Elster
Single Phase Smart Meter

Brief Description

The AMI domestic Smart Meter offers multi-tariff metering and flexible modular communications to interface directly to the utility via a Wide Area Network (WAN) or Local Area Network (LAN) and to connect to a consumer's Home Automation Network (HAN).

The module provides the platform for many different forms of communications including GSM/GPRS, PLC and Lower Power Radio for WAN/LAN communications. The modular and optical port can be used to read data from other meters connected to the HAN.

The meter measures a combination of import and export active energy, four-quadrant reactive energy and apparent energy. Extensive security features protect the meter and module from fraud or tampering.

Instrumentation values are available to aid meter commissioning. The meter records up to 120 days of load and instrumentation profile data in shared storage.

Power Master Unit software provides a Windows™ graphical interface for programming the meter and reading meter data.

Meters can be supplied to meet EC Directive 2004/22/EC (MID): accuracy Class A or Class B.

kvarh is to EN 62053-23 Class 2 or 3.

The meter has an ingress protection rating of IP53 to IEC 60529:1

Features

- EN 62053-21: Accuracy Class 1 or Class 2
- EC Directive 2004/22/EC (MID): Class A or B
- kWh, kvarh and kVAh energy measurement
- Import/Export
- Modular WAN/LAN capability
- Home Automation Network allowing access to: Gas, Water, Other meter data, Customer display
- Comprehensive tariff structure
- Maximum demand registration
- Load limiting
- Load profiling recording (4 channels)
- Instrumentation profile recording   (8 channels)
- Extensive security features
- Storage for external register values
- Product design life 20 Years
- Optical communications port
- Internal clock with battery back-up
- Compact design
- IP53 in accordance with IEC 60529:1989

Options

- Modular remote communications unit
- Internal disconnect contactor
- Magnetic field detection
- 100mA output
- Reactive LED
- BS or DIN case

Display

Programmable Display sequence with English display descriptors or OBIS identifiers.

Communications

Local

Optical bidirectional IEC 62056-21 port

HAN interface will be available to match market requirements

Remote

WAN communications port allowing remote meter reading and programming of meter data.

Modules will be available for: GSM/GPRS; PLC; Low Power Radio

Tariff Structure

8 Time-of-Use Registers
1 Maximum Demand Register
12 Seasons
24 Change of Season Dates
48 Switching Times
32 Exclusion Dates
13 End of Billing Dates
10 Daily Billing Registers
Daylight Savings
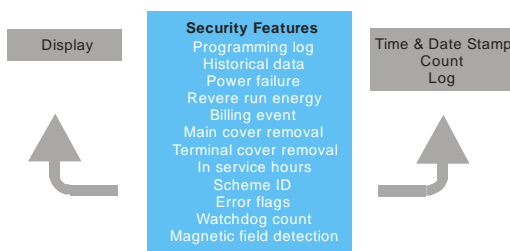Deferred Tariff
Typical Load/Instrumentation Profiling

Load Profiling

Load Profile	Instrumentation Profile
120(D), 4(C), 30(M)	80(D), 1(C), 30(M)
120(D), 2(C), 30(M)	120(D), 2(C), 30(M)
100(D), 2(C), 30(M)	70(D), 2(C), 15(M)

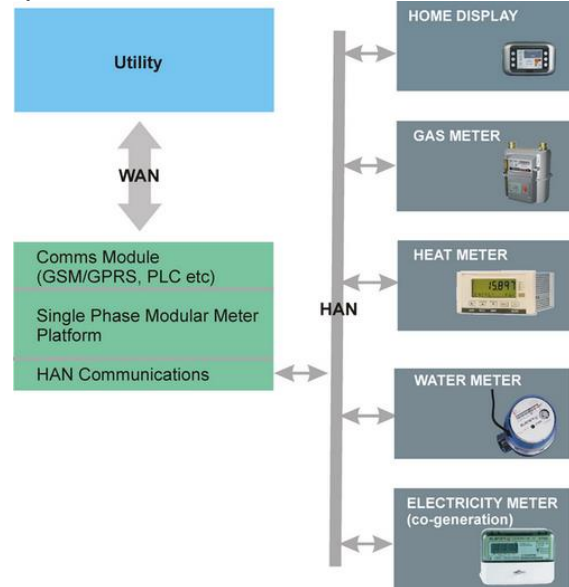**(D) Days, (C) Channels, (M) Integration Period in Minutes**

Security

The meter offers high security against fraud or tampering.

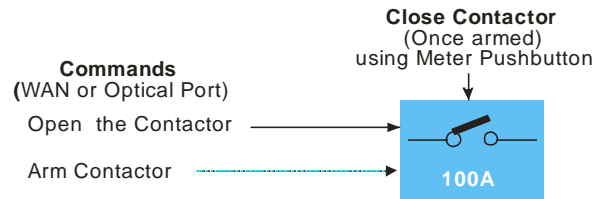| Display	Security Features	Time & Date Stamp
	Programming log	Count
	Historical data	Log
	Power failure	
	Revere run energy	
	Billing event	
	Main cover removal	
	Terminal cover removal	
	In service hours	
	Scheme ID	
	Error flags	
	Watchdog count	
	Magnetic field detection	

System

The HAN allows any remote meter to be read directly by the Utility or to be viewed on the Home Display.

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

Technical Data

Current Range	5-100A (BS) 5-65A (DIN)
Voltage Range	220-240V
Frequency	50Hz
Impulse Withstand	12kV impulse(from 40ohm source) 6kV impulse from 2ohm source
Display Characters	9.8 x 3.3 High contrast, wide angle
Baud Rates	Optical 300 to 9600 baud WAN - 9600 baud
Product Design Life	20 years
Temperature	-25° C to +65° C (operational range) -25° C to +85° C (storage) Annual mean 75% (non condensing)
Humidity	
Test Indicator Output	2000 pulses/kWh (kvarh)
Dimensions*	170 (High) x 132 (Wide x 65 (Deep)
Specification	EC Directive 2004/22/EC (MID):
Accuracy	Class A or Class B kvarh Class 2 or 3 EN 62053-23
Case	IP53 to IEC 60529:1989

* With short terminal cover. A long cover (enclosing the meter tails) is also available.

Honeywell