The compact and versatile EQ meters A42 are single phase meters with outstanding performance. They are intended for applications where reliable and trustworthy metering is needed for 16,7 Hz.

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

General features
The A42 16,7 Hz meters are ideal for many applications in peripheral equipment were 16,7 Hz is needed but they work also fine in 50 or 60 Hz networks. They are fully four quadrant enabled with active/reactive energy and import/export values in separate registers. The meters support a wide voltage range (100 – 288 VAC) as well as a wide temperature range (-40 to +70 ºC). The wide temperature range makes them easy to place in various environments. The display is pixel-oriented and can display up to four quantities at the same time. The power consumption of the meter is very low, less than 0.8 VA which means that even a larger population of meters is not energy demanding hence cheaper to operate.

Communication
Data from A42 in Platinum version can be collected via pulse output or serial communication. The meters are equipped with four configurable inputs/outputs for 5-240 V AC/DC external supply. Inputs can be used for tariff control, pulses or signals. Outputs can be used for S0 pulses proportionally to the measured energy, signals or various alarms. The meters are available with built-in serial communication interfaces for Modbus RTU (RS-485) or M-Bus.

Approvals
EQ meters A42 for 16,7 Hz carry a CoC (Certificate of Conformity), which declare that they fulfills the demands raised by the EN standards for compatibility (EMC), electrical requirements, mechanical requirements and accuracy. No tests for smoke and fire or vibrations except what is included in the here mentioned standards have been conducted by ABB.

MID
When used in 50 Hz applications the A42 552-120 and A42 553-120 meters are MID approved and verified according to appendix D. There are no paragraphs in the EN 50470-3 standards for 16,7 or 60 Hz hence it is not possible to have a MID approval in these frequencies. Still the EQ 16,7 Hz meters are verified in the production for 16,7 Hz according to the same procedure as for 50 Hz.

Instrumentation
The A42 meters in Platinum 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
6 A transformer CTVT, 4 DIN with IR port

<table>
<thead>
<tr>
<th>Voltage V</th>
<th>Communication</th>
<th>Type</th>
<th>Order code</th>
<th>Weight</th>
<th>1 pc</th>
</tr>
</thead>
<tbody>
<tr>
<td>100...288 V AC</td>
<td>RS-485</td>
<td>A42 552 - 120</td>
<td>2CMC170518R1000</td>
<td>0.20</td>
<td></td>
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<tr>
<td>M-Bus</td>
<td></td>
<td>A42 553 - 120</td>
<td>2CMC170519R1000</td>
<td>0.20</td>
<td></td>
</tr>
</tbody>
</table>

See also catalog 2CMC481003C0201 for the rest of the EQ meters program.
A series

Technical data

### Voltage/current inputs

- **Nominal voltage**: 230 V AC
- **Voltage range**: 100 ... 288 V AC (-20% - +15%)
- **Power dissipation voltage circuits**: 0.001 VA (0.001 W) at 230 V AC and \( I_t \)
- **Rated current** \( I_r \): 1 A
- **Transition current** \( I_{tr} \): 0.05 A
- **Maximum current** \( I_{max} \): 6 A
- **Minimum current** \( I_{min} \): 0.01 A
- **Starting current** \( I_s \): < 1 mA
- **Terminal wire area**: 0.5 - 10 mm²
- **Recommended tightening torque**: 1.5 Nm

### Communication

- **Voltage/current inputs**: 0.5 - 1 mm²
- **Recommended tightening torque**: 0.25 Nm

### Transformer ratios

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

### Pulse indicator (LED)

- **Pulse frequency**: 5000 imp/kWh
- **Pulse length**: 40 ms

### General data

- **Frequency**: 16.7 Hz ± 5% and 50/60 Hz ± 5%
- **Accuracy Class**: Cl. 0.5 S and reactive Cl. 2
- **Active energy**: 0.5 %
- **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**: 5 - 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**: 6kV 1.2/50μs (IEC 60060-1)
- **Surge voltage test**: 4kV 1.2/50μs (IEC 61000-4-5)
- **Fast transient burst test**: 4kV (IEC 61000-4-4)
- **Immunity to electromagnetic IF-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 (CISPR22)
- **Electrostatic discharge**: 15 kV (IEC 61000-4-2)

### Standards

- **IEC 62052-11, IEC 62053-21 class 1 & 2, IEC 62053-22 class 0.5 S, IEC 62053-23 class 2, IEC 62054-21, GB/T 17215.211-2006, GB/T 17215.321-2008 class 1 & 2, GB/T 17215.322-2008 class 0.5 S, GB 4208-2008, EN 50470-1, EN 50470-3 category B & C

### 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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**Wiring diagram**

**Dimensions**

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Telephone +46 155 29 50 00

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