TRANDUCERS for RELATIVE, ABSOLUTE and DIFFERENTIAL PRESSURE
TYPE TP-01

The pressure transducers type TP-01are used to make the current loop used in the industrial analogical systems for measurement, control and regulation. The transducer's connection is in two wires.

PERFORMANCES

- two- wire connection with protection for inverse connection
- unified signal output
- metallic piezoresistive or ceramic tensoresistive (alumina) pressure sensor
- compensation of the thermal effect on extended area
- stainless steel construction
- resistance to corrosive and chemical agents
- solid construction
- small dimensions
- low cost

TECHNICAL CHARACTERISTICS

Environmental Characteristics

- climatic area N, according to STAS 6535-83
- exploitation category 2, according to STAS 6692-83
- protection degree IP 65, according to SR EN 60529
- environment temperature:
  - -during operation: -25…+70 ^{0}C, maximum relative humidity 95% at 20 ^{0}C, no condensation water
  - during transportation: -33…+70 ^{0}C , opened or closed transportation
  - during storage: -40…+70 ^{0}C;
- temperature of measurement fluid: -30…+100 ^{0}C for the metallic sensor, -25…+120 ^{0}C for the ceramic sensor. The standard type is protected with two diodes. On request, we can execute devices with Zenner or Transorb diodes. For these types, the minimum and maximum voltage is reduced.

For details about these products, contact CAOM INC in Paşcani, Vatra street no 56, Iasi county, 705200, Romania
tel. 004023-761947, 765869, fax 0040232-761722, email: caom.sa@caom.ro www.caom.ro

Performance Characteristics:

- measurement error, as an error reported to the range: maximum 0,5% (including the non-linearity error, hysteresis error, the repeatability and reproductibility error);

-compensation temperature range: 0…+50 ^{0}C

Functional Characteristics:

- input signal: fluid pressure
- measurement range: 0…600 bar, measurement interval: 0.03…600 bar, with specifications according to coding
- maximum static pressure for the differential pressure transducer: 200 bar
- overpressure: at least 1,5x nominal pressure
- pulsating pressure: 3 x adjustment limit
- superior limits of the measurement range as well as maximum application overpressure:

Transducer with ceramic sensor

Range (bar)	1	2	5	10	20	50	100	200	400	600
Overpressure (bar)	1.5	3	7.5	15	30	75	150	300	600	900

Transducer with metallic sensor

Range (bar)	0.1	0.2	0.5	1	2	5	10	20
Overpressure (bar)	0.2	0.4	1	2	4	7	15	30

Differential pressure transducer

Range (bar)	0.1	0.2	0.5	1	2	5	10	20
Overpressure (bar)	0.2	0.4	1	2	4	7	15	30

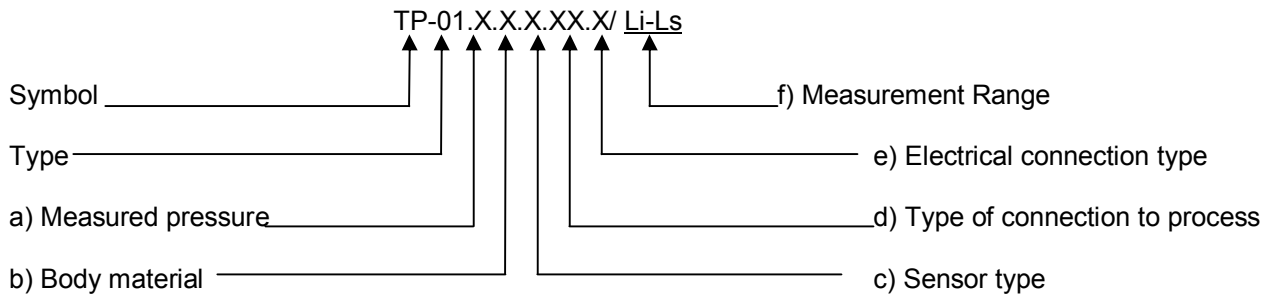
- output signal 4…20mA
- voltage range: frail voltage source 13.5…40 Vcc (on request, 11.6…30Vcc for acquisition data systems where the available voltage is 12 Vcc, see note 1)
- nominal voltage: 24 Vcc
- loop resistance : 0 to (Ua- Ua_{min})/0.02, where Ua is voltage and Ua_{min} is minimum voltage

Physical Characteristics:

- material that contacts the fluid: W 1.4541 stainless steel for body, AISI 316L (W1.4435) or ceramic for sensor, Viton for the sealing glands;

CODING

The coding of TP-01 transducers consists on the product symbol followed by 8 groups of numerical characters.



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a. Measured pressure

Measured pressure	Code
Absolute pressure	1
Relative pressure	2
Differential pressure	3

b). Body Material

Material	Code
Special order	0
W 1.4541 stainless steel	1

c). Material of the pressure sensor (sensor type)

Material	Code
Special order	0
Ceramic sensor	1
L316 Stainless steel sensor	2

d) Type of the connection to the process

Transducers for relative and differential pressure:

Type of connector to process	Code	Type of connector to process	Code
Special order	00	M20x1,5 exterior shred	05
G 1/4” exterior shred	01	Br 1/4 ” exterior shred	06
G3/8” exterior shred	02	Br 3//8” exterior shred	07
G1/2” exterior shred	03	Br 1/2”exterior shred	08
G 3/4” exterior shred	04	Br 3/4" exterior shred	09

Transducers for differential pressure:

Type of connector to process	Code	Type of connector to process	Code
Special order	00	G1/4” interior shred, with purging device	21
G1/4” interior shred, no purging device	11	G3/8” interior shred, with purging device	22
G3/8” interior shred, no purging device	12	G1/2” interior shred, with purging device	23
G1/2” interior shred, no purging device	13		

e) Type of connection to the power source

Type of connection	Code
Special order	0
No connector, feeder with length specified by the beneficiary	1
DIN43650 connector	2

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f) Measurement range

The transducer measurement range will be clearly specified by the beneficiary as Li[2]…Ls[3].

1) 0…(0,03...0,1)bar
2) 0…(0,1...0,2)bar
3) 0…(0,2...0,5)bar
4) 0…(0,33...1)bar
5) 0…(1...2)bar
6) 0…(2...3)bar
7) 0…(3...5)bar
8) 0…(5...10)bar
9) 0…(10...20)bar
10) 0…(20...50)bar
11) 0…(50...100)bar
12) 0…(100...200)bar
13) 0…(200...400)bar
14) 0…(400...600)bar

The inferior limit of the measurement range is zero. The superior limit of the measurement range must be between the values stipulated in the brackets.
The superior limit of the measurement range is chosen by the beneficiary and is between 0.03…600bar.

Coding example

Electronic transducer for pressure type 01, body material W 1.4541 stainless steel; sensor material –ceramic; connection to process G 3/8" shred; electrical connection with DIN43650 connector; measurement range 0…10bar.

TP-01.2.1.1.02.2./0…10.

[2]Li- inferior limit of the measurement range
[3]Ls- superior limit of the measurement range

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