



ETd 04

Battery Powered Precision Digital Gauge

Stainless Steel Sensor

class 0.05

Nominal pressure

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

Special characteristics

- ▶ modular sensor concept
- ▶ data logger
- ▶ graphic display
- ▶ stainless steel housing \varnothing 100 mm
- ▶ communication interface USB 2.0

Optional

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

Functions

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

The digital pressure gauge ETd04 is a precision device fulfilling highest demands. It was conceived especially for the process monitoring and calibration. The advantage: With the digital display ETd 04, different pressure transmitters can be used for various measurement ranges.

The pressure transmitter can be selected and easily exchanged for the required pressure range on site – without tools or parameter setting.

Outstanding measuring qualities, an intuitive operation, as well as an innovative, modular sensor concept characterise the ETd 04. 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|LOG.

Preferred areas of use are



Calibrating techniques



Laboratory applications



Plant and Machine Engineering

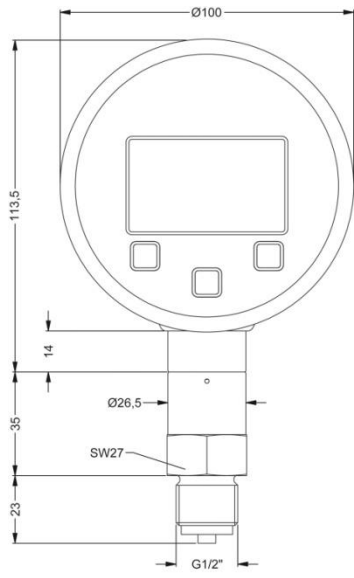


Type: ETd 04

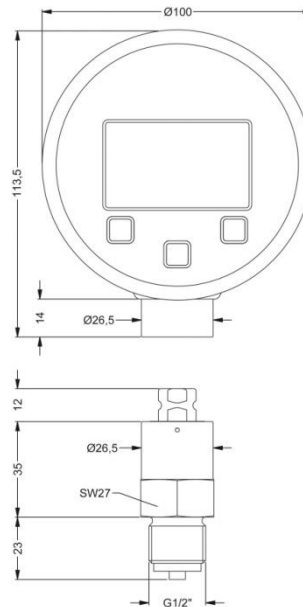
Input pressure												
Nominal pressure gauge	[bar]	-1...0	0.10	0.16	0.25	0.40	0.60	1	1.6	2.5	4	6
Nominal pressure abs.	[bar]	-	-	-	-	0.40	0.60	1	1.6	2.5	4	6
Overpressure	[bar]	5	1	1	1	2	5	5	10	10	17.5	35
Burst pressure \geq	[bar]	7.5	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50
Nominal pressure gauge / abs.	[bar]	[bar]	10	16	25	40	60	100	160	250	400	
Overpressure	[bar]	[bar]	35	80	80	105	210	600	600	1000	1000	
Burst pressure \geq	[bar]	[bar]	50	120	120	210	420	1000	1000	1250	1250	
Vacuum resistance		P _N \geq 1 bar: unlimited vacuum resistant; P _N < 1 bar: on request										
Performance												
Accuracy ¹	standard for P _N \geq 0.4 bar: $\leq \pm 0.05$ % BFSL standard for P _N < 0.4 bar: $\leq \pm 0.125$ % BFSL											
Long term stability	$\leq \pm 0.1$ % FSO / year at reference conditions											
Measuring rate / Display	1 or 2 measurements per second											
¹ accuracy according to IEC 60770 – minimum value setting (non-linearity, hysteresis, repeatability)												
Thermal effects (Offset and Span)												
Temperature error	for nominal pressure ranges P _N \leq 160 bar: included in the accuracy information for nominal pressure ranges P _N > 160 bar: tolerance band $\leq \pm 0.75$ % FSO (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											
Diaphragm	Stainless steel 1.4435 (316L)											
Media wetted parts	pressure port, seal, diaphragm											
Explosion protection												
AX16-DM01	IBExU12ATEX1108 X zone 1: II 2G Ex ia IIC T4 Gb											
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	[bar], [mbar], [psi], [inHg], [cmHg], [mmHg], [hPa], [kPa], [Mpa], [mH ₂ O], [mmH ₂ O], [inH ₂ O], [kg/cm ²]											
Data logger	recording pressure values and sensor temperature (min, hrs, daily at a defined time) max. 8500 values modes: cyclic, linear measuring value interval adjustable											
Current consumption	without background illumination: approx. 1,3 mA with background illumination: approx. 16 mA (depending on adjusted intensity) standby mode: approx. 1,2 μ A											
Supply	3x 1,5 V: Duracell Plus battery, DUR087033, AA (LR6)											
Ingress protection	IP 67											
Mounting position ²	any											
Weight	approx. 680 g											
A / D-converter resolution	16 bit											
Battery life	standard use: > 2.000 h standby mode: at least 5 years											
Load cycles	> 100 x 10 ⁶											
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 \leq 1 bar.												
³ This directive is only valid for devices with maximum permissible overpressure > 200 bar.												

Dimensions (in mm)

standard

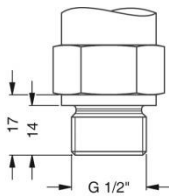


G1/2" EN 837

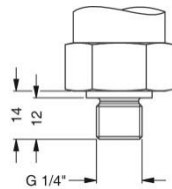


G1/2" EN 837
(pressure transmitter and display separated)

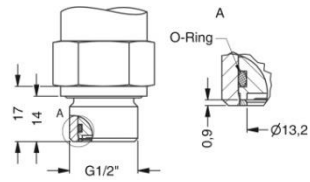
option



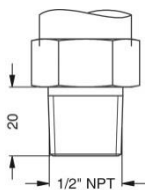
G1/2" DIN 3852



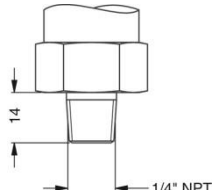
G1/4" DIN 3852



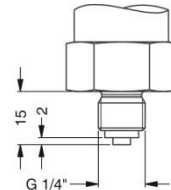
G1/2" DIN 3852
with flush sensor⁴



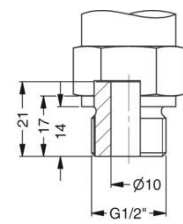
1/2" NPT



1/4" NPT



G 1/4" EN 837



G1/2" DIN 3852 open pressure port

⇒ metrical threads and other variations on request

⁴ only possible for nominal pressure ranges $P_N \leq 40$ bar

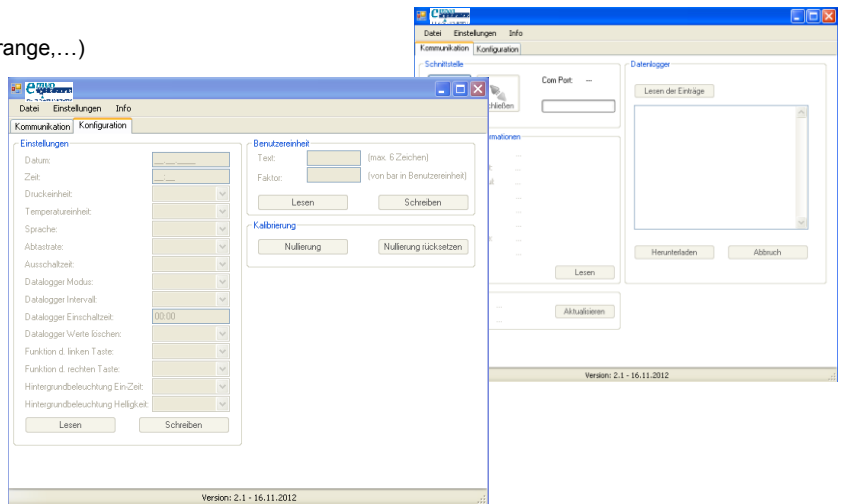
Accessories are not in scope of supply and have to be ordered separately!

ETd 04|LOG software

Optionally software ETd 04|LOG and an interface cable can be ordered. The software is also available for download on our homepage.





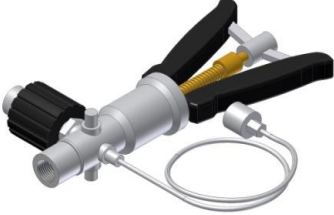


Software:

- 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
- actual value



Interface cable with
integrated USB converter
l: 1.7 m

Ordering number: ETD04/software

<p>Hard-shell service case without accessories</p>		<p>Hard shell case. Dimension in mm (L x W x H): 432 X 363 X 138</p>
<p>Protective cap</p>		<p>Rubber protection</p>
<p>Additional batteries (only in combination with service case)</p>		<p>for IS-version use only • 3 x 1.5 V / AA Duracell Power Plus</p>
<p>Seal set (only in combination with service case)</p>		<p>Flat seal copper for mechanical connections according to EN 837</p>
<p>PTFE seal tape (only in combination with service case)</p>		<p>Seal tape for mechanical connections material: PTFE (Teflon) Temperature range: -200 ... 280 °C</p>
<p>Wrench (only in combination with service case)</p>		<p>Wrench SW 27</p>
<p>Calibration test pump KHP 35</p>		<p>The KHP 35 calibration test pump is used to generate pressure and vacuum for checking, adjusting and calibrating mechanical and electronic pressure measuring instruments by comparative measurements. These pressure tests may be carried out in laboratories, workshop or on site at the measuring point. pressure: 0 ... 35 bar vacuum: 0 ... -0,95 bar weight: ca. 510 g dimension: ca. 220 x 105 x 63 mm</p>
<p>Adapter for calibration test pump</p>		
<p>Test unit connection: Adapter to connect the test unit to the calibration test pump.</p>		<p>Adapter to connect the test unit to the calibration test pump. external thread: G 1/4" EN 837 to: internal thread: G 1/4" DIN 3852 or G 1/2" EN o. DIN or 1/4" NPT or 1/2" NPT others on request</p>
<p>Reference unit connection: Adapter to connect the digital gauge to the calibration test pump</p>		<p>Adapter to connect the pressure sensor module DM01 to the calibration test pump. external thread: G 1/2" EN 837 to: internal thread: G 1/4" DIN 3852 or G 1/2" DIN 3852 or 1/4" NPT or 1/2" NPT others on request</p>

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