The ME-RedLab 1008 is a complete USB miniature DAQ lab. It is the ideal alternative solution for simple standard DAQ and control applications at a low price, for example in education or for experimental measurement setups.

- 8 single-ended or 4 differential analog inputs.
- 12 bit A/D conversion up to 1.2 kS/s, 8 kS/s up to 4000 values.
- Differential input range: ±20 V, ±10 V, ±5 V, ±4 V, ±2.5 V, ±2.0 V, ±1.25 V, ±1.0 V, programmable.
- 2 analog outputs, 10 bit.
- 32 bit event counter.
- 24 digital I/O channels, wired to the 37-pin D-sub connector: Expandable with relays or opto-isolation with the ME-UB series.
- 4 additional, discrete digital I/O channels with screw terminals.
- USB 1.1 compatible.
- Size [mm]: 157 (L) x 102 (W) x 40 (H).

### Specifications

#### Analog inputs
- Channels: 8, individually configured as 8 single-ended or 4 differential channels.
- Input ranges: ±20 V, ±10 V, ±5 V, ±4 V, ±2.5 V, ±2.0 V, ±1.25 V, ±1.0 V.
- Rate: Max. 8 kS/s.
- Trigger: Source programmable external DIO0...DIO3.

#### Analog outputs
- Channels: 2 voltage outputs.
- Output range: 0...5 V.
- Rate: Software controlled 100 S/s (single channel), 50 S/s (2 channel).
- Resolution: 10 bit.

#### Digital I/O
- Diskrete I/Os: 4 independent, programmable as input or outputs [screw terminals], 5 V/TTL.
- Input, high: 3.0 V min., 15.0 V absolute max.; input, low: 0.8 V max.; output, no load: V<sub>o</sub> = 0.4 V min., V<sub>o</sub> typ; output, 1 mA load: V<sub>o</sub> = 1.5 V.
- Protection: 1.5 kΩ serial resistor.

#### Port I/Os
- Channels: 24 I/O channels, grouped in 4x 8 bit ports, each port programmable as input or output [type 82C55].
- All pins with pull-up to V<sub>CC</sub>, over 47 kΩ.
- Input, high: 2.0 V min., 5.5 V absolute max.; input, low: 0.8 V max., -0.5 V absolute min.; output high: |V| = 2.5 mA.
- 3.0 V min.

#### Counter
- Channels: 1 channel, event counter.
- Resolution: 32 bit.
- Frequency: Input frequency max. 1 MHz.
- Pulswidth: High/low 500 ns min.
- Voltage: Input, low: 0 V min., 1.0 V max.; input, high: 4.0 V min., 15.0 V max.

### General data
- Size [mm]: ~157 (L) x 102 (W) x 40 (H).
- Power supply: Via USB.
- Interface: USB 1.1 low-speed, max. 3 m USB cable.
- Connectors: Screw terminals, 37-pin D-sub male, USB Type B.
- Environmental: Storage and operating temperature -40...85°C, 0...90% rel. humidity, non-condensing.
Versatile USB temperature DAQ labs

Now you can connect temperature sensors to your PC via USB in a very simple way with the ME-RedLab TC and TEMP! The low-cost model TC supports thermocouples only, whereas you can also connect RTDs, thermistors or semiconductor temperature sensors to the TEMP model. The sensor type is software selectable. The models CF have additional data logger functionality with CompactFlash.

- 8 independent, differential input channels for temperature measurement.
- ME-RedLab TC and ME-RedLab TC CF (5201)
  Support thermocouples of type J, K, T, E, R, S, B, N. Linearisation, cold junction compensation as well as conversion to °C or °F in the module.
- ME-RedLab TEMP and ME-RedLab TEMP CF (5203)
  Support 4 types of sensors: Thermocouples of type J, K, T, E, R, S, B, N, RTDs (2-, 3-, 4-wire, eg. four 3-wire RTDs), Thermistors, semiconductor temperature sensors. The 8 channels can operate with a mix of the supported sensor types without additional signal conditioning.
- High precision 24 bit A/D converter.
- Built-in ambient temperature sensor (for CJC/cold junction compensation).
- 8 additional digital I/O lines.
- Models CF: Data logger function incl. 64 MB CompactFlash.
  Configuration and “download” of data to the PC via USB. Stand-alone operation (battery buffered), independent from PC.
- Plug’n’Play USB 2.0 (full-speed, USB cable incl.). Supply power via USB.

Software

Included: TracerDAQ (strip chart recorder and data logger), SoftWIRE (graphic programming environment for Visual Studio .NET), Universal Library (support for programming languages under Windows), InstaCAL Utility (for simple installation, calibration and test), LabVIEW drivers and Vs.

### Ordering codes and functions

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<th>Model</th>
<th>Description</th>
<th>Supported sensors</th>
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<td>ME-RedLab TC</td>
<td>Temperature DAQ box</td>
<td>Thermocouples J, K, T, E, R, S, B, N</td>
<td>USB DAQ box, USB cable (type A-B), screw driver, CD with software/PDF manuals, Logger models “CF”: 64 MB CompactFlash memory card</td>
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<tr>
<td>ME-RedLab TC CF (5201)</td>
<td>Temperature DAQ logger</td>
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<tr>
<td>ME-RedLab TEMP</td>
<td>Temperature DAQ box</td>
<td>Thermocouples J, K, T, E, R, S, B, N RTDs (2-, 3-, 4-wire), Thermistors, semiconductor temp. sensors</td>
<td></td>
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<tr>
<td>ME-RedLab TEMP CF (5203)</td>
<td>Temperature DAQ logger</td>
<td></td>
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<tr>
<td>ME-RedPack xxxx</td>
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