

Electronic pressure switch with two switching outputs

RE 30278/04.14

1/6

Replaces: 03.06

RE 30275

Type HEDE 10.../2/

Component series 2X



tb0002

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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 also in critical applications
- Sensor ceramic / capacitive
- Connecting cable with 4-pin M12 plug on the housing
- Accuracy class 1.0
- Connection thread G1/4
- Parts that are in contact with the medium are made of stainless steel, ceramics or FKM
- Compact design
- Two switching outputs

Ordering code

| HED | E | 10 | A1 | 2X | K41 | G24 | 2 | V | * | | | | | |
|--------------------------------------|----------------------------|------------------------|-------------------------------|-----------------------|----------------|---------------|---------------|---------------|---------------|-------------------------------|---|---------------------------|-----------------------|--|
| Hydraulic electrical pressure switch | Integrated electronics = E | Type of component = 10 | Hydraulic interface 1/4" = A1 | Component series = 2X | Pressure stage | 100 bar = 100 | 250 bar = 250 | 400 bar = 400 | 600 bar = 600 | Further details in clear text | V = FKM seals ⚠ Caution! Observe compatibility of seals with the hydraulic fluid used! | 2 = Two switching outputs | G 24 = Supply voltage | K41 = Plug-in variant M12, 4-pin as standard |

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

| Input variables | | | | | |
|--|---------------------------|--|---|------|------|
| Auxiliary power | U_B | 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 | | | | | |
| Switching output | Current carrying capacity | I | 250 mA | | |
| | Response time | t | < 3 ms (with set response time dAP = 3) | | |
| | Max. switching frequency | f | 170 Hz (at dAP = 3) | | |
| Characteristic curve deviation: (initial point setting to DIN16086) | | | < ±0.5 % | | |
| Temperature coefficient in the nominal temperature range | | | | | |
| – Highest TC of the zero point | | | 0.2 % / 10 k | | |
| – Highest TC of the range | | | 0.2 % / 10 k | | |
| Hysteresis | | | < ±0.25 %; 0.5 % for pressure stage 600 bar | | |
| Repeatability | | | < ±0.1 % | | |
| Long-term drift under reference conditions (6 months) | | | 0.05 % | | |
| Ambient conditions | | | | | |
| Limit temperature range | 9 | -20 to +80 °C at $U_B < 32 V$ -20 to +45 °C at $U_B > 36 V$ | | | |
| Storage temperature range | 9 | -40 to +100 °C | | | |
| Fluid temperature range | 9 | -25 to +80 °C | | | |
| Mechanical data | | | | | |
| Pressure port | | G1/4 | | | |
| Electrical connection | | M12 plug-in connection | | | |

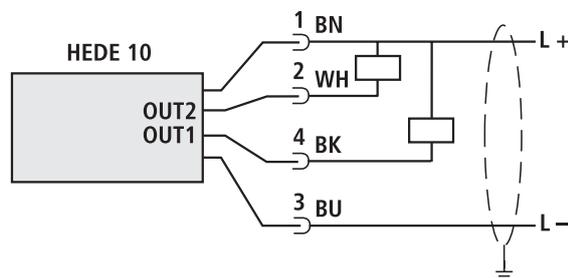
Technical data (continued)

| | | | | | |
|--|------------------------------|---|--|-----------|-----------|
| Programming options | | Hysteresis / window; n.o. / n.c; pick-up, drop-out delay; damping; unit of indication / diagnosis output | | | |
| Pressure stages | | 100 | 250 | 400 | 600 |
| Switching point SP | bar | 1.0 ... 100 | 2 ... 250 | 4 ... 400 | 6 ... 600 |
| Resetting point, 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 dS, dr | s | 0.0; 0.2 ... 50.0 | | | |
| Environmental compatibility | | | | | |
| Type of protection / housing to IEC 60529 | | IP67 | | | |
| Protection class to EN 50178 | | III | | | |
| Insulation resistance | | MΩ | > 100 (500 VDC) | | |
| Resistance to shock to IEC 60068-2-27 | | g | 50 g, 11 ms | | |
| Resistance to vibration | | 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); ceramics; FKM | | | |
| Connection | | M12 plug-in connection, gold-plated contacts | | | |

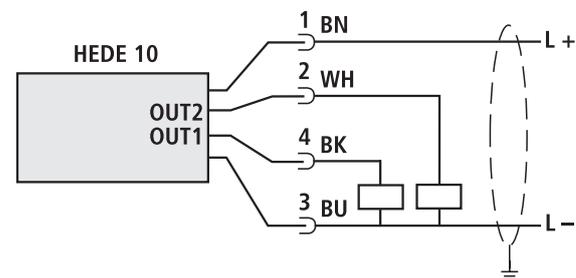
Pin assignment K41

Two switching outputs:

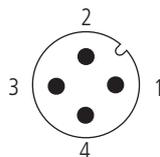
low-side switching (NPN)



high-side switching (PNP)

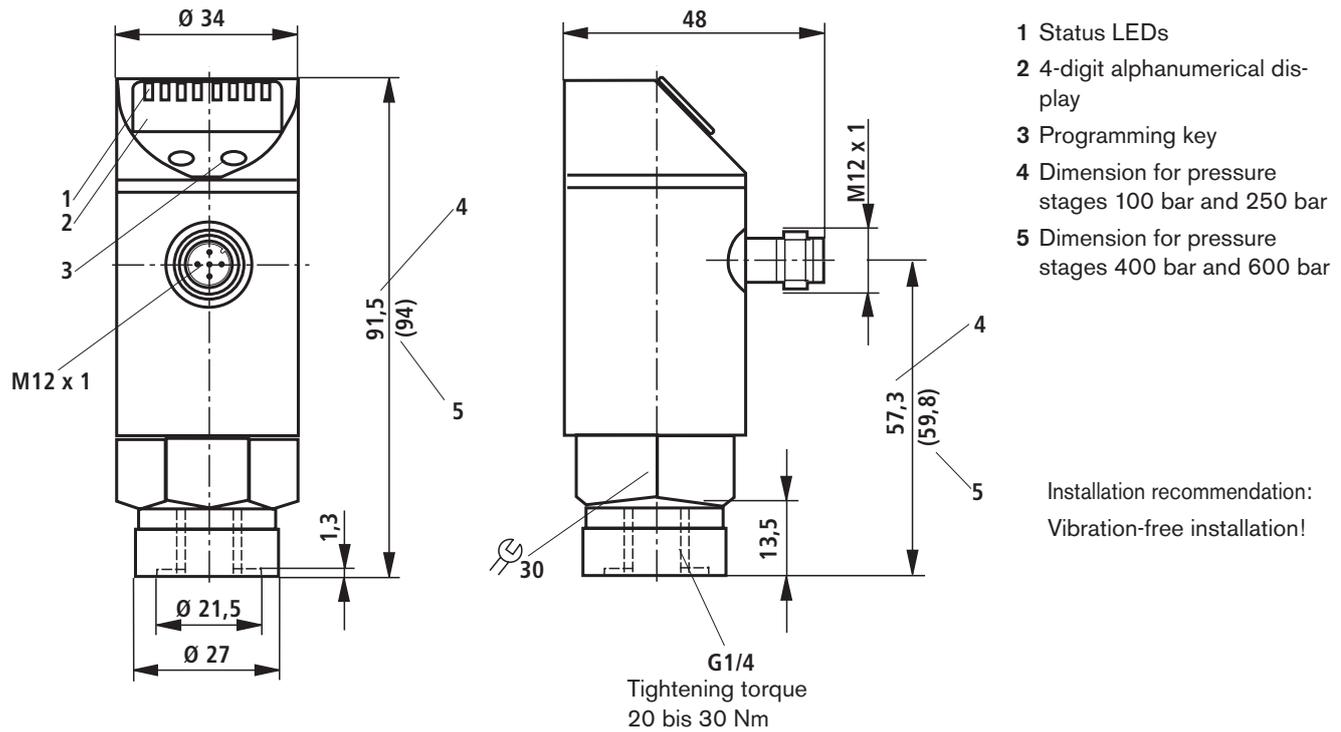


Detail view on the plug of the device:



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

Unit dimensions (nominal dimensions in mm)



Accessories

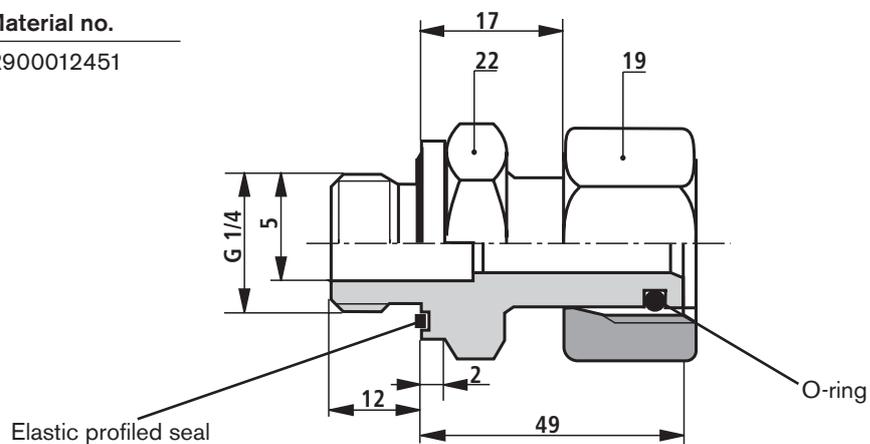
Cable sockets:

| 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 diam. | 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⁾ |

¹⁾ Type of protection IP68

Hydraulic fitting:

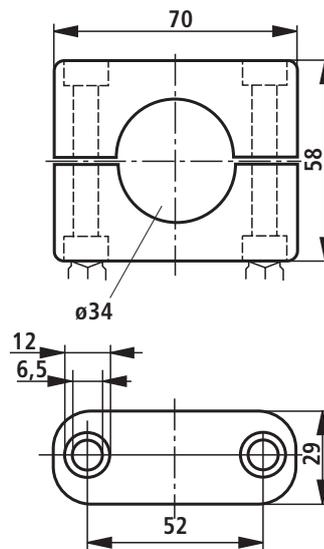
| Designation | Material no. |
|-------------|--------------|
| AB 20-28 | R900012451 |



Accessories (continued)

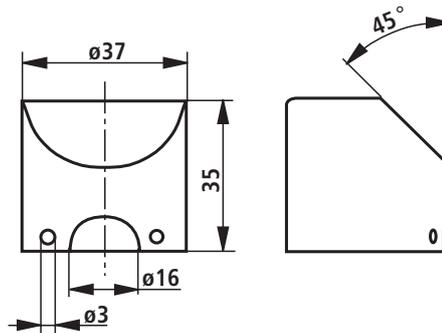
Fixing clamp for HEDE10

| Designation | Material no. |
|--------------|--------------|
| Fixing clamp | R900786138 |



Protective cap for HEDE10

| Designation | Material no. |
|--------------------|--------------|
| Protective cap M12 | R900786141 |



Notes

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