



IDM01-500

Battery Powered Precision Digital Gauge

Stainless Steel Sensor

class 0.1

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
- ▶ backlight and much more

The digital pressure gauges IDM01-500 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 IDM01-500. 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

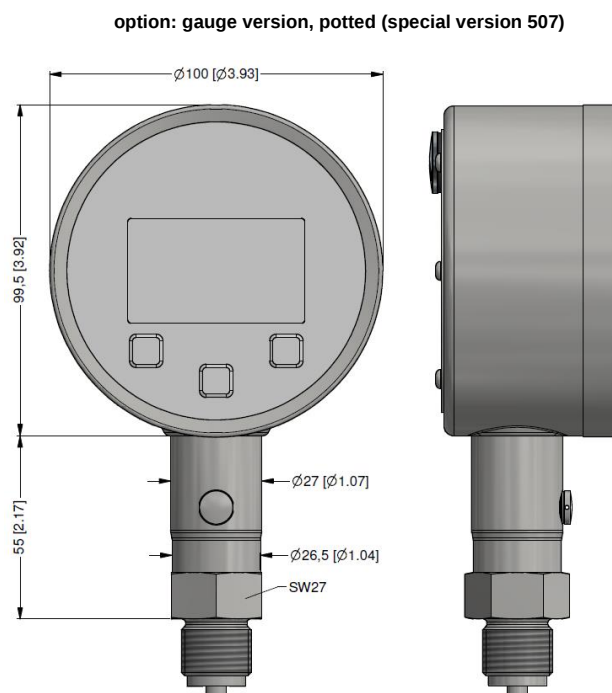
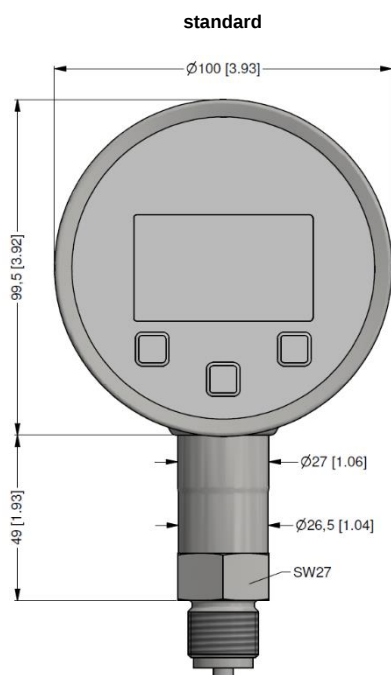


Plant and machine engineering



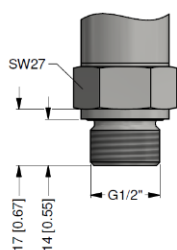
Input pressure											
Nominal pressure gauge [bar]	-1...0	0.10	0.16	0.25	0.40	0.60	1	1.6	2.5	4	6
Nominal pressure absolute [bar]	-	-	-	-	0.40	0.60	1	1.6	2.5	4	6
Overpressure [bar]	5	1	1	1	2	5	5	10	10	17.5	35
Burst pressure ≥ [bar]	7.5	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50
Nominal pressure gauge / abs. [bar]	10	16	25	40	60	100	160	250	400		
Overpressure [bar]	35	80	80	105	210	600	600	1000	1000		
Burst pressure ≥ [bar]	50	120	120	210	420	1000	1000	1250	1250		
Vacuum resistance	p _N ≥ 1 bar: unlimited vacuum resistant; p _N < 1 bar: on request										
Performance											
Accuracy ¹	nominal pressure p _N ≥ 0.4 bar: ≤ ± 0.1 % FSO nominal pressure p _N < 0.4 bar: ≤ ± 0.25 % FSO										
Long term stability	≤ ± 0.1 % FSO / year at reference conditions										
Measuring rate / display	1 or 2 measurements per second										
¹ accuracy according to IEC 61298-2 – 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											
Medium / 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											
AX16-IDM01-500	IBExU12ATEX1108 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: ± 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 ₂ O], [mH ₂ O], [inH ₂ O], [kg/cm ²], [°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 µA										
Supply	3x 1.5 V: Duracell Plus battery, DUR087033, AA (LR6)										
Ingress protection	IP 66										
Installation position ²	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) ³ electromagnetic compatibility: according to EN 61326										
² 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 _N ≤ 1 bar.											
³ This directive is only valid for devices with maximum permissible overpressure > 200 bar											

Dimensions (mm / in)

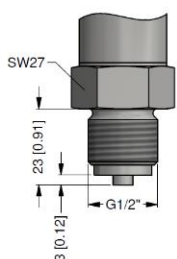


for nominal pressure $p_N > 40$ bar increases the length of devices by 9 mm

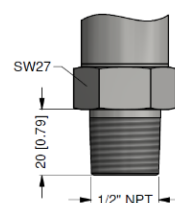
Mechanical connections (dimensions mm / in)



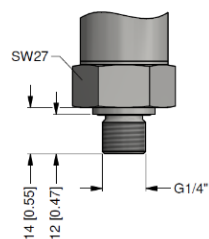
G1/2" DIN 3852



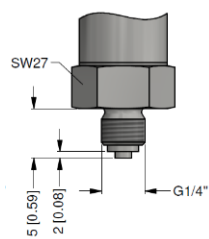
G1/2" EN 837



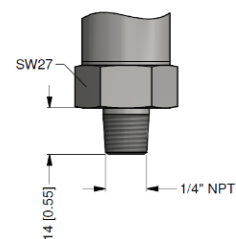
1/2" NPT



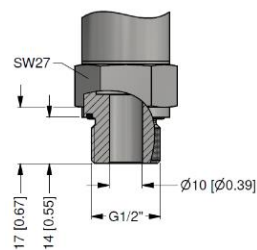
G1/4" DIN 3852



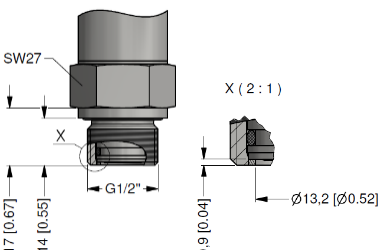
G1/4" EN 837



1/4" NPT



G1/2" open port DIN 3852
($p_N \leq 40$ bar)



G1/2" flush DIN 3852
($p_N \leq 40$ bar)

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

Software DAQ (communication, configuration, measurement display, protocol creation)

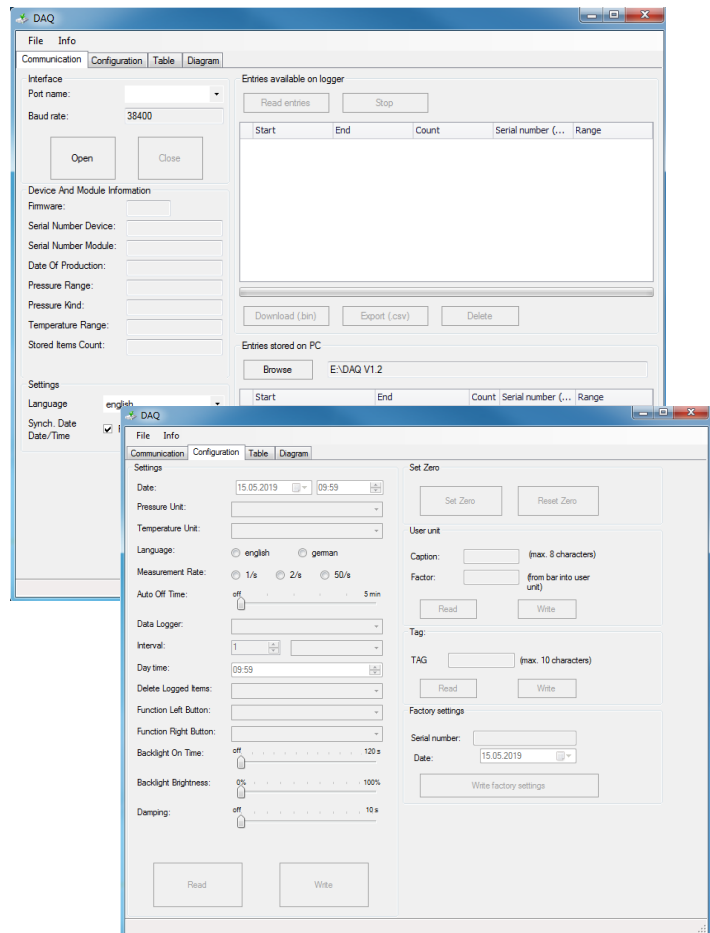
Optionally software DAQ and an interface cable can be ordered. The software is also available for download on our homepage.

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 converter
l: 1.7 m



Ordering number: ZUSBCD01

Ordering code IDM01-500

IDM01-500

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Pressure									
	gauge		M	0	K				
	absolute	¹	M	0	L				
Input									
	[bar]								
	0.10	¹		1	0	0	0		
	0.16	¹		1	6	0	0		
	0.25	¹		2	5	0	0		
	0.40			4	0	0	0		
	0.60			6	0	0	0		
	1.0			1	0	0	1		
	1.6			1	6	0	1		
	2.5			2	5	0	1		
	4.0			4	0	0	1		
	6.0			6	0	0	1		
	10			1	0	0	2		
	16			1	6	0	2		
	25			2	5	0	2		
	40			4	0	0	2		
	60			6	0	0	2		
	100			1	0	0	3		
	160			1	6	0	3		
	250			2	5	0	3		
	400			4	0	0	3		
	-1 ... 0			X	1	0	2		
	customer			9	9	9	9		consult
Version									
	standard version (without explosion protection)						0		
	IS-version						E		
Accuracy									
	standard for $p_N \geq 0.4$ bar	0.1 % FSO					1		
	standard for $p_N < 0.4$ bar	0.25 % FSO					2		
	customer						9		consult
Mechanical connection									
	G1/2" DIN 3852						1	0	0
	G1/2" EN 837						2	0	0
	G1/4" DIN 3852						3	0	0
	G1/4" EN 837						4	0	0
	G1/2" DIN 3852						F	0	0
	with flush sensor	²							consult
	G1/2" DIN 3852 open pressure port	²					H	0	0
	1/2" NPT						N	0	0
	1/4" NPT						N	4	0
	customer						9	9	9
									consult
Seal									
	FKM						1		
	customer						9		consult
Special version									
	standard						5	0	0
	gauge version, potted						5	0	7
	customer						9	9	9
									consult

Accessories									
	USB converter (incl. software DAQ)								ZUSBCD01

¹ absolute pressure possible from 0.4 bar

² only possible for $p_N \leq 40$ bar