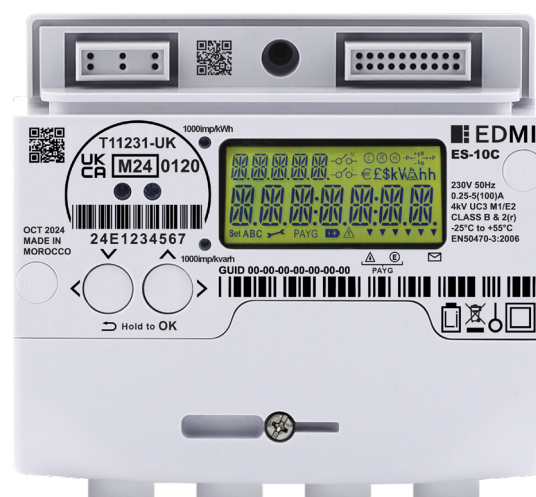## ⚡ ELECTRICITY

ES-10C

Class B

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 second generation version within our SMETS2 compliant solution.

ES-10C is a refined SMETS2 compliant electricity meter with 100A main disconnect relay, dedicated secure microcontroller and with multiple interfaces including Zigbee and DLMS.

I   Key Features

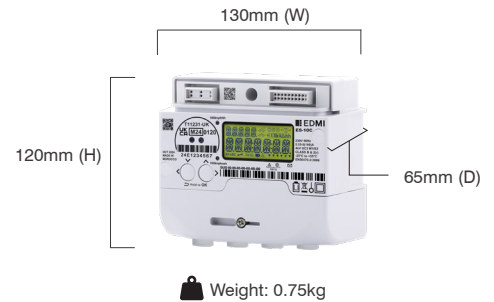| DLMS READY	ANTI TAMPER	MULTIPLE COMMS OPTIONS	PREPAYMENT	ZIGBEE ALLIANCE	HIGH SECURITY	DISCONNECT RELAY	ALCS

ES-10C

Class B

Residential Single Phase SMETS2 Electricity Meter

130mm (W)

120mm (H)

65mm (D)

Weight: 0.75kg

Standards and Compliance

- MIR Class B
- GBCS v3.2, SMETS2 v4.2, CPA v1.2, DLMS CTT 3.0
- Zigbee 1.4, ICHIS v2.3
- 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
- ETSI EN 301 489-1, EN 301 489-17 V3.1.1
- EN 300328, 301489
- SMDA compliant

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
- Active energy [imp./kWh]: 1000
- Reactive energy [imp./Varh]: 1000

Current

- WC range: 0.25/100A, 5/100A
- WC limit: 3000A for 0.5 cycle
- Disconnect relay: 100A
- Disconnect rating: IEC62052-31 UC3 @ Imax, 230 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) (230V, 2A)

Battery

- Clock Battery for minimum 5 years unpowered backup

Real-time Clock

- Accuracy (internal) within 10 seconds per month

Data Memory

- 8MB of non-volatile memory

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 and 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 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 EDMI supply chain

Communications

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

Environmental

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