

Digibar II: PE300, PE350

Digital pressure gage



PE300

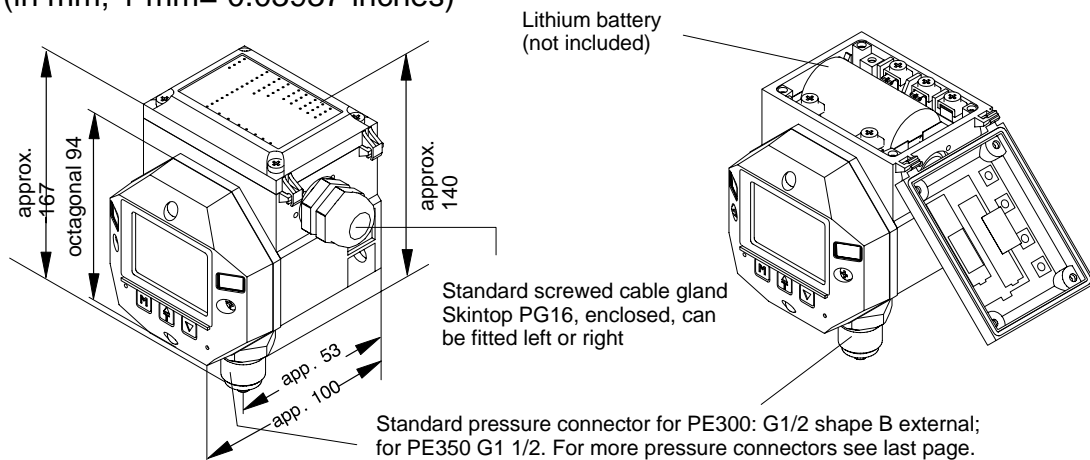


PE350

Special features

- Operated as manometer with battery operation and
- Operated as pressure measurement transmitter with 4–20 mA current output, freely adjustable
- Clear multi-function display, exact and fast reading of the pressure on the spot
- Operating voltage failure-proof storage of settings in EEPROM
- Limit-relay motherboard, (option), (double-throw contacts, fail-safe)
- Explosion-proof version PE300

Dimensions (in mm; 1 mm= 0.03937 inches)



	Nominal measuring range, 0bar...		Short order code
	Reasonably priced, standard version available from stock PE300: G1/2 external pressure connector PE350: G 1 1/2 front membrane	PE350	100 mbar 400 mbar 1 bar 4 bar
PE300		10 bar 20 bar 50 bar 100 bar 200 bar 500 bar	1-PE300A1/010B 1-PE300A1/020B 1-PE300A1/050B 1-PE300A1/100B 1-PE300A1/200B 1-PE300A1/500B

Specifications (in accordance with DIN 16086)

Equipment family		Digibar II												
Type		1-PE350A1/...; K-PE350...				1-PE300A1/...; K-PE300....								
Class of accuracy		0.2				0.3								
Class of accuracy increased as option Accuracy of K-PE300...		-				0.2	0.15							
Mechanical input characteristics														
Nominal measuring range (gage pressure), 0 bar...	bar	0.1	0.4	4	1	10	20	50	100	200	500	1000	2000	
Fundamental resonance frequency of the membrane approx.	kHz	10				12	16	23	45	65	85	> 100		
Attenuation of the membrane	1	-				< 0.02								
Operating range	%	-4 ... +103			-108.. +106	-10 ... +110								
Overload cutoff	%	-300.. +4000	-250.. +1500	-30..+ 600	-120.. +1000	200								150
Test pressure	%	200				200								150
Destructive range	%	-300.. +4000	-250.. +1500	-30..+ 600	-120.. +1000	> 200								>150
With dynamic loading permitted pressure	%	100				100								
perm. oscill. bandwidth (acc.DIN 50 100)	%	100				100				70	50	25		
Material of parts in contact with measurement medium		stainless steel : 1.4301;aluminium oxide ceramic; fluorocaoutchouc				stainless steel : 1.4542; 1.4301								
Device with membrane seal flush with front: (flat seal 55x48x2)		Fibres (bound with NBR); suitable for oils, water, fuels, acids, foods, etc.												
Dead volume	mm ³	1500 (front membrane diameter 25 mm/ 3.2 mm deep)				1000				1300				
Control volume	mm ³	negligible				1.5				1.0				
Output characteristics														
Resolution of the digital display (max.); adj. in steps	d	99999												
Output voltage Nom. value Range (2-wire) Range (3-wire)	mA mA mA	4 - 20 or 0 - 20 approx. 3.6...21.6 approx. 0...21.6				4 - 20 or 0 - 20 approx. 3.6...21.6 approx. 0...21.6								
allocation between current output and measured value (meas. range) meaningful		freely adjustable 1:5				freely adjustable 1:5								
Output range, tolerances Display Current output with 500 Ohm burden	- mA	$\pm 0.2 \%$ 16 or 20 $\pm 0.2 \%$												
Influence of the 0...1000 Ohm burden with "0...20 mA" device	μ A	max. ± 60 (rel. to value at 500 Ohm)												
Factory settings Two-wire/three-wire relay Three-wire relay		0 Bar = 4 mA 0 Bar = 0 mA												
Zero signal compensation range Shifting the zero signal of the display	% %	± 5 -4...+103	± 10 -108.. +106	± 5 -10...+110										
Temperature coefficient of the zero signal by ref. to the nom. meas. range per 10K with option "increased accur." per 10 K	% %	< ± 0.2 -				typically < ± 0.3 (max. ± 0.5) typically ± 0.1 (max. ± 0.2)								
Temperature coefficient of the output voltage by reference to the actual value per 10 K to the actual value per 10 K (for "increased accuracy" option)	% %	< ± 0.2 -				+0.2 ± 0.1 ± 0.1								
Characteristic curve deviation, origin setting with "increased accuracy" option	% %	< ± 0.2 -				< 0,2	typically ± 0.1 (max. ± 0.15)							
Tolerance of the zero signal	%	< ± 0.5				< ± 0.5								
Tolerance of the output voltage with "increased accuracy" option	% %	-				< ± 0.3 typically ± 0.15 (max. ± 0.2)								
Hysteresis	%	0.05				typically ± 0.05 ; max. ± 0.1								

Specifications (continued)

Repeat standard deviation	%	< ± 0.05		
Greatest meas. frequ. at current output	Hz	approx. 1.3		
Display rate , transmitter operation	1/s	4		
Display rate , battery operation	1/s	1		
Display rate , battery operation (ECO)	1/min	6		
Response time of "MIN/MAX" value store and bar graph		0.5 (max.) typically 0.25		
Transmitter operation	s	1 (max.)		
Battery operation	s	10 (max.)		
Battery operation (ECO)	s			
Limit values		2		
Number of limit value switches				
Range of adjustment of limit values	%	-4...+103	-108...+106	-10...+110
Range of adjustment of hysteresis	%	0...107	0...214	0...120
Limit relay (relay board option, K-PE300...)		PE350	PE300	PE300 Ex
Response time of relay	s	0.25		
Release time of relay	s	0.25		
Type of contact		no-potential changeover switch, enabled/disabled state switchable		
Maximum switching voltage		230 V _{eff}		30 V
Maximum current		2 A		1 A
Internal effective capacitance/inductance		-		negligible
Supply energy		PE350	PE300	PE300 Ex
Supply voltage , rated range for transmitter operation	V	9 - 30 V	8 - 30 V	13 - 24 V
Max. current consumption (start-up current)	mA	30 (without relay)	30 (without relay)	-
Max. current consumption when operated with relay board	mA	125	125	-
Rated voltage , battery operation		3.6	3.6	only permissible with intrinsic. safe battery
Supply voltage range , battery operation	V	2.7...3.8	2.6...3.8	only permissible with intrinsic. safe battery
Recommended battery type		lithium battery 3.6 V, 13.5Ah Size D		intrinsic. safe lithium battery 2-9289.1768
Alternative battery operation		2x round 1.5 V; Size AA		-
Battery life (continuous operation)		> 9 months	> 1 year	> 1 year
Battery life (continuous operation, ECO)		> 18 months	> 2 years	> 2 years
Battery life , with 2 x 1.5 V round batteries (alkaline), uninterrupted		> 3 weeks	> 4 weeks	-
Ambient conditions				
Rated temperature range	°C [°F]	-20...+70 [-4...158]		
LCD function	°C [°F]	-10...+60 [+14...140]		
Operating temperature range	°C [°F]	-25...+70 [-13...158]		
Storage temperature range	°C [°F]	-40...+70 [-40...158]		
Max. mean temperature for cooling by ambient temperature (< 60°C [140°F])	°C [°F]	125 [257]	110 [230]	
Reference temperature	°C [°F]	23 [73.4]	23 [73.4]	
Impact resist. (type app. in acc. with DIN IEC 68)				
Impact acceleration	m/s ²	< 650		
Vibration acceleration (frequency 10 Hz – 100 Hz)	m/s ²	< 150		
Vibration acceleration, function of relay	m/s ²	< 40		
EMC				
Immunity from interference		EN50082-2		
Noise emission		EN50011, EN50022 class B		
Measuring deviation	%	≤ 0.5		
Protection system in acc. with DIN 40 050, IEC 529		IP65		
Material of parts in contact with the environment		aluminum - polyester-coated; polyamide 6.6; high-grade steel 1.4301; steel, galvanized; nickel-plated brass; fluorocaoutchouc; silicone rubber		
Installation position		any		
Weight approx.	g	900	700	

Accessories (included): Skintop PG16 screwed cable gland, battery contact springs (not PE300Ex), gaskets

Accessories PE300 (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 rail mounting 230 V, 50 - 60 Hz / 15V=650 mA Order no. 1-NT101A
bracket for rail mounting Order no. 2-9289.1713

Also for PE300EX:

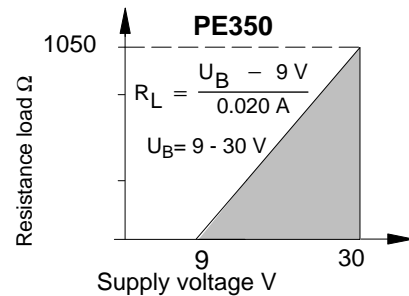
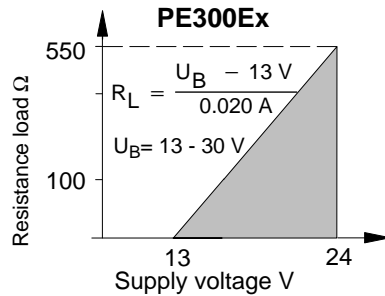
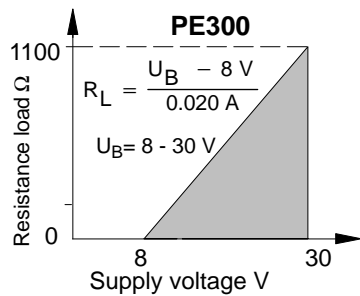
intrinsically safe lithium battery 3.6 V 13.5 Ah
Galvanically isolated analog transmitter
only for option 3, code I4N

Order no. 2-9289.1768

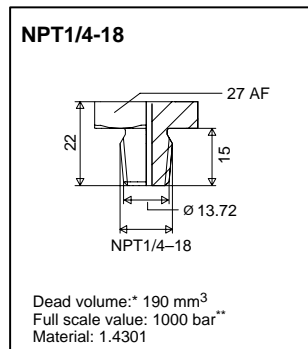
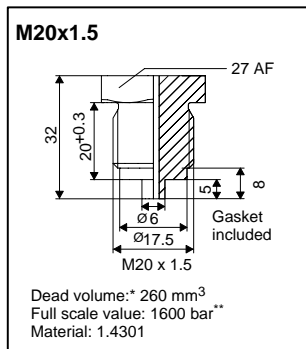
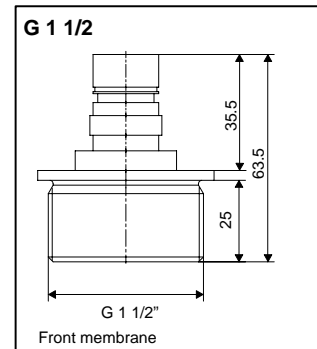
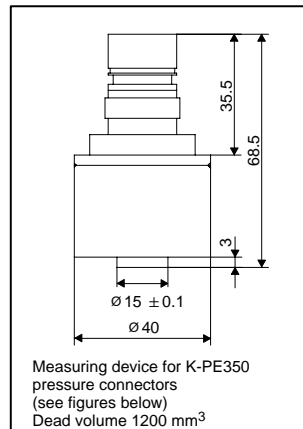
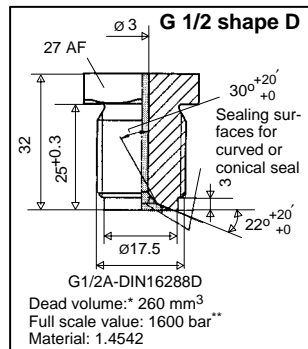
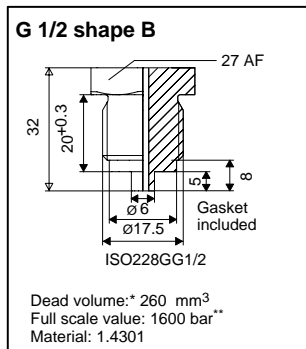
Order no. 3-3318.0023

Galvanically isolated analog transmitter				
Rated voltage	V	DC 20 - 35		
Power consumption: KFD2-CR-Ex1.20.300	W	approx. 1.7		
Voltage U ₀ (maximum)	V	20		
Current I ₀ (maximum)	mA	93 (2-wire) or 115 mA (3-wire)		
Output P ₀ (maximum)	mW	660 (2-wire) or 683 mW (3-wire)		
Type of protection, category [EEx ia]				
Explosion class	-	IIA	IIB	IIC
External capacitance	µF	2.4	0.9	0.3
External inductance	mH	21.6	8.1	2.7
Outputs (not intrinsically safe)				
Available voltage	V	DC 25		
Resistance	kΩ	1		
Ripple	µA _{ss}	20		

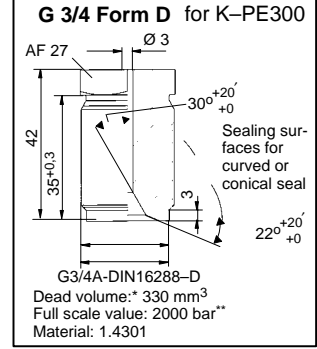
Working resistances of current output:



Available pressure connectors for the K-PE300 and K-PE350



* add dead volume of connecting unit to the dead volume of the measuring device
** specifications in accordance with DIN 16 288



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