KLARI-ELAST

Features

- Measuring unit for testing batteries using following functions:
  Charge, discharge and cycle (charge/discharge)
- The measured values current, voltage and charge-/discharge-balance can be transmitted via CAN-interface and /or stored on an integrated SD card.
- **Charging:** The charging process is executed by an external charging unit.
  Configuration:
  - charging current: min./max.valuet
  - charging voltage: min./max. value
  - Ah-charging: selectable
  - Charging time: selectable
- **Discharging:** The discharging process of the battery is performed by the integrated ELAST-unit.
  Configuration:
  - Discharging mode: static (constant current) or PWM-load (pulse width modulation)
  - External: on/off
    U-load: selectable (when threshold is exceeded discharging stopps)

  Static (I - constant current between 10mA…50A)
  - I-constant: discharging current, selectable
  - discharging time: selectable
  - Ah-discharging: selectable

  } 2 parameters are selected, 3rd parameter is calculated

  PWM load (I - pulse, pulse width modulation)
  - I-load 1 : discharge current, selectable
  - I-load 2: discharge current, selectable
  - time-on: time period of I-load 1, selectable
  - time-period: duration of one period, selectable

  } time-period - time-on(I-load 1) = time-on(I-load 2)

  - time: duration of complete measurement, selectable

  · Following values are supervised during discharging process:
  - I_batt min./max. if overstepped or undercutted, switch-off
  - U_batt min. if undercutted, switch-off
  - U_batt max. has to accord with the utilized battery
  - U-load if limit value is crossed discharging stopps

  · The discharging process will be finished if:
  - U_batt min value is reached,
  - U-load value is reached,
  - Ah-value is reached,
  - I_Batt min value is reached
  - discharging time is reached.
- **Cycle:** passing charging-/discharging-cycles:
  Configuration:
  - n-charging: selectable
  - n-discharging: selectable

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KLARI-ELAST

Version

- plastic- aluminium-housing, 465/390/245 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
- battery connection cable with 2 DINSE pole plugs
- 2 DINSE pole plugs with copper sticks, Ø 6mm (connecting external charging 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

- battery connection cable with 2 DINSE pole plugs
- 2 DINSE pole plugs with copper sticks, Ø 6mm

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KLARI-ELAST

TECHNICAL DATA

<table>
<tr><td>Input</td><td>• 2 internal measuring channels with 2 ASICs
- 1 x current-PROBE (1mΩ)
- 1 x voltage-PROBE (80 V)</td></tr>
<tr><td>Resolution</td><td>• 5 measuring ranges with selectable autorange-function for PROBE-connections
• ± 15 bit/measuring range
<table>
<tr><th>Gain</th><th colspan="2">I-PROBE</th><th colspan="2">U-PROBE</th></tr>
<tr><td></td><td colspan="2">1 mΩ</td><td colspan="2">80 V</td></tr>
<tr><td></td><td>Range [A]</td><td>Resolution [mA/Bit]</td><td>Range [V DC]</td><td>Resolution [mV/Bit]</td></tr>
<tr><td>100</td><td>+/- 7,5</td><td>0,25</td><td>0...+/- 5</td><td>0,170</td></tr>
<tr><td>50</td><td>+/- 15</td><td>0,5</td><td>0...+/- 10</td><td>0,340</td></tr>
<tr><td>24</td><td>+/- 30</td><td>1</td><td>0...+/- 20</td><td>0,680</td></tr>
<tr><td>6</td><td>+/- 120</td><td>4</td><td>0...+/- 80</td><td>2,720</td></tr>
<tr><td>1</td><td>- 300/+ 720</td><td>24</td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Accuracy</td><td>• ± 1% of measuring value ± 3 bit of range
• valid for temperature range of - 40 .. + 85°C</td></tr>
<tr><td>Sample rate</td><td>• single channel mode: max. 8.000 frames/s</td></tr>
<tr><td>Features</td><td>• selectable data output channel (CAN2.0B and/or USB-2.0 interface)
• data output configurable via CAN (Baudrate, Identifier etc.)
• internal CAN-termination, detachable via software</td></tr>
<tr><td>Output</td><td>• 1 x CAN 2.0 A/B, (High-Speed CAN, ISO 11898) from 125 kBit/s up to max. 1 MBit/s
• USB-2.0 interface
• SD-card max. 4 ms/value)</td></tr>
<tr><td>Timestamp</td><td>• 30 µs resolution (included in CAN-frame)</td></tr>
<tr><td>Housing
- Protection
- Weight
- Dimension</td><td>• plastic- aluminium-housing
• IP54
• 15 kg
• 465/390/245 mm (l/w/h)</td></tr>
<tr><td>Supply</td><td>• 230 V, 50 Hz</td></tr>
<tr><td>Current consumption</td><td>• approx. 2 A</td></tr>
<tr><td>Configuration</td><td>• via PC using CAN or USB-2.0 interface. Configurations could be created, archived and loaded into the module
• speed CAN: 125 kbit/s…1 Mbit/s
• measurement type, measuring speed, channels</td></tr>
<tr><td>Modes</td><td>• autorange function for all channels across all measuring ranges (ToolBox)
• selectable sample speed for the channels (ToolBox)</td></tr>
<tr><td>Temperature range</td><td>• - 20 ….+ 50°C</td></tr>
<tr><td>Isolation</td><td>• 80 V</td></tr>
</table>

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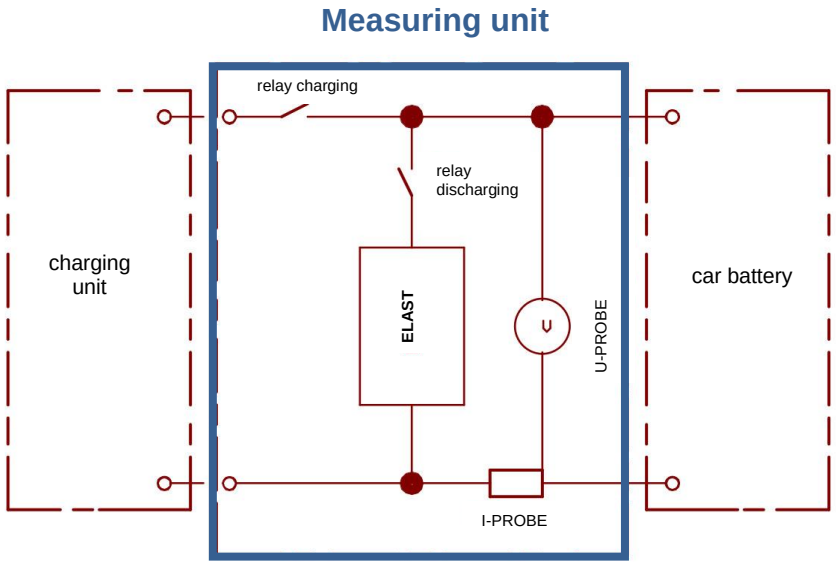
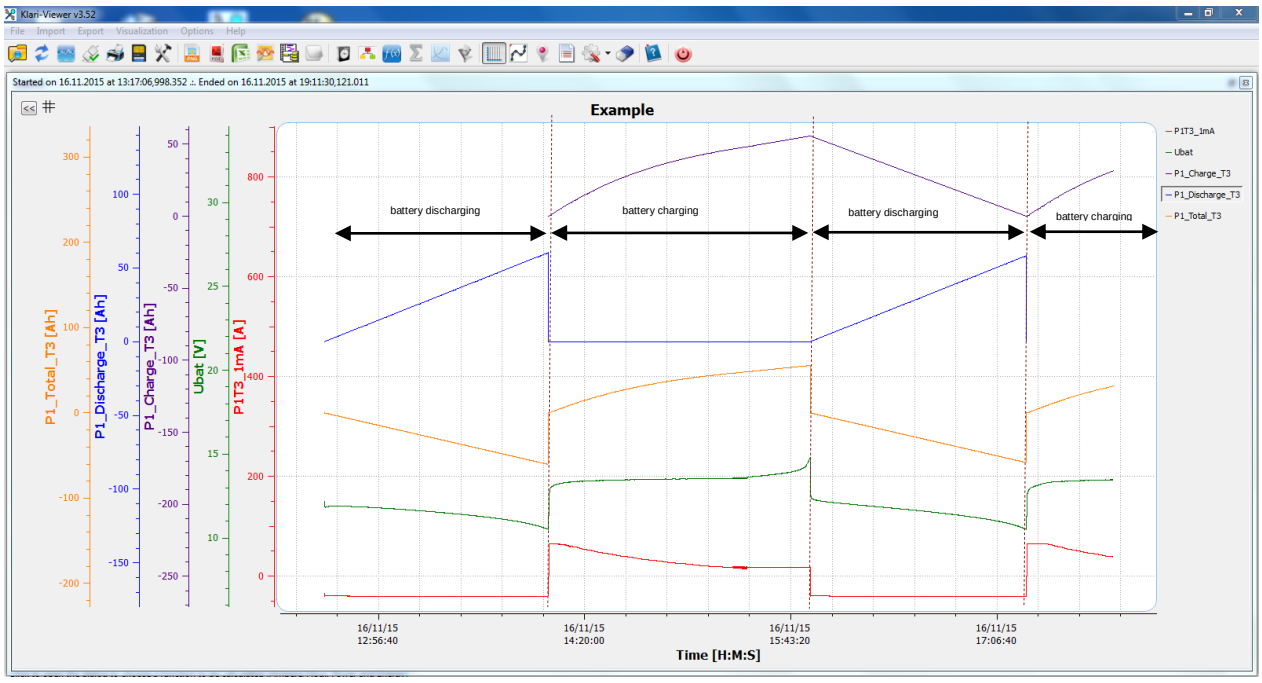
Block diagram



Graphic

using KlariViewer-software:



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