

# HT-H2-TPSE Dual pressure and temperature sensor

# Hydrogen



- Two sensors designed for hydrogen in one
- Both measurements at same point
- Up to 1000 Bar
- SS316L/SUH660 wetted parts
- Optional ATEX
- One less leak point
- Zone 2: II 3G Ex ec IIC T4 Gc
- Zone 22: II 3D Ex tc IIIC T135°C Dc
- EC79 as standard between pressure ranges of 4...700 bar
- Customisable designs possible



Off Highway

Storage Systems

Refuelling Stations

Fuel Cells

## DESCRIPTION

Combined pressure and temperature transmitter for hydrogen applications with an external temperature sensor for accurate temperature readings. The H2-TPSE has been specifically designed for use with hydrogen gas which enables pressure and temperature readings to be taken at the same point. The two-in-one design reduces the need for two fittings and therefore one less potential leak point in a system.

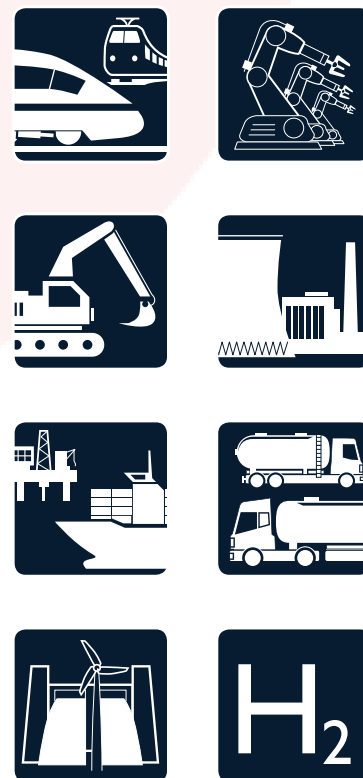
The H2-TPSE can measure up to 1000 bar pressure and is also available with ATEX options.

## TECHNICAL SPECIFICATIONS

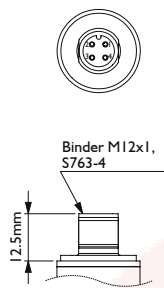


Input parameters			
Pressure measuring ranges available between 0...1000 bar	P nominal 0...3 to 0...200 bar	-1...500 bar	Up to 0...1000 bar
	P overload 2x	1.5x	1.2x
	P burst 3x	2x	1.5x
Tightening torque	Max up to 25Nm		
Wetted parts	Stainless steel 1.4404/316L + SUH660		
Body material	Stainless steel 1.4301/AISI 304		
Output sizes			
Electrical connections	Various elec. connections e.g. M12x1, Din Form A, cabled (5m as standard) or Deutsch DT04-4P		
Output signals	4...20mA x2, 4-20mA/Pt100, 0-10V x2 or 0-10V/Pt100		
Supply voltage	I2...30VDC		
Pressure			
Total error (RT)	Max ±0.5%FS		
Total error -20°C to +85°C	Typ ±1.0, Max ±1.5%FS		
Total error -40°C to -20°C, +85°C to +100°C	Max ±2.5%FS		
Responsive Time	Typ ±0.5, Max ±1.0ms		
Temperature			
Output at -40°C	4mA		
Output at -125°C	20mA		
Span	16mA		
Total error	Max ±2.0%FS		
Other			
Weight	~ 50g		
Lifetime	>10 million load cycles		
Insulation resistance	Min 100MΩ		
Operation temperature (ambient)	-40...105°C		
Storage Temperature	-35...100°C		
Weight	Max approx 100g		
Mounting position	No restrictions		
New parts, max. Drift per year 0.2%FS			

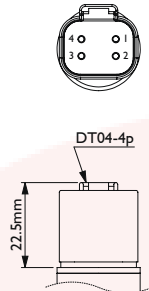
## MARKETS / APPLICATION



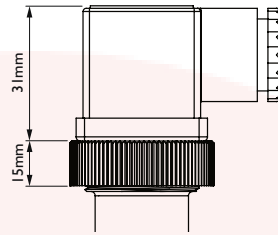
## ELECTRICAL CONNECTIONS



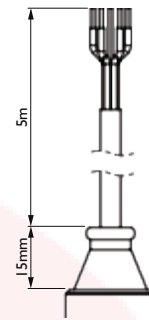
Binder M12x1 4P



Deutsch DT04-4P

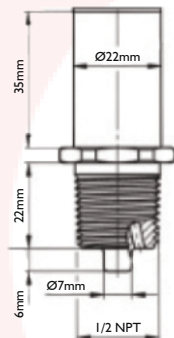


DIN Form A

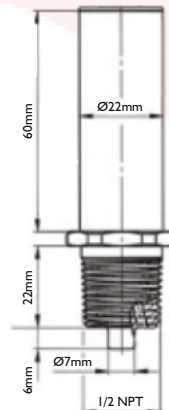


Cabled

## PROCESS CONNECTIONS



Non ATEX



ATEX

## ORDERING CODE

**HT-H2-TPSE-XX-BBB-CCCC-DD**

Replace **XX** with the code for the approval required

**XX** = No approvals  
**X3** = Zone 2: II 3G Ex ec IIC T4 Gc  
 Zone 22: II 3D Ex tc IIIC T135°C Dc

EC79 as standard between pressure ranges of 4...700 bar

Replace **BBB** with the code for output signals required

**I22** = 2x 4...20mA  
**I2P** = 1x 4...20mA / 1xPt100  
**U12** = 2x 0...10V  
**U1P** = 1x 0...10V / 1xPt100  
**U52** = 2x 0...5V  
**U1T** = 1x 0...10V / 1x Pt1000

Supplied with process connection 1/2" NPT.  
 Other connections available on request

Replace **DD** with the electrical connections required

**01** = Binder M12x1 4P  
**05** = Deutsch DT04-4P  
**06** = Din form A  
**07** = Cabled

Replace **CCCC** with **any** upper measuring range value between 0...1000 bar, eg

**0001** = 0...1 bar  
**0130** = 0...130 bar  
**0600** = 0...600 bar  
**1000** = 0...1000 bar

## ORDERING EXAMPLE

**HT-H2-TPSE-X3-I22-0600-01**

HT-H2-TPSE with ATEX Zone 2 / Zone 22 approval, 2x4...20mA output signal, 0...600 bar pressure range and Binder M12x1 (plastic); 4P electrical connections.