

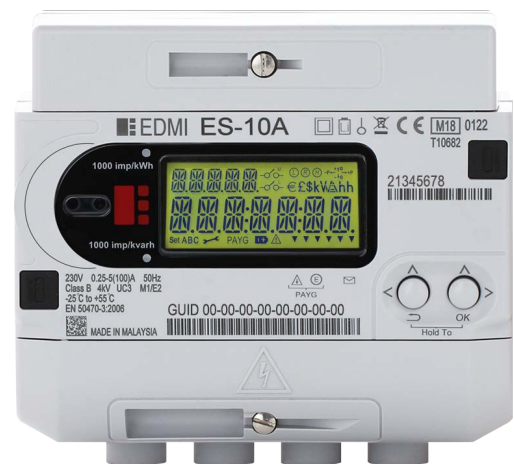
# ES-10A

Class B and Class A

Residential Single Phase  
SMETS2 Electricity Meter

Designed for the residential smart meter rollout in Great Britain, this 4 terminal single phase electricity meter is the first generation version within our SMETS2 compliant solution.

With a 100A main disconnect relay, 2A secondary disconnect relay, dedicated security module, and multiple communications interfaces including Zigbee and DLMS, this electronic meter is CPA certified and ready for deployment.



## I Key Features



DISCONNECT  
RELAY



MEASURE  
EVERYTHING



MODULAR  
COMMUNICATIONS



LARGE DATA  
STORAGE



HIGH  
ACCURACY



ANTI TAMPER

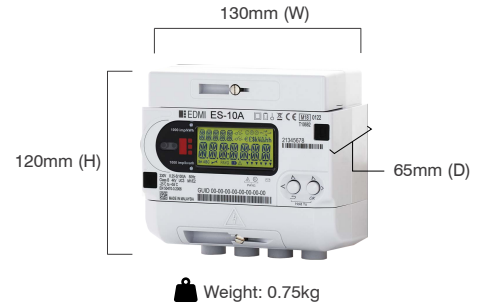


UPGRADEABLE

# ES-10A

Class B and Class A

## Residential Single Phase SMETS2 Electricity Meter



### Standards and Compliance

- MID Class A or Class B, Class 1 or 2
- BS EN 50470-1:2006
- GBCS v1.1, SMETS 2 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, 50470-1:2006, 50470-3: 2006, 62055-31:2005 - UC3
- IEC 62053-21: 2003, 62053-23:2003, 50470-1, CLC/TR 50579
- EN 301489-17

### Voltage

- Nominal voltage: 230V, 50Hz, 5(100) Class 1/(MID Class B)
- Normal operating range: 207V – 254V
- 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: IEC 62052-31 UC3 @ I<sub>max</sub>, 240 VAC

### Frequency

- 47Hz - 52Hz

### Inputs/Outputs Configuration

- 1000 imp/kWh pulsing LED Indicator
- 1000 imp/kvarh pulsing LED Indicator
- Relay Auxiliary Load Control Switch (ALCS) (240V, 2A)

### Battery

- Internal battery for up to 1 year of shelf storage

### Real-time Clock

- Accuracy (internal) within 10 seconds per month

### 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

### 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

### Calendar

- Supports Daylight Saving time as per GBCS

### 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 EDM I 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 75%
- Storage humidity:
  - 30% to 95%, non-condensing for 30 days
- Ingress protection:
  - IP53 (without suction)

## EDMI Europe Limited

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