



# Electronic Pressure Monitoring New Products



# Electronic Pressure Switches

## SoS-Technology

with one or two switching functions



### CE marking

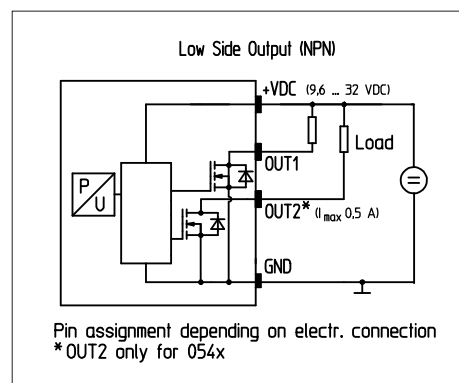
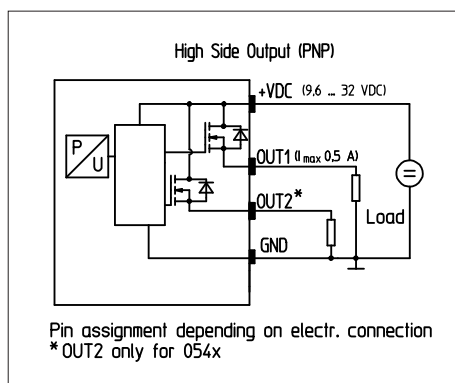
SUCO Electronic pressure switches are covered by the EMC-directive 2004/108/EC. An EC Declaration of Conformity has been issued for these electronic pressure switches and can be accessed on our webpage.

### Degree of protection IP65, IP67 resp. IP6K9K

The type approval does not apply without restriction to all environmental conditions. It is the responsibility of the user to check whether the electrical connection complies with regulations other than those stated and whether it can be used for special applications which could not be foreseen by us.

- The pressure switches shown in this brochure are only a part of our full product range
- High overpressure safety for use in mobile hydraulics
- High durability even with high pressure ramp rates
- Wetted parts made of stainless steel and titanium to ensure high medium compatibility
- Silicon-on-Sapphire Technology (SoS) for highest accuracy, reliability and safe process monitoring
- Different output and switching functions for a wide range of applications
- High output current up to 500 mA
- Customized versions on request
- Switching point and hysteresis are set in factory only

## Circuit-Diagrams



## Technical Data

Type	0530	0531	0532	0533	0540	0541	0542	0544	0545	0546
Transistor outputs:	1 PNP-Output (High Side N-channel MOSFET)		1 NPN-Output (Low Side N-channel MOSFET)		2 PNP-Outputs (High Side N-channel MOSFET)			2 NPN-Outputs (Low Side N-channel MOSFET)		
Switching functions:	*NO	**NC	*NO	**NC	*NO/ *NO	**NC/ **NC	*NO/ **NC	*NO/ *NO	**NC/ **NC	*NO/ **NC
Supply voltage:	9.6 ... 32 VDC									
Switching point adjustment range:	2 ... 100 % full switching point range, (FS), factory programmable									
Hysteresis:	0.2 ... 99.8 % full switching point range, (FS), factory programmable standard 5 % of set point programmed									
Accuracy:	±0.5 % full switching point range, (FS), at room temperature									
Switching point resolution:	0.1 % full switching point range, (FS)									
Delay times:	ON (0 ... 0.5 s) / OFF (0 ... 2 s) delays in 1 ms steps, independent adjustment, factory programmable, for ordering delay time must be specified (without specification 0 s)									
Output:	transistor output 0.5 A, short circuit and over voltage protected									
Switching mode:	hysteresis or window mode (with only one switching function), factory programmable									
Long term stability:	±0.1 % full scale p.a. (FS)									
Repeatability <sup>1)</sup> :	±0.1 % full scale (FS)									
Temperature error <sup>1)</sup> :	±0.2 % / 10 K full scale (FS)									
Temperature compensation:	-20 °C ... +80 °C (-4 °F ... +176 °F)									
Temperature range (medium):	-40 °C ... +125 °C (-40 °F ... +257 °F)									
Temperature range (ambient):	-40 °C ... +100 °C (-40 °F ... +212 °F)									
Life expectancy:	10 <sup>7</sup> cycles at ramp rates up to 5 bar/ms (72.5 psi/ms) at p <sub>nom</sub>									
Overpressure safety <sup>2)</sup> :	up to 4x P <sub>nom</sub> , 1,650 bar at 600 bar (23,900 psi at 8,700 psi)									
Burst pressure <sup>2)</sup> :	up to 8x P <sub>nom</sub> , 2,000 bar at 600 bar (29,000 psi at 8,700 psi)									
Wetted parts material:	stainless steel 1.4305 (AISI 303) and titanium									
Body material:	stainless steel 1.4305 (AISI 303)									
Maximum ramp rate:	≤5 bar/ms (≤72.5 psi/ms)									
Switching time:	< 2 ms									
Idle power consumption:	< 15 mA									
Vibration resistance:	20 g at 4 -2,000 Hz sine-wave; DIN EN 60068-2-6									
Shock resistance:	half-sine 500 m/s <sup>2</sup> , 11 ms; DIN EN 60068-2-27									
Degree of protection:	see electrical connections									
EMC:	EN 61000-6-2:2005, EN 61000-6-3:2007									
Protection against reverse polarity, short-circuit and over voltage surges:	built-in									
Standard pressure ranges p <sub>nom</sub> :	0 ... 10 bar (0 ... 145 psi), 0 ... 25 bar (0 ... 360 psi), 0 ... 100 bar (0 ... 1,450 psi), 0 ... 250 bar (0 ... 3,625 psi), 0 ... 600 bar (0 ... 8,700 psi)									
Weight in grams:	approx. 80 g (DIN 175301 approx. 110 g, cable connection approx. 135 g)									

\*NO = normally open    \*\*NC = normally closed

<sup>1)</sup> Within compensated temperature range.

<sup>2)</sup> Static pressure. Dynamic pressure should be 30 to 50 % lower. These values refer to the hydraulic or pneumatic part of the pressure transmitters.

# 0530 / 0531 / 0532 / 0533

## Electrical and mechanical connection



Hex 22



**DIN EN 175301-803-A**

Pin	Assignment
1	Uv+
2	Out
3	Gnd
PE	

IP65

x ~ 60 / 76 mm\*

d ~ Ø 30 mm

**Order number: 001**

\*without connector x ~ 60 mm, with connector x ~ 76 mm

**M 12 – DIN EN 61076-2-101 A**

Pin	Assignment
1	Uv+
2	*nc
3	Gnd
4	Out

IP67

x ~ 54 mm

d ~ Ø 22 mm

**Order number: 002**

\*nc=not connected

**ISO 15170-A1-4.1**

Pin	Assignment
1	Uv+
2	*nc
3	Gnd
4	Out

IP67, IP6K9K

x ~ 65 mm

d ~ Ø 27 mm

**Order number: 004**

\*nc=not connected

**AMP Superseal**

Pin	Assignment
1	Out
2	Gnd
3	Uv+

IP67

x ~ 73 mm

d ~ Ø 26 mm

**Order number: 007**

**DEUTSCH DT04-4P**

Pin	Assignment
1	Gnd
2	Uv+
3	*nc
4	Out

IP67, IP6K9K

x ~ 74 mm

d ~ Ø 23 mm

**Order number: 008**

**DEUTSCH DT04-3P**

Pin	Assignment
A	Uv+
B	Gnd
C	Out

IP67, IP6K9K

x ~ 74 mm

d ~ Ø 23 mm

**Order number: 010**

**Cable Connection**

Cable	Assignment
red	Uv+
white	Out
black	Gnd

IP67

x ~ 44 mm (+ 20 mm bend relief)  
cable length ~ 2 m

d ~ Ø 22 mm

**Order number: 011**

FKM-Gasket

G 1/4  
DIN EN ISO 1179-2  
(DIN 3852-11) Form E

**Order number: 41**

G 1/4  
DIN 3852-A

**Order number: 03**

NPT 1/8

**Order number: 04**

NPT 1/4

**Order number: 09**

M 10x1  
DIN 3852-A

**Order number: 30**

7/16-20 UNF

**Order number: 20**

9/16-18 UNF

**Order number: 21**

FKM-Gasket

M 14x1.5  
DIN EN ISO 9974-2  
(DIN 3852-11) Form E

**Order number: 42**

Errors and technical modifications subject to change

# 0530 / 0531 / 0532 / 0533

## Order matrix for electronic pressure switches

	Type	Adjustment range	Pressure connection	Pressure unit	Electrical connection
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Type					
PNP-Output (High Side), normally open (NO)	0530				
PNP-Output (High Side), normally closed (NC)	0531				
NPN-Output (Low Side), normally open (NO)	0532				
NPN-Output (Low Side), normally closed (NC)	0533				

Max. over-pressure	Burst pressure	Adjustment range	
40 bar	80 bar	0 ... 10 bar (app. 145 PSI)	101
100 bar	200 bar	0 ... 25 bar (app. 362 PSI)	251
400 bar	800 bar	0 ... 100 bar (app. 1,450 PSI)	102
1,000 bar	2,000 bar	0 ... 250 bar (app. 3,620 PSI)	252
1,650 bar	2,000 bar	0 ... 600 bar (app. 8,700 PSI)	602

Pressure connection	
G 1/4 – DIN EN ISO 1179-2 (DIN 3852-11) Form E	41
G 1/4 – DIN 3852-A	03
NPT 1/8	04
NPT 1/4	09
M 10x1 cyl. DIN 3852-A	30
7/16-20 UNF	20
9/16-18 UNF	21
M 14x1.5 – DIN EN ISO 9974-2 (DIN 3852-11) Form E	42

Pressure units	
bar	B

Electrical connection	
DIN EN 175301-803-A (DIN 43650-A), Socket device included	001
M 12 – DIN EN 61076-2-101 A	002
Bayonet ISO 15170-A1-4.1 (DIN 72585-A1-4.1)	004
AMP Superseal	007
Deutsch DT04-4P	008
Deutsch DT04-3P	010
Cable (standard length of cable 2 m)	011

Order number:	05XX	-	XXX	-	XX	-	B	-	XXX
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**When ordering, switching point and hysteresis must be specified.**

Unit	Pa = N/m <sup>2</sup>	bar	lbf/in <sup>2</sup> , PSI
1 Pascal	1	0.00001	0.00014
1 bar	100,000	1	14.5
1 lbf/in <sup>2</sup> , PSI	6,894	0.06894	1

## Accessories

(not included)



**Socket device M 12x1 straight**



**Order number:**  
1-6-00-652-016

**Socket device M 12x1 angular**



**Order number:**  
1-6-00-652-017

**M12x1 Connector DIN EN 61076 4x0.34 mm<sup>2</sup>**

Contact-Assignment (DIN EN 60947-5-2):

- 1: brown
- 2: white
- 3: blue
- 4: black



**Order number:**  
1-1-00-653-162

# 0540 / 0541 / 0542 / 0544 / 0545 / 0546

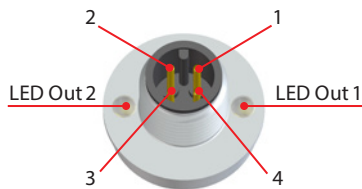
## Electrical and mechanical connection



Hex 22



### M 12 – DIN EN 61076-2-101 A



Pin	Assignment
1	Uv+
2	Out 2
3	Gnd
4	Out 1

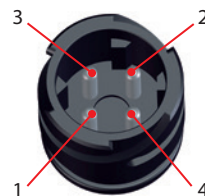
IP67

x ~ 54 mm

d ~ Ø 22 mm

Order number: **002**

### ISO 15170-A1-4.1



Pin	Assignment
1	Uv+
2	Out 2
3	Gnd
4	Out 1

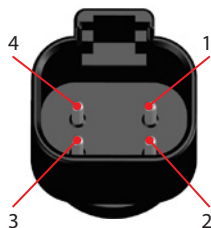
IP67, IP6K9K

x ~ 65 mm

d ~ Ø 27 mm

Order number: **004**

### DEUTSCH DT04-4P



Pin	Assignment
1	Gnd
2	Uv+
3	Out 2
4	Out 1

IP67, IP6K9K

x ~ 74 mm

d ~ Ø 23 mm

Order number: **008**

### Cable Connection



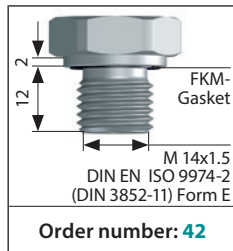
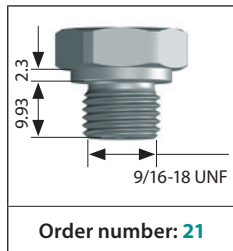
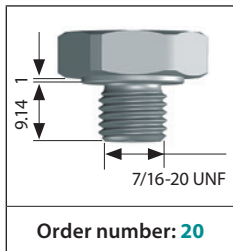
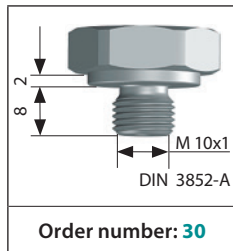
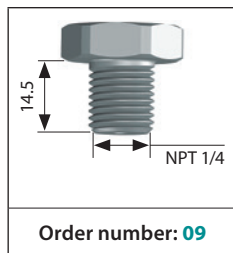
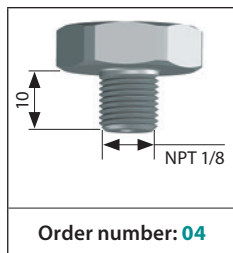
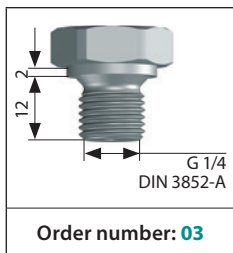
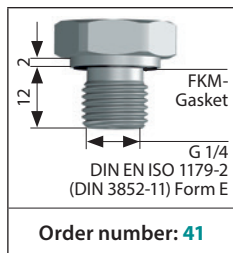
Cable	Assignment
brown	Uv+
white	Out 2
black	Out 1
blue	Gnd

IP67

x ~ 44 mm (+ 20 mm bend relief)  
cable length ~ 2 m

d ~ Ø 22 mm

Order number: **011**



Errors and technical modifications subject to change

# 0540 / 0541 / 0542 / 0544 / 0545 / 0546

## Order matrix for electronic pressure switches

	Type	Adjustment range	Pressure connection	Pressure unit	Electrical connection
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Type	
PNP Output (High Side), normally open/normally open	0540
PNP Output (High Side), normally closed/normally closed	0541
PNP Output (High Side), normally open/normally closed	0542
NPN Output (Low Side), normally open/normally open	0544
NPN Output (Low Side), normally closed/normally closed	0545
NPN Output (Low Side), normally open/normally closed	0546

Max. overpressure	Burst pressure	Adjustment range	
40 bar	80 bar	0 ... 10 bar (app. 145 PSI)	101
100 bar	200 bar	0 ... 25 bar (app. 362 PSI)	251
400 bar	800 bar	0 ... 100 bar (app. 1,450 PSI)	102
1,000 bar	2,000 bar	0 ... 250 bar (app. 3,620 PSI)	252
1,650 bar	2,000 bar	0 ... 600 bar (app. 8,700 PSI)	602

Pressure connection	
G 1/4 – DIN EN ISO 1179-2 (DIN 3852-11) Form E	41
G 1/4 – DIN 3852-A	03
NPT 1/8	04
NPT 1/4	09
M 10x1 cyl. DIN 3852-A	30
7/16-20 UNF	20
9/16-18 UNF	21
M 14x1.5 – DIN EN ISO 9974-2 (DIN 3852-11) Form E	42

Pressure unit	
bar	B

Electrical connection	
M 12 – DIN EN 61076-2-101 A	002
Bayonet ISO 15170-A1-4.1 (DIN 72585-A1-4.1)	004
Deutsch DT04-4P	008
Cable 4-wire (standard length of cable 2 m)	011

Order number:	05XX - XXX - XX - B - XXX
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**When ordering, switching point and hysteresis must be specified.**

Unit	Pa = N/m <sup>2</sup>	bar	lbf/in <sup>2</sup> , PSI
1 Pascal	1	0.00001	0.00014
1 bar	100,000	1	14.5
1 lbf/in <sup>2</sup> , PSI	6,894	0.06894	1

## Accessories

(not included)



**Socket device M 12x1 straight**



**Order number:**  
1-6-00-652-016

**Socket device M 12x1 angular**



**Order number:**  
1-6-00-652-017

**M12x1 Connector DIN EN 61076 4x0.34 mm<sup>2</sup>**

Contact-Assignment (DIN EN 60947-5-2):

- 1: brown
- 2: white
- 3: blue
- 4: black



**Order number:**  
1-1-00-653-162

# Pressure Transmitter

Stainless steel housing 1.4305 / AISI 303 or 1.4404 / AISI 316L



## CE Marking

SUCO Pressure Transmitters are covered by the EMC-directive 2004/108/EC. An EC Declaration of Conformity has been issued for these pressure transmitters and can be accessed on our webpage.

## Degree of Protection IP65/IP67

The type approval does not apply without restriction to all environmental conditions. It is the responsibility of the user to check whether the electrical connection complies with regulations other than those stated and whether it can be used for special applications which could not be foreseen by us.

- Specifically suitable for low pressure applications, including vacuum
- Long life expectancy even at high pressure ramp rates
- Wetted parts made of stainless steel guarantee the highest medium compatibility in applications like sea water or the pharmaceutical industry 1.4404 / AISI 316L or hydrogen and oxygen applications 1.4305 / AISI 303
- The high sensitive piezoresistive sensor in the oil-filled housing guarantees high accuracy, repeatability and long term stability
- Different sealing materials allow for operations in a wide range of temperatures and varying mediums
- The pressure transmitters shown in this brochure are only a small range of our possibilities
- Special versions on request, e.g. cleaned for oxygen use



## Technical Data

Type	0645	0675	0650	0680	0660	0690	
Output signal:	0.5 ... 4.5 V ratiometrically		0 ... 10 V (3-wire)		4 ... 20 mA (2-wire)		
Supply voltage $U_b$ :	5 VDC $\pm$ 10 % max. 6.5 VDC		12 ... 32 VDC		10 ... 32 VDC		
Maximum load:	$\geq$ 4.7 k $\Omega$		$\geq$ 4.7 k $\Omega$		$\leq (U_b - 10 \text{ V}) / 20 \text{ mA}$		
Current consumption:	approx. 5 mA				-		
Accuracy:	$\pm$ 0.5 % FS at room temperature, $\pm$ 0.25 % BFSL						
Long term stability:	< $\pm$ 0.2 % FS p. a.						
Repeatability <sup>1)</sup> :	$\pm$ 0.1 % FS						
Temperature error <sup>1)</sup> :	$\pm$ 0.02 % FS/ $^{\circ}$ C; -1 ... 1 bar / $\pm$ 0.03 % FS/ $^{\circ}$ C						
Compensated temperature range:	-10 $^{\circ}$ C ... +70 $^{\circ}$ C (14 $^{\circ}$ F ... 158 $^{\circ}$ F)						
Temperature range (ambient):	-40 $^{\circ}$ C ... 100 $^{\circ}$ C (-40 $^{\circ}$ F ... +212 $^{\circ}$ F)						
Temperature range (medium):	with NBR sealing: -40 $^{\circ}$ C ... 100 $^{\circ}$ C (-40 $^{\circ}$ F ... +212 $^{\circ}$ F)						
	with FKM sealing: -20 $^{\circ}$ C ... 125 $^{\circ}$ C (-4 $^{\circ}$ F ... +257 $^{\circ}$ F)						
Mechanical life expectancy:	$10^7$ cycles at ramp rate up to 1 bar/ms (14.5 psi/ms) at $p_{nom}$						
Overload factor <sup>2)</sup> :	3x $p_{nom} \leq$ 4 bar; 2x $p_{nom}$ 4 ... 100 bar						
Burst pressure <sup>2)</sup> :	10x $p_{nom} <$ 1 bar; 5x $p_{nom}$ 4 ... 10 bar; 2.5 x $p_{nom}$ 10 ... 100 bar						
Wetted part materials:	housing and pressure port:	1.4305 / AISI 303	1.4404 / AISI 316L	1.4305 / AISI 303	1.4404 / AISI 316L	1.4305 / AISI 303	1.4404 / AISI 316L
	sensor:	1.4404 / AISI 316L					
	sealing material:	NBR or FKM					
Standard sensor oil filling:	Fluorine Oil (not suitable for food applications)						
Maximum pressure ramp rate:	$\leq$ 1.0 bar/ms (14.5 psi/ms)						
Response time 10 – 90 %:	< 2 ms						
Vibration resistance:	20 g @ 4 ... 2,000 Hz sine; DIN EN 60068-2-6						
Shock resistance:	half sine 500 m/s <sup>2</sup> , 11ms; DIN EN 60068-2-27						
Degree of protection:	see electrical connections						
EMC:	2004/108/EC: EN 61000-6-2:2005, EN 61000-6-3:2007						
Maximum length of connection cable:	30 m (100 ft)						
Protection against reverse polarity, short-circuit and over voltage surges:	built-in						
Standard-pressure ranges $p_{nom}$ :	-1 ... 0 bar (vacuum), 0 ... 1 bar, 0 ... 4 bar, 0 ... 6 bar, 0 ... 10 bar; 0 ... 16 bar, 0 ... 40 bar, 0 ... 100 bar						
Weight in grams:	approx. 80 g (DIN 175301 approx. 110 g, cable connection approx. 135 g)						

<sup>1)</sup> Within compensated temperature range.

<sup>2)</sup> Static pressure. Dynamic pressure should be 30 to 50 % lower. These values refer to the hydraulic or pneumatic part of the pressure transmitters.

# 0645 / 0650 / 0660

(Stainless steel 1.4305 / AISI 303)

## Electrical and mechanical connections



Hex 22

Piezoresistive sensor in oil-filled housing

Errors and technical modifications subject to change

DIN EN 175301-803-A	
0645 + 0650	0660
1: Uv+	1: Uv+
2: Gnd	2: I <sub>out</sub>
3: U <sub>out</sub>	3: *nc
PE	⏚
IP65	
x ~ 60 mm (without connector) x ~ 76 mm (with connector)	
d ~ Ø 30 mm	
Order number: <b>013</b>	

M 12 – DIN EN 61076-2-101 A	
0645 + 0650	0660
1: Uv+	1: Uv+
2: U <sub>out</sub>	2: *nc
3: Gnd	3: I <sub>out</sub>
4: *nc	4: *nc
IP67	
x ~ 54 mm	
d ~ Ø 22 mm	
Order number: <b>002</b>	

ISO 15170-A1-4.1	
0645 + 0650	0660
1: Uv+	1: Uv+
2: Gnd	2: *nc
3: U <sub>out</sub>	3: I <sub>out</sub>
4: *nc	4: *nc
IP67	
x ~ 65 mm	
d ~ Ø 27 mm	
Order number: <b>004</b>	

Cable connection	
1: red 2: white 3: black	
0645 + 0650	0660
1: Uv+	1: Uv+
2: U <sub>out</sub>	2: *nc
3: Gnd	3: I <sub>out</sub>
IP67	
x ~ 44 mm (+ 20 mm bend relief) cable length ~ 2 m	
d ~ Ø 22 mm	
Order number: <b>011</b>	

Order number: <b>41</b>

\*nc = not connected

# 0645 / 0650 / 0660

(Stainless steel 1.4305 / AISI 303)

## Order matrix for pressure transmitters

	Type	Pressure range	Pressure connection	Seal material	Electrical connection
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### Type

0.5 – 4.5 V, ratiometric	0645
0 – 10 V, 3-wire	0650
4 – 20 mA, 2-wire	0660

### Pressure range

	Max. overpressure	
-1 – 0 bar (vacuum) -29.6 inHg	3 bar	000
0 – 1 bar (approx. 14.5 PSI)	3 bar	100
0 – 4 bar (approx. 58 PSI)	8 bar	400
0 – 6 bar (approx. 87 PSI)	12 bar	600
0 – 10 bar (approx. 145 PSI)	20 bar	101
0 – 16 bar (approx. 232 PSI)	32 bar	161
0 – 40 bar (approx. 580 PSI)	80 bar	401
0 – 100 bar (approx. 1,450 PSI)	200 bar	102

### Pressure connection

G 1/4 – DIN EN ISO 1179-2 (DIN 3852-11), Form E	41
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### Seal material – areas of application

NBR	Hydraulic-/machine oil, heating oil, air, nitrogen, oxygen etc.	-40 °C ... 100 °C (-40 °F ... 212 °F)	1
FKM	Hydraulic fluids (HFA, HFB, HFD), gasoline/petrol etc.	-20 °C ... 125 °C (-4 °F ... 257 °F)	3

### Electrical connection

DIN EN 175301-803-A (DIN 43650-A), socket device included	013
M 12x1 – DIN EN 61076-2-101 A	002
Bayonet ISO 15170-A1-4.1/DIN 72585-A1-4.1	004
Cable connection (standard length of cable: 2m)	011

Order number:	06XX - XXX - 41 - X - XXX
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Unit	Pa = N/m <sup>2</sup>	bar	lbf/in <sup>2</sup> , PSI
1 Pascal	1	0.00001	0.00014
1 bar	100,000	1	14.5
1 lbf/in <sup>2</sup> , PSI	6,894	0.06894	1

## Accessories

(not included)

### Socket device M 12x1 straight



Order number:  
1-6-00-652-016

### Socket device M 12x1 angular



Order number:  
1-6-00-652-017

### M12x1 Connector DIN EN 61076 4x0.34 mm<sup>2</sup>

Contact-Assignment  
(DIN EN 60947-5-2):

- 1: brown
- 2: white
- 3: blue
- 4: black



Order number:  
1-1-00-653-162

# 0675 / 0680 / 0690

(Stainless steel 1.4404 / AISI 316L)

## Electrical and mechanical connections



Hex 22

Piezoresistive sensor in oil-filled housing

DIN EN 175301-803-A	
0675 + 0680	0690
1: Uv+	1: Uv+
2: Gnd	2: I <sub>out</sub>
3: U <sub>out</sub>	3: *nc
PE	⏚
IP65	
x ~ 60 mm (without connector) x ~ 76 mm (with connector)	
d ~ Ø 30 mm	
Order number: <b>013</b>	

M 12 – DIN EN 61076-2-101 A	
0675 + 0680	0690
1: Uv+	1: Uv+
2: U <sub>out</sub>	2: *nc
3: Gnd	3: I <sub>out</sub>
4: *nc	4: *nc
IP67	
x ~ 54 mm	
d ~ Ø 22 mm	
Order number: <b>002</b>	

ISO 15170-A1-4.1	
0675 + 0680	0690
1: Uv+	1: Uv+
2: Gnd	2: *nc
3: U <sub>out</sub>	3: I <sub>out</sub>
4: *nc	4: *nc
IP67	
x ~ 65 mm	
d ~ Ø 27 mm	
Order number: <b>004</b>	

Cable connection	
0675 + 0680	0690
1: Uv+	1: Uv+
2: U <sub>out</sub>	2: *nc
3: Gnd	3: I <sub>out</sub>
IP67	
x ~ 44 mm (+ 20 mm bend relief) cable length ~ 2 m	
d ~ Ø 22 mm	
Order number: <b>011</b>	

Order number: <b>41</b>

\*nc = not connected

# 0675 / 0680 / 0690

(Stainless steel 1.4404 / AISI 316L)

## Order matrix for pressure transmitters

	Type	Pressure range	Pressure connection	Seal material	Electrical connection
--	------	----------------	---------------------	---------------	-----------------------

### Type

0.5 – 4.5 V, ratiometric	0675
0 – 10 V, 3-wire	0680
4 – 20 mA, 2-wire	0690

### Pressure range

	Max. overpressure
--	-------------------

-1 – 0 bar (vacuum) -29.6 inHg	3 bar	000
0 – 1 bar (approx. 14.5 PSI)	3 bar	100
0 – 4 bar (approx. 58 PSI)	8 bar	400
0 – 6 bar (approx. 87 PSI)	12 bar	600
0 – 10 bar (approx. 145 PSI)	20 bar	101
0 – 16 bar (approx. 232 PSI)	32 bar	161
0 – 40 bar (approx. 580 PSI)	80 bar	401
0 – 100 bar (approx. 1,450 PSI)	200 bar	102

### Pressure connection

G 1/4 – DIN EN ISO 1179-2 (DIN 3852-11), Form E	41
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### Seal material - areas of application

NBR	Hydraulic-/machine oil, heating oil, air, nitrogen, oxygen etc.	-40 °C ... 100 °C (-40 °F ... 212 °F)	1
FKM	Hydraulic fluids (HFA, HFB, HFD), gasoline/petrol etc.	-20 °C ... 125 °C (-4 °F ... 257 °F)	3

### Electrical connection

DIN EN 175301-803-A (DIN 43650-A), socket device included	013
M 12x1 – DIN EN 61076-2-101 A	002
Bayonet ISO 15170-A1-4.1 (DIN 72585-A1-4.1)	004
Cable connection (standard cable length 2 m)	011

Order number:	06XX - XXX - 41 - X - XXX
---------------	---------------------------

Unit	Pa = N/m <sup>2</sup>	bar	lbf/in <sup>2</sup> , PSI
1 Pascal	1	0.00001	0.00014
1 bar	100,000	1	14,5
1 lbf/in <sup>2</sup> , PSI	6,894	0.06894	1

## Accessories

(not included)

### Socket device M 12x1 straight



Order number:  
1-6-00-652-016

### Socket device M 12x1 angular



Order number:  
1-6-00-652-017

### M12x1 Connector DIN EN 61076 4x0.34 mm<sup>2</sup>

Contact-Assignment  
(DIN EN 60947-5-2):

- 1: brown
- 2: white
- 3: blue
- 4: black



Order number:  
1-1-00-653-162

# Pressure Sensors



HI 2000 HI 2010

## High specification HI 20XX

Sensor-Technology:	Silicon on Sapphire (SoS)
Pressure range:	0 – 500 mbar to 0 – 1,500 bar (0 – 7.5 psi to 0 – 20,000 psi)
Temperature range:	Up to 125 °C (up to 257 °F)
Output signal:	10 mV/V, 0 – 5 Vdc, 0 – 10 Vdc
Wetted parts:	Titanium
Accuracy:	±0.1 % FS typical max., best fit straight line (BFSL)
Process connection:	¼" BSP (G ¼), for options not listed contact sales
Electrical connection:	Cable MIL-C-26482 6-pin Bayonet
Highlights:	ATEX/IECEx (available only for mV/V output), Zero offset and span adjustable



HP 10XX  
HP 11XX

## High pressure HP 10XX / HP 11XX

Sensor-Technology:	Silicon on Sapphire (SoS)
Pressure range:	0 – 400 bar to 0 – 4,000 bar (0 – 6,000 psi to 0 – 60,000 psi)
Temperature range:	Up to 125 °C (up to 257 °F)
Output signal:	10 mV/V, 0 – 5 Vdc, 0 – 10 Vdc, 4 – 20mA
Wetted parts:	Titanium
Accuracy:	±0.25 % FS typical max., best fit straight line (BFSL)
Process connection:	Autoclave F250C female
Electrical connection:	Socket device DIN EN 175301
Highlights:	Extreme high pressure, ATEX/IECEx (available only for 4 – 20mA)



LP 10XX

## Low pressure LP 10XX

Sensor-Technology:	Piezoresistive
Pressure range:	0 – 50 mbar to 0 – 1,000 mbar
Temperature range:	-20 °C to +85 °C (-4 °F to +185 °F)
Output signal:	10 mV/V, 0 – 5 Vdc, 0 – 10 Vdc, 4 – 20mA
Wetted parts:	Stainless steel with O-ring
Accuracy:	±0.5 % FS typical max., best fit straight line (BFSL)
Process connection:	¼" BSP (G ¼), for options not listed contact sales
Electrical connection:	Socket device DIN EN 175301
Highlights:	Very low pressure range with high accuracy and zero offset and span adjustable, robust stainless steel housing



PR 320X

## Differential pressure transmitter PR 32XX

	PR3200	PR3202
Sensor-Technology:	Silicon on Sapphire (SoS)	Piezoresistive sensor
Differential pressure range:	500 mbar – 200 bar	5 mbar – 1,000 mbar
Temperature range:	-20 °C to +85 °C (-4 °F to +185 °F)	-20 °C to +70 °C (-4 °F to +158 °F)
Output signal:	4 – 20 mA standard, 0 – 5 Vdc or 0 – 10 Vdc optional	
Wetted parts:	Titanium + Stainless Steel 1.4404/AISI 316L	Designed for non-corrosive gases
Accuracy:	±0.3 % FS typical max., best fit straight line (BFSL)	
Process connection:	¼" BSP (G ¼), female	4.8 mm tube connection (push on stem)
Electrical connection:	Socket device DIN EN 175301	PG7 cable gland
Highlights:	Uni and bi-directional operation, for high pressure (5X)	Very low differential pressure, ATEX/IECEx available

# Pressure Sensors



## High temperature HI 22XX / PR3860

	HI22XX	PR3860
Sensor-Technology:	Silicon on Sapphire (SoS)	Stainless steel / Thick-film
Pressure range:	0 – 1 bar (0 – 14.5 psi) to 0 – 1,500 bar (0 – 20,000 psi)	0 – 10 bar (0 – 14.5 psi) to 0 – 400 bar (0 – 6,000 psi)
Temperature range:	Media temperature up to 200 °C (392 °F)	
Output signal:	HI22XX: 10 – 20 mV/V, HI23XX: 10 mV/V	4 – 20 mA
Wetted parts:	Titanium	AISI 316L
Accuracy:	HI 2200/2300: @ 150 °C: ±0.1 % FS typical max., best fit straight line (BFSL)	@ 200 °C medium: ±0.3 % FS typical max., best fit straight line (BFSL)
Process connection:	¼" BSP (G ¼), for options not listed contact sales	
Electrical connection:	Cable, MIL-C-26482, DIN EN 175301	
Highlights:	High temperature applications	ATEX/IECEX-available



HI 22XX



PR 3860

## Flush diaphragm sensor PR3800 / 3850

Sensor-Technology:	Thick film sensor technology
Pressure range:	0 – 200 mbar to 0 – 1,000 bar
Temperature range:	Up to 85 °C (185 °F) medium temperature (sanitizable up to 150 °C (350 °F))
Output signal:	4 – 20 mA standard, 0 – 5 Vdc or 0 – 10 Vdc optional
Wetted parts:	Stainless steel 1.4401 / AISI 316 or 1.4404 / AISI 316L (product specific)
Accuracy:	±0.3 % FS typical max., best fit straight line (BFSL)
Highlights:	ATEX/IECEX-available



PR 3800



PR 3850

## Submersible depth pressure sensor PR34XX

Sensor-Technology:	Ceramic sensor or piezoresistive sensor
Pressure range:	0 – 1 mWS, 0 – 500 mWS
Temperature range:	-20 °C to +60 °C (-4 °F to +140 °F)
Output signal:	4 – 20 mA standard, 0 – 5 Vdc or 0 – 10 Vdc optional
Wetted parts:	Stainless steel 1.4404 / AISI 316L (product specific)
Accuracy:	±0.3 % FS typical max., best fit straight line (BFSL)
Electrical connection:	Vented cable
Highlights:	ATEX/IECEX-available, slim design, options for highly corrosive medium available



PR 34XX

## GS4200-USB

Sensor-Technology:	Silicon on Sapphire (SoS)
Pressure range:	From -1 – 2.5 bar through to 0 – 4,000 bar
Temperature range:	Up to 85 °C (185 °F)
Output signal:	USB-Interface power supply and data transfer via USB
Wetted parts:	Titanium
Accuracy:	±0.15 % FS typical max., best fit straight line (BFSL)
Process connection:	¼" BSP (G ¼), Autoclave - F250C female, ¼" NPT
Electrical connection:	USB Mini B
Highlights:	Software included, built-in temperature monitoring, measures up to 16 inputs simultaneously

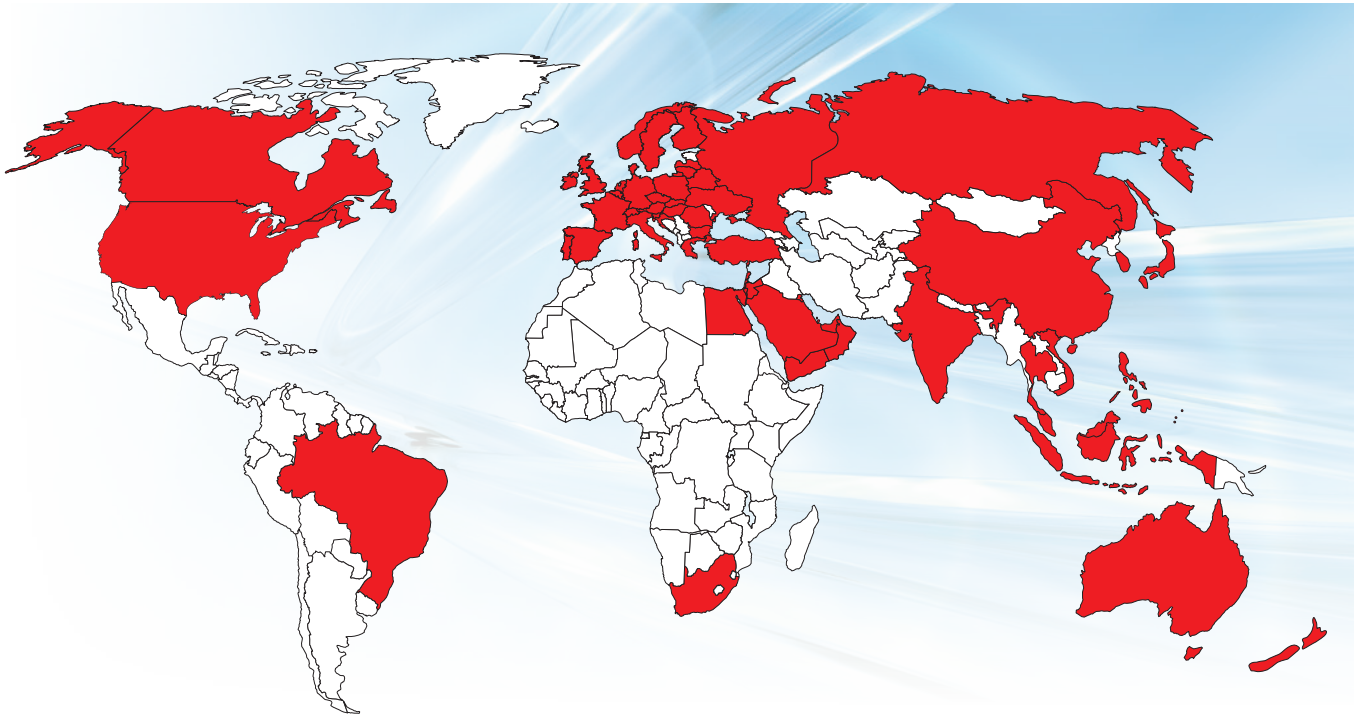


GS4200 USB

# Pressure Monitoring and Transmission Technology

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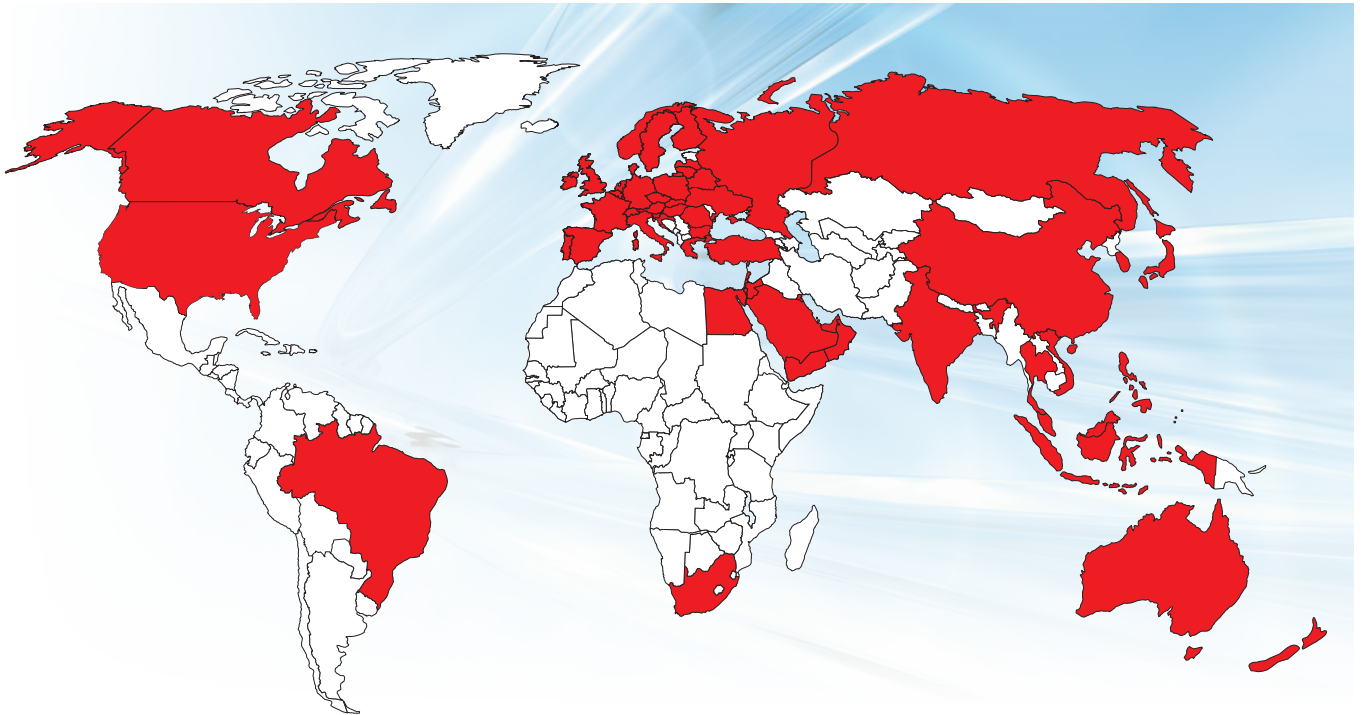
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