



## NL1 Residual Current Operated Circuit Breaker without over-current protection (Magnetic)

### 1. General

#### 1.1 Function

- Control electric circuits.
- Protect people against indirect contacts and additional protection against direct contacts.
- Protect installations against fire hazard due to insulation faults.
- Residual current circuit breakers are used in housing, tertiary sector and industry.

#### 1.2 Selection

##### Detectable wave form

##### AC class

Tripping is ensured for slowly increasing sinusoidal AC residual currents.

##### A class

Tripping is ensured for sinusoidal AC residual currents and for pulsed DC residual currents, whether applied suddenly or increasing slowly.

##### S, G/SI class

Tripping is ensured not only for sinusoidal AC residual currents but also for pulsed DC residual currents whether applied suddenly or increasing slowly. S, G/SI type with filters against spurious tripping caused by harmonics and transient surges. With the impact of 8/20us surge 3000A, this high immunity RCCB will still be in stable status.

#### Tripping sensitivity

- 10mA - precision instrument leakage protection and bathroom use.
- 30mA - additional protection against direct contact.
- 100mA - co-ordinated with the earth system according to the formula  $I\Delta n < 50/R$ , to provide protection against indirect contacts;
- 300mA/500mA - protection against indirect contacts, as well as fire hazard.

#### Tripping time

##### Instantaneous

It ensures instantaneous tripping (without time-delay).

##### Short time delay G/SI

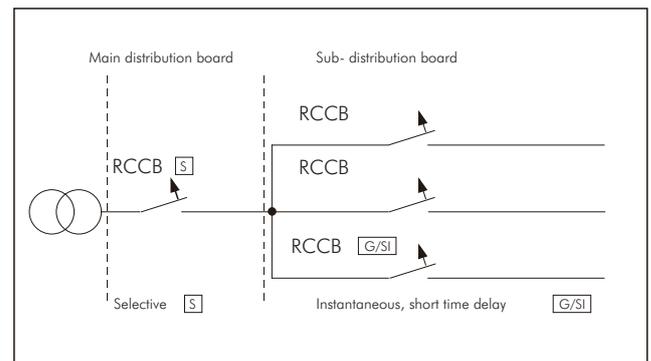
It ensures any tripping at least 10ms.

##### Selective S

It ensures total discrimination with a nonselective RCD placed downstream.

#### 1.3 Approvals and certificates

Detailed information, please refer to Certificates Table on the last page.



## 2. Technical data

	Standard	IEC/EN 61008-1					IEC/EN 62423 & IEC/EN 61008-1
Electrical features	Type (wave form of the earth leakage sensed)	AC, A	AC-G,A-G,A-SI	AC,A	AC-S,A-S	F	
	Rated current I <sub>n</sub>	A	16, 25, 32, 40, 63	16, 25, 32, 40, 63	80,100	63,80,100	25,40,63
	Poles		2P, 4P				
	Rated voltage U <sub>e</sub>	V	230/400~240/415, 110/127 (2P)		230/400~240/415		
	Rated sensitivity I <sub>Δn</sub>	A	0.01for 2P 25A, 0.03, 0.1, 0.3, 0.5	0.03, 0.1, 0.3	0.03, 0.1, 0.3	0.1, 0.3	0.03, 0.1, 0.3
	Insulation voltage U <sub>i</sub>	V	500				
	Rated residual making and breaking capacity I <sub>Δm</sub>	A	500 (I <sub>n</sub> =25A/40A)	500 (I <sub>n</sub> =25A/40A)	1000 (I <sub>n</sub> =80A/100A)	1000(I <sub>n</sub> =63A/80A/100A)	500 (I <sub>n</sub> =25A/40A) 630 (I <sub>n</sub> =63A)
	Short-circuit current I <sub>nc</sub> =I <sub>Δc</sub>	A	6000/10000				
	SCPD fuse	A	10000				
	break time under I <sub>Δn</sub>	s	≤0.1(Normal type), 10ms~300ms(G/SI type).		≤0.3(Normal type)	150ms~500ms(S type)	≤0.1(Normal type)
	Rated frequency	Hz	50/60				
	Rated impulse withstand voltage(1.2/50) U <sub>imp</sub>	V	4000				
	Dielectric test voltage at ind. Freq. for 1 min	kV	2				
	Pollution degree		2				
Mechanical features	Electrical life	2, 000					
	Mechanical life	2, 000					
	Fault current indicator	Yes					
	Protection degree	IP20					
	Ambient temperature (with daily average ≤35°C )	°C	-25...+40				
	Storage temperature	°C	-25...+70				
Installation	Terminal connection type	Cable/U-type busbar/Pin-type busbar					
	Terminal size top/bottom for cable	mm <sup>2</sup>	25/35				
		AWG	18-3/18-2				
	Terminal size top/bottom for busbar	mm <sup>2</sup>	10/16				
		AWG	18-8/18-5				
	Tightening torque	N·m	2.5				
		In-lbs.	22				
Mounting	On DIN rail EN 60715 (35mm) by means of fast clip device						
Connection	From top and bottom						

## 3. Overall and mounting dimensions (mm)

