

18.600 G

OEM Pressure Transmitter Pneumatics

Applications

- ▶ compressed air network
- ▶ general mechanical engineering

Characteristics

- ▶ silicon sensor without media isolation
- ▶ accuracy 0.5 % FSO according to IEC 60770
- ▶ nominal pressure ranges from 0 ... 100 mbar up to 0 ... 6 bar



Technical Data

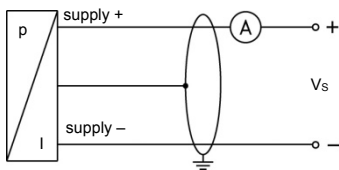


| Input pressure range | | | | | | | | | | | | | |
|--|---------|--|-----|--|-----|--|---------|-------------------------|---------------------------|------------------------|----|--|--|
| Nominal pressure gauge | [bar] | -1 ... 0 | 0,1 | 0,25 | 0,4 | 0,6 | 1 | 1,6 | 2,5 | 4 | 6 | | |
| Overpressure | [bar] | 3 | 0,5 | 1 | 1 | 3 | 3 | 6 | 10 | 10 | 20 | | |
| Burst pressure | [bar] | 5 | 1,5 | 3 | 3 | 3 | 7,5 | 7,5 | 15 | 25 | 25 | | |
| Output signal / Supply | | | | | | | | | | | | | |
| Standard | | 2-wire: | | 4 ... 20 mA | | / | $V_S =$ | | 8 ... 32 V _{DC} | | | | |
| Option | | 3-wire: | | 0 ... 10 V | | / | $V_S =$ | | 14 ... 30 V _{DC} | | | | |
| | | 3-wire ratiometric: | | 10 ... 90% of V _S | | / | $V_S =$ | | 2.7 ... 5 V _{DC} | | | | |
| Performance | | | | | | | | | | | | | |
| Accuracy ¹ | | ≤ ± 0.5 % FSO | | | | | | | | | | | |
| Permissible load | | 2-wire: | | $R_{max} = [(V_S - V_{Smin}) / 0.02 A] \Omega$ | | | | | | | | | |
| | | 3-wire: | | $R_{min} = 10 k\Omega$ | | | | | | | | | |
| Influence effects | | supply: 0.05 % FSO / 10 V | | | | load: | | 0.05 % FSO / k Ω | | | | | |
| Response time | | 2-wire: ≤ 10 msec | | | | 3-wire: | | ≤ 3 msec | | | | | |
| Long term stability | | ≤ ± 0.2 % FSO / year at reference conditions | | | | | | | | | | | |
| Measuring rate | | 1 kHz | | | | | | | | | | | |
| ¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability) | | | | | | | | | | | | | |
| Thermal effects (Offset and Span) | | | | | | | | | | | | | |
| Nominal pressure P _N | [bar] | -1 ... 0 | | | | ≤ 0.4 | | | | > 0.4 | | | |
| Tolerance band | [% FSO] | ≤ ± 1 | | | | ≤ ± 1 | | | | ≤ ± 0.75 | | | |
| in compensated range | [°C] | 0 ... 70 | | | | | | | | -20 ... 85 | | | |
| Permissible temperatures | | | | | | | | | | | | | |
| Permissible temperatures | | medium: -25 ... 125 °C | | | | electronics / environment: -25 ... 85 °C | | | | storage: -40 ... 85 °C | | | |
| Electrical protection | | | | | | | | | | | | | |
| Short-circuit protection | | permanent | | | | | | | | | | | |
| Reverse polarity protection | | no damage, but also no function | | | | | | | | | | | |
| Electromagnetic compatibility | | emission and immunity according to EN 61326 | | | | | | | | | | | |
| Mechanical stability | | | | | | | | | | | | | |
| Vibration | | 10 g, 25 Hz ... 2 kHz | | | | according to DIN EN 60068-2-6 | | | | | | | |
| Shock | | 100 g / 11 msec | | | | according to DIN EN 60068-2-27 | | | | | | | |

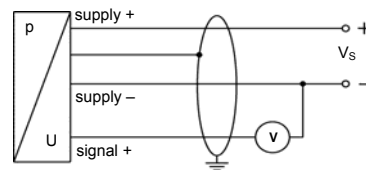
| | |
|-------------------------|---|
| Materials | |
| Pressure port / housing | stainless steel 1.4301 (304) |
| Seals | FKM |
| Sensor | stainless steel 1.4404 (316L), silicon, glass, epoxy or RTV |
| Media wetted parts | pressure port, seals, sensor |
| Miscellaneous | |
| Weight | approx. 120 g |
| Permissible media | pressurized air, non-aggressive gases |
| Current consumption | 2-wire: max. 25 mA 3-wire voltage: max. 7 mA (short circuit current: max. 20 mA) |
| Operational life | 100 million load cycles |
| CE-conformity | EMC Directive: 2014/30/EU |

Wiring diagrams

2-wire-system (current)



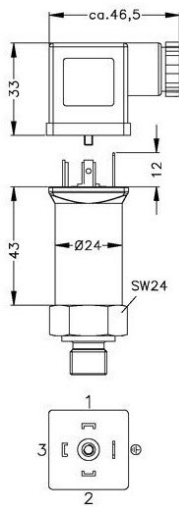
3-wire-system (voltage)



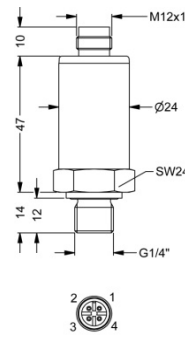
Pin configuration

| Electrical connections | ISO 4400 | M12x1 (4-pin), metal | cable colour (IEC 60757) |
|------------------------|------------|----------------------|--------------------------|
| Supply + | 1 | 1 | wh (white) |
| Supply - | 2 | 2 | bn (brown) |
| Signal + (for 3-wire) | 3 | 3 | gn (green) |
| Shield | ground pin | 4 | gnye (green-yellow) |

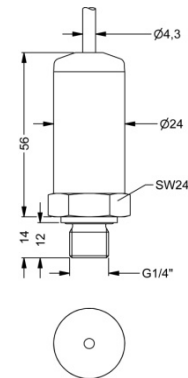
Electrical connections (dimensions in mm)



ISO 4400
(IP 65)



M12x1, 4-pin
(IP 67)



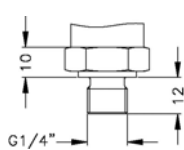
cable outlet with
PVC-cable (IP 67)^{2,3}

² standard: 2 m PVC cable without ventilation tube (permissible temperatur: -5 ... 70 °C)

³ different cable types and lengths available, permissible temperatur depends on kind of cable

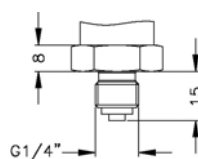
Mechanical connection (dimensions in mm)

standard

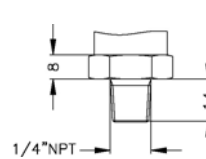


G1/4" DIN 3852

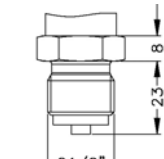
option ⁴



G1/4" EN 837



G1/4" NPT



G1/2" EN 837

⁴ other mechanical connections on request

Ordering code 18.600 G

18.600 G -

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|------------------------------|--|---|---|---|---|--|--|--|--|---|---|---|---|---|---------|
| Input | [bar] | | | | | | | | | | | | | | |
| | 0.10 | 1 | 0 | 0 | 0 | | | | | | | | | | |
| | 0.25 | 2 | 5 | 0 | 0 | | | | | | | | | | |
| | 0.40 | 4 | 0 | 0 | 0 | | | | | | | | | | |
| | 0.60 | 6 | 0 | 0 | 0 | | | | | | | | | | |
| | 1.0 | 1 | 0 | 0 | 1 | | | | | | | | | | |
| | 1.6 | 1 | 6 | 0 | 1 | | | | | | | | | | |
| | 2.5 | 2 | 5 | 0 | 1 | | | | | | | | | | |
| | 4.0 | 4 | 0 | 0 | 1 | | | | | | | | | | |
| | 6.0 | 6 | 0 | 0 | 1 | | | | | | | | | | |
| | -1 ... 0 | X | 1 | 0 | 2 | | | | | | | | | | |
| | customer | 9 | 9 | 9 | 9 | | | | | | | | | | consult |
| Pressure | | | | | | | | | | | | | | | |
| | gauge | | | | R | | | | | | | | | | |
| Output | | | | | | | | | | | | | | | |
| | 4 ... 20 mA / 2-wire | | | | | | | | | 1 | | | | | |
| | 0 ... 10 V / 3-wire | | | | | | | | | 3 | | | | | |
| | 10 ... 90% of V_S / 3-wire ratiometric | | | | | | | | | R | | | | | |
| | customer | | | | | | | | | 9 | | | | | consult |
| Accuracy | | | | | | | | | | | | | | | |
| | 0.5 % FSO | | | | | | | | | 5 | | | | | |
| | customer | | | | | | | | | 9 | | | | | consult |
| Electrical connection | | | | | | | | | | | | | | | |
| | male and female plug ISO 4400 | | | | | | | | | 1 | 0 | 0 | | | |
| | male plug M12x1 (4-pin), metal | | | | | | | | | M | 2 | 0 | | | |
| | cable outlet with PVC-cable ¹ | | | | | | | | | T | M | 0 | | | |
| | customer | | | | | | | | | 9 | 9 | 9 | | | consult |
| Mechanical connection | | | | | | | | | | | | | | | |
| | G1/4" DIN 3852 | | | | | | | | | 3 | 0 | 0 | | | |
| | G1/4" EN 837 | | | | | | | | | 4 | 0 | 0 | | | |
| | 1/4" NPT | | | | | | | | | N | 4 | 0 | | | |
| | customer | | | | | | | | | 9 | 9 | 9 | | | consult |
| Seals | | | | | | | | | | | | | | | |
| | FKM | | | | | | | | | 1 | | | | | |
| | customer | | | | | | | | | 9 | | | | | consult |
| Special version | | | | | | | | | | | | | | | |
| | standard | | | | | | | | | | | | 0 | 0 | 0 |
| | customer | | | | | | | | | | | | 9 | 9 | 9 |
| | | | | | | | | | | | | | | | consult |

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¹ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)