testo 6448

Compressed air counter shaft probe DN40 - DN300

SPECIFICATIONS
testo 6448

Shaft probe

The mobile compressed air counter testo 6448 is used for the determination, monitoring, control and reporting of compressed air consumption, and thus for the determination of leakage in compressed air systems, as well as consumption-based cost allocation and peak load management. The shaft probe is optimally suited for easy, secure and fast installation, and can be used for measurements on different pipe diameters.

An optimum drilling clamp allows exact positioning of the sensor without the need for welding work. The respective supply line can remain under pressure while installing this drilling clamp or when maintaining/replacing the sensor (normal operating conditions). An ideal ball valve allows the compressed air line to be sealed securely and air-tight for removal of the probe, or re-opened.

Patented recoil protection

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

1. The recoil protection, i.e. the sensor can be pushed in only one direction during installation

2. Seal against the process, i.e. thanks to an O-ring gasket, no compressed air can escape during installation

3. Positionable fixing, as a millimetre-exact penetration depth and postioning is possible, as in a car clutch

Areas of application:

- Leakage detection, compressed air consumption meaurement
- Consumption cost allocation
- Peakload management
- Min./max. monitoring
- Control of consumption-dependent maintenance strategies
- Automatic, exact compressed air dosage

SPECIFICATIONS
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- Possibility of installation under pressure
- Measurement of flow velocity (m/s) in the measuring range 0 to 80 m/s or 160 m/s; consumption measurement in Nm^3 and media temperature in °C
- Recoil protection and ball valve ensure fast and safe installation and deinstallation of the compressed air probe on site. This means several measurement sites can be covered with one shaft probe.
- Highest flexibility thanks to different signal outputs:
  - Analog output 4 to 20 mA (4-wire)
  - Pulse output
  - 2 switching outputs (parameterizable: consumption or volume flow-dependent, NO, NC, hysteresis, window)
- Integrated totalizer, also without additional evaluation unit
- Operating menu with LED display

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Technical data testo 6448

Parameters

Flow velocity	
Selectable units	m/s
Measuring range	0 to 80 or 160 m/s
Measurement dynamics	1:150 or 1:300
Measurement uncertainty	±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	Nm^3/h, Nm^3/min, Nm^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, practical are 1 m^3, 10 m^3, 100 m^3 and 1000 m^3 or pre-selection counter up to 1,000,000 m^3
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	
	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)
Max. display value norm volume flow	90 Nm^3/h
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	All norm references covered due to manual input possibility of temperature, humidity and pressure

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 CO2 or N2
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

Subject to change without notice.

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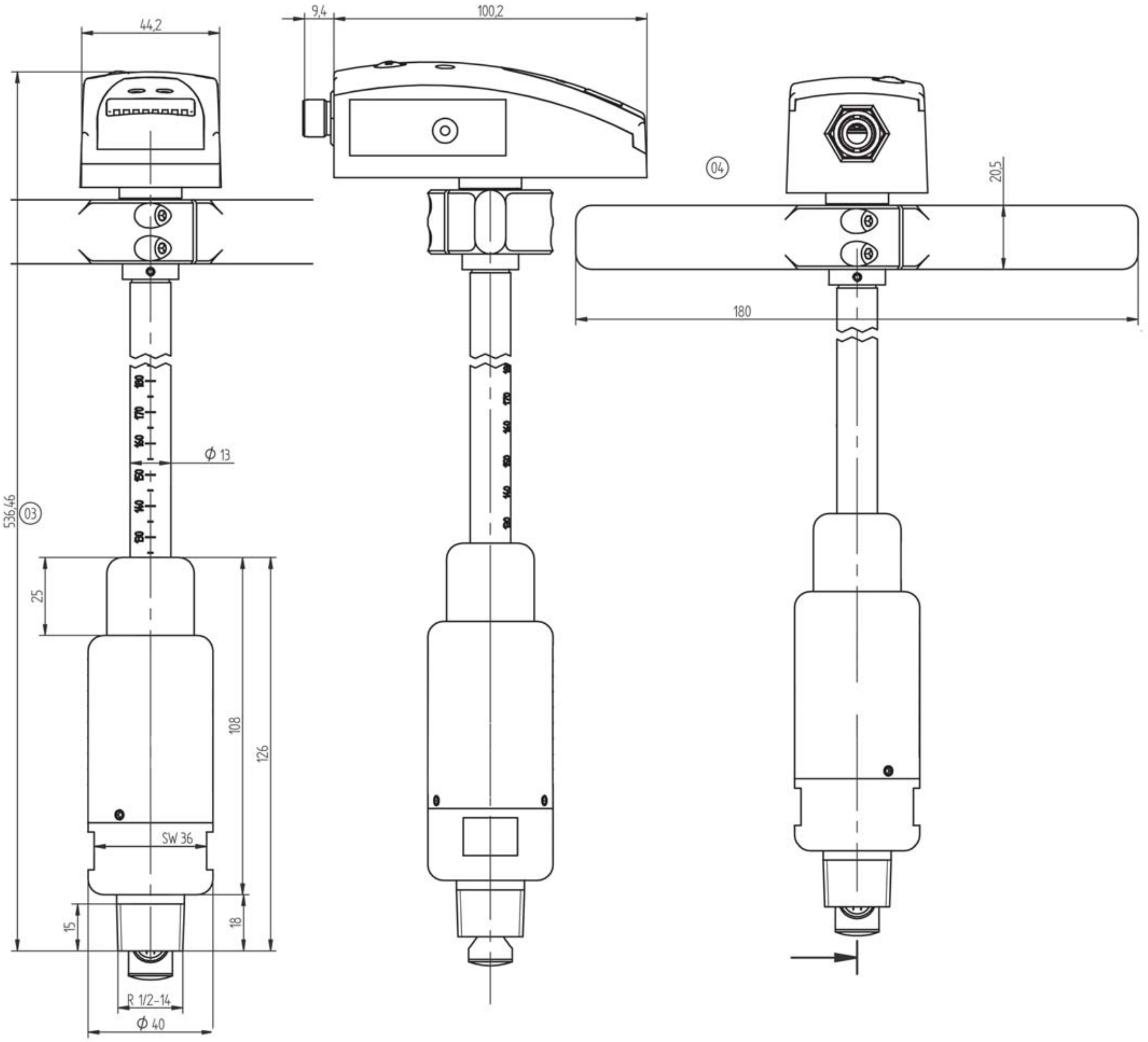
Technical drawings



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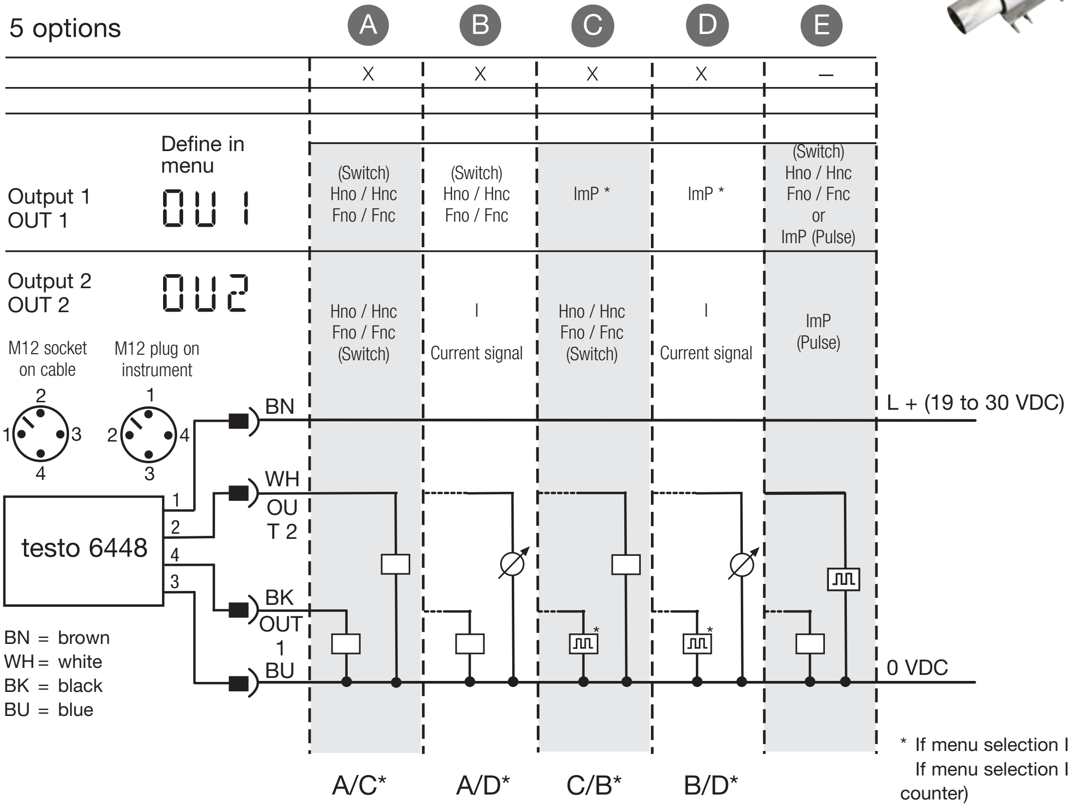
Compressed air counter shaft probe DN40 - DN300

Electrical connection



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

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

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Order data testo 6448

AXXX	configuration
BXX	Drilling clamp selection
CXX	Measurement fitting selection

Examples:

Order code for transmitter testo 6448 – Compressed air counter shaft probe
- With transmitter incl. recoil protection
- 80 m/s
- With directional protection
- Air (compressed air)
- Without calibration
- Length variant 435 mm (for DN125 to DN300)
- Without drilling clamp
- Without measurement fitting / without ball valve

-> 0555 6448 A1 AA0 AB1 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

AXXX configuration

- A0 accessories only *
- A1 with transmitter incl. recoil protection **
  - AA0 80 m/s
  - AA1 160 m/s
    - AB0 Without directional protection
    - AB1 With directional protection
      - AC0 Air (compressed air)
      - AC1 Alternative gas: nitrogen
      - AC2 Alternative gas: CO_2
        - AD0 factory protocol only
        - AD1 ISO calibration protocol m/s at 6 points
        - AD2 ISO calibration protocol m^3/s 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 DN300)

BXXDrilling clamp selection

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

CXX Measurement fitting selection

C00	Without measurement fitting / without ball valve
C01	With measurement fitting (incl. ball valve for e.g. other meas. parameter)
C02	With ball valve (DN15)

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

** Further Configuration necessary! Continue with AXX.

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