

digital pressure gauge with a datalogger

DMS

CRESSTO

- **measuring of pressure differences**
- **easy operation**
- **big graphic display with backlight**
- **17 pressure units**
- **fn. Speed, Flow, Min/Max, Leakage test**
- **fn. Hold, Damp, Zero**
- **fn. 10 times extended sensitivity**
- **datalogger up to 250k records**
- **USB communication**
- **2xAA accumulators, function recharging**



The digital pressure gauge series DMS is a battery portable service and workshop device determined for a wide use in industry, power engineering, medical engineering, air-conditioning, laboratories, etc. It is also suitable e.g. for the 4Pa test. Its merits are measuring accuracy, wide pressure range, a possibility of a ten-time extension of the range. Easy operation, small dimensions, low consumption, a big amount of additional functions. USB communication through a standard micro USB cable.

The manual multifunctional pressure gauge DMS is mounted into an ergonomically shaped case made of quality ABS plastic, rubber coated on the sides. A large graphic display with white backlights, covered with a keyboard with 9 control buttons, dominates the front part. For pressure ranges bigger than 100 Pa, it is allowed to measure gas and also liquid non-aggressive media, but gauges for ranges smaller than 100 Pa allow measuring only non-aggressive gases. Pressure connection is realized by means of quality metal inlet with the outer diameter 5mm. It is possible to connect quick couplers DN 2.5 to these inlets or directly slide the measuring hoses.

The digital value about the measured pressure is displayed on a 4-figure main "LCD" display with the resolution 0.1% of the nominal range and in user selected units. A positive value corresponds with overpressure, a negative value with underpressure, with differential measuring a positive value corresponds with higher pressure on the positive pressure input. It is possible to extend the sensitivity 10 times for displaying the main pressure value. The auxiliary display can show data from the selected functions:

- Temperature
- Min/Max
- Leakage test (e.g. 4Pa test)
- Speed / flow
- Datalogger

Unless otherwise stated, the data on the auxiliary display are displayed

in the same units as the main pressure data. A help-line is situated in the bottom part of the display which informs about the functions of the multifunctional buttons "arrows". The date, time and battery indicator are situated in the upper part of the display.

The buttons "arrows" have different uses, the help-line informs about their current functions. These are e.g. functions DAMP – switching on/off of the damping, or HOLD – holding the main value on the display, etc. The OK button serves for confirming the selection and values while browsing the menu.

The upper line of buttons has fixed functions:

- Light – switching on/off the display backlight
- Menu – entering/leaving the menu, the back function while browsing the menu
- Zero – holding the button for 1/4s zeros the measured value
- On/Off – switching on/off the gauge

The handheld pressure gauge DMS is power supplied by two AA accumulators or batteries. The selection of the battery type is always displayed after the first gauge switching on after the battery replacement. The gauge also has an integrated function of the accumulator recharge through a micro USB cable. The same micro USB cable serves for a data communication between the gauge and a PC with the operating software.

A datalogger for recording the data is not a part of the basic type of the DMS gauge and is fitted into the device as an additional accessory.

Its advantages are:

- A big FLASH memory for up to 200 thousand records
- A range of optional period 1s – 24 hours
- Records to the datalogger in the stand-by mode which considerably increases the battery life
- A record of not only the main pressure value, but also temperature and values from selected additional functions

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Technical parameters:

Type	DMS 01	DMS 1	DMS 10	DMS 100	DMS 1000
Nominal pressure range	100 Pa	1 kPa	10 kPa	100 kPa	1000 kPa
Measuring pressure range	± 200 Pa	± 2 kPa	± 20 kPa	-100÷200 kPa	-100÷1000 kPa
Max. overpressure	1 kPa	10 kPa	40 kPa	200 kPa	2000 kPa
Burst pressure	20 kPa	100 kPa	100 kPa	300 kPa	2000 kPa
Error	max.1%	max.0,5%	max.0,5%	max.0,5%	max.0,5%
Type of press. measure.	Differential	Differential	Differential	Differential, Absolute	Relative
Operating temp. range	0 ÷ 50°C				
Storage temperature	-5 ÷ 55°C				
Protection	IP 41				
Supply	2x AA accumulator or battery				
Current consumptin	with backlight 50mA, without backlight 10mA				
Max. charging current	450mA				
Outer dimensions	155 x 96 x 28 mm				
Weight (with batteries)	285g				

CE EMC – accords to ČSN EN 61326-1

At the customer's wish it is possible to secure a metrological verification of the transmitters at an accredited Calibration Service Centre.

Operating instructions:

Before the gauge is connected to the pressure circuit, it is necessary to secure that the pressure range of the device corresponds with the measured pressure. With the differential gauge, the user must secure that the measuring membrane is not unilaterally overloaded by pressure that is higher than the permitted non-destructive pressure, corresponding with the nominal range.

It is also necessary to check whether the measured media does not attack the used materials, which are silicon, duralumin, brass, polyetherimid plastic and fluorosilicon sealing. Air, nitrogen, water, ethanol, oils, etc. meet this requirement.

Find the detailed instructions on www.cressto.cz.

Warning:

If the measured media is water, prevent possible freezing its residues in the measuring system of the gauge!!! Otherwise there is a danger of destruction of the membrane, especially in case of lower pressure ranges.

Pay attention to the choice of battery cells. If you put in non-rechargeable or Ni-Mh accumulators, the batteries or the DMS gauge might be damaged while being recharged.

The way of ordering:

It is necessary to state in the order the type of the gauge, the pressure range, the way of pressure measuring, the datalogger, or the requirement of metrological verification. It is also possible to order additionally a plastic case, quick couplers, a pressure PA hose or a low-pressure PVC or silicon hose.

Legend:

DMS		1
type of press. measurement		
differential	D R A	
relative		
absolute		
pressure range		
100 Pa		01
1 kPa		1
10kPa		10
100 kPa		100
1000 kPa		1000
datalogger		L

Service:

The producer provides the full warranty and also post-warranty service of these devices. The common maintenance is based on periodical check of batteries or accumulators. It is recommended to keep the gauge clean, avoid exposing it to high temperatures, excessive dampness and mechanical damage. While recharging, follow the instructions of the accumulator producers.

Remark:

This basic type of the device is not determined for measuring in medium with the danger of explosion of flammable steams and gases! Cressto Ltd. produces devices DMU/JB for these applications. If interested, contact us on www.cressto.cz.