



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

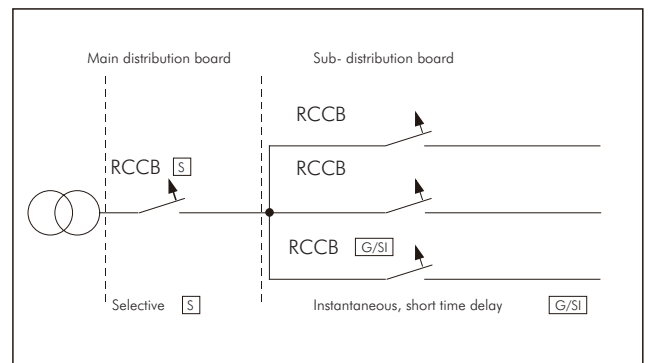
It ensures any tripping at least 10ms.

Selective S


It ensures total discrimination with a nonselective RCD placed downstream.

1.3 Approvals and certificates

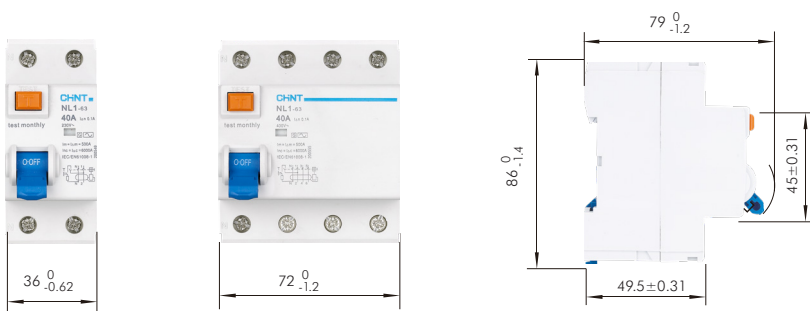
Detailed information, please refer to Certificates Table on the last page.



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 _n	A	16, 25, 32, 40, 63	16, 25, 32, 40, 63	80,100	63,80,100	25,40,63	
	Poles		1P+N, 3P+N					
	Rated voltage U _e	V	230/400~240/415, 110/127 (1P+N)		230/400~240/415			
	Rated sensitivity I _{Δn}	A	0.01for1P+N 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 _i	V	500					
	Rated residual making and breaking capacity I _{Δm}	A	500 (I _n =25A/40A)	500 (I _n =25A/40A)	1000 (I _n =80A/100A)	1000(I _n =63A/80A/100A)	500 (I _n =25A/40A)	
			630 (I _n =63A)	630 (I _n =63A)			630 (I _n =63A)	
	Short-circuit current I _{nc} =I _{Δc}	A	6000/10000					10000
	SCPD fuse	A	 10000					
	break time under I _{Δn}	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 _{imp}	V	6000					
	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 ²	25/35					
		AWG	18-3/18-2					
	Terminal size top/bottom for busbar	mm ²	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)



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