



# 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  
Ex ia = intrinsically safe for gases and dusts
- ▶ 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



# DMK 351

## Pressure Transmitter

<b>Pressure ranges</b>																
Nominal pressure	[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
Low pressure	[bar]	-0.2		-0.3		-0.5				-1						
<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:	0 ... 10 V / V <sub>S</sub> = 12.5 ... 32 V <sub>DC</sub>														
<b>Performance</b>																
Accuracy <sup>1</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 k Ω														
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>1</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	stainless steel 1.4404 (316L)															
Housing	stainless steel 1.4404 (316L)															
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															
<b>IS-protection (only for 4 ... 20 mA / 2-wire)</b>																
Approval DX 14-DMK 351	IBExU 05 ATEX 1070 X Male (connector)-version: zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex iaD 20 T 85°C cable-version: zone 0: II 1G Ex ia IIB T4 Ga zone 20: II 1D Ex iaD 20 T 85°C															
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															
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															
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 x 10 <sup>6</sup> loading cycles															
CE-conformity	EMC-directive: 2004/108/EC															
ATEX Directive	94/9/EC															



