

Earth leakage protective relays

■ Description

In the earth leakage relay the breaking mechanism is omitted from the ELCB, and the ZCT and earth leakage tripping device are integrated into a common body. These relays are available in both instantaneous and time-delay versions. Generally these relays are used in conjunction with MCCB's, ACB's and motor starters.

Relay and sensor–Unit type

BRR/Pass-through type

- Instantaneous trip
- Solid-state tripping device
- Sensitive current: 30, 100, 200mA
500mA
- Control voltage: Up to 415V AC

Relay and sensor–Separate type

RRD/Pass-through type

- Time-delay trip
- Solid-state tripping device
- Sensitive current: 100/200, 200/500mA
500/1000mA
- Control voltage: Up to 415V AC



EL/Pass-through type

- Instantaneous or time-delay trip
- Solid-state tripping device
- Sensitive current:
30, 100/200, 200/500mA
500/1000mA
- Control voltage: Up to 415V AC
- Easily modified from front mounting
to flush mounting

■ Selection guide

● BRR(Unit type)/Solid-state tripping device

Type	BRR01N	BRR09N	BRR11N	BRR19N	BRR21N	BRR29N	BRR22N	BRR25N
Sensor hole (mm)	ø10		ø25		ø40			
Main circuit voltage (V AC)	Max. 600							
Control voltage * (V AC)	120, 240		120, 240		120, 240, 415			
Rated sensitive current (mA)	30	100	30	100	30	100	200	500
Mass (kg)	0.12		0.2		0.52			

Type	BRR42H	BRR45H
No. of poles	2, 3, 4	
Main circuit voltage (V AC)	Max. 600	
Rated current (A)	400	
Control voltage * (V AC)	120, 240, 415	
Rated sensitive current (mA)	200	500
Mass (kg)	2-pole: 3.0, 3-pole: 3.3, 4-pole: 3.6	

● RRD(Separate type)/Solid-state tripping device

Type	RRD6AZ□	RRD8AZ□	RRD10AZ□	RRD12AZ□	RRD25P0	RRD40P0	RRD60P0	RRD90P0	RRD120P0				
No. of poles or sensor hole (mm)	3 4	3 4	3 4	3 4	ø25	ø40	ø60	ø90	ø120				
Main circuit voltage (V AC)	Max. 600				Max. 600								
Rated current (A)	600		800		1000		1200						
Control voltage * (V AC)	120, 240, 415				120, 240, 415								
Rated sensitive current (mA)	100/200, 200/500, 500/1000				100/200, 200/500, 500/1000								
Time-delay type 0.2 to 2 sec. adjustable													
Mass/Relay+Sensor (kg)	8.1	12.0	9.3	14.6	12.0	16.0	15.7	25.4	0.7	1.2	1.8	2.6	7.0

Note: * 100/110V or 200/220V is available.

Earth Leakage Protective Relays BRR, RRD, and EL types

■ Selection guide

● EL (Separate type)/Solid-state tripping device

Type	EL25P0	EL40P0	EL60P0	EL90P0	EL120P0
Sensor hole (mm)	ø25	ø40	ø60	ø90	ø120
Main circuit voltage (V AC)	Max. 600				
Control voltage (V AC)	100/200, 120/240, 415				
Rated sensitive current (mA)	Instantaneous	30, 100/200, 200/500 500/1000		100/200, 200/500 500/1000	
	Time-delay type	100/200, 200/500, 500/100 (Tripping time: 0.3 or 0.8 sec. fixed)			
Mass/Relay+Sensor (kg)	0.3	0.85	1.45	2.25	6.6

■ Auxiliary contact ratings

Type	Contact arrangement	Thermal current	Making current	Breaking current (cos ϕ =0.3–0.4) (L/R=7ms)			
				415V AC	240V AC	120V AC	24V DC
BRR01N, 09N 11N, 19N	1NO * SPDT	3A 3A	10A (at 240V AC)	– –	1A 1A	1A 1A	– –
BRR21N, 29N, 22N, 25N BRR42H, 45H	SPDT	5A	10A (at 240V AC)	2.5A	5A	5A	2A
EL 120/240V AC 415V AC	SPDT 1NO	5A 3A	10A 6A	– 2A	3A 3A	3A 3A	2A 2A
RRD 120/240V AC 415V AC	2PDT SPDT	5A 5A	10A 6A	– 2.5A	3A 3A	3A 3A	2A 2A

Note: * Also available with SPDT contact.

■ Type number nomenclature, BRR unit type

BRR 2 1 N-0 24 S

