

# ES-10A

Class 1

Single Phase Smart Meter  
SMETS2 Compliant

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.



## Key Features



DISCONNECT  
RELAY



MEASURE  
EVERYTHING



MODULAR  
COMMUNICATIONS



LARGE DATA  
STORAGE



HIGH  
ACCURACY



ANTI TAMPER

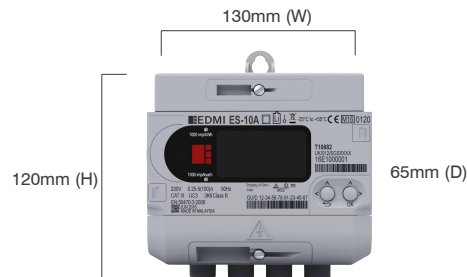


UPGRADEABLE

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Weight: 0.75kg

## Standards and Compliance

- MID Class A or Class B, Class 1 or 2
- BS EN 50470-1:2006
- GBCS v0.8.2, SMETS 2 v1.59, CPA v1.2, DLMS CTT 3.0, Zigbee 1.2b, ICHIS v1.0, Welmec 7.2 2015, RoSH 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
- EN300328

## Voltage

- Nominal voltage: 230V, 50Hz, 5(100) Class 1/(MID Class B)
- Operating range: 176V – 276V
- 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

## 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

## Load Survey/Profile

- Up to 8 megabytes of Non-Volatile Memory

## 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 EDMl supply chain

## Communications

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

## Environmental

- Operating range:
  - 25°C to +55°C
- Limit storage range:
  - 40°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)

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