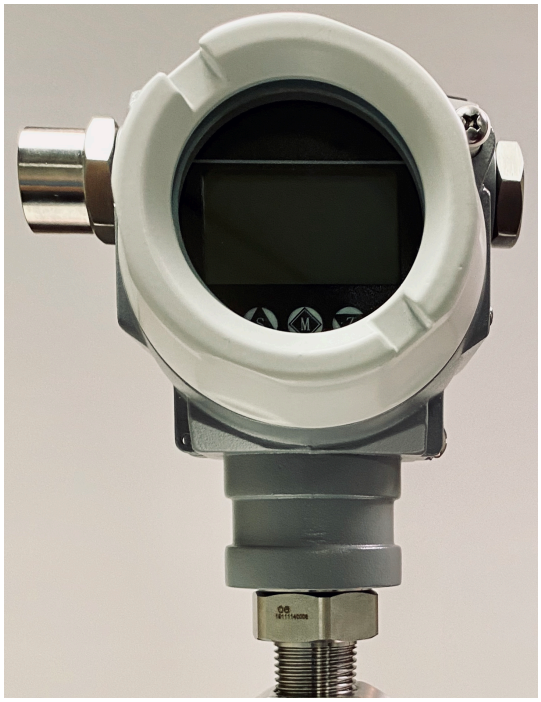
Manual/Quick Start Guide



Modbus,RS485 Industrial Pressure Transmitter

The new microprocessor and surface mount technology transmission module which collects and processes the signal of the pressure sensor and amends the measurement error through a built-in temperature sensor. This fully improves the performance of the pressure transmitter. The new external three-button menu function design makes it easier to operate the parameter settings and safe to operate in dangerous situations.

Main parameters

Pressure types	Guage Pressure
Measuring range	0-30psi,0-100psi,0-300psi,0-1,000psi 0-3,000psi,0-6,000psi, & 0-10,000psi
Output signal	Modbus, RS485
Reference accuracy	±0.2% URL

Measuring Medium

Liquid, gas, or steam flow as well as liquid level, density and pressure

Field of application

Pressure, Level, Temperature

Approvals

MICROWAVE PRECISION INSTRUMENTS

Web: www.microwave-precision.com

Reference accuracy

Standard and reference conditions, including linearity(BFSL), hysteresis and repeatability. calibration temperature: 68F ± 2F		
Linear output accuracy	±0.2%URL	Nominal value：0-30psi,0-100psi,0-300psi,0-1,000psi 0-3,000psi,0-6,000psi, & 0-10,000psi
The accuracy of square root output is 1.5 times of above linear reference output accuracy.		

Standard specifications and reference conditions

Test standard: GB/T28474 / IEC60770; Zero based-calibration span, Silicon oil filling, 316L stainless steel isolated diaphragm.

Performance specifications

The overall performance including but not limited to ±0.2% URL
Typical accuracy: ±0.2%URL
Stability: ±0.1% URL/ year

Unit

Unit	Definition
kPa	Kilopascal
MPa	Megapascals
bar	Bar
psi	Pounds per square inch
mmHg	Millimetre(s) of mercury@0℃
mmH2O	Millimeter of water@4℃
mH2O	Meter of water@4℃
inH2O	Inches of water@4℃
ftH2O	Feet of water@4℃
inHg	Inches of mercury@0℃
mHg	Meter mercury column@0℃
TORR	Torr
mbar	Millibar
g/cm2	Gram per square centimeter
kg/cm2	Kilogram per square centimeter
Pa	PA
ATM	Standard atmospheric pressure
mm	Millimeter(Note1)
m	Meter(Note1)
Note1: length unit need to mark medium density	

Mounting position effects

Apply to any position. Installation error less than 0.058 psi which can be corrected by PV=0 reset

Vibration effects

According to GB/T 1827.3/IEC61298-3 tests, <0.1% URL

Output signal

MODBUS RTU RS485 Half Duplex
Multiple function codes supported

Power supply effects

Zero and span change should not be more than ± 0.005% URL/V when power supply changes in 10.5/16.5-55VDC

Technical Specifications

Ambient temperature effects(Typical)

Within the range - 4 -176F Degrees total impact	±(0.1+0.1TD)% URL

Insulation resistance

≥ 20M Ω@, 100VDC

Damping time

Total damping time constant: equal to the sum of damping time of amplifer and sensor capsule
Damping time of amplifer : 0-100S adjustable
Diaphragm capsule (isolated diaphragm and silicone oil filling) damping time: ≤0.2s
Startup after power off : ≤6S
Normal services after data recovery : ≤31S

Weight

Net weight: about 3.17lbs (without mounting bracket and process connection adaptor)

Electrical connection

Code	Item	Description
T1	Electrical connection	Aluminum-alloy terminal, 2 cable entry 3/4" NPT(F), grey body, white cover
R2	Cable entry protector	Flame proof, 1/2"NPT(F) one side, blind plug another side, stainless steel material
R3		Flame proof, 3/4"NPT(F) one side, blind plug another side, stainless steel material

Code	Position	Description
S	Isolated diaphragm material	SUS316L
S	Isolated filling fluid	Silicone oil, process temperature: -45-401F
S	Sensor seal	O-ring, FKM, process temperature: -20-392F

Power supply

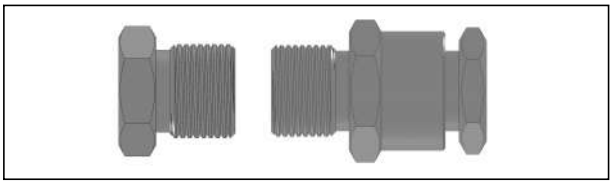
Item	Operating conditions
MODBUS RTU	9-30VDC Standard/flame proof
Transmission distance	<2000m
Power consumption	≤500mW@24VDC, 20.8mA

Environment condition

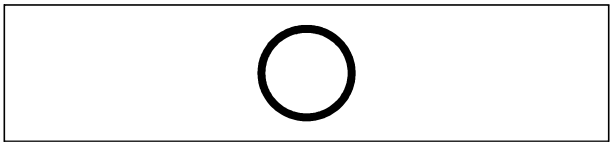
Items	Operational condition
Working temperature	-40-185F , integrated LCD display: -20-165F
Storage temperature	-40-230F, integrated LCD display: -40-185F
Media temperature	Silicone oil filling: -40-248F
Working humidity	5-100% RH@104F
Protection class	IP67
Dangerous condition	ExialICT4(GYB16.1962X) ExdIICT6(GYB16.1254X)

Housing(T1)

Flame proof cable entry protective adaptor(R2/R3)



Seal(S)



Product selection instruction

Transmission module type

Output signal	Local control
MODBUS RTU	LCD/3 buttons on body

LCD display unit

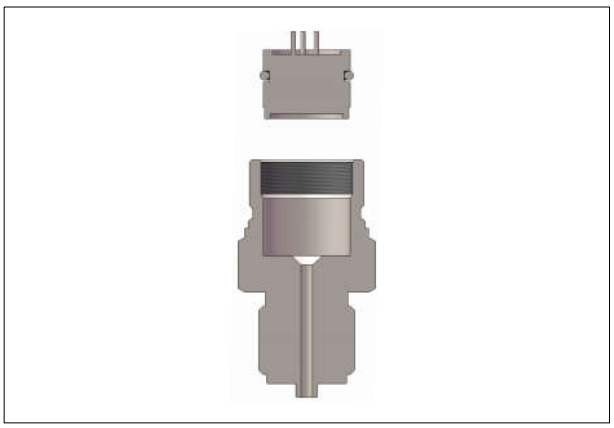
Display mode	Details
PV	Process variable shows on main screen, temperature on main screen
%	Percentage shows on main screen, percentage and progress bar shows on secondary screen

Transmission module

Code	Items	Description
T	Output signal	Modbus RTU, power supply: 9-55VDC
C	Display	Without display
N	Display	With LCD display

Terminals

Wetted parts



Measuring menu set

Mark	State
URV	Upper range value, Digital
LRV	Lower range value, Digital

Damping time

Units	Setting range
S	0-100

Quick menu

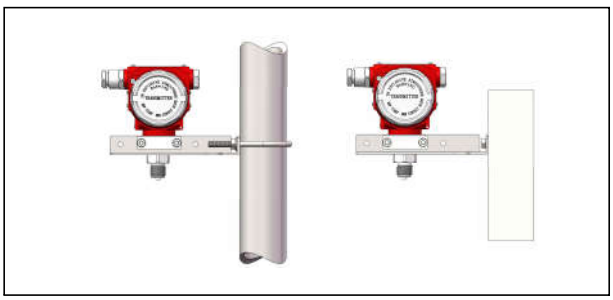
Parameter	Instruction
Zero adjustment	re-range with pressure @ 0%
Span adjustment	re-range with pressure @ 100%
Restore factory setting	Restore backup data when error

Display module(C)

Brackets

Code	Items	Instruction
B4	Fixed mounting	U-shaped bracket, 2" pipe, apply to T-structure

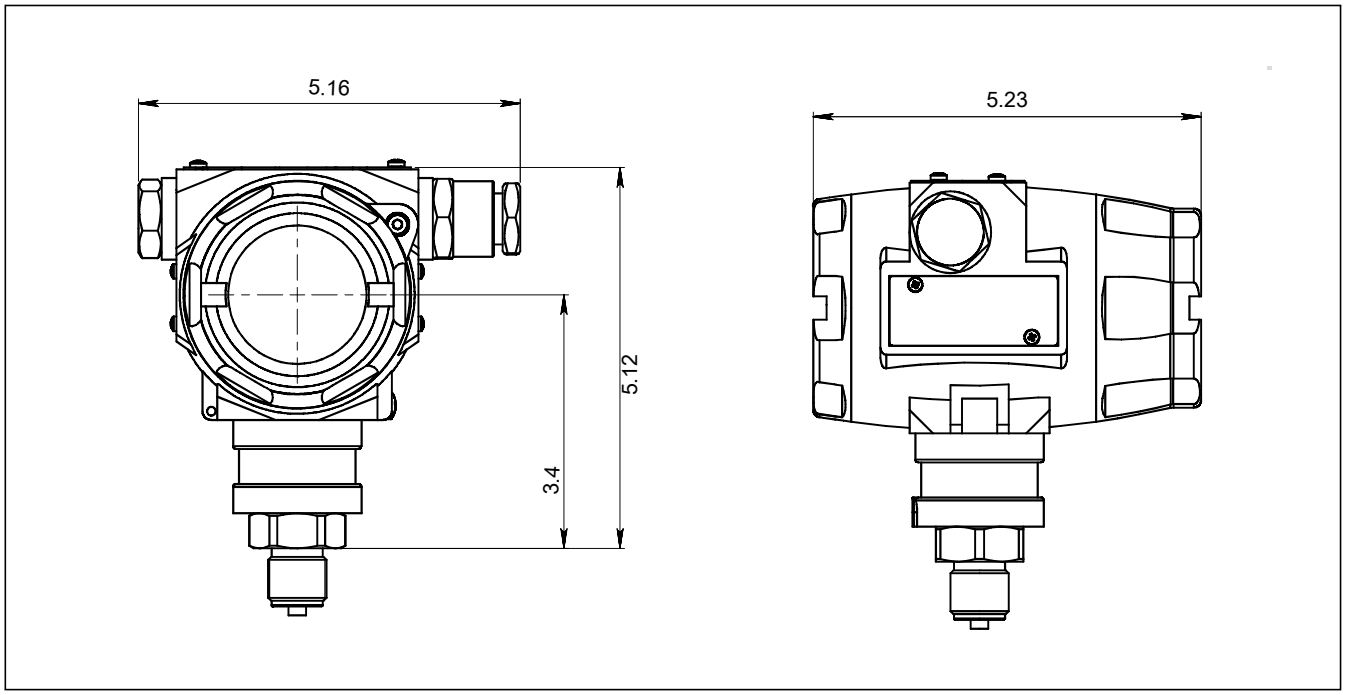
U-shaped mounting bracket(B4)



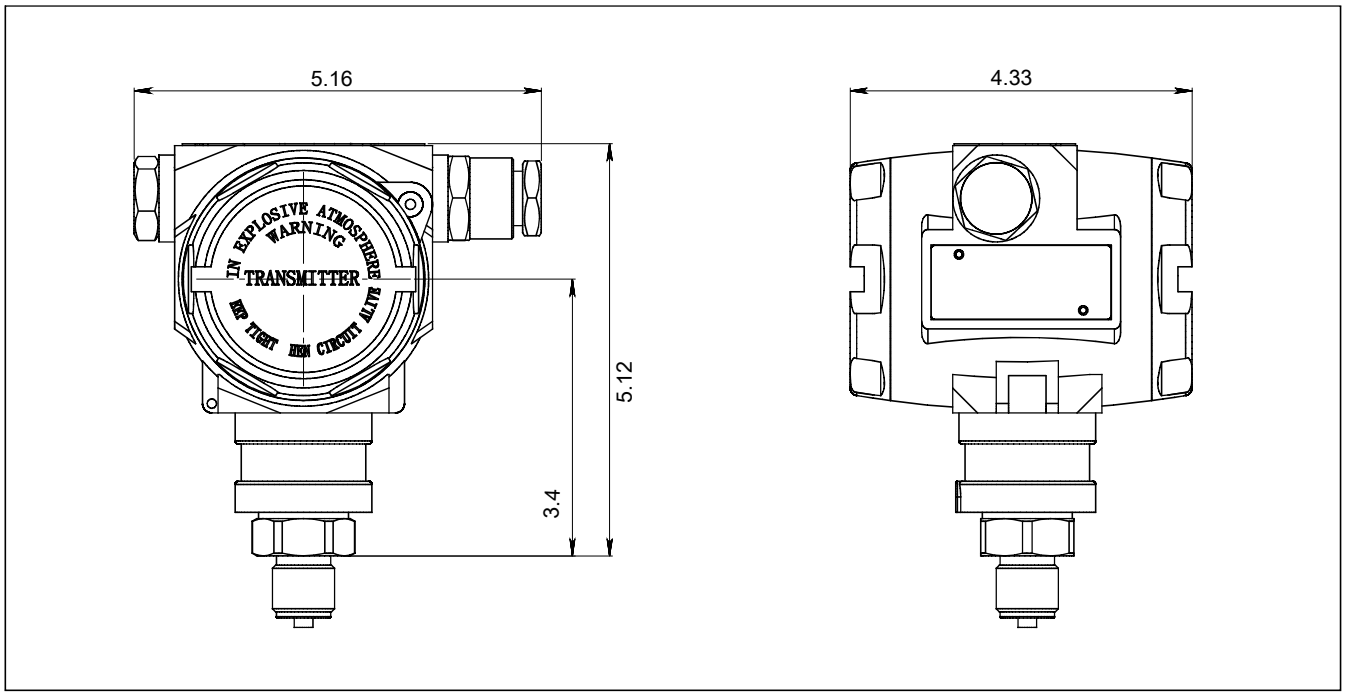
Disclaimer: all the data used in the product description is not legally binding. Relevant technical details may be changed due to further improve

Product drawing and dimension

Drawing and dimension with display(N)(unit: in)



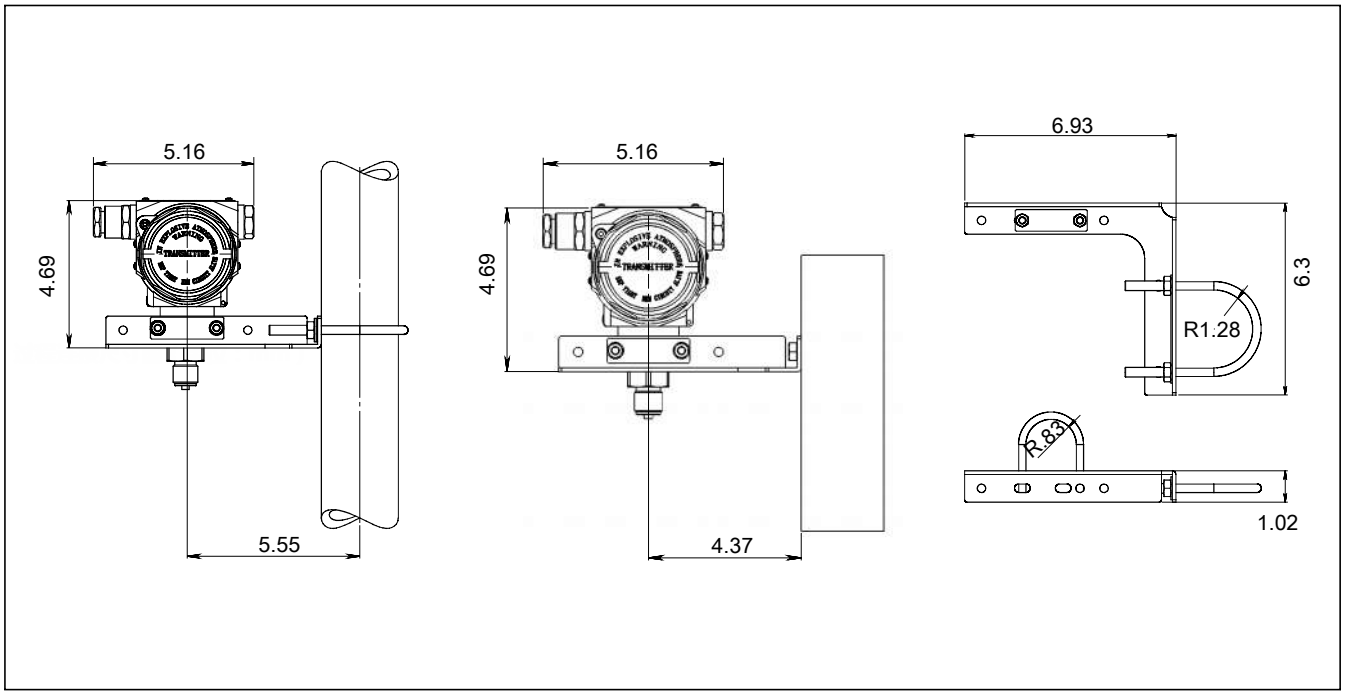
Drawing and dimension without display(C)(unit: in)



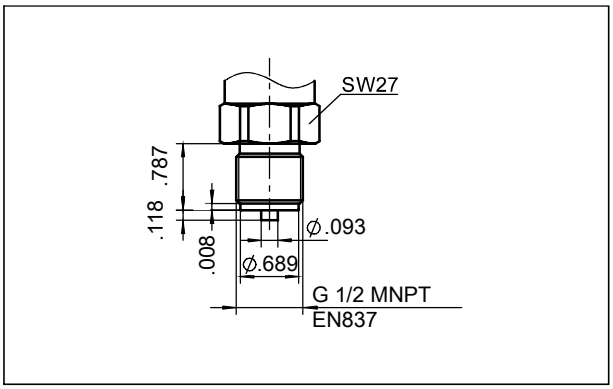
Disclaimer: all the data used in the product description is not legally binding. Relevant technical details may be changed due to further improve

Product drawing and dimension

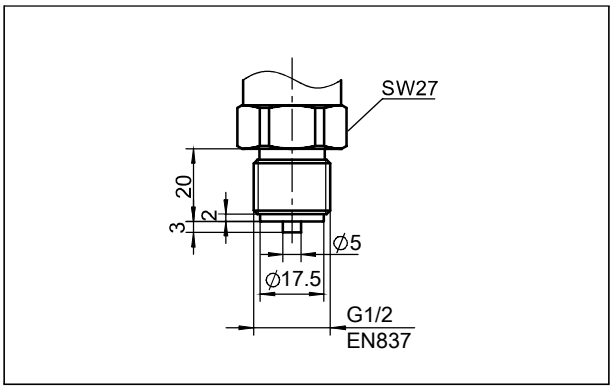
Drawing and dimension with U-shaped bracket(B4)(unit: in)



Process connection(M01)(unit: in)



Process connection(G01) (unit: mm)



Disclaimer: all the data used in the product description is not legally binding. Relevant technical details may be changed due to further improve

Factory settings and parameters

Item	Menu mark	Factory setting value
Baud Rate	BT	19.2K
Address	DE	2
Parity	ODDP	N
Stop Bits	STOP	1

Item	Menu mark	Factory setting value
Damping value	DAMP	0(No specific settings)
Lower range value	LRV	According to the order
Upper range value	URV	According to the order
Process unit	U	According to the order

Approvals

Factory certificate

Certification organization	Intertek
Quality management system	ISO9001-2008
Scope of certification	Design and production of pressure transmitter
Registration number	110804039

Intrinsic safety certificate

Certification organization name	NEPSI
License range	DMP305X series pressure/ differential pressure transmitter
Explosion-proof mark	ExiaIICT4
Ambient temperature	-40-+60℃
Medium maximum temperature	+120℃
Registration number	GYB16.1962X
Intrinsically safe parameter description	Maximum input voltage: 28VDC
	Maximum input current: 100mA
	Maximum input power: 0.7w
	Maximum internal equivalent parametersCi(uF): 0
	Maximum internal equivalent parametersLi(mH): 0.01

CE

Certificate organization	ISET
License scope	DMP305X series pressure/ differential pressure transmitter
Mark	EU
EMC instruction	2014/30/EU
Standard	AC/0100708
Registration number	IT041353LG161207

Flame proof certificate

Certificate organization	NEPSI
License scope	DMP305X series pressure/ differential pressure transmitter
Explosion-proof mark	ExdIICT6
Working environmental temperature	-25-+60℃
Maximum medium temperature	+80℃
Registration number	GYB16.1254X

MICROWAVE PRECISION INSTRUMENTS, INC.
16203 Park Row Suite 125
HOUSTON, TX 77084
Tel： 844.674.7466
Web: www.microwave-precision.com info@microwave-precision.com