



DMK 331

Industrial Pressure Transmitter

Ceramic Sensor

**accuracy according to IEC 60770:
0.5 % FSO**

Industrial
Pressure Transmitter

DMK 331

Nominal pressure:

from 0 ... 400 mbar
up to 0 ... 600 bar

Output signals:

2-wire: 4 ... 20 mA
3-wire: 0 ... 20 mA / 0 ... 10 V
others on request

Special characteristics:

- ▶ pressure port G 1/2" flush for pasty and polluted media
- ▶ pressure port G 1/2" open port PVDF for aggressive media
- ▶ oxygen application

Optional versions:

- ▶ IS-version
Ex ia = intrinsically safe for gases and dusts
- ▶ SIL 2
according to IEC 61508 / IEC 61511
- ▶ customer specific versions

The industrial pressure transmitter **DMK 331** with ceramic sensor has been especially designed for pasty, polluted or aggressive media and for oxygen applications at low pressure range.

As with all industrial pressure transmitters made by DRUCK & TEMPERATUR Leitenberger GmbH, you may choose between various electrical and mechanical connections also on **DMK 331**.

Preferred areas of use are:



Plant and Machine Engineering



Energy Industry



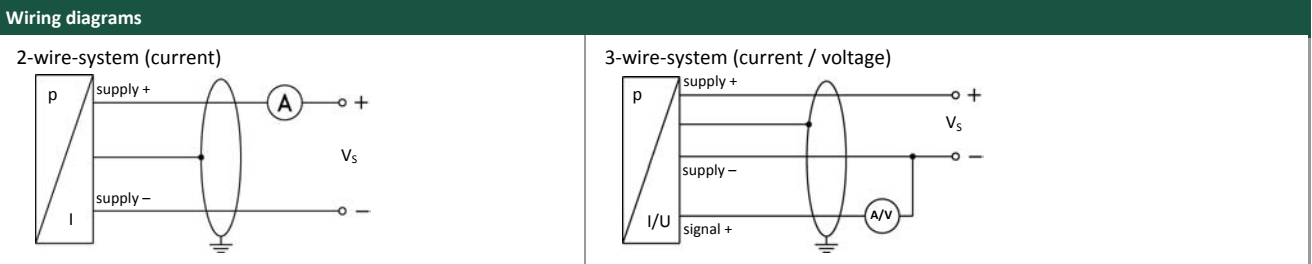
Environmental Engineering
(water - sewage - recycling)



Medical Technology



Input pressure range ¹																		
Nominal pressure gauge [bar]	-1...0	0.4	0.6	1	1,6	2,5	4	6	10	16	25	40	60	100	160	250	400	600
Nominal pressure abs. [bar]	-	-	0.6	1	1,6	2,5	4	6	10	16	25	40	60	100	160	250	400	600
Overpressure [bar]	4	1	2	2	4	4	10	10	20	40	40	100	100	200	400	400	600	800
Burst pressure ≥ [bar]	7	2	4	4	5	5	12	12	25	50	50	120	120	250	500	500	650	880
Vacuum resistance	P _N ≥ 1 bar: unlimited vacuum resistance P _N < 1 bar: on request																	
¹ PVDF pressure port possible for nominal pressure ranges up to 60 bar																		
Output signal / Supply																		
Standard	2-wire: 4 ... 20 mA / V _S = 8 ... 32 V _{DC}																	
Option IS-protection	2-wire: 4 ... 20 mA / V _S = 10 ... 28 V _{DC}																	
Options 3-wire	3-wire: 0 ... 20 mA / V _S = 14 ... 30 V _{DC} 0 ... 10 V / V _S = 14 ... 30 V _{DC}																	
Performance																		
Accuracy ²	± 0.5 % FSO																	
Permissible load	current 2-wire: R _{max} = [(V _S - V _{S min}) / 0.02] Ω current 3-wire: R _{max} = 500 Ω voltage 3-wire: R _{min} = 10 kΩ																	
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ																	
Long term stability	± 0.3 % FSO / year at reference conditions																	
Response time	2-wire: ≤ 10 msec 3-wire: ≤ 3 msec																	
² accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)																		
Thermal effects (Offset and Span) / Permissible Temperatures																		
Thermal error	± 0.2 % FSO / 10 K																	
in compensated range	-25 ... 85 °C																	
Permissible temperatures	medium: -40 ... 125 °C electronics / environment: -40 ... 85 °C storage: -40 ... 100 °C																	
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	10 g RMS (25 ... 2000 Hz) according to DIN EN 60068-2-6																	
Shock	500 g / 1 msec according to DIN EN 60068-2-27																	
Materials																		
Pressure port	standard: stainless steel 1.4404 (316 L) optional for G1/2" open port with nominal pressure range up to 60 bar: PVDF others on request																	
Housing	stainless steel 1.4404 (316 L)																	
Option compact field housing	stainless steel 1.4305 (303) with cable gland brass, nickel plated others on request																	
Seals (media wetted)	standard: FKM options: EPDM (for P _N ≤ 160 bar), NBR others on request																	
Diaphragm	ceramic Al ₂ O ₃ 96 %																	
Media wetted parts	pressure port, seals, diaphragm																	
Explosion protection (with option IS-protection)																		
Approval DX19-DMK 331	IBExU 10 ATEX 1068 X stainless steel pressure port: zone 0: II 1G Ex ia IIC T4 Ga zone 20 : II 1D Ex ta IIIC T 85°C, IP6x in preparation plastic pressure port: zone 1: II 2G Ex ia IIC T4 Ga zone 21: II 2D Ex tD A21 IP6x T 85°C in preparation																	
Safety technical maximum values	U _i = 28 V _{DC} , I _i = 93 mA, P _i = 660 mW, C _i ≈ 0 nF, L _i ≈ 0 μH																	
Permissible temperatures for environment	in zone 0: -20 ... 60 °C with p _{atm} 0.8 bar up to 1.1 bar in zone 1 or higher: -20 ... 70 °C																	
Connecting cables (by factory)	cable capacitance: signal line/shield also signal line/signal line: 160 pF/m cable inductance: signal line/shield also signal line/signal line: 1μH/m																	
Miscellaneous																		
Option SIL 2	according to IEC 61508 / IEC 61511																	
Option oxygen application	for P _N ≤ 25 bar: O-ring in special material with oxygen-approval (FKM)																	
Current consumption	signal output current: max. 25 mA signal output voltage: typ. 5 mA																	
Weight	approx. 140 g																	
Installation position	any																	
Operational life	> 100 x 10 ⁶ pressure cycles																	
CE-conformity	EMC Directive: 2004/108/EC Pressure Equipment Directive: 97/23/EC (module A) ³																	
³ This directive is only valid for devices with maximum permissible overpressure > 200 bar																		

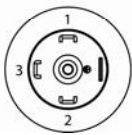
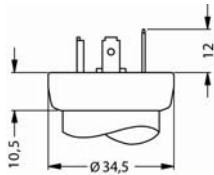


Pin configuration

Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	field housing	cable colours (DIN 47100)
Supply +	1	3	1	IN +	wh (white)
Supply -	2	4	2	IN -	bn (brown)
Signal + (for 3-wire)	3	1	3	OUT+	gn (green)
Shield	ground pin	5	4	⏏	gn/ye (green / yellow)

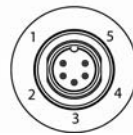
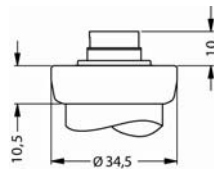
Electrical connections (dimensions in mm)

standard

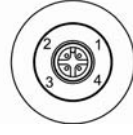
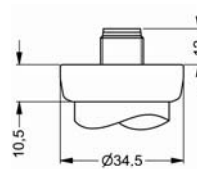


ISO 4400 (IP 65)

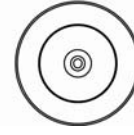
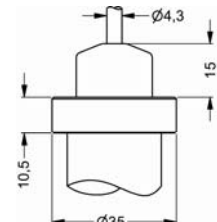
option



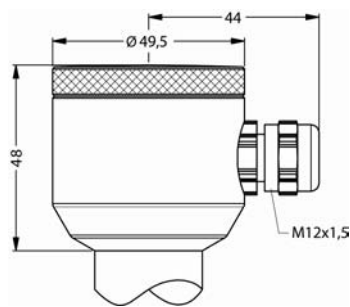
Binder Series 723 5-pin (IP 67)



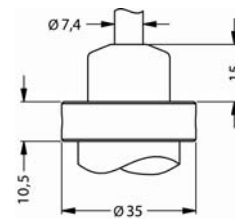
M12x1 4-pin (IP 67)



cable outlet with PVC cable (IP 67)⁴



compact field housing (IP 67)



cable outlet, cable with ventilation tube (IP 68)⁵

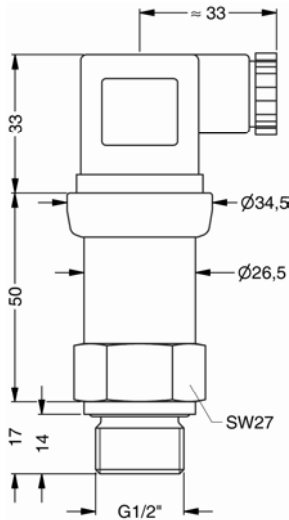
⇒ universal field housing stainless steel 1.4404 (316 L) with cable gland M20x1.5 (ordering code 880) and other versions on request

⁴ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70°C)

⁵ different cable types and lengths available, permissible temperature depends on kind of cable

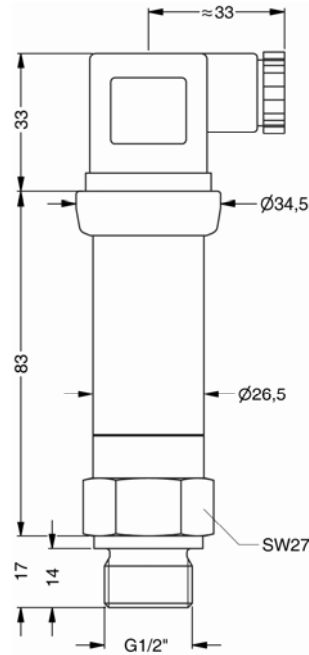
Mechanical connection (dimensions in mm)

standard



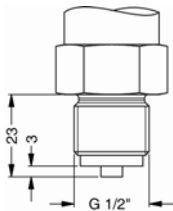
G1/2" DIN 3852
with ISO 4400

standard for SIL- and SIL-IS-version

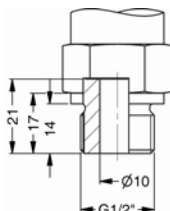


G1/2" DIN 3852
with ISO 4400

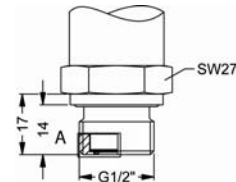
option



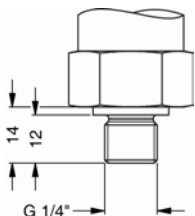
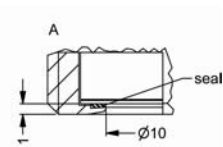
G1/2" EN 837



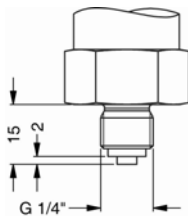
G1/2" open port



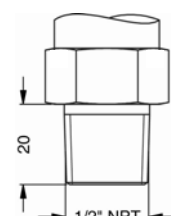
G1/2" semi-flush DIN 3852; M20x1.5⁶



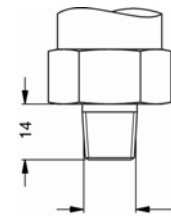
G1/4" DIN 3852



G1/4" EN 837



1/2" NPT



1/4" NPT

⇒ metric threads and other versions on request

⁶ possible for nominal pressure ranges $P_N \leq 25$ bar

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



DMK 331

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Messgröße		relativ	2	5	0																		
		absolut	2	5	1																		
Eingang		[bar]																					
		0,40				4	0	0	0														
		0,60				6	0	0	0														
		1,0				1	0	0	1														
		1,6				1	6	0	1														
		2,5				2	5	0	1														
		4,0				4	0	0	1														
		6,0				6	0	0	1														
		10				1	0	0	2														
		16				1	6	0	2														
		25				2	5	0	2														
		40				4	0	0	2														
		60				6	0	0	2														
		100				1	0	0	3														
		160				1	6	0	3														
		250				2	5	0	3														
		400				4	0	0	3														
		600				6	0	0	3														
		-1 ... 0				X	1	0	2														
Sondermessbereiche						9	9	9	9														auf Anfrage
Ausgang																							
		4 ... 20 mA / 2-Leiter							1														
		0 ... 20 mA / 3-Leiter							2														
		0 ... 10 V / 3-Leiter							3														
		Ex-Schutz 4 ... 20 mA / 2-Leiter							E														
		SIL2 4 ... 20 mA / 2-Leiter							1S														
		SIL2 mit Ex-Schutz							ES														
		4 ... 20 mA / 2-Leiter																					
		andere							9														auf Anfrage
Genauigkeit																							
		0,5 %							5														
		andere							9														auf Anfrage
Elektrischer Anschluss																							
		Stecker und Kabeldose ISO 4400							1	0	0												
		Stecker Binder Serie 723 (5-polig)							2	0	0												
		Kabelausgang mit PVC-Kabel ¹							T	A	0												
		Kabelausgang mit Kabel							T	R	0												
		Stecker M12x1 (4-polig) / Metall							M	1	0												
		Kompakt-Feldgehäuse																					
		Edelstahl 1.4404							8	5	0												
		andere							9	9	9												auf Anfrage
Mechanischer Anschluss ²																							
		G1/2" DIN 3852							1	0	0												
		G1/2" EN 837							2	0	0												
		G1/4" DIN 3852							3	0	0												
		G1/4" EN 837							4	0	0												
		G1/2" DIN 3852 mit ³							F	0	0												
		quasi-frontbündiger Messzelle																					
		G1/2" DIN 3852 offener Anschluss							H	0	0												
		1/2" NPT							N	0	0												
		1/4" NPT							N	4	0												
		andere							9	9	9												auf Anfrage
Dichtung																							
		FKM									1												
		EPDM									3												
		NBR									5												
		andere									9												auf Anfrage
Druckanschluss																							
		Edelstahl 1.4404 (316L)									1												
		PVDF ⁴									B												
		andere									9												auf Anfrage
Trennmembrane																							
		Keramik Al ₂ O ₃ 96%											2										
		andere											9										auf Anfrage
Sonderausführungen																							
		Standard																					0 0 0
		Sauerstoff-Ausführung ⁵																					0 0 7
		andere																					9 9 9
																							auf Anfrage

¹ Standard: 2 m PVC-Kabel ohne Belüftungsschlauch (Temperatureinsatzbereich: -5 ... 70°C)
² metrische Gewinde und andere auf Anfrage
³ nur möglich für Nenndruckbereiche P_N ≤ 25 bar
⁴ PVDF-Ausführung nur mit G1/2" DIN 3852 offener Anschluss (bis 60 bar)
⁵ Sauerstoff-Ausführung möglich bis 25 bar und in Verbindung mit FKM-Dichtung

Die Angaben dieser Preisliste enthalten die Spezifikation der Produkte, nicht die Zusicherung von Eigenschaften. Ausführliche Informationen zu den Bestelloptionen können dem Datenblatt entnommen werden. Technische Änderungen vorbehalten.