

All st. steel pressure transmitters
 LCD window with a back light
 a/w chemical seal MDF
 Model EDN.716



Housing, body, wetted parts made of st. steel
 optionally, 2 relay channels, switches & RS485
 Certified by KOSHA, Ex d IIC T6

General features

- Pressure Transmitters assembled with various flanges called by MDF
- Pressure range from 0...1.6 bar to 0...250 bar
- Assembled with process flange according to the standard
- Zero point, range adjustable
- Switch function, 2 switches / option
- RS485 digital communication / option

Application area

- Petroleum and chemical industry
- Water supply and water treatment plant
- Hydraulic and pneumatic control systems
- Hydro and nuclear power application
- General process industry

General specification

Pressure ranges

0...1.6 bar to 0...250 bar

Accuracy

± 0.5% FS

included Linearity+Hysteresis+Repeatability

Overpressure

1.3 X pressure range

Output type

4...20 mA, 2-wire system

0...10 V, 3-wire system

0...5 V, 3-wire system

1...5 V, 3-wire system

0.5...4.5 V, 3-wire system

Power supply

Available power: DC 12...30V

Temperature range

Operating: -20...80 °C

Ambient: -20...60 °C

Storage: -10...80 °C

Temperature compensating range: 0...60 °C

Thermal error

Zero thermal error: ±0.75%FS @ 25 °C (typ.)

Span thermal error: ±0.75%FS @ 25 °C (typ.)

Special functions could be included / options

- 2 relay, channel switches
- RS485 digital communication



series EDN.716

Isolation > 100MΩ at 100 VDC

Electrical connection Flameproof, M12

Display LCD, 4 1/2 - digit
 -1999...9999
 Bar graph

Background white back light

Materials

Wetted parts: St. steel 316L

Body: St. steel

Pressure connection

According to DIN 1092-1

According to ASME B16.5

According to JIS

Adjusttable Pressure units

bar, mbar, MPa, kPa, psi, kg/cm²,

mmH₂O, inH₂O

mmHg, inHg, torr, atm

Operation

Pressure range, zero point adjustment,
 characteristic curve and damping rate are
 adjustable on the device

Technical specifications

Input pressure range

Norminal pressure:
0...1.6 bar up to 0...250 bar

Permissible static pressure:
1.3 x pressure range

Output signal / Supply

Current:
2-wire 4...20mA $V_s=12...30$ VDC

Voltage:
3-wire 0...10V, 0...5V, 1...5V $V_s=12...30$ VDC
0.5...4.5V

Performance

¹Accuracy: $\leq \pm 0.3\% \text{FSO @ } 25^\circ\text{C}$
¹ accuracy according to IEC 60770 - limit point adjustment including non-linearity, hysteresis as well as repeatability

Permissible load / R_L
Current: 2-wire, $R_L \text{ max}=[(V_s-V_s \text{ min})/0.02\text{A}]\Omega$
Voltage: 3-wire, $R_L \text{ min}=10\text{k}\Omega$

Influence effects:
Supply: 0.05%FSO/10V
Longterm stability: $\leq \pm 0.5\% \text{FS / year}$
Response time: <5ms

Thermal effects (Offset and Span) / Permissible temperatures

FS thermal error: $\pm 0.75\% \text{FS @ } 25^\circ\text{C}$, typical
Zero thermal error: $\pm 0.75\% \text{FS @ } 25^\circ\text{C}$, typical
Operating temperature: $-20...80^\circ\text{C}$
Compensated teperature: 0...60°C

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

Miscellaneous

Current consumption
Signal output current max. 25mA

Current
4...20mA, 2-wire system
Signal output voltage max. 7mA

Voltage:
0...10V, 0...5V, 1...5V, 0.5...4.5V, 3-wire system
Signal output voltage

EMC Test report for CE conformance

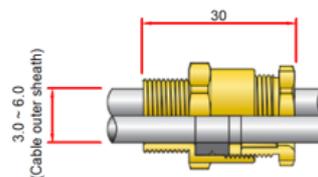
- EN 61326-2-3:2013 / Class A
- EN 61326-2-3: 2013 / IEC 61326-1:2012

Special features

- Protection against reverse polarity connections ($\pm 40\text{VDC}$).
- High Noise Immunity Performance against Electrical Fast Transient (EFT) noise.
- High Precision against variations in ambient temperature. ($\pm 1.3\%$ in $-20...70^\circ\text{C}$).
- Wide pressure operating range.30% lower than the minimum and 30% higher than the maximum.
- Protection against instantaneous surge voltage.
- Durable design for severe vibration.

Electrical connecting cable gland

- IP66
- Materials: Brass with nickel plated
- Cable outer : 3.0...6.0 mm



Ordering information

Model code EDN.716 · [] · [] · [] · [] · [] · [] · B [] · []

Output signal

O1	4...20 mA / 2-wire system
O2	0...10 V / 3-wire system
O3	0...5V / 3-wire system
O4	1...5V / 3-wire system
O6	0.5...4.5V / 12-30V, analog

Accuracy

A5 $\leq \pm 0.5$ % F.S

Electrical connection

FP	Flameproof cable gland
M	M12 plug with 12 pins

Digital communication

O11 RS485

2 relay channel, switches

O12 2 relay channel, switches

Process connection

• See tables on page 4

Flange standard DIN 1092-1
 Flange standard ASME B16.5
 Flange standard JIS

Pressure range code, unit bar

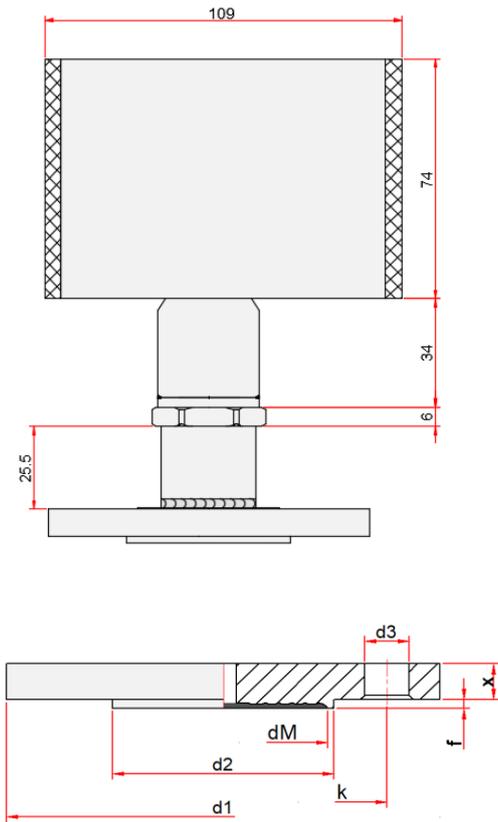
Code	Range
R26	0...1.6
R28	0...2.5
R30	0...4
R32	0...6
R33	0...10
R35	0...16
R37	0...25
R39	0...40
R41	0...60
R43	0...100
R45	0...160
R47	0...250
RYY	Others on request

Option code

Code	Description
NO	"USE NO OIL" for Oxygen application
AD	Adapter
TP	St. steel tag plate, 60 x 20 x 0.5t
DMCC	Manufacture calibration certificate included
KC	KOLAS Ilac-MRA calibration certificate
CC	Certificate of conformance / origin

How to order

EDN.716.O1.FP.BR35 aw MDF, DN25 PN160 according to DIN 1092-1
 EDN.716, 4...20mA, 0...16 bar aw MBF, DN25 PN160 according to DIN 1092-1,



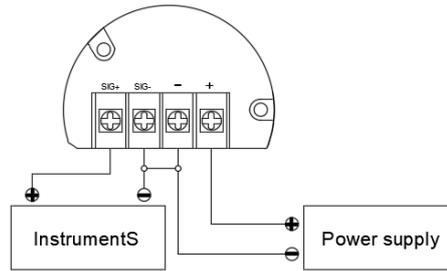
DIN 1092-1									
DN	PN	d1	d2	d3	dM	f	k	x	
25	10/40	115	68	Ø 14 x 4	28	2	85	18	
	63/100	140		Ø 18 x 4			100	24	
	160	150		Ø 22 x 4			105	28	
	250	160					115	34	
	320	160					130	38	
	400	180					Ø 26 x 4	100	18
32	10/40	140	78	Ø 18 x 4	34	3	110	18	
40	10/40	150	88	Ø 18 x 4	38		125	20	
50	25/40	165	102	Ø 22 x 4	57		135	26	
	63	180		Ø 26 x 4			145	28	
	100	195		Ø 26 x 8			150	30	
	160	200					160	38	
	250	200				160	42		
	320	210				Ø 30 x 8	180	52	
400	235	Ø 30 x 8	180	52					
65	25/40	185	122	Ø 18 X 8	72	3	145	22	
80	10/16	200	138				Ø 22 X 8	160	20
	25/40							170	24
	63	71					Ø 26 X 8	180	28
	100	75						180	32
	160	79						200	36
	250	89		Ø 30 X 8	200	46			
100	10/16	63	158	Ø 18 X 8	84	3	180	20	
	25/40	67		Ø 22 X 8			190	24	
	63	73		Ø 26 X 8			200	30	
	100	79					210	36	
	160	83					210	40	
	250	97					Ø 33 X 8	235	54

ASME B16.5									
NPS	Class	d1	d2	d3	dM	f	k	x	
1"	150	108	50.8	Ø 15.7 x 4	28	1.6	79.2	14.2	
	300	124		Ø 19.1 x 4			88.9	17.5	
	400/600	124		Ø 25.4 x 4			101.6	23.9	
	900/1500	149.4					6.4	108	34.8
	2500	158.8					110	41.5	
1 1/2"	150	127	73.2	Ø 15.7 x 4	38	1.6	98.6	17.5	
	300	155.4		Ø 22.4 x 4			114.3	20.6	
	400/600			6.4			114.3	28.8	
2"	150	152.4	91.9	Ø 19.1 x 4	57	1.6	120.7	19.1	
	300	165.1		Ø 19.1 x 8			127	22.4	
	400/600			6.4			165.1	31.8	
	900/1500	215.9		Ø 25.4 x 8			171.5	44.5	
	2500	235					Ø 28.4 x 8	171.5	57.2
3"	150	190.5	127	Ø 19.1 x 8	84	1.6	152.4	23.9	
	300	209.6		Ø 22.4 x 8			168.1	28.4	
	400/600			6.4			168.1	38.2	
	900	241.3		Ø 25.4 x 8			190.5	44.5	
	1500	266.7		Ø 31.8 x 8			203.2	54.2	
	2500	304.8		Ø 35.1 x 8			228.6	72.9	
4"	150	228.6	157.2	Ø 19.1 x 8	84	1.6	190.5	23.9	
	300	254		Ø 22.4 x 8			200.2	31.8	
	400			6.4			200.2	41.5	
	600	273.1		Ø 25.4 x 8			215.9	44.5	
	900	292.1		Ø 31.8 x 8			234.9	50.8	
	1500	311.2		Ø 35.1 x 8			241.3	60.2	

Electrical connection Diagram

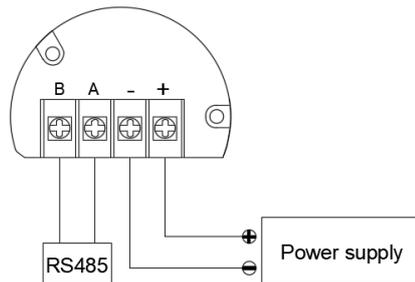
Analog output signal

Pin No.	Wire
+	+Vcc
-	-Vcc
+SIG	Out put +
-SIG	GND



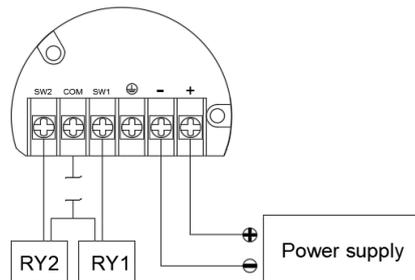
RS485 digital communication

Pin No.	2-wire
+	+Vcc
-	-Vcc
A	RS 485A
B	RS 485B



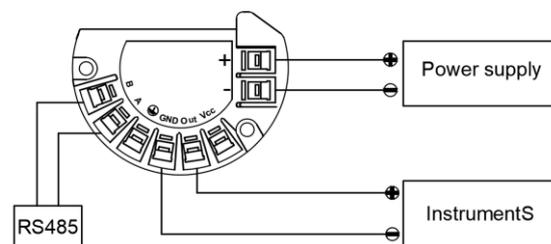
2 relay, switches

Pin No.	Wire
+	+Vcc
-	-Vcc
SW1	Relay 1
SW2	Relay 2
COM	Relay COM



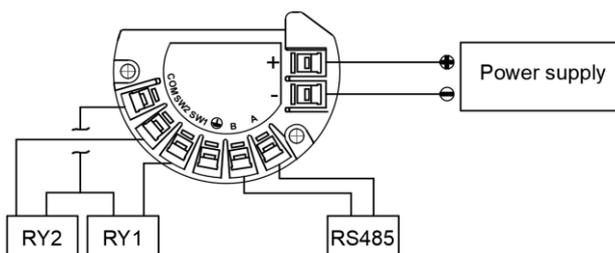
Analog + RS485 digital

Pin No.	Wire
+	+Vcc
-	-Vcc
Out	+ Signal
GND	- Signal
A	RS485 A
B	RS485 B



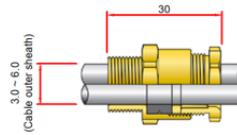
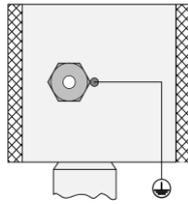
Analog + 2 relay + RS485 digital

Pin No.	2-wire
+	+Vcc
-	-Vcc
A	RS 485A
B	RS 485B
SW1	Relay 1
SW2	Relay 2
COM	Relay COM



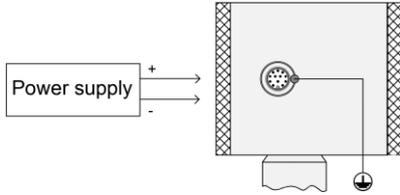
Electrical connection Diagram

Cable gland



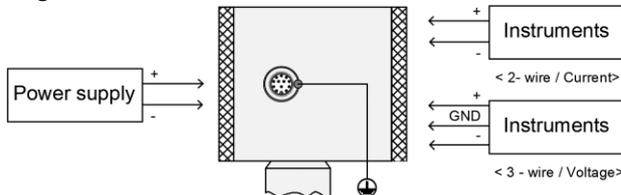
Electrical plug, M12

No Output signal



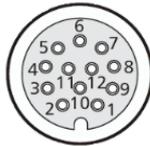
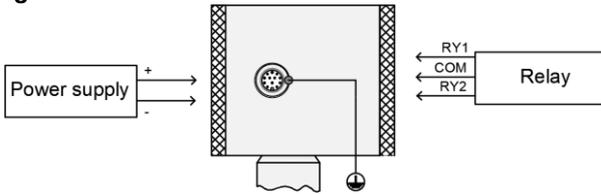
Pin No.	Wire
1	+Vcc
2	-Vcc

Output signal



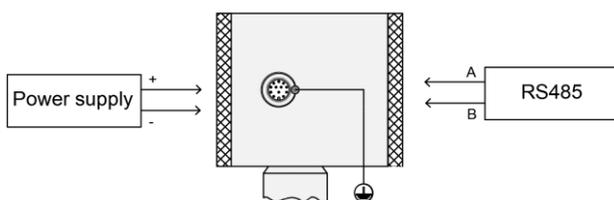
Pin No.	Current	Voltage
1	+Vcc	+Vcc
2	-Vcc	-Vcc
3	+Out	+Out
4	-Out	GND
5		-Out
12	earth	earth

Relay signal



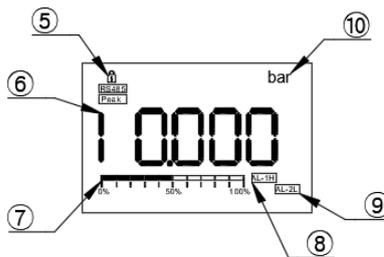
Pin No.	Wire
1	+Vcc
2	-Vcc
6	Relay 1
7	Relay 2
8	COM
12	earth

RS485 Communication



Pin No.	Wire
1	+Vcc
2	-Vcc
9	RS 485A
10	RS 485B
12	earth

Display and Control unit



Functions

- ① Menu, Cancel
- ② Select function, increase
- ③ Select function, decrease
- ④ Confirm selected function or selected value
- ⑤ Lock mode
- ⑥ Pressure values, output signal values
- ⑦ Bar graph
- ⑧ Relay 1
- ⑨ Relay 2
- ⑩ R 1/4", R 3/8", R 1/2"
NPT 1/4", NPT1/2"