# ELECTRICITY

# ES-30B

Class 1 and Class 2

Three Phase SMETS2
Electricity Smart Meter

Designed for the smart meter rollout in Great Britain, this direct current three phase electricity meter is another in our range of SMETS2 compliant solutions with a 100A disconnect relay and two 2A auxiliary load control switches.

## I  Key Features

| MULTIPLE COMMS OPTIONS | ZIGBEE ALLIANCE | ANTI TAMPER | HIGH ACCURACY | PREPAYMENT | DLMS READY | DISCONNECT RELAY |
|---|---|---|---|---|---|---|

# ES-30B

Class 1 and Class 2

## Three Phase SMETS2 Electricity Smart Meter

174mm (W)

196.5mm (H)

86mm (D)

Weight: 1.6kg

## Standards and Compliance

- MID Class A or Class B, Class 1 or 2
- GBCS v3.2, SMETS2 v4.2, CPA v1.2, DLMS CTT 3.1, Zigbee 1.4b, ICHIS v2.2, 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/(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 @ Imax, 240 VAC

## Frequency

- 47Hz - 52Hz

## Inputs/Outputs Configuration

- 1000 imp/kWh pulsing LED Indicator
- 1000 imp/kvarh pulsing LED Indicator
- 2 x Relay auxiliary load control switches (ALCS) (240V, 2A)

## Battery

- Internal battery for up to 1 year of shelf storage

## Real-time Clock

- Accuracy (internal) within 10 seconds per month

## Data Memory

- Up to 8 megabytes 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, 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 EDMI supply chain

## Communications

- Local optical port
- DLMS COSEM
- Zigbee Smart Energy Profile 1.4
- GBCS object support

## Environmental

- Operating range:
  -25˚C to +55˚C
- Storage range limit:
  -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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