

ES-12B

Class B and Class A

Residential Single Phase SMETS2 Electricity Meter



Designed for the residential smart meter rollout in Great Britain, this 5 terminal single phase electricity meter is an addition to our range of SMETS2 compliant solutions.

With two 100A main disconnect relays, dedicated secure microcontroller and multiple communications interfaces including Zigbee and DLMS, the ES-12B is accurate and can operate in prepayment mode.

I Key Features

DLMS
READY

ANTI TAMPER



MULTIPLE COMMS OPTIONS

P-PAY

PREPAYMENT



ZIGBEE
ALLIANCE



HIGH
SECURITY

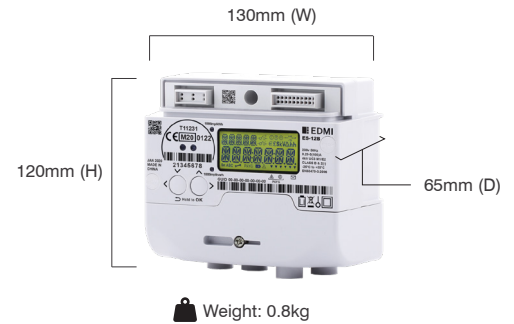


DISCONNECT
RELAY

ES-12B

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Standards and Compliance

- MIR Class A or Class B, Class 1 or 2
- GBCS v1.1, SMETS2 v2.0, CPA v1.2, DLMS CTT 3.0, Zigbee 1.2b, ICHIS v1.0, WelmeC 7.2 2015, RoHS 2012, WEEE 2013
- BS EN 50470-1:2006, 50470-3:2006, 62052-11:2003, 62055-31:2005-UC3
- IEC 62053-21:2003, 62053-23:2003, CLC/TR 50579
- EN 300328, 301489

Voltage

- Nominal voltage: 230V, 50Hz, 5(100) Class 1/(MIR Class B)
- Normal operating range: 207V – 253V
- Extended operating range: 184V – 264.5V
- Minimum Current: 0.25A
- Reference Current: 5A
- Maximum Current: 100A
- Withstand: 460V
- Meter Constant [imp/kWh]:1000

Current

- WC Range: 0.25/100A, 5/100A
- WC Limit: 3000A for 0.5 cycle
- Disconnect Relay: 100A
- Disconnect Rating: IEC62052-31 UC3 @ I_{max}, 240 VAC

Frequency

- 47Hz - 52Hz

Inputs/Outputs Configuration

- 1000 imp/kWh pulsing LED Indicator
- 1000 imp/kvarh pulsing LED Indicator
- Secondary 100 amp LCS disconnect relay, Load Control Switch (LCS) (240V, 100A)

Battery

- Clock Battery for minimum 5 years unpowered backup

Real-time Clock

- Accuracy (internal) within +/- 0.5sec per day

Internal Storage

- Up to 8 megabytes of Non-Volatile Memory Storage

Display

- Backlit starburst liquid crystal display

Measured Values

- Active energy import (Wh)
- Reactive energy import (varh)
- Active energy export (Wh)
- Reactive energy export (varh)
- Voltage RMS (V)
- Maximum Demand Active Power Import & Export (W)

Power Quality Indication

- Sag/Swell
 - Records power events on configurable thresholds
 - RMS Voltage (over, under, swell, sag)
 - Supply Outage
 - Supply Interruption
 - Alerts

Calendar

- Supports Daylight Saving time as per GBCS

Tamper Detection and Alarms

- Tamper detection for terminal cover, meter cover and Communication Hub removal
- Tamper evident seals
- Wire seals for terminal cover and Communication Hub

Billing Data Log

- GBCS Compliant
 - Tariff TOU Register Matrix
 - Up to forty 48 plus unified rate
 - Tariff Block Count Matrix
 - 4 x 8 matrix for storing block counters and pricing
- Active Import Registers
- Prepayment
 - Prepayment Credits
 - Payment-based debt payments
 - Meter Balance
 - Emergency Credit Balance
 - Accumulated Debt Registers
 - Payment Debt Registers
 - Time Debt Registers

Security

- WOLF-SSL Cryptographic Library
 - GBCS security approaches, ECDH, SHA-256, AES-128 GCM
- Dedicated A7001 secure microcontroller
- 9 Trust Anchor Cells (TACs)
- Secure unlock mechanism for triage
- Commercial Product Assurance (CPA)
 - Secure provisioning process through EDMl supply chain

Communications

- Local optical port
- DLMS COSEM
- Zigbee Smart Energy Profile 1.2
- GBCS object support

Environmental

- Specified operating range: -10°C to +40°C
- Operating range limit: -25°C to +55°C
- Storage range limit: -25°C to +55°C
- Transportation range limit: -25°C to +70°C
- Relative operating humidity: Up to 95%
- Storage humidity: 30% to 95%, non-condensing for 30 days
- Ingress protection: IP53 (without suction)

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