

AS3000 Smart Time of Use Meter

Residential, Commercial and Light Industrial Three Phase Smart Meter

The AS3000 Smart electricity meter from Elster is a world leading technology, high quality, reliable and robust product that is available ex-stock supported with technical advice and training from Elster Solutions.

The meter complies with the latest national and international metering standards. Elster Solutions (Pty) Ltd is accredited to IEC 17025:2005 to provide individual meter accuracy verification certificates when requested.

The AS3000 Smart Meter provides extensive measurement and tariff capabilities for use in both residential and light commercial 100 Amp direct connected metering applications. The meter includes an Internal 100A Contactor that can be remotely controlled for Smart Billing and Smart Prepayment solutions. The AS3000 can operate as a stand alone or as part of a comprehensive AMR/AMI metering system via a variety of communication modules. Batteries for Clock & Calendar back up never need to be changed as they will provide support 'on the shelf' for the meters design life.

Elster support software for programming, configuration, and reading is available.

Features

- 100A Direct Connect variant
- kWh, kvarh, KVA four quadrant measurement
- 4 Time of Use and 4 Maximum Demand registers
- Backlit LCD Display
- Instrumentation displays
- Accuracy class 1.0 for 100A
- Load profile + Instrumentation profile, 8 channels, 420/600 days
- During power down clock & calendar battery back up for Design Life
- Read without power
- Internal 100A Disconnect Contactor
- Multi-drop up to 32 meters with built in RS485 electrical interface
- AlphaSET Programming Software
- 2 Mechanical Relay outputs up to 8A
- Power Quality Measurement
- Installation Support Features
- Supporting AMI/AMR Solutions/Packages
- Terminal & Main Cover removal tamper detection
- 20 Year Design Life
- 1 External Control Input for auxiliary metering applications

Communication Devices

- GSM/GPRS Modem
- Ethernet
- Modbus Converter
- RS485 Electrical interface built in
- Optical Flag Probe
- AM540 G3 PLC communications module for use with the Beacon 3100 data Concentrator
- Wireless RF Module
- Ongoing Developments - contact Elster

Options

- IEC 17025:2005 accuracy verification certificate and test report
- Protocols available upon completion of an NDA
- Short Terminal Cover
- Register zeroing service available from Elster Solutions
- Training Courses for meter, software and communications at Elster
- AS3500 5A Class 0.5



Beacon 3100 - True end-to-end secure G3 PLC data concentrator

Its hybrid meter reading concept allows both for scheduled meter readings via its concentrator functionality as well as direct end-to-end secure gateway or IPv6 routing function between the Head-end system (HES) and meter for maintenance operations. This optimized use of communication media saves cost while maintaining full flexibility.

The G3 PLC Alliance compliant downstream interface, the modular GPRS / 3G / 4G modem for upstream communication and the local and remote Ethernet interfaces make the Beacon 3100 suitable for a broad variety of environments and communication options. It is designed using only open standards to guarantee interoperability, avoiding vendor lock-in. The Beacon 3100 is a true hybrid end-to-end secure G3 PLC hybrid concentrator or gateway for meter reading.

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Display

Programmable Display sequence with English display descriptors and OBIS identifiers.



Communications

Local

- Optical bidirectional IEC 62056-21 port

Remote

- WAN communications port allowing remote meter reading and programming of meter data.
- Modules are available for: GSM/GPRS, low power radio, Ether, Modbus and G3 PLC.

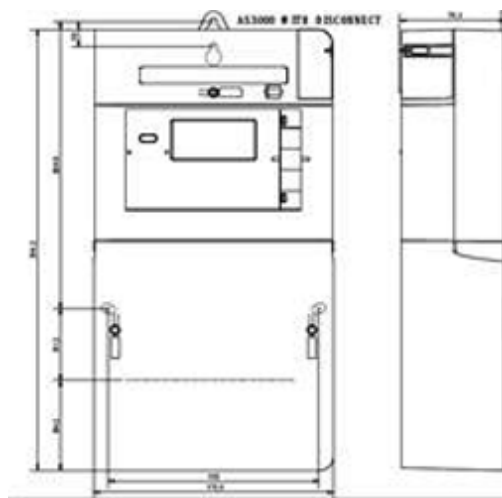
Tariff Structure

- 4 Time-of-Use Registers
- 4 Maximum Demand Registers
- 4 Seasons
- 8 Change of Season Dates
- 16 Switching Times
- Exclusion Dates
- End of Billing Dates
- Daylight Savings
- Deferred Tariff

Technical Data

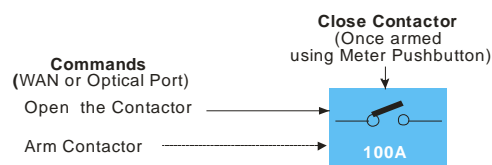
Current Range	5(100) or 5(6)A
Voltage Range	230V (-20%...+15%)
Frequency	50Hz
Impulse Withstand	12kV impulse (from 40 Ohm source) – 1,2/50µs
Dielectric Test	4kV, 1 min, 50Hz
Display Characters	10.1mm x 4.9mm High contrast, wide angle
Baud Rates	Optical – 300 to 9600 baud WAN – 9600 baud
Product Design Life	10 years
Temperature	-40°C to +70°C (operational range) -40°C to +80°C (storage)
Humidity	Annual Mean 65% (non condensing)
Input	1 External Control Input for auxiliary metering applications (Off at 40V on at 60V - Max 230V (+15%))
Dimensions	170 (High) x 132 (Wide) x 65 (Deep)
Accuracy	Class 0.5 or 1.0 kWh to IEC 62053:21 Class 2.0 kvarh to IEC 62053:23
Case	IP54 to IEC 60529:1989
Control Output	2 Mechanical Relay outputs up to 8A
Relay	1 Integrated Connect/Disconnect relay up to 100A and 10,000 switching cycles
Power Consumption	<0,7W, <8VA per phase
Read Without Power	10 years depending on number of readouts (exchangeable battery)

Dimensions and Fixing Centre



Contactor Disconnect

The main 100A contactor can be disconnected locally or remotely by the Utility. This can be driven directly or driven by the meter at load limiting thresholds.



Wiring Diagram

