



## Features

- Modular design
- Generate / measure pressure
- Absolut-, differential-, relative-pressure
- Battery operation
- Step generator->  
Increase or decrease pressure stepwise (GM40 module)
- Measured units switchable during measurement
- 4,3" Resistive touchscreen
- Up to 20 measurements per second
- Easy recalibration process->  
(we only need the corresponding module)

## ...PRESSURE measure very simple...

Our modular built Pressure-Calibrator **TM40** is unique in its conception. The device is built completely modular. Four slide-in slots are available, to be equipped with different types of modules. Thus allowing the TM40 to be equipped individually, suiting even the most specific needs.

Distinguished between three different types of modules, there are:

- Measuring module (**MM40**)
- Generator module (**GM40**)
- Voltage / Current module (**VM40**)-> coming soon!

The measuring module **MM40** covers a freely definable range for measuring pressure (up to 250 bar) and uses one slot in the TM40. Measuring ranges see further back. So for example, it is possible to cover four different measurement ranges with the TM40. Accuracy classes for the measurement modules are available up to 0.05% F.S. Even symmetrical measurement ranges are possible (for ex. -250...+250 Pa).

The generator module **GM40** of the TM40 has identical characteristics like the measurement modules, but is able to generate pressure and regulate it automatically (by internal pressure conditioning). For example, the GM40 is able to build up and regulate the pressure of a given setpoint autonomous. Even (as given setpoints defined) pressures can be increased or decreased stepwise. A GM40 needs two slots in the TM40. The control accuracy of the GM40 is 0.1 Pa.

Of course, our GM40 and MM40 come with temperature compensated and long term stable pressure sensors. All GM40 or MM40 modules are shipped including a SCS calibration certificate.

The TM40 is capable of up to 20 measurements per second. The measurements can be displayed (in real time) graphically on the 4.3" touchscreen. Data transfer is done via front-installed USB 2.0 communication port. For making even mobile operations efficient and comfortable, the TM40 is equipped with a Li-Ion accumulator and allows doing measurement up to 8 hours.

## **TM40 – Base unit**

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Operation:	4,3" Resistive Touchscreen 480x270 Dots
Interface:	USB 2.0 VCP
Storage:	Micro SD-Card (front)
Operating temperature:	15...35 °C (optional 0...+50 °C)
Storage temperature:	-20...+70 °C
Humidity:	< 95 %RH, not compensated
Operating voltage:	9Vdc +/-20% max. 1000mA (front)
Battery pack:	Li-Ion 7.4V/34Wh (intern)
Battery life:	up to 8 hours (depending on operation mode)
Housing dimensions:	390x 290 x 155 mm (LxWxH)
Weight:	4500g

## GM40 – Generator Module for TM40

Measurement ranges / Control ranges	Measurement accuracy % of MR ± 1 digit	Control accuracy	Media
0...250.00 Pa	0,2% / 0,1%	± 0,1 Pa	inert gases
-250.00...250.00 Pa	0,2% / 0,1%	± 0,1 Pa	inert gases
0...500.00 Pa	0,2% / 0,1%	± 0,1 Pa	inert gases
0...7000.0 Pa	0,2% / 0,1% / 0,05%	± 0,1 Pa	inert gases
-7000.0...7000.0 Pa	0,2% / 0,1% / 0,05%	± 0,1 Pa	inert gases
0...10000 Pa	0,2% / 0,1% / 0,05%	± 0,1 Pa	inert gases

Other measurement ranges on request.

Units of measurement: mbar, bar, Pa, hPa, kPa, MPa, kg/cm<sup>2</sup>, kg/m<sup>2</sup>, mmHg, cmHg, mHg, inHg, mmH<sub>2</sub>O, cmH<sub>2</sub>O, mH<sub>2</sub>O, inH<sub>2</sub>O, ftH<sub>2</sub>O, psi, lb/in<sup>2</sup>, lb/ft<sup>2</sup>, torr, atm (depending on the measuring range)

Sampling rate: max 20 Hz  
 Temperature dependence: Compensating (error included in total tolerance)  
 Pneum. connectors: Vebo quick coupling, NPT 1/8", M10x1, 4/6mm hose- connector (Others on request)

Housing dimensions GM40: 230x65x100 mm (LxWxH)  
 Weight: 1000g



## MM40 – Measurement module

Measurement ranges	Measurement accuracy % of MR ± 1 digit	Media
0...250.00 Pa	0,2% / 0,1%	inert gases
-250.00...250.00 Pa	0,2% / 0,1%	inert gases
0...7000.0 Pa	0,2% / 0,1% / 0,05%	inert gases
-7000.0...7000.0 Pa	0,2% / 0,1% / 0,05%	inert gases
0...300.00 mbar	0,2% / 0,1% / 0,05%	inert gases
0...500.00 mbar	0,2% / 0,1%	inert gases
0...1000.0 mbar	0,2% / 0,1% / 0,05%	inert gases
-1000...10000 mbar	0,2% / 0,1% / 0,05%	inert gases
0...10000 mbar	0,2% / 0,1% / 0,05%	inert gases
0...35.000 bar	0,2% / 0,1%	All media
0...100.00 bar	0,2% / 0,1%	All media
0...250.00 bar	0,2% / 0,1%	All media

Other measurement ranges on request

Units of measurement: mbar, bar, Pa, hPa, kPa, MPa, kg/cm<sup>2</sup>, kg/m<sup>2</sup>, mmHg, cmHg, mHg, inHg, mmH<sub>2</sub>O, cmH<sub>2</sub>O, mH<sub>2</sub>O, inH<sub>2</sub>O, ftH<sub>2</sub>O, psi, lb/in<sup>2</sup>, lb/ft<sup>2</sup>, torr, atm (depending on the measuring range)

Sampling rate: max 20 Hz

Temperature dependence: Compensating (error included in total tolerance)

Pneum. connectors: Vebo quick coupling, NPT 1/8", M10x1, 4/6mm hose- connector (Others on request)

Housing dimensions MM40: 230x33x100 mm (LxWxH)

Weight: 600g



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