LabDMM2

PROFESSIONAL DIGITAL MANOMETER
for PRESSURE and TEMPERATURE measurement

CE RoHS | LCD DISPLAY | RECHARGEABLE Battery | SOLLECITAZIONI DINAMICHE DYNAMIC STRESSES | Stabilità a lungo termine / Long term high stability

ACCURATEZZA ≤±0.025% ACCURACY | ACCURATEZZA ≤±0.05% ACCURACY | Misura della temperatura del fluido / Measurement of fluid temperature | USB 2.0 | Smart

ACCREDITED ISO 17025 LABORATORY

COMPLETO DI
Certificato di Taratura ACCREDIA

COMPLETE WITH
ACCREDIA Calibration Certificate

IP65

ACCREDIA not standardised calibration performed on 5 measuring points for increasing and decreasing pressures, with 2 repeatability cycles at 50% of full scale.
Other more complete ACCREDIA calibrations according to EURAMET cg-17 are available **ON REQUEST**.

LABDMM2 is a professional digital pressure gauge made according to the most modern technologies to guarantee a high level of reliability, versatility and practicality at the same time.
The sturdiness and a high stability over time are guaranteed by a monolithic sensor made entirely of stainless steel capable of working even in the presence of highly dynamic pressures, and by a robust housing made of painted reinforced technopolymer.
Designed to be used in metrological laboratories, calibration systems, automation in general and process controls where it is necessary to monitor, record and transmit data.
During the production cycle the pressure gauge is calibrated and **ACCREDIA** certified for the PRESSURE measurement to guarantee a measurement uncertainty better than 0.025% or 0.05% in 28 different pressure ranges, **RELATIVE**, **ABSOLUTE** and in **VACUUM**.
With this instrument it is possible to simultaneously measure the **PRESSURE** generated by air, gas, oil, water or any other type of non-corrosive fluid and the **TEMPERATURE** of the fluid that generates the pressure.
The pressure gauge is powered by an internal rechargeable Li-ion battery with up to 50 hours of continuous operation (without backlight). To recharge the battery you can use the USB port with a 5Vdc power supply or by connecting it directly to the PC.
For continuous operation it is possible to keep the manometer powered by the USB port or for industrial applications, it is possible to provide an external supply from 12 to 24 Vdc (option).
In the programming menu accessible from the keyboard it is possible to customize the behavior of the pressure gauge by adjusting various functions such as the **DIGITAL FILTER**, which allows to keep the measurement stable even in the presence of unsteady pressures, resolution, unit of measurement, Auto power off etc ...
Using the keyboard it is possible to set the positive and negative **PEAK** function to record the maximum and minimum pressures detected during the test.
On the display there is an analogue indication with pressure bar always active even within the programming menu.
For easier mounting and improved visibility, the display can be **ORIENTED**.

The **WIRELESS** transmission is planned as an option to create a network of pressure gauges (up to 32) managed by a PC using the **WinWIMOD2** software for mobile or reconfigurable applications without the need for collecting cables.

***Main features**:*
• Normalized pressures from **100 mbar** to **3000 bar** ABSOLUTE, RELATIVE and VACUUM.
• USB port for communication and battery charging.
• TEMPERATURE measurement in ° C or ° F.
• 5 digit LCD display with backlight.
• **ORIENTABLE display.**
• Resolution, digital filter, conversions in units of measurement.
• Functions of ZERO, PEAK max. and min.
• KEY LOCK function 🔒 to protect the use parameters from unauthorized changes.
• LOOP function in which the measurement of pressure and temperature are alternated on the display.
***OPTIONS**:*
• RS232 communication port (as an alternative to USB communication).
• Internal DATA LOGGER with clock and calendar.
• Wireless transmission of pressure and temperature measurement.
• External USB port power supply (5Vdc) or 12Vdc to 24Vdc.
• Built-in case.

TECHNICAL DATA

ACCURACY Linearity, Hysteresis and Repeatability	**OPTION** **≤ ± 0,025 % F.S.**	STANDARD **≤ ± 0,05 % F.S.**	STANDARD **≤ ± 0,10 % F.S.**
ABSOLUTE PRESSURE (bar) Zero to the absolute vacuum pressure		1 – 2,5 - 5 – 10	
RELATIVE PRESSURE (mbar) Zero at atmospheric pressure		100 - 250 - 500	
RELATIVE PRESSURE (bar) Zero at atmospheric pressure	5 – 10 20 – 50 - 100 250 - 350 – 500 700 – 1000 1500 – 2000	1 – 2,5 – 5 – 10 20 – 50 – 100 250 - 350 – 500 700 - 1000 1500 – 2000	2500 3000
RELATIVE VACUUM (bar) Zero at atmospheric pressure		-1 … 1 -1 … 2,5 -1 … 5 -1 … 10 -1 … 20	
REFERENCE TEMPERATURE	15 … +30 °C	0 … +50 °C	
OPERATING TEMPERATURE	-10 … +60 °C		
RELATIVE UMIDITY	< 90 % not condensed		
PRESSURE UNITS	bar – mbar – psi – Mpa – kPa – kg/cm$_2$ mHg - mmHg – mmH_2O – mH_2O		
TEMPERATURE INDICATION a) Resolution b) Accuracy	Units of Measure °C - °F 0.1 °C ± 1 °C		
TEMPERATURE EFFECT (1 °C) a) on zero b) on sensitivity	 ≤ ± 0,002% ≤ ± 0,002%		
INTERNAL RESOLUTION CONVERSIONS PER SECONDS	24 bit 10 (100ms)		
DISPLAY LCD BACKLIGHT DISPLAY HEIGHT	CUSTOM 7 SEGMENT 13mm		
RESOLUTION FUNCTION **DIGITAL FILTER** FUNCTION **ZERO** FUNCTION **PEAK** FUNCTION **LOOP** FUNCTION **LOCK** (LOC) 🔒	1, 2, 5, 10 from 0 to 5 100 % F.S. Positive / Negative (VACUUM) Switch between pressure and temperature Protection of programming		
COMMUNICATION PORT TRANSMISSION TYPE MAX DISTANCE	USB 2.0 on DEMAND 5 m		

POWER SUPPLY (1)	1 Li-Ion Battery 3.6V 2000mA/h
Autonomy	50 hours (continuous operation)
Battery recharge	From USB port (5Vdc)
EXTERNAL POWER SUPPLY	From USB port (5Vdc)
MECHANICAL LIMIT VALUES:	
a) service pressure	100% F.S.
b) limit pressure	150% F.S.
c) breaking pressure	>300% F.S.
d) highly dynamic pressure	75% F.S.
PROCESS COUPLING	1/2" G Male
SEAL RECOMMENDED	USIT A 63-18
TIGHTENING WRENCH	27 mm
TIGHTENING TORQUE	28 Nm
WEIGHT	~0.5 kg
PROTECTION CLASS (EN 60529)	**IP65** with connector attached or with screwed-on protective cap
MATERIAL SENSOR	17-4 PH STAINLESS STEEL
CASE MATERIAL	Glass-fibre reinforced technopolymer

(1) In case of non-use or prolonged storage, we recommend recharging the battery at least once every 6 months to prevent the battery from discharging completely.

OPTIONS: (to be purchased separately)

ACCURACY (Linearity and Hysteresis)	**≤ ± 0,025 % F.S.**
INTERNAL DATALOGGER	Pressure and Temperature
INTERNAL CLOCK / CALENDAR	YES
MAX NUMBER OF STORING POINTS	130000 (only pressure) 65000 (pressure and temperature)
STORING RATE	settable (from 1s to 24 hours)
MAX DATA LOGGER DURATION (2)	365 days
WIRELESS TRANSMISSION	868 MHz
MAX DISTANCE	40 m in free space
MAX number of manometers in network	32
SERIAL PORT (3)	RS232C
BAUD RATE	Fixed at 9600 baud
TYPE OF TRANSMISSION	On DEMAND or CONTINUOUS
BUILT-IN VERSION	Case for panel mounting
MATERIAL	Glass-fiber reinforced technopolymer
EXTERNAL POWER SUPPLY without battery, power supply and usb cable	from 12 to 24Vdc

(2) For long durations of the data logger it may be necessary to supply the pressure gauge externally or recharge it periodically.

(3) The RS232C communication excludes USB communication, the USB port is only used to charge the battery.

WIRELESS transmission (option)

The **LABDMM2** pressure gauge can transmit pressure and temperature measurement via radio at regular intervals.
The transmission frequency, 868 MHz, makes communication safe and reliable even in the presence of other transmission systems such as mobile phones, walky talkies, radio microphones, remote controls, etc., which normally work on other frequencies.
It is possible to create a network of up to 32 radio pressure gauges that can be managed using the **WinWIMOD2** software. In this environment it is possible to create and archive graphs, print reports and export measurements to Microsoft Excel.
The PC-side receiver is a USB pen drive type module with integrated antenna.
You can create your own customised receiver programme by requesting the manual documenting the wireless communication protocol with the **LABDMM2** gauge.

MAX distance 40m in free area.

Accessories supplied in the STANDARD version:

ACCREDIA certificate.

Shock resistant silicone COVER.

USB power supply (5VDC @ 700mA)

M12-USB cable length 2 m

CASE for transport.

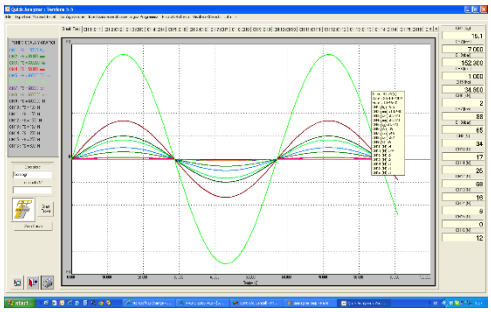
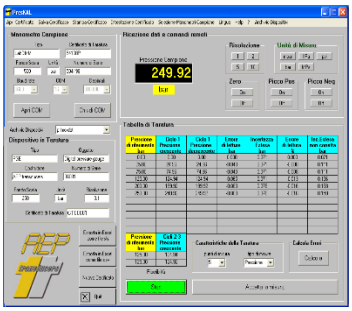
CD containing MANUAL and USB DRIVER.

N ° 2 mordant cones only for high pressure gauges from 1000 bar to 3000 bar.

Accessories supplied in the BUILT-IN version:

ACCREDIA certificate. 2 mounting brackets USB power supply (5VDC @ 700mA) USB cable. CD containing MANUAL and USB DRIVER. N ° 2 mordant cones only for high pressure gauges from 1000 bar to 3000 bar.	

***Accessories**: (to be purchased separately)*

EXTERNAL POWER SUPPLY from 220V to 12Vdc. Code: **TALDMM** (built-in version only) RS232 cable code: **TCAVOSERIALE**	
Quick analyzer **Quick analyzer Light** Application software that interface directly to the pressure gauge and support the operator in the various functions of testing, analysis, time monitoring, data storage, data logger management and measurement transfer on Microsoft Excel etc ...	
PressKAL Software dedicated to the calibration and metrological confirmation of pressure gauges such as pressure gauges, transducers and pressure transmitters and pressure switches.	

Manual pressure generators *(to be purchased separately)*

The manual pressure generators of the GPM and GPG series are designed to perform calibrations and metrological confirmations of pressure gauges such as pressure gauges, pressure transducers and transmitters, and pressure switches.
Manually, they can generate and check pressures in OIL, WATER or AIR quickly, accurately and effortlessly.
Their ease of use and light weight allow measurements to be made in the field or laboratory.
A high measuring range from VACUUM up to 3000 bar can be managed.

GPM2000 0...2000bar
GPM3000 0...3000bar

GPM700
0...700bar

SOFTWARE
PresKAL

GPG700 0...700 bar

GPG40 -0.95 .... 40 bar

Adapters and fittings *(to be purchased separately)*

To connect the various pressure gauges and sensors to the generators, the following adapters made of AISI 316 stainless steel are available with a maximum working pressure of 1000 bar.

From 1/4” Gas Male to 1/4” Gas Female
From 1/4” Gas Male to 1/4" Gas Male
From 1/4” Gas Male to 1/2" Gas Female
From 1/4” Gas Male to 3/8” Gas Female
From 1/4” Gas Male to 1/8” Gas Female
From 1/4” Gas Male to 1/8” Gas Male

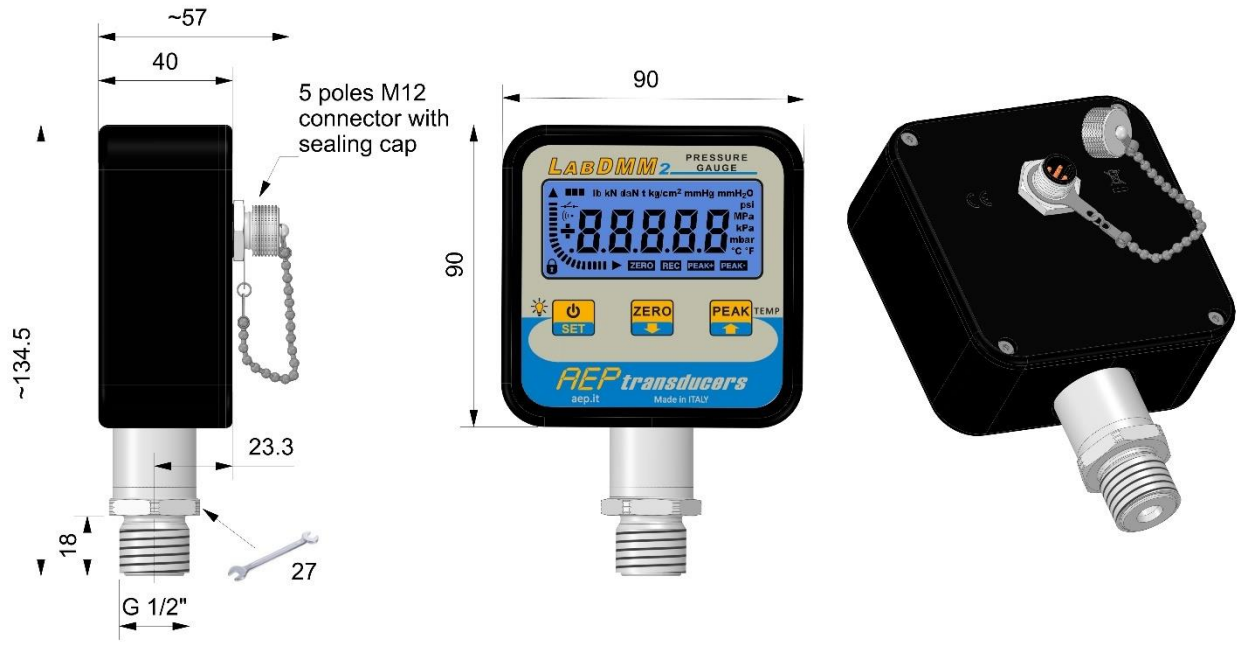
From 1/4” Gas Male to 1/4 NPT Female
From 1/4” Gas Male to 1/2 NPT Female
From 1/4” Gas Male to /8 NPT Female
From 1/4” Gas Male to /8 NPT Female

STANDARD Indications

	Full Scale	Display	Resolution	Display	Resolution	Display	Resolution	Display	Resolution
TYPE[(1)]	**bar**	**bar**	**bar**	**mbar**	**mbar**	**psi**	**psi**	**MPa**	**MPa**
RV	0.1	0.1000	0.0001	100.00	0.01	1.450	0.002	0.0100	0.0001
RV	0.25	0.2500	0.0001	250.00	0.05	3.620	0.002	0.0250	0.0001
RV	0.5	0.5000	0.0001	500.00	0.05	7.200	0.002	0.0500	0.0001
ARV	1.0	1.0000	0.0001	1000.0	0.1	14.500	0.002	0.1000	0.0001
ARV	2.5	2.5000	0.0005	2500.0	0.5	36.200	0.005	0.2500	0.0001
ARV	5	5.0000	0.0005	5000.0	0.5	72.500	0.010	0.5000	0.0001
ARV	10	10.000	0.001	10000	1	145.00	0.02	1.0000	0.0001
RV	20	20.000	0.002	20000	2	290.00	0.02	20000	0.0002
R	50	50.000	0.005	50000	5	725.00	0.10	5.0000	0.0005
R	100	100.00	0.01	99900	10	1450.0	0.2	10.000	0.001
R	250	250.00	0.02	99900	20	3620.0	0.5	25.000	0.002
R	350	350.00	0.05	99900	50	5000.0	0.5	35.000	0.005
R	500	500.00	0.05	99900	50	7250.0	0.2	50.000	0.005
R	700	700.00	0.05	99900	50	10000	0.2	70.000	0.005
R	1000	1000.0	0.1	99000	100	14500	2	100.00	0.01
R	1500	1500.0	0.2	99000	200	21700	5	150.00	0.02
R	2000	2000.0	0.2	99000	200	29000	5	200.00	0.02
R	2500	2500.0	0.2	99000	200	36250	5	250.00	0.02
R	3000	3000.0	0.2	99000	200	43500	5	300.00	0.02

[(1)] A = Absolute R = Relative V = Vacuum

Dimensions (mm) standard version



Dimensions (mm) built-in version

Purchasing codes

TLDMM2	CERTIFICATE	PRESSURE				OPTION	OPTION	OPTION
	CERT	0B1	5B	250B	1KB5	S RS232C	W Wireless	D Data Logger
		0B2	10B	350B	2KB			
		0B5	20B	500B	2KB5			
		1B	50B	700B	3KB			
		2B5	100B	1KB				

Example: **TLDMM2 CERT 50B S**

TDMMV	Relative VACUUM version

ACCREDIA calibration in ABSOLUTE mode CAN NOT be performed by the AEP Laboratory.
ACCREDIA calibration of 2500 bar and 3000 bar gauges CAN NOT be performed by the AEP Laboratory.
***ON REQUEST**, it can be commissioned to other accredited calibration Laboratories.*