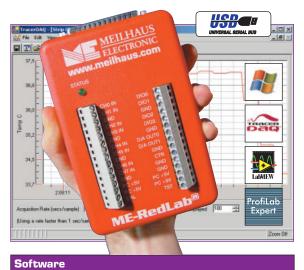
Lowcost, complete 12 bit USB mini DAQ lab

ME-RedLab 1008



Included: TracerDAQ, Universal Library, Drivers for LabVIEW

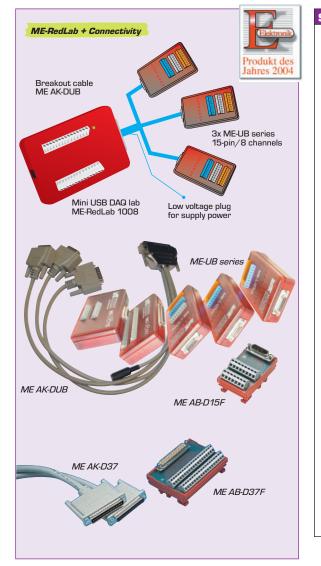
and SoftWIRE.

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).

» Ordering codes ME-RedLab	
Model	Description
ME-RedLab 1008	USB mini DAQ lab. Included: Multi I/O DAQ lab, USB cable, screw
	driver and software
ME-RedPack 1008	ME-RedLab 1008 bundled with software ProfiLab Expert

» Accessory		
Model	Decription	
ME AK-D37	2 m cable. 37-pin D-sub male-female, 1:1 contacted. Connects ME-RedLab 1008 and ME AB-D37F or ME-UB37.	
ME AB-D37F	Terminal block. 37-pin D-sub female and spring teminals.	
ME-UB37	Termnal box. 37-pin D-sub female and spring terminals. Can be plugged directly on the ME-RedLab connector.	
ME AK-DUB	Cable. Connects 3 ME-UB boxes to a ME-RedLab 1008: 37-pin D-sub female and 3x 15-pin D-sub male + low voltage plug for	
	external power supply for the ME-UB boxes.	
ME-UB Serie External expansions boxes, with relays or opto-isolation. For the ME-RedLab 1008 digital ports. Use in any combin		
	(terminal), ME-UBRE (relays), ME-UBOI (opto inputs), ME-UBOO (opto outputs).	
ME AB-D15F	Terminal block. 15-pin D-sub female and spring terminals. DIN rail moutbale. Can be used instead of ME-UB15. For digital ports.	
ProfiLab-Expert	Graphic software for ME-RedLab 1008, also available as a bundle (ME-RedPack 1008)	



Rate Max. 8 kS/s Resolution 12 bit differential, 11 bit single-ended Trigger Source programmable external DIOODIO3 Analog outputs Channels 2 voltage outputs. Connectors: Screw terminals Output range 05 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 (screterminals), 5 V/TTL. Input, high: 3.0 V min., 15.0 V absolute max.; input, low: 0.8 V max.; output, no load: V _s - 0.4 V min., V _s typ; output 1 mA load: V _s - 1.5 V. Protection: 1.5 kΩ serial resistor Port I/Os 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 _s 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: (I _{0H} =-2.5 m 3.0 V min.) Counter Channels 1 channel, event counter. Connector: Screw terminals 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, low: 0 V min., 15.0 V max. General data Size (mm) 7157 (L) x 102 (W) x 40 (H)	`	,
Analog inputs	Specifications	
differential channels. Connectors: Screw terminals Input ranges		
Input ranges	Channels	8, individually configurated as 8 single-ended or 4
Rate Max. 8 kS/s Resolution 12 bit differential, 11 bit single-ended Trigger Source programmable external DIOODIO3 Analog outputs Channels 2 voltage outputs. Connectors: Screw terminals Output range 05 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 (screterminals), 5 V/TTL. Input, high: 3.0 V min., 15.0 V absolute max.; input, low: 0.8 V max.; output, no load: V _s - 0.4 V min., V _s typ; output 1 mA load: V _s - 1.5 V. Protection: 1.5 kΩ serial resistor Port I/Os 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 _s 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: (I _{0H} =-2.5 m 3.0 V min.) Counter Channels 1 channel, event counter. Connector: Screw terminals 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, low: 0 V min., 15.0 V max. General data Size (mm) ~ 157 (L) x 102 (W) x 40 (H)		differential channels. Connectors: Screw terminals
Resolution 12 bit differential, 11 bit single-ended Trigger Source programmable external DIOODIO3	Input ranges	±20 V, ±10 V, ±5 V, ±4 V, ±2.5 V, ±2.0 V, ±1.25 V, ±1.0 V
Trigger Source programmable external DIOODIO3	Rate	Max. 8 kS/s
Trigger Source programmable external DIOODIO3	Resolution	12 bit differential, 11 bit single-ended
Channels 2 voltage outputs. Connectors: Screw terminals	Trigger	
Output range D5 V Rate Software controlled 100 S/s (single channel), 50 S/s (2 channel) Resolution Digital I/O Diskrete I/Os 4 independent, programmable as input or outputs (scretterminals), 5 V/TTL. Input, high: 3.0 V min., 15.0 V absolute max.; input, low: 0.8 V max.; output, no load: V _s - 0.4 V min., V _s typ; output 1 mA load: V _s - 1.5 V. Protection: 1.5 kΩ serial resistor Port I/Os 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 _s 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: (I _{OH} =-2.5 m 3.0 V min.) Counter Channels 1 channel, event counter. Connector: Screw terminals Resolution 32 bit Frequency Input frequency max. 1 MHz Pulswidth High/low 500 ns min. Voltage Inpu	Analog outputs	
Rate Software controlled 100 S/s (single channel), 50 S/s (2 channel)	Channels	2 voltage outputs. Connectors: Screw terminals
So S/s (2 channel)	Output range	05 V
Resolution 10 bit	Rate	Software controlled 100 S/s (single channel),
Digital I/O		50 S/s (2 channel)
Diskrete I/Os 4 independent, programmable as input or outputs (screen 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 _s - 0.4 V min., V _s typ; output 1 mA load: V _s - 1.5 V. Protection: 1.5 kΩ serial resistor Port I/Os 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 _s 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: (I _{0H} =-2.5 m 3.0 V min.) Counter Channels 1 channel, event counter: Connector: Screw terminals 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)	Resolution	10 bit
$ \begin{array}{c} \text{terminals}, 5 \text{ V/TTL.} \\ \text{Input, high: } 3.0 \text{ V min., } 15.0 \text{ V absolute max.; input, low:} \\ 0.8 \text{ V max.; output, no load: } V_s - 0.4 \text{ V min., } V_s \text{ typ; output} \\ 1 \text{ mA load: } V_s - 1.5 \text{ V.} \\ \text{Protection: } 1.5 \text{ k}\Omega \text{ serial resistor} \\ \hline \\ \text{Port I/Os} \\ \hline \\ \text{Port I/Os} \\ \hline \\ \text{Port I/Os} \\ \hline \\ \text{Port I/O channels, grouped in } 4x \text{ 8 bit ports, each port programmable as input or output (type 82C55).} \\ \text{All pins with pull-up to } V_s \text{ over } 47 \text{ k}\Omega. \\ \text{Input, high: } 2.0 \text{ V min., } 5.5 \text{ V absolute max.; input, low:} \\ 0.8 \text{ V max., } -0.5 \text{ V absolute min.; output high: } (I_{0H} = -2.5 \text{ m}) \\ \hline \text{3.0 V min.} \\ \hline \\ \hline \\ \text{Counter} \\ \hline \\ \hline \\ \text{Channels} \\ \hline \\ \text{Resolution} \\ \hline \text{32 bit} \\ \hline \\ \text{Frequency} \\ \hline \text{Input frequency max. 1 MHz} \\ \hline \\ \text{Pulswidth} \\ \hline \\ \text{High/low } 500 \text{ ns min.} \\ \hline \\ \text{Voltage} \\ \hline \\ \hline \text{Input, low: 0 V min., } 1.0 \text{ V max.;} \\ \hline \\ \text{input, high: } 4.0 \text{ V min., } 15.0 \text{ V max.} \\ \hline \\ \hline \\ \\ \hline \\ \text{General data} \\ \hline \\ \hline \\ \text{Size (mm)} \\ \hline \\ \hline \end{array}$	Digital I/O	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Diskrete I/Os	4 independent, programmable as input or outputs (screw
$\begin{array}{c} \text{O.8 V max.; output, no load: V_s - 0.4 V min., V_s typ; output 1 mA load: V_s - 1.5 V. \\ Protection: $1.5 k\Omega$ serial resistor \\ \hline Port I/Os & 24 I/O channels, grouped in 4x 8 bit ports, each port programmable as input or output (type 82C55). $$All pins with pull-up to V_s over $47 k\Omega$. $$Input, high: $2.0 V min., $5.5 V absolute max.; input, low: $0.8 V max., -0.5 V absolute min.; output high: $(I_{OH}=-2.5 m 3.0 V min.)$ $		
$\begin{array}{c} 1 \text{ mA load: } V_s - 1.5 \text{ V.} \\ \text{Protection: } 1.5 \text{ k}\Omega \text{ serial resistor} \\ \hline \\ \text{Port I/Os} & 24 \text{ I/O channels, grouped in } 4x \text{ 8 bit ports, each port programmable as input or output (type 82C55).} \\ \text{All pins with pull-up to } V_s \text{ over } 47 \text{ k}\Omega. \\ \text{Input, high: } 2.0 \text{ V min., } 5.5 \text{ V absolute max.; input, low: } \\ 0.8 \text{ V max., } -0.5 \text{ V absolute min.; output high: } (I_{\text{OH}} = -2.5 \text{ m}) \\ \hline \text{Counter} \\ \hline \\ \text{Channels} & 1 \text{ channel, event counter. Connector: Screw terminals} \\ \hline \text{Resolution} & 32 \text{ bit} \\ \hline \text{Frequency} & \text{Input frequency max. 1 MHz} \\ \hline \text{Pulswidth} & \text{High/low } 500 \text{ ns min.} \\ \hline \text{Voltage} & \text{Input, low: 0 V min., } 1.0 \text{ V max.; input, high: } 4.0 \text{ V min., } 15.0 \text{ V max.} \\ \hline \\ \hline \text{General data} \\ \hline \\ \text{Size (mm)} & ~157 \text{ (L) x } 102 \text{ (W) x } 40 \text{ (H)} \\ \hline \end{array}$		Input, high: 3.0 V min., 15.0 V absolute max.; input, low:
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$		0.8 V max.; output, no load: V_s - 0.4 V min., V_s typ; output,
Port I/Os		1 mA load: V_s - 1.5 V.
$\begin{array}{c} & \text{programmable as input or output (type 82C55).} \\ & \text{All pins with pull-up to V_s over 47 k}\Omega. \\ & \text{Input, high: 2.0 V min., 5.5 V absolute max.; input, low:} \\ & 0.8 \text{ V max., -0.5 V absolute min.; output high: (I_{OH}=-2.5 \text{ m})} \\ & \text{3.0 V min.} \\ \hline \textbf{Counter} \\ & \text{Channels} & 1 \text{ channel, event counter. Connector: Screw terminals} \\ & \text{Resolution} & 32 \text{ bit} \\ & \text{Frequency} & \text{Input frequency max. 1 MHz} \\ & \text{Pulswidth} & \text{High/low 500 ns min.} \\ & \text{Voltage} & \text{Input, low: 0 V min., 1.0 V max.;} \\ & \text{input, high: 4.0 V min., 15.0 V max.} \\ \hline \textbf{General data} \\ & \text{Size (mm)} & \text{$^{\circ}$157 (L) x 102 (W) x 40 (H)} \\ \hline \end{array}$		Protection: 1.5 $k\Omega$ serial resistor
All pins with pull-up to V_s over $47 \text{ k}\Omega$. Input, high: 2.0 V min., 5.5 V absolute max.; input, low: 0.8 V max., -0.5 V absolute min.; output high: $\{l_{\text{OH}} = -2.5 \text{ m}\}$ 3.0 V min. Counter Channels 1 channel, event counter. Connector: Screw terminals 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) \sim 157 (L) x 102 (W) x 40 (H)	Port I/Os	24 I/O channels, grouped in 4x 8 bit ports, each port
Input, high: 2.0 V min., 5.5 V absolute max.; input, low: 0.8 V max., -0.5 V absolute min.; output high: (I _{0H} =-2.5 m 3.0 V min. Counter Channels 1 channel, event counter: Connector: Screw terminals 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) Size (mm) Size (mm) Size (mm) Size (min) Counter 1 channels 1 channels 1 channel, event counter: Connector: Screw terminals 1 channel, event co		programmable as input or output (type 82C55).
O.8 V max., -0.5 V absolute min.; output high: (I _{0H} =-2.5 m 3.0 V min.) Counter Channels 1 channel, event counter. Connector: Screw terminals 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)		All pins with pull-up to $V_{\rm s}$ over 47 $k\Omega.$
3.0 V min.		Input, high: 2.0 V min., 5.5 V absolute max.; input, low:
Counter Channels		0.8 V max., -0.5 V absolute min.; output high: (I _{OH} =-2.5 mA)
Channels 1 channel, event counter. Connector: Screw terminals 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)		3.0 V min.
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)	Counter	
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)		· · · · · · · · · · · · · · · · · · ·
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)		
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)		1 1 /
input, high: 4.0 V min., 15.0 V max. General data Size (mm) ~157 (L) x 102 (W) x 40 (H)	1 511511151511	0 /
General data Size (mm) ~157 (L) x 102 (W) x 40 (H)	Voltage	
Size (mm) ~157 (L) x 102 (W) x 40 (H)		input, high: 4.0 V min., 15.0 V max.
		To
I ID IV. HOD		
	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 -4085°C, 090% rel.
humidity, non-condensing		humidity, non-condensing