JUMO GmbH & Co. KG
Delivery address: Mackenrodtstraße 14,
36039 Fulda, Germany
Postal address: 36035 Fulda, Germany
Phone: +49 661 6003-0
Fax: +49 661 6003-607
e-mail: mail@jumo.net
Internet: www.jumo.net

JUMO Instrument Co. Ltd.
JUMO House
Temple Bank, Riverway
Harlow, Essex CM 20 2TT, UK
Phone: +44 1279 635533
Fax: +44 1279 635262
e-mail: sales@jumo.co.uk
Internet: www.jumo.co.uk

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8 Technology Boulevard
Canastota, NY 13032, USA
Phone: 315-697-JUMO
1-800-554-JUMO
Fax: 315-697-5867
e-mail: info@jumo.us
Internet: www.jumo.us

Pressure transmitter JUMO MIDAS

Type 401001



Type 401001/000-xxx-xxx-xx-xxx-61



Type 401001/000-xxx-xxx-xx-xxx-36

Brief description

Pressure transmitters are used for measuring the relative (gauge) pressure in liquids and gases. The pressure transmitter incorporates a thick-film strain gauge as a measuring device. The pressure sensor has an aluminium-oxide (Al_2O_3) ceramic base material. The pressure is converted into an electrical signal.

Technical data

Reference conditions
to DIN 16 086 and IEC 770/5.3

Ranges
see order details

Overload limits
for ranges
0 — 40 bar 3 x full scale
ranges
0 — 60 to 0 — 100 bar 2 x full scale

Bursting pressure
ranges 0 — 40 bar ≤ 5 x full scale
ranges
0 — 60 to 0 — 100 bar 3 x full scale

Parts in contact with medium
standard: st. steel, Mat. Ref. 1.4305, (Al_2O_3) 96%
seal: FPM or FFPM or CR

Output
4 — 20 mA
2-wire burden ≤ (U_B-10 V) / 0.02A
0.5 — 4.5 V burden ≥ 20 kΩ
1 — (5)6 V burden ≥ 10 kΩ
0 — 10 V burden ≥ 10 kΩ

Burden error
< 0.5% max.

Zero offset
≤ 0.3% of full scale

Thermal hysteresis
≤ ± 0.8% of full scale

Ambient temperature error
within range -20 to +85°C
(compensated temperature range)
zero: ≤ 0.02%/°C typical,
≤ 0.04%/°C max.
span: ≤ 0.02%/°C typical,
≤ 0.04%/°C max.

Deviation from characteristic
≤ 0.5% of full scale
(limit point adjustment)

Hysteresis
≤ 0.2% of full scale

Repeatability
≤ 0.1% of full scale

Response time
≤ 3 msec max.

Stability per year
≤ 1% of full scale

Supply
10 — 30 V DC (for output 4 — 20 mA and 1 — (5)6 V)
5 V DC (for output 0.5 — 4.5 V)
11.5 — 30 V DC (for output 0 — 10 V)
Ripple: the voltage spikes must not go above or below the values specified for the supply
max. current drawn: approx. 25 mA

Supply voltage error
≤ 0.02% per V
(nominal supply voltage 24 V DC)
ratiometric with supply 5 V DC (±0.5 V)

Permissible ambient temperature
for version with plug:
-20 to +125°C
for version with attached cable:
-20 to +100°C

Storage temperature
-40 to +125°C
for version with attached cable
-20 to +100°C

Permissible temperature of medium
-30 to +125°C

Electromagnetic compatibility (EMC)
to EN 61 326

Mechanical shock
(to IEC 68-2-27)
100 g/1 msec

Mechanical vibration
(to IEC 68-2-6)
20 g max. at 15 — 2000 Hz

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Protection
with terminal box
IP65 to EN 60 529
(diameter of connecting cable 5 mm min., 7 mm max.)
with connecting cable or circular connector M 12 x 1
IP67 to EN 60 529

Housing
stainless steel, Mat. Ref. 1.4305
EPDM

Pressure connection
see order details;
other connections on request

Electrical connection
see order details
terminal box to DIN 43 650, style A, conductor cross-section up to 1.5 mm^2
or
attached 4-core PVC cable, length 2 m, other lengths on request
or
4-pole circular connector, M12x1

Nominal position
any

Weight
100 g

Electrical connection

Connection			Terminals			
						
			Terminal box 61	Cable 11	M12x1 36	Bayonet 53
Supply 10 — 30 V DC 11.5 — 30 V DC 5 V DC	(with output) (1 — (5)6 V) (0 — 10 V) (0.5 — 4.5 V)		1 L+ 2 L-	white + brown -	1+ 2-	1+ 2-
Output 1 — (5)6 V 0 — 10 V 0.5 — 4.5 V			2 - 3 +	brown - yellow +	2- 3+	2- 3+
Supply 10 — 30 V DC	(with output) (4 — 20 mA, 2-wire)		1 L+ 2 L-	white + brown -	1+ 3-	1+ 3-
Output 4 — 20 mA, 2-wire			1 + 2 -	white brown	1+ 3-	1+ 3-
			proportional current 4 — 20 mA in supply			

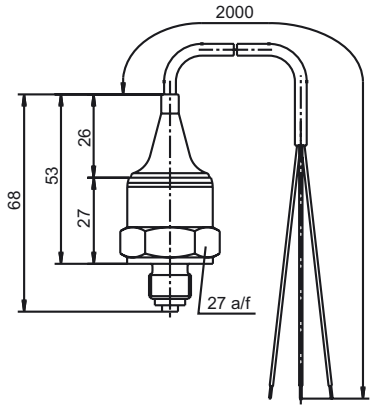
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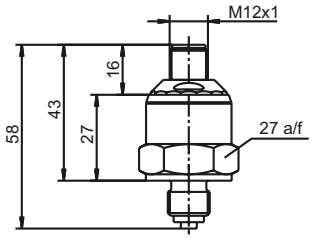
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Dimensions

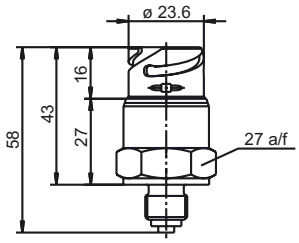
Electrical connections



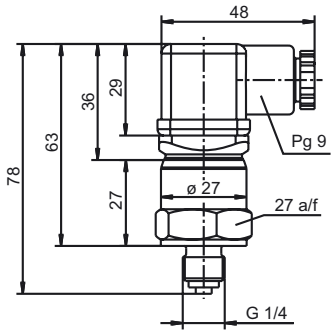
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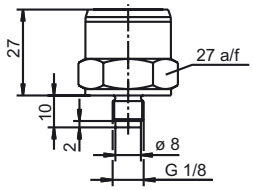


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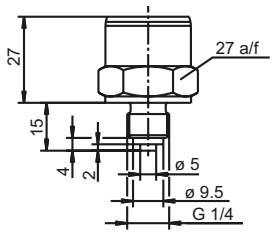


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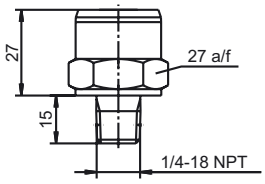
Process connections



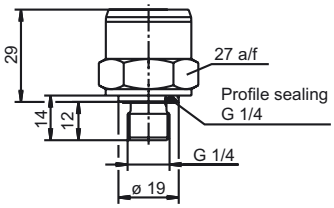
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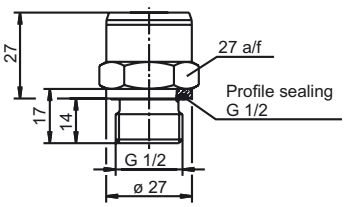
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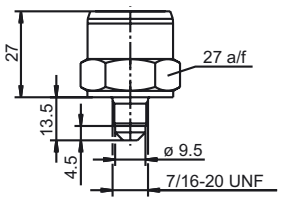
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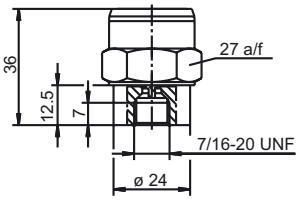
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562



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Order details

	(1)	**Basic type**
401001		Pressure transmitter JUMO MIDAS
	(2)	**Basic type extensions**
000		none
999		special version
	(3)	**Input**
455		0 ... 1,6 bar gauge pressure
456		0 ... 2,5 bar gauge pressure
457		0 ... 4 bar gauge pressure
458		0 ... 6 bar gauge pressure
459		0 ... 10 bar gauge pressure
460		0 ... 16 bar gauge pressure
461		0 ... 25 bar gauge pressure
462		0 ... 40 bar gauge pressure
463		0 ... 60 bar gauge pressure
464		0 ... 100 bar gauge pressure
479		-1 ... 0,6 bar gauge pressure
480		-1 ... 1,5 bar gauge pressure
481		-1 ... 3 bar gauge pressure
482		-1 ... 5 bar gauge pressure
483		-1 ... 9 bar gauge pressure
484		-1 ... 15 bar gauge pressure
485		-1 ... 24 bar gauge pressure
999		Sondermessbereich
	(4)	**Output**
405		4 — 20 mA 2-wire
412		0.5 — 4.5 V 3-wire
415		0 — 10 V 3-wire
418		1 — 5 V 3-wire
420		1 — 6 V 3-wire
	(5)	**Process connection (not front-flush)**
501		G 1/8 to EN 837
502		G 1/4 to EN 837
511		1/4-18 NPT to EN 837
521		G 1/4 to DIN 3852 T11
523		G 1/2 to DIN 3852 T11
562		7/16 UNF
563		7/16 internal UNF, with valve seating
	(6)	**Material of process connection**
20		stainless steel
46		brass (on request)
	(7)	**Material for seal**
601		FPM
602		CR
604		FFPM[1]
999		special material
	(8)	**Electrical connection**
11		attached cable 2 m
36		circular connector M 12 x 1
61		terminal box
	(9)	**Extra Codes**
000		none
591		throttle in pressure duct
624		free from oil and grease

[1] Material properties are similar to PTFE.

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	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)
Order code		/		-		-		-		-		-		-		/	
Order example	401001	/	000	-	459	-	405	-	523	-	20	-	601	-	11	/	000

Accessories

Designation	**Sales No.**
4-pole straight socket M12x1 with 2 m PVC cable	40/00404585
4-pole angled socket M12x1, with 2m PVC cable	40/00409334