

i-Credit 500 family

Modular Single Phase Smart Meter

The i-Credit 500 family are intelligent three phase meters for Smart Metering applications with capability for monitoring, data storage and load control.

The provision of Mesh Radio, 3G / GPRS / GSM or Distribution Line Carrier (DLC / LV PLC) communications technologies makes i-Credit 500 meters easy to integrate with remote meter management infrastructures for smart metering installations. The range includes models with modular design - enabling communications module to be changed in the field without breaking meter calibration or installation seals.

ZigBee® communications makes i-Credit 500 easy to integrate with Home Area Network (HAN) and In-Home Displays (IHD).

i-Credit 500 meters have supply disconnection contactor, with optional load control relays for demand side management applications.



Application

- Domestic single-phase metering with remote billing and disconnect
- Metering for small commercial premises
- Smart metering deployment
- Metering for micro-generation installations

Benefits

- Remote reading and disconnection functions reduce the need for routine meter visits
- Can be easily integrated into smart meter systems
- Easy diagnosis of installation faults via a complete set of instantaneous electrical parameters
- Assists consumers in reducing energy consumption and corresponding carbon dioxide emissions
- Provides an upgrade path via remote firmware upgrades
- Modular design allows change of communication module within the life of the meter – without breaking meter or installation seals

Features

- True four-quadrant measurement with import/export registration
- Time-of-use tariffs and maximum demands
- Integrated single phase mains disconnect contactor and optional auxiliary load control switch
- Full Smart Meter functionality – including Time of Use based switch control, supply capacity control, remote firmware upgrades
- Logging of multi-parameter load survey, billing data, events such as power outage and abnormalities
- Easy diagnosis of installation faults via a complete set of instantaneous electrical parameters
- Quality-of-supply (QoS) metering
- Automatic remote notification of user-selected events to back-office system
- Communications options including mesh radio, long-range radio, DLC and 3G/GRPS/GSM

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Technical specifications

Electrical

Connection type	Direct connected
Wiring configuration	1- phase 2-wire
Voltage range	230 V (L-N)
Current range	15 - 100 A, MID 1-20 (100) A
Accuracy	Class 1.0, MID Class B
Mains frequency	50 Hz \pm 5%
Burden	Voltage Circuit: < 1 W, 1.5 VA per phase Current Circuit: < 0.1 VA per phase

Compliance

Standards	MID Class B, EN 50470-1, 3
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Mechanical

Dimensions (W x H x D)	145 x 230 x 112 mm (with standard terminal cover) 145 x 245 x 112 mm (with extended terminal cover)
Weight	1.2 kg (approx.)
Enclosure	Flame -retardant polycarbonate

Environmental

Ingress protection	IP 53
Insulation class	Protective class II
Impulse withstand	10 kV @ 0.5 J 4 kV AC for 1 minute (RJ-45 port)
Temperature	-40 °C to +70 °C (operating) - 40 °C to +80 °C (storage)
Humidity	95% non-condensing

Features

Tariff rates registers	Up to 4 rate registers for five energy channels
Maximum demand registers	Up to 2 types across 4 registers
Load survey	600 parameter/days with 30 minute integration period
Communication options	LAN: Mesh radio, DLC WAN: 3G/GPRS/GSM long-range radio (via RJ-45 port) HAN: ZigBee® (2.4 GHz) Smart Energy Profile IEC 1107 hardware-compatible port for local reads
Quality of supply	Maximum/minimum voltage, over-voltage, under-voltage, minimum power factor, maximum current, supply failure, exception logging
Load control	Supply disconnect switch: 100A Optional auxiliary load control switch: 31.5 A