TST TRAFFIC
SMARTCITY TECHNOLOGY

iPower

Current Leakage Alert System

LoRa™

iPower

With Neutral/Earth Leakage Measurement and Energy Metering

TST's iPower is a drop-in safety solution for monitoring neutral current leakage, with alerts, in communications cabinets and other always-on assets which cannot utilise RCDs. Multiple back-haul network technologies and additional monitoring/ metering options are available, making the iPower one of the most flexible safety devices on the market.

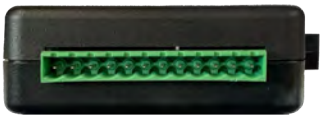
The iPower is based on TST's Internet of Things sensor platform, utilising a robust Ethernet connection to report metrics in near real-time. Optional communications redundancy is available via LTE Cat. M1/NB1 or LoRaWAN, ensuring messages get through during localised network outages. An optional backup battery enables a "last gasp" transmission during power outages.

LoRa™

The iPower constantly measures power usage, reporting neutral/earth current leakage and other potentially dangerous situations within seconds.

Energy metering is optionally available and provides sub-metering capability and numerous other power quality metric reporting.

Optional environmental monitoring of air temperature and relative humidity, along with a differential pressure sensor for monitoring filter cleanliness, enables condition-based maintenance for the enclosing cabinet. An optional accelerometer reports impacts to the enclosure.



The iPower is powered directly via the monitored source and only requires active and neutral connections, plus networking. Each iPower comes pre-configured with unique internal ids and encryption keys, reducing overall commissioning time. Settings can be altered remotely via each of the network communications methods.

TST produces a broad range of sensors to use in any IoT network.

iPower

Features

- Neutral/Earth Leakage Measurement
- Communications via Ethernet (TCP/IP)
- Energy Metering (optional)
- Neutral impedance test (optional)
- Impact Detection with 3-axis Accelerometer (optional)
- Environmental & Air Filter Monitoring (optional)
- “Last Gasp” report during power outages (optional)
- Redundant Comms. (LTE Cat. M1/NB1 or LoRaWAN™) (optional)

iPower

Product Selector

FUNCTION		iPower	iPower II
Networking	Ethernet (TCP/IP)	●	●
	LTE Cat. M1 / LTE Cat. NB1	○	○
	LoRa® / LoRaWAN™	○	○
Features	Neutral/Earth Leakage	●	●
	Monitoring Energy Metering	○	○
	Temperature & Humidity	○	○
	Air Filter Monitoring	○	○
	"Last Gasp" Battery	○	○
Phases	Single-Phase	●	●
	Three-Phase	○	
Interfaces	Internal Web Interface	●	●
	Remote Network Configuration	●	●
	LoRaWAN™ Remote Configuration	○	○
Reporting	Periodic Reporting & Alarms	●	●
	Power Outage Alarm	○	○
	Environmental Alarms	○	○
Enclosure	Polycarbonate DIN-Rail (Slim)	●	
	Polycarbonate DIN-Rail (Full)	○	●
	Exterior Building Mount	○	○

Ensure you order the correct product for your LoRaWAN™ region. ● = Included. ○ = Differs with product variants.

FEATURES	
Fault Detection	Neutral/Earth current leakage measurement Optional neutral impedance
Reporting	Reporting/alarms via SNMP Visual indicator of current status Secondary reporting via redundant communications Optional environmental state alarm
Metering	Single-phase Optional three-phase
Environment **Temperature** **Humidity** **Air Filter** **Impact Detection**	Optional Environmental Monitoring -40°C to +85°C (±1°C) ±3% relative humidity Air Pressure Across Filter Range ±2 kPa (±0.29 psi) Typ. Accuracy ±2.5% (10°C to +60°C) Impact
Networking	10/100 BaseT Ethernet Electrically isolated RJ45 jack IPv4 & IPv6 Supported SNMPv3 agent
Redundant Communications **LTE** **LoRaWan**	(optional) LTE Cat. M1 and Cat. NB1 External or internal antenna Class C (1.0.2) with ADR
Markings	Data Matrix with Device Info Default Internal IP Address EUI48 Safety and compliance markings Electrical connection markings

ELECTRICAL DATA	
Power	85 –305 VAC 47 –63 Hz Surge protected Noise filtering
Consumption	< 1W) (varies with options)
ENCLOSURE	
Enclosure	Polycarbonate DIN (Slim) Polycarbonate DIN (Full) External Building Mount
ENVIRONMENTAL DATA, QUALITY & RELIABILITY	
Operating temperature range -10°C to 70°C RoHS compliant (Lead Free)	
SECURITY	
Secure internal storage of keys Noise based random number generator	
CERTIFICATIONS & APPROVALS	
AS/NZS 60950.1:2011, AS/NZS 4268:2012	
SUPPORT PRODUCTS	
DT1046 Nexus 8 LoRaWAN™ Gateway with CAN, LTE, PoE LoRaWAN™ network provision and hosting via partners	

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