

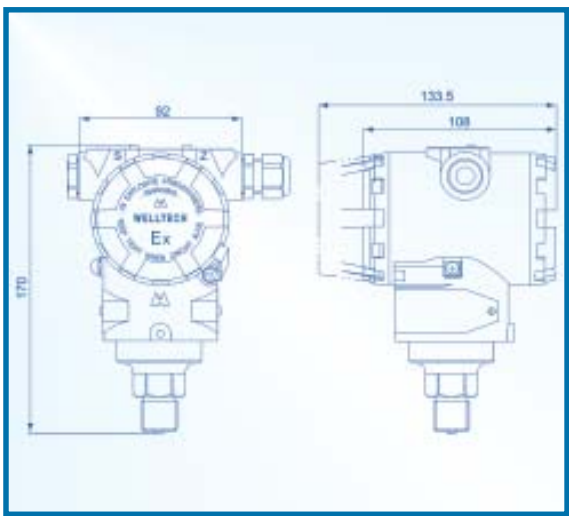
WT2000T

Smart Pressure Transmitter

865B045A

Features

- Transmitter of:
 - Gauge pressure (WT2000TG)
 - Absolute pressure (WT2000TA)
- Accuracy: $\pm 0.1\%$
- Conformable with HART protocol
- Local span and zero adjustment
- EEPROM memory
- Digital led indicator
- IP66 mechanical protection
- Certification:
 - Explosion Proof Exd II CT4
 - Intrinsic Safety Exi II CT6



- Compact digital system, power supply 12÷45Vdc, suitable for liquid, gas and vapour applications.
- Ranges from 0÷0.005bar (0÷0,5KPa) to 0÷3500 bar (0÷350000KPa)
- Accuracy: $\pm 0.1\%$
- BEEL202 FSK technology

General

Transmitters (WT2000T Transmitter for short) are more stable in performance with the automatic temperature compensation function. Compact construction, small and light, conformable with HART protocol, the WT2000T transmitter are widely used in petrochemical, iron and steel, power plant, chemical, light industry and other industries

Operation principle

Process pressure is transmitted through an isolation diaphragm. The reference pressure is transmitted similarly to the other side of the sensing diaphragm. The sensing diaphragm moves to a position which is proportional to the difference in pressure. The position of the sensing diaphragm is detected by the electronic unit system.



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1. Functional Specifications

1.1 - Service

Liquid, gas, and vapour applications.

1.2 - Ranges

For the range and the range code see tab.1-1.

Codice Range	Ranges (URL) bar	WT2000TG	Codice Range	Ranges (URL) bar	WT2000TA
00	0÷0,5...5kPa; 0÷0,005...0,05bar	O	06	0÷1...40kPa; 0÷0,01...0,4bar	O
01	0÷1...40kPa; 0÷0,01...0,4bar	O	07	0÷5...200kPa; 0÷0,05...2bar	O
02	0÷5...200kPa; 0÷0,05...2bar	O	08	0÷50...2000kPa; 0÷0,5...20bar	O
03	0÷50...2000kPa; 0÷0,5...20bar	O	09	0÷500...20000kPa; 0÷5...200bar	O
04	0÷500...20000kPa; 0÷5...200bar	O	10	0÷1000...35000kPa; 0÷10...3500bar	O
05	0÷1000...35000kPa; 0÷10...350bar	O			

Tab.1-1

Note: **O**, is available; **N**, is not available.

1.3 - Output signal

2-wire 4÷20mA dc overlapped with HART digital signal, linear or square-root selectable

1.4 - Power supply

Standard 24 VDC, 12÷45Vdc with the load resistance in the area shown in fig.1.5.

1.5 - Load character

$RL = (Vs - 12V) / 23mA$. Where RL is the maximum load, Vs is the voltage of the power supply.

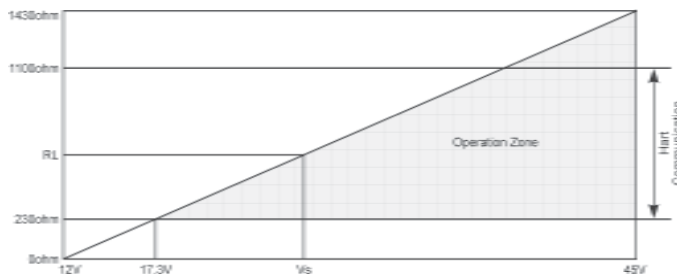


Fig.1.5

1.6 - Indication

M03 - 1/2 linear lcd meter, 0÷100%, 13mm high letters

1.7 - Span and zero

Local adjustment with the keys on the housing or with HART communicator.

1.8 - Zero elevation and suppression

TG - The maximum zero suppression is the difference between URL and span.
The maximum zero elevation is less than atmosphere.

TA - The maximum zero suppression is the difference between URL and span.
There is no zero elevation.

1.9 - Alarm

The diagnostic program detects the malfunction and outputs 22mA for high or 3.8mA for low alarming signal. The alarming, high or low, is selectable by placing the jump on the circuit board.

1.10 - Write-Protect of the transmitter's status

Adjust the jump in case of changing the configuration

1.11 - Temperature limits

Diffused silicon sensor: $-40^{\circ}\text{C} \div +70^{\circ}\text{C}$

Ceramic capacitance sensor: $-40^{\circ}\text{C} \div +85^{\circ}\text{C}$

Complete product: $-10^{\circ}\text{C} \div +50^{\circ}\text{C}$

1.12 - Storage temperature

$-10^{\circ}\text{C} \div +50^{\circ}\text{C}$

1.13 - Turn-on time

2s maximum.

1.14 - Damping

0÷16s electronic damping, adjustable by 0.1s interval. Time constant is 0.2s. 0.4s for range code 4.

1.15 - Volumetric displacement

$<0.16\text{cm}^3$ with minimum damping.

1.16 - Performance specification

(No zero elevation and suppression, reference operation conditions, silicon fill, and 316L stainless steel isolation diaphragm.)

1.16.1 - Accuracy

0,1%; non-linearity: $\leq \pm 0,1\%$ FS for range ratio $<10:1$

0,2%; non-linearity: $\leq \pm 0,2\%$ FS

1.16.2 - Insensitive zone

None

1.16.3 - Stability

Not greater than the accuracy of the transmitter for 24 months

1.16.4 - Temperature effect

$\pm 0,1\%/10^{\circ}\text{C}$

1.16.6 - Vibration effect

0.1% of URL, 10÷60Hz, S=0.07 in any direction.

1.16.7 - Power supply effect

Less than 0.005% of output span/V.

1.16.8 - EMI / RFI effect

0.1% of URL, tested from 27 to 500MHz, field strength up to 30V/m.

WT2000T - Specification

1.16.9 - Mounting position effect

Zero shift of up to 0.0024bar if the sensing diaphragm is not vertical mounted, which can be calibrated out. No span effect.

1.16.10 - Construction materials

- **Electronic Housing** Low-copper aluminum.
- **Paint** Epoxy-polyester

1.16.11 - Process connections

M20 x 1,5, NPT 1/2" and G 1/2", external thread external thread; NPT 1/2" and NPT 1/4" internal thread

1.16.12 - Electrical connections

Two M20x1.5 on the housing for connecting the conduit. Screw terminals and a plat for test to connect the communicator.

1.16.13 - Weight

1Kg excluding accessories.

2. WT2000TG

Differential pressure transmitter

HART Communication

Best accuracy: $\pm 0,1\%$

Ranges from 0÷0,005 to 350bar (0÷0,5kPa to 35000kPa)

IP66 mechanical protection

Certifications: Explosion-Proof; Intrinsic Safety

Overall dimension: see fig.2.a

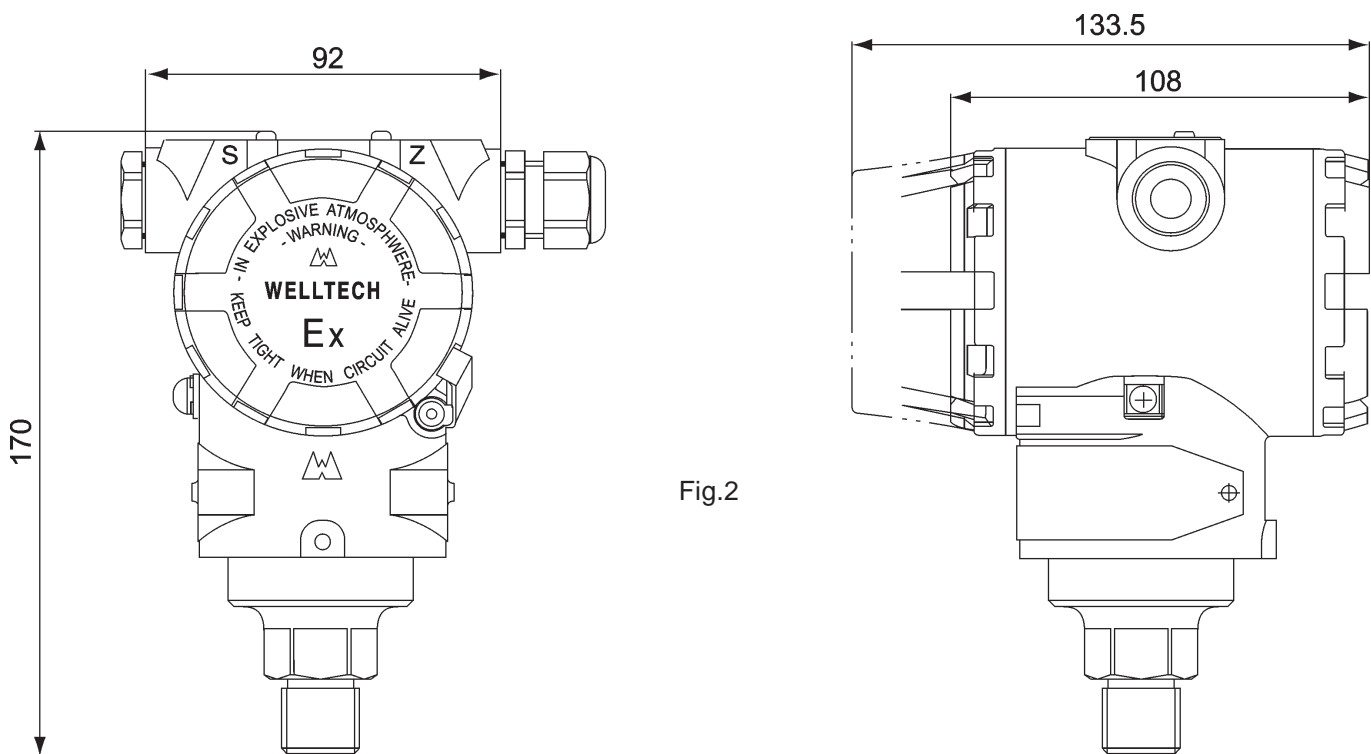


Fig.2

4. OPTIONAL

4.1 Brackets

4.1.1 2" pipe mount bracket

B15 optional selection code, see fig.4.1.1

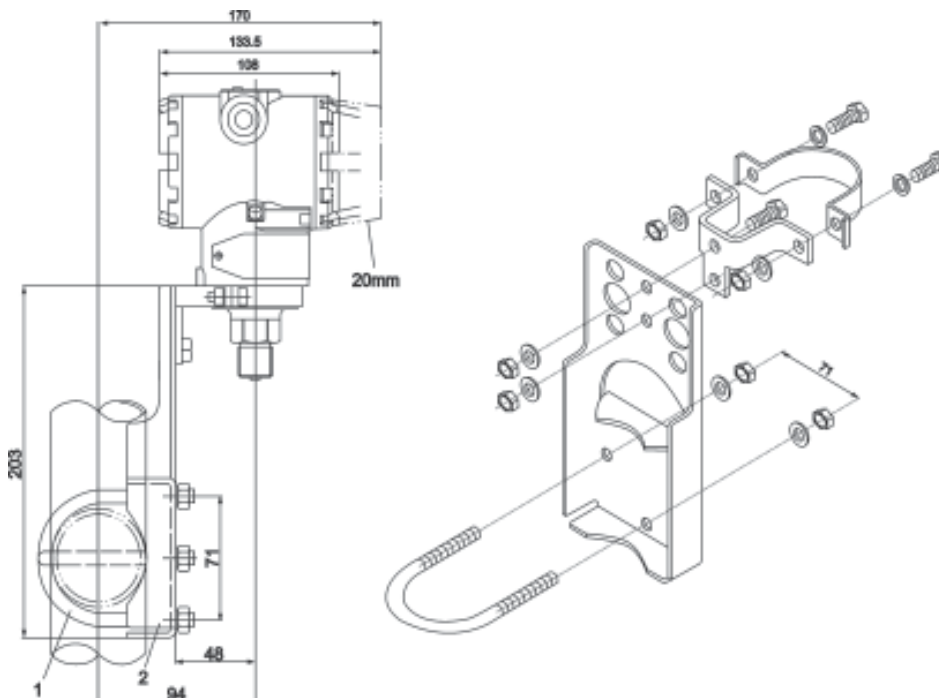


Fig.4.1.1

4.1.2 Panel mount bracket

B15 optional selection code, see fig.4.1.2

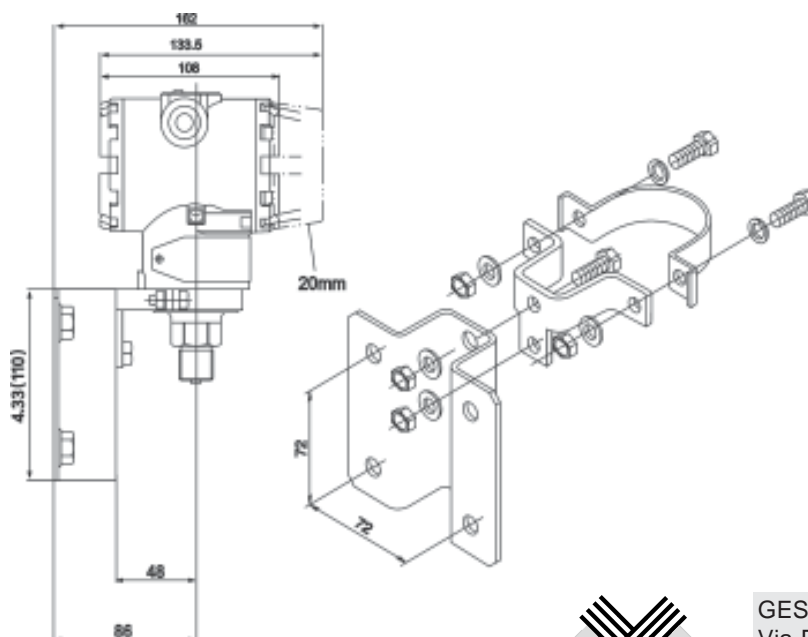


Fig.4.1.2



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