



# DMK 351

## Pressure Transmitter

Ceramic Sensor

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

### Nominal pressure

from 0 ... 40 mbar up to 0 ... 20 bar

### Output signal

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

### Product characteristics

- ▶ high media resistance



### Optional versions

- ▶ IS-version (temperature class T4)  
Ex ia = intrinsically safe for  
gases and dusts
- ▶ IS-version (temperature class T6)
- ▶ diaphragm 99.9 % Al<sub>2</sub>O<sub>3</sub>
- ▶ customer specific versions



The pressure transmitter DMK 351 has been specially designed for applications in plant and machine engineering as well as laboratory techniques and is suitable for measuring small system pressure and filling heights.

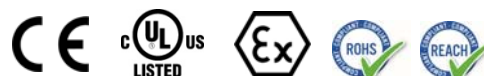
By using our own-developed capacitive sensor, optionally available as Al<sub>2</sub>O<sub>3</sub> 99.9%, the DMK 351 offers a high overpressure resistance and a high temperature and media resistance. The pressure transmitter is available in an intrinsically safe version for a use in explosive environments.

### Preferred areas of use are

-  Plant and machine engineering
-  Laboratory techniques

### Preferred used for

-  Fuel and oil
-  Water



<b>Pressure ranges</b>																
Nominal pressure <sup>1</sup>	[bar]	0.04	0.06	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10	16	20
Level	[mH <sub>2</sub> O]	0.4	0.6	1	1.6	2.5	4	6	10	16	25	40	60	100	160	200
Overpressure	[bar]	2	2	4	4	6	6	8	8	15	25	25	35	35	45	45
Permissible vacuum	[bar]	-0.2		-0.3		-0.5				-1						

<sup>1</sup> available in gauge, sealed gauge and absolute; nominal pressure ranges sealed gauge and absolute from 1 bar

<b>Output signal / Supply</b>	
Standard	2-wire: 4 ... 20 mA / V <sub>S</sub> = 9 ... 32 V <sub>DC</sub>
Option IS-protection	2-wire: 4 ... 20 mA / V <sub>S</sub> = 14 ... 28 V <sub>DC</sub>
Option 3-wire	3-wire: 0 ... 10 V / V <sub>S</sub> = 12.5 ... 32 V <sub>DC</sub>
<b>Performance</b>	
Accuracy <sup>2</sup>	standard: ≤ ± 0.35 % FSO option for P <sub>N</sub> ≥ 0.6 bar: ≤ ± 0.25 % FSO
Permissible load	current 2-wire R <sub>max</sub> = [(V <sub>S</sub> - V <sub>Smin</sub> ) / 0.02 A] Ω      voltage 3-wire: R <sub>min</sub> = 10 kΩ
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ
Long term stability	≤ ± 0.1 % FSO / year at reference conditions
Turn-on time	700 msec
Mean measuring rate	5/sec
Response time	mean response time: < 200 msec      max. response time: 380 msec

<sup>2</sup> accuracy according to IEC 60770 - limit point adjustment (non-linearity, hysteresis, repeatability)

<b>Thermal errors (Offset and Span)</b>	
Tolerance band	≤ ± 0.1 % FSO / 10 K      in compensated range: -20 ... 80 °C
<b>Permissible temperatures</b>	
Permissible temperatures	medium: -40 ... 125 °C electronics / environment: -40 ... 85 °C storage: -40 ... 100 °C

<b>Electrical protection</b>	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326

<b>Mechanical stability</b>	
Vibration	10 g RMS (20 ... 2000 Hz)      according to DIN EN 60068-2-6
Shock	100 g / 1 msec      according to DIN EN 60068-2-27

<b>Materials</b>	
Pressure port	standard: stainless steel 1.4404 (316L) option <sup>3</sup> : PP, PVDF
Housing	standard: stainless steel 1.4404 (316L) option <sup>3</sup> : PP, PVDF
Option compact field housing	stainless steel 1.4305 (303) with cable gland brass, nickel plated      others on request
Seal (media wetted)	FKM EPDM
Diaphragm	standard: ceramics Al <sub>2</sub> O <sub>3</sub> 96 % option: ceramics Al <sub>2</sub> O <sub>3</sub> 99.9 %
Media wetted parts	pressure port, seals, diaphragm

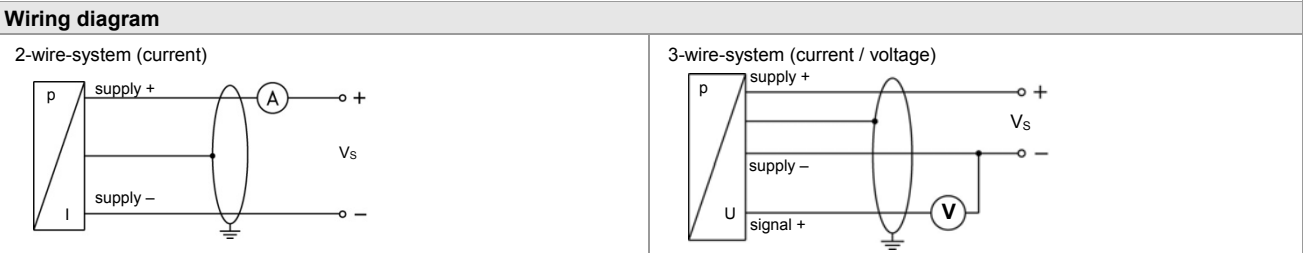
<sup>3</sup> only with mech. connection G1/2" DIN 3852 open port, bore 12 mm, P<sub>N</sub> ≤ 10 bar, min. permissible temperature -30 °C and without IS-protection possible

<b>Explosion protection (only for 4 ... 20 mA / 2-wire with stainless steel version)</b>	
Approval DX 14-DMK 351	IBExU 05 ATEX 1070 X zone 0: II 1G Ex ia IIC T4 Ga      option: II 1G Ex ia IIC T6 Ga zone 20: II 1D Ex ia IIIC T85 °C Da
Safety technical maximum values	U <sub>i</sub> = 28 V <sub>DC</sub> , I <sub>i</sub> = 93 mA, P <sub>i</sub> = 660 mW, C <sub>i</sub> ≤ 27 nF, L <sub>i</sub> ≤ 5 μH, C <sub>gnd</sub> = 27 nF
Max. permissible temperature for environment	in zone 0: -20 ... 60 °C for p <sub>atm</sub> 0.8 bar up to 1.1 bar in zone 1 and higher: -25 ... 70 °C for T6: -25 ... 60 °C
Connecting cables (by factory)	capacity: signal line / shield also signal line / signal line: 160 pF/m inductance: signal line / shield also signal line / signal line: 1 μH/m
<b>Miscellaneous</b>	
Installation position	any
Current consumption	signal output current: max. 21 mA      signal output voltage: max. 5 mA
Weight	min. 200 g
Operational life	100 million load cycles
CE-conformity	EMC-directive: 2014/30/EU
ATEX Directive	2014/34/EU

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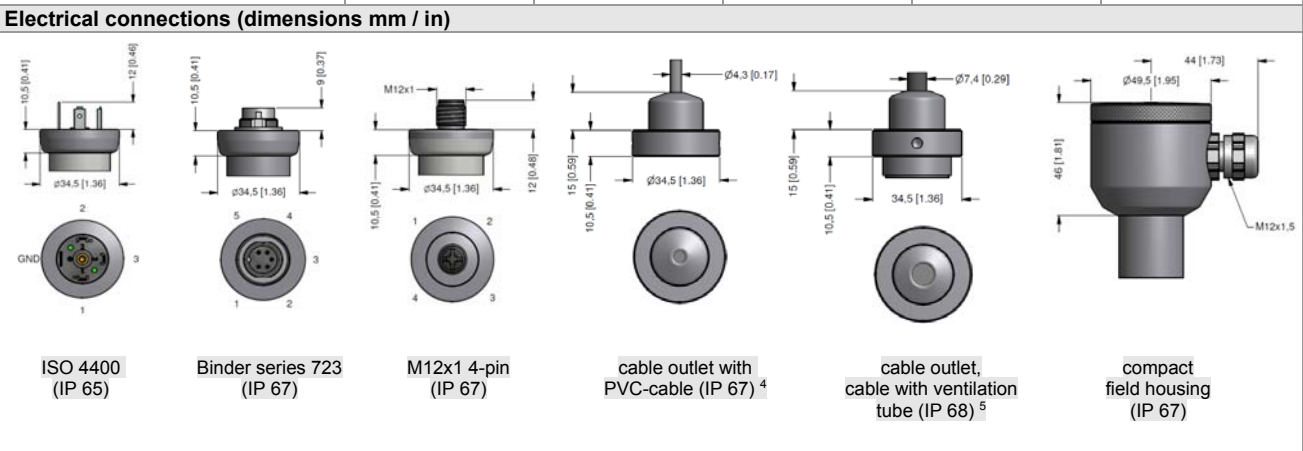
Pressure Transmitter

Technical Data

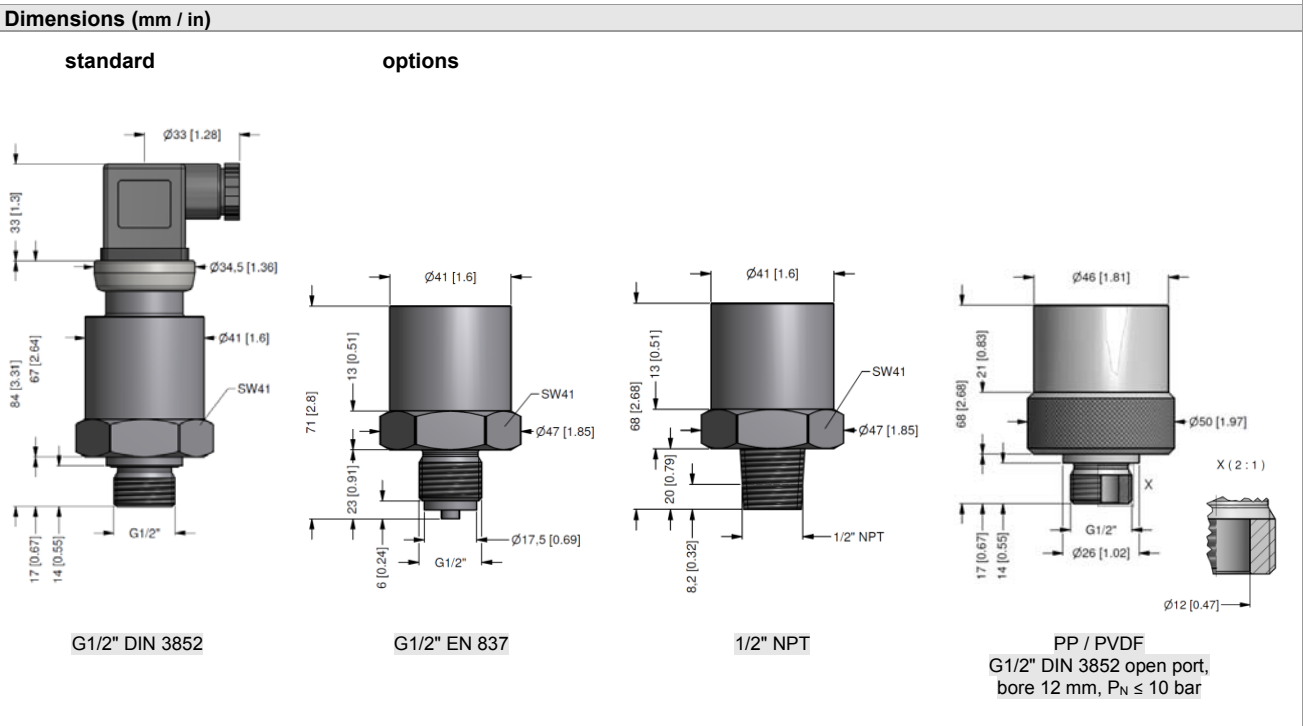


**Pin configuration**

Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 (4-pin)	field housing	cable colour (IEC 60757)
Supply +	1	3	1	IN +	wh (white)
Supply -	2	4	2	IN -	bn (brown)
Signal +	3	1	3	OUT +	gn (green)
Shield	ground contact	5	4	⏏	gnye (green-yellow)



<sup>4</sup> standard: 2 m PVC-cable without ventilation tube (permissible temperature: -5 ... 70°C), optional cable with ventilation tube  
<sup>5</sup> different cable types and lengths available, permissible temperature depends on kind of cable



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