

# TPH

## TRANSDUCER FOR HIGH-PRESSURE



### Main features

- Pressure range:  
0...1500 to 0...5000 bar / 0...20000 to 0...70000 psi
- Precision class: 0,3% FSO
- Entirely in stainless steel
- Internally generated calibration signal
- "Autoclave" pressure fitting
- Protection level: IP65

Series TPH transducers are designed for applications in high-pressure hydraulic circuits.

It uses the extensimetric measurement principle with photo-engraved metal leaf.

The 4 active elements configuration allows a signal of 2mV/V, maintaining conditions of stress with high coefficient of safety on the measurement diaphragm.

Careful selection and ultrasonic checking of materials used in machining guarantee the absence of inclusions and defects on the primary reaction mechanics, assuring a highly reliable product.

The autoclave process connection in the English version makes series TPH transducers suitable for applications in the most common high-pressure installations.

### TECHNICAL DATA

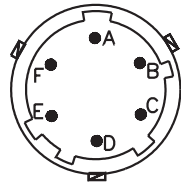
Precision class (1)	< 0,3% FSO
Resolution	infinite
Pressure range	from 0...1500 to 0...5000 bar from 0...20000 to 0...70000 psi
Max. applicable pressure (20 sec. without degradation of the specific)	2 times Full Scale (max. 6000bar / 86000psi)
Resistance to bursting	3 times Full Scale (max. 6000bar / 86000psi)
Measurement principle	Metal strain gauge glued (4 active elements)
Resistance of measurement bridge	350 (± 2%) Ohm
Power supply	10 (max 15) Vdc/ac RMS
Resistance of isolation	>1000 MΩ a 50Vdc
Nominal pressure signal	2 (± 1%) mV/V
Ambient pressure signal	±1% FSO
Calibration signal	80% ± 1%
Compensated temperature range	0...+80°C / 32...+176°F
Permitted temperature range	-30...+120°C -22...+248°F
Option cable F:	-20...+100°C -4...+212°F
Thermal drift in compensated range (zero - cal. - sens.)	< ±0,02% FSO/°C < ±0,01% FSO/°F
Materials in contact with measurement fluid	15- 5 PH stainless steel
Case material	AISI 304 stainless steel
Protection level	IP65
Process connections	
Electrical connections	Standard: F-250-C (9/16-UNF female); on request: M16x1.5 female 6-pole connector; other connectors on request

FSO = Full Scale Output  
1 BFSL (Best Fit Straight Line) method.



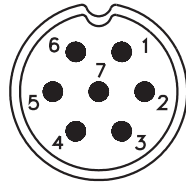
## ELECTRICAL CONNECTIONS - Connectors

V - 6-pole connector



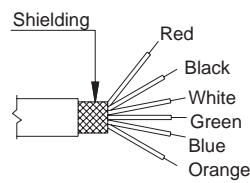
Male conn.  
VPT02A10-6PT2

P - 7-pole connector



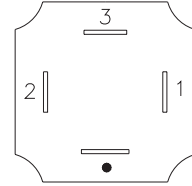
Male conn.  
09-0127-09-07

F - 6-pole cable



F - Shielded cable 6 x 0,25 - 1m.

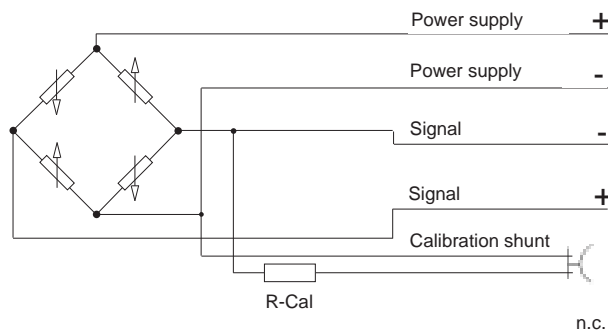
E - 4-pole connector solenoid  
M - 4-pole connector microsolenoid



E - Solenoid 400DIN  
46350A-ISO 4400  
M - Microsolenoid 400 DIN  
46350B-ISO 4400

## ELECTRICAL CONNECTIONS - connection diagrams

### mV/V output



Code V	Code P	Code F	Code E/M
C	1	White	3
D	2	Green	
B	4	Black	2
A	3	Red	1
E - F	5 - 6	Blue/orange	Not available
	7		

The cable sheathing is connected to the transducer body

## ACCESSORIES ON REQUEST

### Connectors

#### Connection V

Female cable connector Prot. IP66

**CON 300**

#### Connection P

Female cable connector Prot. IP40

**CON 320**

Female cable connector 90° Prot. IP40

**CON 322**

Female cable connector Prot. IP67

**CON 321**

#### Connection E

Connector 3 poles + ground DIN43650A ISO4400 Prot. IP65

**CON 006**

#### Connection M

Connector 3 poles + ground DIN43650B ISO4400 Prot. IP65

**CON 008**

Pressure transducer

**TPH**



PROCESS CONNECTIONS	
<b>Standard</b>	
F-250-C (9/16-18UNF femmina)	<b>D</b>
<b>On request</b>	
M16 x 1.5	<b>E</b>

ELECTRICAL CONNECTIONS	
<b>Standard</b>	
6-pole connector	<b>V</b>
<b>On request</b>	
7-pole connector	<b>P</b>
6-pole shielded cable	<b>F</b>
4-pole connector solenoid	<b>E</b>
4-pole connector microsolenoid	<b>M</b>

Mechanical and/or electrical characteristics differing from standard may be arranged on request

PRESSURE RANGE			
	bar		psi
<b>B01M</b>	0..1000	<b>P15M</b>	0..15000
<b>B15C</b>	0..1500	<b>P20M</b>	0..20000
<b>B02M</b>	0..2000	<b>P30M</b>	0..30000
<b>B35C</b>	0..3500	<b>P50M</b>	0..50000
<b>B05M</b>	0..5000	<b>P70M</b>	0..70000

Ex.: **TPH - D - V - B02M**

Transducer with autoclave pressure fitting 9/16-18UNF female with 6-pole connector, pressure range 0-2000 bar.

cod. TPH - 07/04