

# AC/DC-CHARGE MONITOR



## Features

- Measuring unit for measuring currents and voltages of AC- or DC-signals.
- The measuring unit is installed between charge station and vehicle.
- The measuring unit disposes about 3 connection options:
  - Schuko-plug/socket: for 1-phase measurement
  - CEE32-plug/socket: for 1- or 3-phase measurement
  - Mennekes-plug/socket: for 1- or 3-phase measurement (32 A)
- Measuring speed is configurable individually. Current and voltage can be measured simultaneously up to 16 kHz.
- Output of measuring values on a 7-inch-display and/or via CAN-interfaces.
- Following measuring modes are available:
  - DC-measurement: I\_instantaneous, U\_instantaneous, I\_charge, I\_discharge, I\_total,
  - AC-measurement: I\_instantaneous, U\_instantaneous.
- The measured values may be used for calculating the following values:
  - U\_eff,
  - I\_eff,
  - $\cos \varphi$  and P\_active power,
  - electric work.These values can be pictured on the display or transmitted via CAN-interfaces.

## Version

- plastic-housing, 480/300/480 mm (l/w/h)
- protection class IP54,
- temperature range -20...+50°C
- supply 230 V AC, current consumption approx. 2 A

A detailed technical description is contained in our user manual

## Delivery

- Measuring unit
- PC software for configuration via CAN or USB-2.0 interface
- CAN database and documentation on CD ROM
- USB 2.0 connection cable
- **Using KlariViewer-software logged data can be displayed and processed further.**

**Accessories:** • USB 2.0 connection cable



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## TECHNICAL DATA

<b>Input</b>	<ul style="list-style-type: none"> <li>• 3 x KLARI-ONE-PLUS modules using 1 I/U-Combi-PROBE each, 1mOhm, 1000 V</li> <li>• parallel measurement of current and voltage</li> </ul>																																								
<b>Resolution</b>	<ul style="list-style-type: none"> <li>• 5 measurement ranges and autorange function selectable</li> <li>• <math>\pm 15</math> bit/range</li> </ul> <table border="1"> <thead> <tr> <th>Gain</th> <th colspan="2">I-PROBE</th> <th colspan="2">U-PROBE</th> </tr> <tr> <td></td> <td colspan="2">1 m<math>\Omega</math></td> <td colspan="2">1000 V</td> </tr> <tr> <td></td> <th>range [A]</th> <th>resolution [mA/bit]</th> <th>range [V DC]</th> <th>resolution [mV/bit]</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>+/- 7,5</td> <td>0,25</td> <td>0...+/- 37,5</td> <td>1,25</td> </tr> <tr> <td>50</td> <td>+/- 15</td> <td>0,5</td> <td>0...+/- 75</td> <td>2,5</td> </tr> <tr> <td>24</td> <td>+/- 30</td> <td>1</td> <td>0...+/- 150</td> <td>5</td> </tr> <tr> <td>6</td> <td>+/- 120</td> <td>4</td> <td>0...+/- 600</td> <td>20</td> </tr> <tr> <td>1</td> <td>- 300/+ 720</td> <td>24</td> <td>0...+/- 1000</td> <td>120</td> </tr> </tbody> </table>	Gain	I-PROBE		U-PROBE			1 m $\Omega$		1000 V			range [A]	resolution [mA/bit]	range [V DC]	resolution [mV/bit]	100	+/- 7,5	0,25	0...+/- 37,5	1,25	50	+/- 15	0,5	0...+/- 75	2,5	24	+/- 30	1	0...+/- 150	5	6	+/- 120	4	0...+/- 600	20	1	- 300/+ 720	24	0...+/- 1000	120
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<b>Accuracy</b>	<ul style="list-style-type: none"> <li>• <math>\pm 1\%</math> of measurement value <math>\pm 3</math> bit of range</li> <li>• valid for temperature range of - 40 .. + 85°C</li> </ul>																																								
<b>Sample rate</b>	<ul style="list-style-type: none"> <li>• internal up to 16 kHz,</li> </ul>																																								
<b>Features</b>	<ul style="list-style-type: none"> <li>• selectable data output (CAN2.0B and/or USB-2.0 interface)</li> <li>• data output via CAN 1 and CAN 2 configurable (baudrate, identifier etc.)</li> <li>• internal CAN-termination, switchable via software</li> <li>• automatic PROBE-identification with calibration value processing</li> </ul>																																								
<b>Output</b>	<ul style="list-style-type: none"> <li>• 2 x CAN 2.0 A/B, (High-Speed CAN, ISO 11898) from 125 kbit/s up to max. 1 Mbit/s, per CAN with up to 8.000 frames/s</li> <li>• USB-2.0 interface</li> </ul>																																								
<b>Timestamp</b>	<ul style="list-style-type: none"> <li>• 6.4 <math>\mu</math>s resolution (is included in CAN frame)</li> </ul>																																								
<b>Housing</b> - Protection - Weight - Dimension	<ul style="list-style-type: none"> <li>• plastic-housing,</li> <li>• IP54</li> <li>• 20 kg</li> <li>• 480/300/480 mm (L/W/H)</li> </ul>																																								
<b>Supply</b>	<ul style="list-style-type: none"> <li>• 230 V, 50 Hz</li> </ul>																																								
<b>Current consumption</b>	<ul style="list-style-type: none"> <li>• ca. 2 A</li> </ul>																																								
<b>Configuration</b>	<ul style="list-style-type: none"> <li>• via PC using CAN or USB-2.0 interface. Configurations could be created, archived and loaded into the module.</li> <li>• speed CAN: 125 kB...1 MB</li> <li>• measurement type, measuring speed, channels</li> </ul>																																								
<b>Modes</b>	<ul style="list-style-type: none"> <li>• DC-measurement</li> <li>• AC-measurement, 1- or 3-phase</li> <li>• RMS calculation for AC signals</li> <li>• Selectable sample speed for the channels</li> </ul>																																								
<b>Temperature range</b>	<ul style="list-style-type: none"> <li>• -20...+ 50°C</li> </ul>																																								
<b>Isolation</b>	<ul style="list-style-type: none"> <li>• 1000 V</li> </ul>																																								

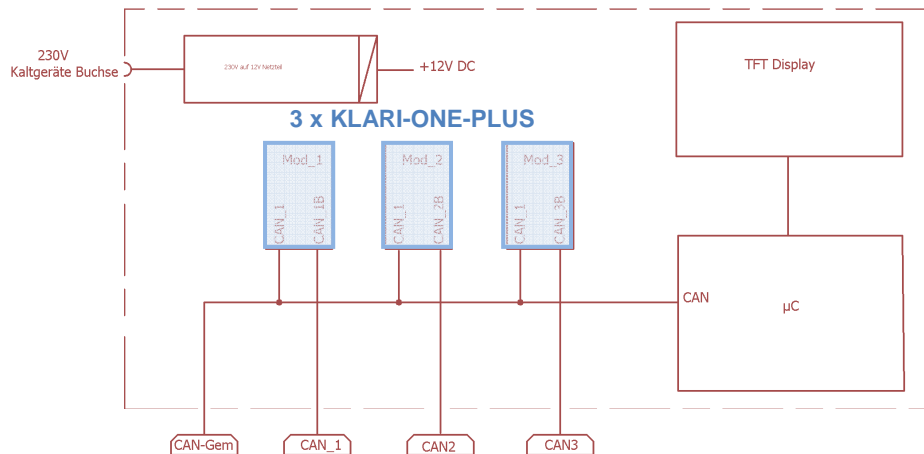
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## Block diagrams

### - CAN interface wiring:



### - PROBE placement:

