



IDM01-500 HD

Battery Powered Precision Digital Gauge

for High Pressure

Thinfilmm Sensor

class 0.25

Nominal pressure

from 0 ... 1000 bar up to 0 ... 2200 bar

Special characteristics

- ▶ display and pressure sensor module fixed permanently or detachable
- ▶ pressure sensor welded
- ▶ data logger
- ▶ graphic display
- ▶ stainless steel housing Ø 100 mm
- ▶ communication interface USB 2.0

Optional

- ▶ accredited calibration certificate
- ▶ IS-version zone 1 or zone 0
- ▶ software incl. USB converter
- ▶ service case with accessories

Functions

- ▶ zero point calibration
- ▶ data logger
- ▶ turn off automatic
- ▶ configurable switch-off automatic
- ▶ backlight and much more

The digital pressure IDM01-500 HD is a precision device fulfilling highest demands. The device is developed especially for the process monitoring and calibration.

Outstanding measuring qualities and an intuitive operation characterise the IDM01-500 HD. The battery-powered digital pressure gauge can be used e. g. for controlling pressure courses or calibrating pressure transmitters. The detachable version offers variable application of the pressure sensor modules.

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



IDM01-500 HD

Precision Digital Gauge (fixed permanently or detachable)

Technical Data

Input pressure					
Nominal pressure gauge	[bar]	1000	1600	2000	2200
Overpressure	[bar]	2000	2800	2800	2800
Burst pressure ≥	[bar]	4000	6000	6000	6000
Performance					
Accuracy ¹		≤ ± 0.25 % FSO			
Long term stability		≤ ± 0.1 % FSO / year at reference conditions			
Measuring rate / Display		1, 2 or 50 measurements per second			
¹ accuracy according to IEC 61298-2 – minimum value setting (non-linearity, hysteresis, repeatability) - at room temperature 20°C					
Thermal effects (offset and span)					
TC, average	[% FSO / 10 K]	≤ ± 0.3 % (is valid for compensated range 0 ... 50 °C)			
Permissible temperatures					
Medium / environment		-10 ... 55 °C			
Storage		-20 ... 70 °C			
Materials					
Pressure port		stainless steel 1.4542 (17-4 PH)			
Housing (pressure port)		stainless steel 1.4404 (316L)			
Display housing		stainless steel 1.4301 (304)			
Seals		without (welded)			
Diaphragm		stainless steel 1.4542 (17-4 PH)			
Media wetted parts		pressure port, diaphragm			
Explosion protection					
AX16-IDM01-500 HD (display)		IBExU12ATEX1108 X standard variant for zone 1: II 2G Ex ia IIC/IIB T4 Gb variant with conductive front foil for zone 0: II 1G Ex ia IIC/IIB T4 Ga			
IDM01-500 HD (sensor module)		IBExU10ATEX1026 U for detachable version			
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			
Units for pressure (adjustable)		[mbar], [bar], [psi], [mmHg], [cmHg], [inHg], [kPa], [MPa], [hPa], [mmH ₂ O], [mH ₂ O], [inH ₂ O], [kg/cm²]			
Units for temperature (adjustable)		[°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		any			
Weight		approx. 680 g			
A/D-converter resolution		16 bit (pressure sensor module)			
Battery life		standard use: > 2.000 h standby mode: at least 5 years (with measurement rate 1/s and 2/s)			
Operational life		10 million load cycles			
CE-conformity		EMC directive: 2014/30/EU, pressure equipment directive: 2014/68/EU (Module A) electromagnetic compatibility: according to EN 6132			

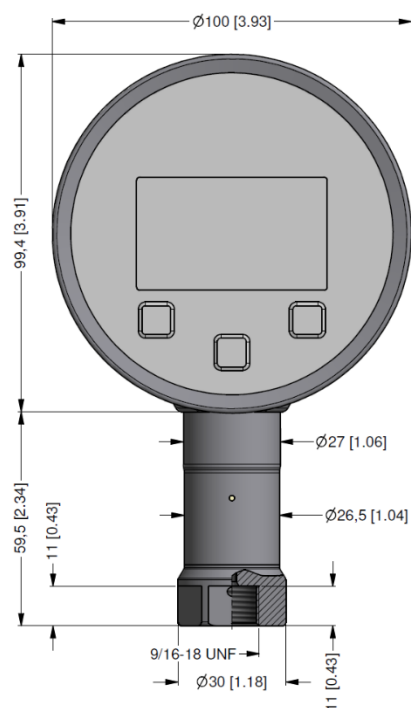
IDM01-500 HD

Precision Digital Gauge (fixed permanently or detachable)

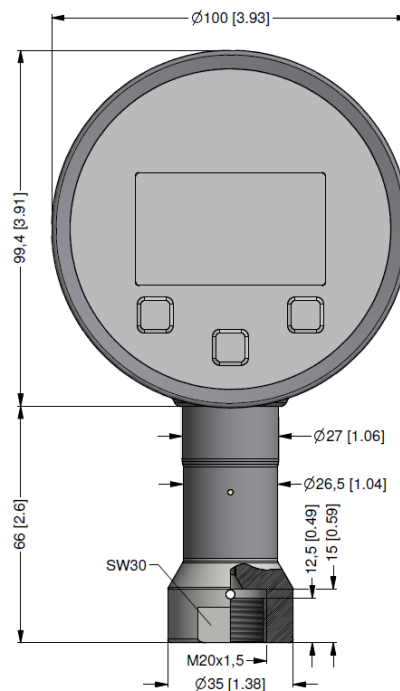
Technical Data

Dimensions (mm / in)

IDM01-500 HD (display and pressure sensor module fixed permanently)

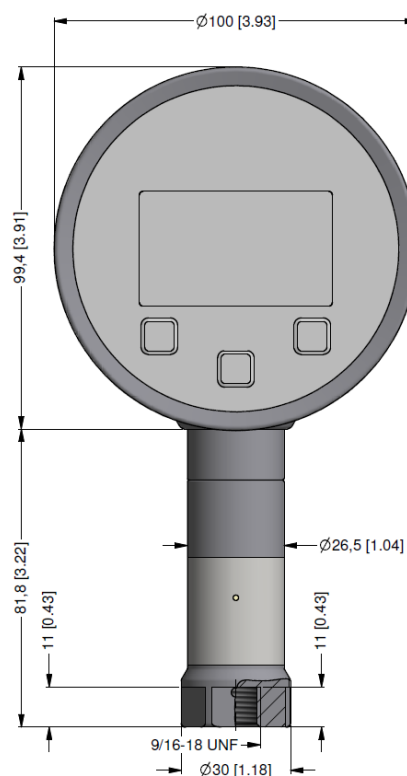


9/16 UNF internal thread

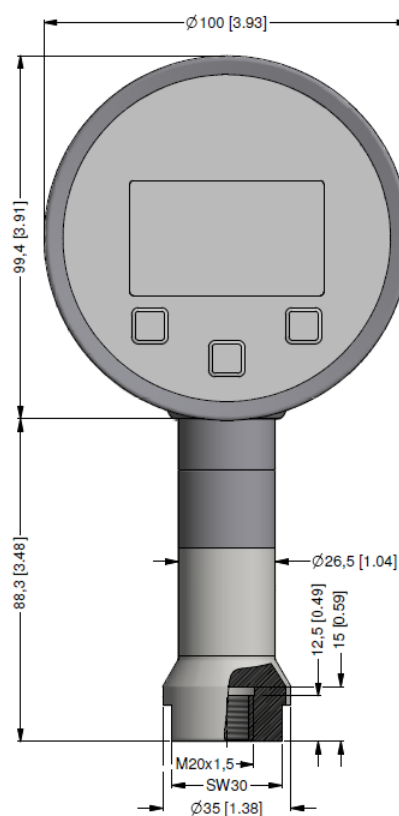


M20x1.5 internal thread

IDM01-500 HD (display and pressure sensor module detachable)



9/16 UNF internal thread



M20x1.5 internal thread

⇒ other threads and variations on request

IDM01-500 HD

Precision Digital Gauge (fixed permanently or detachable)

Accessories

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.

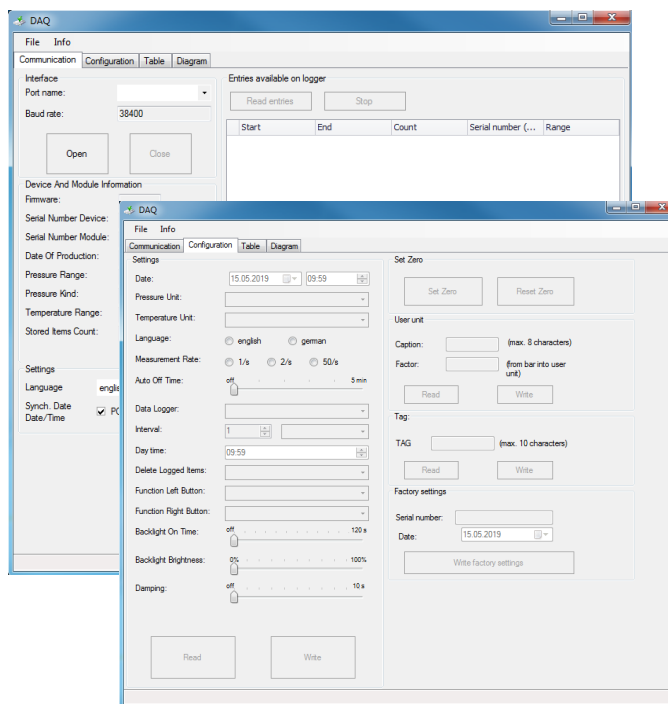
Software:

- 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 USB converter
l: 1.7 m

Ordering number: ZUSBCD01



Equipment

Hard-shell service case
without accessories



hard shell case

dimension in mm (L x W x H):
432 x 363 x 138

Service_Case_IDM01

Additional batteries
(only in combination with service case)



for IS-version use only:
3 x 1.5 V / AA Duracell Power Plus

Protective cap



rubber protection

Ordering number: Z1002648

additional accessories on request

Ordering code IDM01-500HD (fixed permanently)

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[illegible]

Ordering code IDM01-500HD (detachable)

1. Position: Digital Display for Precision Digital Pressure Gauge DM 01-500HD

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Digital pressure gauge IDM01-500HD detachable			
with communication interface	A	2	E
IS (zone 1) with communication interface	A	2	E
IS (zone 0) with communication interface	A	2	G
			consult

2. Position: Transmitter for Precision Digital Pressure Gauge IDM01-500HD detachable

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Pressure		M	0	K															
Input	gauge [bar]																		
	1000				1	0	0	4											
	1600				1	6	0	4											
	2000				2	0	0	4											
	2200				2	2	0	4											
	customer				9	9	9	9											consult
Version																			
	standard version (without explosion protection)							0											
	IS-version							E											
Accuracy																			
	0.25 % FSO							2											
	customer							9											consult
Mechanical connection																			
	9/16 UNF internal thread							V	0	0									
	M20x1.5 internal thread							D	2	8									
	customer							9	9	9									consult
Seal																			
	without (welded version)								2										
	customer								9										consult
Special version																			
	display and pressure port detachable												5	0	1				
	customer												9	9	9				consult
Accessories																			
	USB converter (incl. software DAQ)												ZUSBCD01						

ordering example:

device IDM01-500HD detachable:

position 1: DM 01-500HD-A21 (only display)

position 2: MOK-1004-2-V00-2-501 (only transmitter)