



DSK 701C

Ready-to-assemble Pressure Sensor Module

- ▶ Capacitive ceramic pressure sensor
- ▶ Pressure ranges from 60 mbar to 20 bar
- ▶ 4 ... 20 mA / 2-wire
- ▶ Ex-part approval
IBExU 08 ATEX 1062 U
- ▶ Configuration by integrated interface, e.g. for compensation of mounting effects, adjustment of offset and span and so on.

Pressure ranges						
Nominal pressure [bar]		permissible overpressure [bar]	permissible negative pressure [bar]	Turn-Down (TD) (max. 20 : 1)	Accuracy ¹⁾	Thermal error ²⁾
gauge	absolute				[% FSO]	[% FSO / 10 K]
0,06	-	2	-0,2	< 5 : 1 > 5 : 1	± 0,2 ± 0,2 + 0,04 x TD	± 0,02 x TD
0,16	-	4	-0,3	< 5 : 1 > 5 : 1	± 0,2 ± 0,2 + 0,04 x TD	± 0,02 x TD
0,4	0,4	6	-0,5	< 5 : 1 > 5 : 1	± 0,2 ± 0,2 + 0,04 x TD	± 0,02 x TD
1	1	8		< 10 : 1 > 10 : 1	± 0,1 ± 0,1 + 0,02 x TD	± 0,02 x TD
2	2	15	-1	< 10 : 1 > 10 : 1	± 0,1 ± 0,1 + 0,02 x TD	± 0,02 x TD
5	5	25		< 10 : 1 > 10 : 1	± 0,1 ± 0,1 + 0,02 x TD	± 0,02 x TD
10	10	35		< 10 : 1 > 10 : 1	± 0,1 ± 0,1 + 0,02 x TD	± 0,02 x TD
20	20	60		< 10 : 1 > 10 : 1	± 0,1 ± 0,1 + 0,02 x TD	± 0,02 x TD

¹⁾ accuracy according IEC 60770 – terminal based (nonlinearity, hysteresis, repeatability)
²⁾ compensated temperature range: -20 °C ... 80 °C

Supply	
Supply voltage	Standard: 10 ... 32 VDC Ex-version: 12 ... 28 VDC
Supply current	max. 21 mA
Performance	
Turn on time	700 ms
Response time (10 ... 90 %)	120 ms (without consideration of the electronic damping)
Long term stability	≤ ± 0,1 % FSO / year
Permissible load	$R_{max} = [(U_B - U_{Bmin}) / 0,02]$ □
Influence	Supply voltage: 0,05 % FSO / 10 V Load: 0,05 % FSO / k□
Temperature ranges	
Medium / storage	-40 ... 125 °C
Environment	Standard: -40 ... 125 °C Ex-version: in zone 0: -20 ... 60 °C at p _{atm} 0,8 bar up to 1,1 bar in zone 1: -25 ... 70 °C

DSK 701C

Ready-to-mount pressure sensor module

Specifications

Electrical protection	
Short circuit protection	Permanent
Reverse polarity protection	Permanent
Declaration of CE conformity	None / the appropriate measures for reaching the conformity of the complete device must be ensured by the user
Option Ex-protection IBExU 08 ATEX 1062 U	Zone 0: II 1G Ex ia IIC T4 Safety technical maximum values: $U_i = 28\text{ V}$, $I_i = 93\text{ mA}$, $P_i = 660\text{ mW}$ part approval
Electrical connection / Ingress protection	
Standard	Silicone wires 0,12 mm ² , length 100 mm (Ingress protection: IP 00)
Design	
Standard	Pressure sensor module with PTFE filter
Option	Pressure sensor module with venting tube
Materials	
Membrane	Standard: Ceramic Al ₂ O ₃ 96 % Option: Ceramic Al ₂ O ₃ 99,9%
Venting tube (optional)	Brass
Spacer	PBT
Miscellaneous	
Weight	ca. 25 g
Operational life time	> 100 x 10 ⁶ pressure cycles
Configuration	
Programming adapter CIS 704 including programming software P-Scale 704 P-Scale 704 (optional)	- Menu-driven - Windows™ 95, 98, 2000, ME and XP compatible - Calibration by connected pressure reference - Configuration of starting point and end point of pressure range, damping, pressure unit, offset adjustment
Wire configuration (colours of wires according DIN 47100)	
Electrical connection	Positive supply U _{B+} : white Negative supply U _{B-} : brown Ground: yellow / green (shield)
Wiring diagram / Dimensions [mm]	

This data sheet contains product specification, properties are not guaranteed. Subject to be changed without notice.

DSK 701C

Ready-to-mount pressure sensor module

Ordering code

Ordering code																			
DSK 701 C																			
<table style="width:100%; border:none;"> <tr> <td style="border:1px solid black; width:15px; height:15px;"></td> <td style="border:1px solid black; width:15px; height:15px;"></td> <td style="border:1px solid black; width:15px; height:15px;"></td> <td style="border:1px solid black; width:15px; height:15px;"></td> <td style="border:1px solid black; width:15px; height:15px;"></td> <td style="border:1px solid black; width:15px; height:15px;"></td> <td style="border:1px solid black; width:15px; height:15px;"></td> <td style="border:1px solid black; width:15px; height:15px;"></td> <td style="border:1px solid black; width:15px; height:15px;"></td> <td style="border:1px solid black; width:15px; height:15px;"></td> </tr> </table>																			
Type of pressure																			
	Gauge			0	6	5													
	absolute	¹		0	6	6													
Pressure ranges																			
	0,06 bar			0	6	0													
	0,16 bar	²		1	6	0													
	0,40 bar	²		4	0	0													
	1 bar	²		1	0	1													
	2 bar			2	0	1													
	5 bar			5	0	1													
	10 bar			1	0	2													
	20 bar			2	0	2													
	others on request	³		9	9	9													
Output signal																			
	4 ... 20 mA / 2 wires								1										
Ex-protection for zone	0		4 ... 20 mA / 2 wires						E										
			others on request	³					9										
Accuracy																			
Standard			0,20%					B											
			others on request	³				9											
Electrical connection																			
	wires 100 mm length							0	1	1									
	others on request	³						9	9	9									
Membrane material																			
	Ceramic Al ₂ O ₃ 96%							2											
	Ceramic Al ₂ O ₃ 99,9%	²						C											
	others on request	³						9											
Sealing																			
	Without sealing							0											
	FKM							1											
	EPDM							3											
	FFKM							7											
	others on request	³						9											
Design																			
Standard, absolute			without PTFE filter					0	0										
Standard, gauge			with PTF filter					0	1										
Option, gauge			with venting tube					0	2										
			others on request	³				9	9										
Special design																			
	Standard							0	0	0									
	others on request	³						9	9	9									

¹⁾ Absolute pressure < 0,4 bar on request

²⁾ Membrane Al₂O₃ 99,9% possible for pressure ranges 0,16 bar, 0,4 bar and 1 bar (others on request)

³⁾ Please specify