UMG 96L/UMG 96
Universal measurement device

Measuring accuracy
• Energy: Class 2
• Current .../1 A, .../5 A
• Voltage L - N: ± 1 %

Networks
• TN-, TT-Networks

2 digital outputs (UMG 96)
• Pulse output kWh / kvarh
• Switch output

Threshold value monitoring
Pulse outputs
Areas of application

- Replaces analogue measurement devices
- Display and checking of electrical characteristics in energy distribution systems
- Limit value monitoring

Main features

Display selection and automatic display rotation

- Generous LCD display
- All measured values can be called up in factory setting
- Measured values that are not required can be hidden and displayed again

Operating hours counter

- The operating hours counter is active as soon as the device is switched on
- The time is measured with a resolution of 15 minutes
- Display in hours mode

Digital outputs for reactive or active energy

- Transmission of the reactive and active energy via digital outputs
- The active energy should be assigned to output 1 and the reactive energy to output 2
Digital outputs for threshold values (UMG 96)

• Digital outputs also suitable for use as switch outputs
• Programming the digital outputs for threshold monitoring of measurement data
• Assignment of a measured value (threshold value) per switch output
• The associated output reacts in response to the value exceeding or dropping below the threshold value
• Transistor outputs

Password

• 3-digit password protects against unauthorised changing of the programming and configurations
• Changes in the following program menus can only be implemented after entering the correct user password
• Password is not factory-programmed

Fig.: Digital output for threshold value monitoring

Fig.: Password protection

Fig.: Example connection via three current transformers (UMG 96L)
Dimension diagrams
All dimensions in mm

Side view UMG 96L / UMG 96
Rear view UMG 96L
Rear view UMG 96

Cut out: 92±0,8 x 92±0,8 mm

Typical connection

UMG 96L

UMG 96

UMG 96 with 2 digital outputs
Device overview and technical data

<table>
<thead>
<tr>
<th>Item number</th>
<th>UMG 96L 52.14.001</th>
<th>UMG 96 52.09.001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured voltage</td>
<td>230 / 400 V AC</td>
<td>275 / 476 V AC</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>196 to 255 V AC</td>
<td>196 to 275 V AC</td>
</tr>
<tr>
<td>Measured voltage input</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overvoltage category</td>
<td>300 V CAT III</td>
<td>300 V CAT III</td>
</tr>
<tr>
<td>Metering range, voltage L/N, AC</td>
<td>50 to 255 V AC</td>
<td>50 to 275 V AC</td>
</tr>
<tr>
<td>(without transformer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metering range, voltage L-L, AC</td>
<td>87 to 442 V AC</td>
<td>87 to 476 V AC</td>
</tr>
<tr>
<td>(without transformer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital outputs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of digital outputs</td>
<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>

General
- Net weight: 250 g
- Calorific value: 2.2 MJ (610 Wh)

Environmental conditions
- Overvoltage category: CAT III
- Pollution degree: 2
- Operating temperature range: -10° C to +55° C
- Storage temperature range: -25° C to +70° C (UMG 96L)/-20° C to +70° C (UMG 96)
- Relative humidity: 15% to 95% without thawing
- Protection class: Front IP40 as per IEC60529, IP42 as per IEC60529, IP20 as per IEC60529
- Rear side: Protection class II = without ground wire
- Installation position: any
- Operating altitude: 0 to 2000 m above sea level
- Immunity from interference (industrial area): IEC61000-4-3, 10V/m, IEC61000-4-4, 2kV; IEC61000-4-2, 8kV
- Safety regulations: EN61010-1 03.1994 + A2 05.1996, IEC1010-1

Measurement
- Measurement and auxiliary voltage: See rating plate
- Measurement inputs
  - Measurement rate: 1 measurement/sec.
  - Measurement voltage surge: 4 kV
  - Signal frequency: 45 Hz to 65 Hz
- Current measurement
  - Power consumption: max. 300 V AC to earth Approx. 0.2 VA
  - Nominal current at ../5A ../1A: 5 A (1 A)
  - Triggering current: 20 mA
  - Limit current at ../1A: 1.2 A (sinusoidal)
  - Limit current at ../5A: 6 A (sinusoidal)
  - Overloading: 150 A for 2 sec. (UMG 96L)/180 A for 2 sec. (UMG 96)
- Voltage measurement (max. 300 V AC to earth): 196 to 255 V (UMG 96L), 196 to 275 V (UMG 96)
- Back-up fuse: 2 A to 10 A (UMG 96L)/2 A to 6 A, medium (UMG 96)
- Frequency of the fundamental oscillation: 45 Hz to 65 Hz
### Outputs

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Type</td>
<td>NPN transistor</td>
</tr>
<tr>
<td>Switching frequency</td>
<td>max. 10 Hz (50 ms pulse length)</td>
</tr>
<tr>
<td>Operating current</td>
<td>max. 50 mA (not short-circuit proof!)</td>
</tr>
<tr>
<td>Permissible quiescent current</td>
<td>&lt; 1 mA</td>
</tr>
<tr>
<td>Auxiliary voltage</td>
<td>5 to 24 V DC, max. 60 V DC</td>
</tr>
</tbody>
</table>

### Connectable conductors

Only one conductor can be connected per terminal!

<table>
<thead>
<tr>
<th>Conductor Type</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single core, multi-core, fine-stranded</td>
<td>0.08 – 2.5 mm²</td>
</tr>
<tr>
<td>Terminal pins, core end sheath</td>
<td>1.5 mm²</td>
</tr>
</tbody>
</table>