

## Elster

### AS302P SMETS2 Single Phase Smart Meter

#### Brief Description

The AS302P meter has been designed specifically to meet the UK SMETS 2 Smart Meter Rollout requirements. This means full compliance to BEIS industry specifications such as SMETS2V4.2 as well as all the other industry defined standards.

The AS302P meter boasts a very compact design to ensure it can be fitted into as many existing installation positions as possible, therefore saving the Supplier time during the installation process and reducing the need for additional components. Careful consideration has been given to ensure the meter can carry 140A for a maximum of 45 mins.

The AS302P meter has an ICHI modular interface that allows Communication Hubs from either CSPs to be attached to the meter and hot swapped if required. The meter communicates to the Communications Hub securely by using ZigBee Smart Energy Protocol.

The AS302P offers extensive features, to match SMETS requirements. This includes Prepayment or Credit Modes, therefore all meters are supplied with a 100A contactor. Consumer data is available. The meter stores multiple profiles: for import energy (13 months); export kWh; imp and Exp kvarh; 731 daily values; daily and monthly billing data

The firmware is downloadable so any enhancements can be introduced at a future date. The metrological code cannot be updated and is stored in a separate microprocessor.

The meter design offers high security to the latest industry standards. Security features include main and terminal cover removal and magnetic field detection monitoring. Extensive alarm and event logs with time and date stamps can be read via remote communications. Extensive security provisions, meeting NCSC CPA Security Requirements, are made to ensure information to and from the meter is secure and all relevant events are stored by the meter.

Smart Grid applications in the future will greatly benefit from the existence of Smart Meters installed on the networks. The AS302P has been designed to anticipate this requirement of smart grids. The meter offers comprehensive power quality monitoring and instrumentation. By utilising this information, utilities/network operators can gain a detailed understanding of network performance.



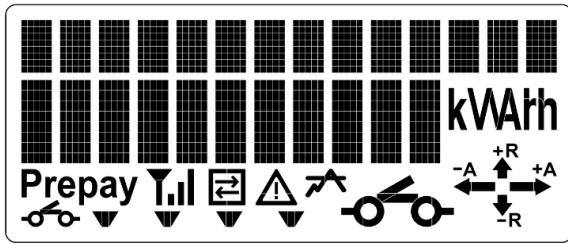
#### Features

- ICHI modular Communications Hub interface
- Full measurement capability
  - Import/Export kWh
  - Import/Export kvarh
- 2 Line dot matrix display
- Menu driven, flexible display
- 2 Push buttons
- Firmware download
- Profiling
- Instrumentation
- Power quality monitoring
- One relay output (2A)
- Extensive security data
- Historic billing information
- Daily/Weekly/Monthly customer data
- Main & terminal cover removal monitoring
- Magnetic field detection monitoring
- Load limit functionality

#### Approvals

- MID & IEC accuracy
- ZigBee 1.4
- DLMS CTT 3.1
- CE / EMC
- RED
- NCSC CPA ESME SC v1.2
- SMDA (when available)

## Display



A two line dot matrix display allows user friendly information to be shown to the customer, with easy navigation through displayed information. The icons allow status information to be provided at the same time as data.

## Tariff Capabilities

The meter offers a comprehensive structure:

### TOU Tariff Structure

- 48 TOU Rates
- 4 Seasons
- 4 Week Profiles
- 16 Day Profiles
  - 200 Switching Points
- 50 Special Days

### TOU/Block Tariff Structure

- Import/Export kWh
- 8 TOU Rates, 8 Blocks
- Critical Peak Pricing
- Precedence Over Normal Tariff
- Immediate or Advanced Notice
- 3 Critical Peak Pricing Day Profiles

Both tariff structures support:

- Automatic Billing Periods
- Deferred Tariff

## Prepayment

Full Local Prepayment:

- Remote or Local 'Top Up' Code Entry
- Emergency Credit
- Family Friendly Credit Periods
- 3 Debts

## Profiling

The AS302P supports 4 load profiles:

Profile 1 – Import kWh (13 months)

Profile 2 – Exp kWh, Imp / Exp kvarh (3 months)

Profile 3 – Average RMS voltage (3 months)

Profile 4 – kWh Import (731 days)

## System



## Security and Privacy

The AS302P forms part of a system and offers end to end security by utilising the DECC industry standards. These standards also ensure that there is a suitable level of privacy. The meter also offers excellent security against traditional fraud or tampering methods.

## Communications

The AS302P is ICHIS Compliant and will accept DSP Communications Hubs with an interface that conforms to the ICHI standard. The meter provides 12V for the Communications Hub and communicates to the Hub using ZigBee.

The AS302P supports:

- Certificate based asymmetric cryptography
- AES 128 encryption

## Technical Data

Current Rating	5 - 100A, 10-100A, 20-100A
Reference Voltage	230V a.c.
Frequency	50Hz
Impulse Withstand	12kV impulse (from 40Ω source) 6kV impulse (from 2Ω source)
Display	2 lines x 14 & 11 characters Icons and chevrons
Product Design Life	20 years
Product Service Life	15 years
Temperature	-25° C to +55° C (Operating range) -25° C to +70° C (Storage)
Humidity	Annual mean 75% (Non condensing)
Test Indicator Output	4,000 pulses/kWh (kvarh)
Dimensions (mm)	132 (W) x 125 (H) x 65 (D)
Weight	584 grams (Without module)
Specifications	EC Directive 2014/32/EU kWh Class A or Class B
Case	IP54 to IEC 60529