



Measuring Instruments and Control
Industrial control instruments for process automation

LEVEL CONTROLS

PRESSURE CONTROLS

Pressure transmitters

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- Digital pressure switches
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PR33X Pressure Transmitter.

▶ PR33X Pressure Transmitter. Neutral fluids, food or aggressive. Accuracy ± 0,01% FS

Measuring ranges up to 1000 bar
Output signal 4÷20 mA - 0÷10V - 0÷2,5V/0÷5V - 0,1÷2,5V - RS485
Accuracy ± 0,01 FS
Process connection R. ¼" GM - R. ½" GM
Materials steel AISI 316L
Temperature up to 120°C



The high precision of these **pressure transmitter** of 0,01 %FS is available as an option (the standard Series 33 X has an accuracy of 0,05 %FS). These Series are based on the stable, floating piezoresistive transducer and the newly developed XEMICS micro-processor with integrated 16 bit A/D converter. Temperature dependencies and non-linearities of the sensor are mathematically compensated. With the READ30 software and the RIELS cable K-107, the calculated pressure can be displayed on a Laptop or PC. The READ 30 software also allows the recording of pressure signals and the graphic display on the PC. Up to 128 transmitters can be hooked together to a Bus-system.

Transmitter with Analog Output

Integrated in the XEMICS processor is a D/A converter of 16 bit for analog signal outputs of 4÷20 mA or 0÷10V. The output rate is 400 Hz. The accuracy is diminished by this converting process by 0,05 %FS. The digital output is available on all transmitters with analog output.

Accuracy and Precision

"Accuracy" is an absolute term, "Precision" a relative term. Dead weight testers are primary standards for pressure, where it is defined by the primary values of mass, length and time. Highest class primary standards in national laboratories indicate the uncertainty of their pressure references with 70 to 90 ppM or close to 0,01%. The dead weight testers, such as those used in our system for the calibration of pressure transmitters, indicate an uncertainty or accuracy of 0,025%. Below these levels, RIELS use the expression "Precision" as the ability of a pressure transmitter to be at each pressure point within 0.01 %FS relative to these commercial standards. The transmitter's full-scale output can be set up to match any standard of your choice by correcting the gain with the PROG30 software.

Digital Interface

Added to the analog signal output pressure transmitters offer these digital interface with bus having the following options:

- Reading the values of pressure and temperature
- Zero offset and gain by the user
- Sizing of the ranges and units of the analog
- Composition of the configuration
- Reading information, as well as the number of series, range of pressure and temperature compensated range
- RS-485 two-wire half duplex with 9.600 baud and 115.200 baud

close and read technical characteristics

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▶ **Technical Characteristics**

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Pressure range:	PR33X/PD33X/PR35X: up to 30 bar PA(A)33X/PA(A)35X: up to 1000 bar
Accuracy:	Analog output or voltage: ±0,1% FS Digital output RS485: ±0,05% FS (on request 0,01% FS)
Materials:	Stainless steel AISI316L
Output signal:	4÷20mA (8÷28Vdc) - 0÷10V (13÷28Vdc) - 0÷2,5/0,5÷5V (8÷28Vdc) - 0,1÷2,5V (3,5÷12Vdc) - RS485 (8÷28V/3,5÷12V)

Process connection:	R. ¼" GM - R. ½" GM
Temperature:	-40+120°C
Degree of protection:	IP65 (on request IP67 or IP68 with cable)
Frequency:	400 Hz
Resolution:	0,002% FS

Programming:

With the software READ30 and PROG 30, a RS485 converter (K102 or K107) and a PC you can displaying pressure, change the units of measurement, set a new growth or a new zero. The analog output can be set to a any of the range within the compensated range.



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