



COMPANY INTRODUCTION

Bridex Singapore Pte Ltd is founded in 1978 as a manufacturer of instruments transformer for the Asian market. We are the first local electrical switchgear components manufacturer that launches our own Asian identity – **RUDOLF**

We aim to be a knowledge-based, technology driven engineering organization, with emphasis on providing solution for electrical distribution and control. We specialize in the area of instruments, distribution & protection, and power quality solutions. With our present headquarter in Singapore and subsidiaries located in Australia, Malaysia, Philippines and representative office in Vietnam, we are well equipped to serve both the local and Asia Pacific market.

SELECTION GUIDE EARTH LEAKAGE RELAY

Product Code	Sensitivity	Time Delay	Aux Supply
R-ELRM44V-30	Adjustable from 30mA to 30A	Adjustable from 0 (instantaneous) to 10 seconds	115 / 230 VAC
R-ELRM44V-30-B			24 VAC
R-ELRM44V-30-N			400 VAC
R-ELRM44V-30-FD			12 - 125 VDC

TOROID

Product Code	Internal Dimension
R-ZCT035	35mm sq.
R-ZCT070	70mm sq.
R-ZCT120	120mm sq.
R-ZCT210	210mm sq.

PRODUCT INTRODUCTION – RUDOLF EARTH LEAKAGE RELAY

Rudolf earth leakage relay is an internationally tested micro-processor base solution that supports and optimizes your application. Being efficient and reliable, it is broadly utilized in markets such as the switchgear, automation and building services industries.

The evolution of Rudolf earth leakage relay results in improvised functionality and greater environmental friendliness while maintaining superb standards in quality and complying with international standards. Rudolf earth leakage relay has obtained RoHS compliance; a directive that came into force in July 2006 and stands for “the restriction of the use of certain hazardous substances in electrical and electronic equipment”.

Rudolf earth leakage relay – the brand that adds values to your solution.

BASIC FEATURES

Rudolf earth leakage relay is a micro-processor base solution enhanced with an internal monitoring feature that provides self checking function. It is carefully designed to monitor and detect True RMS earth fault currents (up to 30A) in conjunction with a separate toroid.

Rudolf earth leakage relay has a LED bargraph that provides constant indication of any leakage current. Other LED indication of supply status and fault condition, are available for easy identification. The Red LED, an added feature, flashes when the toroid is open-circuit and forces the unit to trip.

Furnished with separate “test” and “reset” push buttons, Rudolf earth leakage relay is also equipped with 1XSPNO relay and 1XSPDT relay to provide contact operation for positive safety and standard output respectively. In addition, it is coupled with connection facility for remote “test” and “reset” function to facilitate the fault simulation operation.

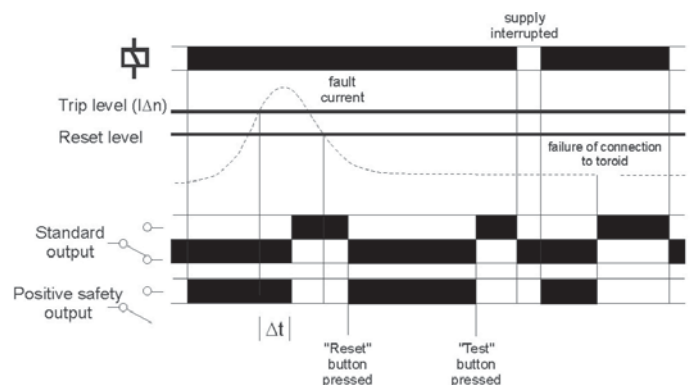
Rudolf earth leakage allows adjustable sensitivity and time delay via the trimpots located on the face of the relay and its settings are:

R-ELRM 44V-30

- Sensitivity: 30, 100, 300, 500mA,
1, 3, 5, 10, 20, 30A (user selectable)

- Time delay: instantaneous, 60, 150, 250, 500, 800msec,
1, 2.5, 5, 10 sec (user selectable)

FUNCTION DIAGRAM



Earth Leakage Relay

SPECIFICATIONS

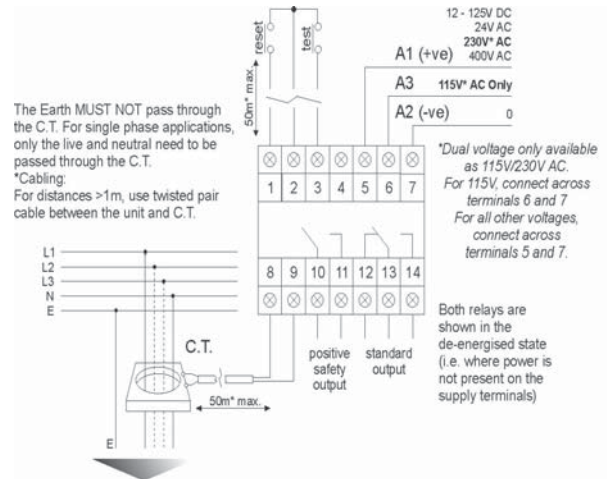
Supply voltage Un	: 12-125V DC (85%- 110% of U) 24, 115/230 VAC, 400VAC (85-115% Of Un) All AC supplies are galvanically isolated between the supply and the toroid and remote test /reset connections
Frequency range	: 50/60 Hz (AC supplies)
Isolation	: Over-voltage category III
Rated impulse withstand voltage	: 800V (24VAC supplies) 2.5kV (115VAC supplies) 4kV (230VAC, 400VAC supplies) for 1.2/50µsec IEC60664
Power consumption (max)	: 6VA (AC Supplies) 5W (DC Supplies)
Monitored leakage current	: 0 to 30 A (15 – 400Hz) (Through external toroid with 1000:1 ratio & connected to terminals 8 & 9)
Sensitivity	: 30, 100, 300, 500mA, 1, 3, 5, 10, 20, 30A (user selectable)
Trip level limits	: 80 – 90% of IΔn
Reset Value	: ≈85% of tripped level
Time delay	: 0*, 60, 150, 250, 500, 800msec, 1, 2.5, 5, 10 sec (user selectable)

*Actual delay for “0” or “instantaneous” is <25mS when f ault current @ 5 x IΔn.

Reset time	: ≈2s (from supply interruption)
LED indication:	
Power supply present	: Green
Bargraph	: Green x 3 (25, 50 and 75% of actual trip level)
Tripped	: Red
Memory	: Storage of the leakage fault and reset with “Reset” push button
Toroid connection (8,9)	: to external R-ZCT toroid only (1000:1)
Toroid withstand capacity	: 1kA continuous 5kA for 1.5sec 100kA for 0.05sec
Distance between toroid & relay	: 50 meters (max)
Ambient temperature accordance to IEC60755)	: -20 to +55 °C (-5 to +40 °C in
Relative humidity	: +95%
Output(10, 11 / 12, 13, 14)	: 1xSPNO, 1 x SPDT relay
Output rating	: S.O (12, 13, 14) P.S.O (10, 11) AC1(250V) 8A (2000VA) 6A (1500VA) AC15 (250V) 2.5A 4A DC1 (25V) 8A (200W) 6A(150W)
Electrical life	: ≥150,000 operations at rated load
Dielectric voltage	: 2kV AC (rms) IEC60947-1
Rated impulse withstand voltage	: 4kV (1.2/50 µsec) IEC60664

Remote “test”/“reset” (1, 2, 3)	: requires N.O. contact (ie. push button)
Minimum trigger time	: >80mS (Actual trigger time = 80mS + Δt setting for remote “test”)
Housing	: Grey flame retardant Lexan UL94V0
Weight	: ≈190g (AC power supplies), ≈ 110g (DC power supply)
Mounting option	: on to 35mm symmetric DIN rail to BS5584:1978 (EN50002, DIN46277-3)
Terminal conductor size	: ≤2.5mm ² stranded ≤ 4mm ² solid
Approval	: Conforms to IEC60755, IEC60947, IEC62020, IEC61543, IEC 6100-4-2, -3, -4, -5, -6, -12 and -16. CISPR 22.

CONNECTION DIAGRAM



MOUNTING DIAGRAM

