

INSTALLATION INSTRUCTIONS FOR S2 DELR

MANUFACTURED BY:

minilec®

www.minilecgroup.com

NO. 1073/ 1-2-3, AT POST:

PIRANGUT, TAL: MULSHI, DIST:PUNE (INDIA)

PIN :412 115

VERSION 02 (25/07/2026)

● INTRODUCTION

Thank you for selecting and purchasing **MINILEC** make, Earth leakage monitoring relay (S2 DELR).

The following installation instructions will guide you in installing your S2 DELR and making the best use of it.

It is a micro-controller based Earth leakage monitoring relay.

The system consists of hardware design to provide a high degree of accuracy and reliability. The micro-controller based protection ensures high accuracy and disturbance free operation. It has LCD Display (3 Digit Liquid Crystal Display with Backlight) to display Earth leakage current and other parameter values.

It has three pushbuttons to set various parameters. We can set trip parameter values and set trip delay.

S2 DELR operates on current sensing principle & it is used in electrical circuits and system where Earth Fault Leakage protection is required These relay's are accurate and easy to installed.

These relay offer 1CO / 2CO Relay contact.

It offers protection against -

* Earth Leakage Condition.

● OPERATION

1.In healthy condition, LCD display shows Earth leakage Current Value . TRIP LED will be OFF.

2.If any fault occurs then unit will trip after trip time delay and LCD display shows 'EL' and 'TR' message with LED back light flashing. TRIP LED will be continuously ON.

3.At power ON Back light of LCD will turn ON for 1 minute. After 1 minute it will turn OFF. If any key is pressed then back light will be ON for 1 minute.

4.If fault reset mode is set to manual then press ▼ / R key to reset fault.

5.If Relay mode is selected as 1CO then Relay 1 will be operate for pre-alarm. Relay 2 will operate for Earth Leakage Tripping. If Earth Leakage current goes above Pre-alarm setting then relay 1 trips & trip LED and back light will start flashing. Display shows 'PAL' & Earth leakage current alternately.

6.Press ▲ / T key to Enter in test mode.

7.Press ▼ / R key to Exit from test mode.

FOR CONTACTOR-

The output relay NO contact are to be connected in series with no-volt coil of the contactor

FOR CIRCUIT BREAKER-

In case of circuit breaker application, relay NO contacts are to be connected in series with shunt trip coil or NC contacts are to be connected in series with UV trip coil.

● CAUTION ⚠

Ensure That Your S2 DELR is-

* Not installed near any heat sources like BURNER, SUNLIGHT, ELECTRIC ARC etc.

* Not subjected to abnormal vibrations.

* Installed as near to stater as possible.

* Not subjected to DIRECT HEAT, SUNLIGHT, RAIN, STORMY WIND & DUST.

Working of the products is affected by frequency variations and Harmonic distortion in applications. like Genset Supply or UPS Supply. Care should be taken to ensure that net resultant unbalance Supply is not beyond the unbalance trip limits of your unit.

If the product is not installed as per guideline given by minilec,our company will not be responsible for any wrong connection, damage, injury, accident etc

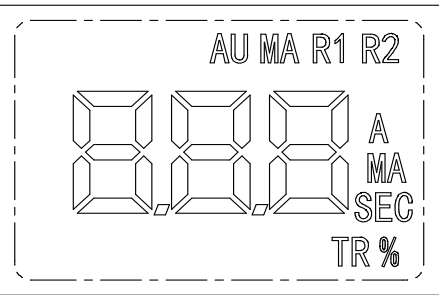
S2 DELR



WARRANTY

AGAINST ALL MANUFACTURING DEFECTS FOR 18 MONTHS
FROM DATE OF SUPPLY OR 12 MONTHS FROM DATE OF INSTALLATION
WHICHEVER IS EARLIER

DISPLAY LAYOUT



SR.NO.	DISPLAY PARAMETER	DISCRIPTION
1	AU	Auto Reset Mode
2	MA	Manual Reset Mode
3	R1	Relay 1
4	R2	Relay 2
5	A	Ampere
6	SEC	Second
7	TR	Trip
8	EL	Earth Leakage Fault
9	PAL	Pre-Alarm Condition

TECHNICAL SPECIFICATIONS OF S2 DELR:

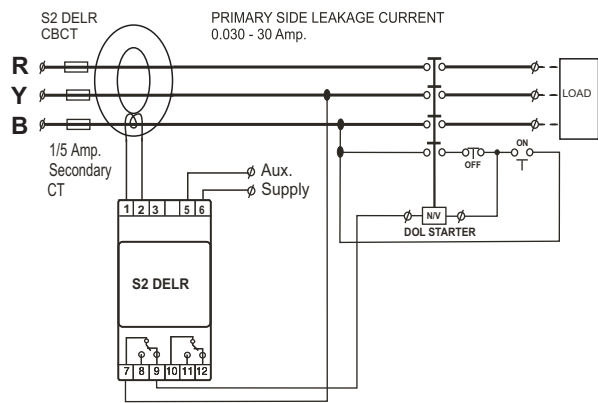
Auxiliary Supply	100 – 120 / 220 – 240 / 380 – 440 VAC -25%,+20%, 24 VDC -25%,+20%
Frequency	48 – 63 Hz
Power Consumption	28 VA max
Output Relay Contact	(1 CO + 1CO) /2 CO 5A@250VAC/ 30VDC (Resistive)
Monitoring	Current
Protections	Earth Leakage Condition
Display	LCD (3 Digit Liquid Crystal Display With Backlight)
Display Parameter	Current (earth leakage current)
Resolution	Current : 1 mA / 0.1 AMP / 1 AMP
Display Accuraccy	± 5% (± 100 mA)
Setting Accuracy	EL : ±2% of set value. Power On Delay/Trip Delay : ±5% of set value. (±100 msec)
Resetting	Auto/Manual Reset.
Indications	ON (Green) : Power ON TRIP (Red) : Relay Trip due to Earth Leakage Condition. *Display Backlight flash (ON & OFF) if unit trip due to any fault.
Current Sensor	CT : Core balance Current Transformer (CBCT) TYPE : Tape wound / Resin ast / Plastic Molded. Size : ID Size : 35mm , 70mm , 120mm & 150mm.
Operating Conditions	Operating temperature : -5°C to + 60 °C Storage temperature : -10°C to + 60 °C Humidity : Up to 95% R.H.
Enclosure	S2 FR GRADE Enclosure
Dimensions(mm) - Overall	93 x 35 x 61 mm (L X W X H)
Mounting	35 mm Din Rail Mounting
Weight (Approx)	150 gms. Approx

PARAMETER SETTING:

PARAMETER	RANGE	RESOLUTION	FACTORY SETTING
POWER ON DELAY	1-60 SEC	1 SEC	0 SEC
EARTH LEAKAGE CURRENT LIMIT	0.03 AMP TO 30AMP	0.01 AMP	0.250 A
TRIP DELAY	0.1 - 10 SEC	0.1 SEC	0.1 SEC
RECOVERY DELAY	5'SEC ± 1 SEC FIXED	NA	5 SEC ± 1 SEC FIXED
RESET	MANUAL/ AUTO	NA	MANUAL
HYSTRESIS	5 TO 50%	5%	20%
RELAY MODE	1.CO + 1CO / 2CO	NA	2 CO
RELAY STATE	FAIL SAFE / NON FAIL SAFE	NA	NON FAIL SAFE
PRE ALARAM	50 TO 90%	5%	70%

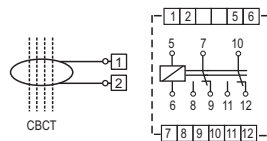
ELECTRICAL CONNECTION IN POWER & CONTROL WIRING FOR S2 DELR

For Three Phase System



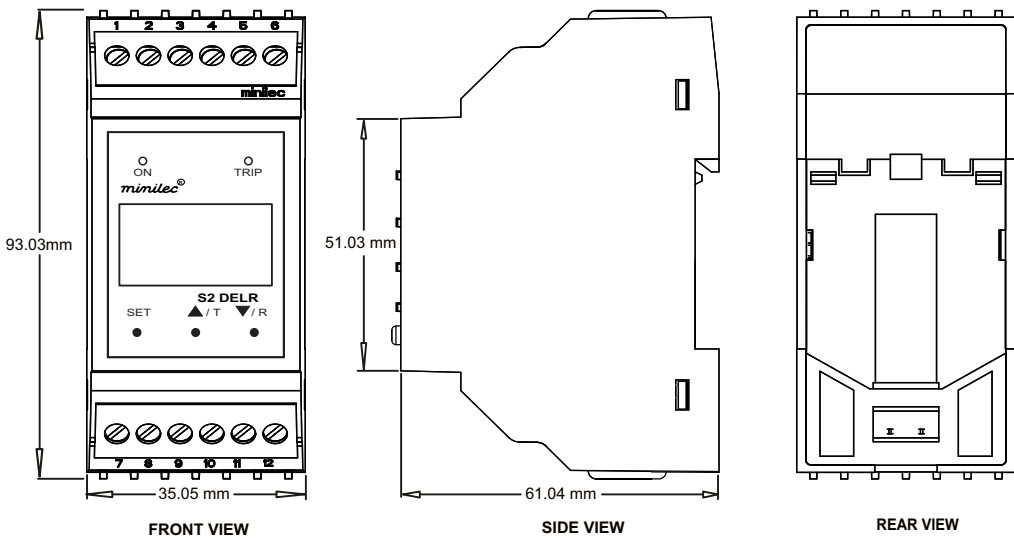
- **NOTES**
- RELAY CONTACTS ARE SHOWN FOR UNIT IN POWER OFF CONDITION.
- FOR VDC SUPPLY, CONNECT +ve TO 5 & -ve TO 6 TERMINALS.

TERMINAL DETAILS FOR S2 DELR



- **INDICATIONS:**
- ON - POWER ON
- TRIP - STEADY ON WHEN RELAY IS TRIPPED DUE TO EARTH LEAKAGE.
- **NOTE:**
- RELAY CONTACTS SHOWN FOR RELAY IN POWER OFF CONDITION
- FOR VDC SUPPLY, CONNECT +VE TO 5 & -VE TO 6 TERMINALS

ENCLOSURE DIMENSIONS



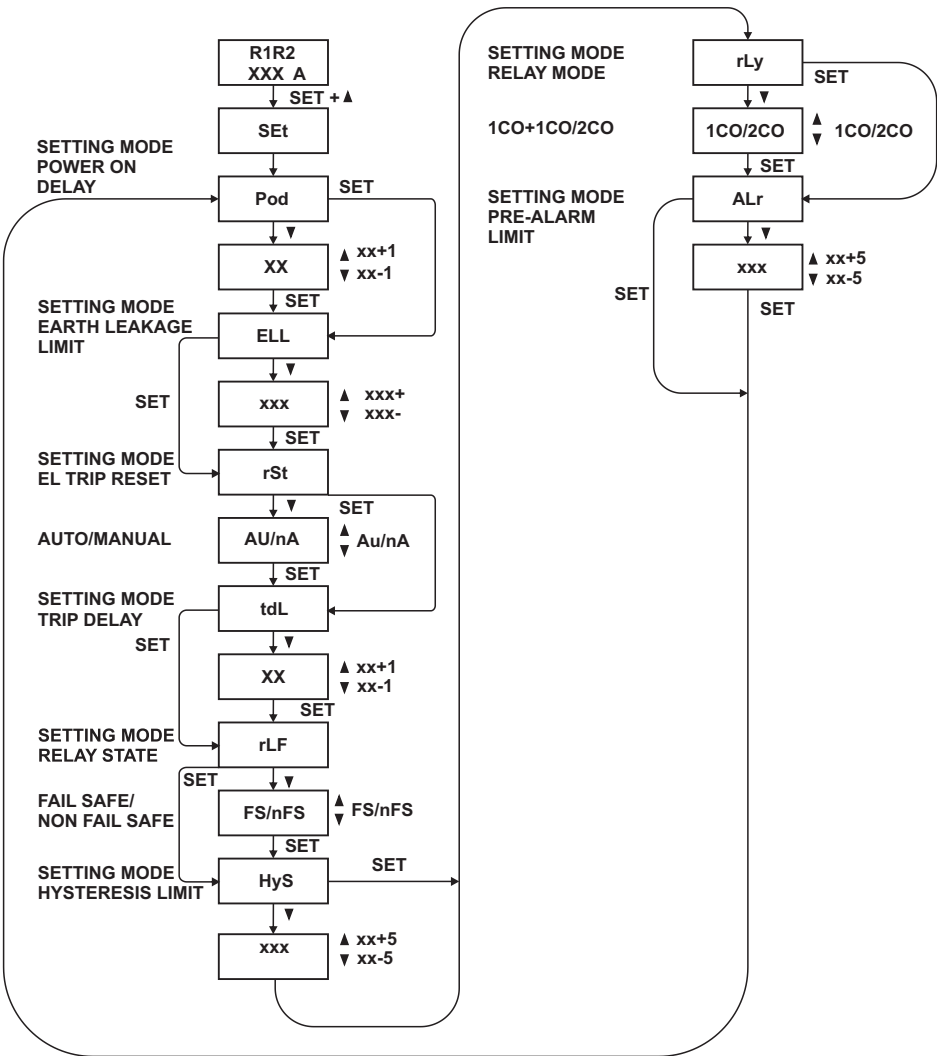
Instructions for Screw Gun torque adjustment –

- Torque should be 0.6 Nm max.
- Max 2.5 sq. mm size wire can be used.

 **WEEE**
(Waste Electrical & Electronic Equipment)
Regulations: After end of equipment life, recycle or disposal needs to be done as per guidelines or handover it to Ewaste processing authorized agencies. For more details contact us.

S2 DELR PARAMETER SETTING PROCEDURE

With the help of push button provided on front, you can set parameter values. Please refer following setting flow chart.



• ABBREVIATIONS USED IN PARAMETER SETTING MODE:

SR.NO.	SETTING PARAMETER	DISCRIPTION
1	Set	Setting
2	Pod	Power ON Delay
3	tdL	Trip Delay
4	rSt	Fault trip Reset Mode
5	AU	Auto
6	nA	Manual
7	rLF	Relay Fail Safe/ non fail safe setting
8	FS	Fail Safe
9	nFS	Non Fail Safe
10	ELL	Earth Leakage Current Limit
11	HyS	Hysteresis
12	rLy	Relay(1CO+1CO)/2CO Selection Mode
13	ALr	Alarm Percentage Setting
14	tst	Test mode