4FS
GENERAL					
STANDARD		IEC/EN 61008, IEC/EN 62423			
NO. OF POLES			2		4
RATED VOLTAGE	$U_n$	V	230		400
RATED IMPULSE VOLTAGE	$U_{mp}$	kV	4		
RATED FREQUENCY	f	Hz	50		
RATED CURRENT	$I_n$	A	25, 40, 63, 80, 100		
RATED RESIDUAL OPERATING CURRENT	$I_{\Delta n}$	mA	30, 100, 300, 500		
FREQUENCY RESPONSE RANGE	f	Hz	0 - 1000		
RATED MAKING AND BREAKING CAPACITY = RATED RESIDUAL MAKING AND BREAKING CAPACITY	$I_m = I_{\Delta m}$	A	800 ( $I_n = 16 - 80$ A) 1000 ( $I_n = 100$ A)		
MAX. BACK-UP FUSE SHORT-CIRCUIT CURRENT	$I_v$	A	63 ( $I_n = 25 - 40$ A) 80 ( $I_n = 63, 80$ A) 100 ( $I_n = 100$ A)		
TERMINAL CAPACITY	S	mm <sup>2</sup>	1 ... 35		
MAX. BREAK TIMES		ms	NFI2F, NFI4F: $1 \times I_{\Delta n} \leq 300$ ms; $5 \times I_{\Delta n} \leq 40$ ms NFI2FS, NFI4FS: $1 \times I_{\Delta n} \leq 500$ ms; $5 \times I_{\Delta n} \leq 150$ ms		
MIN. NON-OPERATING TIMES		ms	NFI2F, NFI4F: 10 ms NFI2FS, NFI4FS: 40 ms		
MAINS CONNECTION			EITHER TOP OR BOTTOM		
AMBIENT TEMPERATURE		°C	-25 ... +40		
STORAGE TEMPERATURE		°C	-35 ... +60		
TIGHTENING TORQUE		Nm	2.0		

Note: Rated frequency 60 Hz on request.



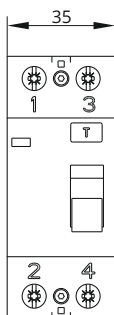
**FUNCTIONS OF**  
**DETECTION**  
**EVALUATION**  
**INTERRUPTION**

# RESIDUAL CURRENT CIRCUIT BREAKERS

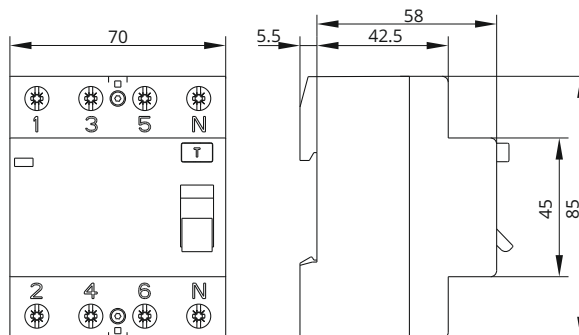
NFIF

## DIMENSIONS

### TWO-POLE

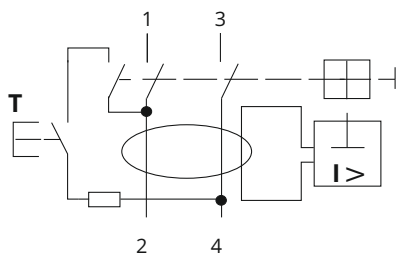


### FOUR-POLE

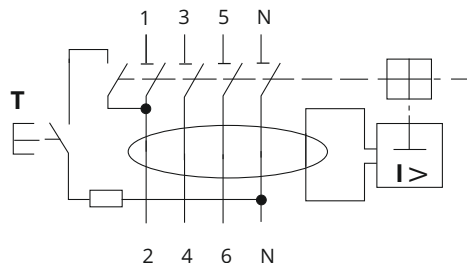


## SCHEMATICS

### TWO-POLE

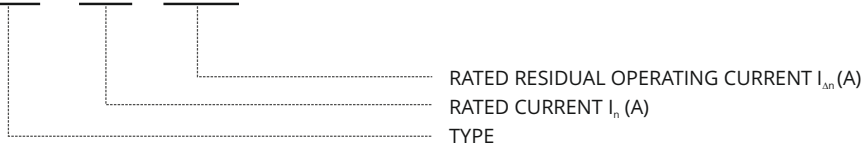


### FOUR-POLE



## ORDERING DATA

**NFI2F** - 25 / 0.03  
**NFI4F** - 63 / 0.3



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