Non-intrusive Current Measurement

AC/DC and Flexible AC Current Probes and Clamp Meters
AC/DC Current Probes and True RMS Clamp Meters

The solution to your needs in Automotive and Industrial applications.
Advanced Hall-Effect technology applying open loop and closed loop techniques.

The AC/DC current probes and clamp meters have been designed for use with multimeters and oscilloscopes for accurate, non-intrusive measurement of AC, DC and complex currents. Using advanced Hall Effect technology the AC/DC current probes can measure currents accurately with a resolution of 1mA from 5mA to 1000 Amps over the frequency range of DC to 100 kHz. This makes it a powerful tool for use in inverters, switch mode power supplies, industrial controllers and other applications requiring current measurement and/or waveform analysis.
Typical Applications:

- Light industrial and residential electrical installation testing
- Battery charging systems
- Analysis of switching waveforms in inverters, switch mode power supplies and industrial controls
- Automotive applications e.g., Cranking current measurement, current profiling, leakage current measurements all requiring high accuracy and superior resolution.

Key Features:

- Wide bandwidth and low phase shift
- Instantaneous outputs and True RMS reading (clamp meters)
- Superior noise rejection for power electronics applications
- DC auto zero and auto power off
- Excellent accuracy with high resolution

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Product</th>
<th>Current range</th>
<th>max. conductor</th>
<th>Bandwidth</th>
<th>Output signal</th>
<th>Connector</th>
<th>Power supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-12.200.1</td>
<td>CP 30</td>
<td>30 A</td>
<td>25 mm Ø</td>
<td>DC ... 20 kHz</td>
<td>100 mV/A</td>
<td>4 mm</td>
<td>Battery</td>
</tr>
<tr>
<td>P-12.600.1</td>
<td>CP 1000</td>
<td>1000 A</td>
<td>32 mm Ø</td>
<td>DC ... 10 kHz</td>
<td>1 mV/A</td>
<td>4 mm</td>
<td>Battery</td>
</tr>
<tr>
<td>P-12.200.2</td>
<td>CP 35</td>
<td>30 A</td>
<td>25 mm Ø</td>
<td>DC ... 100 kHz</td>
<td>100 mV/A</td>
<td>BNC</td>
<td>Battery</td>
</tr>
<tr>
<td>P-12.460.0</td>
<td>CP 305</td>
<td>30/300 A</td>
<td>25 mm Ø</td>
<td>DC ... 10 kHz</td>
<td>10/1 mV/A</td>
<td>BNC</td>
<td>Battery</td>
</tr>
<tr>
<td>P-12.600.2</td>
<td>CP 1005</td>
<td>100/1000 A</td>
<td>32 mm Ø</td>
<td>DC ... 20 kHz</td>
<td>10/1 mV/A</td>
<td>BNC</td>
<td>Battery</td>
</tr>
<tr>
<td>P-12.230.0</td>
<td>CP 41</td>
<td>4/40 A</td>
<td>25 mm Ø</td>
<td>DC / 15-400 Hz</td>
<td>Display</td>
<td>Display</td>
<td>Battery</td>
</tr>
<tr>
<td>P-12.480.0</td>
<td>CP 410</td>
<td>4/400 A</td>
<td>25 mm Ø</td>
<td>DC / 15-400 Hz</td>
<td>Display</td>
<td>Display</td>
<td>Battery</td>
</tr>
<tr>
<td>P-12.601.0</td>
<td>CP 1010</td>
<td>100/1000 A</td>
<td>32 mm Ø</td>
<td>DC / 15-400 Hz</td>
<td>Display</td>
<td>Display</td>
<td>Battery</td>
</tr>
</tbody>
</table>
The flexible AC current probes utilising the Rogowski principle, can be used to measure AC currents up to 6000A, when used with oscilloscopes, recorders or data loggers. The flexible probe allows current measurements on conductors with restricted access. The probes provide an instantaneous AC output proportional to the current being measured with three selectable ranges.
**Typical Applications:**

- Electrical maintenance, repair and machine installation and start up applications
- Low and medium voltage distribution installations
- Measurement of starting transients of electric motors
- Development and servicing of power electronic equipment
- Analysis of harmonics, power measurements, measurement of peak loads in mains and in UPS

**Key Features:**

- Various head sizes available
- Easy to insert probe in confined spaces
- Wide dynamic range and wide bandwidth
- 1000V, CAT III, Pollution degree 2, 600V CAT IV, Pollution degree 2
- 2000 hours battery life and external power option
- Excellent response to rapid current changes
- Compact lightweight design
- No magnetic hysteresis, saturation or non-linearity

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<tbody>
<tr>
<td>P-06.600.8</td>
<td>ACP 1000/4</td>
<td>10/100/1000 A</td>
<td>100 mm Ø</td>
<td>20 kHz</td>
<td>100 / 10 / 1 mV/A</td>
<td>4 mm</td>
<td>Battery</td>
</tr>
<tr>
<td>P-02.710.0</td>
<td>ACP 3000/24</td>
<td>30/300/3000 A</td>
<td>176 mm Ø</td>
<td>20 kHz</td>
<td>100 / 10 / 1 mV/A</td>
<td>4 mm</td>
<td>Battery</td>
</tr>
<tr>
<td>P-06.690.0</td>
<td>ACP 2005/2</td>
<td>20/200/2000 A</td>
<td>50 mm Ø</td>
<td>100 kHz</td>
<td>100 / 10 / 1 mV/A</td>
<td>BNC</td>
<td>+3 V external or battery</td>
</tr>
<tr>
<td>P-02.713.9</td>
<td>ACP 3005/24</td>
<td>30/300/3000 A</td>
<td>176 mm Ø</td>
<td>20 kHz</td>
<td>100 / 10 / 1 mV/A</td>
<td>BNC</td>
<td>+3 V external or battery</td>
</tr>
<tr>
<td>P-02.760.0</td>
<td>ACP 6000_3/24</td>
<td>60/600/6000 A</td>
<td>176 mm Ø</td>
<td>20 kHz</td>
<td>50 / 5 / 0.5 mV/A</td>
<td>BNC</td>
<td>+3 V external or battery</td>
</tr>
<tr>
<td>P-06.600.4</td>
<td>ACP 1003_3/3</td>
<td>3x 60/600/6000 A</td>
<td>70 mm Ø</td>
<td>100 Hz</td>
<td>100 / 10 / 1 mV/A</td>
<td>BNC</td>
<td>+3 V external or battery</td>
</tr>
<tr>
<td>P-02.710.3</td>
<td>ACP 3003_3/24</td>
<td>3x 30/300/3000 A</td>
<td>176 mm Ø</td>
<td>20 Hz</td>
<td>100 / 10 / 1 mV/A</td>
<td>BNC</td>
<td>+3 V external or battery</td>
</tr>
<tr>
<td>P-02.762.1</td>
<td>ACP 6003_3/24</td>
<td>3x 60/600/6000 A</td>
<td>176 mm Ø</td>
<td>20 Hz</td>
<td>50 / 5 / 0.5 mV/A</td>
<td>BNC</td>
<td>+3 V external or battery</td>
</tr>
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</table>
Flexible AC Current Probes for DIN Rail Mounting

The DRM and DRP models are flexible AC current probes utilising the Rogowski principle, with three or four channel integrator housed in DIN rail mounted enclosure for permanent installation. The flexible and lightweight measuring head allows quick and easy installation without interrupting the primary system.

The flexible AC heads with DIN rail housing are based on the Rogowski principle. They are suitable for AC current measurements of a few 100mA up to 6000A. The electronics usually gets installed in the control cabinet, whilst the measuring heads can be mounted either directly by screw terminals or alternatively by socket outlet, plug and cable up to 20m away from the electronics. The DRP and DRM series deliver a voltage output signal, which is directly proportional to the measured current. As well as single phase, three and four channel systems can be offered.
Typical Applications:

- Fixed installed and retrofit applications
- Energy Management
- Process Control
- Load Monitoring in Industrial plants

Key Features:

- A range of head lengths and diameters available
- True RMS, 4 to 20mA and instantaneous outputs
- Multiple ranges
- Easy to install

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<tbody>
<tr>
<td>P-14.500.2</td>
<td>DRM 503/4</td>
<td>3x 500 A</td>
<td>100 mm Ø</td>
<td>10 kHz</td>
<td>0.667 mV/A</td>
<td>Screw terminals</td>
<td>+12 V</td>
</tr>
<tr>
<td>P-14.500.1</td>
<td>DRM 504/4</td>
<td>4x 500 A</td>
<td>100 mm Ø</td>
<td>10 kHz</td>
<td>0.66 mV/A</td>
<td>Screw terminals</td>
<td>+12 V</td>
</tr>
<tr>
<td>P-14.500.3</td>
<td>DRP 503/18</td>
<td>3x 500 A</td>
<td>132 mm Ø</td>
<td>10 kHz</td>
<td>0.667 mV/A</td>
<td>Screw terminals</td>
<td>+12 V</td>
</tr>
<tr>
<td>P-14.500.0</td>
<td>DRP 504/18</td>
<td>4x 500 A</td>
<td>132 mm Ø</td>
<td>10 kHz</td>
<td>0.667 mV/A</td>
<td>Screw terminals</td>
<td>+12 V</td>
</tr>
</tbody>
</table>

Current range
- P-14.500.2: 3x 500 A
- P-14.500.1: 4x 500 A
- P-14.500.3: 3x 500 A
- P-14.500.0: 4x 500 A

Max. conductor
- P-14.500.2: 100 mm Ø
- P-14.500.1: 100 mm Ø
- P-14.500.3: 132 mm Ø
- P-14.500.0: 132 mm Ø

Bandwidth
- P-14.500.2: 10 kHz
- P-14.500.1: 10 kHz
- P-14.500.3: 10 kHz
- P-14.500.0: 10 kHz

Output signal
- P-14.500.2: 0.667 mV/A
- P-14.500.1: 0.66 mV/A
- P-14.500.3: 0.667 mV/A
- P-14.500.0: 0.667 mV/A

Connector
- Screw terminals

Power supply
- +12 V
AC Current Probes

The AC current probes are based on AC transformer principle. The range of mechanical designs allows measurement on either rectangular busbars or cables. Various output configurations are available as voltage (AC or DC) or current signals (1A or 5A).

The AC current probes are suitable for non-intrusive AC current measurement from a few mA up to 3200 A. Due to the transformer principle the AC current probes can be used for permanent current measurement without any battery or external power supply. The AC current probes can be configured with one and up to three measuring ranges.

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</thead>
<tbody>
<tr>
<td>P-00.440.2</td>
<td>ACP 200 M3</td>
<td>200 A</td>
<td>Ø15 / 15x17</td>
<td>10 kHz</td>
<td>10 mV/A</td>
<td>4 mm</td>
<td>-</td>
</tr>
<tr>
<td>P-00.600.1</td>
<td>ACP 1000 SM</td>
<td>1000 A</td>
<td>Ø54 / 51x12 / 40x35</td>
<td>10 kHz</td>
<td>1 mV/A</td>
<td>4 mm</td>
<td>-</td>
</tr>
<tr>
<td>P-00.710.1</td>
<td>ACP 3000 H32</td>
<td>3000 A</td>
<td>Ø70 / 100x45 / 120x37</td>
<td>5 kHz</td>
<td>1 mV/A</td>
<td>4 mm</td>
<td>-</td>
</tr>
</tbody>
</table>

Typical Applications:
- Power quality applications
- Monitoring and control of energy consumption of electrical machines
- Energy Management

Key Features:
- Low phase shift
- Excellent external field rejection
- No power supply necessary
Customised Solutions

Our key focus is to design, develop and manufacture current probes, clamp meters, handheld instruments and systems for current and voltage measurement, as well as measurement and processing of electrical parameters.

Our sales and engineering team has a very strong technical background with 30 years experience in sensing technologies, applications and products. Our key markets are Automotive, Electrical Utilities eg, Power Quality, Energy Management and Test & Measurement. We specialize in designing customised solutions for measurement of electrical parameters for OEM customers.

Key Attributes:

- Highly Flexible, Dedicated and Responsive to Customer Needs
- Technology Driven and Applications Based
- Design of customised products with our OEM customers
- Contract based OEM Business, Private Label and Distribution Sales
- Core technologies are Hall Effect, Fluxgate, Rogowski, Magneto Resistive – GMR and AMR

About us:

- GMC-I PROSyS Ltd., located in Northwest England, is a fully owned subsidiary of Metrawatt International GmbH.