Modbus pressure transmitters. RS485 comunication with analog output series ERS.308

CE

All st. steel housing of wetted parts with Declaration of Conformity, CE
The RS485 interface communicates using the Modbus® protocol with various analog output signals

General features

- Piezosistive Silicon Pressure Transmitters for industrial applications
- Pressure range from -1…0 bar to 0…1000 bar
- Wiring with M12 plug
- Ingress production IP67
- Housing parts of stainless steel



Application area

- Hydraulic and pneumatic control systems
- Pump and compressors
- Control equipments and air conditioning system
- Pressure checking system

General specification

Pressure ranges
-1…0 bar to 0…1000 bar

Accuracy
A4: ≤ ± 0.5% FS
A7: ≤ ± 0.25% FS
A9: ≤ ± 0.1% FS, higher than 1 bar

including non-lenearity, hysteresis, zero point and full scale error according to IEC 61298-2

Overpressure
1.3 X pressure range

Communication
Digital Interface : RS485 (Half-duplex)
Communication protocols : Modbus RTU

Analog output types
4…20mA, 2-wire system
0…10V, 3-wire system
0…5V, 3-wire system
1…5V, 3-wire system

Power supply

Ref. power:	DC 24V
Available power:	9…30 VDC

Response time ≤ 5ms

Isolation > 100MΩ at 100 VDC

Materials

Wetted parts:	st.steel 316L
Sensor sealing:	FKM
Body:	st.steel 304

Pressure Transmitter series ERS.308

Temperature range of

Compensated temperature range:	-10…80℃
Operating:	-20…100℃
	-40…+125 ℃[option]
Ambient:	-20…100℃
Storage:	-40…125℃

Thermal error

Zero thermal error:	±0.75%FS @ 25℃, typical
Span thermal error:	±0.75%FS @ 25℃, typical

Electrical connection & protection

M12 Plug	IP67

Pressure connection
G 1/4", DIN 3852-E with sealing by DIN 3869 ring seals
G 3/8"
G 1/2"
R 1/4"
R 3/8"
R 1/2"

Weight
Approx. 140g

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Technical specifications

Input pressure range

Norminal pressure:

-1…0 bar up to 0…1000 bar

Permissible static pressure:

1.3 x pressure range, max.1100 bar

Output signal / Supply

Modbus protocol via RS485 interface

Buad rates :	9,600 and 115,200 bps
Data type :	Float32
Unit of Pressure :	bar, kPa, MPa, kgf/cm², psi, mmH2O, mmHg
Unit of Temperature :	℃
Supply :	9…30 VDC

Performance

[1]Accuracy: ≤ ±0.5%FSO @ 25℃
≤ ±0.25%FSO @ 25℃
≤ ±0.1%FSO @ 25℃

[1] accuracy according to IEC 60770 - limit point adjustment including non-linearity, hysteresis as well as repeatability

Influence effects:

Longterm stability:	≤±0.5%FS / year
Sampling rate :	<5ms

Thermal effects (Offset and Span) / Permissible temperatures

FS thermal error:	±0.75%FS @ 25℃, typical
Zero thermal error:	±0.75%FS @ 25℃, typical
Operating temperature:	-20…100℃
	-40…+125 ℃ [option]
Compensated tempearture:	-10…80℃

Electrical protection

Electromagnetic compatibility:

Emission and immunity according to
EN 61326-2-3:20B CCISPR II Group 1, Class A
EN IEC 61000-3-2:2019

Insulation: the transmitter is grounded via the process connection

Mechanical stability

Vibration:	No change at 10 g RMS (20…2000) Hz
Shock:	0.1 g (1m/s) Max.

Materials

Pressure port:	stainless steel 316L
Housing / body:	stainless steel 304
Sensor diaphragm:	stainless steel 316L
Wetted parts:	stainless steel 316L

Weather protetion grade

■ Ingress protection: IP rating 67

EMC Test report for CE conformance

■ EN 61326-2-3:2013 / Class A
■ EN 61326-2-3: 2013 / IEC 61326-1:2012

Ordering information

Model code **ERS.308** · [ ] · [ ] · [ ] · [ ] · **B** [ ] · **option**

Accuracy	
A4	≤ 0.5 % F.S
A7	≤ 0.25 % F.S
A9	≤ 0.1 % F.S [but, ≥ 1 bar]

Communication& Analog output	
O7	RS485 & 4…20mA
O8	RS485 & 0…10V
O9	RS485 & 0…5V
O10	RS485 & 1…5V

Electrical connection	
M	M12 plug, Straight
MA	M12 plug, 90 Angle

Process connection	
G2	G 1/2" (PF 1/2")
G3	G 3/8" (PF 3/8")
G4	G 1/4" (PF 1/4")
R2	R 1/2" (BSPT 1/2")
R3	R 3/8" (BSPT 3/8")
R4	R 1/4" (BSPT 1/4")

Pressure range code, unit bar

Code	Range
R01	-1…50
R02	-1…35
R05	-1…24
R07	-1…15
R09	-1…9
R11	-1…5
R19	-1…0
R23	0…1
R26	0…1.6
R28	0…2.5
R30	0…4
R32	0…6
R33	0…10
R35	0…16
R37	0…25
R39	0…40
R41	0…60
R43	0…100
R45	0…160
R47	0…250
R50	0…400
R53	0…600
R55	0…1000
RYY	Others on request

Option code

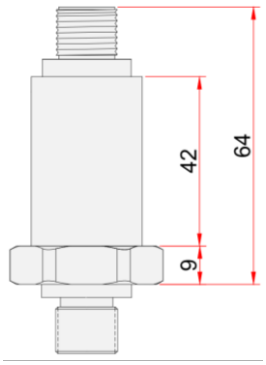
Code	Description
PAA	absolute pressure range [5…6 weeks delivery]
xL	x m cable exstension (예: 5L = 5 m, 3L = 3 m)
T4	-40…+125 °C
AC25	Restrictor screw in socket hole
TP	St. steel tag plate, 60 x 20 x 0.5t
DMCC	Manufacture calibration certificate
KC	KOLAS Ilac-MRA calibration certificate

How to order

ERS.308.A4.O7.M.G4.BR35

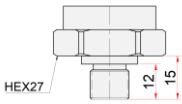
ERS.308, 0.5%, RS485, 4…20mA, M12 plug, G 1/4", 0…16 bar

Outline drawing

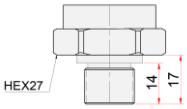


M12 plug type
/ IP67

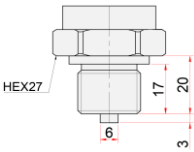
Process connection



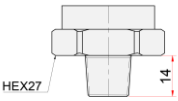
G1/4" A
DIN EN ISO 1179-2



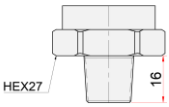
G3/8" A
DIN EN ISO 1179-2



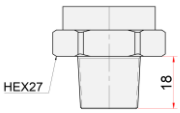
G1/2" B
EN 837-1



R1/4"
ISO 7



R3/8"
ISO 7



R1/2"
ISO 7

Pin assignment, M12 x 1, 5-pin / male

■ **RS485 & 4…20mA / 2-wire system**



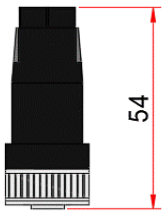
Pin No.	communication	
1		OUT/GND
2		N.C.
3		+Vcc
4	A	Signal RS-485
5	B	Signal RS-485

■ **RS485 & 0…10V, 0…5V, 1…5V / 3-wire system**

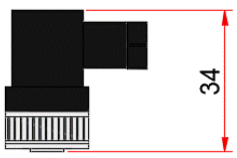


Pin No.	communication	
1		GND
2		+OUT
3		+Vcc
4	A	Signal RS-485
5	B	Signal RS-485

Mating plug to M12 x 1, 5-pin



Straight type



Angle type

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