



## DM01-500

### Battery Powered Precision Digital Gauge

Stainless Steel Sensor

class 0.05

#### Nominal pressure

from 0 ... 100 mbar up to 0 ... 400 bar

#### Special characteristics

- ▶ data logger
- ▶ graphic display
- ▶ stainless steel housing Ø 100 mm
- ▶ communication interface USB 2.0

#### Optional

- ▶ accredited calibration certificate
- ▶ IS-version zone 0/1
- ▶ software incl. USB converter

#### Functions

- ▶ zero point calibration
- ▶ data logger
- ▶ turn off automatic
- ▶ configurable switch-off automatic
- ▶ background illumination

The digital pressure gauges DM01-500 is a precision devices fulfilling highest demands. That was developed especially for the process monitoring and calibration.

Outstanding measuring qualities and an intuitive operation characterise the DM01-500. The battery-powered digital pressure gauge can be used e.g. for controlling pressure courses or calibrating pressure transmitters.

The integrated data logger is able to record pressure and temperature values linearly and cyclically which can be analysed with software DAQ.

#### Preferred areas of use are



Calibrating techniques



Laboratory applications

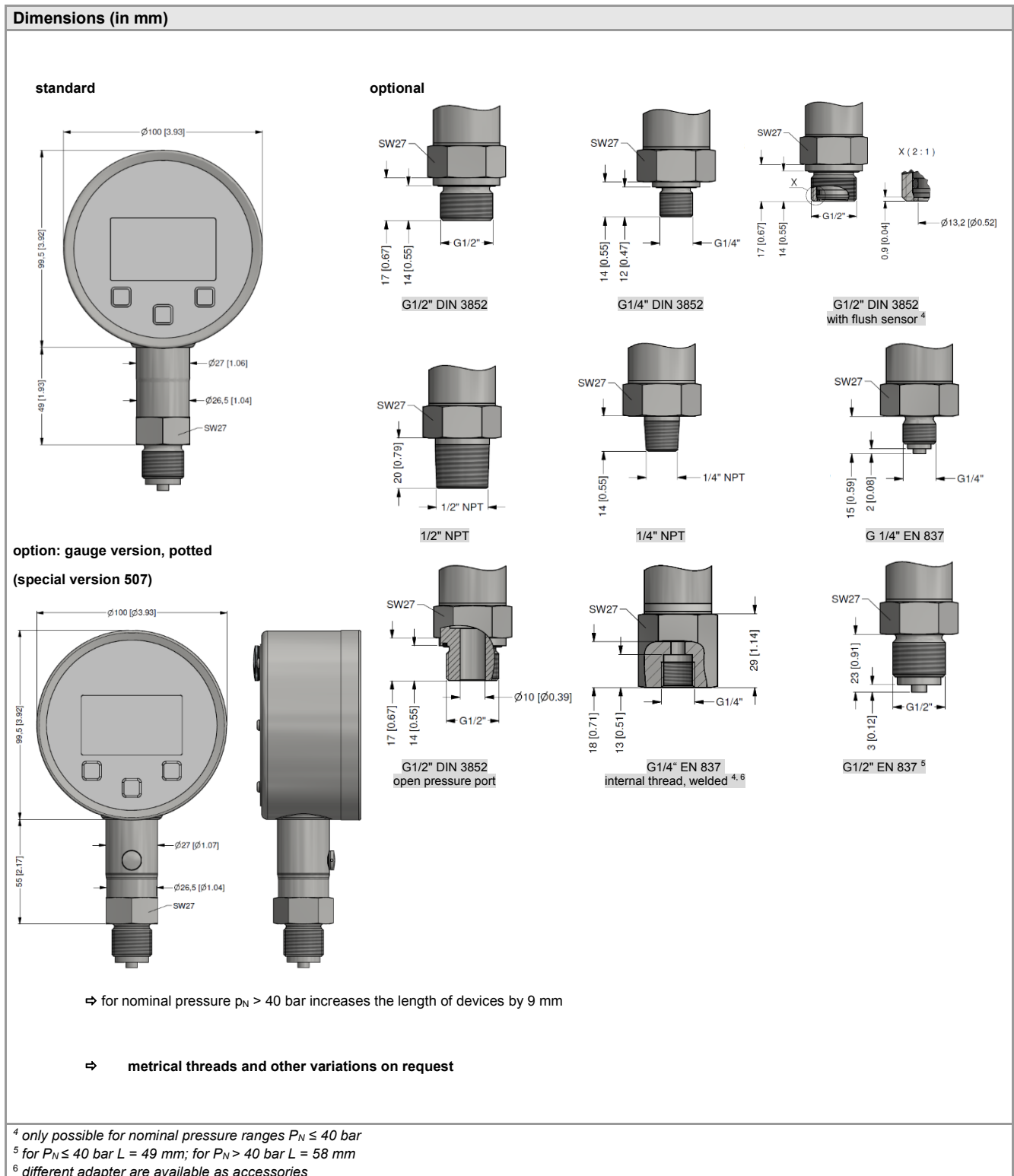


Plant and machine engineering



Input pressure												
Nominal pressure gauge [bar]	-1...0	0.10	0.16	0.25	0.40	0.60	1	1.6	2.5	4	6	
Nominal pressure abs. [bar]	-	-	-	-	0.40	0.60	1	1.6	2.5	4	6	
Overpressure [bar]	5	1	1	1	2	5	5	10	10	17.5	35	
Burst pressure $\geq$ [bar]	7.5	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50	
Nominal pressure gauge / abs. [bar]	10	16	25	40	60	100	160	250	400			
Overpressure [bar]	35	80	80	105	210	600	600	1000	1000			
Burst pressure $\geq$ [bar]	50	120	120	210	420	1000	1000	1250	1250			
Vacuum resistance	P <sub>N</sub> $\geq$ 1 bar: unlimited vacuum resistant; P <sub>N</sub> < 1 bar: on request											

Performance	
Accuracy <sup>1</sup>	standard for P <sub>N</sub> $\geq$ 0.4 bar: $\leq \pm 0.05$ % BFSL and for P <sub>N</sub> < 0.4 bar: $\leq \pm 0.125$ % BFSL
Long term stability	$\leq \pm 0.1$ % span / year at reference conditions
Measuring rate / Display	1 or 2 measurements per second
<sup>1</sup> accuracy according to EN IEC 62828-2- minimum value setting (non-linearity, hysteresis, repeatability)	
Thermal effects (Offset and Span)	
Temperature error	included in the accuracy information (is valid for compensated range 0 ... 50 °C)
Permissible temperatures	
Permissible temperatures	medium: -10 ... 55 °C environment: -10 ... 55 °C storage: -20 ... 70 °C
Materials	
Pressure port / housing	stainless steel 1.4404 (316L)
Display housing	stainless steel 1.4301 (304)
Seals (media wetted)	FKM, without (welded version)
Diaphragm	Stainless steel 1.4435 (316L)
Media wetted parts	pressure port, seal, diaphragm
Explosion protection	
AX6-DM01-500	IBExU12ATEX1107 X variant with standard front foil for zone 1: II 2G Ex ia IIB T4 Gb variant with conductive front foil for zone 0: II 1G Ex ia IIC T4 Ga
Miscellaneous	
Display	graphic LC display: visible area 55 x 46 mm; (resolution 128x64) figure height 5.5 mm (displaying of pressure value) measured value display: max. 7 digits, depending on pressure range temperature display, time, 100-segment-bargraph, potential input value background illumination: illumination period and intensity adjustable
Temperature display range	accuracy: $\pm 2$ K resolution: 0.1 K display: -10 ... 55 °C
Adjustable units pressure and temperature	[mbar], [bar], [psi], [mmHg], [cmHg], [inHg], [kPa], [MPa], [hPa], [mmH <sub>2</sub> O], [mH <sub>2</sub> O], [inH <sub>2</sub> O], [kg/cm <sup>2</sup> ], [°C], [°F], [K]
Data logger	modes: single, cyclic, linear, off recording pressure values and sensor temperature measuring value interval adjustable (hrs, min, sec, 20 ms, daily at a defined time) measurement rate adjustable (1/s, 2/s or 50/s only with 20 ms measured value interval) max. 600798 values
Current consumption	without background illumination: approx. 1.3 mA with background illumination: approx. 16 mA (depending on adjusted intensity) standby mode: approx. 1.2 $\mu$ A
Supply	3x 1.5 V: Duracell Plus battery, DUR087033, AA (LR6)
Ingress protection	IP 67
Mounting position <sup>2</sup>	any
Weight	approx. 680 g
A / D-converter resolution	16 bit (module)
Battery life	standard use: > 2,000 h      standby mode: at least 5 years (with measurement rate 1/s and 2/s)
Operational life	100 million load cycles
CE-conformity	EMC directive: 2004/108/EC pressure equipment directive: 97/23/EC (Module A) <sup>3</sup> electromagnetic compatibility: according to EN 61326
<sup>2</sup> Pressure transmitters are calibrated in a vertical position with the pressure connection down. If this position is changed on installation there can be slight deviations in the zero point for pressure ranges P <sub>N</sub> $\leq$ 1 bar.	
<sup>3</sup> This directive is only valid for devices with maximum permissible overpressure > 200 bar.	



The manufacturer provides the EU declaration of conformity.  
 Calibration - All production undergoes output control, which is performed by comparison with standards. The traceability of standards and working gauges is ensured in accordance with Act No. 505/1990, as amended, on metrology.  
 The manufacturer offers the possibility to supply sensors calibrated in the calibration laboratory of BD SENSORS, accredited according to ČSN EN ISO / IEC 17025: 2018.

**Accessories are not in scope of supply and have to be ordered separately!**

**Software DAQ** (Communication, Configuration, Measurement display, Protocol creation)

Optionally software DAQ and an interface cable can be ordered. The software is also available for download on our home page.

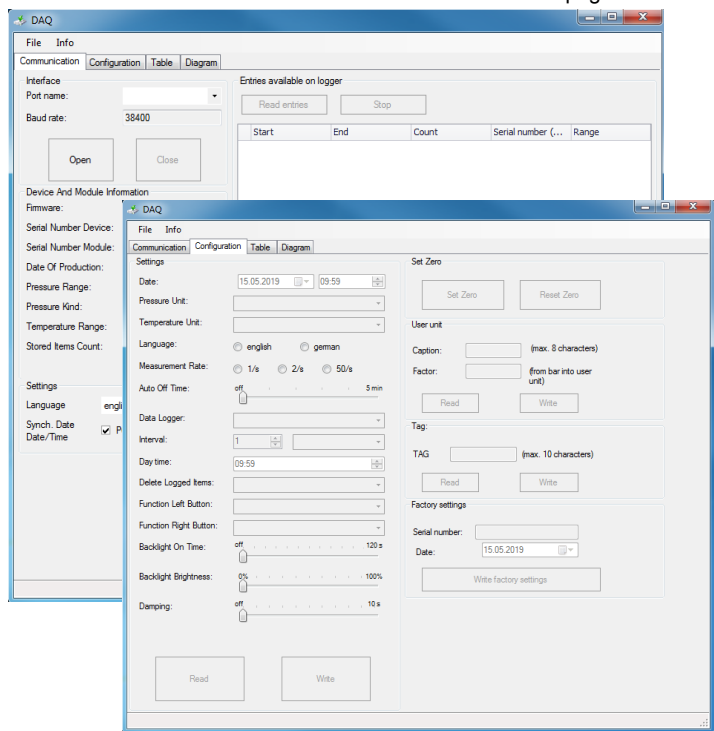
**Software:**

- display of device information (serial number, pressure and temperature range, ...)
- configuration area for all parameters
- download area for recorded data:
  - date
  - pressure measurement
  - temperature measurement
- protected data acquisition
- measured value representation in tabular or graphic form
- free scaling of the diagram
- creation of measurement / test report as a PDF file
- data export



Interface cable USB (type A) to mini connector (3.5 mm) with integrated USB converter  
l: 1.7 m

Ordering number: ZUSBCD01



**Adapter for pressure port G 1/4" EN 837 internal thread, welded**

<p>G 1/4" EN 837</p> <p>Ordering number: Z5010205</p>		<p>Adapter for pressure sensor module with pressure port G 1/4" EN 837 internal thread, welded</p> <p>external thread: G 1/4" EN 837 external thread: G 1/4" EN 837</p>
<p>G 1/2" EN 837</p> <p>Ordering number: Z5010205</p>		<p>Adapter for pressure sensor module with pressure port G 1/4" EN 837 internal thread, welded</p> <p>external thread: G 1/4" EN 837 external thread: G 1/2" EN 837</p>
<p>1/4" NPT</p> <p>Ordering number: Z5010205</p>		<p>Adapter for pressure sensor module with pressure port G 1/4" EN 837 internal thread, welded</p> <p>external thread: G 1/4" EN 837 external thread: 1/4" NPT</p>
<p>1/2" NPT</p> <p>Ordering number: Z5010205</p>		<p>Adapter for pressure sensor module with pressure port G 1/4" EN 837 internal thread, welded</p> <p>external thread: G 1/4" EN 837 external thread: 1/2" NPT</p>

\* others on request  
Additional accessories on request

© 2019 BD SENSORS s.r.o. – The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials.



Special version			
Standard	5	0	0
Gauge version, potted	5	0	7
Customer	9	9	9

0,-...without additional charge

On request...in accordance with the producer

Surcharges for calibration are not subject to any discounts. Subject to change. □

This document contains the specification for ordering the product;

detailed technical parameters of the product and its possible variants are given in the data sheet.

BD SENSORS reserves the right to change sensor specifications without further notice.

1 different connection versions with optional adapters possible (see accessories)



BD SENSORS s.r.o.  
Hradištská 817  
CZ – 687 08 Buchlovice

Tel.: +420 572 411 011  
Fax: +420 572 411 497

[www.bdsensors.cz](http://www.bdsensors.cz)  
[info@bdsensors.cz](mailto:info@bdsensors.cz)

The company BD SENSORS s.r.o. is certified by TÜV SÜD Czech according to the standard ISO 9001.

