

KLARI-CORD 2



DESCRIPTION

KLARI-CORD 2 is the follow-up model of the approved KLARI-CORD modules, which are used for testing and recording power consumption and battery charge data in vehicles. The module is not only able to measure DC currents ranging from several milliamperes to several kiloamperes, it can at the same time measure voltages and temperatures precisely via an external sensor. All acquired measured values are stored on the integrated SD CARD and instantaneous values can also be output via the USB interface

KLARI-CORD 2 has been optimised for long-duration measurements: The module's power consumption is below 5 mA (12 V supply voltage, 1 measuring cycle/sec.).

New features:

- **Measured values can also be output online via CAN interface.**
- **USB interface for measurement configuration as well as for readout of measured symbols. SD card remains in the module.**
- **Individual application for the measurement task by various external measurement shunts with plug & play functionality.**
- **KLARI-CORD 2 is suitable for automotive applications involving ambient temperatures ranging from -40 to +85°C.**
- **The shunts are suitable for ambient temperatures from -40 to +130°C.**

The standard-delivery includes the **KLARI-VIEWER-TOOL**, that is used for the measuring configuration and for reading out the measuring values. With this software tool you are able to get a comfortable visualization of the measuring values. The measured values can then be displayed and exported in various standard data formats - for details please ask for a software demonstration.

The modules principal area of application is the measurement of battery charge data in vehicles in the field. It can, however, also be used to perform a wide variety of other general measurement tasks.

YOUR BENEFIT


KLARI-CORD 2 modules are delivered in an IP65 metal housing.

On the front of the unit there is a Lemo-socket for connecting a current probe. Via the 5-contact DIN- plug you can connect 2 voltage potentials and/or 1 PT1000 probe. Via the USB-plug you can read out and configure the SD-card.

On the rear of the unit are: the on/off-switch, a 2-pin-socket for the CAN-on-function, the cable with a 15-pin SUB-D-plug for the voltage supply and CAN and an additional USB-port for the real-time-clock.

SUPPLY

6,0...50 V DC, power supply galvanically isolated.



KLARI-CORD 2

SPECIFICATIONS

Inputs / features	<ul style="list-style-type: none">• Max. 3 channels• Current ranges: applicable with external shunts, see table• 2x voltage: DC +/-20 V oder +/-60 V or• 1x voltage: DC +/-20 V or +/-60 V und 1x temperature (PT1000)
Resolution	<ul style="list-style-type: none">• +/-15 bit/measuring range• 5 internal measuring ranges, current channel with automatic adaption
Sampling rates / data volume	<ul style="list-style-type: none">• 1 sample/sec., data volume approx. 4 MB/day• 10 sample/sec., data volume approx.40 MB/day• 100 sample/sec., data volume approx. 250 MB/day
Additional functions	<ul style="list-style-type: none">• Charge, discharge and total balances at 1 and 10 samples/sec. configurable
Outputs /data output	<ul style="list-style-type: none">• Storage of data on integrated SD CARD,• Online-data output via CAN (if separate CAN supply is connected)• Output of instantaneous values (block transmission) via RS 232 configurable
Time base	<ul style="list-style-type: none">• 32.768 Hz-resonator• ~30 µs resolution
Housing (WxLxH)	<ul style="list-style-type: none">• Metal housing 106x90x35 mm
Weight	<ul style="list-style-type: none">• ca. 350 g
Power supply	<ul style="list-style-type: none">• external, 6 to 50 V DC with isolated DC/DC converter
Power consumption	<ul style="list-style-type: none">• 1 measuring cycle/sec., approx. 10 mA• 10 measuring cycle/sec., approx. 10 mA• 100 measuring cycle/sec., approx. 30 mA
Configuration and data readout	<ul style="list-style-type: none">• via USB interface
Operating modes	<ul style="list-style-type: none">• Multi-channel mode (max. 3 channels) with:<ul style="list-style-type: none">- Autorange for current measurement- Averaging of measured values for each individual channel- Differential transmission of data if changed• Charge balance mode (charge, discharge and total balance)
Temperature range	<ul style="list-style-type: none">• -40...+85°C
Isolation	<ul style="list-style-type: none">• 80 V DC
Degree of protection	<ul style="list-style-type: none">• IP65

Status August 2012. All mentioned trademarks or brands are property of the corresponding owner. Subject to error and technical changes.V1

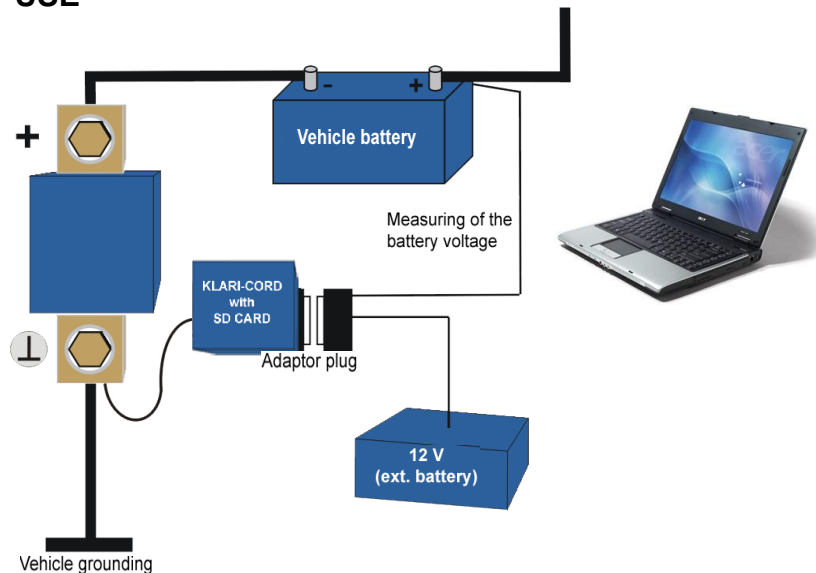
KLARI-CORD 2

EXAMPLES FOR CURRENT MEASURING RANGES KLARI-CORD 2

Measuring range and resolution can be adapted to the measuring task by various probes.

Range/ Gain	1 mΩ shunt		200 μΩ shunt		25 μΩ shunt	
	Measuring range	Resolution	Measuring range	Resolution	Measuring range	Resolution
1	+720 A -300 A	24 mA	+3600 A -1500 A	120 mA	+28800 A -12000 A	960 mA
6	+/-120 A	4 mA	+/-600 A	20 mA	+/-4800 A	160 mA
24	+/-30 A	1 mA	+/-150 A	5 mA	+/-1200 A	40 mA
50	+/-15 A	500 μA	+/-75 A	2.5 mA	+/-600 A	20 mA
100	+/-7.5 A	250 μA	+/-37.5 A	1.25 mA	+/-300 A	10 mA

USE



The power supply and the serial interface of the module are not electrically isolated from the measuring circuit.

Take care when connecting the module to the + battery pole.

Avoid short circuits along the cables.

ITEMS SUPPLIED AS STANDARD

- KLARI-CORD 2 measurement module, part number IMCRD-Z1101-0000 (current probe has to be ordered separately)
- integrated SD memory card 256 MB (standard version)
- measuring signal cable (part number IMMSK-00001-0000, 2x voltage, 1x temperature)
- PC software for configuration, data readout, visualisation, export of measured values and setting the clock
- CAN data base and documentation on CD ROM.

Status: August 2012. All mentioned trademarks or brands are property of the corresponding owner. Subject to error and technical changes. V1

ACCESSORIES

Cable harness (IP65)

The cable harness is used to connect the measurement module 2 to a laptop / PC.

The following signals are fed out separately:

- CAN, Sub-D, 9-contact, female
- RS232, Sub-D, 9-contact, female
- Power supply of module

IMKAB-01104-0000 - 1 m

IMKAB-04C104-0000 - 4 m

IMKAB-10104-0000 - 10 m

Measuring signal cables

The measuring signal cables are used for connecting measuring signals to the **KLARI-CORD 2** and are connected to the front of the module using the 5-contact DIN plug (180°, IP65).

Cable length: PT1000 sensor, 2 m

Voltage connection, approx. 2 m

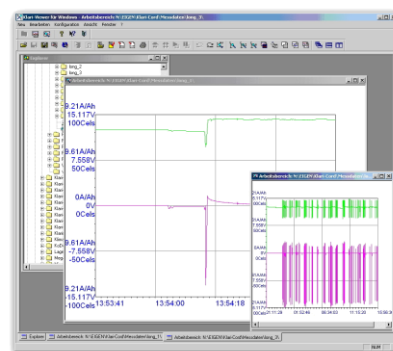
IMMSK-00001-0000 - 2x voltage, 1x temperature

Software: KLARI-VIEWER

Easy-to-use software for

- **KLARI-CORD 2** configuration
- read out and display of measured values
- export of measured values in various standard data formats.

The **KLARI-VIEWER** software offers an easy possibility for visualisation – for details please ask for a software demonstration.



Status August 2012. All mentioned trademarks or brands are property of the corresponding owner. Subject to error and technical changes.V1



ACCESSORIES

Battery-connection cable set

- 1x cable (35 mm², 35 cm) with universal brass pole
- 1x cable (35 mm², 35 cm) with negative pole terminal
- 1x positive pole terminal (extra)

IMBAS-00001-0000



Lithium-ion battery 13.2 V / 1,6 Ah

The lithium-ion battery is used to supply power to the **KLARI-CORD 2** measuring module.

By using the lithium-ion battery, long-duration recordings of more than 20 days are possible, depending on the data rate. Cable length: 30 cm

IMBAT-40012-0000



Bench-type charger

The bench-type charger is specially designed for lithium-ion batteries and can be ordered in combination with the external lithium-ion battery.

IMCHG-14813-0000



Status August 2012. All mentioned trademarks or brands are property of the corresponding owner. Subject to error and technical changes. V1

ACCESSORIES

KLARI-CHARGE

KLARI-CHARGE is an intelligent power supply module with integrated LI-iron-phosphate module with 1,6 Ah that can be loaded automatically during a trip.

state range via 4 x 20 digit display
connection DIN-5 Pol.

1,6 Ah	IIMCHG-14814-0000
3,2 Ah	IMCHG-14814-0001

Current measurement probes

see separate technical data sheet **KLARI-PROBES**

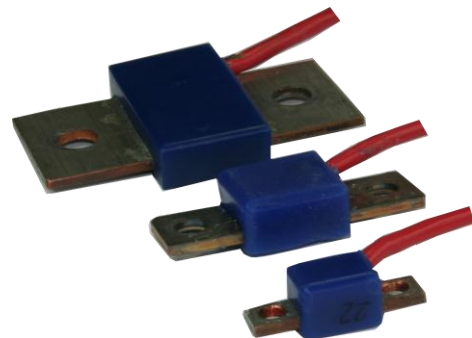
LI-probes for low currents, without fuse
range from 250 nA...28 A.

MICRO-2, FK1, FK2, FK3, J-CASE with fuse
range from 5 A...70 A

HI-probes

1 mOhm, range -300 A/+720 A, resolution 250 μ A
0,5 mOhm, range -600 A/1440 A, resolution 500 μ A
0,2 mOhm, range -1500 A/+3600 A, resolution 1,25 mA
0,1 mOhm, range -3000 A/+7200 A, resolution 2,5 mA
0,05 mOhm, range -6000 A/+14400 A, resolution 5 mA

* indicated for the lowest measuring range



Status August 2012. All mentioned trademarks or brands are property of the corresponding owner. Subject to error and technical changes.V1