



Pressure transmitter

# Huba Control

## OEM Pressure sensor Type 400



The type 400 pressure transmitter, with its proven ceramic lever technology, has adjusted temperature compensated sensor signals and is available with a voltage output. The voltage output (VDC) is an amplified, linear signal suitable for direct processing in electronic control systems. The sensors are ideal for continuous level measurement in washing machines, dishwashers etc.

**Pressure range**  
**0 ... 10 – 100 mbar**

- + Robust construction, sensor element has no contact with media
- + Special design developed for large scale manufacture at an attractive price
- + Fully automated manufacture, including in-line adjustment of zero point and full scale value
- + Special snap mounting bracket for easy single handed mounting in sheet steel of varying thicknesses

## Technical Overview

### Pressure range <sup>1)</sup>

Relative	0 ... 10 – 100 mbar
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### Operating conditions

Medium		Liquids and neutral gases
Temperature	Medium / ambient	0 ... +70 °C
Tolerable overload	Storage	-10 ... +70 °C
Rupture pressure		200 mbar
Leak rate		500 mbar
		< 0.2 cm <sup>3</sup> /h (Air)

### Materials in contact with the medium

Cover	Polypropylene
Diaphragm	Thermoplastic elastomer

### Electrical overview

Output / Power supply <sup>2)</sup>	ratiom. 10 ... 70%	5 VDC ±5%
Load		> 50 kOhm / < 10 nF
Current consumption	At nominal voltage with 50 kOhm load	< 3 mA
Polarity reversal protection		mechanically protected
Electromagnetic compatibility	The product is designed exclusively for installation in equipment. The customer is responsible for CE conformity.	

### Dynamical response

Response time	< 10 ms
Load cycle	< 10 Hz

### Protection standard

IP 00	Protection class III
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### Electrical connections

3-pole plug connector RAST 2.5
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### Pressure connection

Pipe Ø 6.2 mm
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### Mounting instruction

Installation arrangement	Diaphragm horizontal (Recommendation)	Pressure connection and electrical connections downward
	Diaphragm vertical (on request)	To be agreed, signal is approx. 0.3 mbar higher than real pressure <sup>3)</sup>
Mounting		Snap mounting in sheet steel from 0.9 to 1.5 mm

### Weight

~ 17 g
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### Packaging

Cardboard boxes with blister pack inserts (35 pcs)
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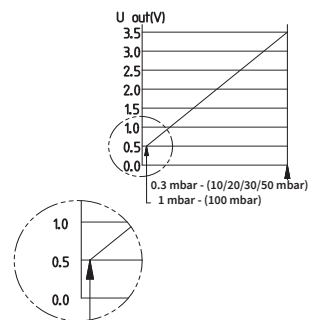
### Ordering batches quantities / Transport volumes

Pieces	Execution	Length (cm)	Width (cm)	Height (cm)	Weight (kg)	Blister (35 pcs)
2520	12 boxes per Euro-pallet	120	80	93	103	72
210	1 box	59	39	26	6.9	6

## Accuracy

## Linearity

Parameter		Unit	10 mbar	20 mbar	30 mbar	50 mbar	100 mbar
Tolerance zero point <sup>4)</sup>	max.	% fs	-	± 1.5	± 1.5	± 1.5	± 1.5
Tolerance at 0.5 mbar	max.	% fs	± 1.5	-	-	-	-
Tolerance full scale <sup>4)</sup>	max.	% fs	± 2.5	± 2.5	± 1.5	± 1.5	± 1.5
Resolution		% fs	0.1	0.1	0.1	0.1	0.1
Total of linearity, hysteresis and repeatability at 0.3 mbar (10 ... 50 mbar) und 1 mbar (100 mbar)		% fs	± 0.5	± 0.5	± 0.5	± 0.5	± 0.5
Long term stability acc. to DIN IEC 60770		% fs	± 1.0	± 1.0	± 0.5	± 0.5	± 0.5
TC zero point <sup>5)</sup>	typ.	% fs/10K	± 0.2	± 0.2	± 0.2	± 0.2	± 0.2
TC zero point <sup>5)</sup>	max.	% fs/10K	± 0.4	± 0.4	± 0.4	± 0.4	± 0.4
TC sensibility <sup>5)</sup>	max.	% fs/10K	± 0.2	± 0.2	± 0.2	± 0.2	± 0.4
Positional error <sup>4)</sup>		mbar	~ 0.3	~ 0.3	~ 0.3	~ 0.3	~ 0.3
Ratiometric error	typ.	% fs	0.5	0.5	0.5	0.5	0.5
Ratiometric error	max.	% fs	1.0	1.0	1.0	1.0	1.0



Test conditions: 25 °C, 45% rF, Power supply 5 VDC  
TK0 / TKE: 0 ... +70 °C

<sup>1)</sup> other pressure ranges on request

<sup>2)</sup> Other supply voltages and outputs on request.

<sup>3)</sup> In Case of condensed water, auto-zero significant.

<sup>4)</sup> For changing diaphragm position from horizontal to vertical, approx. 0.3 mbar. <sup>5)</sup> TC = Temperature coefficient

# Order code selection table

# Order number

Pressure range	0 ... 10 mbar	4	0	0	.	9	1	1	0	0
	0 ... 20 mbar	4	0	0	.	9	2	1	0	0
	0 ... 30 mbar	4	0	0	.	9	3	1	0	0
	0 ... 50 mbar	4	0	0	.	9	5	1	0	0
	0 ...100 mbar	4	0	0	.	9	7	1	0	0

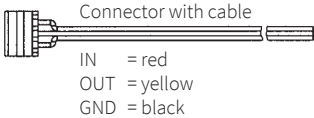
▲ Full scale signal at these pressure

# Accessories (supplied loose)

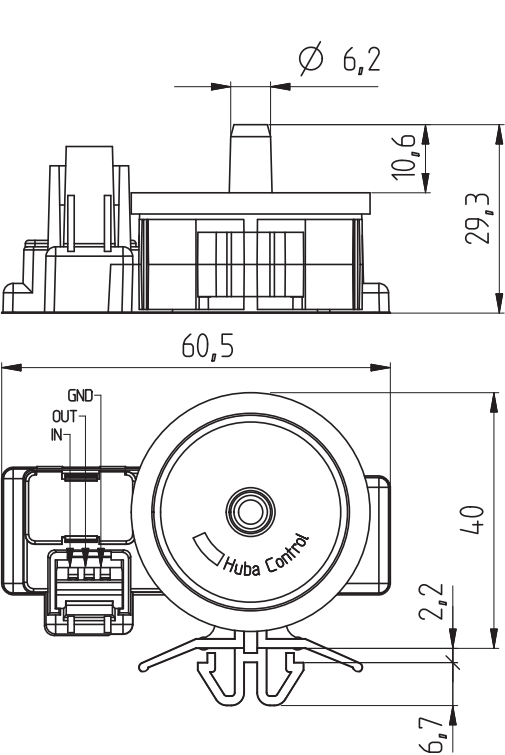
# Order number

Connector RAST 2.5 with cable 30 cm	111668
Connector RAST 2.5 with cable 110 cm	101817
Connector RAST 2.5 with cable 150 cm	112282
Calibration certificat	104551

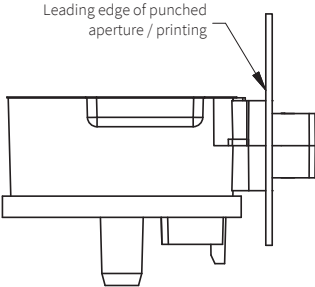
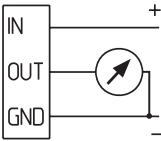
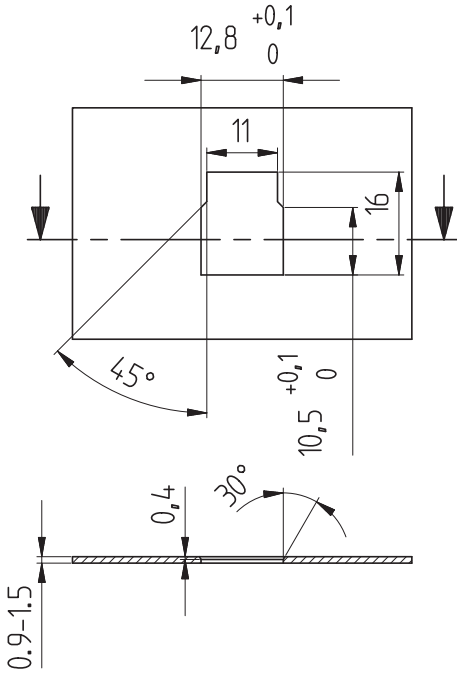
AMP Connector <sup>1)</sup>	Manufacture's Part No.	Colour	for flexible wire
	3-829868-3	grey	7 x 0.20 mm = 0.22 mm² or 12 x 0.20 mm = 0.35 mm²
	1-966194-3	beige	7 x 0.25 mm = 0.35 mm²



# Dimensions in mm / Electrical connections



Hole pattern for mounting (supplied by the customer)



<sup>1)</sup> To be ordered separately from original manufacturer. Further information can be found in the manufacturer specification No. 114-18049.

**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**

Niederlassung Deutschland  
Schlattgrabenstrasse 24  
D-72141 Walddorfhäslach  
Telefon +49 7127 2393 00  
Fax +49 7127 2393 20  
info.de@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 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**

