

INTRINSICALLY SAFE PRESSURE TRANSMITTER WITH DATALOGGER AND DISPLAY DL/Ex



38



II 1/2G EEx ia IIB T4

Features

- Piezoresistive measuring element
- Gauge, absolute or sealed gauge
- Standard DIN pressure ranges from 0...100 mbar to 0...1000 bar
- Calibration available for all common pressure units
- Complies with the EMC directive 89/336/EEC
- High reliability
- Short delivery time
- Measuring interval programable from 2 s to 24 h
- Non volatile data memory for 130'000 measurements
- High battery life (up to 10 years)
- Transfer of data to a laptop/handheld computer

Typical applications

- In hazardous areas
- Industrial process control
 - Heating and ventilation
 - Environmental monitoring
 - Mobile hydraulics
 - Test and calibration systems
 - Gas pipes
 - Pipelines

Specifications

Pressure range	[bar]	0.1 ... 0.5	> 0.5 ... 2	> 2 ... 25	> 25 ... 600	> 600 ... 1000
Overpressure		3 bar	3 x FS (min. 3 bar)	3 x FS	3 x FS (max. 850 bar, optional up to 1500 bar)	1500 bar
Burst pressure	[bar]	> 200	> 200	> 200	> 850 (optional up to 1500 bar)	1500
Accuracy¹⁾	[± % FS]	≤ 0.25	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1
Thermal shift	[± % FS/°C]					
Zero	0...70°C	0.06	0.03	0.015	0.015	0.015
	-25...85°C	0.08	0.04	0.02	0.02	0.02
Span	0...70°C	0.015	0.015	0.015	0.015	0.015
	-25...85°C	0.02	0.02	0.02	0.02	0.02
Long term stability (1 year)		< 4 mbar	< 4 mbar	< 0.2% FS	< 0.2% FS	< 0.2% FS

¹⁾ Zero based non-conformity according to DIN 16086, including hysteresis and repeatability

Ex-Approval

Type of protection Standards	Intrinsic safety II 1/2G EEx ia IIB T4 EN 50 014: 1992 EN 50 020: 1994	SEE Certificate SEE 99 ATEX 2443 General requirements Intrinsic safety "i"
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ATTENTION: The infrared data transfer cable is not allowed to be used in the Ex-zones!

Temperature class	T4
Ambient temperature T _a	[°C] -25...70
Process temperature	[°C] -25...85

²⁾ Infrared data transfer cable **not** included (ordering code VART144)

Datalogger

Units	Pressure
Resolution	Pressure < 0.01% FS
Real time clock	Quartz clock with date, start of first measurement programmable
Data memory	130'000 measurement values - non volatile, data kept in memory even without battery - each measurement value is correlated with time and date
Interface	Infrared
Identification	Serial number and programmable Id. number
Power supply	2x Lithium battery 3.6V / size AA - on site battery change
Protection class	IP 65 (cap closed)

Configuration and Data Transfer

PC-Program for Configuration and Data Transfer

System Requirements	IBM compatible laptop or PC, Windows 95/98/NT or handheld PC with Windows CE 2.11 or upward
Data Transfer	- data transfer of last measurement period - data transfer for a defined time-period - the data will be represented in a txt.file or in a graph - data transfer of all data
Configuration	- sampling rate - number of replicates - time and date - description - starting time of first sample - tare - upper and lower threshold value - storage threshold value - density of the measuring media - switch on/off the Datalogger - printer time between two records (e.g. name of location) the actual pressure value can be set to the real value min./max. value (optional) the density-setting will affect the level range (optional) using the switches on the display (optional) (optional)
Data Format	Data are stored in ASCII format and may be read with programs like Excel, Lotus or similar

Electromagnetic compatibility



The pressure transmitter DL fulfill the emission and immunity requirements described in the EMC directive 89/336/EEC.

Ordering Information

38 X . XXXX . 9595 . XX . XXX

Type	DL/Ex with display	38					
Pressure type	Gauge	1					
	Absolute	2					
	Sealed gauge	3					
Pressure range	0...100 mbar		00				
	0...160 mbar		01				
	0...250 mbar		02				
	0...400 mbar		03				
	0...600 mbar		04				
	0...1.0 bar		05				
	0...1.6 bar		06				
	0...2.5 bar		07				
	0...4.0 bar		08				
	0...6.0 bar		09				
	0...10 bar		10				
	0...16 bar		11				
	0...25 bar		12				
	0...40 bar		3	13			
	0...60 bar		3	14			
	0...100 bar		3	15			
	0...160 bar		3	16			
	0...250 bar		3	17			
	0...400 bar		3	18			
	0...600 bar		3	19			
0...1000 bar		3	20				
	other pressure range		99				
Process connection	G 1/4 female	(Fig. 1)		00			
	G 1/4 M	(Fig. 2)		11			
	G 1/2 M	(Fig. 3)		13			
	G 1/2 M, frontal diaphragm	(Fig. 4)		14			
	G 1/2 M, flush diaphragm	(Fig. 5)		15			
	Special process connection			99			
Interface	Infrared ²⁾				95		
Accuracy	≤ ±0.25% FS (for pressure ranges ≤ 500 mbar)					1	
	≤ ±0.1 % FS (for pressure ranges > 500 mbar)					2	
Temperature class	T4 (Ta: -25...70°C comp.)						1
Options	Throttle ¹⁾						A
	Special oil filling:	ASEOL Food					G
		Halocarbon					H
	Seals:	EPDM					S
		Kalrez					T
	Special options						Z

¹⁾ Possible with pressure connection Fig. 2 or Fig. 3 only

²⁾ Infrared data transfer cable **not** included (ordering code VART144)

Materials

Process connection, diaphragm	Stainless steel 1.4435 (316L)	(other materials on request)
Housing	Aluminium Al MgCl1	(blue, eloxadized)
Cap	Plastic TEKA Form ELS	
Seals (standard)	Viton	(other materials see ordering information)

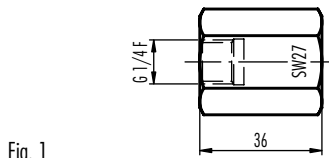
Pressure Connection**Dimensions**

Fig. 1

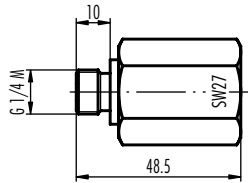


Fig. 2

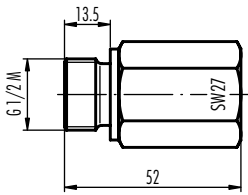


Fig. 3

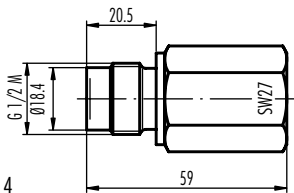


Fig. 4

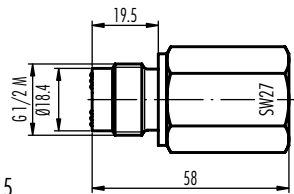
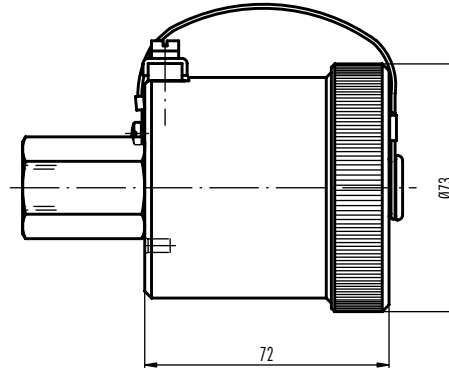


Fig. 5



Specifications may change without notice. Release 06/01

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