

CCP-P-200P



- electronic pressure switch
- nominal pressure: from 0...100mbar up to 0...40 bar
- 1 or 2 independent PNP contacts, freely configurable
- output signals: 2-wire: 4...20 mA; 3-wire: 4...20 mA / 0...10V
- flush welded stainless steel sensor
- accuracy 0.35 % / 0.25 % span
- indication of measured values on a 4-digit LED display
- rotatable and configurable display module
- optional: cooling element up to 300°C, configurable contacts



The electronic pressure switch **CCP-P-200P** is the successful combination of intelligent pressure switch and digital display and is suitable for the usage with viscous and pasty media.

As standard the CCP-P-200P offers a PNP contact and a rotatable display module with 4-digit LED display. Optional versions like e.g. an analogue output complete the profile.

PREFERRED AREAS OF USE ARE



Food industry



Pharmacy

TECHNICAL DATA

Input pressure range ¹																	
Nominal pressure gauge ¹	[bar]	-1 ... 0*	0.10	0.16	0.25	0.40	0.60	1	1.6	2.5	4	6	10	16	25	40	
Nominal pressure abs.*	[bar]	-	-	-	-	0.40	0.60	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 _N 1 bar: unlimited vacuum resistance								P _N < 1 bar: on request							

¹ consider the pressure resistance of fitting and clamps
 *for 0 ... 1 bar abs. or -1 ... 0 bar gauge max.temperature 70°C

Contact ²	
Standard	1 PNP contact
Options	2 independent PNP contacts
Max. switching current	4 ... 20 mA / 2- and 3-wire: contact rating 125 mA, short-circuit resistant; V _{Switch} = V _S - 2V 0 ... 10 V / 3-wire: contact rating 125 mA, short-circuit resistant
Accuracy of contacts ³	standard: P _N < 0.4 bar: ± 0.5 % span P _N 0.4 bar: ± 0.35 % span option: P _N 0.4 bar: ± 0.25 % span
Repeatability	± 0.1 % span
Switching frequency	max. 10 Hz
Switching cycles	> 100 x 10 ⁶
Delay time	0 ... 100 sec

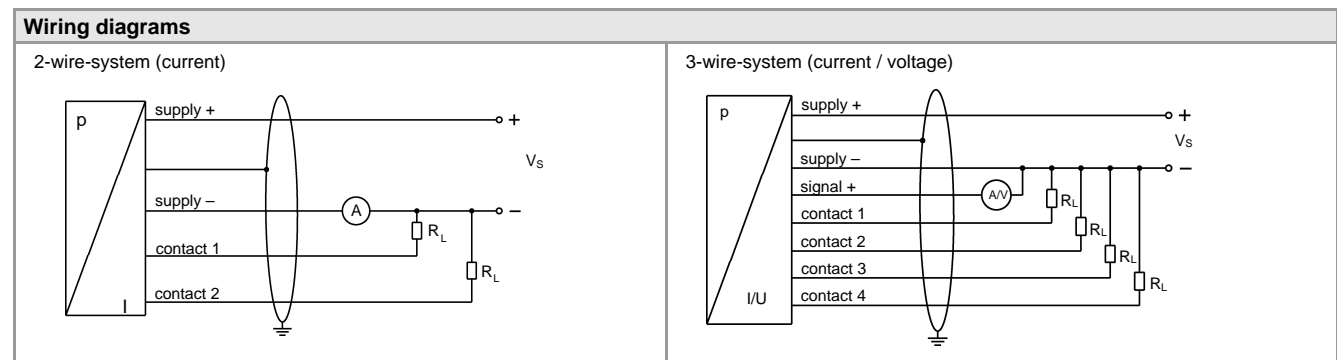
² max. 1 contact for 2-wire current signal with plug ISO 4400
 no contact possible with 3-wire in combination with plug ISO 4400
³ accuracy according to EN IEC 62828-2- limit point adjustment (non-linearity, hysteresis, repeatability)

Analogue output (optionally) / Supply	
2-wire current signal	4 ... 20 mA / V _S = 13 ... 36 V _{DC} permissible load: R _{max} = [(V _S - V _{S min}) / 0.02 A] W response time: < 10 msec
3-wire current signal	4 ... 20 mA / V _S = 19 ... 30 V _{DC} adjustable (turn-down of span 5:1) ⁴ permissible load: R _{max} = 500 W response time: < 0.5 sec
3-wire voltage signal	0 ... 10 V / V _S = 15 ... 36 V _{DC} permissible load: R _{min} = 10 kW response time: < 10 msec
Without analogue output	V _S = 15 ... 36 V _{DC}
Accuracy ³	standard: P _N < 0.4 bar: ± 0.5 % span P _N 0.4 bar: ± 0.35 % span option: P _N 0.4 bar: ± 0.25 % span

⁴ with turn-down of span the analogue signal is adjusted automatically to the new measuring range

Thermal errors (O set and Span) ⁵ / Permissible temperatures			
Nominal pressure P _N [bar]	-1 ... 0	< 0.40	0.40
Tolerance band [% span]	± 0.75	± 1.5	± 0.75
in compensated range [°C]	-20 ... 85	0 ... 50	-20 ... 85
Permissible temperatures	medium ⁶ : -40 ... 125 °C for filling fluid silicon oil -10 ... 125 °C for filling fluid food compatible oil electronics / environment: -40 ... 85 °C storage: -40 ... 100 °C		
Permissible temperature medium for cooling element ⁷	filling fluid silicon oil	overpressure: -40 ... 300 °C	vacuum: -40 ... 150 °C ⁸
	filling fluid food compatible oil	overpressure: -10 ... 250 °C	vacuum: -10 ... 150 °C ⁸
⁵ an optional cooling element can influence thermal effects for O set and span depending on installation position and filling conditions.			
⁶ max. temperature of the medium for nominal pressure gauge > 0 bar: 150 °C for 60 minutes with a max. environmental temperature of 50 °C			
⁷ max. temperature depends on the used sealing material, type of seal and installation			
⁸ also for P _{abs} ≤ 1 bar			
Electrical protection			
Short-circuit protection	permanent		
Reverse polarity protection	no damage, but also no function		
Electromagnetic compatibility	emission and immunity according to EN 61326		
Mechanical stability			
Vibration	5 g RMS (25 ... 2000 Hz)	according to DIN EN 60068-2-6	
Shock	100 g / 11 msec	according to DIN EN 60068-2-27	
Filling fluids	silicon oil		
Options	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request		
Materials			
Pressure port / Housing	stainless steel 1.4404 (316 L)		others on request
Display housing	PA 6.6, Polycarbonate		
Seals (media wetted)	standard:	FKM (recommended for medium temperatures 200 °C)	
	option:	FFKM (recommended for medium temperatures < 260 °C)	
	clamp and dairy pipe:	without	
Diaphragm	standard:	stainless steel 1.4435 (316 L)	
	option:	Hastelloy [®] C-276 (2.4819); Tantalum on request	
Media wetted parts	pressure port, seals, diaphragm		
Miscellaneous			
Display	4-digit, red 7-segment-LED display, digit height 7 mm, range of indication -1999 ... +9999; accuracy 0.1 % ± 1 digit; digital damping 0.3 ... 30 sec (programmable); measured value update 0.0 ... 10 sec (programmable)		
EHEDG certificate Type EL Class I	EHEDG conformity is only ensured in combination with an approved seal. This is e.g. for - Clamp (C61, C62, C63): T-ring-seal from Combifit International B.V. - Varivent (P41): EPDM-O-ring which is FDA-listed - dairy pipe (M73, M75, M76): ASEPTO-STAR k-flex upgrade seal by Kieselmann GmbH		
Current consumption (without contacts)	2-wire signal output current:	max. 25 mA	
	3-wire signal output current:	approx. 45 mA + signal current	
	3-wire signal output voltage:	approx. 45 mA	
Ingress protection	IP 65		
Installation position	any (standard calibration in a vertical position with the pressure port connection down; different installation position for P _N 2 bar have to be specified in the order)		
Surface roughness	pressure port R _a < 0.8 µm (media wetted parts) diaphragm R _a < 0.15 µm weld seam R _a < 0.8 µm		
Weight	approx. 160 ... 250 g		
Operational life	> 100 x 10 ⁶ cycles		
CE-conformity	EMC Directive: 2014/30/EU		

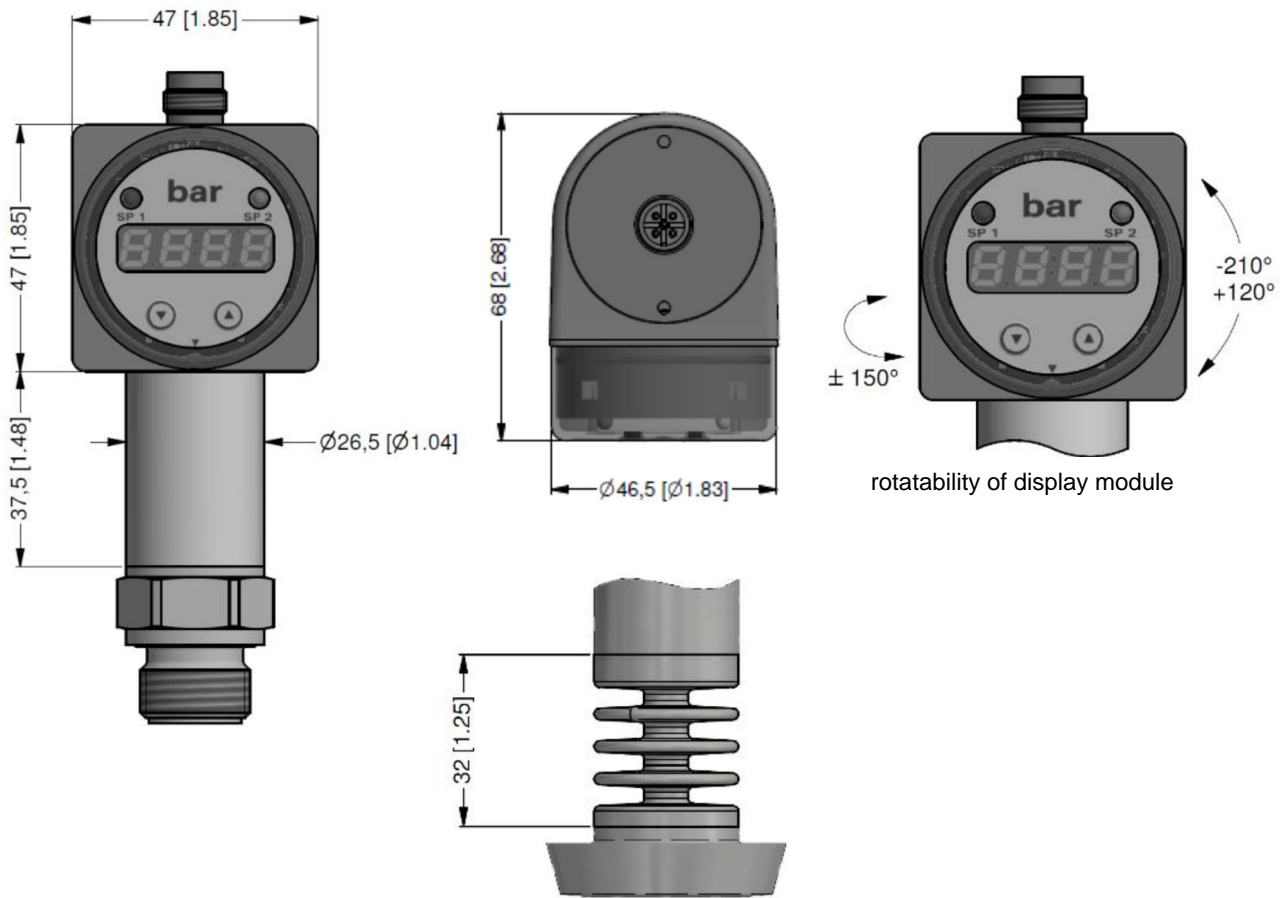
ELECTRICAL CONNECTION



Pin configuration						
Electrical connection	M12x1 plastic (5-pin)	M12x1 metal (5-pin)	M12x1 plastic (8-pin)	ISO 4400	Binder series 723 (5-pin)	cable colours (DIN 47100)
Supply +	1	1	1	1	1	wh (white)
Supply -	3	3	3	2	3	bn (brown)
Signal + (only 3-wire)	2	2	2	3	2	gn (green)
Contact 1	4	4	4	3	4	gy (grey)
Contact 2	5	5	5	-	5	pk (pink)
Contact 3	-	-	6	-	-	-
Contact 4	-	-	7	-	-	-
Shield	via pressure port	plug housing/ pressure port	via pressure port	ground contact	plug housing/ pressure port	ye/gn (yellow / green)
Electrical connections (dimensions in mm)						
						cable outlet PVC Ø = 4.9mm
						cable outlet PUR Ø = 5.7mm
10 [0.39]	13 [0.51]	13 [0.51]	12 [0.47]	10 [0.37]	30,5 [1.2]	10
M12x1 plastic (5-pin)	M12x1 metal (5-pin)	M12 x1 (8-pin)	ISO 4400	Binder series 723 (5-pin)	cable outlet	

¹⁰ different cable types and lengths available, permissible temperature depends on kind of cable; standard: 2 m PVC cable (without ventilation tube, permissible temperature: -5 ... 70°C)

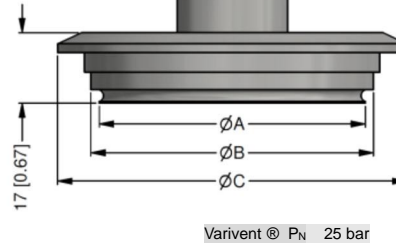
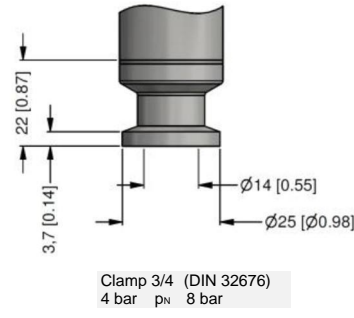
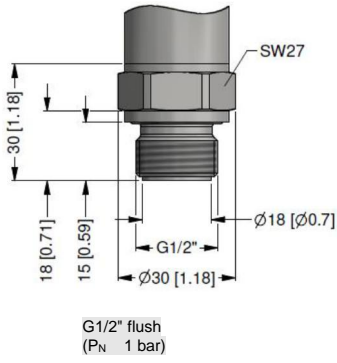
DIMENSION DRAWINGS



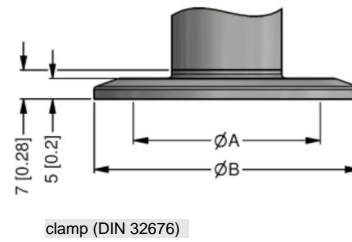
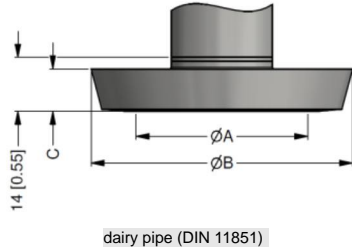
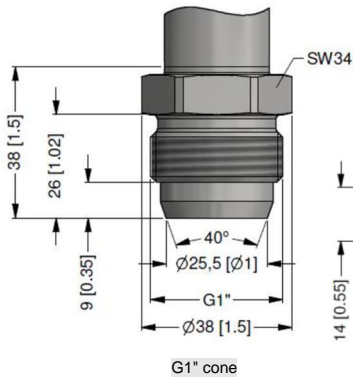
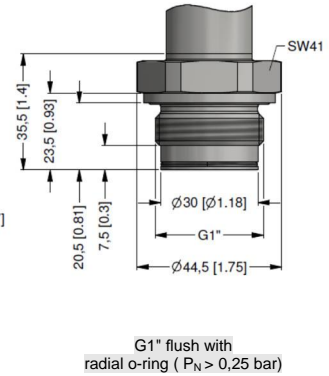
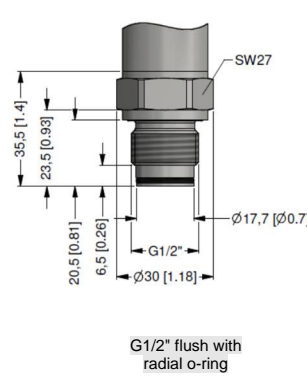
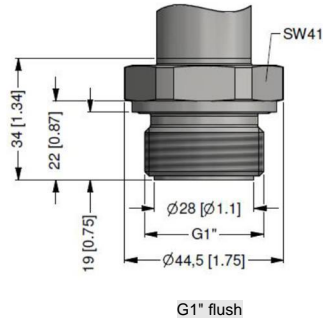
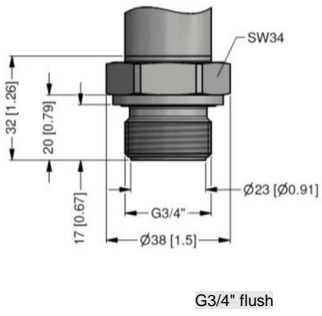
Cooling element up to 300°C (optionally)
max. temperature depends on the used sealing material, type of seal and installation



MECHANICAL CONNECTION



dimensions in mm [in]	
size	DN 40/50
A	64 [2.52]
B	68 [2.68]
C	84 [3.31]



dimensions in mm			
size	DN 25	DN 40	DN 50
A	23	32	45
B	44	56	68,5
C	10	10	11
P _N	0,25	0,25	0,25
[bar]	40	40	25

dimensions in mm				
size	3/4"	DN 25	DN 32	DN 50
A	14	23	32	45
B	25	50,5	50,5	64
P _N	4	0,25	16	16
[bar]	8	16		

metric threads and other versions on request



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"sandwich" DN 50 (without seals)	S	7	6					
"sandwich" DIN 2501 DN 80 (without seals)	S	8	0					
M 22 x 1,5 DIN 3852 (P _N > 2,5 bar) (only with seals)	D	1	5					
Flange DN 25/PN 40 DIN 2501 (without seals)	F	2	0					
Flange DN 40/PN 40 DIN 2501 (without seals)	F	2	2					
Flange DN 50/PN 40 DIN 2501 (without seals)	F	2	3					
Flange DN 80/PN 16 DIN 2501 (without seals)	F	1	4					
Flange DN 100/PN 16 DIN 2501 (without seals)	F	2	5					
Varivent® DN 40/50 (without seals)	P	4	1					
Customer	9	9						
Diaphragm								
Stainless steel 1.4435							1	
Hastelloy® C-276 (2.4819)							H	
Tantalum							T	
Customer							9	
Seals - wetted media (only for inch thread)								
Without seals (Clamp ,dairy pipe DIN, sandwich, flange, varivent)							0	
Viton (FKM)							1	
EPDM							3	
FFKM							7	
Customer							9	
Filling Fluids								
Silicone oil							1	
Edible oil for foodstu industry (temperature max. 150 °C)							2	
Halocarbon							C	
Customer							9	
Special version								
Standard							0	0
With cooling element from 125 °C up to 150 °C							1	5
With cooling element from 150 °C up to 300 °C (max. 200 °C permanent)							2	0
Customer							9	9
3.1 Material Certificate for Membrane and Mechanical Connection							3.1 prot.	
Settings in temperature di erent from basic 20 °C (+/- 10 °C, max. 70 bar and 200 °C)								

- 1 - with connector ISO 4400 and output 2-wire version only max. 1 contact possible; with 3-wire version no contact possible
- 2 - 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.

Manufacturer reserves the right to change sensor specifications without further notice.

