MULTISPAN

Earth Leakage Relay
ELR-19N-M1

FEATURE

- Earth Leakage Current Monitoring In 1Ø - 2W, 3Ø-3W And 3Ø-4W System
- Test Mode Available.
- Auto/Manual Triping Reset Facility.
- Test/Trip Reset Via Front Key

TECNICAL SPECIFICATION

INPUT SPECIFICATION :

Input Current	30 mA To 3.00 Amp AC
Display Currant Range	0.030 To 3.000 Amp AC
Resolution	If Current in mA = 1 mA If Current in Amp = 0.001A

DISPLAY & KEYS :

Display	Upper: 4 Digit ,7 Seg., 0.56", Red Lower: 4 Digit ,7 Seg., 0.56",Green
Keys	SET, INC, DEC, ENT/RST

DIMENSION :

Size (mm)	96(H) X 96(W) X 54(D)
Panel Cutout	92(H) X 92(W)

OUTPUT SPECIFICATION :

Relay	1 Nos.
Relay Type	1 C/O (NO-C-NC)
Rating	10A,230V AC Resistive Load

AUXILIARY SUPPLY :

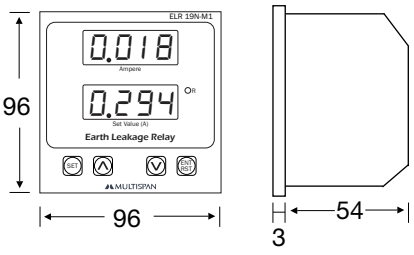
Supply Voltage	100 To 250 V AC,50/60Hz
Power Consumption (VA Rating)	4VA @ 230 VAC MAX

ENVIRONMENT CONDITION:

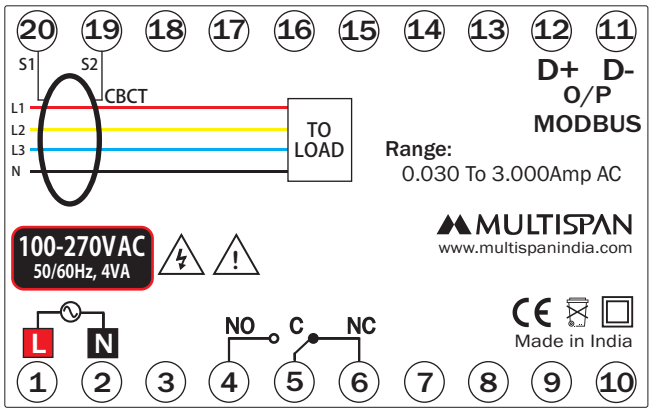
Operating Temp.	0°C to 55°C
Relative Humidity	UP to 95% RH (non-condensing)
Protection Level (As per request)	IP-65 (Front side) As per IS/IEC 60529 : 2001

MECHANICAL DIMENSION

Outline Dimension (mm)	Panel Cutout Dimension (mm)



TERMINAL CONNECTION



KEY OPERATION

FUNCTION	KEY PRESS
OPERATION MODE	
To Enter in Parameter Setting	SET
To Enter in Test Mode	TEST ∧ For 5 sec
To Reset the Relay Contact Manually After Tripping	ENT RST For 2 sec
PARAMETER SETTING MODE	
To set parameter value	SET
To increment parameter value.	TEST ∧
To decrement parameter value.	∨
Set parameter to be save & exit.	ENT RST

SAFETY PRECAUTION

All safety related codifications, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If all the equipment is not handled in a manner specified by the manufacturer, it might impair the protection provided by the equipment.

Read complete instructions prior to installation and operation of the unit.

WARNING : Risk of electric shock.

MAINTENANCE

1. The equipment should be cleaned regularly to avoid blockage of ventilating parts.
2. Clean the equipment with a clean soft cloth. Do not use isopropyl alcohol or any other cleaning agent.
3. Fusible resistor must not be replaced by operator.

WARNING GUIDELINES

WARNING : Risk of electric shock.

1. To prevent the risk of electric shock, power supply to the equipment must be kept OFF while doing the wiring arrangement. Do not touch the terminals while power is being supplied.
2. To reduce electro magnetic interference, use wire with adequate rating and twists of the same of equal size shall be made with shortest connection.
3. Cable used for connection to power source, must have a cross section of 1mm or greater. These wires should have insulations capacity made of at least 1.5kV.
4. When extending the thermocouple lead wires, always use thermocouple compensation wires for wiring for the RTD type, use a wiring material with a small lead resistance (5 Ωmax per line) and no resistance differentials among three wires should be present.
5. A better anti-noise effect can be expected by using standard power supply cable for the instrument.

INSTALLATION GUIDELINES

1. This equipment, being built-in-type, normally becomes a part of main control panel and in such case the terminals do not remain accessible to the end user after installation and internal wiring.
2. Do not allow pieces of metal, wire clippings, or fine metallic fillings from installation to enter the product or else it may lead to a safety hazard that may in turn endanger life or cause electrical shock to the operator.
3. Circuit breaker or mains switch must be installed between power source and supply terminal to facilitate power 'ON' or 'OFF' function. However this mains switch or circuit breaker must be installed at convenient place normally accessible to the operator.
4. Use and store the instrument within the specified ambient temperature and humidity ranges as mentioned in this manual.

MECHANICAL INSTALLATION GUIDELINES

1. Prepare the panel cutout with proper dimensions as shown above.
2. Fit the unit into the panel with the help of clamp given.
3. The equipment in its installed state must not come in close proximity to any heating source, caustic vapors, oil steam, or other unwanted process Byproducts.
4. Use the specified size of crimp terminal (M3.5 screws) to wire the terminal block. Tightening the screws on the terminal block using the tightening torque of the range of 1.2 N.m.
5. Do not connect anything to unused terminals.

PARAMETER SETTING

0.020 (Actual Value of Earth Leakage Current)

1.000 (Set Value of Earth Leakage Current)

Press SET key

PASS Password

123 Enter password "123"

Long Press SET key

SEt Set leakage current

2.000 0.001 to 3.000 Amp

Press SET key

dELY Delay time

00.00 00.00 to 10.00 sec

Press SET key

HYS Hysterisis

0.100 0.000 to 2.999 Amp

Press SET key

rLY Healthy condition relay mode

OFF / On ON/OFF

Press SET key

Mode Reset Mode

AUtO / MAnL (Auto/Manual)

Press SET key

PASS Password Enable/disable

Enb / dIS (Enable/Disable)

Press ENT RST key to save parameter & exit.

TEST MODE

To Enter In Test Mode

Press TEST Key for 5 sec

- Display Shows

tESt

2.000 ● Where Relay is ON

R

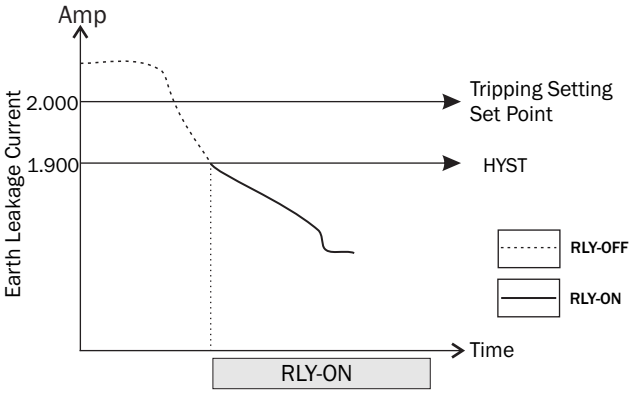
- To exit from test mode, Press ENT RST key

RESET FUNCTION

To Reset the Relay Contact after tripping two modes are given.

1) Auto Reset

Healthy Condition relay mode = ON
Trip Set Point = 2.000 Amp
Hysteresis = 0.100 Amp



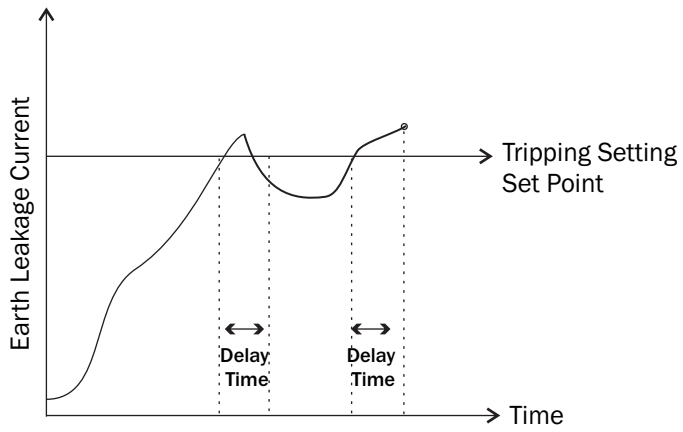
2) Manual Reset

NOTE: When Leakage Current < Setpoint

Press ENT RST Key For 2 Sec.

TRIP FUNCTION

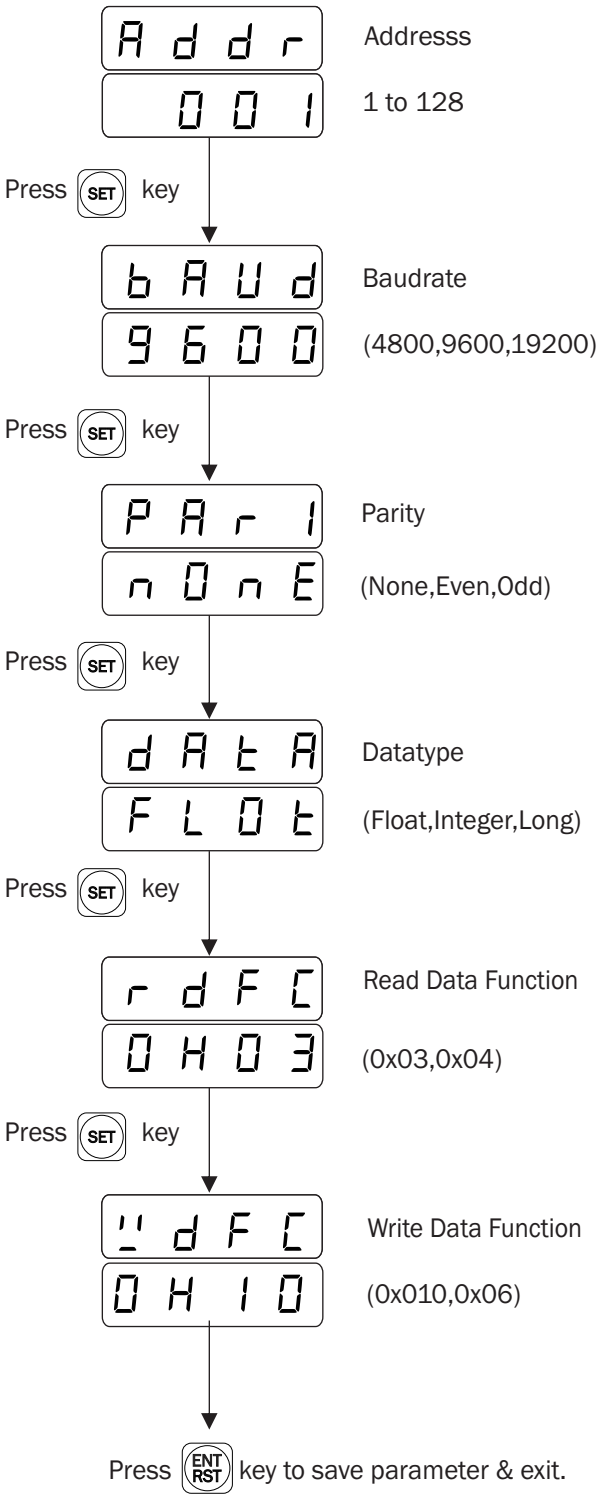
Healthy Condition relay mode = ON



RLY-ON | TRIP

MODBUS PARAMETER

Press (SET) + (V) Key To Enter Into Modbus Parameter



MODBUS

Salve Address :	1 to 128
Baudrate :	4800,9600,19200 bps
Parity :	None,Even,Odd
Datatype :	Long, Float,Integer
Read Function Register :	0x03,0x04
Write Function Register :	0x10,0x06

Sr.No	Access Type	Parameter	Register Data Type Integer	Register Data Type Float & long
1	R	Relay 1 Status Selection: Value ON: 1 OFF: 0	0	0
2	R	Leakage Value	1	2
3	R/W	Set Value	2	4
4	R/W	Delay Time	3	6
5	R/W	Hysterisis	4	8
6	R/W	Healthy condition Relay mode Selection: Value ON: 0 OFF: 1	5	10
7	R/W	Reset mode Selection: Value Auto: 0 Manual: 1	6	12
8	R/W	Password Enb/Dis Selection: Value Enable: 0 Disable: 1	7	14
9	R/W	Address	8	16
10	R/W	Baudrate Selection: Value 4800: 0 9600: 1 19200: 2	9	18
11	R/W	Parity Selection: Value None: 0 Even: 1 Odd: 2	10	20
12	R/W	Data Type Selection: Value Long: 0 Float: 1 Integer: 2	11	22
13	R/W	Read Function Selection: Value 0x03: 0 0x04: 1	12	24
14	R/W	Write Function Selection: Value 0x06: 0 0x010: 1	13	26

Specifications are subject to change, since development is a continuous process,
So for more updated operating information and Support,
Please contact our Helpline: 9978991474/76/82 or
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