

663

Pressure transmitter  
Differential pressure  
transmitter  
20 mbar – 2 bar

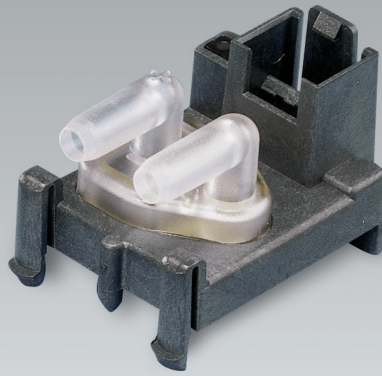
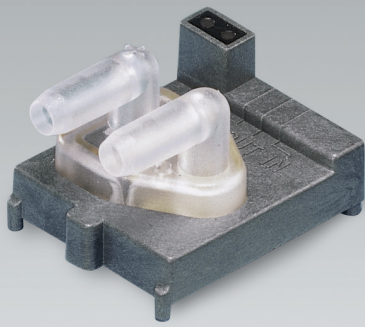


EDITION 08/2004

HUBA-REGISTERED TRADE MARK

**Huba Control**

FOR FINE PRESSURE AND FLOW MEASUREMENT



### Temperature Influences

Medium and ambient temperature  
– 40 °C to + 85 °C  
Storage temperature  
– 40 °C to + 100 °C  
Compensated temperature ranges  
– 20 to + 70 °C  
TC zero point and TC sensitivity see table

### Dynamic response

Response time: ca. 2 ms

### Pressure connection

Pipe  $\varnothing$  4.8 mm  
Pressure-tube tip screwable for pipe  $\varnothing$  3 mm

### Installation arrangement

Unrestricted, position-dependent see accuracy  
Adjustment position:  
Mounting level vertical

### Outputs and power supply

Power supply: 8.5 ... 30 VDC  
Output: 0.5 ... 4.5 V  
Max. output voltage < 5 V

### Load

> 10 kOhm (against GND)

### Protection class

IP 00

### Current consumption

7 mA max.

### Electrical connections

Print version 3 channels  
Plug version 3 channels, connection 2.5 mm (Type AMP-Duoplug)  
All connections are short circuit-proof and protected against polarity reversal up to 30 V for 5 min.

### Diagnostic Possibilities

If the diaphragm is ruptured the output signal will be < 0.25 or > 4.8 V

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### Technical overview

The pressure transmitter of product range type 663 have calibrated and temperature compensated sensor signals which are available as voltage output.  
The amplified linear voltage output signal, can be connected directly into an electronic control system.

The transmitter can be mounted directly due a pcb board or with a 2.5 mm plug connection.

### Legend to cross-section drawing

- 1 Connection
- 2 Casing
- 3 Chip
- 4 Connection pins
- 5 Amplified electronic
- 6 Sealing compound

### Materials in contact with the medium

Casing: Polycarbonate (PC)  
Liquid Crystal Polymer (LCP)  
Measuring diaphragm: Silicon

### Medium

Air or non aggressive gases

### Pressure ranges

Absolute, relative and differential pressure  
(+/- pressure ranges possible)  
Pressure ranges see order code selection table

### Overload

see table

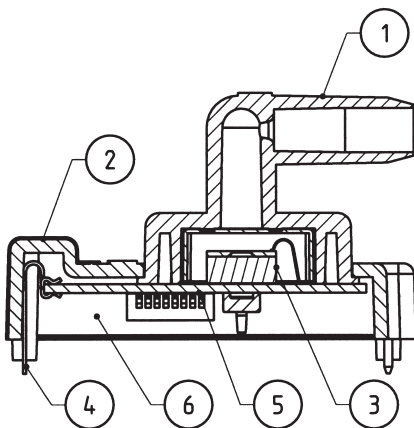
### Rupture pressure

see table

### Weight

9 grams

### Accuracy



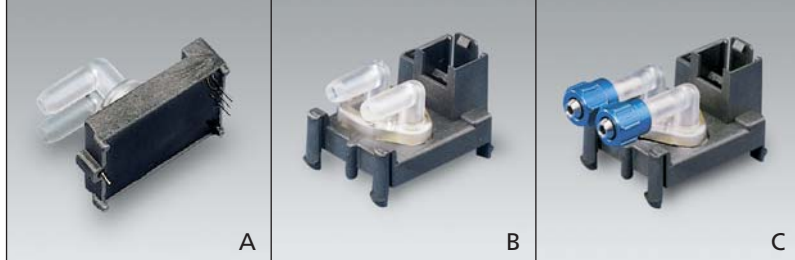
### The Distinct Advantages

- High signal stability by mechanical decoupling of case to measuring element
- The compensated calibrated and amplified sensor signals make this transmitter easy to work with
- Integrated EMC-protection
- Diagnosis possibilities by a defined failureband of the output signal

Transmitter – Type	20 mbar	50 mbar	100 – 200 mbar	0.5 – 2 bar	Unit*
Adjustment accuracy:					
Zero point	< $\pm$ 1.5	< $\pm$ 1.0	< $\pm$ 0.5	< $\pm$ 0.5	% fs
Full scale	< $\pm$ 1.5	< $\pm$ 1.0	< $\pm$ 0.5	< $\pm$ 0.5	% fs
Linearity	$\leq$ $\pm$ 0.3	$\leq$ $\pm$ 0.3	$\leq$ $\pm$ 0.3	$\leq$ $\pm$ 0.3	% fs
Hysteresis	$\leq$ $\pm$ 0.15	$\leq$ $\pm$ 0.15	$\leq$ $\pm$ 0.15	$\leq$ $\pm$ 0.15	% fs
TC zero point	$\leq$ $\pm$ 0.015	$\leq$ $\pm$ 0.015	$\leq$ $\pm$ 0.015	$\leq$ $\pm$ 0.015	% fs/K
TC sensitivity	$\leq$ $\pm$ 0.03	$\leq$ $\pm$ 0.03	$\leq$ $\pm$ 0.03	$\leq$ $\pm$ 0.03	% fs/K
Overload	10 x	10 x	3 x *	3 x *	fs
Rupture pressure	15 x	15 x	5 x *	5 x *	fs
Positiondependent	4	4	–	–	Pa

\* fs = Pressure range full scale, K = Kelvin

• but 15 bar max.



A – Print version  
 B – Plug version  
 Rast 2.5 mm  
 C – Version with  
 screwable pressure-  
 tube tip

Versions

## Order code selection table

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	X														
Relative pressure / Differential pressure	9														
Absolute pressure	5														
Pressure ranges															
0 ... + 20 mbar	9	0	0												
0 ... + 50 mbar	9	0	1												
0 ... + 100 mbar	9	0	2												
0 ... + 200 mbar	9	0	3												
0 ... + 0.5 bar		1	0												
0 ... + 1 bar		1	1												
0 ... + 2 bar		1	3												
800 ... 1200 mbar Barometrical sensor	5	2	0												
Calibration								0							
Factory calibrated															
Outputs and power supply									0						
0.5 – 4.5 V 8.5 – 30 VDC															
Electrical connections										1					
Print version (direct pcb mounting with soldered pins)										2					
Connector version (Size 2.5)															
Pressure connections													1		
Pipe ø 4.8 mm													2		
Pressure-tube tip screwable for pipe ø 3 mm															
Pressure range variation														W	
Accessories															
Connector AMP with cable (1 m)															

## Ordering batch quantities

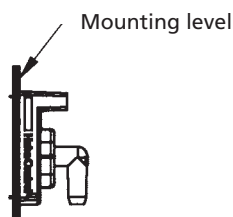
Transparent packing with film hinge

Strips to 10 pieces



## Connector AMP

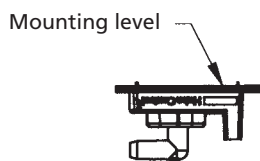
Manufacturer Ordering-No.	Color	for stranded wire	
3-829868-3	grey	7-wire	0.22 – 0.25 mm <sup>2</sup> or
		12-wire	0.32 – 0.35 mm <sup>2</sup>
1-966194-3	beige	7-wire	0.32 – 0.35 mm <sup>2</sup>



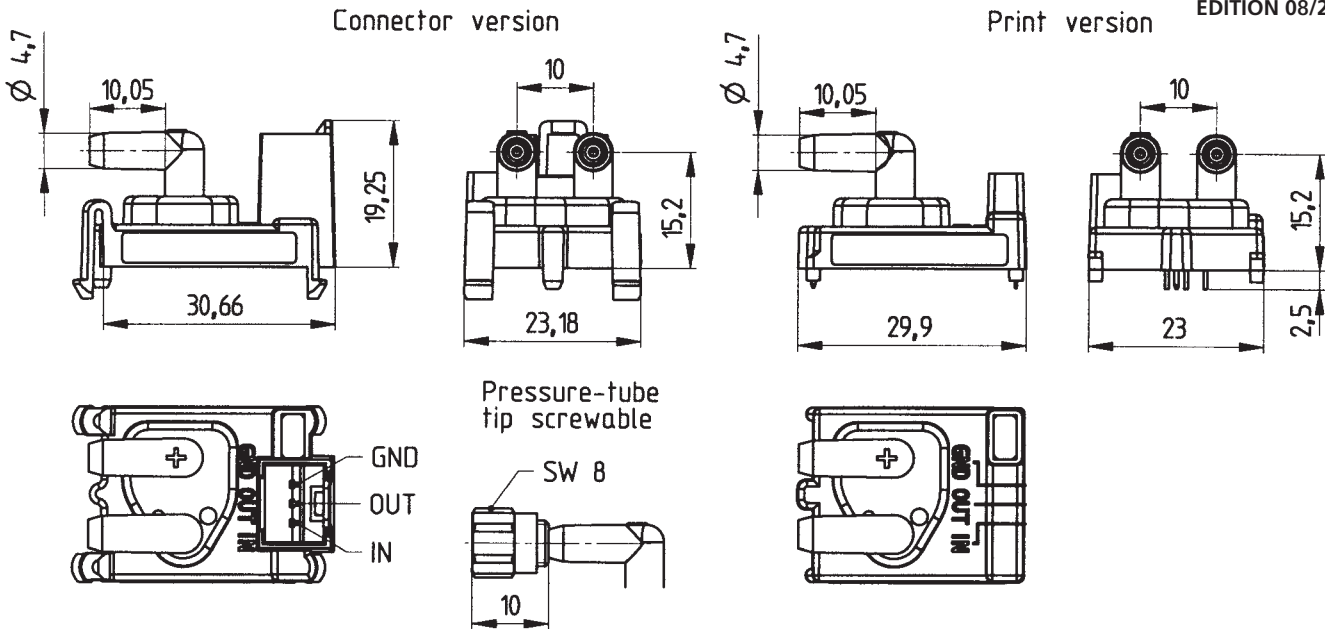
Adjustment position:  
 Mounting level vertical



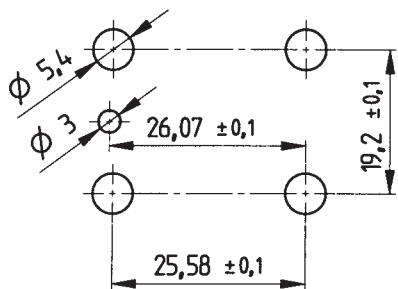
Mounting level horizontal.  
 Signal approx. 4 Pa higher  
 than actual pressure.



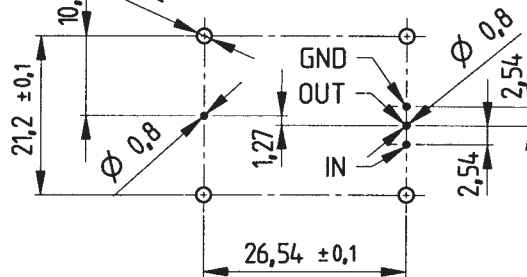
Mounting level horizontal.  
 Signal approx. 4 Pa below  
 actual pressure.



Hole pattern for connector version  
Thickness of material 1.5mm



Hole pattern for PCB mounting  
Thickness of PCB



The product is designed exclusively for installation in equipment which complies with EU directives. The customer is responsible for CE conformity.

Electromagnetic compatibility: Interference stability EN 61000-6-2 and EN 61326-1, interference emit EN 61000-6-3 and EN 61326-1

Interference stability	Test standard	Effects
Electrostatic discharge (ESD)	EN 61000-4-2 8 kV air, 4 kV contact	No effect
High-frequency electromagnetic radiation (HF)	EN 61000-4-3 10 V/m, 80 ... 1000 Mz	No effect
Conducted HF interference*	EN 61000-4-6 10 V, 0.015 ... 80 MHz	No effect
Fast transients (burst)*	EN 61000-4-4 4 kV	No effect
Surge	EN 61000-4-5 max. tolerable cable length 10 m (EN 61000-6-2) max. tolerable cable length 3 m (EN 61326-1)	No test
Magnetic fields	EN 61000-4-8 30 A/m, 50 Hz	No effect
Interference emit	Test standard	Effects
Conducted interference	EN 55022 (CISPR 22) 0.15 ... 30 MHz	No emission
Radiation from housing	30 ... 1000 MHz, 10 meters	No emission

\* Mounting on plastic is recommended.

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