

# Digibar II: PE300

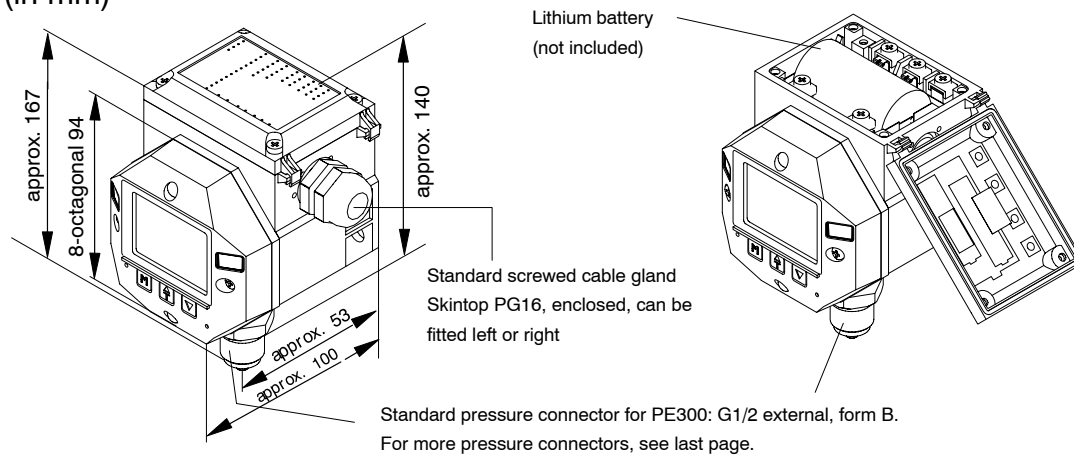
Digital  
pressure gage

## Special features

- Operated as a manometer with battery operation and
- Operated as a pressure transmitter with 4-20 mA current output, freely adjustable
- Clear multi-function display, exact and fast pressure readings on the spot
- Limit-relay board, (option) (changeover contacts, fail-safe)
- Operating voltage failure-proof storage of settings in EEPROM
- Available up to 2000 bar
- NEW: "oil-resistant" version also available



## Dimensions (in mm)



Reasonably priced, standard version available from stock PE300: G1/2 external pressure connector	PE300	Nominal (rated) measuring range, 0 bar -	Short order code
		10 bar	1-PE300A1/010B
20 bar	1-PE300A1/020B		
50 bar	1-PE300A1/050B		
100 bar	1-PE300A1/100B		
200 bar	1-PE300A1/200B		
500 bar	1-PE300A1/500B		

## Specifications (per DIN 16 086)

Product family		Digibar II							
Type		1-PE300A1/...; K-PE300....							
Accuracy class		0.3							
Accuracy class option of increased measurement accuracy for K-PE300...		0.2	0.15						
Mechanical input characteristics									
Nominal (rated) measuring range (gage pressure) , 0 bar...	bar	10	20	50	100	200	500	1000	2000
Natural frequency of the membrane approx.	kHz	12	16	23	45	65	85	> 100	
Membrane attenuation	1	< 0.02							
Operating range	%	-10 ... +110							
Overload range	%	200							150
Test pressure	%	200							150
Destructive range limits	%	> 200							> 150
During dynamic loading									
permissible pressure	%	100							
permissible vibration bandwidth (to DIN 50 100)	%	100	70	50	25				
Material of parts in contact with measurement medium		stainless steel: 1.4542; 1.4301							
Dead volume	mm <sup>3</sup>	1000				1300			
Control volume	mm <sup>3</sup>	1.5				1.0			
Output characteristics									
Resolution of the of the digital display (max.); adjustable step size	d	99999							
Output span									
Nominal (rated) value	mA	4 - 20 or 0 - 20							
Range (2-wire)	mA	approx. 3.6 – 21.6							
Range (3-wire)	mA	approx. 0 – 21.6							
Allocation between current output and measured quality (measuring span) meaningful		freely adjustable 1:5							
Output span, tolerances									
Display		± 0.2%							
Current output with 500 ohm burden	mA	16 or 20 ± 0.2%							
Effect of 0 – 1000 ohm burden for "0 - 20mA" device	µA	max. ± 60 (rel. to value at 500 ohms)							
Factory settings									
Two-wire/three-wire relay		0 bar = 4 mA							
Three-wire relay		0 bar = 0 mA							
Zero signal compensation range	%	± 5							
Shifting the display zero point	%	-10...+110							
Temperature coefficient of the zero signal	%	typically < ± 0.3 (max. ± 0.5)							
relative to the nominal (rated) measuring span per 10 K	%	typically ± 0.1 (max. ± 0.2)							
with the "increased measurement accuracy" option per 10 K	%								
Temperature coefficient of the output span relative to the actual value per 10 K	%	+0,2 ± 0,1							
for the "increased measurement accuracy" option per 10 K	%	± 0,1							
Characteristic curve deviation, origin setting for the "increased measurement accuracy" option	%	< 0.2	< ± 0.3 typically ± 0.1 (max. ± 0.15)						
Tolerance of the zero signal	%	< ± 0.5							
Tolerance of the output span	%	< ± 0.3							
for the "increased measurement accuracy" option	%	typically ± 0.15 (max. ± 0.2)							
Hysteresis	%	typically < ± 0.05 (max. ± 0.1)							
Repeat standard deviation	%	< ± 0.05							
Maximum measurement frequency at current output	Hz	approx. 1.3							

<b>Display rate</b> , transmitter operation	1/s	4
<b>Display rate</b> , battery operation	1/s	1
<b>Display rate</b> , battery operation (ECO)	1/min	6
<b>Response time of "MIN/MAX" value store and bar graph</b>		
Transmitter operation	s	0.5 (max.) typically 0.25
Battery operation	s	1 (max.)
Battery operation (ECO)	s	10 (max.)
<b>Limit values</b>		
Number of limit value switches		2
Range of adjustment of limit values	%	-10...+110
Range of adjustment of hysteresis	%	0...120
<b>Limit relay</b> (relay board option, K-PE300...)		
Response time of relay	s	0.25
Release time of relay	s	0.25
Type of contact		no-potential changeover switch and reversible enabled/disabled state
Maximum switching voltage		230 V <sub>eff</sub>
Maximum current		2 A
Internal effective capacitance/inductance		-
<b>Auxiliary energy</b>		
<b>Supply voltage</b> , nominal (rated) range for transmitter operation	V	8 - 30V
<b>Max. current consumption (starting current)</b>	mA	30 (without relay)
<b>Max. current consumption when operated with relay board</b>	mA	125
<b>Nominal (rated) voltage, battery operation</b>	V	3.6
<b>Supply voltage range, battery operation</b>	V	2.6...3.8
<b>Recommended battery type</b>		lithium battery 3.6 V, 13.5 Ah Size D
Alternative battery operation		2 x miniature 1.5 V; Size AA
<b>Battery life</b> (continuous operation)		> 1 year
<b>Battery life</b> (continuous operation, ECO)		> 2 years
<b>Battery life</b> , with 2 x 1.5 V miniature cells (alkaline), uninterrupted		> 4 weeks
<b>Ambient conditions</b>		
Nominal (rated) temperature range	°C	-20...+70
LCD function	°C	-10...+60
Operating temperature range	°C	-25...+70
Storage temperature range	°C	-40...+70
Max. media temperature for cooling by ambient temperature (< 60°C)	°C	110
Reference temperature	°C	23
<b>Impact resistance</b> (type-tested to DIN IEC 68)		
Impact acceleration	m/s <sup>2</sup>	< 650
<b>Vibration acceleration</b> (frequency 10 Hz – 100 Hz)	m/s <sup>2</sup>	< 150
<b>Vibration acceleration</b> , relay function	m/s <sup>2</sup>	< 40
<b>EMC</b>		
Immunity from interference		EN50082-2
Noise emission		EN50011, EN50022 class B
Measurement error	%	≤ 0.5
<b>Degree of protection</b> per DIN 40 050, IEC 529		IP65
<b>Material of parts in contact with the environment</b>		aluminum - polyester-coated; polyamide 6.6; stainless steel 1.4301; steel, galvanized; brass, nickel-plated; fluorine caoutchouc; silicone rubber
<b>Mounting position</b>		any
<b>Weight, approx.</b>	g	700

### Accessories (included)

Skintop PG16 screwed cable gland, battery contact springs, gaskets

### Accessories (available to order):

Lithium battery 3.6 V 13.5 Ah

Order no. 3-3319.0009

Power supply unit

Order no. 3-3318.0002

Power pack for support rail mounting 230 V,

50–60 Hz/15 V = 650 mA

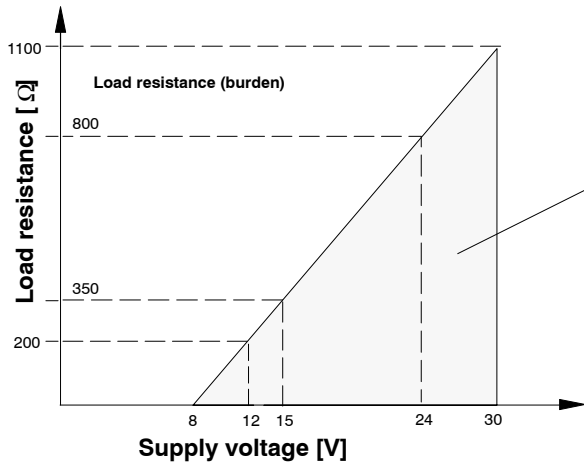
Order no. 1-NT101A

Mounting bracket for support rail mounting

Order no. 2-9289.1713



### Current output operating field

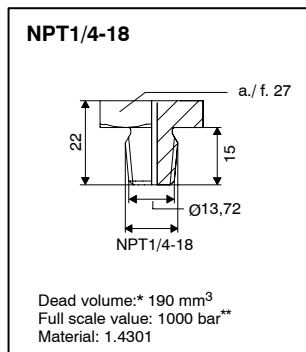
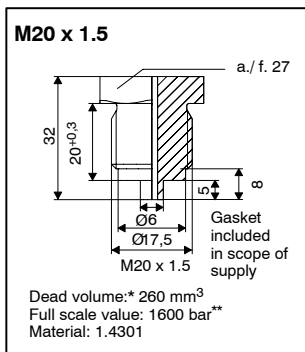
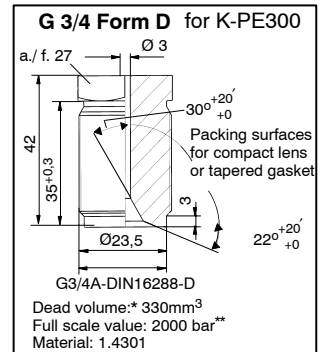
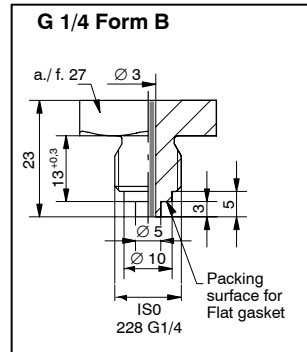
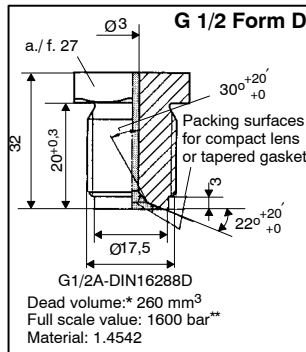
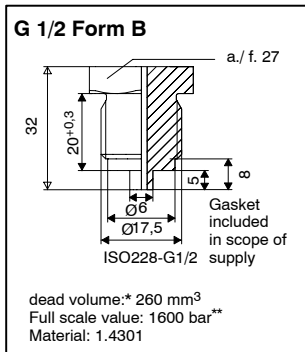


$$R_L = \frac{U_B - 8V}{0,020A}$$

$$U_B = 8...30V$$

Operating field

### Possible pressure connections for K-PE300



- \* Add dead volume of connector element to dead volume of measuring instrument
- \*\* Data per DIN 16 288

Modifications reserved.

All details describe our products in general form only. They are not to be understood as express warranty and do not constitute any liability whatsoever.

B0302-1.0 en

**Hottinger Baldwin Messtechnik GmbH**

Postfach 10 01 51, D-64201 Darmstadt, Germany  
Im Tiefen See 45, D-64293 Darmstadt, Germany  
Tel.: 061 51/ 8 03-0; Fax: 061 51/ 8039100  
E-mail: [support@hbm.com](mailto:support@hbm.com) [www.hbm.com](http://www.hbm.com)



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