A100C
BS Electronic Single Phase Meter

Compact yet advanced domestic metering...

Features
- Accuracy Class 1 or Class 2
- kWh import or kWh import/export
- 20 years certified life
- Large digit (9.8mm) multilingual display with chevron information indication
- Extensive security data
- Communications as standard
- 12kV impulse withstand
- High security, compact design (130mm Wide x 97mm High x 47mm Deep)
- BS double insulated, glass filled polycarbonate case
- Permanently fixed main cover
- IP53 in accordance with IEC 60529:1989

Options
- One or two rates controlled by external device
- IrDA communications or IEC 62056-21 (formerly IEC 61107) optical communications
- Auxiliary terminals configured for:
  - SO Pulse output (IEC 62053-31)
  - Serial data output (IrDA meter)
- A102C - kWh and kvarh energy measurement
- Extended terminal cover

The successful range of A100 meters from Elster Metering Systems provide a cost effective solution for one or two rate domestic applications. The new A100C meter is housed in an extremely compact case. To further enhance security, the main meter cover is permanently secured to the base during the manufacturing process. The meter also provides the choice of IrDA communications or optical IEC 62056-21 (formerly IEC 61107) communications.

The liquid crystal display has large (9.8mm), high contrast characters that can be viewed from a wide angle. Chevrons and multilingual legends on the nameplate identify the values being displayed. The energy registers can be configured for the required number of digits and for the position of the decimal point.

The A100C offers high security and detects many of the most commonly used tamper techniques. Security features of the meter include reverse run energy total and count; power fail and elapsed time count; hours in anti-creep; hours in Rate 1, Rate 2 and hours since last power up time. These are stored as security data and can be included as part of the display sequence and read via the optical communications ports.

The A100C has the option of IrDA or optical IEC 62056-21 (formerly IEC 61107) communications. Both methods of communication allow the meter registers and security data to be read electronically from a laptop or hand-held device, greatly reducing the possibility of manual meter reading errors.

The A100C can be a simple import meter or for import/export for domestic or small scale generation sites. The meter offers one or two rate operation. The rate select for the two rate meter is switch to neutral.

The A102C measures reactive energy in addition to active energy and is ideally suited for utilities who wish to bill or monitor energy consumption based on kvarh measurement. The meter can measure import or import and export energy.

Meters can be supplied to meet accuracy Class 1 or Class 2 requirements. They are approved to EN 62053-21:2003, have an ingress protection of IP53 to IEC 60529:1989 and comply with EMC standard EN 50081-1:1992.

ELSTER

Display

The liquid crystal display is programmable to meet a customer's requirements. A typical display for an A100C meter showing kWh import is shown. The chevrons and index digit indicate the information being displayed. The nameplate information can be printed in any language.

Security Data

The A100C offers many useful security features. The meter stores all registration and security data to non-volatile memory. This data can be shown on the display. All data is retained for the life of the meter. Recordable security features are listed below.

- Reverse run event count
- Reverse run energy total
- Reverse run indication on LCD
- Power fail count
- Elapsed time count
- Time in rate 1 and rate 2
- Hours since last power-up
- Hours spent in anti-creep

As an option the kWh register can increment in power flow insensitive mode i.e. it increments regardless of energy flow direction.

Communications

Optical Port · · · · · IrDA Port

The A100C has the option of IrDA (Infrared Data Association) data stream communications or optical IEC 62056-21 (formerly IEC 61107) two way communications. The table below shows the functions available for each type of communications.

|	Configure Meter	Register, Security and Status Data Via Optical Port	Register, Security and Status Data Via Auxiliary Terminals
IEC 62056	Yes	Yes	No
IrDA	No	Yes	Yes

Pulse Output

An opto-isolated pulse output can provide the basis for an energy management system or AMR. These pulses are output via the auxiliary terminals.

Technical Data

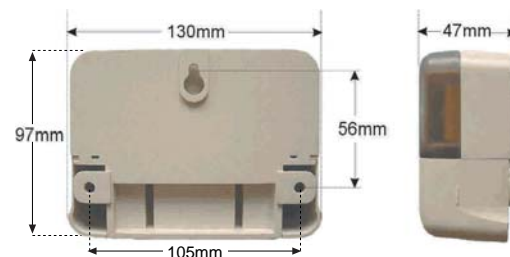|	
Current Range	10-100A, 20-100A
Voltage Range	210-250V, 105-127V
Frequency	50 or 60Hz
System Connection	1 phase, 2 wire
Burden (230V)	0.66W, 8.5VA (Capacitive burden)
Insulation	4kV RMS 50Hz
Impulse Withstand	12kV 1.2/50μs 40ohm source
Display	9.8mm x 3.5mm characters, High contrast, wide angle
IrDA Baud Rates	2400, 4800 or 9600 (Without serial port)
IEC 62056-21 Rate	9600
Serial Baud Rates	2400 or 4800
Certified Product Life	20 years (OFGEM model)
Temperature	-20° to +55°C (Operational range) -25° to +85°C (Storage)
Humidity	Annual mean 75% (For 30 days spread over one year, 95%)
Pulse Output	100ms pulse 100p/kWh (=10Wh/pulse) (Other pulse rates, durations available)
Weight	345 grams
Specifications	kWh Class 1 or 2 EN 62053-21:2003 kvarh Class 2 or Class 3 En 62053-23
Case	IP53 to IEC 60529:1989

Terminal Arrangements
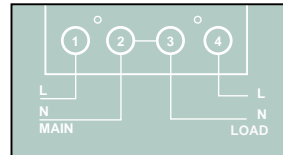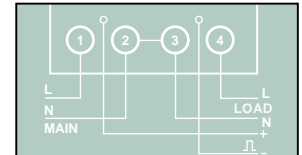
Single Rate · · · · · Pulsed Output

Dimensions and Fixing Centres

EMS/A100CBS/2.2004