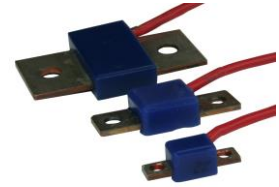


# KLARI-FUSE 2



FK-PROBE



BF-PROBES

## Features

- 8-channel measuring module with 8 parallel ASICs and 1 shared microcontroller
- all channels are applicable for current-, voltage- or temperature-measurement, using 1 PROBE for each channel
- easy measurement application to various measurement tasks
- galvanic isolation of 80 V DC between both measuring channels and interfaces CAN, USB and supply
- **PROBE variants:**
  - current I-PROBE (LI-, MICRO2-, FK1-...FK3-, J-CASE, HI-PROBES)
  - voltage U-PROBE
  - temperature T-PROBE (PT1000)

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

## • Measuring features:

- application both in lab and in vehicle:  
measurement of current, voltage and temperature at individual appliances
- data output via 1 x CAN 2.0 A/B with 8000 Frames/s  
and/or USB-2.0-Schnittstelle

## Version

- aluminium housing 165/108/42 mm (l/w/h)
- protection class IP65
- temperature range -40...+85°C
- supply 6..50 V DC

A detailed technical description is contained in our user manual

## Delivery

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

## Accessories

- cable harness IP65

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# KLARI-FUSE 2

## TECHNICAL DATA

| <b>Input</b>               | <ul style="list-style-type: none"> <li>8 measuring channels with 1 ASIC each for current-, voltage- or temperature-measurement</li> </ul>  |              |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
|----------------------------|--|--------------|-------|------------|-----|------------|--------------|----|-----------|--------------|----|-----------|----------|---|------------|----------|---|------------------|-----------|
| <b>Resolution</b>          | <ul style="list-style-type: none"> <li>5 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>+/- 7,5 mV</td> <td>0,250 µV/bit</td> </tr> <tr> <td>50</td> <td>+/- 15 mV</td> <td>0,500 µV/bit</td> </tr> <tr> <td>24</td> <td>+/- 30 mV</td> <td>1 µV/bit</td> </tr> <tr> <td>6</td> <td>+/- 120 mV</td> <td>4 µV/bit</td> </tr> <tr> <td>1</td> <td>+ 720 / - 300 mV</td> <td>24 µV/bit</td> </tr> </tbody> </table> | Gain         | Range | Resolution | 100 | +/- 7,5 mV | 0,250 µV/bit | 50 | +/- 15 mV | 0,500 µV/bit | 24 | +/- 30 mV | 1 µV/bit | 6 | +/- 120 mV | 4 µV/bit | 1 | + 720 / - 300 mV | 24 µV/bit |
| Gain                       | Range  | Resolution   |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| 100                        | +/- 7,5 mV   | 0,250 µV/bit |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| 50                         | +/- 15 mV  | 0,500 µV/bit |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| 24                         | +/- 30 mV  | 1 µV/bit     |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| 6                          | +/- 120 mV   | 4 µV/bit     |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| 1                          | + 720 / - 300 mV   | 24 µV/bit    |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| <b>Accuracy</b>            | <ul style="list-style-type: none"> <li>± 1% of measuring value ± 3 bit of range</li> <li>valid for temperature range of - 40 .. + 85°</li> </ul>   |              |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| <b>Sample rate</b>         | <ul style="list-style-type: none"> <li>1 channel max. 8000 samples/s</li> <li>1 - 2 channels max. a. 4000 samples/s</li> <li>3 - 4 channels max. a. 2000 samples/s</li> <li>5 - 8 channels max. a. 1000 samples/s</li> <li>8 channels parallel asynchron</li> </ul>  |              |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| <b>Features</b>            | <ul style="list-style-type: none"> <li>selectable data output (CAN2.0B and/or Rs232)</li> <li>data output configurable via CAN (Baudrate, Identifier etc.)</li> <li>internal CAN-termination, detachable via software</li> <li>automatic PROBE-identification with calibration value processing</li> <li>time synchronisation of several KLARI-FUSES via selection master/slave (CAN-or USB-2.0-interface)</li> </ul>  |              |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| <b>Output</b>              | <ul style="list-style-type: none"> <li>potential-free High-Speed-CAN up to 1 MBaud</li> <li>and / or USB-2.0-interface</li> </ul>  |              |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| <b>Timestamp</b>           | <ul style="list-style-type: none"> <li>32.768 Hz-resonator</li> <li>~30 µs resolution</li> </ul>   |              |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| <b>Housing</b>             | <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>6,0...50 V DC</li> </ul>  |              |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| <b>Current consumption</b> | <ul style="list-style-type: none"> <li>approx. 250 mA bei 12 V DC</li> </ul>   |              |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| <b>Configuration</b>       | <ul style="list-style-type: none"> <li>via PC using CAN or USB-2.0 or a virtual serial interface</li> </ul>  |              |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| <b>Modes</b>               | <ul style="list-style-type: none"> <li><b>common setup</b> (parameters are valid for all channels) of :<br/>measuring speed, external average, autorange on/off, range-mode</li> <li><b>specific setup</b> (parameters can be configured for each channel separately) of:<br/>channel on/off, autorange on/off, measuring range, sample rate, external mean</li> </ul>   |              |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| <b>Temperature range</b>   | <ul style="list-style-type: none"> <li>- 40...+ 85°C for the measurement module</li> <li>- 40...+ 130°C for the shunt</li> </ul>   |              |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |
| <b>Isolation</b>           | <ul style="list-style-type: none"> <li>80 V DC</li> </ul>  |              |       |            |     |            |              |    |           |              |    |           |          |   |            |          |   |                  |           |

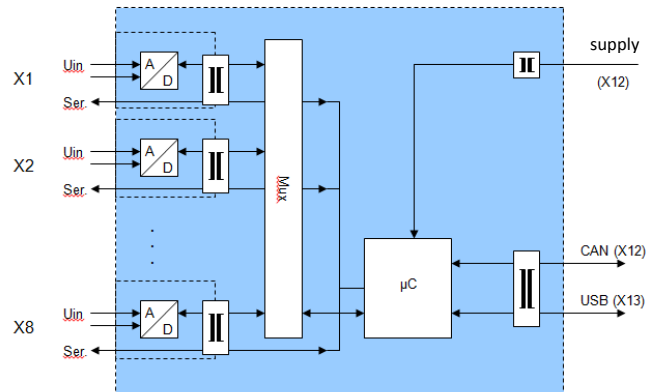
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# KLARI-FUSE 2

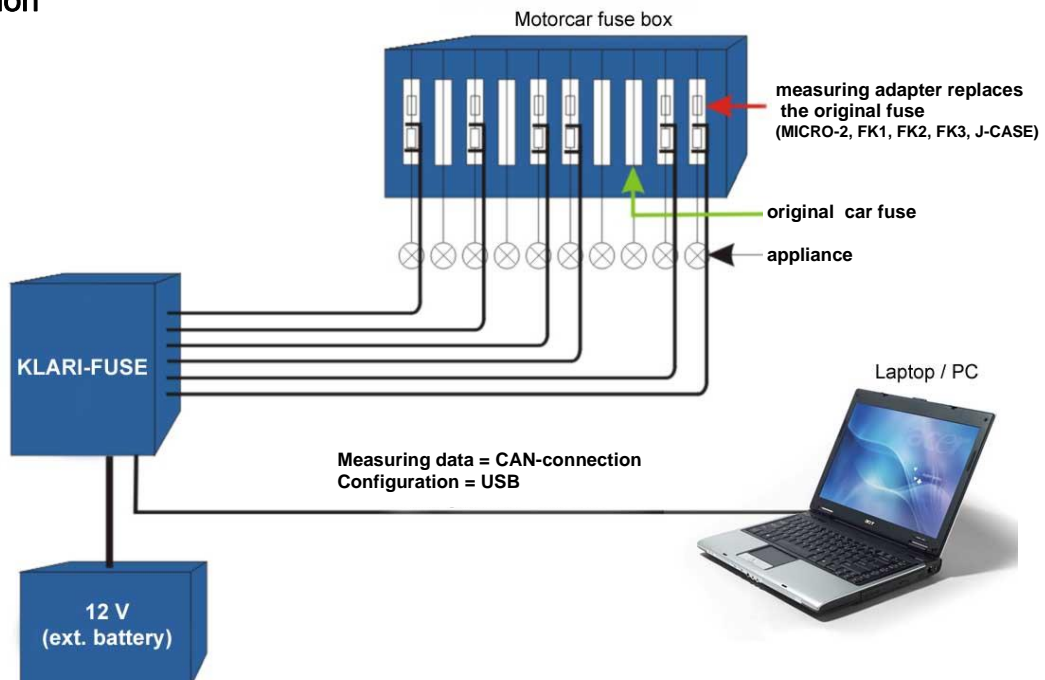
## Measuring ranges and resolutions for I- and U-PROBES (examples)

| Gain | 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  | +/- 7,5     | 0,25                | +/- 37,5       | 1,25                | 0...+/- 5    | 0,170               |
| 50   | +/- 15      | 0,5                 | +/- 75         | 2,5                 | 0...+/- 10   | 0,340               |
| 24   | +/- 30      | 1                   | +/- 150        | 5                   | 0...+/- 20   | 0,680               |
| 6    | +/- 120     | 4                   | +/- 600        | 20                  | 0...+/- 80   | 2,720               |
| 1    | - 300/+ 720 | 24                  | - 1.500/+3.600 | 120                 |              |                     |

## Principle



## Application



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