

KLARI-QUAD 1000V



with I-PROBE, U-PROBE, I/U-PROBE and Thermocouple

Features

- 4-channel measuring module with 1 ASIC for each channel and 1 microcontroller for all channels
- galvanic isolation up to 1000 V DC between each measuring channel and data output and between all measuring channels
- **PROBE-variants:**
 - current measurement
 - voltage measurement
 - parallel measurement of current and voltage with a Combi-PROBE
 - thermocouple type-K
- **measurement capabilities:**
 - use in laboratory as well as in vehicle:
 - measuring current and/or voltage on high potentials
 - measuring temperature on live connections
 - DC-measurement, internal sample rate up to 16 kHz
 - data output via 1 x CAN 2.0 A/B, resp. 8000 frames/s

Version

- potted housing approx. 130/120/48 mm (l/w/h)
- protection class IP65
- temperature range -40...+85°
- supply 6..50 V DC
- a detailed technical description is contained in our catalogue or technical data sheet

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 without RS-232
- USB 2.0 connection cable

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TECHNICAL DATA

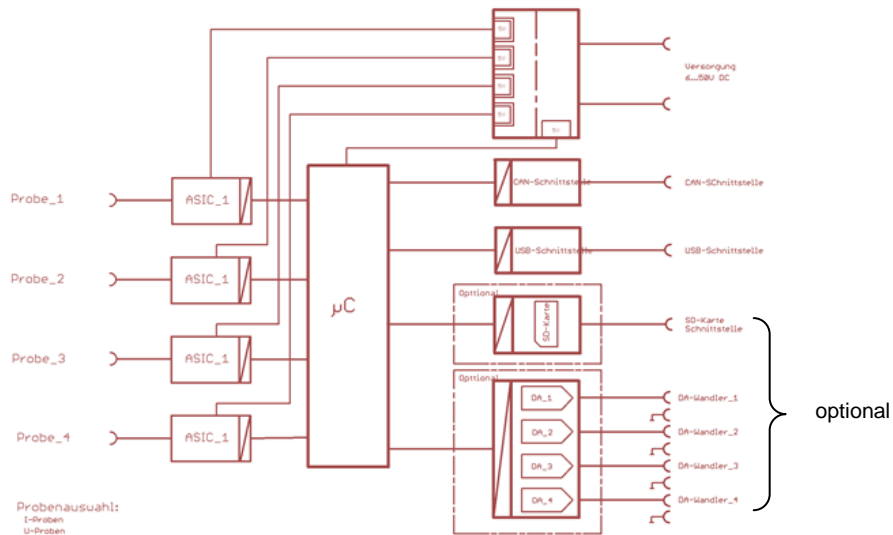
Input	<ul style="list-style-type: none"> • 4 measuring channels with an ASIC each • each channel can be used to connect either a current-, voltage-, current/voltage-Combi- or temperature-PROBE 																		
Resolution	<ul style="list-style-type: none"> • 5 measurement ranges with selectable autorange function • ± 15 bit/range <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</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 μ V/bit	50	+/- 15 mV	0,500 μ V/bit	24	+/- 30 mV	1 μ V/bit	6	+/- 120	4 μ V/bit	1	+ 720 / - 300 mV	24 μ V/bit
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1	+ 720 / - 300 mV	24 μ V/bit																	
Accuracy	<ul style="list-style-type: none"> • $\pm 1\%$ of measurement value ± 3 bit of the range • valid for temperature range of - 40...+ 85°C 																		
Sample rate	<ul style="list-style-type: none"> • dual channel operation: max. 8000 samples/s • max. 2 kHz using a Combi-PROBE (I/U) 																		
Features	<ul style="list-style-type: none"> • selectable data output (CAN2.0B and/or USB-2.0 interface) • CAN data export - parameter driven (baudrate, identifier etc.) • integrated CAN-termination, switchable via software • automatic PROBE-identification with calibration value correction 																		
Output	<ul style="list-style-type: none"> • 1 x CAN 2.0 A/B, (High-Speed CAN, ISO 11898) from 125 kBaud up to max. 1 MBaud • USB-2.0 interface 																		
Timestamp	<ul style="list-style-type: none"> • $\sim 10 \mu$s resolution (is included in CAN frame) 																		
Housing	<ul style="list-style-type: none"> • potted casing - Protection • IP65 - Weight • approx. 830 g - Dimension • 130/120/48 (l/w/h) 																		
Supply	<ul style="list-style-type: none"> • 6,0...50 V DC 																		
Current consumption	<ul style="list-style-type: none"> • ca. 250 mA at 12 V DC 																		
Configuration	<ul style="list-style-type: none"> • PC using CAN oder USB-2.0 interface. Configurations can be created, managed and loaded via Klari-Toolbox into the module. • speed CAN: 125 kB...1 MB • measurement type, measuring speed, channels 																		
Modes	<ul style="list-style-type: none"> • autorange function for all channels in all ranges switchable on/off • adjustable sample speed for each channel 																		
Temperature range	<ul style="list-style-type: none"> • - 40...+ 85°C for the measurement module • - 40...+ 130°C für die shunts 																		
Isolation	<ul style="list-style-type: none"> • 1000 V DC permanent isolation: Input <> Output and Input <> Input 																		

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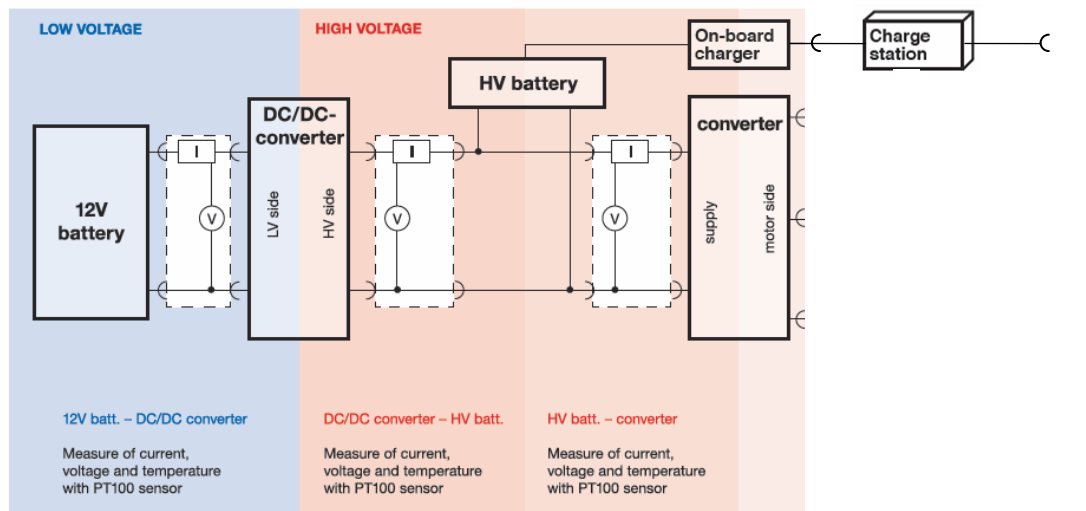
Measuring ranges and resolutions for I- and U-PROBES (examples)

Gain	I-PROBE				U-PROBE			
	1 mΩ		200μΩ		200 V		1000 V	
	Range [A]	Res. [mA/Bit]	Range [A]	Res. [mA/Bit]	Range [V DC]	Res. [mV/Bit]	Range [V DC]	Res. [mV/Bit]
100	+/- 7,5	0,25	+/- 37,5	1,25	0...+/- 5	0,170	0...+/- 37,5	1,25
50	+/- 15	0,5	+/- 75	2,5	0...+/- 10	0,340	0...+/- 75	2,5
24	+/- 30	1	+/- 150	5	0...+/- 20	0,680	0...+/- 150	5
6	+/- 120	4	+/- 600	20	0...+/- 80	2,720	0...+/- 600	20
1	+ 720/- 300	24	+ 3600/- 1500	120	0...+/- 200	16,320	0...+/- 1000	120

Principle



Application



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