A1120/40
Programmable Electronic Polyphase Meter

Innovative Metering Solutions...

Features
- Accuracy – kWh Class 1 or Class 2
  kvarh Class 2 or Class 3
- Modular design to allow future upgrades
- Comprehensive tariff structure
- Instrumentation
- Large digit (9.8mm) display
- IEC 62056-21 communications port
- Internal clock with battery back-up
- 15 year product life
- Extensive security data
- High security, compact design
- 12kV impulse withstand
- Double insulated, polycarbonate case
- Compact design
- IP53 in accordance with IEC 60529:1989

Options
- kWh export, kvarh and kVA
- CT or Direct connected
- Serial communications
- Load profiling (A1140)
- Read without power (using replaceable battery)
- English or OBIS descriptors
- Terminal cover removal detection switch
- Main cover removal detection or CT ratio programming switch
- SO pulsed output (IEC 62053-31)
- Terminal cover with cut-out

The A1120/40 has been designed to meet the changing needs of the Electricity supply industry.
The meter offers a ‘modular’ solution for remote communications, allowing the meter to be integrated
into an AMR system at any time. Flexibility in communications provides the Utility with the means to
use the most cost effective communications method.
The serial port provides power for a modem removing any requirement for external connections. The modem
fits neatly under the terminal cover providing a high degree of protection against fraud or tampering.

Communications are provided via the optical (IEC 62056-21) 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. The serial port can be multi-dropped, allowing access to up to 10 meters
from a single communications device. A further option allows a pulsed output to be transmitted via the
meters’ auxiliary terminals.

The meter is available in a number of variants that measure combinations of active, four quadrant
reactive energy and kVA. Two customer defined registers can be used to summate energy from any like
unit registers. Instrumentation quantities are available to aid installation. These can be included in the
display sequence.

The meter offers extensive security data which includes a programming log with user ID. Further
security can be provided as an option with terminal cover and main cover removal detection. As an
alternative option, the latter detection switch can be used instead to allow the CT ratio to be changed.

The liquid crystal display has large characters that can be viewed from a wide angle. The display sequence
is programmable and is supported by two modes of operation, default and utility. Displayed information
can use English descriptors or OBIS (Object Identification System) codes.

Main meter variants are configured at manufacture. Power Master Unit software provides a user-friendly
Windows™ graphical interface for programming the meter and reading meter data.

Meters can be supplied to meet kWh accuracy Class 1 or 2 requirements and are approved to EN 62053-21.
Kvarh is to EN 62053-23 Class 2 or 3. The meter has an ingress protection rating of IP53 to IEC 60529:1989.
Display
The A1120/40 can be configured by the customer to display English descriptors or OBIS identification codes.

Communications
Local: IEC 62056-21
Remote: Optional RS232
Fast data collection using Data Stream Mode, 90 days data in 30 seconds

Tariff Structure
8 Time-of-use (TOU) registers
4 Maximum demand registers
12 Switching times
24 Change of season dates
32 Exclusion dates
13 End of billing dates
Independent day of week control
Daylight saving
Deferred tariff

Data Storage (A1140)
300 days of half hour data for one channel
Programmable integration period
Four channels of load profile storage

Security
The A1120/40 offers high security with many useful security features. The meter stores all registration and configuration data to non-volatile memory.
Recordable security features are illustrated below.

Optional Module Housing
The module housing allows the functionality of the meter to be extended in the future. It is simple to install and is securely locked into place. It has been designed not to interfere with the installation wiring and fits neatly under the terminal cover.

Communications
The module can house a variety of communications solutions allowing the Utility to employ the most cost effective communications method.

Battery
The module can house a 9V PP3 battery to support read without power. This enables the following to be read:
Data via the optical port
LCD data, initiated by presses of the display pushbutton

System Connections

<table>
<thead>
<tr>
<th>Meter Variants</th>
<th>Current Range</th>
<th>Voltage Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Element Meters</td>
<td>Direct connected 5 - 100A</td>
<td>220 - 240V (L-N) or 380 - 415V (L-L)</td>
</tr>
<tr>
<td>2 Element Meters</td>
<td>50 or 60Hz</td>
<td>50 or 60Hz</td>
</tr>
<tr>
<td>Import Wh</td>
<td>0.8W, 1.3VAh burden/phase (max)</td>
<td>4VA @ 100A/phase (max)</td>
</tr>
<tr>
<td>Export Wh</td>
<td>12KV 1.2/50us-40 ohm source</td>
<td>4KV RMS 50Hz</td>
</tr>
<tr>
<td>Import/Export Wh</td>
<td>Display LCD</td>
<td>Impulse Withstand</td>
</tr>
<tr>
<td>Q1 and Q4 varh, Import VAh</td>
<td>9.8 x 3.5mm characters</td>
<td>12KV 1.2/50us-40 ohm source</td>
</tr>
<tr>
<td>Import/Export Wh, Q1, Q2, Q3, Q4 varh, Import VAh</td>
<td>High contrast, wide angle</td>
<td>Display LCD</td>
</tr>
<tr>
<td>Import/Export Wh, Q1, Q2, Q3, Q4 varh, Import VAh</td>
<td>2400, 4800 or 9600</td>
<td>Display LCD</td>
</tr>
<tr>
<td>Import/Export Wh</td>
<td>15 years</td>
<td>10 to 250ms</td>
</tr>
<tr>
<td>Import/Export Wh, Q1, Q2, Q3, Q4 varh</td>
<td>Temperature</td>
<td>Wh/pulse</td>
</tr>
<tr>
<td>Import/Export Wh, Import/Export VAh</td>
<td>humidity range</td>
<td>1, 2, 4, 5, 10, 20, 25, 40, 50, 100</td>
</tr>
<tr>
<td>Import/Export Wh, Q1, Q2, Q3, Q4 varh, VAh x 2</td>
<td>23mm(high) x 17mm(wide) x 50mm(deep)</td>
<td>Weight</td>
</tr>
<tr>
<td></td>
<td>940 grams</td>
<td>Specifications</td>
</tr>
<tr>
<td></td>
<td>kWh Class 1 or 2</td>
<td>kWh Class 1 or 2</td>
</tr>
<tr>
<td></td>
<td>kvarh Class 2 or 3</td>
<td>Case</td>
</tr>
</tbody>
</table>

Our policy is one of continuous product development and the right is reserved to modify the specification herein without notice.

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