

# KLARI-FUSE 3



**Universal measuring module for a lot of various measuring tasks at vehicle or in laboratory**

## Features

- galvanically isolated 16-channel measuring module with 8 probe connectors.  
2 ADCs for each probe connector
- Each channel can be connected to one of the probes listed below
- 100 Mbit/s Ethernet for measurement value output via XCP or Klaric-server
- 2 independent 1Mbaud CAN interfaces
- calculation of charge, discharge and total balance for DC measurements and also true RMS calculation for AC measurements
- **Probe variants:**
  - Current measurement:
    - Fuse-probes: MICRO2, MICRO3, FK1, FK2, FK3, JCASE, MCASE
    - High current- probes: BF1, BF2, BF3 shunt
    - Low-current- probes: LI
  - Voltage measurement:
    - 80V U-PROBE
  - Current-/Voltage measurement:
    - COMBI-I/U-PROBE for simultaneous measurement of current and voltage at one Probe connector

A detailed technical description is contained in our user manual "KLARI-PROBES"

## Version

- aluminium housing 165/108/42 mm (l/w/h)
- protection class IP65
- temperature range -40...+85°C
- supply 6..60 V DC
- customer-specific connector plugs available

## Delivery

- measurement module (please order probes separately),
- PC Software for configuration via CAN, Ethernet or USB-2.0 interface
- CAN database and documentation on CD ROM

## Accessories

- cable harness IP65 CAN1+2 and supply
- Ethernet cable



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## TECHNICAL DATA

<b>Input</b>	<ul style="list-style-type: none"> <li>8 measuring inputs with 2 ADCs for each input.</li> </ul>																		
<b>Resolution</b>	<ul style="list-style-type: none"> <li>measuring ranges with selectable autorange-function</li> <li>± 15 bit/measuring range</li> </ul> <table border="1"> <thead> <tr> <th>Gain</th> <th>Range</th> <th>Resolution</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>+/- 9 mV</td> <td>0,3 µV/Bit</td> </tr> <tr> <td>40</td> <td>+/- 27 mV</td> <td>0,9 µV/Bit</td> </tr> <tr> <td>25</td> <td>+/- 42 mV</td> <td>1,4 µV/Bit</td> </tr> <tr> <td>5</td> <td>+/- 210 mV</td> <td>7 µV/Bit</td> </tr> <tr> <td>1</td> <td>+ 1050 / - 240 mV</td> <td>35 µV/Bit</td> </tr> </tbody> </table>	Gain	Range	Resolution	100	+/- 9 mV	0,3 µV/Bit	40	+/- 27 mV	0,9 µV/Bit	25	+/- 42 mV	1,4 µV/Bit	5	+/- 210 mV	7 µV/Bit	1	+ 1050 / - 240 mV	35 µV/Bit
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<b>Accuracy</b>	<ul style="list-style-type: none"> <li>± 0,1% of measuring value ± 3 bit of range at 23°C ± 5°C</li> </ul>																		
<b>Sample rate</b>	<ul style="list-style-type: none"> <li>up to 2 x 8 kSPS per probe connection</li> </ul>																		
<b>Features</b>	<ul style="list-style-type: none"> <li>selectable data output via CAN2.0B and/or Ethernet interface</li> <li>data output configurable via both CANs (Baudrate, Identifier etc.)</li> <li>internal CAN terminations, detachable via software</li> <li>automatic probe identification with calibration value processing</li> <li>time synchronisation of several KLARI-FUSES3 via selection master/slave (CAN1)</li> <li>configurable output of module and probe identification</li> <li>various filters selectable for each channel</li> </ul>																		
<b>Interfaces</b>	<ul style="list-style-type: none"> <li>2 potential-free High-Speed CANs up to 1 MBaud</li> <li>100 Mbit/s Ethernet interface</li> <li>USB-2.0 interface</li> </ul>																		
<b>Timestamp</b>	<ul style="list-style-type: none"> <li>~2.5 µs resolution</li> </ul>																		
<b>Housing</b> - Protection - Weight - Dimension	<ul style="list-style-type: none"> <li>aluminium housing</li> <li>IP65</li> <li>approx. 630 g</li> <li>165x108x42 (l/w/h)</li> </ul>																		
<b>Supply</b>	<ul style="list-style-type: none"> <li>6...60 V DC</li> </ul>																		
<b>Current consumption</b>	<ul style="list-style-type: none"> <li>approx. 170 mA at 12 V DC</li> </ul>																		
<b>Configuration</b>	<ul style="list-style-type: none"> <li>via PC using CAN , USB or Ethernet interface</li> </ul>																		
<b>Modes</b>	<ul style="list-style-type: none"> <li><b>common setup</b> (parameters are valid for all channels) of : measuring speed, external average, autorange on/off, measuring range</li> <li><b>specific setup</b> (parameters can be configured for each channel separately) of: channel on/off, autorange on/off, measuring range, sample rate, external mean</li> <li><b>measuring-speed switching configurable for each channel</b></li> </ul>																		
<b>Temperature range</b>	<ul style="list-style-type: none"> <li>- 40...+ 85°C for the measuring module</li> <li>- 40...+ 130°C for the shunts</li> </ul>																		
<b>Isolation</b>	<ul style="list-style-type: none"> <li>80 V DC</li> </ul>																		

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## Measuring ranges and resolutions for I- and U-PROBES (examples)

	I-PROBE				U-PROBE	
	1 mΩ		200μΩ		80 V	
	Range [A]	Resolution [mA/Bit]	Range [A]	Resolution [mA/Bit]	Range [V DC]	Resolution [mV/Bit]
100	+/- 9	0,3	+/- 45	1,5	0...+/- 6	0,2
40	+/- 27	0,9	+/- 135	4,5	0...+/- 18	0,6
25	+/- 42	1,4	+/- 210	7	0...+/- 28	0,9
6	+/- 210	7	+/- 1050	35	0...+/- 80	5
1	+ 1050/-240	35	+ 5.250/-1.200	175	-	-

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