



Pressure Transmitter

JUMO dTRANS p32

Type 402051

General application

Pressure transmitters are used for measuring relative (gauge) pressures in dry, non-corrosive and non-ionizing gaseous media. The transmitter operates on the piezoresistive measuring principle. The pressure is converted into an electrical signal.

Technical data

Reference conditions

to DIN 16 086 and IEC 770/5.3

Measurement ranges

see Order details

Overload limit

4 x full scale

Bursting pressure

8 x full scale

Parts in contact with medium

Si, borosilicate glass, silicone, Au, CrNi steel

Output

0 – 20 mA

3-wire burden $\leq (U_B - 12 \text{ V}) / 0.02 \text{ A}$

4 – 20 mA

2-wire burden $\leq (U_B - 10 \text{ V}) / 0.02 \text{ A}$

4 – 20 mA

3-wire burden $\leq (U_B - 12 \text{ V}) / 0.02 \text{ A}$

0.5 – 4.5 V burden $\geq 50 \text{ k}\Omega$

1 – 6 V burden $\geq 10 \text{ k}\Omega$

0 – 10 V burden $\geq 10 \text{ k}\Omega$

Burden error

< 0.5% max.

Zero signal deviation

$\leq 0.4\%$ of full scale

Thermal hysteresis

(within compensated temperature range)
 $\leq \pm 2\%$

Ambient temperature error

within range 0 to +100°C
(compensated temperature range)

zero: $\leq 0.03\%/^\circ\text{C}$ typical,
 $\leq 0.05\%/^\circ\text{C}$ max.

span: $\leq 0.02\%/^\circ\text{C}$ typical,
 $\leq 0.04\%/^\circ\text{C}$ max.

Deviation from characteristic

$\leq 0.5\%$ of full scale
(limit setting)

Hysteresis

$\leq 0.1\%$ of full scale

Repeatability

$\leq 0.05\%$ of full scale

Settling time

for current output (output 402, 405 or 406):
 ≤ 3 msec max.

for voltage output (output 412, 415,
418 or 420):

≤ 10 msec max.

Stability over 1 year

$\leq 1\%$ of full scale

Supply

10 – 30 V DC (output 4 – 20 mA and
1 – 6 V)

5 V DC (output 0.5 – 4.5 V)

11.5 – 30 V DC (output 0 – 10 V)

11.5 – 30 V DC (output 0(4) – 20 mA)

Ripple:

The voltage spikes must not go outside the
limits specified for the supply.

Max. current drawn: approx. 25 mA

Supply voltage error

$\leq 0.02\%$ per V

(nominal supply voltage 24 V DC)

ratiometric with supply voltage 5 V DC
(± 0.5 V)

Permissible ambient temperature

-20 to +100°C

Storage temperature

-40 to +125°C

Permissible temperature of medium

-30 to +120°C

Electromagnetic compatibility

EN 61 326

interference emission: Class B

interference immunity: to industrial
requirements



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

Protection

with terminal box
IP65 to EN 60 529
(connection cable diameter:
5 mm min., 7 mm max.)

with connection cable

IP67 to EN 60 529

Housing

stainless steel, Mat. Ref. 1.4301
polycarbonate GF

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 mm²;
or
attached 4-core PVC cable, 2 m long
other lengths on request

Nominal position

unrestricted

Weight

200 gm

Electrical connection

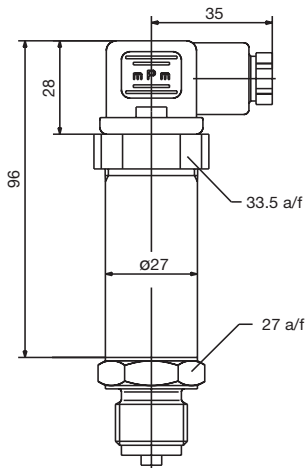
Connection		Terminals	
		Connector	Cable
Supply 10 – 30 V DC 11.5 – 30 V DC 5 V DC		1 L+ 2 L-	white gray
Output 1 – 6 V 0 – 10 V 0.5 – 4.5 V		2 - 3 +	gray yellow
Output 4 – 20 mA, 2-wire		1 + 2 - proportional 4 to 20 mA current in supply	white gray
Output 0(4) – 20 mA, 3-wire		2 - 3 +	gray yellow
Protective earth conductor			
Screen			black

Caution:

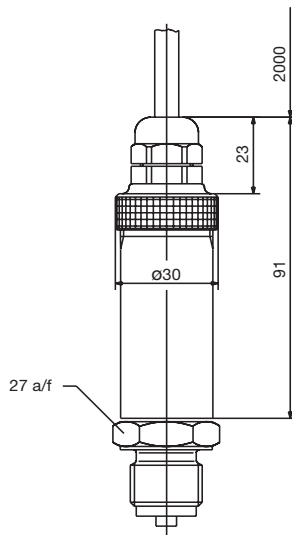
Earth the instrument!
(pressure connection and / or or screen)

Dimensions

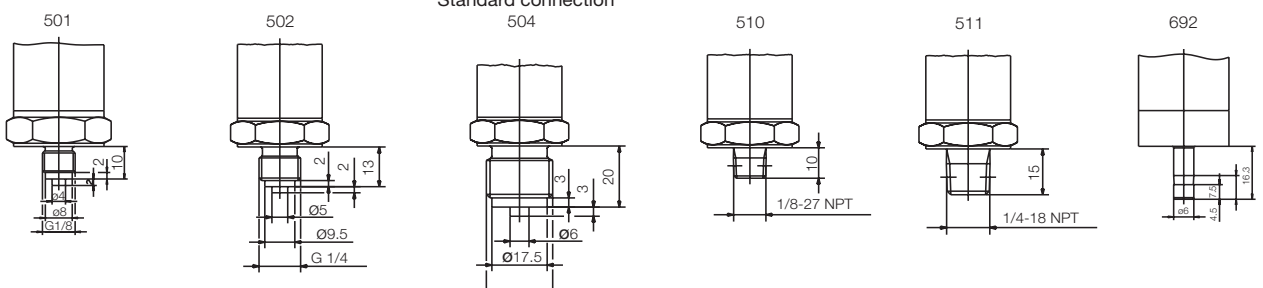
Electrical connection
by terminal box
(61)



Electrical connection
by attached cable
(12)



Connections, not front-flush



Order details

Basic type

402051 Pressure transmitter JUMO dTRANS p32

| **Basic type extension**

| /000 none

| /999 special version

| | **Input**

| | 411 0 40 mbar gauge pressure

| | 413 0 60 mbar gauge pressure

| | 414 0 100 mbar gauge pressure

| | 415 0 160 mbar gauge pressure

| | 451 0 0.25 bar gauge pressure

| | 452 0 0.4 bar gauge pressure

| | 453 0 0.6 bar gauge pressure

| | 999 special gauge pressure range

| | | **Output**

| | | 402 0 to 20 mA 3-wire

| | | 405 4 to 20 mA 2-wire

| | | 406 4 to 20 mA 3-wire

| | | 412 0.5 to 4.5 V 3-wire

| | | 415 0 to 10 V 3-wire

| | | 418 1 to 5 V 3-wire

| | | 420 1 to 6 V 3-wire

| | | | **Process connection (not front-flush)**

| | | | 501 pressure connection G 1/8 to EN 837

| | | | 502 pressure connection G 1/4 to EN 837

| | | | 504 pressure connection G 1/2 to EN 837 (standard connection)

| | | | 510 pressure connection 1/8-27 NPT to DIN 837

| | | | 511 pressure connection 1/4-18 NPT to DIN 837

| | | | 692 6 mm hose connection

| | | | **Material of process connection**

| | | | | 20 stainless steel

| | | | | **Electrical connection**

| | | | | 12 by attached cable (cable length in plain text)

| | | | | 36 by circular connector M12 x 1

| | | | | 61 by terminal box

| | | | | | |

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