The compact and versatile EQ meters A41 and A42 are single phase meters with outstanding performance. They can be used in most of the common applications for reliable and trustworthy metering of energy usage with up to four tariffs.

EQ meters A41 and A42 in Silver version can be used in stand-alone applications or metering network installations with the option of inbuilt M-Bus or Modbus.

### General features

The A series meters are ideal for many applications and installations. The meters support a wide voltage range as well as a wide temperature range. The display is pixel-oriented and can display up to four quantities at the same time. Navigating the meter is easily done via the push-buttons below the display. To configure the meter settings, the set button must be accessed and this button is protected against unauthorized use when the transparent lid on the front of the meter is closed and sealed. The power consumption of the meter is very low, less than 0.8 VA, makes them economical in the long run - an important feature especially for large meter populations.

### Communication

Data from A41 and A42 in Silver version can be collected via pulse output or serial communication. The meter is equipped with solid state outputs for 5-240 V AC/DC external supply. It can be used for pulses proportionally to the measured energy or various alarms. The meter is also available with built-in serial communication interfaces for Modbus RTU (RS-485) or M-Bus as option.

### Tariff handling

The A41 and A42 have up to 4 tariffs that could be controlled either by the 2 inputs or through serial communication.

### Approvals

The A41 and A42 meters are type approved according to IEC as well as type approved and verified according to MID. MID is the Measure Instruments Directive 2004/22/EC from European Commission. The type approval is according to standards that covers all relevant technical aspects of the meter. These include climate conditions, electromagnetic compatibility (EMC), electrical requirements, mechanical requirements and accuracy.

### Instrumentation

The A41 and A42 meters in Silver version support reading of instrument values.

A large number of electrical properties can be read.
- Active power - Total and per phase
- Reactive power - Total and per phase
- Apperent power - Total and per phase
- Current - Total and per phase
- Voltage - Total and per phase
- Power factor
- Frequency

### Ordering details

#### 80 A direct connected, 4 DIN

<table>
<thead>
<tr>
<th>Voltage V</th>
<th>Communication</th>
<th>Type</th>
<th>Order code</th>
<th>Weight Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>57.7...288 V AC</td>
<td>-</td>
<td>A41 311 - 100</td>
<td>2CMA170502R1000</td>
<td>0.23</td>
</tr>
<tr>
<td></td>
<td>RS-485</td>
<td>A41 312 - 100</td>
<td>2CMA170503R1000</td>
<td>0.23</td>
</tr>
<tr>
<td></td>
<td>M-Bus</td>
<td>A41 313 - 100</td>
<td>2CMA170504R1000</td>
<td>0.23</td>
</tr>
</tbody>
</table>

#### 6 A transformer CTVT connected, 4 DIN

<table>
<thead>
<tr>
<th>Voltage V</th>
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<th>Type</th>
<th>Order code</th>
<th>Weight Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>57.7...288 V AC</td>
<td>RS-485</td>
<td>A42 312 - 100</td>
<td>2CMA170512R1000</td>
<td>0.20</td>
</tr>
</tbody>
</table>

Instrumentation

The A41 and A42 meters in Silver version support reading of instrument values.

A large number of electrical properties can be read.
- Active power - Total and per phase
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### Ordering details

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</tr>
</tbody>
</table>
### Technical data

**Voltage/current inputs**

<table>
<thead>
<tr>
<th></th>
<th>A41</th>
<th>A42</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nominal voltage</strong></td>
<td>230 V AC</td>
<td></td>
</tr>
<tr>
<td><strong>Voltage range</strong></td>
<td>57.7 V to 230 V AC (-20% to +15%)</td>
<td></td>
</tr>
<tr>
<td><strong>Power dissipation voltage circuits</strong></td>
<td>0.8 VA (0.8 W) total</td>
<td></td>
</tr>
<tr>
<td><strong>Power dissipation current circuits</strong></td>
<td>0.007 VA (0.007 W) at 230 V AC and</td>
<td>0.001 VA (0.001 W) at 230 V AC and</td>
</tr>
<tr>
<td><strong>Base current Ibc</strong></td>
<td>5 A</td>
<td>1 A</td>
</tr>
<tr>
<td><strong>Rated current Ib</strong></td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Reference current Iref</strong></td>
<td>0.5 A</td>
<td>0.05 A</td>
</tr>
<tr>
<td><strong>Transitional current Itr</strong></td>
<td>0.25 A</td>
<td>0.02 A</td>
</tr>
<tr>
<td><strong>Maximum current Imax</strong></td>
<td>80 A</td>
<td>6 A</td>
</tr>
<tr>
<td><strong>Minimum current Imin</strong></td>
<td>&lt; 20 mA</td>
<td>&lt; 1 mA</td>
</tr>
<tr>
<td><strong>Terminal wire area</strong></td>
<td>1 - 25 mm²</td>
<td>0.5 - 10 mm²</td>
</tr>
<tr>
<td><strong>Recommended tightening torque</strong></td>
<td>3 Nm</td>
<td>1.5 Nm</td>
</tr>
</tbody>
</table>

**Transformer ratios**

- Configurable current ratio (VT): 1/999 - 999999/1
- Configurable current ratio (CT): 1/9 - 9999/1

**Pulse indicator (LED)**

- **Pulse frequency**: 1000 imp/kWh
- **Pulse length**: 40 ms
- **Accuracy Class**: B (Cl. 1) and reactive Cl. 2
- **Active energy**: 1%
- **Display of energy**: Pixel oriented

**General data**

- **Frequency**: 50 or 60 Hz ± 5%
- **Accuracy Class**: B (Cl. 1) and reactive Cl. 2
- **Active energy**: 1%
- **Display of energy**: Pixel oriented

**Environmental**

- **Operating temperature**: -40°C - +70°C
- **Storage temperature**: -40°C - +85°C
- **Humidity**: 75% yearly average, 95% on 30 days/year
- **Resistance to fire and heat**: Terminal 960 °C, cover 650°C (IEC 60695-2-1)
- **Resistance to water and dust**: IP20 on terminal block without protective enclosure and IP51 in protective enclosure, according to IEC 60529.
- **Mechanical environment**: Class M2 in accordance with the Measuring Instrument Directive (MID), (2004/22/EC).
- **Electromagnetic environment**: Class E2 in accordance with the Measuring Instrument Directive (MID), (2004/22/EC).

**Outputs**

- **Current**: 2 - 100 mA
- **Voltage**: 0 - 240 V AC/DC
- **Pulse output frequency**: Programmable: 1 - 999999 imp/kWh
- **Pulse length**: Programmable: 10 - 990 ms
- **Terminal wire area**: 0.5 - 1 mm²
- **Recommended tightening torque**: 0.25 Nm

**Inputs**

- **Voltage**: 0 - 240 V AC/DC
- **OFF**: 0 - 12 V AC/DC
- **ON**: 57 - 240 V AC/24 - 240 V DC
- **Min. pulse length**: 30 ms
- **Terminal wire area**: 0.5 - 1 mm²
- **Recommended tightening torque**: 0.25 Nm

**EMC compatibility**

- **Impulse voltage test**: 6 kV 1.2/50μs (IEC 60061-1)
- **Surge voltage test**: 4 kV 1.2/50μs (IEC 61000-4-5)
- **Fast transient burst test**: 4 kV (IEC 61000-4-4)
- **Immunity to electromagnetic HF-fields**: 80 MHz - 2 GHz at 10 V/m (IEC 61000-4-3)
- **Immunity to conducted disturbance**: 150 kHz - 80 MHz (IEC 61000-4-6)
- **Immunity to disturbance with harmonics**: 2 kHz - 150 kHz
- **Radio frequency emission**: EN 55022, class B (CEPRI22)
- **Electrostatic discharge**: 15 kV (IEC 61000-4-2)

**Standards**


**Mechanical**

- **Material**: Polycarbonate in transparent front glass, bottom case, upper case and terminal cover. Glass reinforced polycarbonate in polycarbonate in terminal cover.

**Dimensions**

- **Width**: 70 mm
- **Height**: 97 mm
- **Depth**: 65 mm
- **DIN modules**: 4

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**ABB AB**

**Meters**

Low Voltage Products

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S-61129 Nyköping, Sweden

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www.abb.com

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