



EM425-UK

Smart Electricity Meter

The flexible foundation to help shape the future of the smart grid

Itron's smart electricity meter is a highly flexible and reliable solution for residential metering that combines extensive metrology expertise with high quality communication technologies.

KEY BENEFITS

EM425-UK

As part of an end-to-end solution, the EM425-UK single phase smart meter is a strong foundation that any smart metering programme can be built on. Features include:

- » Ring-fenced metrology
- » Built-in supply switch and auxiliary latching relay
- » Graphics-capable dot matrix display
- » Over The Air (OTA) upgradeable
- » Future-proof communications

Security by design

Itron's proven 'Security by Design' philosophy is built into the development of the EM425-UK. The meter has the latest certificate-based key establishment encryption built in providing advanced anti-fraud and security features to ensure revenue protection and combat tampering and hacking. The meter is designed to meet the latest Smart Metering Equipment Technical Specifications (SMETS) including remote upgrades of firmware, and WAN and HAN communications for future-proofing.

ENGINEERING DIFFERENCE

Ease of installation

The EM425-UK has the advantage of simple and rapid installation allowing for on-site time to be minimised. Automatic registration with the smart metering system and simple home area network pairing over ZigBee® reduces the amount of time spent at the consumer's premises.

Consumer interaction

The easy-to-read dot matrix display can play an important part of managing the relationship with the consumer. Customised messages and graphics can be sent to the meter to help notify the consumer of tariff changes, account updates and alerts.

Ring fenced metrology

The EM425-UK is fitted with two processors which separate metrology from high-end functionality. This allows for a whole range of features including complex tariffs, prepayment rules and load management data to be easily upgraded post installation, with no disturbance to the metrology.

GREATER FLEXIBILITY

Communications Hub

Itron's smart meter can accommodate an Intimate Communications Hub (ICH) for wide area network communications such as GPRS, long range radio, or a host of other options. This flexibility allows for a variety of different network topologies and also for the communications within the smart metering system to be upgraded without removing the meter.

Remote upgrades

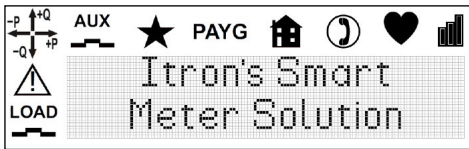
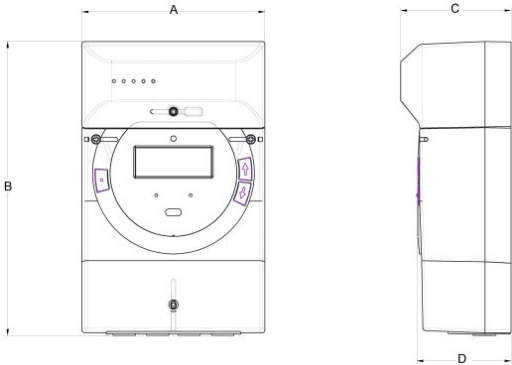
Using the communication hub's ability to communicate over the WAN with the utility back-office or DCC, the EM425-UK's high-end functionality firmware is upgradeable over the air.

Communications

Various communication mediums are possible including ZigBee® Smart Energy Profile for the HAN, GPRS and long range radio options for WAN and there is an optical port for secure local interrogation which is disabled after installation for security.

Specifications

Dimensions and specifications are detailed below.



LCD. The above image shows the display screen with all icons illuminated and a customisable message in the dot matrix area.

Dimensions

A	130 mm
B	209 mm
C	78.5 mm
D	67 mm

Technical Specifications

Connection type	Direct connection, 1-phase 2-wire
Terminal connection	BS symmetrical arrangement
Voltage operating range	-20% to +15% U_n (230V)
Accuracy class	Active: Class B (EN50470) Reactive: Class 1 (IEC62053-24)
Typical Power consumption	Voltage circuits - <1W, <2VA @ 230V Current circuits - <0.5VA @ 5A
Tariffs	48 tariff rates including import and export kWh and kvarh
Tariff types	TOU, block, TOU and block combination
Load profile	Data in 8 channels
Current	100A I_{max} & 5A I_{ref}
Frequency	50Hz +/- 10%
Protection degree	Overall IP52
Temperature range	Specified operating range: -25°C to +55°C Storage and transport: -40°C to +80°C
Optical port	IEC 62056-21
Registers	13 monthly billing registers Maximum demand
HAN communications	ZigBee® Smart Energy Profile 1.2
Communications Protocol	DLMS/COSEM compliant (BS EN62056/42-46-53-61-62)
Aux relay output	5A
Data storage	13 months of historic data
Directives	2004/22/EC (MID), 1999/5/EC (RTTE), 2004/108/EC (EMC)



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ITRON UK

Langer Road
Felixstowe
Suffolk
IP11 2ER
United Kingdom

Phone: +44 (0)1394 694000
Fax: +44 (0)1394 276030