

HIGHLY PRECISE PRESSURE TRANSMITTERS

FOR HAZARDOUS APPLICATIONS

These piezoresistive pressure transmitters are approved for use in high explosive gas and dust atmospheres of groups I (mining industry) and II (industrial applications) where there is a high risk of explosion. Optionally available are Low Voltage Versions (LV) with 3,2...8,5 V.

Signal processing

This series features microcontroller-based electronic evaluation to ensure maximum accuracy. Each transmitter is gauged across the entire pressure and temperature range. This measurement data is used to calculate a mathematical model that enables correction of all reproducible errors. In this way, KELLER can guarantee high accuracy as an error band within the over-all compensated pressure and temperature range. Two compensated temperature ranges are available for the transmitters, according to choice: -10...80 °C and 10...40 °C. The level probes are gauged in the 0...50 °C temperature range only. The calculated pressure value can be read via the interface, and is simultaneously processed as an analog signal.

Interface

The interface is designed as a robust RS485 half-duplex for 9'600 and 115'200 baud. There is an external leadthrough for the interface on all products except the version with the DIN 43650 plug.

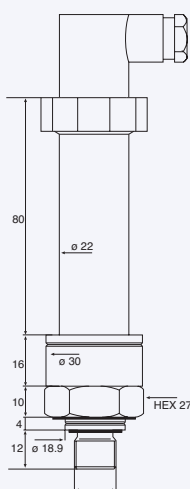
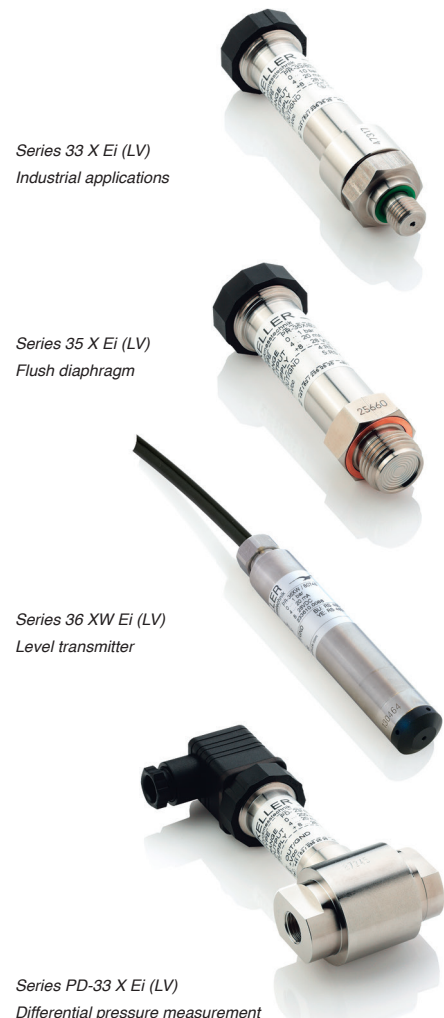
Communication protocol: KELLER Bus and MODBUS RTU. The transmitters can be configured and the measured values can be recorded with the CCS30 software:

- Read out current measured pressure and temperature values with maximum resolution
Speed: at 115'200 baud, up to 330 measured values per second (depending on the converter)
- Call up information and status (pressure and temperature ranges, serial number, software version, etc.)
- Reprogram analog output (e.g. different units or pressure range)
- Calibration: zero point and amplification can be adjusted
- Special calculations, such as non-linear curve adaptation or root calculation for flow
- Possibility of adjusting the low-pass filter and the communication parameters

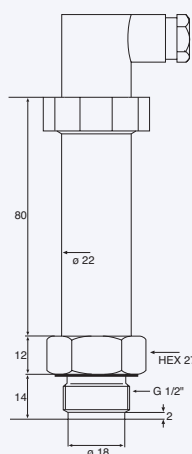
Ex-Classification

Ex I M1 Ex ia I Ma	CE 0081
Ex II 1G Ex ia IIC T4...T6 Ga	
Ex II 1D Ex ia IIC T 130 °C Da	
KEMA 04 ATEX 1081 X	
IECEx DEK 14.0070 X	

T4 for $T_a \leq 90$ °C, T6 for $T_a \leq 70$ °C



Series 33 X Ei (G1/4")



Series 35 X Ei (G1/2")

ELECTRICAL CONNECTIONS

Output	Function	Binder 723	M12 A-coded	DIN 43650	MIL C-26482	Cable
2-Leiter Current	OUT/GND	1	1	1	C	white
	+Vcc	3	3	3	A	black
3-Leiter Voltage	GND	1	1	1	C	white
	OUT	2	2	2	B	red
	+Vcc	3	3	3	A	black
Digital	RS485A	4	4	—	D	blue
	RS485B	5	5	—	F	yellow
Transmitter Housing						Shield

use shielded cable

Drawings of Series 36 XW Ei, PD-33 X Ei and mining version M available on request.



For pricing or any further information, please contact Omni Instruments Ltd.

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