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PA9020

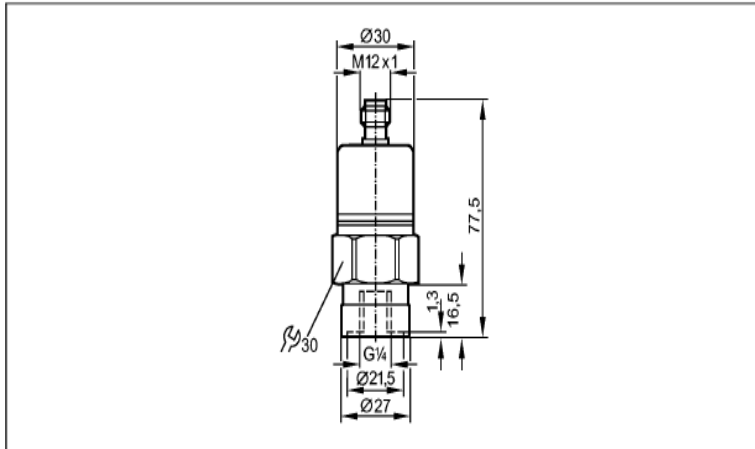
Electronic pressure sensor
PA90

Connector
Process connection G $\frac{1}{4}$ I

e1 compliant

Analogue output

Measuring range
0...400 bar

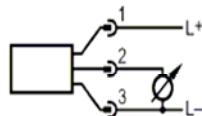


Made in Germany

Application	Type of pressure: relative pressure
	Liquids and gases
	Use in gases at pressures > 25 bar only after contacting the manufacturer ifm
Electrical design	DC
Output	0...10 V analogue
Operating voltage [V]	16...32 DC
Reverse polarity protection	yes
Overload protection	yes
Current consumption [mA]	< 18
Analogue output	0...10 V
Load for analogue output [ohms]	min. 2000
Pressure rating [bar]	600
Bursting pressure min. [bar]	1000
Accuracy / deviations (in % of the span)	
Characteristics deviation *)	< ± 0.25 (BFSL) / < ± 0.5 (LS)
Repeatability **)	< 0.1
Long-term stability ***)	< ± 0.05
Temperature coefficients (TEMPCO) in the temperature range 0...80° C (in % of the span per 10 K)	
Greatest TEMPCO of the zero point	0.1
Greatest TEMPCO of the span	0.2

PA9020

Step response time analogue output [ms]	3	
Ambient temperature [°C]	-25...80	
Medium temperature [°C]	-25...90 ****)	
Storage temperature [°C]	-40...100	
Protection	IP 68 / IP 69K, III	
Insulation resistance [MΩ]	> 100 (500 V DC)	
Shock resistance	DIN IEC 68-2-27:50 g (11 ms)	
Vibration resistance	DIN IEC 68-2-6:20 g (10...2000 Hz)	
Min. pressure cycles	100 million	
EMC	EN 61000-4-2 ESD:	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated:	30 V/m
	EN 61000-4-4 Burst:	2 kV
	EN 61000-4-6 HF conducted:	10 V
	radiation of interference	according to the automotive directive 2004/104/EC / CISPR25
	noise immunity HF radiated	according to the automotive directive 2004/104/EC / ISO 11452-2
	HF radiated	100 V/m
	pulse resistance	according to ISO7637-2 / severity level 3
		3
		stainless steel 316L / 1.4404; FPM (Viton); PA; EPDM/X (Santoprene)
Housing materials		
Materials (wetted parts)	stainless steel (303S22); ceramics; FPM (Viton)	
Connection	M12 connector; gold-plated contacts	
Weight [kg]	0.228	
Remarks	*) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K ***) in % of value of measuring range / 6 months ****) -40...90 °C upon request	

Wiring


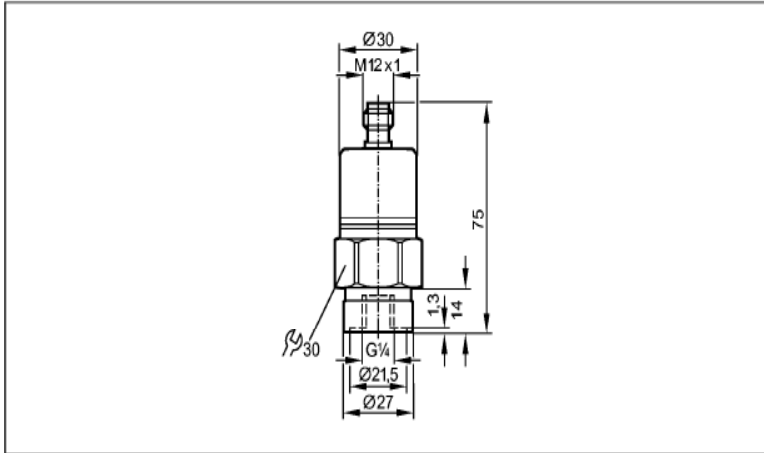
PA9021

 Electronic pressure sensor
 PA90

 Connector
 Process connection G $\frac{1}{4}$ I

e1 compliant

Analogue output

 Measuring range
 0...250 bar


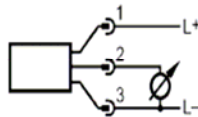
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Application	Type of pressure: relative pressure Liquids and gases Use in gases at pressures > 25 bar only after contacting the manufacturer ifm
Electrical design	DC 0...10 V analogue
Output	0...10 V analogue
Operating voltage [V]	16...32 DC
Reverse polarity protection	yes
Overload protection	yes
Current consumption [mA]	< 18
Analogue output	0...10 V
Load for analogue output [ohms]	min. 2000
Pressure rating [bar]	400
Bursting pressure min. [bar]	850
Accuracy / deviations (in % of the span)	
Characteristics deviation *)	< ± 0.25 (BFSL) / < ± 0.5 (LS)
Repeatability **)	< 0.1
Long-term stability ***)	< ± 0.05
Temperature coefficients (TEMPCO) in the temperature range 0...80° C (in % of the span per 10 K)	
Greatest TEMPCO of the zero point	0.1
Greatest TEMPCO of the span	0.2

PA9021

Step response time analogue output [ms]	3	
Ambient temperature [°C]	-25...80	
Medium temperature [°C]	-25...90 ****)	
Storage temperature [°C]	-40...100	
Protection	IP 68 / IP 69K, III	
Insulation resistance [MΩ]	> 100 (500 V DC)	
Shock resistance	DIN IEC 68-2-27:50 g (11 ms)	
Vibration resistance	DIN IEC 68-2-6:20 g (10...2000 Hz)	
Min. pressure cycles	100 million	
EMC	EN 61000-4-2 ESD:	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated:	30 V/m
	EN 61000-4-4 Burst:	2 kV
	EN 61000-4-6 HF conducted:	10 V
	radiation of interference	according to the automotive directive 2004/104/EC / CISPR25
	noise immunity	according to the automotive directive 2004/104/EC / ISO 11452-2
	HF radiated	100 V/m
	pulse resistance	according to ISO7637-2 / severity level 3
	Housing materials	stainless steel 316L / 1.4404; FPM (Viton); PA; EPDM/X (Santoprene)
	Materials (wetted parts)	stainless steel (303S22); ceramics; FPM (Viton)
Connection	M12 connector; gold-plated contacts	
Weight [kg]	0.22	
Remarks	*) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K ***) in % of value of measuring range / 6 months ****) -40...90 °C upon request	

Wiring


PA9022

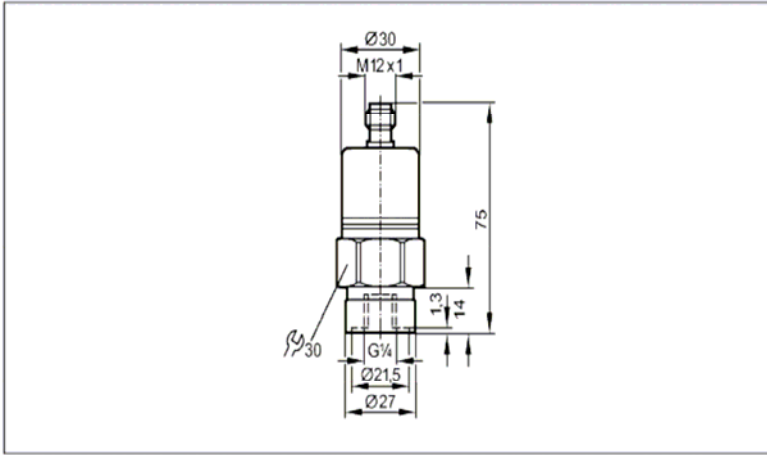
Electronic pressure sensor
PA90

Connector
Process connection G $\frac{1}{4}$ I

e1 compliant

Analogue output

Measuring range
0...100 bar



Made in Germany



Application	Type of pressure: relative pressure
Electrical design	Liquids and gases
Output	Use in gases at pressures > 25 bar only after contacting the manufacturer ifm
	DC
	0...10 V analogue
Operating voltage [V]	16...32 DC ¹⁾
Reverse polarity protection	yes
Overload protection	yes
Current consumption [mA]	< 18
Analogue output	0...10 V
Load for analogue output [ohms]	min. 2000
Pressure rating [bar]	300
Bursting pressure min. [bar]	650
Accuracy / deviations	
(in % of the span)	
Characteristics deviation *)	< ± 0.25 (BFSL) / < ± 0.5 (LS)
Repeatability **)	< 0.1
Long-term stability ***)	< ± 0.05
Temperature coefficients (TEMPCO)	
in the temperature range 0...80° C (in % of the span per 10 K)	
Greatest TEMPCO of the zero point	0.1
Greatest TEMPCO of the span	0.2

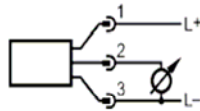
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Web Site: www.medcotas.com

PA9022

Step response time analogue output [ms]	3	
Ambient temperature [°C]	-25...80	
Medium temperature [°C]	-25...90 ****)	
Storage temperature [°C]	-40...100	
Protection	IP 68 / IP 69K, III	
Insulation resistance [MΩ]	> 100 (500 V DC)	
Shock resistance	DIN IEC 68-2-27:50 g (11 ms)	
Vibration resistance	DIN IEC 68-2-6:20 g (10...2000 Hz)	
Min. pressure cycles	100 million	
EMC	EN 61000-4-2 ESD:	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated:	30 V/m
	EN 61000-4-4 Burst:	2 kV
	EN 61000-4-6 HF conducted:	10 V
	radiation of interference	according to the automotive directive 2004/104/EC / CISPR25
	noise immunity	according to the automotive directive 2004/104/EC / ISO 11452-2
	HF radiated	100 V/m
	pulse resistance	according to ISO7637-2 / severity level 3
	Housing materials	stainless steel 316L / 1.4404; FPM (Viton); PA; EPDM/X (Santoprene)
	Materials (wetted parts)	stainless steel (303S22); ceramics; FPM (Viton)
Connection	M12 connector; gold-plated contacts	
Weight [kg]	0.221	
Remarks	<p>1) The device shall be supplied from an isolating source and protected by an overcurrent device such that the limited voltage circuit requirements in accordance with UL 508 are met.</p> <p>*) BFSL = Best Fit Straight Line / LS = Limit Value Setting</p> <p>**) with temperature fluctuations < 10 K</p> <p>***) in % of value of measuring range / 6 months</p> <p>****) -40...90 °C upon request</p>	

Wiring


PA3020

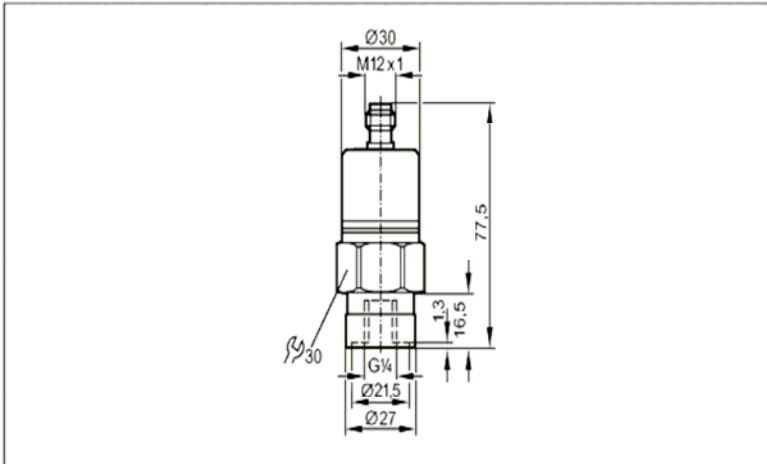
Electronic pressure sensor
PA30

Connector
Process connection G $\frac{1}{4}$ I

e1 compliant

Analogue output

Measuring range
0...400 bar



Made in Germany



Application	Type of pressure: relative pressure Liquids and gases Use in gases at pressures > 25 bar only after contacting the manufacturer ifm
Electrical design	DC
Output	4...20 mA analogue
Operating voltage [V]	9.6...32 DC
Reverse polarity protection	yes
Overload protection	yes
Analogue output	4...20 mA
Load for analogue output [ohms]	max. (U _b - 9.6 V) x 50; 720 at U _b = 24 V
Pressure rating [bar]	600
Bursting pressure min. [bar]	1000
Accuracy / deviations (in % of the span)	
Characteristics deviation *)	< ± 0.25 (BFSL) / < ± 0.5 (LS)
Repeatability **)	< 0.1
Long-term stability ***)	< ± 0.05
Temperature coefficients (TEMPCO) in the temperature range 0...80° C (in % of the span per 10 K)	
Greatest TEMPCO of the zero point	0.1
Greatest TEMPCO of the span	0.2

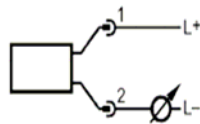
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PA3020

Step response time analogue output [ms]	3	
Ambient temperature [°C]	-25...80	
Medium temperature [°C]	-25...90 ****)	
Storage temperature [°C]	-40...100	
Protection	IP 68 / IP 69K, III	
Insulation resistance [MΩ]	> 100 (500 V DC)	
Shock resistance	DIN IEC 68-2-27:50 g (11 ms)	
Vibration resistance	DIN IEC 68-2-6:20 g (10...2000 Hz)	
Min. pressure cycles	100 million	
EMC	EN 61000-4-2 ESD: 4 kV CD / 8 kV AD	
	EN 61000-4-3 HF radiated: 30 V/m	
	EN 61000-4-4 Burst: 2 kV	
	EN 61000-4-6 HF conducted: 10 V	
	radiation of interference	according to the automotive directive 2004/104/EC / CISPR25
	noise immunity	according to the automotive directive 2004/104/EC / ISO 11452-2
	HF radiated	100 V/m
	pulse resistance	according to ISO7637-2 / severity level 3
Housing materials	stainless steel 316L / 1.4404; FPM (Viton); PA; EPDM/X (Santoprene)	
Materials (wetted parts)	stainless steel (303S22); ceramics; FPM (Viton)	
Connection	M12 connector; gold-plated contacts	
Weight [kg]	0.23	
Remarks	*) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K ***) in % of value of measuring range / 6 months ****) -40...90 °C upon request	

Wiring


PA3021

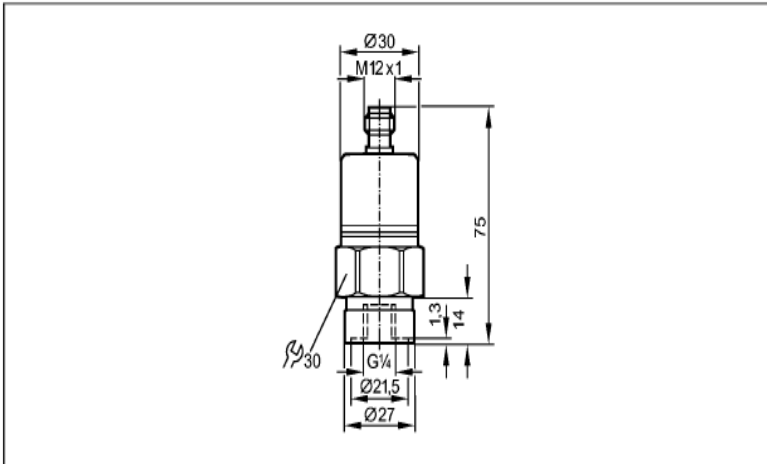
Electronic pressure sensor
PA30

Connector
Process connection G $\frac{1}{4}$ I

e1 compliant

Analogue output

Measuring range
0...250 bar



Made in Germany



Application	Type of pressure: relative pressure Liquids and gases Use in gases at pressures > 25 bar only after contacting the manufacturer ifm
Electrical design	DC
Output	4...20 mA analogue
Operating voltage [V]	9.6...32 DC
Reverse polarity protection	yes
Overload protection	yes
Analogue output	4...20 mA
Load for analogue output [ohms]	max. (U _b - 9.6 V) x 50; 720 at U _b = 24 V
Pressure rating [bar]	400
Bursting pressure min. [bar]	850
Accuracy / deviations (in % of the span)	
Characteristics deviation *)	< ± 0.25 (BFSL) / < ± 0.5 (LS)
Repeatability **)	< 0.1
Long-term stability ***)	< ± 0.05
Temperature coefficients (TEMPCO) in the temperature range 0...80° C (in % of the span per 10 K)	
Greatest TEMPCO of the zero point	0.1
Greatest TEMPCO of the span	0.2

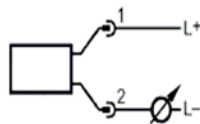
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PA3021

Step response time analogue output [ms]	3	
Ambient temperature [°C]	-25...80	
Medium temperature [°C]	-25...90 ****)	
Storage temperature [°C]	-40...100	
Protection	IP 68 / IP 69K, III	
Insulation resistance [MΩ]	> 100 (500 V DC)	
Shock resistance	DIN IEC 68-2-27:50 g (11 ms)	
Vibration resistance	DIN IEC 68-2-6:20 g (10...2000 Hz)	
Min. pressure cycles	100 million	
EMC	EN 61000-4-2 ESD: 4 kV CD / 8 kV AD	
	EN 61000-4-3 HF radiated: 30 V/m	
	EN 61000-4-4 Burst: 2 kV	
	EN 61000-4-6 HF conducted: 10 V	
	radiation of interference	according to the automotive directive 2004/104/EC / CISPR25
	noise immunity	according to the automotive directive 2004/104/EC / ISO 11452-2
	HF radiated	100 V/m
	pulse resistance	according to ISO7637-2 / severity level 3
	Housing materials	stainless steel 316L / 1.4404; FPM (Viton); PA; EPDM/X (Santoprene)
	Materials (wetted parts)	stainless steel (303S22); ceramics; FPM (Viton)
Connection	M12 connector; gold-plated contacts	
Weight [kg]	0.222	
Remarks	*) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K ***) in % of value of measuring range / 6 months ****) -40...90 °C upon request	

Wiring


PA3022

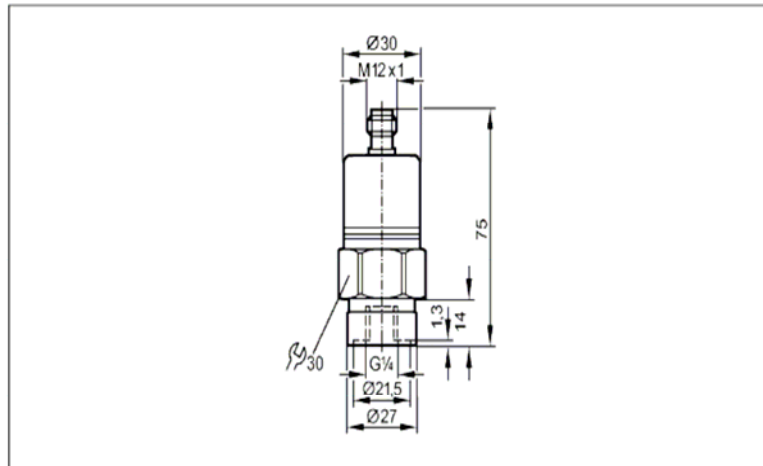
Electronic pressure sensor
PA30

Connector
Process connection G $\frac{1}{4}$ I

e1 compliant

Analogue output

Measuring range
0...100 bar



Made in Germany



Application

Type of pressure: relative pressure

Liquids and gases

Use in gases at pressures > 25 bar only after contacting the manufacturer ifm

Electrical design

DC

Output

4...20 mA analogue

Operating voltage [V]	9.6...32 DC \pm 1)
Reverse polarity protection	yes
Overload protection	yes
Analogue output	4...20 mA
Load for analogue output [ohms]	max. $(U_b - 9.6 \text{ V}) \times 50$; 720 at $U_b = 24 \text{ V}$
Pressure rating [bar]	300
Bursting pressure min. [bar]	650
Accuracy / deviations (in % of the span)	
Characteristics deviation *)	$< \pm 0.25$ (BFSL) / $< \pm 0.5$ (LS)
Repeatability **)	< 0.1
Long-term stability ***)	$< \pm 0.05$
Temperature coefficients (TEMPCO) in the temperature range 0...80° C (in % of the span per 10 K)	
Greatest TEMPCO of the zero point	0.1
Greatest TEMPCO of the span	0.2

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PA3022

Step response time analogue output [ms]	3	
Ambient temperature [°C]	-25...80	
Medium temperature [°C]	-25...90 ****)	
Storage temperature [°C]	-40...100	
Protection	IP 68 / IP 69K, III	
Insulation resistance [MΩ]	> 100 (500 V DC)	
Shock resistance	DIN IEC 68-2-27:50 g (11 ms)	
Vibration resistance	DIN IEC 68-2-6:20 g (10...2000 Hz)	
Min. pressure cycles	100 million	
EMC	EN 61000-4-2 ESD: 4 kV CD / 8 kV AD	
	EN 61000-4-3 HF radiated: 30 V/m	
	EN 61000-4-4 Burst: 2 kV	
	EN 61000-4-6 HF conducted: 10 V	
	radiation of interference	according to the automotive directive 2004/104/EC / CISPR25
	noise immunity	according to the automotive directive 2004/104/EC / ISO 11452-2
	HF radiated	100 V/m
	pulse resistance	according to ISO7637-2 / severity level 3
	Housing materials	stainless steel 316L / 1.4404; FPM (Viton); PA; EPDM/X (Santoprene)
	Materials (wetted parts)	stainless steel (303S22); ceramics; FPM (Viton)
Connection	M12 connector; gold-plated contacts	
Weight [kg]	0.226	
Remarks	<p>1) The device shall be supplied from an isolating source and protected by an overcurrent device such that the limited voltage circuit requirements in accordance with UL 508 are met.</p> <p>*) BFSL = Best Fit Straight Line / LS = Limit Value Setting</p> <p>***) with temperature fluctuations < 10 K</p> <p>****) in % of value of measuring range / 6 months</p> <p>*****) -40...90 °C upon request</p>	

Wiring
