ELMEASURE®
Possibilities...Infinite

iELR
EARTH LEAKAGE RELAY

"Intelligent device for quick monitoring and protection of power systems from earth leakage!"

Under/over voltage

Wide range
30mA-30A, 100ms-30s

Inverse-time tripping curve

NC NO COM
Trip and Alarm* Relay

www.elmeasure.com

iELR

EARTH LEAKAGE RELAY

Earth Leakage Relays (ELR) with Core Balance Current Transformer (CBCT) is used to sense current leakage in electrical power systems

In the event of a leakage, ELR will trip the MCCB / ACB / OCB / CONTACTOR to isolate the load.

Allows users to protect

- life and property against overflow of leakage current
- control panels and switchboards
- mobile operating equipment, feeders, motors, generators and transformers
- expensive equipment in oil refineries, cement plants, general electrical distribution units, chemical and pulp industries
- security against mishandling /durability of machinery
- and ensures reliable measurement and maximum safety

Why Elmeasure iELR ?

The Earth Leakage Relay with Core Balance Current Transformer (CBCT) provides quick monitoring and protection of power systems from leakage current..

Early warning of the forthcoming event helps in taking proactive action and indulge in preventive maintenance, to avoid major catastrophies leading to the damage of expensive equipments and loss of lives.

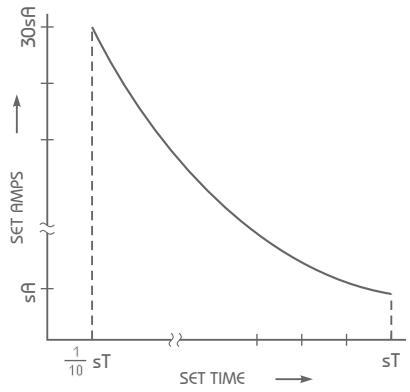
iELR stands out with its programmable feature from 100ms and a single range trip of 30mA-30A.

Intelligent Tripping

iELR operates on the principle of inverse curve with continuous monitoring of phase current or earth current and provides a faster trip time for a higher leakage current.

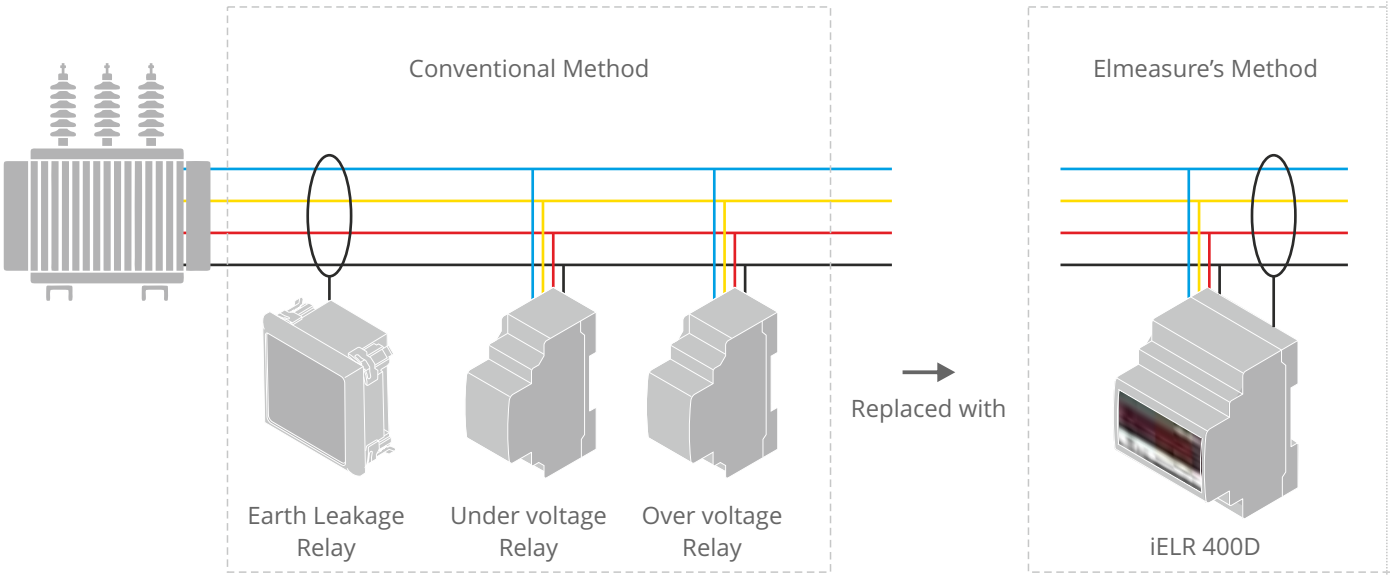
iELR will send a signal to the circuit breakers when the residual earth leakage current exceeds the set value based on the inverse curve.

Inverse-time tripping curve mitigates short or high transient currents caused by motors and LV/HV transformers.



Still following the Conventional method ?

The iELR further detects undervoltage and overvoltage unlike conventional approaches.

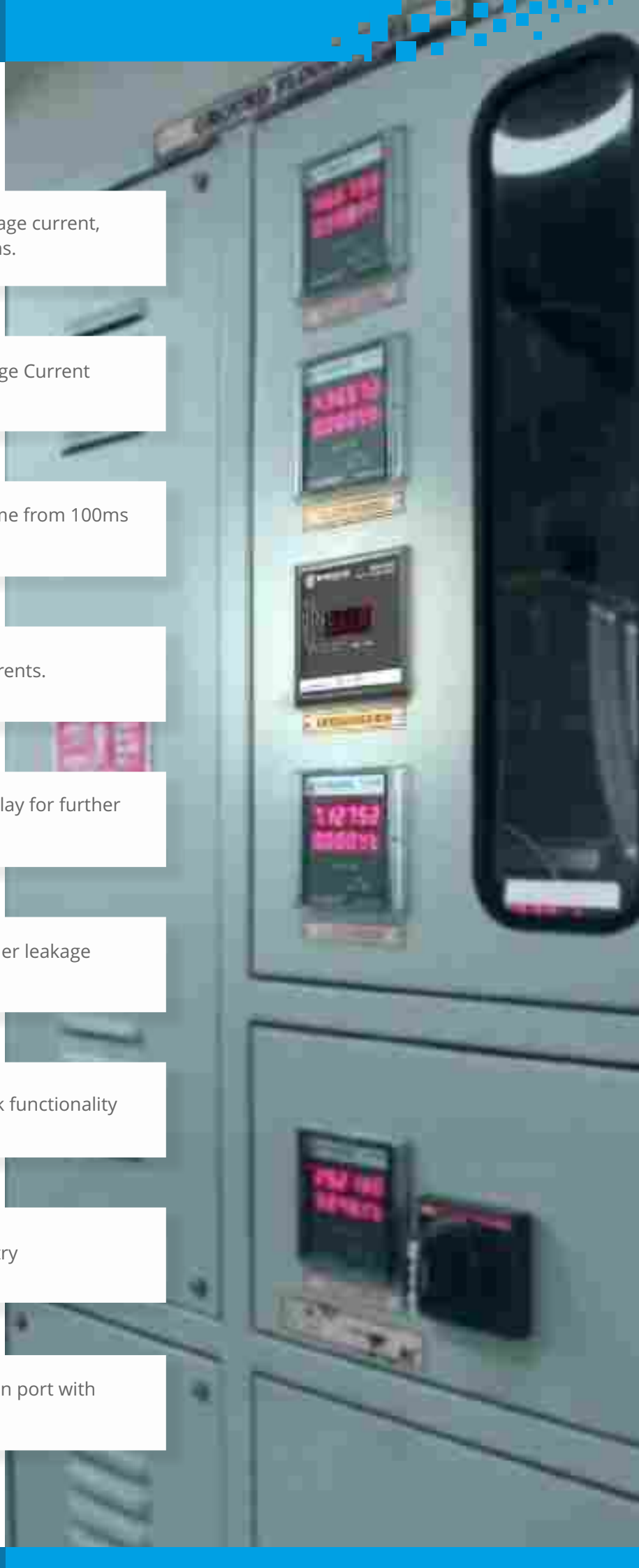


Principle of operation

The core balance principle is used by iELR, in which Core Balance Current Transformer (CBCT) will equate the currents in the three phase system to zero under normal conditions. This balanced vector sum is disrupted during any disturbances or leakage current and causes the electronic circuit to operate iELR that is connected to a circuit breaker, thus tripping the main circuit.

Salient Features

1. Monitor, detects and trips earth leakage current, under/over voltage* in power systems.
2. Selectable wide range of Earth Leakage Current from 30mA-30A.
3. Programmable Earth Leakage Trip time from 100ms - 30s with password protection.
4. Instantaneous display of leakage currents.
5. Configurable trip relay and alarm* relay for further analysis.
6. Accomplish faster trip time for a higher leakage current.
7. Inbuilt test and reset feature to check functionality of product.
8. High accuracy of class 2.0FS in industry
9. Optional Serial RS 485 communication port with Modbus Protocol.



*Applicable only to iELR 400D

Datasheet

iELR 300

iELR 200D

iELR 400D

Parameters			
Input Current (30mA - 30A)	✓	✓	✓
Input Voltage (80V - 550V LN)	-	-	✓
Input Frequency (45-65 Hz)	✓	✓	✓
Tripping time (100 mS - 30S)	✓	✓	✓
Contact Rating		2A @ 240VAC / 24VDC	
Accuracy		Class 2.0FS	
Auxiliary supply		80 - 300VAC/DC	
Trip Conditions (Programmable)			
Leakage Current	✓	✓	✓
Over voltage	-	-	✓
Under voltage	-	-	✓
Trip Relay	✓	✓	✓
Alarm Relay	-	-	✓
User Interfaces			
Display	4 Digit	4 Digit	6Digit
Instantaneous leakage current (enable/disable)	✓	✓	✓
Trip current value (enable/disable)	✓	✓	✓
Current programmable (enable/disable)	✓	✓	✓
Scrolling Display	✓	✓	✓
Communication			
RS485 (optional)	Serial channel connection industry standard Modbus RTU protocol. Baud rate: 4800 bps to 38400 bps. (Preferred 9600 bps). Isolation: 2000 volts AC isolation for 1 minute between communication and other circuits.		
Mechanical Specification			
Mounting	Panel Mount	2DIN	4DIN
Panel Mount	Front-Panel:96×96×41mm		
DIN RAIL Mount		2 DIN: 90×36×67 mm	4DIN: 90×72×67mm
Environmental Characteristics			
Operating Temperature	-10 to +60 deg.C		
Ambient Temperature	27 O C		
Storage Temperature	-15 to +70 deg.C		
Humidity	5 to 95% RH @ 50 deg.C		
Pollution degree	2		
Altitude	2000m (6561 ft)		

CBCT

CORE BALANCE CURRENT TRANSFORMER

(CBCT) is also known as a zero sequence current transformer and are used for earth leakage/earth fault protection.

CBCT Specifications

CBCT	Dimensions (mm)		Current Ranges
	OD	ID	
Round CBCT	75	45	30mA-12A (Default) 30mA-30A (Optional)
	90	60	
	130	100	
	180	150	
	230	200	
	280	250	
	330	300	
Rectangle CBCT	150	50	30mA-12A (Default) 30mA-30A (Optional)
	250	100	
	300	100	
	350	100	
	400	125	
	400	200	
	550	225	
	500	200	
CBCT Type	Core Balanced Closed Toroidal		
Turns	430		
Rated Current	30A		
System Voltage	720V maximum		
Insulation Voltage	3kV for 1 minute		
System Frequency	50Hz or 60Hz		
Distance Between CBCT and ELR	< 1 meters		
Operating Temperature	-10°C to +55°C		

High performance

Durability

Compact in size

Light in Weight

ELMEASURE®
Possibilities...Infinite

Registered Office

BENGALURU
PLOT NO.: 47-P, HARDWARE PARK, KIADB,
HUVINAYAKANAHALLI, JALA HOBLI, YELAHANKA TALUK,
BENGALURU - 562 149. KARNATAKA INDIA

Manufacturing Units

UNIT I
PLOT NO.: 47-P, HARDWARE PARK, KIADB,
HUVINAYAKANAHALLI, JALA HOBLI, YELAHANKA TALUK,
BENGALURU - 562 149. KARNATAKA, INDIA

UNIT II
GOWTHAM GARDEN NO. 4, VEERAPANDI
COIMBATORE - 641 019. TAMIL NADU, INDIA

UNIT III
#764, 4TH PHASE, 707, YELAHANKA NEW TOWN,
BENGALURU - 560 064. KARNATAKA, INDIA

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+91 639-1010-320
Monday to Friday 8:00 am. to 5:00 pm. IST

Sales Offices

BENGALURU
#57, EBENEZER ENCLAVE, NORRIS ROAD, NEAR
NANJAPPA CIRCLE LANGFORD TOWN,
BENGALURU - 560 025. KARANATAKA, INDIA

COIMBATORE
150, RAJ ILLAM, NVM LAYOUT NEW SIDDHAPUDHUR
COIMBATORE - 641 019. TAMIL NADU, INDIA

CHENNAI
945, GROUND FLOOR, MIG, FIRST MAIN ROAD, TNHB
COLONY, VELACHERY,
CHENNAI – 600 042. TAMIL NADU, INDIA

SECUNDERABAD
51, 1ST FLOOR, CHANDRAGIRI COLONY, NEAR RTA,
THRIMUGHERRY,
SECUNDERABAD - 500 015. TELANGANA, INDIA

MUMBAI
101, MILLENIUM PLAZA BEHIND SAKINAKA
TELEPHONE EXCHANGE, ANDHERI - KURLA ROAD
SAKINAKA, ANDHERI (EAST)
MUMBAI - 400 072. MAHARASTRA, INDIA

DELHI
G-10, G-11, GROUND FLOOR, BAISOYA COMPLEX,
NAYABANS, SECTOR-15,
NOIDA – 201301. INDIA.