



# **DS 400P**

### **Intelligent Electronic Pressure Switch Stainless Steel**

Pressure Ports and Process Connections with Flush Welded Stainless Steel Diaphragm

accuracy according to IEC 60770: standard: 0.35 % FSO option: 0.25 % FSO

### **Nominal pressure**

from 0 ... 100 mbar up to 0 ... 40 bar

#### **Contacts**

1 or 2 independent PNP contacts, freely configurable

#### **Analogue output**

2-wire: 4 ... 20 mA 3-wire: 4 ... 20 mA others on request

#### **Special characteristics**

- indication of measured values on a 4-digit LED display
- rotable and configurable display module
- configurable contacts (switch on / switch off points, hysteresis/ window mode, switch on / switch off delay)
- hygienical version

#### **Optional versions**

**IS-version** 

Ex ia = intrinsically safe for gases and dusts

customer specific versions

The electronic pressure switch DS 400P is the successful combination of

- intelligent pressure switch
- digital display

and has been developed for process industry; especially for food industry and pharmacy.

As standard the DS 400P offers a PNP contact and a rotable display module with 4-digit LED dis-

Optional versions like e.g. an intrinsically safe version, max. two contacts and an analogue output complete the profile.

#### Preferred areas of use are



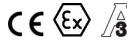
Food industry



**Pharmacy** 

#### Material and test certificates

- Inspection certificate 3.1 according to EN 10204
- Test report 2.2 according to EN 10204



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Electronic Pressure Switch

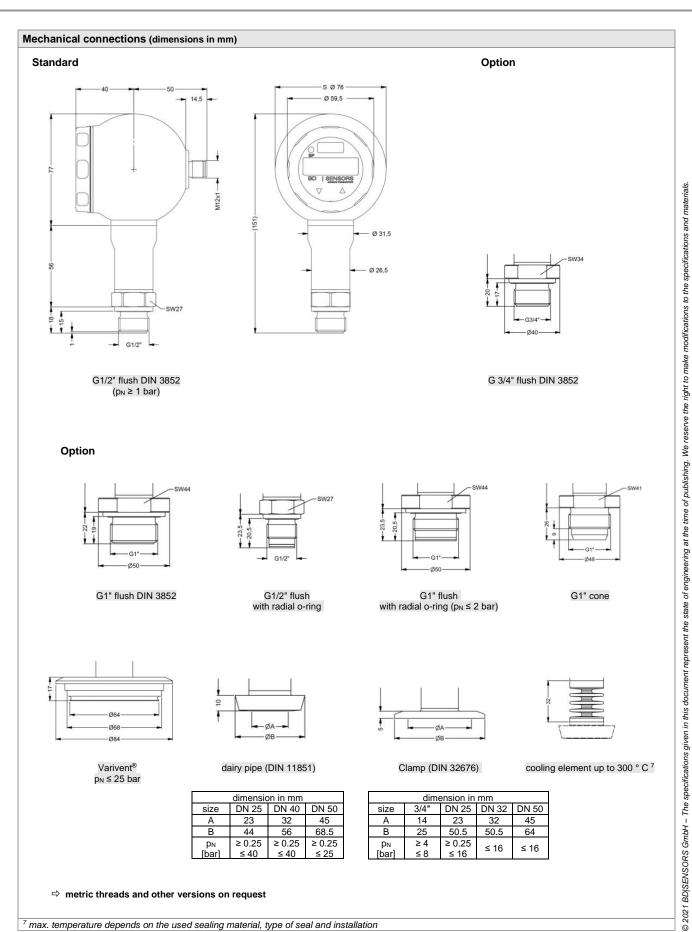
Input pressure range <sup>1</sup>																
Nominal pressure gauge	[bar]	-1 0	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10	16	25	40
Nominal pressure abs.	[bar]	-	-	-	-	0.4	0.6	1	1.6	2.5	4	6	10	16	25	40
Overpressure	[bar]	5	0.5	1	1	2	5	5	10	10	20	40	40	80	80	105
Burst pressure ≥	[bar]	7.5	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50	50	120	120	210
Vacuum resistance		p <sub>N</sub> ≥ 1 bar: unlimited vacuum resistance					p <sub>N</sub> < 1 bar: on request									
<sup>1</sup> consider the pressure resistance of fitting and clamps																

Contact <sup>2</sup>						
Number, type	standard: 1 PNP contact	option: 2 indepe	endent PNP cont	acts		
Max. switching current	$4 \dots 20 \text{ mA} / 2$ - and $3$ -wire: contact rating 125 mA, short-circuit resistant; $V_{\text{switch}} = V_{\text{S}} - 2$ contact rating 125 mA, short-circuit resistant					
Accuracy of contacts 3	standard: nominal pressure < 0.4 bar: $\leq$ ± 0.5 % FSO / nominal pressure $\geq$ 0.4 bar: $\leq$ ± 0.35 % FSO option: nominal pressure $\geq$ 0.4 bar: $\leq$ ± 0.25 % FSO					
Repeatability	≤ ± 0.1 % FSO					
Switching frequency	2-wire: max. 10 Hz /	3-wire: 50 Hz				
Switching cycles	> 100 x 10 <sup>6</sup>					
Delay time	0 100 sec					
<sup>2</sup> with IS-protection max. 1 contact poss	ible					
Analogue output (optionally) / Su	ıpply					
2-wire current signal	4 20 mA / $V_S$ = 13 36 $V_{DC}$ permissible load: $R_{max}$ = [( $V_S$ - $V_S$	/ <sub>s min</sub> ) / 0.02 Al Ω		response time: < 10 msec		
2-wire current signal with	4 20 mA / V <sub>S</sub> = 15 28 V <sub>DC</sub>	311111) / 010 = 1 1 <u>1</u> = 1				
IS-protection	permissible load: $R_{max} = [(V_S - V_S)]$	$(s_{min}) / 0.02 Al \Omega$		response time: < 10 msec		
3-wire current signal	4 20 mA / $V_S = 24 V_{DC} \pm 10$ % adjustable (turn-down of span 1:5) <sup>4</sup>					
3	permissible load: $R_{max} = 500 \Omega$ response time: < 30 r					
3-wire voltage signal	$0 \dots 10 \text{ V} / \text{V}_{\text{S}} = 24 \text{ V}_{\text{DC}} \pm 10 \%$	adjustable (turn-down of	f span 1:5) 4			
(on request)	permissible load: $R_{min} = 10 \text{ k}\Omega$		•	response time: < 30 msec		
Without analogue output	V <sub>S</sub> = 15 36 V <sub>DC</sub>					
Accuracy <sup>3</sup>	standard: nominal pressure < 0.4 bar: ≤ ± 0.5 % FSO / nominal pressure ≥ 0.4 bar: ≤ ± 0.35 % FSO option: nominal pressure ≥ 0.4 bar: ≤ ± 0.25 % FSO					
<sup>3</sup> accuracy according to IEC 60770 – lin						
with turn-down of span the analogue s	signal is adjusted automatically to the n	ew measuring range				
Thermal errors (offset and span) <sup>5</sup>						
Nominal pressure p <sub>N</sub> [bar]	-1 0	< 0.40		≥ 0.40		
Tolerance band [% FSO]		≤ ± 1.5		≤ ± 0.75		
in compensated range [°C]	-20 85	0 50		-20 85		
<sup>5</sup> an optional cooling element can influen	nce thermal effects for offset and span of	lepending on installation pos	ition and filling con	ditions		
Permissible temperatures						
Filling fluid	silicone oil		food	compatible oil		
Medium <sup>6</sup>	-40 125 °C		-10			
Medium with cooling element <sup>7</sup>	overpressure: -40 3		overpressure vacuum:	e: -10 250 °C -10 150 °C <sup>8</sup>		
Electronics / environment		-40 85 °C	0			
Storage		-40 100 °C				
<sup>6</sup> max. temperature of the medium for ov	verpressure > 0 bar: 150 °C for 60 minu	ites with a max_environmen	tal temperature of !			
<sup>7</sup> max. temperature depends on the used	d sealing material, type of seal and inst	allation	iai temperature or c	50 °C		
$^{7}$ max. temperature depends on the used $^{8}$ also for p <sub>abs</sub> $\leq$ 1 bar	d sealing material, type of seal and inst	allation		50 °C		
<ul> <li><sup>7</sup> max. temperature depends on the used</li> <li><sup>8</sup> also for p<sub>abs</sub> ≤ 1 bar</li> <li>Electrical protection</li> </ul>	d sealing material, type of seal and inst	allation	tar temperature or c	50 °C		
<ul> <li>7 max. temperature depends on the used 8 also for p<sub>abs</sub> ≤ 1 bar</li> <li>Electrical protection</li> <li>Short-circuit protection</li> </ul>	d sealing material, type of seal and inst	allation	ar temperature or c	50 °C		
<ul> <li><sup>7</sup> max. temperature depends on the used also for pabs ≤ 1 bar</li> <li>Electrical protection</li> <li>Short-circuit protection</li> <li>Reverse polarity protection</li> </ul>	d sealing material, type of seal and inst  permanent no damage, but also no function	allation	ar temperature of C	50 °C		
<ul> <li><sup>7</sup> max. temperature depends on the used also for pabs ≤ 1 bar</li> <li>Electrical protection</li> <li>Short-circuit protection</li> <li>Reverse polarity protection</li> <li>Electromagnetic compatibility</li> </ul>	d sealing material, type of seal and inst	allation	iai temperature or c	50 °C		
<ul> <li><sup>7</sup> max. temperature depends on the used also for pabs ≤ 1 bar</li> <li>Electrical protection</li> <li>Short-circuit protection</li> <li>Reverse polarity protection</li> <li>Electromagnetic compatibility</li> <li>Mechanical stability</li> </ul>	permanent no damage, but also no function emission and immunity according	g to EN 61326				
<ul> <li><sup>7</sup> max. temperature depends on the used also for pabs ≤ 1 bar</li> <li>Electrical protection</li> <li>Short-circuit protection</li> <li>Reverse polarity protection</li> <li>Electromagnetic compatibility</li> <li>Mechanical stability</li> <li>Vibration (DIN EN 60068-2-6)</li> </ul>	permanent no damage, but also no function emission and immunity according  G 1/2": 20 g RMS (25 2000 H	g to EN 61326	cept G 1/2": 10 c	g RMS (25 2000 Hz)		
<ul> <li><sup>7</sup> max. temperature depends on the used 8 also for pabs ≤ 1 bar</li> <li>Electrical protection</li> <li>Short-circuit protection</li> <li>Reverse polarity protection</li> <li>Electromagnetic compatibility</li> <li>Mechanical stability</li> <li>Vibration (DIN EN 60068-2-6)</li> <li>Shock (DIN EN 60068-2-27)</li> </ul>	permanent no damage, but also no function emission and immunity according	g to EN 61326		g RMS (25 2000 Hz)		
<sup>7</sup> max. temperature depends on the used 8 also for pabs ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Mechanical stability Vibration (DIN EN 60068-2-6) Shock (DIN EN 60068-2-27) Filling fluids	permanent no damage, but also no function emission and immunity according G 1/2": 20 g RMS (25 2000 H G 1/2": 500 g / 1 msec	g to EN 61326	cept G 1/2": 10 c	g RMS (25 2000 Hz)		
<ul> <li><sup>7</sup> max. temperature depends on the used also for pabs ≤ 1 bar</li> <li>Electrical protection</li> <li>Short-circuit protection</li> <li>Reverse polarity protection</li> <li>Electromagnetic compatibility</li> <li>Mechanical stability</li> <li>Vibration (DIN EN 60068-2-6)</li> <li>Shock (DIN EN 60068-2-27)</li> <li>Filling fluids</li> <li>Standard</li> </ul>	permanent no damage, but also no function emission and immunity according G 1/2": 20 g RMS (25 2000 H G 1/2": 500 g / 1 msec	g to EN 61326  Iz) others exconthers exconthers exconthers	cept G 1/2": 10 c	g RMS (25 2000 Hz)		
<sup>7</sup> max. temperature depends on the used 8 also for pabs ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Mechanical stability Vibration (DIN EN 60068-2-6) Shock (DIN EN 60068-2-27) Filling fluids	permanent no damage, but also no function emission and immunity according G 1/2": 20 g RMS (25 2000 H G 1/2": 500 g / 1 msec	g to EN 61326  Iz) others excorders excorders excorders excorders.	cept G 1/2": 10 cept G 1/2": 100	g RMS (25 2000 Hz) g / 1 msec		
<sup>7</sup> max. temperature depends on the used 8 also for pabs ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Mechanical stability Vibration (DIN EN 60068-2-6) Shock (DIN EN 60068-2-27) Filling fluids Standard	permanent no damage, but also no function emission and immunity according  G 1/2": 20 g RMS (25 2000 H G 1/2": 500 g / 1 msec  silicone oil food compatible oil according to	g to EN 61326  Iz) others excorders excorders excorders excorders.	cept G 1/2": 10 cept G 1/2": 100	g RMS (25 2000 Hz) g / 1 msec		
<sup>7</sup> max. temperature depends on the used also for pabs ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Mechanical stability Vibration (DIN EN 60068-2-6) Shock (DIN EN 60068-2-27) Filling fluids Standard Optional Materials	permanent no damage, but also no function emission and immunity according  G 1/2": 20 g RMS (25 2000 H G 1/2": 500 g / 1 msec  silicone oil food compatible oil according to	g to EN 61326  Iz) others excorders excorders excorders excorders.	cept G 1/2": 10 cept G 1/2": 100	g RMS (25 2000 Hz) g / 1 msec		
<ul> <li><sup>7</sup> max. temperature depends on the used also for pabs ≤ 1 bar</li> <li>Electrical protection</li> <li>Short-circuit protection</li> <li>Reverse polarity protection</li> <li>Electromagnetic compatibility</li> <li>Mechanical stability</li> <li>Vibration (DIN EN 60068-2-6)</li> <li>Shock (DIN EN 60068-2-27)</li> <li>Filling fluids</li> <li>Standard</li> <li>Optional</li> <li>Materials</li> <li>Pressure port</li> </ul>	permanent no damage, but also no function emission and immunity according G 1/2": 20 g RMS (25 2000 H G 1/2": 500 g / 1 msec  silicone oil food compatible oil according to (Mobil SHC Cibus 32; Category	g to EN 61326  Iz) others excorders excorders excorders excorders.	cept G 1/2": 10 cept G 1/2": 100	g RMS (25 2000 Hz) g / 1 msec		
<sup>7</sup> max. temperature depends on the used also for pabs ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Mechanical stability Vibration (DIN EN 60068-2-6) Shock (DIN EN 60068-2-27) Filling fluids Standard Optional Materials Pressure port Diaphragm	permanent no damage, but also no function emission and immunity according G 1/2": 20 g RMS (25 2000 H G 1/2": 500 g / 1 msec  silicone oil food compatible oil according to (Mobil SHC Cibus 32; Category  stainless steel 1.4435 (316 L)	g to EN 61326  Iz) others excorders excorders excorders excorders.	cept G 1/2": 10 cept G 1/2": 100	g RMS (25 2000 Hz) g / 1 msec		
<sup>7</sup> max. temperature depends on the used also for pabs ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Mechanical stability Vibration (DIN EN 60068-2-6) Shock (DIN EN 60068-2-27) Filling fluids Standard Optional Materials Pressure port Diaphragm Housing	permanent no damage, but also no function emission and immunity according G 1/2": 20 g RMS (25 2000 H G 1/2": 500 g / 1 msec  silicone oil food compatible oil according to (Mobil SHC Cibus 32; Category)  stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L)	g to EN 61326  Iz) others excorders excorders excorders excorders.	cept G 1/2": 10 cept G 1/2": 100	g RMS (25 2000 Hz) g / 1 msec		
<sup>7</sup> max. temperature depends on the used also for palss ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Mechanical stability Vibration (DIN EN 60068-2-6) Shock (DIN EN 60068-2-27) Filling fluids Standard Optional Materials Pressure port Diaphragm Housing Viewing glass	permanent no damage, but also no function emission and immunity according  G 1/2": 20 g RMS (25 2000 H G 1/2": 500 g / 1 msec  silicone oil food compatible oil according to (Mobil SHC Cibus 32; Category  stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) laminated safety glass	g to EN 61326  Iz) others excothers exco	cept G 1/2": 10 goept G 1/2": 100 tion No.: 141500	g RMS (25 2000 Hz) g / 1 msec		
<sup>7</sup> max. temperature depends on the used also for pabs ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Mechanical stability Vibration (DIN EN 60068-2-6) Shock (DIN EN 60068-2-27) Filling fluids Standard Optional Materials Pressure port Diaphragm Housing	permanent no damage, but also no function emission and immunity according G 1/2": 20 g RMS (25 2000 H G 1/2": 500 g / 1 msec  silicone oil food compatible oil according to (Mobil SHC Cibus 32; Category  stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) laminated safety glass standard: FKM (recommen	g to EN 61326  Iz) others exconthers excont	cept G 1/2": 10 goept G 1/2": 100 tion No.: 141500 tures ≤ 200 °C)	g RMS (25 2000 Hz) g / 1 msec		

## **DS 400P**

Electronic Pressure Switch

Approval AX14-DS 400P   IBEAU 06 ATEX 1050 X 200e 20   Il 10 Ex ia Illi CT 4 Ga (connector) / Il 10 Ex ia Illi CT 4 Ga (connector) / Il 10 Ex ia Illi CT 4 Ga (connector) / Il 10 Ex ia Illi CT 4 Ga (connector) / Il 10 Ex ia Illi CT 4 Ga (connector) / Il 10 Ex ia Illi CT 4 Ga (connector) / Il 10 Ex ia Illi CT 135 **C 00	Explosion protection (only for 4	20 mA / 2-wire)				
Safety technical maximum values  Max. switching current 9  70 mA  Permissible temperatures for envi- roment  1n zone 0  20 60 °C with pam 0.8 bar up to 1.1 bar roment  roment  1n zone 1 or higher 25 70 °C with pam 0.8 bar up to 1.1 bar roment  1n zone 1 or higher 25 70 °C with pam 0.8 bar up to 1.1 bar roment  1n zone 1 or higher 25 70 °C with pam 0.8 bar up to 1.1 bar roment  1n zone 1 or higher 25 70 °C with pam 0.8 bar up to 1.1 bar roment  1n zone 1 or higher 25 70 °C with pam 0.8 bar up to 1.1 bar roment  2n zone 2 °C zone 20 °C with pam 0.8 bar up to 1.1 bar roment  2n zone 2 °C zone 25 °C with pam 0.8 bar up to 1.1 bar roment  2n zone 1 or higher 25 °C with pam 0.8 bar up to 1.1 bar roment  2n zone 1 or higher 25 °C with pam 0.8 bar up to 1.1 bar roment  2n zone 1 or higher 25 °C with pam 0.8 bar up to 1.1 bar roment  2n zone 1 or higher 25 °C with pam 0.8 bar up to 1.1 bar roment  2n zone 2 °C with pam 0.8 bar up to	Approval AX14-DS 400P					
Safety technical maximum values  Max. switching current *  70 mA  max. switching current in the application depends on the inductance: signal lineshield also signal linesignal line: 100 pF/m  cable capacitation depends on the mover supply unit  70 mA  miscellaneous  EHEDG conformity is only ensured in combination with an approved seal. This is e.g. for  FIERDA - Clamp (C81, C82, C83):  - Varivent *(P41): -			II 1G Ex ia IIB T4 Ga (cable)			
Max. switching current *	Safety technical maximum values		- O 1114			
Permissible temperatures for environment Connecting cables (by factory) cable capacitance: cable capacitance: cable capacitance: cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable capacitance: cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signal line/sheld also signal line/signal line: 100 pF/m cable inductance: signa	· · · · · · · · · · · · · · · · · · ·		- Ο μιτ			
in zone 1 or higher: 25 70 °C Connecting cables (by factory) Connection  EHEDG conformity is only resured in contribution with an approved seal. This is e.g. for Connection Connection  EHEDG conformity is only resured in contribution with an approved seal. This is e.g. for Connection Connection  EHEDG conformity is only resured in contribution with an approved seal. This is e.g. for Connection Connection  EHEDG conformity is only resured in contribution with an approved seal. This is e.g. for Connection Connection  EHEDG conformity is only resured in contribution with an approved seal. This is e.g. for Connection Connection  EHEDG conformity is only resured in contribution with an approved seal. This is e.g. for Connection Connection  EHEDG conformity is only resured in contribution with an approved seal. This is e.g. for Connection Connection  EHEDG conformity is only resured in contribution of Connection  In configuration  ELectrical connection  In configuration  ELectrical connection  M12x1 metal (5-pin)  As wire signal output current approx. 30 mA a signal current approx. 30 mA a signal current approx. 30 mA a signal current approx. 30 mA  A signal and a signal current approx. 30 mA  A signal and a calibration in a vertical position with the pressure port connection down; diefening installation position for p.s. 4 bar have to be specified in the order)  Surface roughness  pressure port R, a cl. 8 µm (media wetred parts) disphragm R, a cl. 15 µm (media wetred parts) disphragm R, a cl. 15 µm (media wetred parts) disphragm R, a cl. 15 µm (media wetred parts) disphragm R, a cl. 15 µm (media wetred parts) disphragm R, a cl. 15 µm (media wetred parts) disphragm R, a cl. 15 µm (media wetred parts)  ELectrical connection  ELectrical connection  M12x1 (Sephi)  Supply a			urun ta 4.4 han			
cable inductance: signal line/shield also signal line/signal line: 1 µH/m  **Pite neal switching current in the application depends on the power supply unit  **Biscellaneous**  EHEDG conformity is only resurred in combination with an approved seal. This is e.g. for Type EL Class I — Clamp (C81, C62, C63): Thing seal from Combift International B.V. — Varivent (P41): M73, M75, M76): ASPPTO-STAR k-flex upgrade seal by Kieselmann GmbH  Display — 4-dight, 7-segment-LED display, visible range of 7, 2 x 11 mm, digit height 10 mm, range of indiction - 1939. — 4999, accuracy 0.1% ± ± digit. digital damping 0.3 30 sea (programmable).  Current consumption (visible signal output current: Job sea (programmable).  Ingress protection IP 67  Installation position any (standard calibration in a vertical position with the pressure port connection down; differing installation position for p., ≤ 4 bar have to be specified in the order)  Surface roughness pressure port R. a. o. 8 µm (media wetted parts) disphragm R. a. o. 15 µm will seam R. a. o. 8 µm (media wetted parts) will be seam	ronment	in zone 1 or higher: -25 70 °C	·			
Selection   Selection   Supply   Single   Selection   Supply   Single   S	Connecting cables (by factory)					
EHEDG certificate Type EL Class I  Clamp (CB1, CB2, CB3) T-ring-seal from Combilit International B.V. Clamp (CB1, CB2, CB3) T-ring-seal from Combilit International B.V. Clamp (CB1, CB2, CB3) T-ring-seal from Combilit International B.V. dairy pipe (M73, M75, M76): BPDM-O-ring which is FDA-listed  4-digit, 7-segment-LED display, visible range 37.2 x 11 mm; digit height 10 mm, ring-last damping, 31-30 seq (programation) colors of the c	<sup>9</sup> the real switching current in the application	tion depends on the power supply unit				
Clamp   Clam	Miscellaneous					
range of indication -1999; +99999; accuracy 0.1% ± 1 digit; digital dampling 0.3 30 sec (programmable); measured value update 0.0 10 sec (programmable)  Reasured value update 0.0 value 10 sec (programmable)  Re		- Clamp (C61, C62, C63): T-ring-seal from - Varivent® (P41): EPDM-O-ring v	n Combifit International B.V. which is FDA-listed			
Ayvire signal output current   Sayvire signal output voltage: approx. 30 mA + signal current   Sayvire signal output voltage: approx. 30 mA   Sayvire signal output	Display	range of indication -1999 +9999; accuracy 0.1% ± 1 digit; digital damping 0.3 30 sec (programmable);				
Installation position  any (standard calibration in a vertical position with the pressure port connection down; differing installation position for p <sub>x</sub> ≤ 4 bar have to be specified in the order)  Surface roughness  pressure port R <sub>x</sub> < 0.8 µm (media wetted parts) widaphragm R <sub>x</sub> < 0.15 µm (media wetted parts)  Weight  min. 500 g (depending on mechanical connection)  Operational life  100 million load cycles  CE-conformity  EMC Directive: 2014/30/EU  ATEX Directive  2014/34/EU  Wiring diagrams  2-wire-system (current)  Pin configuration  Electrical connection  M12x1 metal (5-pin)  Supply + 1		3-wire signal output current: approx. 30 mA +	signal current			
differing installation position for px, s 4 bar have to be specified in the order)  Pressure port R <sub>a</sub> < 0.8 µm (media wetted parts) diaphragm weld seam R <sub>a</sub> < 0.15 µm (media wetted parts) weld seam R <sub>a</sub> < 0.15 µm (media wetted parts)  Weight min. 500 g (depending on mechanical connection)  Operational life 100 million load cycles  CE-conformity EMC Directive: 2014/30/EU  ATEX Directive 2014/34/EU  Wiring diagrams  2-wire-system (current / voltage)  Pin configuration  Electrical connection M12x1 metal (5-pin) cable colours (IEC 60757)  Supply + 1	Ingress protection	IP 67				
diaphragm   R <sub>a</sub> < 0.15 µm   weld seam   R <sub>a</sub> < 0.8 µm	Installation position					
Operational life 100 million load cycles CE-conformity EMC Directive: 2014/30/EU  Wiring diagrams  2-wire-system (current / voltage)  Picontact 1	Surface roughness	diaphragm R <sub>a</sub> < 0.15 μm	urts)			
CE-conformity  EMC Directive: 2014/30/EU  ATEX Directive  2014/34/EU  Wiring diagrams  2-wire-system (current)  Pupply +	Weight	min. 500 g (depending on mechanical connection	n)			
ATEX Directive 2014/34/EU  Wiring diagrams  2-wire-system (current / voltage)  Pin configuration  Electrical connection  Supply - 3	Operational life	100 million load cycles				
Wiring diagrams  2-wire-system (current / voltage)  pupply +	CE-conformity	EMC Directive: 2014/30/EU				
2-wire-system (current)    P	ATEX Directive	2014/34/EU				
Pin configuration  Electrical connection  Supply +	Wiring diagrams					
Electrical connection  M12x1 metal (5-pin)  Supply + Supply - Supply - Signal + (only 3-wire) Contact 1 Contact 2 Shield  Designs 10  Electrical connection (dimensions in mm)  Contact 2 Side display  45° display (others on request)  Cable colours (IEC 60757)  WH (white) BN (brown) BN (brown) GN (green GN (green) GN (green) GNYE (green-yellow)  Electrical connection (dimensions in mm)	p supply +	p supply + supply - signal +	**************************************			
Supply + Supply - 3 BN (brown) Signal + (only 3-wire) 2 GN (green Contact 1 4 GY (grey) PK (pink) Shield plug housing / pressure port GNYE (green-yellow)  Designs 10 Electrical connection (dimensions in mm)  side display 45° display (others on request) M12x1 (5-pin)	Pin configuration					
Supply – Signal + (only 3-wire) 2 GN (green GY (grey) FK (pink) Shield plug housing / pressure port GNYE (green-yellow)  Designs 10  Electrical connection (dimensions in mm)  side display 45° display (others on request)  M12x1 (5-pin)		M12x1 metal (5-pin)	,			
Electrical connection (dimensions in mm)  Side display  Electrical connection (dimensions in mm)  M12x1 (5-pin)	Supply – Signal + (only 3-wire) Contact 1 Contact 2	3 2 4 5	BN (brown) GN (green GY (grey) PK (pink)			
side display  45° display (others on request)  M12x1 (5-pin)		plug housing / pressure port	10 7 7			
side display  45° display (others on request)  M12x1 (5-pin)	Designs "		Electrical connection (dimensions in mm)			
	side display	45° display (others on request)	M12x1 (5-pin)			
	10 all designs in horizontal rotatable hous	ing as standard				



DS400P\_E\_020721

<sup>7</sup> max. temperature depends on the used sealing material, type of seal and installation



#### Ordering code DS 400P **DS 400P** 7 A 5 7 A 6 gauge absolute 1 0 0 0 1 6 0 0 2 5 0 0 4 0 0 0 6 0 0 0 0.10 0.16 0.25 0.40 0.60 0 0 0 0 0 1 6 0 1 5 0 1 1.0 1.6 2.5 4.0 0 0 1 6 6.0 10 6 0 2 5 0 2 0 0 2 1 0 2 9 9 9 16 25 40 -1 ... 0 customer consult stainless steel ball housing кн (side display) stainless steel ball housing K 4 consult (45° display) Analogue output without 0 4 ... 20 mA / 2-wire 0 ... 10 V / 3-wire, adjustable 4 ... 20 mA / 3-wire, adjustable intrinsic safety 4 ... 20 mA / 2-wire 2 F customer consult 1 contact 2 contacts <sup>2</sup> standard for p<sub>N</sub> ≥ 0,4 bar: 0.35 % FSO 3 standard for $p_N < 0.4$ bar: option for $p_N \ge 0.4$ bar: 0.5 % FSO 0.25 % FSO 2 consult customer 9 Electrical connection N 1 1 9 9 9 male plug M12x1 (5-pin) / metal customer consult right Mechanical connection G1/2" with flush Z 0 0 the welded diaphragm (DIN 3852) <sup>3</sup> G3/4" with flush 3 0 Z welded diaphragm (DIN 3852) G1" with flush Ме 3 1 welded diaphragm (DIN 3852) time of publishing. G1" DIN 3852 with rad. o-ring and flush diaphragm 4 5 G1/2" DIN 3852 with rad. o-ring 6 7 and flush diaphragm G 1" cone ĸ 3 Clamp DN 25 (DIN 32676) / 3A C 6 1 C 6 1 C 6 2 C 6 3 C 6 9 M 7 3 M 7 5 M 7 6 P 4 1 9 9 9 Clamp DN 32 (DIN 32676) / 3A Clamp DN 50 (DIN 32676) / 3A Clamp 3/4" (DIN 32676) / 3A dairy pipe DN 25 (DIN 11851) 5 dairy pipe DN 40 (DIN 11851) <sup>5</sup> dairy pipe DN 50 (DIN 11851) <sup>5</sup> Varivent® DN 40/50 / 3A customer consult stainless steel 1.4435 (316L) 1 customer consult for clamp, dairy pipe, Varivent 0 none for inch thread FKM **FFKM** consult 9 customer consult Filling fluids silicone oil food compatible oil (FDA) / 3A 9 customer consult specific Special version 0 0 0 2 0 0 9 9 9 standard The : with cooling element up to 300°C / 3A BDISENSORS GmbH consult customer 1 absolute pressure possible from 1 bar

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<sup>2</sup> with IS version max. 1 contact is possible

 $<sup>^3</sup>$  only possible for nominal pressure ranges  $p_N \ge 1$  bar

 $<sup>^4</sup>$  only possible for nominal pressure ranges  $p_{\text{N}} \leq 2$  bar

<sup>&</sup>lt;sup>5</sup> The cup nut for dairy pipe has to be mounted by production of pressure transmitter. The cup nut has to be ordered as separate position Varivent® is a brand name of GEA Tuchenhagen GmbH