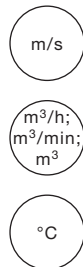


Compressed air counter shaft probe DN40 - DN250

testo 6448



Possibility of installation under pressure

Measurement of flow velocity in the measuring range 0 to 80 m/s or 160 m/s; consumption measurement in m³ and media temperature in °C

Recoil protection and ball valve ensure fast and safe installation and deinstallation of the compressed air probe

Highest flexibility thanks to different signal outputs:

- Analog output 4 to 20 mA (4-wire)
 - Pulse output
 - 2 switching outputs (consumption or volume flow-dependent)
-

Integrated totalizer, also without additional evaluation unit

Operating menu with LED display

Shaft probe

The mobile compressed air counter testo 6448 is designed for the recording and monitoring of compressed air consumption, and thus not only for the identification of leakages in compressed air systems and the allocation of costs by consumption, but also for the implementation of peak load management. The shaft probe can be used for measurements on different pipe diameters.

An optional drilling clamp allows the exact positional installation of the sensor, without the need for welding work. The affected compressed air pipeline can remain pressurized when installing the drilling clamp or for sensor maintenance/exchange.

Patented recoil protection

The recoil protection guarantees high security for the commissioner, and combines three functions in one instrument:

1. the recoil protection, i.e. the sensor can only be inserted in one direction during installation.
2. the seal to the process, i.e. thanks to the O-ring, compressed air cannot escape during installation.
3. the positionable fixing, since a penetration depth and positioning which is exact to the millimeter, similar to a car's clutch, is possible.

Technical data

Parameters

| | |
|------------------------------|---|
| Flow velocity | |
| Selectable units | m/s |
| Measuring range ¹ | 0 to 80 or 160 m/s |
| Accuracy | ±3 % of meas. value ±3 % of fsv (at room temperature) |
| Sensor | Thermal, glass-coated ceramic sensor (calorimetric measurement procedure) |
| Response time | <0.1 sec (for damping parameter = 0), delayable via operating menu (0 to 1 sec) |
| (Norm) volume flow | |
| Selectable units | m ³ /h, m ³ /min, m ³ |
| Measuring range ¹ | Maximum measuring range of volume flow is dependent on inner pipe diameter (see page 3) |
| Temperature | |
| Unit | °C |
| Measuring range | 0 to +60 °C / 32 °F to +140 °F |

Inputs and outputs

Analog outputs

| | |
|-------------|--|
| Output type | 4 to 20 mA (4-wire) freely scalable between zero and measuring range end |
| Load | max. 500 Ω |

Further outputs

| | |
|---------------|---|
| Pulse output | Pulse speed freely settable in 1 m ³ steps |
| Switch output | 2 switch outputs, parameterizable (consumption or volume flow-dependent, NC, NO, hysteresis, window), loadable with max. 20 to 30 VDC or 250 mA each, switch status is displayed via 2 LEDs |

Supply

| | |
|---------------------|---|
| Voltage supply | 19 to 30 V DC |
| Current consumption | <100 mA |
| Connection | M12 x 1 plug, loadable up to 250 mA, short-circuit-proof (synchronized), reverse-polarity-proof, overload-proof |

General technical data

Design

| | |
|------------------|---|
| Material housing | PBT-GF 20, PC (APEC), Makrolon, V2A (1.4301), Viton |
| Weight | 850 g |

Display

| | |
|---------|--|
| Display | 4-figure alphanumerical display, two operating buttons, operating menu, LED (4 x green for phys. units, 3 x yellow for display x 1,000 or switch status) |
|---------|--|

Operation

| | |
|------------------|---------------------|
| Parameterization | 2 operating buttons |
|------------------|---------------------|

Miscellaneous

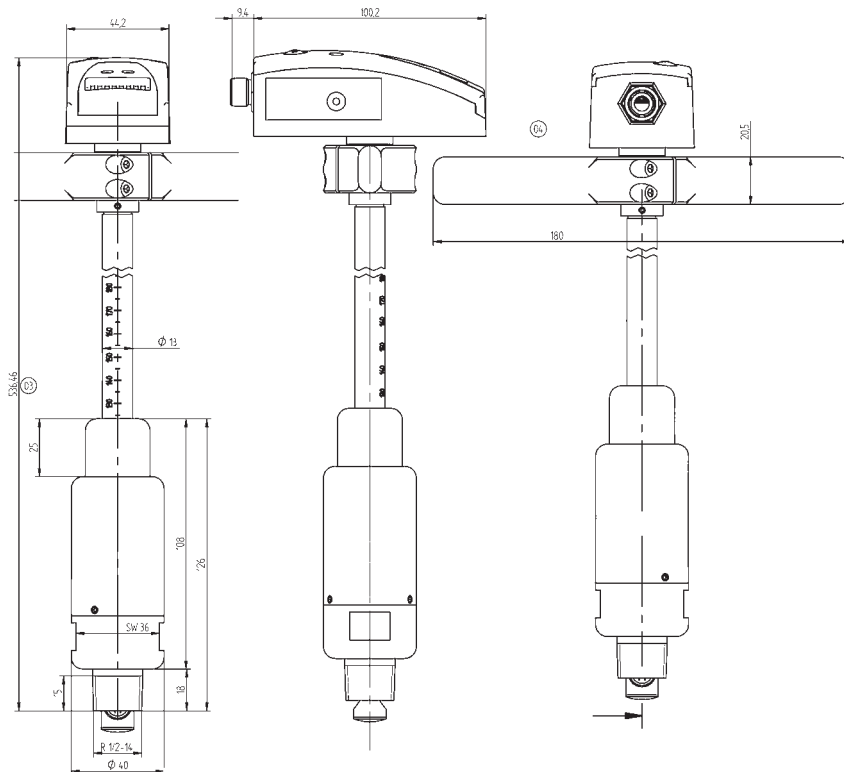
| | |
|------------------|--|
| Protection class | IP 65/III |
| EMC | according to guideline 89/336 EEC |
| Media contact | V2A (1.4301), PEEK, polyester, Viton, anodized aluminium, glass-coated ceramics |
| Norm reference | Calculation of volume flow due to manual input possibility of temperature, humidity and pressure. Works settings: 15 °C, 1013.25 hPa, 0 %RH |

Operating conditions

| | |
|-----------------------------------|---|
| Humidity (sensor) | rel. humidity <90 %RH |
| Operating temperature (housing) | 0 to +60 °C (+32 to +140 °F) |
| Storage temperature | -25 to +85 °C (-13 to +185 °F) |
| Measurement medium | Compressed air, with special calibration also CO ₂ or N ₂ |
| Process pressure | PN 16 (max 16bar/232psi) |
| Pressure tightness/ pipe clamp | 16 bar (max.) for DN40-DN200; 10 bar (max.) for DN250-DN300 |
| Air quality | ISO 8573: recommended classes 1-4-1 |

¹ Specifications according to DIN 2533 (+15 °C, 1013.25 hPa, 0 %RH)

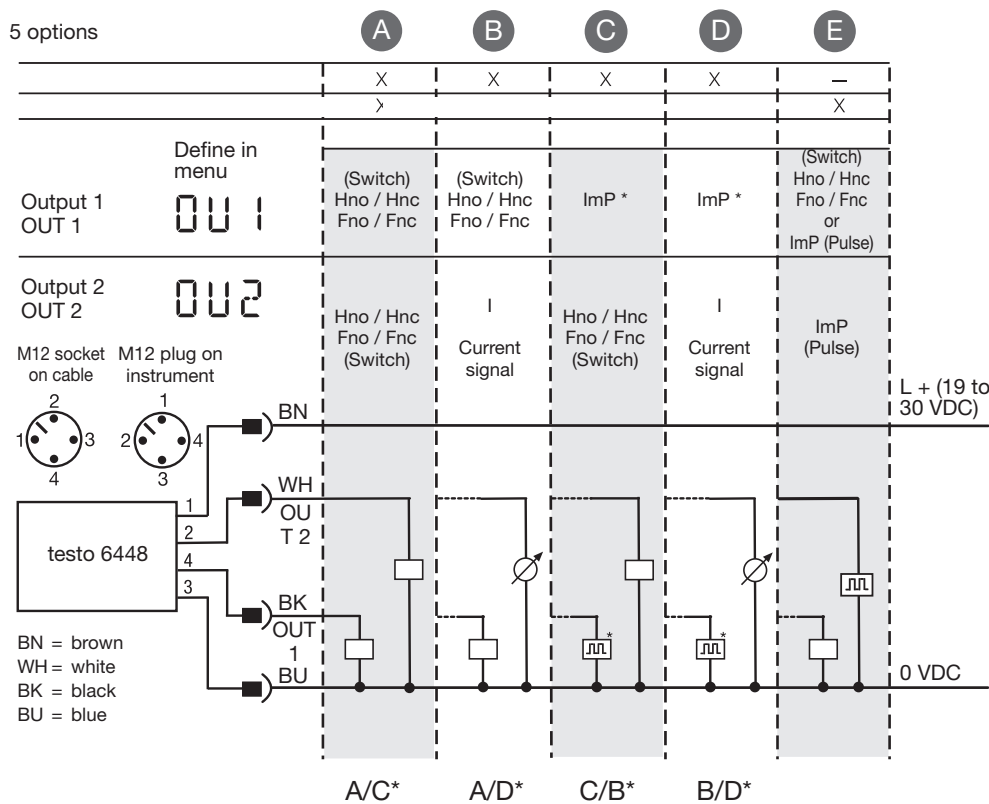
Technical drawings



Measuring range volume flow according to DIN2533

| Version | 80 m/s | 160 m/s |
|---------|-------------------------|-------------------------|
| DN 40 | 300 m ³ /h | 600 m ³ /h |
| DN 50 | 500 m ³ /h | 1000 m ³ /h |
| DN 65 | 940 m ³ /h | 1880 m ³ /h |
| DN 80 | 1300 m ³ /h | 2600 m ³ /h |
| DN 100 | 2200 m ³ /h | 4400 m ³ /h |
| DN 125 | 3350 m ³ /h | 6700 m ³ /h |
| DN 150 | 4975 m ³ /h | 9950 m ³ /h |
| DN 200 | 8500 m ³ /h | 17000 m ³ /h |
| DN 250 | 12825 m ³ /h | 25650 m ³ /h |

Electrical connection



| Terminal allocation | |
|----------------------------------|---|
| 1 | Supply connection 19 to 30 VDC (+) |
| 2 | OUT 2 (analog output (4 to 20 mA) or switch output) |
| 3 | Supply connection 0 V (-) |
| 4 | OUT 1 (pulse output or switch output) |
| Wire colours for cable 0699 3393 | |
| | brown |
| | white |
| | blue |
| | black |

* If menu selection ImPR = Yes -> Pulse output
If menu selection ImPR = No -> Switch output (pre-selection counter)

Options / Ordering example

Order data testo 6448

AXXX configuration
BXX Drilling clamp selection
CXX Measurement fitting selection

AXXX configuration

A0 accessories only *
A1 with transmitter incl.
recoil protection **
AA0 80 m/s
AA1 160 m/s
AC0 Air (compressed air)
AC1 Alternative gas: nitrogen
AC2 Alternative gas: CO₂
AD0 factory protocol only
AD1 ISO calibration protocol m/s
at 6 points
AD2 ISO calibration protocol m³/h
at 6 points for specific
nominal diameter
(pls. indicate diameter)
AE0 Standard length 285 mm
(for DN40 to DN100)
AE1 Length variant 435 mm
(for DN125 to DN250)

* If this selection is made, further configuration
AXX is not necessary. Continue with BX.

**Further Configuration necessary! Continue
with AXX.

***A connection cable, e.g. order no. 0699
3393 is required for operation.

BXX Drilling clamp selection

B00 without drilling clamp
B01 drilling clamp DN40
B02 drilling clamp DN50
B03 drilling clamp DN65
B04 drilling clamp DN80
B05 drilling clamp DN100
B06 drilling clamp DN125
B07 drilling clamp DN150
B08 drilling clamp DN200
B09 drilling clamp DN250
B10 drilling clamp DN300

CXX Measurement fitting selection

C00 without measurement fitting / without ball
valve
C01 measurement fitting (incl. ball valve for
other meas. parameter, e.g. dewpoint
transmitter testo 6740)
C02 ball valve (DN15)

Ordering example

Order code for transmitter testo 6448 –
Compressed air counter shaft probe

- With transmitter incl. recoil protection
- 80 m/s
- Air (compressed air)
- Without calibration
- Length variant 435 mm (for DN125 to
DN250)
- Without drilling clamp
- Without measurement fitting /
without ball valve

-> 0555 6448 A1 AA0 AC0 AD0 AE1 B0
C0

Order code for transmitter testo 6448 –
drilling clamp DN40:

- Accessories
- With drilling clamp DN40
- Without measurement fitting /
without ball valve

-> 0555 6448 A0 B01 C0