Electronic pressure switch with integrated analogue output

RE 30276/03.14 1/6
Replaces: 03.06
RE 30275

Type HEDE 10…/1/

Component series 2X

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Features

- Suitable for measuring pressures and converting the measured values into electrical signal variables in hydraulic systems
- EMC properties allow the use of this pressure switch also in critical applications
- Ceramic / capacitive sensor
- Connecting cable with 4-pin M12 plug on housing
- Accuracy class 1.0
- Connection thread G1/4
- Parts in contact with media are made of stainless steel, ceramic and FKM
- Compact design
- One switching output and one analogue output

Ordering code

HED	E	10	A1	2X/	K41	G24/	1	/	V	/	*

Hydraulic electrical pressure switch

Integrated electronics = E

Component type = 10

Hydraulic interface 1/4" = A1

Component series = 2X

Pressure stages
100 bar = 100
250 bar = 250
400 bar = 400
600 bar = 600

K41 = Plug variant M12, 4-pin as standard

G 24 = Supply voltage

1 = One switching and one analogue output

V = FKM seals
⚠ Caution! Observe compatibility of seals with hydraulic fluid used!

Further details in clear text

Technical data (for applications outside these parameters, please consult us!)

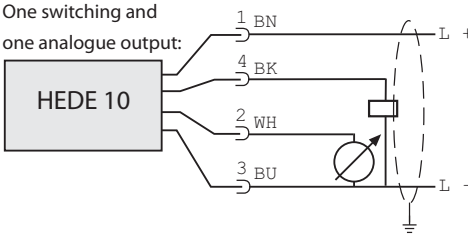
Input variables						
Auxiliary energy		U_O	18 to 36 VDC			
Current consumption		I	< 50 mA			
Measuring range		p_N in bar	100	250	400	600
Overload safety		p_{max} in bar	300	400	600	800
Burst pressure		p in bar	650	850	1000	1200
Output variables						
Analogue output		U	0 to 10 VDC minimum load 2000 Ω			
		I	4 – 20 mA (max. load (U_O – 10) x 50 Ω)			
	Rise time (10 to 90 %)	t	3 ms			
Switching output	Current carrying capacity	I	250 mA			
	Response time	t	< 3 ms (with response time set to dAP = 3)			
	Max. switching frequency	f	170 Hz (at dAP = 3)			
Characteristic curve deviation: (initial point setting according to DIN16086)			< ±0.5 %			
Temperature coefficient within nominal temperature range – Highest TC of zero point – Highest TC of span			 0.2 % / 10 k 0.2 % / 10 k			
Hysteresis			< ±0.1 %			
Repeatability			0.1 %			
Long-term drift under reference conditions (6 months)			0.05 %			
Ambient conditions						
Limit temperature range		☒	–20 to +80 °C			
Storage temperature range		☒	–40 to +100 °C			
Medium temperature range		☒	–25 to +80 °C			
Mechanical data						
Pressure port			G1/4			
Electrical connection			M12 plug-in connection			

Technical data (continued)

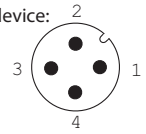
Programming options		Hysteresis / window; normally open / normally closed; pick-up, drop-out delay; attenuation; display unit / analogue output: voltage or current			
Pressure stages		100	250	400	600
Switching point SP	bar	1.0 ... 100	2 ... 250	4 ... 400	6 ... 600
Release position, rP	bar	0.5 ... 99.5	1 ... 249	2 ... 398	3 ... 597
In increments of	bar	0.5	1	2	3
Adjustable response time of a switching output and resulting switching frequency	Response time (dAP) ms Hz	3 ... 500 170 ... 1			
Adjustable delay time dS, dr	s	0.0; 0.2 ... 50.0			
Environmental compatibility					
Type of protection / housing to IEC 60529		IP67			
Class of protection EN 50178		III			
Insulation resistance	MΩ	> 100 (500 VDC)			
Resistane to shock to IEC 60068-2-27	g	50 g, 11 ms			
Resistance to vibration to IEC 60068-2-6	g	20 g, 10 ... 2000 Hz			
Switching cycles min.		100 million / 50 million with pressure stage 600 bar			
Approval		cULus			
EMC	EN 61000-4-2 ESD EN 61000-4-3 HF radiated EN 61000-4-4 burst EN 61000-4-5 surge EN 61000-4-6 HF cable-bound	4 / 8 kV 10 V/m 2 kV 0.5 / 1 kV 10 V			
Housing material		EPDM/X (Santoprene); FKM; PBTP (Pocan); PC (Macrolon); V2A (1.4301)			
Materials in contact with the medium		V2A (1.4305); ceramic; FKM			
Connection		M12 plug-in connection, gold-plated contacts			

Pin assignment K41

One switching and one analogue output:

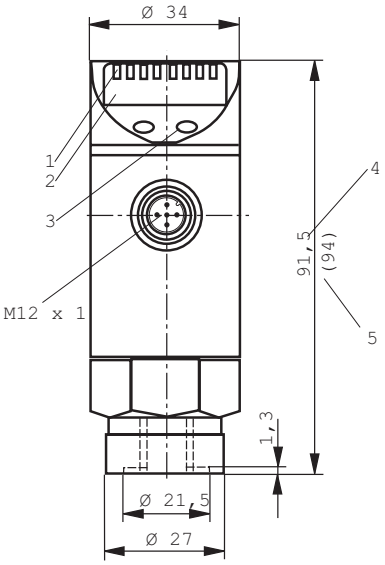


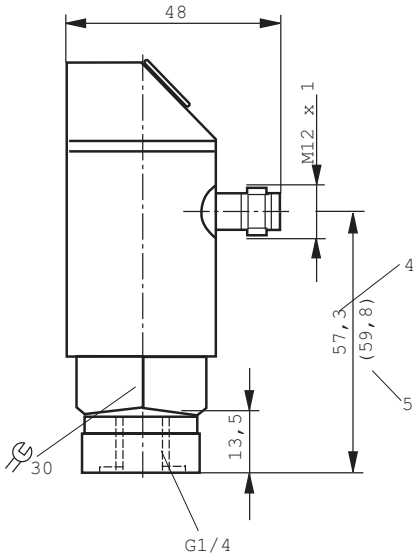
Detail of plug on the device:



1	BN	Brown
2	WH	White
3	BU	Blue
4	BK	Black

Unit dimensions (nominal dimensions in mm)





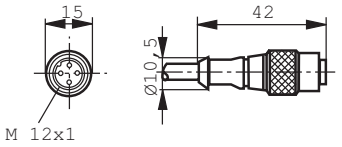
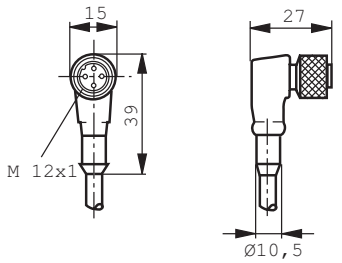
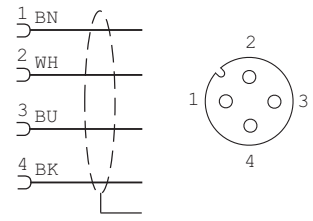
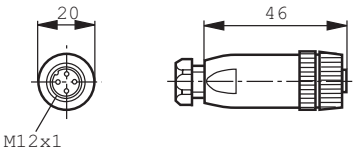
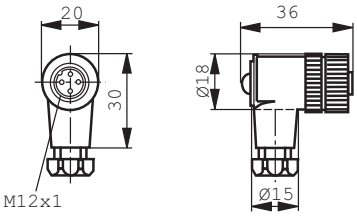
Tightening torque
20 to 30 Nm

1 Status LEDs
2 4-digit alphanumerical display
3 Programming key
4 Dimension for pressure stage 100 bar and 250 bar
5 Dimension for pressure stage 400 bar and 600 bar

Recommended installation:
Vibration-free installation!

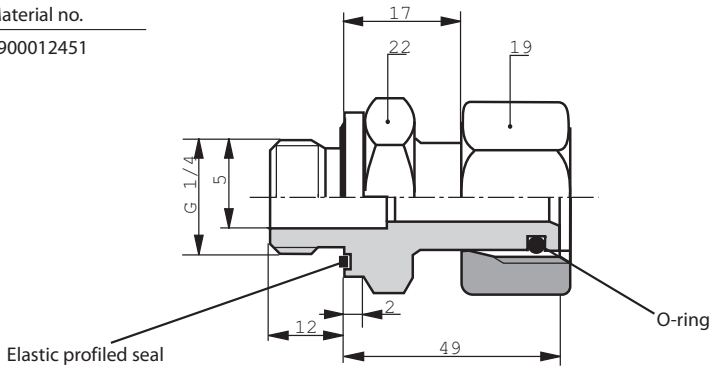
Accessories

Cable sockets:

Technical data:			Designation	Material no.
Current carrying capacity	4 A		04 POL (with 2 m cable)	R900773031
Temperature range	–25...90 °C		04 POL (with 5 m cable)	R900779498
Type of protection	IP 67			
Contacts	CuZn			
Contact surface	Gold-plated			
Housing	TPU			
Seal	FKM		04 POL (with 2 m cable)	R900779504
Fitting	CuZn/Ni		04 POL (with 5 m cable)	R900779503
Wire cross-section	4 x 0,34 mm			
Sheath material	PUR			
Shield	Not connected on plug side			
Sheath diameter	Ø 5.0 mm			
Sheath colour	Black			
Bending radius for dyn. application	min. 50 mm			
Connection: 			04 POL (without cable)[1)]	R900773042
			04 POL (without cable)[1)]	R900779509
			[1)] Type of protection IP68	

Hydraulic fitting:

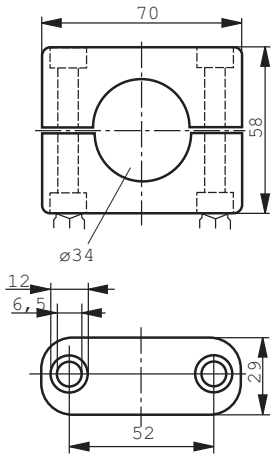
Designation	Material no.
AB 20-28	R900012451



Accessories (continued)

Mounting clamp for HEDE 10

Designation	Material no.
Mounting clamp	R900786138



Protective cap for HEDE 10

Designation	Material no.
Protective cap M12	R900786141