

# EARTH LEAKAGE PROTECTION: CONTENTS

Earth Leakage Relays

128-130

Trip Circuit Supervision Relays

128-130



TEMPROTECT

# EARTH LEAKAGE PROTECTION

## ELR-1E



The ELR-1E Earth Leakage Relay is a flush mounted DIN 96x96mm unit with a shallow depth (60mm including terminals). The ELR-1E is an extremely reliable, user friendly unit that offers excellent functionality with features that include:

- Adjustable tripping current and time delay settings
- Selectable automatic or manual reset facility
- Adjustable time/current multiplier settings
- Test button
- LEDs to indicate the units status

Trip sensitivity range standard 25mA-25A, with an external multiplier (x100 250mA- 250A. Time delay range of 0.02 to 5 seconds.

## ELRC-1



The ELRC-1 Earth Leakage Relay is manufactured with a built-in Toroidal Transformer. It is especially suitable for those applications where space savings is an advantage (for example Motor Control Centres, Battery Distribution Centres etc.)

The ELRC-1 is an extremely compact, user friendly unit that offers excellent

- Adjustable tripping current and time delay settings
- Selectable automatic or manual reset facility
- Adjustable time/current multiplier settings
- Test button
- LEDs to indicate the units status

Trip sensitivity range standard 25mA-25A. Time delay range 0.02 to 5 seconds.

## ELR-3C



The ELR3-C Earth Leakage Relay has the same excellent functionality as the larger DIN 96x96mm ELR-1E model with reduced dimensions. The ELR3-C is a din rail mounted unit (DIN 43880 Standard) the three modules width (17.5mm).

Trip sensitivity range standard 25mA-25A, with an external multiplier (x100 250mA- 250A. Time delay range of 0.02 to 5 seconds.

## TCS



The TCS Supervision Relay is a devoted trip circuit supervision relay that monitors the protection device's (circuit breaker) tripping circuit. The TCS relay provides the user with peace of mind especially in critical applications such as safety or emergency circuits or where a circuit breaker failure may result in the loss of supply.

# EARTH LEAKAGE PROTECTION

## TemProtect

### ELR-1E Panel Mount Relay (CT must be ordered separately)

Code	Description	Price
601110003	110/240/415 VAC	

### ELRC-1 with Built in CT

Code	Description	Price
601101003	35mm, 110/240/415 VAC	
601102003	60mm, 110/240/415 VAC	
601103003	80mm, 110/240/415 VAC	
601104003	110mm, 110/110/240/415 VAC	

### ELR-3C Din Modular

Code	Description	Price
601130003	110/240/415 VAC	

### Trip Supervision Relays (TCS)

Code	Description	Price
611310113	TCS-2/110/240/415 VAC	

### Multiplying CT

Code	Description	Price
601210000	CT1M-External Multiplier (x10 sensitivity)	

# EARTH LEAKAGE PROTECTION

## TemProtect

Standard CTs for ELR-1E

Code	Description	Price
621401000	CT-1/35mm	
621402000	CT-1/60mm	
621403000	CT-1/80mm	
621404000	CT-1/110mm	
621405000	CT-1/210mm	
621414000	CTA-1/110mm	
621415000	CTA-1/210mm	

Remote Indication and Reset Device

Code	Description	Price
601200000	Auxiliary remote control	

Mounting Accessories

Code	Description	Price
631501000	ELRC-1 COVER 100mm	
631501054	ELR IP54 COVER	



# MULTIMETERS & ANALYSERS: CONTENTS

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# MULTIMETERS & ANALYSERS

## TemMeasure

Terasaki offers a high performance cost effective solution to power management of electrical distribution networks.

The TEMA multifunction analyser is much more than a meter, it allows the monitoring of all electrical parameters to be centralised. This enables the comparison and analysis of power distribution networks.

### TEMA-90 ANALYSER



The TEMM-90 is a flush mounted DIN 96x96mm electrical analyser with a backlit blue LCD screen. The TEMM-90 is a compact, extremely reliable, user friendly unit that offers excellent functionality.

- **Auxiliary Supply:** 85-265Vac/dc, 50-60 Hz
- **Protection Degree:** Front IP52 Box IP 20
- **Measured Parameters:** VI-I, VI -N, A, cos $\phi$ , P, F, F, °T, W, VAR, VA, +kWh, -kWh, +kVarh, -Kvarh, +kVAh, -kVAh, THD
- **Measuring Accuracy:** Voltage: <0.5%, Current: <0.5%, Powers: <1%  
Energies: <1%
- **Serial outputs:** RS485/RS232 selectable
- **Communications:** Protocol ASCII or MODBUS-RTU selectable, baud rate 1200-19200 bps
- **Clock Calendar:** Day/month/year, Hour/min/sec
- **Digital outputs:** 2 outputs - (for pulse counting or synchronisation)  
10-50Vdc-500mA or 260Vac-100mA max.
- **Memory:** 128Kb

### TEMA-90H ANALYSER



The TEMM-90H has the same functionality as the TEMM-90, with the addition of a harmonic analysis function up to the 31st harmonic.

### NRG SOFTWARE



NRG is supervision and control software for managing electrical networks from a PC. The software gathers data generated from TEMM multifunction meters and TEMA multifunction analysers and displays the information in a clear easy-to-understand format. The software is very intuitive and simple to use.

TEMMEASURE

# MULTIMETERS & ANALYSERS

## TemMeasure

The TEMM digital multifunction meter series allows the measurement of the main electrical parameters of an electrical distribution network. The selection of the parameters (over 30) can be easily visualised help of a clear and concise LED display.

### TEMM-R4-HP



The TEMM-R4-HP is flush mounted DIN 96x96mm with a shallow depth (56mm including terminals). It is an easy-to-use digital multifunction energy meter.

- **Auxiliary Supply:** Self powered
- **Protection Degree:** Front IP52 Box IP 20
- **Measured Parameters:** VL-L, VL-N, A, cos phi, P, F, F, °T, W, VAr, VA, kWh, kVarh, kVAh
- **Measuring Accuracy:** Voltage: <0.5%, Current: <0.5%, Powers: <1%  
Energies: <1%
- **Communications:** Pulsed output

### TEMM-R4-485



The TEMM-R4-485 is a flush mounted DIN 96x96mm with a shallow depth (56mm including terminals). It is an easy to use digital multifunction energy meter with an RS485 communication output.

- **Auxiliary Supply:** Self powered
- **Protection Degree:** Front IP52 Box IP 20
- **Measured Parameters:** VL-L, VL-N A, cos phi, P, F, F, °T, W, VAr, VA, kWh, kVarh, kVAh
- **Measuring Accuracy:** Voltage: <0.5%, Current: <0.5%, Powers: <1%  
Energies: <1%
- **Communications:** MODBUS-RTU, baud rate 9600-19200 bps.



# MULTIMETERS & ANALYSERS

## TemMeasure

Code	Description	Price
631201012	TEMM-R4-HP Multimeter	
631201013	TEMM-R4 Multimeter with 485	

Code	Description	Price
631102190	TEMA 90 - Analyser	
631102191	TEMA 90H - Analyser (Harmonics)	

## NRG Software

Code	Description	Price
631300002	NRG 2 Software	
631300004	NRG 4 Software	
631300008	NRG 8 Software	
631300016	NRG 16 Software	
631300032	NRG 32 Software	
631300064	NRG 64 Software	
631300028	NRG 128 Software	