Pressure transmitter



Huba Control

Relative pressure transmitter for hydrogen applications

Type 555

The pressure transmitter type 555 has been developed for alternative drive systems. This high-pressure transmitter is suitable for vehicles and stationary applications thanks to the hydrogen approval acc. EC79.
This transmitter is available with protection standard IP 67 or IP 69K.

The compact and rugged design meets the requirement of shock- and vibration stability according to the road vehicle standards ISO 16750.

The measuring cell is based upon the Huba Control developed thick film technology on stainless steel and is fully hermetically welded.

Pressure range

0 ... 10 – 900 bar

+ Suitable for gaseous hydrogen
+ Compact and rugged construction for highest operational reliability
+ Welded without sealing parts, no elastomer seals
+ Excellent EMC capacity
+ Negligible temperature influence on accuracy

Technical Overview

Pressure range

Relative	0 ... 10 – 900 bar

Operating conditions

Medium		Gaseous hydrogen
Temperature	Medium	-40 ... +85 °C
	Ambient	-40 ... +85 °C
	Storage	-50 ... +100 °C
Tolerable overload	acc. order code selection table	
Rupture pressure	acc. order code selection table	

Materials

Case		Stainless steel 1.4404 / AISI 316 L
Plug accommodation		Polyarylamide 50%GF UL 94 V-0
Materials in contact with the medium	Pressure connection	Stainless steel 1.4404 / AISI 316 L
	Sensor	Stainless steel 1.4435

Electrical overview

	Output	Power supply	Load	Current consumption
2 wire	4 ... 20 mA	7.5 ... 33 VDC	$< \frac{\text{Power supply - 7.5 V}}{0.02\ \text{A}}$ [Ohm]	< 23 mA
3 wire	0 ... 5 V	7 ... 33 VDC	>10 kOhm / < 100 nF	< 7 mA
	0 ... 10 V	12 ... 33 VDC	>10 kOhm / < 100 nF	< 7 mA
	ratiom. 10 ... 90%	5 VDC ± 10%	>10 kOhm / < 100 nF	< 7 mA
Polarity reversal protection	Short circuit proof and protected against polarity reversal. Each connection is protected against crossover up to max. supply voltage.			
Insulation voltage				500 VDC

Dynamic response

Response time	< 2 ms (10 ... 90%, typ. 1 ms)
Load cycle	< 100 Hz

Elektrical connection [1]	**Protection standard**	**Protection class**
Kostal SLK 2.8 coding A	IP 69K	III
AMP-JPT	IP 67	III
AMP Superseal 1.5	IP 67	III
Deutsch DT04-3P	IP 69K	III
Deutsch DT04-4P	IP 69K	III
Metri Pack 150 P2S Series	IP 67	III
M12x1	IP 69K	III

Pressure connection

Inside thread	$^{7}/_{16}$ - 20 UNF, Autoclave SF250CX
Outside thread [4]	$^{7}/_{16}$ - 20 UNF-2A, ISO 11926-1, SAE 4
	$^{3}/_{8}$ - 24 UNF-2A, ISO 11926-1, SAE 3
	$^{9}/_{16}$ - 18 UNF-2A, ISO 8434
	¼ - 18 NPT, DIN EN 837
	G ¼ B, DIN EN 837 Manometer

Installation arrangement

Unrestricted

Tests / Admissions

	Noise immunity / Noise emission	Noise immunity automotive guideline
Electromagnetic compatibility	IISO 13766 - earth-moving equipment	ISO 11452-2, HF (Field), 100 V/m (200 ... 2000 MHz)
	DIN EN 13309 - construction equipment	ISO 11452-4, HF (BCI), 100 mA (20 ... 400 MHz)
	DIN ISO 14982 - agriculture and forestry	ISO 10605, ESD, ±15 kV contact, ±15 kV air
	Automotive guideline ECE R10	ISO 7637-2 [2], puls 1, 2a, 2b, 3a, 3b (test level 4)
	Automotive guideline 2004/104/EG	ISO 16750-2, Load Dump, 155 V (1 Ω, 300 ms)
	EN 61326-2-3 - pressure transducer [3]	
	EN 12895:2015 - industrial trucks	
	CISPR11	
Shock acc. ISO 16750-3		50 *g*, 11 ms, half sine wave, 1000x / axis
Vibration acc. ISO 16750-3		Test VI (12 g, sinusodial 18 g random vibration)
EAC		
EC79/2009		

Weight

~ 90 g

Packaging (Please state on order)

Single packaging in cardboard	accessories integrated
Multiple packaging in cardboard (25 pcs)	

[1] Warranty of IP protection only with suitable classified plug (consider manufacturers' instructions)
[2] Pressure sensor for 12 V and 24 V power system (0 ... 5 V, 0 ... 10 V and 4 ... 20 mA)
[3] types M12x1 only
[4] Approval applied for

Accuracy

Parameter	Unit	
Characteristic line acc. IEC 61298-2 [1), 2)]	%fs	± 0.5
Resolution	%fs	0.1
Thermal characteristic [3)] max.	%fs/10K	± 0.2
Long termin stabilit (acc. IEC EN 60770-1)	%fs	± 0.3

Test conditions: 25 °C, 45% rF

Order code selection table in bar

555. X X X X X X X X X X X

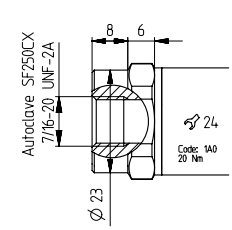
		P_{max}	P_{Berst}													
Pressure range	0 ... 10 bar	30 bar	60 bar													
	0 ... 16 bar	48 bar	96 bar													
	0 ... 25 bar	75 bar	150 bar													
	0 ... 40 bar	100 bar	300 bar													
	0 ... 60 bar	100 bar	300 bar													
	0 ... 100 bar	200 bar	600 bar													
	0 ... 160 bar	240 bar	720 bar													
	0 ... 250 bar	375 bar	1125 bar													
	0 ... 350 bar	600 bar	1800 bar													
	0 ... 400 bar	600 bar	1800 bar													
	0 ... 600 bar	1050 bar	2100 bar													
	0 ... 700 bar	1050 bar	2100 bar													
	0 ... 900 bar	1050 bar	2100 bar													
Output / power supply	0 ... 5 V	7 ... 33 VDC														
	0 ... 10 V	12 ... 33 VDC														
	4 ... 20 mA	7.5 ... 33 VDC														
	ratiom. 10 ... 90%	5 VDC ±10%														
Electrical connection [4)]	Kostal SLK 2.8 coding A			*3L:* IN=3 / OUT=1 / GND=2												
				2L: IN=3 / OUT=2	*3L:* IN=3 / OUT=2 / GND=1											
	AMP-JPT															
	AMP Superseal 1.5															
	Deutsch DT04-3P															
	Deutsch DT04-4P															
	Metri Pack 150 P2S															
	M12x1			*2L:* IN=1 / OUT=3	*3L:* IN=1 / OUT=4 / GND=3											
				2L: IN=1 / OUT=4	*3L:* IN=1 / OUT=3 / GND=4											
Pressure connection [5)]	Inner thread			$^{7}/_{16}$-20 UNF	Autoclave SF250CX											
	Outside thread [6)]			$^{7}/_{16}$-20 UNF-2A, ISO 11926-1, SAE 4												
				$^{3}/_{8}$ - 24 UNF-2A, ISO 11926-1, SAE 3												
				$^{9}/_{16}$ - 18 UNF-2A, ISO 8434												
				¼ - 18 NPT, DIN EN 837												
				G ¼ B, DIN EN 837 Manometer												
Pressure range variation (optional)				Indicate W and state ragnge on order (e.g.: W0... + 50bar/Out1...8V)												

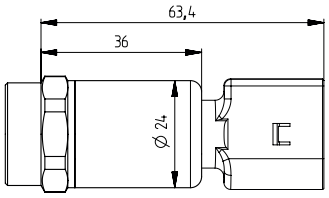
Accessories *(supplied loose)*

		Order Number
Corner-wire box for connector M12x1	3 wire	106975
Corner-wire box for connector M12x1 with cable	3 wire	114604
Straight-wire box for connector M12x1	3 wire	114570
Straight-wire box for connector M12x1 with cable	3 wire	114605
Set - Female connector Kostal SLK 2.8 coding A	2 wire (3 wire with 1 blanking plug)	120369
Set - Female connector Kostal SLK 2.8 coding A	3 wire	120368
Set - Female connector AMP JPT	2 wire (3 wire with 1 blanking plug)	110442
Set - Female connector AMP JPT	3 wire	108767
Set - Female connector AMP Superseal 1.5 (0.5 - 1.0 mm²)	3 wire (1 Blanking Plug to enable 2 wire)	120254
Set - Female connector AMP Superseal 1.5 (1.0 - 1.5 mm²)	3 wire (1 Blanking Plug to enable 2 wire)	120255
Set - Female connector Metri Pack 150 P2S Series	3 wire	120345
Calibration certificate (< 600 bar)		104551

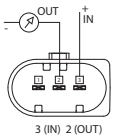
[1)] incl. zero point, full scale, linearity, hysteresis and repeatability
[2)] Considering EMC interference < ±1.5% fs
[3)] -40 ... +85 °C
[4)] Delivery without female connector
[5)] To comply with EC79:2009 pressure connections can only be used up to P_{max}: FS x 1.25
[6)] Approval applied for

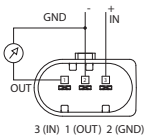
Dimensions in mm / Electrical connections

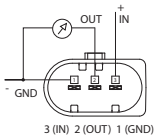


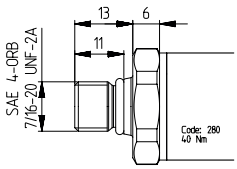


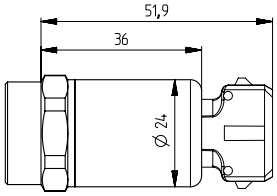
Kostal SLK 2.8



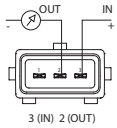


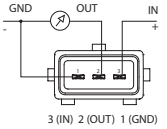


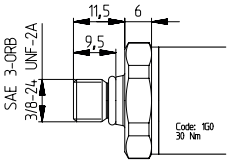


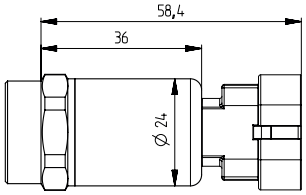


AMP JPT

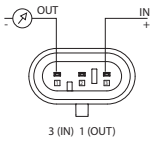


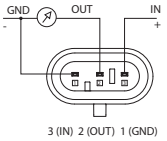


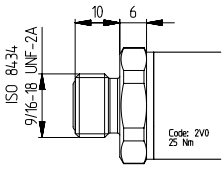


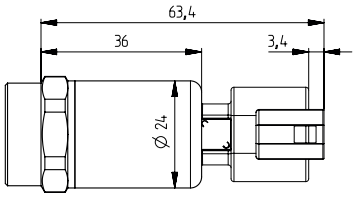


AMP Superseal 1.5

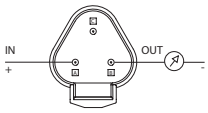


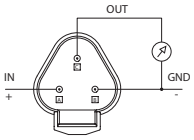


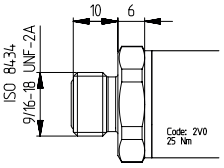


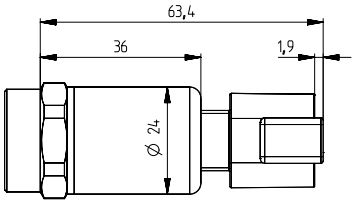


Deutsch DT04-3P

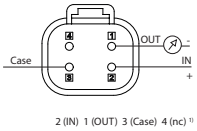


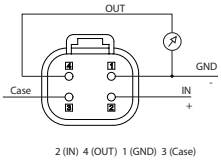


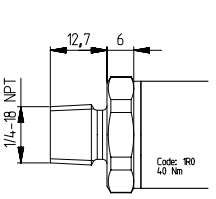


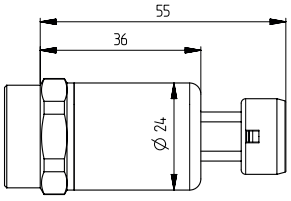


Deutsch DT04-4P

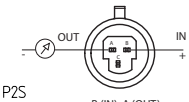


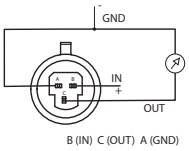


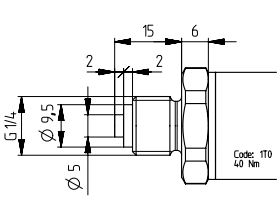


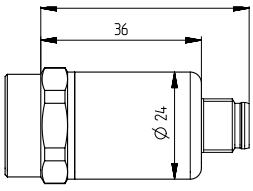


Metri Pack Series 150 P2S

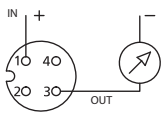


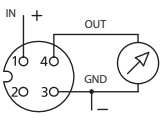


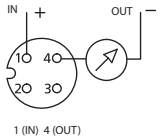


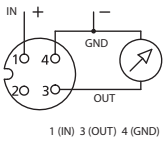


M12x1









1) not connected

Huba Control

Huba Control AG
Headquarters Schweiz
Industriestrasse 17
CH-5436 Würenlos
Telefon +41 56 436 82 00
Fax +41 56 436 82 82
info.ch@hubacontrol.com

Huba Control AG
Vestiging Nederland
Hamseweg 20A
NL-3828 AD-Hoogland
Telefoon +31 33 433 03 66
Telefax +31 33 433 03 77
info.nl@hubacontrol.com

Huba Control AG
Niederlassung Deutschland
Schlattgrabenstrasse 24
D-72141 Walddorfhäslach
Telefon +49 7127 2393 00
Fax +49 7127 2393 20
info.de@hubacontrol.com

Huba Control USA, Inc.
Office United States of America
303 Wyman Street
Suite #300
Waltham MA 02451
Tel: +1 866-6HUBACO (+1 866-648-2226)
info.usa@hubacontrol.com

Huba Control SA
Succursale France
Rue Lavoisier
Technopôle Forbach-Sud
F-57602 Forbach Cedex
Téléphone +33 3 87 84 73 00
Télécopieur +33 3 87 84 73 01
info.fr@hubacontrol.com

Huba Control AG
Branch Office United Kingdom
Unit 13 Berkshire House, County Park Business Centre, Shrivenham Road
Swindon Wiltshire SN1 2NR
Phone +44 1993 77 66 67
Fax +44 1993 77 66 71
info.uk@hubacontrol.com

www.hubacontrol.com

