Type: ELRM44F-0030, 0100 & 0300

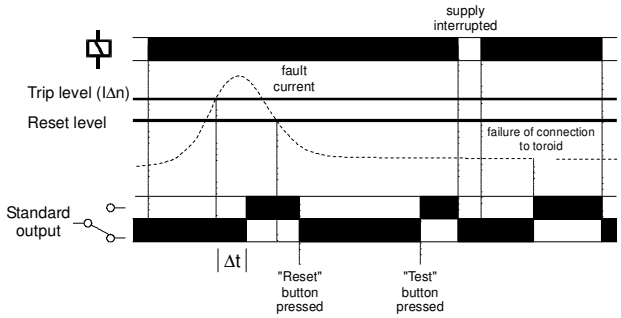
Earth Leakage Relay (Fixed) - Type A

- **44mm (2.5 modules) wide DIN rail housing**
- **Designed to monitor and detect true RMS earth fault currents in conjunction with a separate toroid**
- **Microprocessor controlled with internal monitoring (self-checking)**
- **Fixed Sensitivity (IΔn) - 30, 100 or 300mA***
- **Fixed Time Delay (Δt) - 0 (instantaneous)**
- **Separate "Test" and "Reset" push buttons**
- **Connection facility for remote "Test" and "Reset" push buttons or N.O. contacts**
- **Toroid open circuit detection forces unit to trip (Red LED flashes during this condition)**
- **SPDT relay output 8A**
- **LED indication of Supply and fault condition after unit has tripped**

Dims:
to DIN 43880
W. 44mm

Terminal Protection to IP20

FUNCTION DIAGRAM



INSTALLATION

Installation work must be carried out by qualified personnel.

- BEFORE INSTALLATION, ISOLATE THE SUPPLY.
- Connect the unit as shown in the diagram below.
- Apply power, the green **"supply on"** LED will illuminate. The output relay will energise and the red **"tripped"** LED illuminate if:

  a, the fault current level exceeds the fixed trip level (IΔn), or
  b, there is a failure of the connection between the relay and the toroid (Note the red **"tripped"** LED will flash during this condition)
- The relay will now remain in a latched condition.

Fault simulation (Test mode)

- The unit can be placed into a fault condition by pressing the **"Test"** button on the front of the unit (or by pressing the remote **"Test"** button - if fitted). The output relay operates accordingly.
- Press the **"Reset"** button on the front of the unit (or remotely - if fitted) to reset the unit. The output relay reverts back to the "non-tripped" state.
- The unit can also be reset by interrupting the power supply.
- To satisfy regulations, it is recommended that the device be tested periodically to ensure correct operation.

Troubleshooting

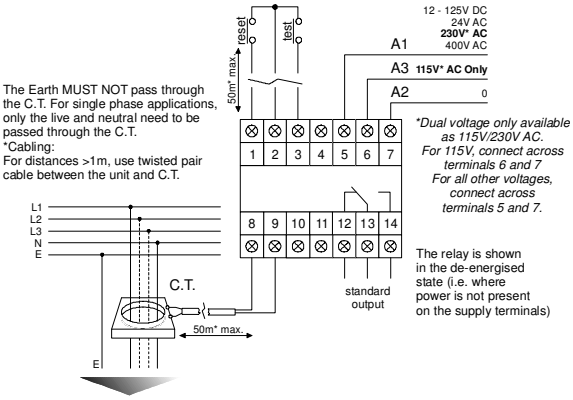
- If the unit fails to operate correctly check that all wiring and connections are good.

Note:

The operating function of this unit is classed as a Type A for which tripping is ensured for residual sinusoidal alternating currents and residual pulsating direct currents, whether applied suddenly or slowly rising. Additionally, this unit is protected against nuisance tripping. This unit will also satisfy the requirements for Type AC devices which only need to detect residual alternating currents.

This unit should be installed in conjunction with the latest wiring regulations and practices (IEE, etc)

CONNECTION DIAGRAM



TECHNICAL SPECIFICATION

Supply voltage Un (5, **6**, 7):	12 - 125V DC (85 - 110% of U)
(see connection diagram)	24, 115/230, 400V AC (85 - 115% of Un)
All AC supplies are galvanically isolated between the supply and the toroid, remote test and remote reset connections.	Please state Supply voltage when ordering.
Frequency range:	50/60/400Hz (AC supplies)
Isolation:	Over voltage cat. III
Rated impulse withstand voltage:	800V (24V AC supplies), 2.5kV (115V AC supplies)
(1.2 / 50µS) IEC 60664	4kV (230V, 400V AC supplies)
Power consumption (max.):	6VA (AC supplies) 5W (DC supplies)
Monitored leakage current:	0 to 30A (15 - 400Hz) (through external toroid with 1000:1 ratio and connected to terminals 8 and 9)
Sensitivity IΔn (see Accessories):	30, 100 or 300 mA (*to be specified when ordering)
Trip level limits:	80 - 90% of IΔn
Reset Value:	≈ 85% of tripped level
Time delay Δt:	instantaneous (*Actual delay is <25mS when fault current @ 5 x IΔn*)
Reset time:	≈ 2S (from supply interruption)
LED indication:	
Power supply present:	Green
Tripped:	Red (see "INSTALLATION" to the left)
Memory:	storage of the leakage fault and reset with the "Reset" push button
Ambient temp:	-20 to +55°C
	-5 to +40°C (in accordance with IEC 60755)
Relative humidity:	+95%
Output :	SPDT relay (12, 13, 14)
Output rating:	AC1 250V 8A (2000VA)
	AC15 250V 2.5A
	DC1 25V 8A (200W).
Electrical life:	≥ 150,000 ops at rated load
Dielectric voltage:	2kV AC (rms) IEC 60947-1
Rated impulse withstand voltage:	4kV (1.2 / 50µS) IEC 60664
Remote "Test" and "Reset" (1, 2, 3)	Requires N.O. contacts. (i.e. push buttons)
Minimum trigger time:	>80mS
Housing:	Grey flame retardant Lexan UL94 VO
Weight:	≈ 190g (AC power supplies) ≈ 110g (DC power supply)
Mounting option:	On to 35mm symmetric DIN rail to BS5584:1978 (EN50 002, DIN 46277-3)
Terminal conductor size:	≤ 2.5mm² stranded, ≤ 4mm² solid
Approvals:	Conforms to: IEC60755, 60947, 62020, 61543. IEC 61000-4-2, -3, -4, -5 , -6, -12 and -16. CISPR 22. CE and cULus Compliant.

( ) Numbers in brackets shown above refer to terminal numbers on the relay housing.

Options

1. For other supply voltages, alternative trip levels or time delays, please consult the sales office.

Ordering*

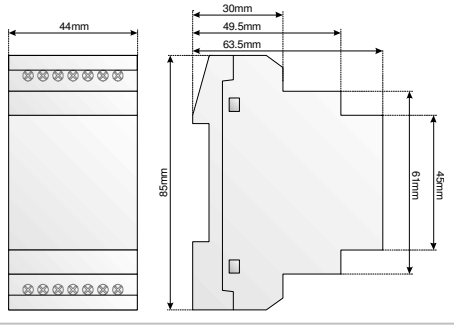
Please state full part number and voltage when ordering. The suffix, which should follow ELRM44F, is **0030** (30mA), **0100** (100mA) or **0300** (300mA).

Example: **ELRM44F-0030** 24V AC

Accessories – Toroids

Toroid Type:	Internal diameter:	IΔn (min.) A	Toroid Type:	Internal diameter:	IΔn (min.) A
BZCT035	35mm Ø	0.03	BZCT120	120mm Ø	0.1
BZCT050	50mm Ø	0.03	BZCT160	160mm Ø	0.1
BZCT070	70mm Ø	0.03	BZCT210	210mm Ø	0.3

MOUNTING DETAILS



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