Honeywell Commercial and Light Industrial

Elster

A1120/40 Programmable Polyphase Meter

Brief Description

The A1120/40 offers highly secure kWh and kVArh metering to suit any direct connected or CT, commercial or light industrial application. The A1140 offers additional load profiling.

The Liquid Crystal Display has large characters that can be viewed from a wide angle. Displayed information can be English characters or OBIS codes.

Communications are provided via the optical port and are supported by Data Stream Mode allowing fast reading of meter data. The A1140 permits up to 90 days of load profile data to be collected in less than 30 seconds. The RJ11 socket provides optional serial communications allowing remote access to the same data as the optical port. This port can be multi-dropped, allowing access to up to 10 meters in a single installation.

An S0 output or a 100mA relay output can be provided as an option.

The outputs can be configured by the Power Master Unit to re-transmit any cumulative register or customer defined register. The pulse width and value are configurable. A further manufacturing option provides a 300mA relay which is driven by the tariff.

The meter is available in a number of variants that measure active energy, four quadrant reactive energy and kVA. Two customer defined registers can be used to summate pulses from like unit registers. A comprehensive range of instrumentation quantities are available that can be included in the display sequence.

As an option, 12 External Registers can be used to display data from an external source such as a gas or water meter. The registers are accessed via an intelligent source (such as a modem) and can be viewed on the A1120/40 meter display.

The meter offers extensive security data and the option of main cover and terminal cover removal detection. As an alternative option, the main cover switch can be used to allow the CT ratio to be changed. A special carrier can be supplied as an option for a module or battery. The carrier is simple to install and can be sealed under the terminal cover. Windows™ Power Master Unit software programs or reads the meter data.

Meters can be supplied to meet EN 62053-21/22 kWh accuracy Class 0.5s, 1 or 2 (EN 50470 [MID]), kWh Class A, B or C), kvarh is to EN 62053-23 Class 2 or Class 3.

The meter has an ingress protection rating of IP54 to IEC 60529.

Features

- Whole current or CT operated
- Accuracy - kWh Class 0.5s (CT only), 1 or 2
  kWh Class C (CT only), A or B
  EC Directive 2004/22/EC [MID] kvarh
  Class 2 or Class 3
- kWh import/export, kvarh and kVA
- Comprehensive tariff structure
- Instrumentation
- Large digit (9.6mm) display
- IEC 62056-21 communications port
- 10 years product life
- Internal clock with battery back-up
- Extensive security data
- High security, compact design
- 12kV impulse withstand
- Double insulated glass filled polycarbonate case to DIN 43857 Part 2 and Part 4 (except for top fixing centres)
- RoHS in accordance with IEC 60529
- Windows™ Power Master Unit programming and reading software

Options

- CT or Direct Connected
- Serial communications
- Backlit display
- Load profiling (A1140)
- 12 external registers
- Range of communications media (GSM, PSTN)
- Multi-drop for up to 10 meters
- English or OBIS display characters
- S0 Pulse output (IEC 62053-31)
- Time and date stamps in base time or daylight savings time.
- Terminal cover removal detection switch
- Main cover removal detection or CT ratio programming switch
- Short terminal cover
- Extended terminal cover with or without cut-out
- External battery for viewing display and reading register data during power outages

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Optional Module Housing

A module chosen for the required application can be sealed in the housing beneath the terminal cover providing a high degree of protection from fraud or tampering. It is simple to install and securely locks into place.

Display

The meter can be configured by the customer to display English characters or OBIS identification codes.

Options include a backlit display and battery support for the display during power outages.

Tariff Structure

8	Time-of-Use (TOU) registers
4	Maximum demand registers
48	Switching times
6	Seasons
12	Change of season dates
32	Exclusion dates
13	End of billing dates

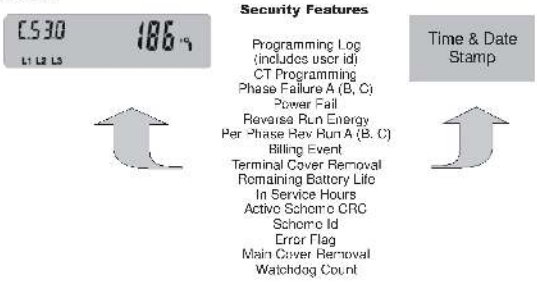
Independent day control
Daylight saving
Deferred tariff

Data Storage (A1140)

Up to 300 days of half hour data for one channel
Programmable integration period
Four channels of load profile storage for any measured quantity
Instrumentation values

Security

The meter offers high security with many useful security features. The meter stores all registration and configuration data to non-volatile memory. All data is retained for the life of the meter. Recordable security features are illustrated below:



Meter Variants

- Import Wh
- Import Wh, Q1 and Q4 (varh)
- Import Wh, Q1, Q2, Q3, Q4 (varh), Import VAh
- Import/Export Wh
- Import/Export Wh, Q1, Q2, Q3, Q4 (varh)
- Import/export Wh, Import/export VAh
- Import/export Wh, Q1, Q2, Q3, Q4 (varh), Import/Export VAh

Communications

Local: IEC 62056-21 Remote: Optional Serial Data Port
Fast data collection of cumulative registers, historical data and load profiling (A1140) using Data Stream Mode

System Connections

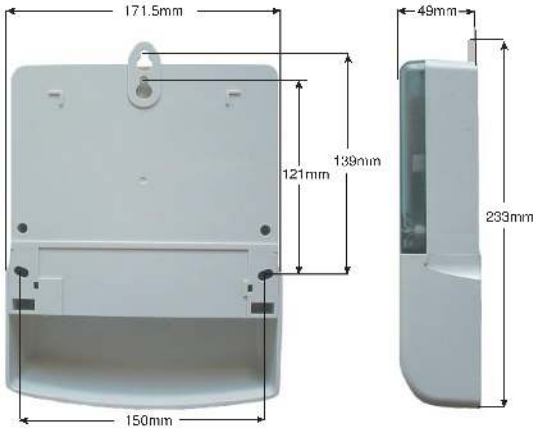
3 Element	3 phase, 4 wire* 2 phases of a 3 phase, 4 wire 2 phase, 3 wire 1 phase, 3 wire 1 phase, 2 wire
2 Element	3 phase, 3 wire*

* Variant for Class 0.5s, CT operated meter

Technical Data

Current Range	Direct connected 20-100A, 10-100A, 5-100A CT operated 5-10A, 1-10A, 1-2A
Reference Voltage	220-240V (L-N) or 220-240V (L-L) 100-127V (L-N) or 100-127V (L-L)
Frequency	50 or 60 Hz
Burden Voltage Circuits (230V) Current Circuits (DC) Current Circuits (AC)	 0.8W, 1.3VA burden/phase (max) 4VA @ 100A/phase (max) 0.22VA per phase
Insulation Impulse Withstand	4kV RMS for 1 s 12kV 1.2/50µs, 0.5J in accordance
Display - LCD	8.5 x 3.5mm characters High contrast, wide angle
Baud Rates	2400, 4800 or 9600
Certified Product Life	10 years
Temperature Humidity	-25°C to +55°C (Operational range) -25°C to +65°C (Storage) Annual mean 75% (95% for 30 days spread over one year)
Pulse Width Wh/pulse	10 to 250ms 1, 2, 4, 5, 10, 20, 25, 40, 50, 100
Weight	940 grams
Specifications Class	kWh Class 0.5s, 1 or 2 EN 62053-21/22 kWh Class A, B or C, EN 50470-1/-3) kvarh Class 2 or 3 EN 62053-23 (Pulse LED 60Hz)

Dimensions and Fixing Centres



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