

Extech SS

Auto Instruments



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Extech SS

Auto Instruments

AUTO INSTRUMENT

Industrial automation instrument manufacturer
Specializing in instrument industry over 25 years
Leading supplier in instrument industry

ORDER SELECTION



- ◆ Differential Pressure Transmitter
- ◆ Diaphragm Level Transmitter
- ◆ Flow Meter
- ◆ Level Meter
- ◆ Level Switch



CONTENTS



Pressure Transmitter/Differential Pressure Transmitter

Differential Pressure Transmitter/Pressure Transmitter -----	01/04
Direct Mount Pressure Transmitter -----	05/06
Diaphragm Level Transmitter -----	07/16
SP/2088 pressure Transmitter -----	17/18
Metal Capacitive Pressure sensor -----	19/19

Flow Meter

Vortex Flow Meter -----	20/22
WFD Electromagnetic Flow Meter -----	23/25
TUF-2000S Wall-Mounted Ultrasonic Flow Meter -----	26/27
TUF-2000H Handheld Ultrasonic Flow Meter -----	28/28
TUF-2000 Portable UltrasonicFlow Meter -----	29/29
Oval Gear Flow Meter -----	30-31

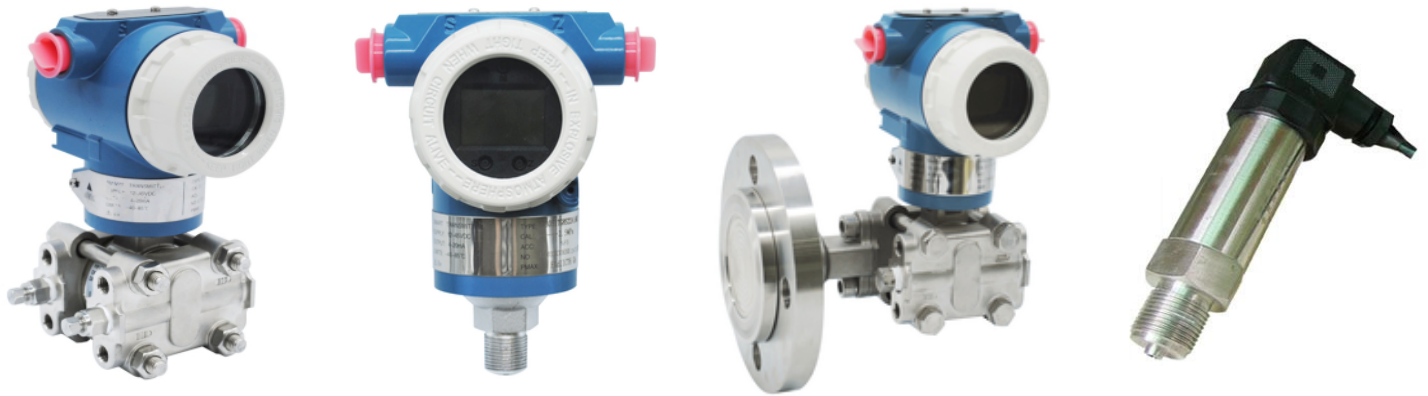
Level Meter & Level Switch

Radar Level Meter -----	32/37
Ultrasonic Level Meter -----	38/39
ATWLM Water Level Meter -----	40/40
Level Switch -----	41/41



PRODUCT LIST

Pressure Transmitter Differential Pressure Transmitter



Flow Meter



Level Meter





Certification



Smart Differential Pressure Transmitter

Model AT3051DP/GPSeries

& GENERAL

AUTO AT3051DP/GP series is a digital differential pressure transmitter designed for industrial pressure measurement applications. The AT3051 can be configured to provide integrated solutions for a broad range of pressure and flow measurement applications.

& FEATURES

- Updating time of output current in 200 ms
- Improved performance, increased accuracy and greater stability
- Two years stability of 0.2%
- 0.1% accuracy
- Parameter setting by keypad directly
- 4-20 mA output plus direct digital HART communication
- Automatic zero calibration by press-button
- Explosion proof and weather proof housing



& STANDARD SPECIFICATION

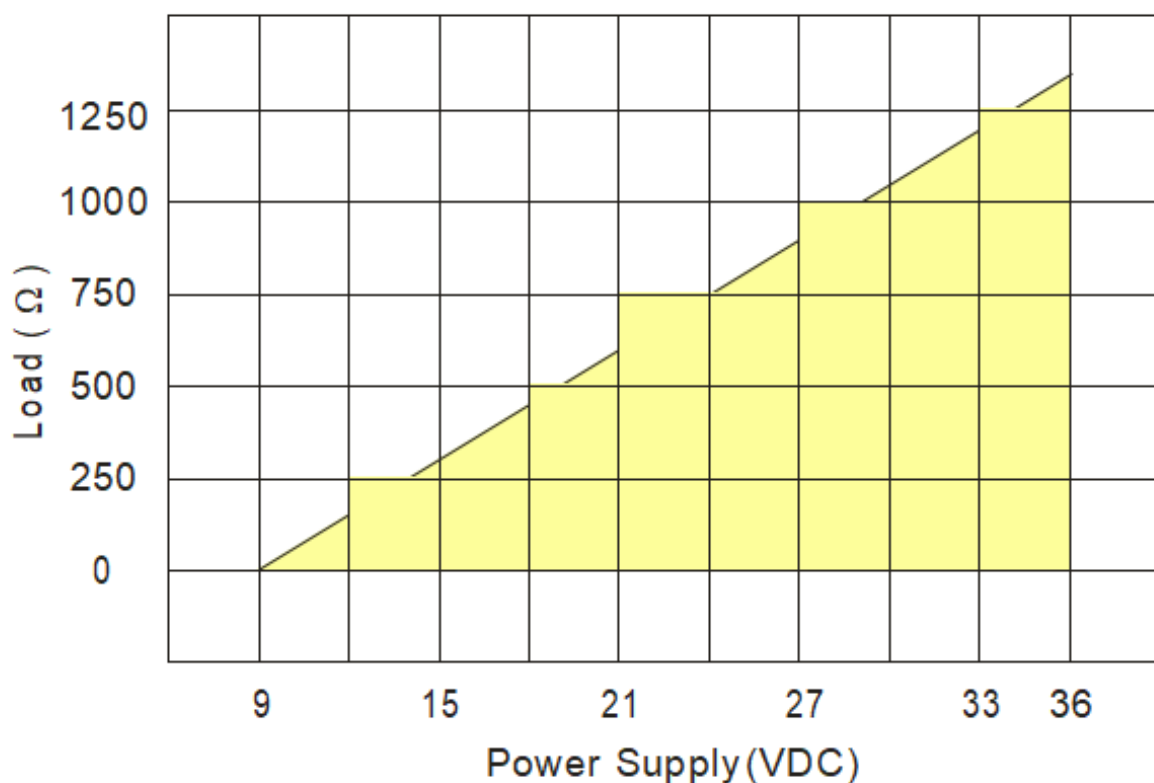
Process Fluid	Liquid, Gas or Vapor
Application	Absolute Pressure, Gauge Pressure, Differential Pressure
Measuring Range	0 - 0.16 kPa ~ 0 - 1.0 kPa (Minimum) 0 - 4.0 MPa ~ 0 - 20.0 MPa (Maximum)
Accuracy	+/- 0.1% of span
Stability	+/-0.15% of URL for 2 years
Working Temperature	-25 to +95 °C
Max. Pressure	40 MPa
Material	
	Flange/Adapter : Stainless Steel 304 / Stainless Steel 316
	Drains/Vents : Stainless Steel 304 / Stainless Steel 316
	Diaphragm : Stainless Steel 316L / Hastelloy B / Hastelloy C / Monel / Tantalum
Wetted O-Ring	Buna N / Viton / PTFE
Bolts & Nuts	Carbon Steel / Stainless Steel 316
Mounting Bracket	Carbon steel / Stainless Steel 304 / 316
Name / Tag Plate	Stainless Steel 304 / Stainless Steel 316
Converter Housing	Low copper cast aluminum alloy with polyurethane, light blue paint
Fill Fluid	Silicone / Fluorine Oil
Protection Class	IP65 (Standard) Intrinsically Safe EEx ia IIC T5 (Standard) Explosion proof Ex D IIB T5

Display	5 Digits programmable & 0-100% Bargraph
Display Unit	Standard 22 different engineering unit 5 Digits programmable for special unit
Keypad	3 internal keys for programming and output setting
Current Output	4 - 20 mA 2 wires with Hart signal (Compatible) Load : $R_{ohm} = (V_{dc} - 9) * 50$
Power Supply	9 - 32 VDC
Damping	0 - 32 seconds
Response Time	200 mS
Mounting	Bracket on 2" Pipe
Humidity Limit	0 to 100% Relative Humidity
Turn on Time	2 Seconds with minimum damping
Zero Calibration	Automatic zero calibration by press-button
Cable Entry	M20 Conduit Threads / 1/2" NPT (Female)
Temperature Effect	+/-0.18% ~ +/-0.5% of span per 20 °C
Vibration Effect	+/-0.05% of URL per g to 200 Hz in any axis
EMI/RFI Effect	Follow SAMA PMC 33.1 from 20 to 1000 MHz and for field strengths up to 30 V/m
Process Connection	1/4" - 18 NPT 1/2" - 14 NPT(with adapter)
Ambient Temperature	-25 to +80 °C
Dimensions	102 mm (W) * 188 mm (H) * 130 mm (D)
Weight	3.5 Kg

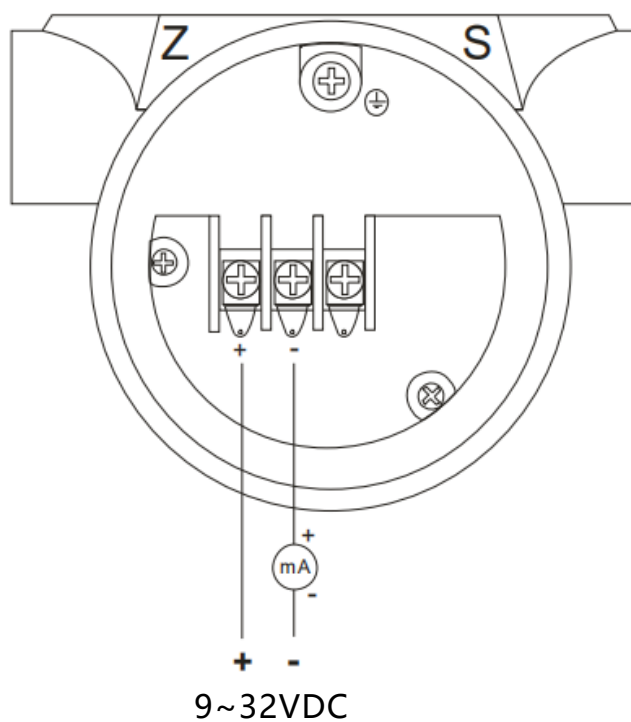
& MEASURING RANGE

Range Code	Pressure Range				Transmitter		
	Low Range	High Range	Low Range	High Range	Differential Pressure	Gauge Pressure	Absolute Pressure
2	0 - 0.16 kPa	0 - 1.0 kPa	0 - 16.32 mmH ₂ O	0 - 102.0 mmH ₂ O	◆	◆	
	0 - 1.6 mbar	0 - 10 mbar	0 - 0.6423 InH ₂ O	0 - 4.015 InH ₂ O			
	0 - 0.023 psi	0 - 0.145 psi	0 - 0.001 Kg/cm ²	0 - 0.010 Kg/cm ²			
3	0 - 1.0 kPa	0 - 6.0 kPa	0 - 102.0 mmH ₂ O	0 - 611.82 mmH ₂ O	◆	◆	
	0 - 10 mbar	0 - 60 mbar	0 - 4.015 InH ₂ O	0 - 24.088 InH ₂ O			
	0 - 0.145 psi	0 - 0.87 psi	0 - 0.010 Kg/cm ²	0 - 0.061 Kg/cm ²			
4	0 - 6.0 kPa	0 - 40 kPa	0 - 611.82 mmH ₂ O	0 - 4078 mmH ₂ O	◆	◆	◆
	0 - 60 mbar	0 - 400 mbar	0 - 24.088 InH ₂ O	0 - 160.6 InH ₂ O			
	0 - 0.87 psi	0 - 5.802 psi	0 - 0.061 Kg/cm ²	0 - 0.408 Kg/cm ²			
5	0 - 40 kPa	0 - 200 kPa	0 - 4.079 MH ₂ O	0 - 20.39 MH ₂ O	◆	◆	◆
	0 - 400 mbar	0 - 2000 mbar	0 - 160.6 InH ₂ O	0 - 802.9 InH ₂ O			
	0 - 5.802 psi	0 - 29.0 psi	0 - 0.408 Kg/cm ²	0 - 2.039 Kg/cm ²			
6	0 - 160 kPa	0 - 1000 kPa	0 - 16.32 MH ₂ O	0 - 101.97 MH ₂ O	◆	◆	◆
	0 - 1.6 bar	0 - 10 bar	0 - 642.3 InH ₂ O	0 - 4014 InH ₂ O			
	0 - 23.21 psi	0 - 145 psi	0 - 1.632 Kg/cm ²	0 - 10.197 Kg/cm ²			
7	0 - 400 kPa	0 - 2500 kPa	0 - 40.79 MH ₂ O	0 - 254.9 MH ₂ O	◆	◆	◆
	0 - 4.0 bar	0 - 25 bar	0 - 1605 InH ₂ O	0 - 10036 InH ₂ O			
	0 - 58.02 psi	0 - 362.6 psi	0 - 4.079 Kg/cm ²	0 - 25.49 Kg/cm ²			
8	0 - 1.6 MPa	0 - 8.0 MPa	0 - 163.1 MH ₂ O	0 - 815.76 MH ₂ O		◆	
	0 - 16 bar	0 - 80 bar	0 - 6423.4 InH ₂ O	0 - 32117 InH ₂ O			
	0 - 232.1 psi	0 - 1160.3 psi	0 - 16.32 Kg/cm ²	0 - 81.578 Kg/cm ²			
9	0 - 4.0 MPa	0 - 20 MPa	0 - 407.9 MH ₂ O	0 - 2039.4 MH ₂ O		◆	
	0 - 40 bar	0 - 200 bar	0 - 16059 InH ₂ O	0 - 80292.6 InH ₂ O			
	0 - 580.2 psi	0 - 2901 psi	0 - 40.79 Kg/cm ²	0 - 203.94 Kg/cm ²			

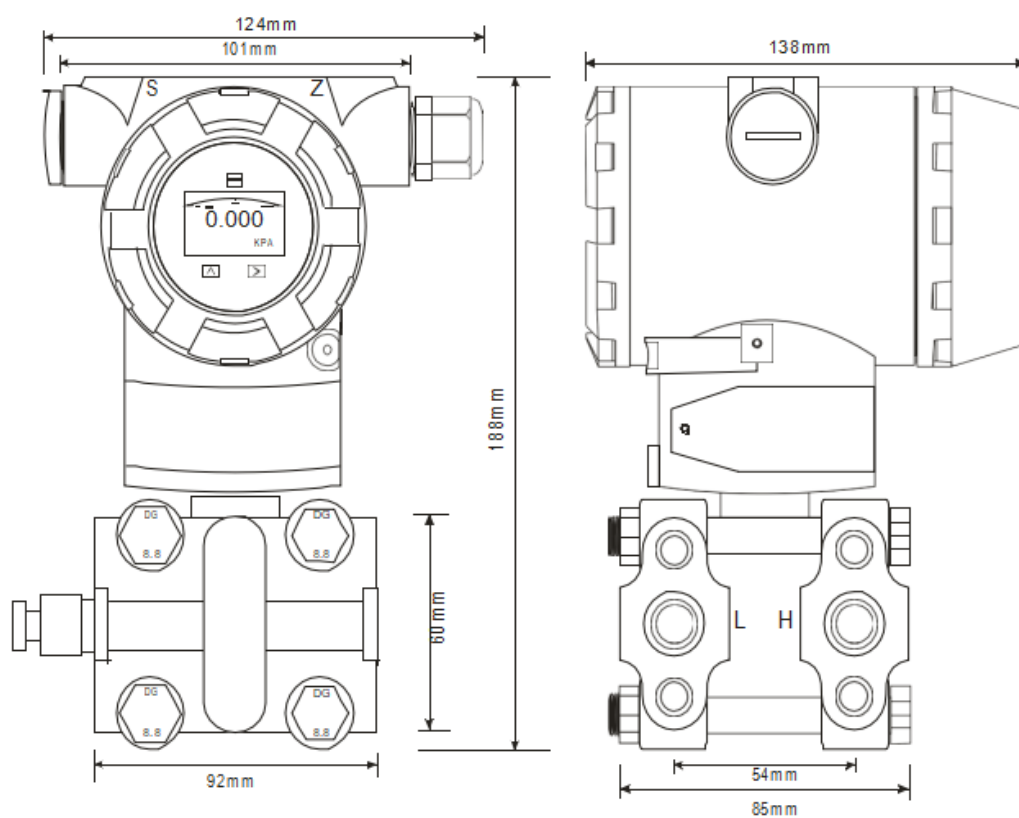
& SUPPLY VOLTAGE VS LOOP LOAD



& WIRING DIAGRAM



& DIMENSIONS



& MODEL SELECTION GUIDE

Item	Code	Specification
AT3051DP		Differential Pressure Transmitter
AT3051GP		Gauge Pressure Transmitter
Measurement Range	2	0~0.1~1.5 Kpa
	3	0~7.5 Kpa
	4	0~37.4 Kpa
	5	0~186.8 Kpa
	6	0~690 Kpa
	7	0~2068 Kpa
	8	0~6890 Kpa
	9	0~20680 Kpa
Output	S	4~20mA, HART Protocol, Linear output
	J	4~20mA, HART Protocol, Square root output(Range≥5kpa)
Diaphragm Material / Fill Fluid	2	Stainless Steel 316L Silicone Oil
	3	Hastelloy C(range >3Kpa) Silicone Oil
	A	Stainless Steel 316L Fluorine oil
Drain hole	B	Back of process flange or none
	U	Process flange side upper
	L	Process flange side lower
Wetted O-ring Material	7	Buna-N (NBR)
	6	Viton (FKM) (Temperature ≥ -20°C)
	5	Low Temperature Viton (FKM-GFLT)
Process Connection	H	1/4" NPT F
Maximum Pressure Limit	1	14 Mpa(4Mpa for range 2)
	3	25 Mpa
	5	32 Mpa
Cable Entry	1	M20*1.5
Mounting Bracket	B00	None
	B01	Tube-type Curved Bracket (carbon steel)
	B02	Wall mounting bracket (carbon steel)
	B03	Tube-type Flat Bracket (carbon steel)
	B04	Tube-type Curved Bracket (stainless steel)
	B05	Wall mounting bracket (stainless steel)
	B06	Tube-type Flat Bracket (stainless steel)
Optional	d	Intrinsically safe type, Flameproof (Exd IIC T4~T6)
	i	Intrinsically safe (Exia IIC T4~T6)
	M3	LCD display
	D1	Stainless steel drain valve or screw (2pcs)
	C1	1/2" NPT female waist flange (2sets)
	C12	1/2" NPT-M20*1.5-Φ14 pressure pipe (2sets)
	C2	M20*1.5 male thread T joint (2sets)
	C21	M20*1.5 T joint -Φ14 pressure pipe (2sets)
	K1	Degreasing treatment

Direct Mount Pressure Transmitter

Model AT3051TG/TA Series



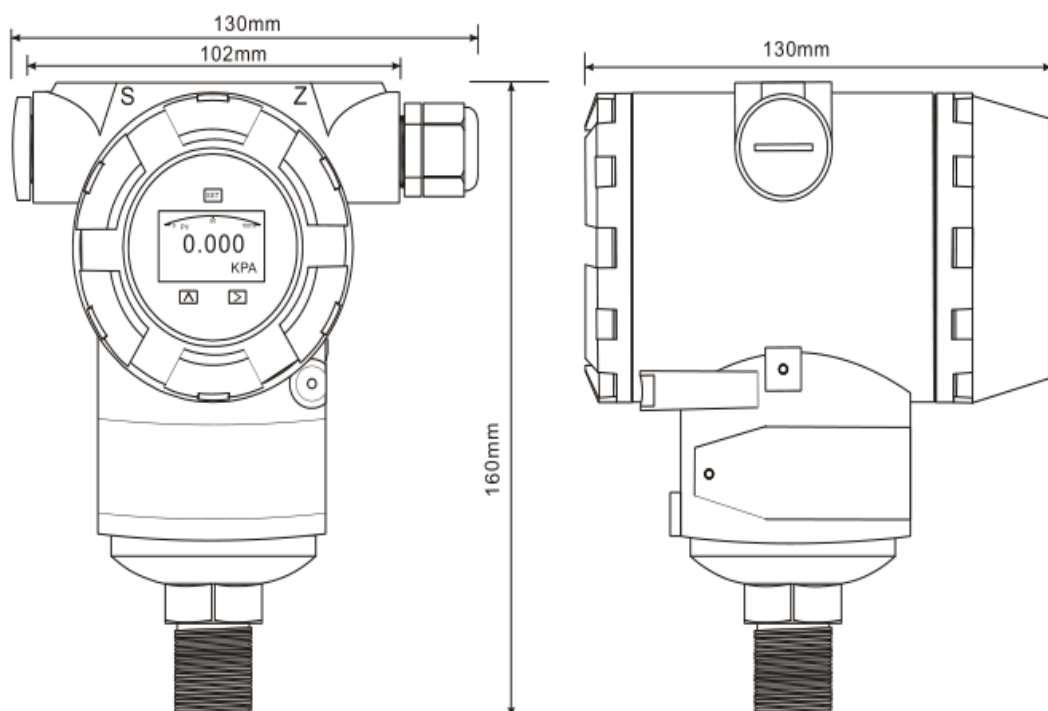
& GENERAL

AUTO AT3051TG/TA series is a digital pressure transmitter designed for industrial pressure measurement applications. The AT3051TG(TA) offer configurations for gauge pressure, absolute pressure and vacuum including integrated solutions for industrial applications.

& FEATURES

- Updating time of output current in 90 ms
- Improved performance, increased accuracy and greater stability
- Two years stability of 0.15%
- 0.1% accuracy
- Parameter setting by keypad directly
- 4-20 mA output plus direct digital HART communication
- Automatic zero calibration by press-button
- Explosion proof and weather proof housing

& DIMENSIONS



& MODEL SELECTION GUIDE

Item	Code	Specification
AT3051TG		Gauge Pressure Transmitter
AT3051TA		Absolute Pressure Transmitter
Measurement Range	3	0~1.5~7.5 Kpa
	4	0~37.4 Kpa
	5	0~186.8 Kpa
	6	0~690 Kpa
	7	0~2068 Kpa
	8	0~6890 Kpa
	9	0~20680 Kpa
	0	0~41370 Kpa
Output	S	4~20mA, HART Protocol, Linear output
Diaphragm Material	2	Stainless Steel 316L
	3	Hastelloy C
Fill Fluid	2	Silicone Oil
	2	Fluorine oil
Process Connection	D	1/2" NPT F
	A	M20*1.5
	B	1/2" NPT M
	C	1/2" G
	D	Customizable
Cable Entry	1	M20*1.5
Mounting Bracket	B00	None
	B15	Tube-type Flat Bracket (carbon steel)
	B16	Wall mounting bracket (carbon steel)
	B17	Tube-type Flat Bracket (stainless steel)
Optional	B18	Wall mounting bracket (stainless steel)
	d	Intrinsically safe type, Flameproof (Exd IIC T4~T6)
	i	Intrinsically safe (Exia IIC T4~T6)
	M3	LCD display
	K1	Degreasing treatment
	L1	Hanging tag
	5C6	Lightning protection

Smart Level Transmitter

Model AT3051LT Series

& GENERAL

AT3051LT series is a digital differential pressure transmitter designed for industrial level measurement applications. It can be configured to provide integrated solutions for a broad range of pressure and flow measurement applications.

& FEATURES

- Updating time of output current in 200 ms
- Improved performance, increased accuracy and greater stability
- Two years stability of 0.15%
- 0.1% accuracy
- Parameter setting by keypad directly
- 4-20 mA output plus direct digital HART communication
- Automatic zero calibration by push-button
- Explosion proof and weather proof housing

& STANDARD SPECIFICATION

Process Fluid	Liquid
Application	Liquid Level, Differential Pressure, Gauge Pressure, Absolute Pressure
Measuring Range	0 - 6.0 kPa ~ 0 - 40 kPa (Minimum) 0 - 4.0 MPa ~ 0 - 20.0 MPa (Maximum)
Accuracy	+/- 0.1% of span
Stability	+/-0.15% of URL for 2 years
Working Temperature	-40 to +250 °C
Max. Pressure	40 MPa (Dependent on flange rating)
Material	Flange/Adapter : Carbon Steel / Stainless Steel 304 / : Stainless Steel 316
	Diaphragm : Stainless Steel 316L / Hastelloy B / Hastelloy C / Monel / Tantalum
	Bolts & Nuts : Carbon Steel / Stainless Steel 316
	Name / Tag Plate : Stainless Steel 304 / Stainless Steel 316
	Converter Housing : Low copper cast aluminum alloy with polyurethane, light blue paint
	Fill Fluid : Silicone / High Temperature Silicone Fluorine Oil / Vegetable Oil
Protection Class	IP67 (Standard) Intrinsically Safe EEx ia IIC T5 (Standard) Explosion proof Ex D IIB T5

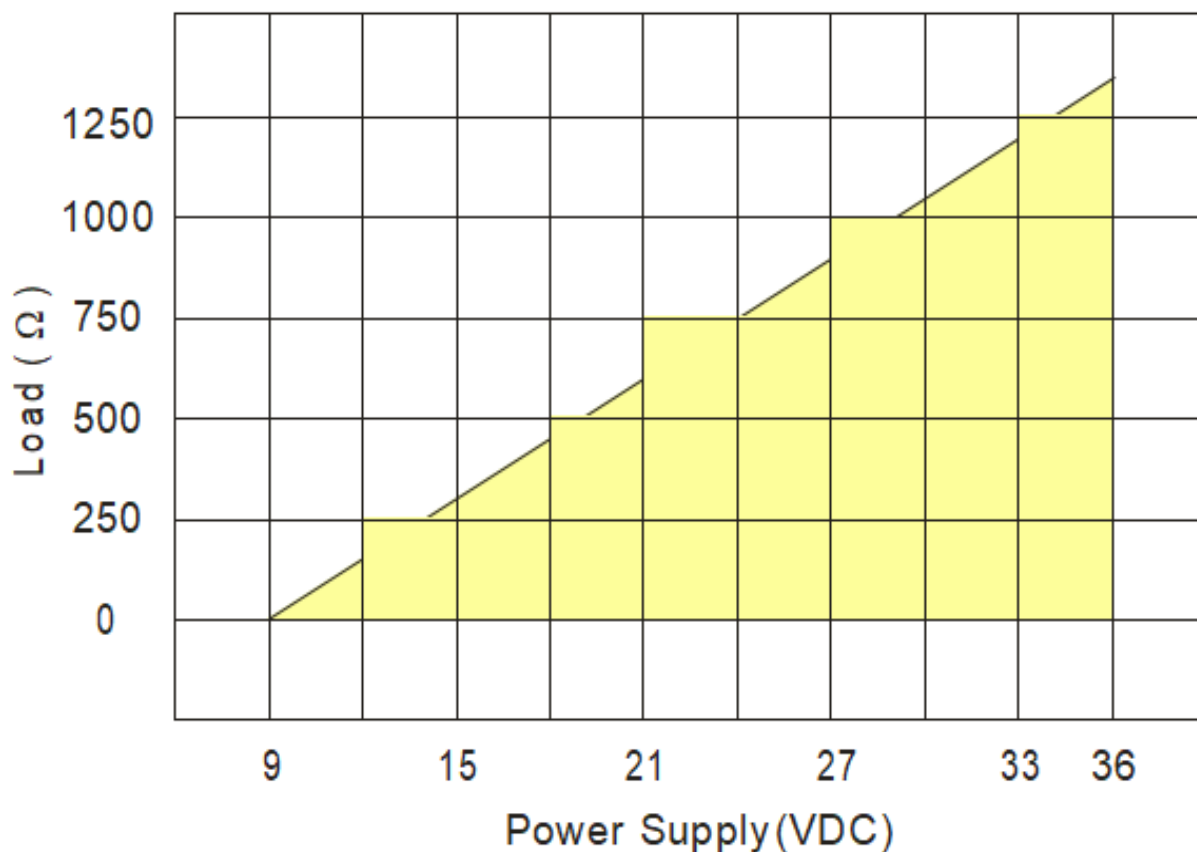
Display	5 Digits programmable & 0-100% Bargraph
Display Unit	Standard 22 different engineering unit 5 Digits programmable for special unit
Keypad	3 internal keys for programming and output setting
Current Output	4 - 20 mA 2 wires with Hart Signal (Compatible) Load : $R_{ohm} = (V_{dc} - 9) * 50$
Power Supply	9 - 32 VDC
Digital Communication	Hart Protocol
Damping	0 - 32 seconds
Response Time	100 mS
Turn on Time	2 Seconds with minimum damping
Zero Calibration	Automatic calibration by push-button
Cable Entry	1/2" NPT(Female) / M20 Conduit Threads
Temperature Effect	+/-0.18% ~ +/-0.5% of span per 20 °C
EMI/RFI Effect	Follow SAMA PMC 33.1 from 20 to 1000 MHz and for field strengths up to 30 V/m
Process connection	High Pressure Side : 1-1/2", 2", 3", 4" Flanges ANSI / DIN / JIS / Tri-Clamp Extended Diaphragm : 2", 4", 6" length Low Pressure Side : 1/4" - 18 NPT, 1/2" - 14 NPT
Ambient Temperature	-25 to +85 °C
Dimensions	102 mm (W) * 188 mm (H) * 189 mm (D)
Weight	8 - 15 Kg



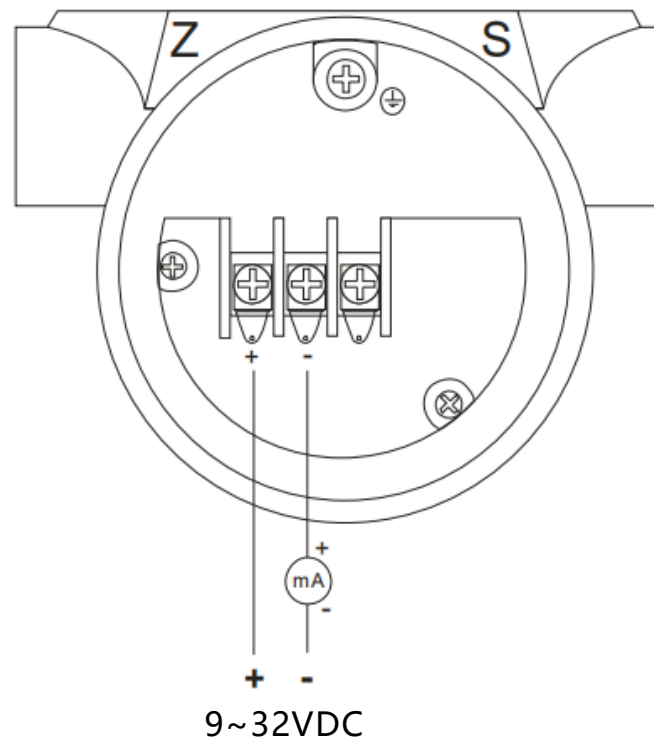
& MEASURING RANGE

Range Code	Pressure Range				Transmitter		
	Low Range	High Range	Low Range	High Range	Differential Pressure	Level Pressure	Absolute Pressure
4	0 - 6.0 kPa	0 - 40 kPa	0 - 611.82 mmH ₂ O	0 - 4078 mmH ₂ O	◆	◆	◆
	0 - 60 mbar	0 - 400 mbar	0 - 24.088 InH ₂ O	0 - 160.6 InH ₂ O			
	0 - 0.87 psi	0 - 5.802 psi	0 - 0.061 Kg/cm ²	0 - 0.408 Kg/cm ²			
5	0 - 40 kPa	0 - 200 kPa	0 - 4.079 MH ₂ O	0 - 20.39 MH ₂ O	◆	◆	◆
	0 - 400 mbar	0 - 2000 mbar	0 - 160.6 InH ₂ O	0 - 802.9 InH ₂ O			
	0 - 5.802 psi	0 - 29.0 psi	0 - 0.408 Kg/cm ²	0 - 2.039 Kg/cm ²			
6	0 - 160 kPa	0 - 1000 kPa	0 - 16.32 MH ₂ O	0 - 101.97 MH ₂ O	◆	◆	◆
	0 - 1.6 bar	0 - 10 bar	0 - 642.3 InH ₂ O	0 - 4014 InH ₂ O			
	0 - 23.21 psi	0 - 145 psi	0 - 1.632 Kg/cm ²	0 - 10.197 Kg/cm ²			
7	0 - 400 kPa	0 - 2500 kPa	0 - 40.79 MH ₂ O	0 - 254.9 MH ₂ O	◆	◆	◆
	0 - 4.0 bar	0 - 25 bar	0 - 1605 InH ₂ O	0 - 10036 InH ₂ O			
	0 - 58.02 psi	0 - 362.6 psi	0 - 4.079 Kg/cm ²	0 - 25.49 Kg/cm ²			
8	0 - 1.6 MPa	0 - 8.0 MPa	0 - 163.1 MH ₂ O	0 - 815.76 MH ₂ O		◆	
	0 - 16 bar	0 - 80 bar	0 - 6423.4 InH ₂ O	0 - 32117 InH ₂ O			
	0 - 232.1 psi	0 - 1160.3 psi	0 - 16.32 Kg/cm ²	0 - 81.578 Kg/cm ²			
9	0 - 4.0 MPa	0 - 20 MPa	0 - 407.9 MH ₂ O	0 - 2039.4 MH ₂ O		◆	
	0 - 40 bar	0 - 200 bar	0 - 16059 InH ₂ O	0 - 80292.6 InH ₂ O			
	0 - 580.2 psi	0 - 2901 psi	0 - 40.79 Kg/cm ²	0 - 203.94 Kg/cm ²			

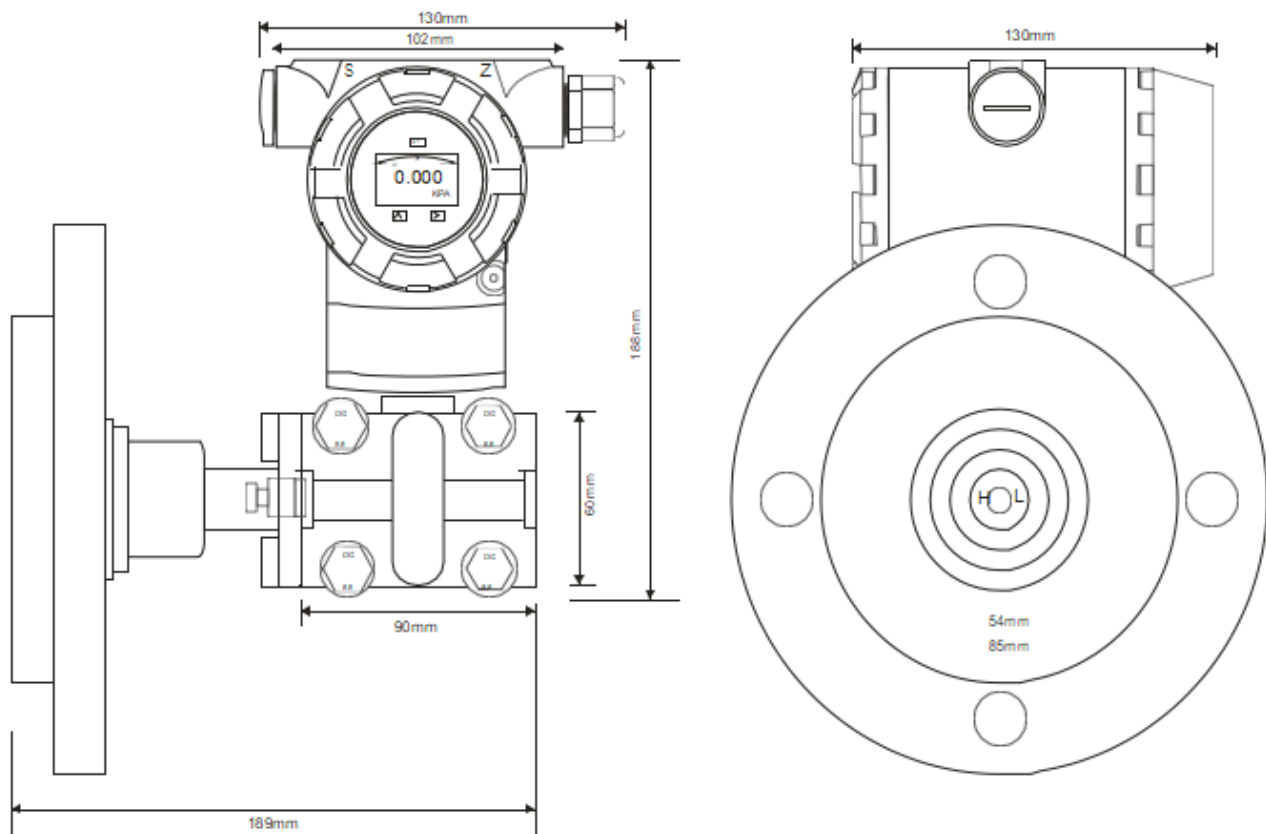
& SUPPLY VOLTAGE VS LOOP LOAD



& WIRING DIAGRAM



& DIMENSIONS



Item	Code	Specification
AT3051LT		Smart Level Transmitter
Measurement Range	3	0~4~7.5 Kpa
	4	0~37.4 Kpa
	5	0~186.8 Kpa
	6	0~690 Kpa
	7	0~2068 Kpa
Output	S	4~20mA, HART Protocol, Linear output
Sensor Diaphragm Material/ Fill Fluid	2	Stainless Steel 316L Silicone Oil
	3	Hastelloy C Silicone Oil
	A	Stainless Steel 316L Fluorine oil
Drain hole	B	Back of process flange or none
	U	Process flange side upper
	L	Process flange side lower
Wetted O-ring Material	7	Buna-N (NBR)
	6	Viton (FKM) (Temperature $\geq -20^{\circ}\text{C}$)
	5	Low Temperature Viton (FKM-GFLT)
Cable Entry	1	M20*1.5
Process Connection	C	2" ANSI 150#
	D	2" ANSI 300#
	J	2" ANSI 600#
	E	3" ANSI 150#
	F	3" ANSI 300#
	K	3" ANSI 600#
	G	4" ANSI 150#
	H	4" ANSI 300#
	Q	DN50 PN1.6MPa/4Mpa
	R	DN50 PN6.4Mpa
	M	DN50 PN10Mpa
	S	DN80 PN1.6MPa/4Mpa
	T	DN80 PN6.4Mpa
	N	DN80 PN10Mpa
	U	DN100 PN1.6MPa/4Mpa
	W	DN100 PN6.4Mpa
Flange Diaphragm Material	A	Stainless steel 316L
	B	Hastelloy C
	C	Tantalum
	E	PFA coating
	F	F46 coating
	G	Gold-plated
Insert Tube Length	0	0
	1	50mm
	2	100mm
	3	150mm
Fill Fluid(High pressure side)	A	Silicone Oil
	C	Fluorine oil
Optional	d	Intrinsically safe type, Flameproof (Exd IIC T4~T6)
	i	Intrinsically safe (Exia IIC T4~T6)
	M3	LCD display
	D1	Stainless steel drain valve or screw (2pcs)
	C1	1/2" NPT female waist flange (2sets)
	C12	1/2" NPT-M20*1.5-Φ14 pressure pipe (2sets)
	C2	M20*1.5 male thread T joint (2sets)
	C21	M20*1.5 T joint -Φ14 pressure pipe (2sets)
	K1	Degreasing treatment

Remote Diaphragm Seal Level Transmitter

AT3051 RD Series

& GENERAL

AUTO AT3051RD series is a diaphragm level transmitter which designed for the high-viscosity / high-temp./ high-corrosivity site. The RD series diaphragm seal assembly is connected to the DP transmitter to form direct-mount or capillary-connections style.



& FEATURES

The maximum temperature come
Multiple connection modes - Flange
Multiple diaphragms/alternative c
It can be used for fill fluid for foo
Extreme hot and cold temperatur
Stainless Steel with PPC coating c
Tri-Clamp or union screw connect
Oil-free treatment & water-free treatment
Fast and dynamic response
Improved performance, increased accuracy and great stability

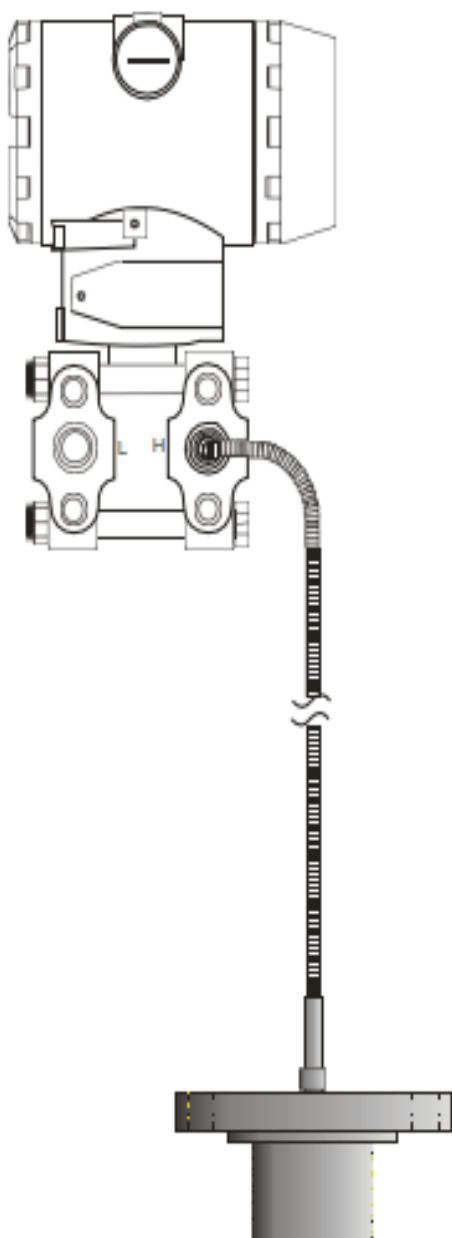
& STANDARD SPECIFICATION

Process Fluid	Liquid, Gas or Vapor
Application	Liquid Level, Differential Pressure, Gauge Pressure, Absolute Pressure
Measuring Range	0 - 6.0 kPa ~ 0 - 40 kPa (Minimum) 0 - 4.0 MPa ~ 0 - 20.0 MPa (Maximum)
Material	Flange : Carbon steel Stainless Steel 304 Stainless Steel 316 Diaphragms : Stainless Steel 316L : Hastelloy B : Hastelloy C : Tantalum : PTFE-coated Tantalum Diaphragm Capillary : Stainless Steel with PVC coating
Flange Size	40mm, 50mm, 80mm, 100mm 1-1/2", 2", 3", 4"
Process Connection	Flange
Flange Rating	JIS 10K / JIS 20K / JIS 40K ANSI 150# / ANSI 300# / ANSI 600# DIN PN10 / PN16 / PN25 / PN40 Tri Clamp (DIN32676 / ISO2852)
Extension Length	2", 3", 4"

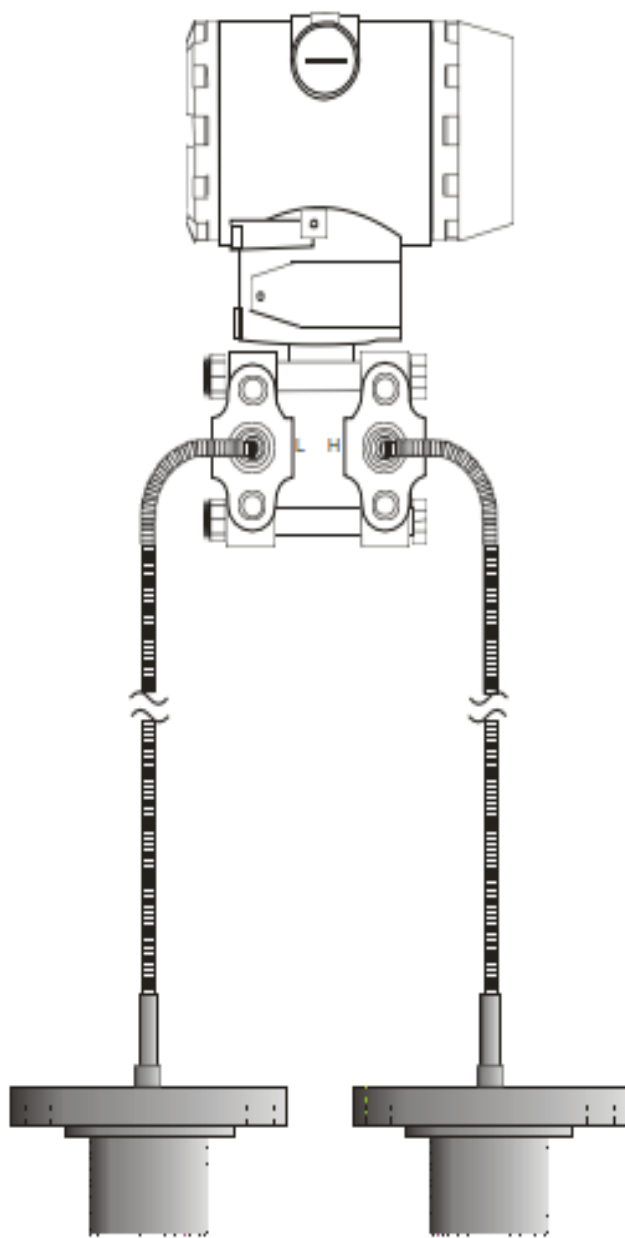
Installation Style	Direct-mount: RD One-sided Capillary: RD1 Two-sided Capillaries: RD2
Capillary Length	1.0 M ~ 10 M
Max. Temperature	Direct-Mount : -20 to 80 °C Remote Diaphragm : -40 to 280 °C
Max. Pressure	8.0MPa
Fill Fluid and Maximum	Silicone (Max. Temperature 130 °C)
Temperature	HT Silicone (Max. Temperature 280 °C) Fluorine (Max. Temperature 160 °C) Vegetable Oil (Max. Temperature 130 °C)
Ambient Temperature	+/-0.18% ~ +/-0.5% of span per 20 °C Effect
Time Response	Less than 1.12 seconds
Options	Water-free Treatment :Wetted parts are water-free treated in manufacturing Oil-free Treatment :Wetted parts are oil-free treated in manufacturing
Stability	+/-0.15% of URL for 2 years
Accuracy	+/-0.1% of Span

& MEASURING RANGE & MAX. STATIC PRESSURE

Direct-Mount Diaphragm	Min. Range	Max. Range	Min. Range	Max. Range	Max. Static Pressure
Pressure Transmitter RD Series	0 - 10 kPa	0 - 100 MPa	0 - 1019.7 mmH ₂ O	0 - 10197 MH ₂ O	100 MPa
	0 - 100 mbar	0 - 1000 bar	0 - 40.15 InH ₂ O	0 - 401463 InH ₂ O	
	0 - 1.45 psi	0 - 14504 psi	0 - 0.1 Kg/cm ²	0 - 1020 kg/cm ²	
Remote Diaphragm Seal	Min. Range	Max. Range	Min. Range	Max. Range	Max. Static Pressure
Pressure Transmitter RD1 Series	0 - 6.0 kPa	0 - 8.0 MPa	0 - 611.82 mmH ₂ O	0 - 815.76 MH ₂ O	8.0 MPa
	0 - 60 mbar	0 - 80 bar	0 - 24.088 InH ₂ O	0 - 32117 InH ₂ O	
	0 - 0.87 psi	0 - 1160.3 psi	0 - 0.061 Kg/cm ²	0 - 81.578 Kg/cm ²	
Differential Pressure Transmitter RD1 / RD2 Series	0 - 6.0 kPa	0 - 8.0 MPa	0 - 611.82 mmH ₂ O	0 - 815.76 MH ₂ O	8.0 MPa
	0 - 60 mbar	0 - 80 bar	0 - 24.088 InH ₂ O	0 - 32117 InH ₂ O	
	0 - 0.87 psi	0 - 1160.3 psi	0 - 0.061 Kg/cm ²	0 - 81.578 Kg/cm ²	
Level Transmitter RD1 Series	0 - 6.0 kPa	0 - 8.0 MPa	0 - 611.82 mmH ₂ O	0 - 815.76 MH ₂ O	8.0 MPa
	0 - 60 mbar	0 - 80 bar	0 - 24.088 InH ₂ O	0 - 32117 InH ₂ O	
	0 - 0.87 psi	0 - 1160.3 psi	0 - 0.061 Kg/cm ²	0 - 81.578 Kg/cm ²	



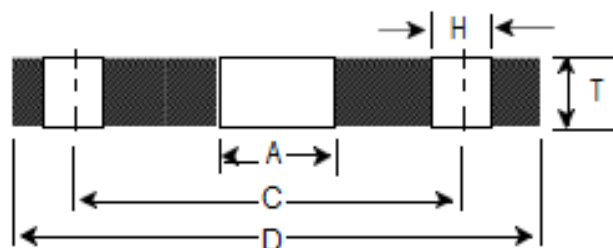
RD1 Series



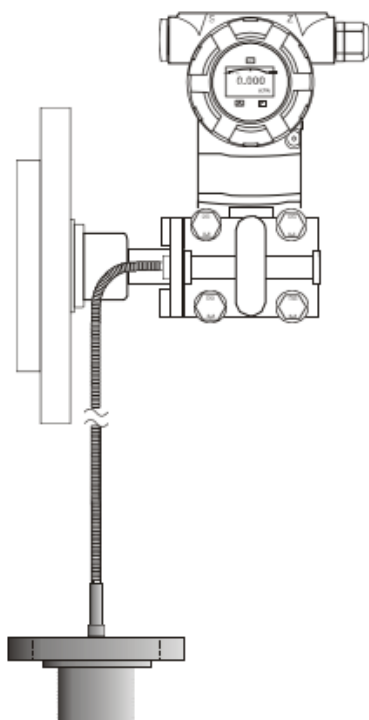
RD2 Series

& FLANGE TABLES

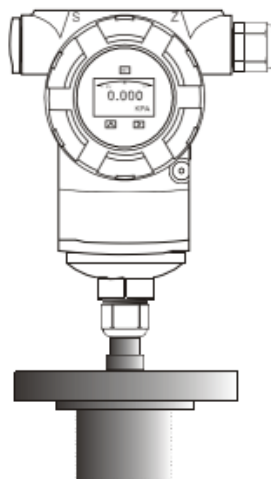
Flange style	Dimension of Flange			Bolt		Flange style	Dimension of Flange			Bolt	
	C	D	T	H	NO		C	D	T	H	NO
1-1/2" JIS 10K	105	140	16	19	4	DN40 PN10	110	150	18	18	4
2" JIS 10K	120	155	16	19	4	DN50 PN10	125	165	20	18	4
3" JIS 10K	150	185	18	19	8	DN80 PN10	160	200	24	18	8
4" JIS 10K	175	210	18	19	8	DN100 PN 10	180	220	20	18	8
1-1/2" JIS 20K	105	140	16	19	4	DN40 PN16	110	150	18	18	4
2" JIS 20K	120	155	16	19	4	DN50 PN16	125	165	20	18	4
3" JIS 20K	160	200	20	23	8	DN80 PN16	160	200	24	18	8
4" JIS 20K	185	225	22	23	8	DN100 PN16	180	220	24	18	8
1-1/2" JIS 40K	120	160	24	23	4	DN40 PN25	110	150	18	18	4
2" JIS 40K	130	165	26	19	8	DN50 PN25	125	165	20	18	4
3" JIS 40K	170	210	32	23	8	DN80 PN25	160	200	24	18	8
4" JIS 40K	205	250	36	25	8	DN100 PN25	190	235	24	22	8
1-1/2" ANSI 150#	98.6	127	18	15.7	4	DN40 PN40	110	150	22	18	4
2" ANSI 150#	120.7	152.4	19	19.1	4	DN50 PN40	125	165	24	18	4
3" ANSI 150#	152.4	190.5	24	19.1	4	DN80 PN40	160	200	24	18	8
4" ANSI 150#	190.5	228.6	24	19.1	8	DN100 PN40	190	235	24	22	8
1-1/2" ANSI 300#	114.3	155.4	24.6	22.4	4						
2" ANSI 300#	127	165.1	26.4	19.1	8						
3" ANSI 300#	168.1	209.6	32.4	22.4	8						
4" ANSI 300#	200.2	254	35.8	22.4	8						



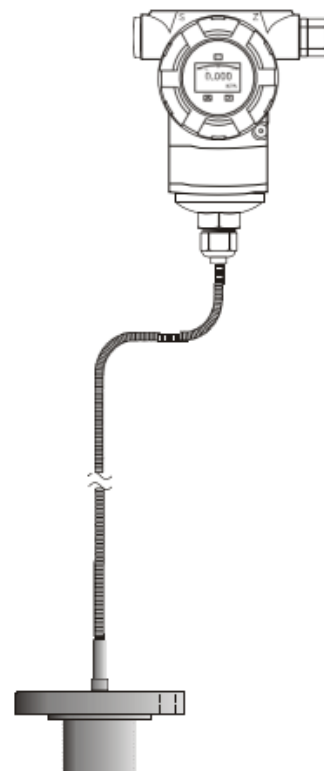
& DIMENSIONS



RD1 Series



RD Series

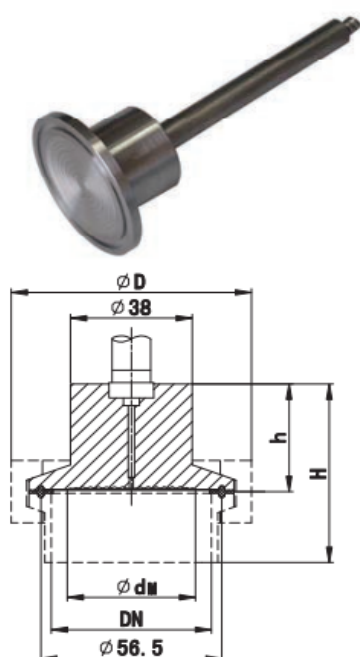


RD1 Series

& MODEL SELECTION GUIDE

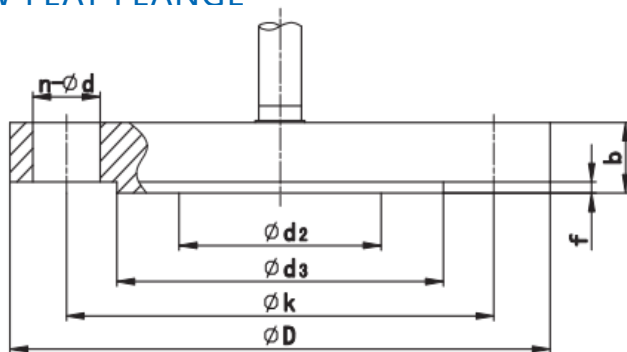
Item	Code	Specification
AT3051RD		Smart Remote Level Transmitter
Measurement Range	3	0-4~7.5 Kpa
	4	0~37.4 Kpa
	5	0~186.8 Kpa
	6	0~690 Kpa
	7	0~2068 Kpa
Output	S	4-20mA, HART Protocol, Linear output
Cable Entry	1	M20*1.5
Mounting Bracket	B00	None
	B01	Tube-type Curved Bracket (carbon steel)
	B02	Wall mounting bracket (carbon steel)
	B03	Tube-type Flat Bracket (carbon steel)
	B04	Tube-type Curved Bracket (stainless steel)
	B05	Wall mounting bracket (stainless steel)
	B06	Tube-type Flat Bracket (stainless steel)
Optional	d	Intrinsically safe type, Flameproof (Exd IIC T4~T6)
	i	Intrinsically safe (Exia IIC T4~T6)
	M3	LCD display
	K1	Degreasing treatment
	L1	Hanging tag
	5C6	Lightning protection

& 1199SCW TRI CLAMP TYPE



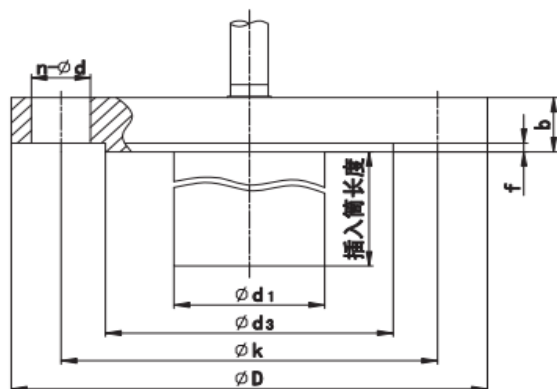
Process Connection	A	2"
	C	DN50
Flange Material	1	Stainless steel
Fill Fluid (High pressure side)	A	Silicone Oil
	C	Fluorine oil
Capillary Length	0	0m
	1	1m
	2	2m
	3	4m
	4	6m
	5	8m
Capillary protective sleeve	n	No Capillary
	A	Capillary with PVC sleeve
	B	Capillary without PVC sleeve

& 1199FFW FLAT FLANGE



Process Connection	C	2" ANSI 150#
	D	2" ANSI 300#
	J	2" ANSI 600#
	E	3" ANSI 150#
	F	3" ANSI 300#
	K	3" ANSI 600#
	G	4" ANSI 150#
	H	4" ANSI 300#
	Q	DN50 PN1.6MPa/4Mpa
	R	DN50 PN6.4Mpa
	M	DN50 PN10Mpa
	S	DN80 PN1.6MPa/4Mpa
	T	DN80 PN6.4Mpa
	N	DN80 PN10Mpa
	U	DN100 PN1.6MPa/4Mpa
	W	DN100 PN6.4Mpa
Flange Diaphragm Material	A	Stainless steel 316L
	B	Hastelloy C
	C	Tantalum
	E	PFA coating
	F	F46 coating
	G	Gold-plated
Flange Material	1	Stainless steel
Fill Fluid(High pressure side)	A	Silicone Oil
	B	High Temperature Silicone Oil
	C	Fluorine oil
Capillary Length	0	0m
	1	1m
	2	2m
	3	4m
	4	6m
	5	8m
	6	11m
Capillary protective sleeve	n	No Capillary
	A	Capillary with PVC sleeve
	B	Capillary without PVC sleeve

& 1199EFW INSERT TUBE



Process Connection	C	2" ANSI 150#
	D	2" ANSI 300#
	J	2" ANSI 600#
	E	3" ANSI 150#
	F	3" ANSI 300#
	K	3" ANSI 600#
	G	4" ANSI 150#
	H	4" ANSI 300#
	Q	DN50 PN1.6MPa/4Mpa
	R	DN50 PN6.4Mpa
	M	DN50 PN10Mpa
	S	DN80 PN1.6MPa/4Mpa
	T	DN80 PN6.4Mpa
	N	DN80 PN10Mpa
	U	DN100 PN1.6MPa/4Mpa
	W	DN100 PN6.4Mpa
Flange Diaphragm Material	A	Stainless steel 316L
	B	Hastelloy C
Flange Material	1	Stainless steel
Fill Fluid(High pressure side)	A	Silicone Oil
	B	High Temperature Silicone Oil
	C	Fluorine oil
Insert Tube Length	1	50mm
	2	100mm
	3	150mm
Capillary Length	0	0m
	1	1m
	2	2m
	3	4m
	4	6m
	5	8m
	6	11m
Capillary protective sleeve	n	No Capillary
	A	Capillary with PVC sleeve
	B	Capillary without PVC sleeve

SP/2088 Series Pressure Transmitter

& GENERAL

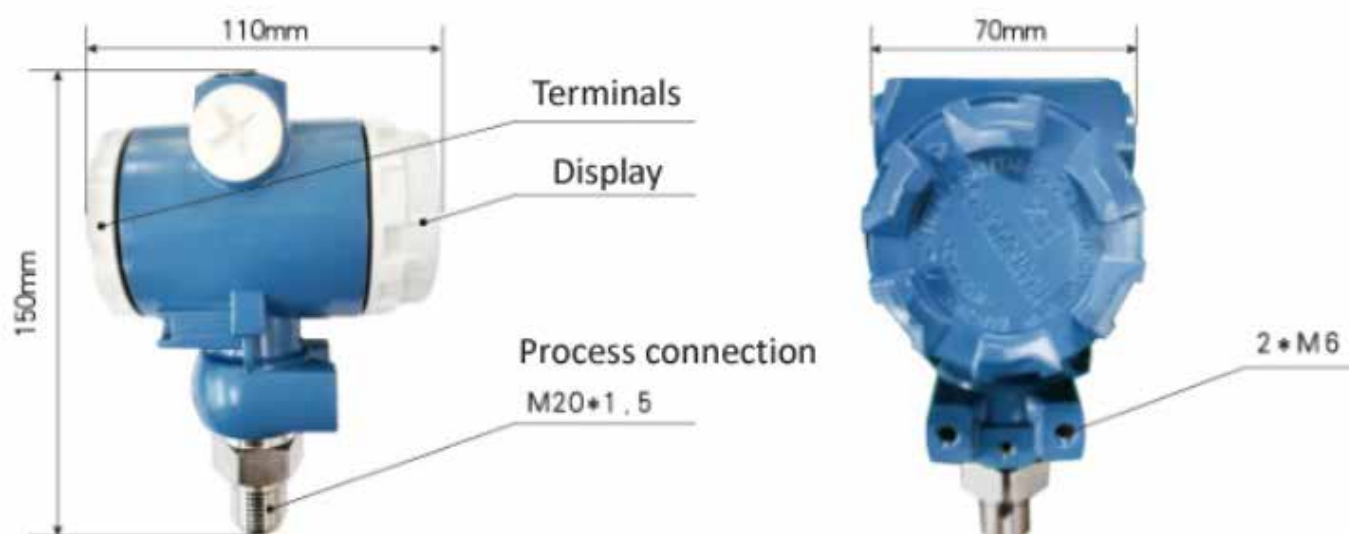
SP pressure transmitter, 2088 pressure/liquid level transmitter is developed via international key component and advanced technology. Used to measure the pressure, level etc parameter of process fluid

(liquid, gas, steam) continuously, then transfer to 4-20mA standard signal and can be combined with unit instrument or DCS system, PLC, constitute automatic control system, widely used for control and measurement in food, petroleum, chemical, metallurgy, electric power, beer, spinning, medicine etc various industries.



& TECHNICAL PARAMETER

Accuracy	0.2%FS, 0.5%FS
Stability	Better than 0.25%FS annually
Installation location influence	No impact
Temperature influence (-50~50°C)	Less $\pm 0.15\%$ /10°C
Working voltage	15V~30V DC
Ambient temperature	-20~85°C
Medium temperature	-40~120°C
Storage temperature	-40~110°C
Compensation temperature	-15~50°C
Wetted diaphragm	SS316L, ceramic
Process connection element	Stainless steel
Sealing element	fluororubber
Shell/housing	Plastic, molded cast aluminium, aluminium alloy
Protection	IP65



& MODEL SELECTION GUIDE

Item	Code	Specification
SP		Pressure Transmitter
Process Connection Material	1	Stainless Steel
Process Connection	R	G 1/2"
	M	NPT 1/2"
	Y	Customize
Sealing Material	IF	fluoro rubber (standard)
	IH	fluoro rubber applied to Sensors(Over 10MPa)
Output	2	4-20mA (two wire)
	3	customize
Shell material and structure	A	Aluminum shell PG16 cable sealingIP65
	B	Stainless steel shell cylinder structure
Sensor Type	1	Diffused Silicon Type
	2	Diffusion silicon anti-corrosion type
Explosion-proof Requirements	D	No Explosion-proof Required
	E	Explosion-proof type
Accuracy	2	0.20%
	5	0.50%

Pressure Sensor



& TECHNICAL PARAMETER

Code	Range
2E	0-0.125-1.5kPa
3E	0-1.3-7.5kPa
4E	0-6.2-37.4kPa
5E	0-31-186.8kPa
6E	0-117-690kPa
7E	0-345-2068kPa
8E	0-1170-6890kPa
9E	0-3480-20680kPa
0E	0-6890-41370kPa

& PERFORMANCE

Item	Parameters
Accuracy	±0 . 1 %
Stability	±0 . 2% (12 months)
Temp range	-40°C ~+ 14 0 °C
Temp affect	zero error: ±0 . 25 %/ 55 °C
	range error: ±0. 5 %/ 55 °C
Static pressure	DP 13.8MPa HP 25MPa DR 6.9MPa
Overpressure limit	AP GP 13.8MPa DR DP HP
Diaphragm material	316Lss Hastelloy C Tant alum

& RANGE

Code	Range (kpa)	DR	AP	GP	DP	HP
2	0~0.125~1.5	•		•		
3	0~1.3~7.5			•	•	
4	0~6.2~37.4		•	•	•	•
5	0~31~186.8		•	•	•	•
6	0~117~390		•	•	•	•
7	0~345~2068		•	•	•	•
8	0~1170~6890		•	•	•	
9	0~3480~20680			•		

Vortex Flow Meter



& TECHNICAL PARAMETER

- 1.Application:liquid,gas,steam
- 2.Pipe size: DN15-DN300 is flange/ tri-clamp/thread connection,
> DN300 is the insertion type.
- 3.LCD display
- 4.Output:4-20mA,Pluse,RS485.Modbus,HART
- 5.Power supply:24V DC,3.6V Lithium Battery.
- 6.Product material:304SS,316L
- 7.flow range:liquid: >0.3m/s,gas: >3m/s
- 8.Temperature range:-40 to 350 ° C;
- 9.Pressure:1.6MPa,2.5MPa,4.0MPa,,High pressure can be customized.

& FLOW RATE

Diameter		Gas	Liquid
(mm)	(inch)	Flow(m3/h)	Flow(m3/h)
15	1/2"	2-20	0.2-2
20	3/4"	6-50	1.2-12
25	1"	8-60	1.6-16
32	1-1/4"	12-120	2-20
40	1-1/2"	20-200	2-30
50	2"	30-300	3-50
65	2-1/2"	50-500	18-180
80	3"	70-700	15-150
100	4"	100-1000	20-200
125	5"	150-1500	36-360
150	6"	200-2000	50-500
200	8"	400-4000	100-1000
250	10"	600-6000	150-1500
300	12"	1000-10000	200-2000

& SATURATED STEAM MASS FLOW MEASUREMENT RANGE (FOR REFERENCE)

P (MPa) T (°C) ρ (kg/h)		0.2 120.23 1.129	0.3 133.54 1.651	0.4 143.62 2.163	0.5 151.84 2.669	0.6 158.84 3.17	0.7 164.96 3.667	0.8 170.41 4.162	0.9 175.36 4.655	1.0 179.88 5.147	1.2 187.96 6.127	1.4 195.04 7.106	1.6 201.37 8.085	1.8 207.11 9.065	2.0 212.37 10.05
DN20 Qmax Qmin	kg	7 10	10 100	12 120	14 140	18 180	20 200	24 240	28 280	30 300	36 360	42 420	48 480	54 540	60 600
DN25 Qmax Qmin	kg	9 90	13 130	16 160	20 200	25 250	30 300	32 320	37 370	40 400	48 480	56 560	64 640	72 720	80 800
DN32 Qmax Qmin	kg	13 130	20 200	25 250	32 320	36 360	44 440	48 480	56 560	60 600	73 730	84 840	96 960	110 1100	120 1200
DN40 Qmax Qmin	kg	22 220	33 330	40 400	50 500	60 600	75 750	80 800	94 940	100 1000	120 1200	140 1400	160 1600	180 1800	200 2000
DN50 Qmax Qmin	kg	30 300	50 500	60 600	80 800	90 900	110 1100	120 1200	140 1400	150 1500	180 1800	210 2100	240 2400	270 2700	300 3000
DN65 Qmax Qmin	kg	50 500	80 800	100 1000	130 1300	150 1500	180 1800	200 2000	240 2400	250 2500	300 3000	350 3500	400 4000	450 4500	500 5000
DN80 Qmax Qmin	kg	80 800	120 1200	140 1400	180 1800	210 2100	250 2500	300 3000	320 3200	360 3600	420 4200	500 5000	560 5600	630 6300	700 7000
DN100 Qmax Qmin	kg	110 1100	170 1700	210 2100	270 2700	320 3200	370 3700	420 4200	470 4700	510 5100	610 6100	700 7000	800 8000	900 9000	1000 10000
DN125 Qmax Qmin	t	0.17 1.7	0.24 2.4	0.33 3.3	0.40 4.0	0.48 4.8	0.56 5.6	0.64 6.4	0.7 7.0	0.78 7.8	0.9 9.0	1.0 10	1.2 12	1.4 14	1.5 15
DN150 Qmax Qmin	t	0.24 2.4	0.31 3.1	0.44 4.4	0.55 5.5	0.65 6.5	0.75 7.5	0.84 8.4	0.95 9.5	1.10 11.0	1.4 14	1.6 16	1.8 18	2.0 20	2.4 24
DN200 Qmax Qmin	t	0.5 50	0.7 70	0.85 85	1.05 10.5	1.3 13	1.5 15	1.6 16	1.9 19	2.1 21	2.5 25	2.9 29	3.2 32	3.6 36	4.0 40
DN250 Qmax Qmin	t	0.7 7.0	1.0 10	1.3 13	1.5 15	1.9 19	2.1 21	2.5 25	2.8 28	3.1 31	3.7 37	4.5 45	5.0 50	5.5 55	6.1 61
DN300 Qmax Qmin	t	1.10 11	1.7 17	2.2 22	2.7 27	3.2 32	3.7 37	4.2 42	4.7 47	5.2 52	6.2 62	7.2 72	8.1 81	9.1 91	10.0 100
DN350 Qmax Qmin	t	1.7 17	2.4 24	3.3 33	4.0 40	4.8 48	5.6 56	6.4 64	7.0 70	7.8 78	9.0 90	10 100	12 120	14 140	15 150
DN400 Qmax Qmin	t	2.0 20	3.0 30	3.7 37	4.9 49	5.5 55	6.7 67	7.3 73	8.5 85	9.2 92	11.0 110	14 140	15.6 156	17.2 172	18.5 185
DN500 Qmax Qmin	t	2.4 24	3.1 31	4.4 44	5.5 55	6.5 65	7.5 75	8.4 84	9.5 95	11 110	14 140	16 160	18 180	20 200	24 240
DN600 Qmax Qmin	t	3.5 35	5.1 51	6.7 67	8.4 84	9.8 98	11.5 115	12.9 129	15.0 150	16.2 162	19.3 193	22.4 224	25.6 256	28.8 288	32.1 321

& MODEL SELECTION

LUGB	-□	-□	-□	-□	-□	-□	-□	-□	-□	-□	-□	Explanation				
Nominal diameter (In mm)	diameter											DN15-300(Pipeline)				
												DN200-1500(Plug-in)				
Connection	Pipeline	FL										Flange connection				
		JZ										Flange clamp				
		Z										Special rules				
	Insert	J										Simple Formula				
		Q										Ball type				
Accuracy			Pipe line	10								1.0%R				
				15								1.5%R				
			Insert	20								2.0%R				
				25								2.5%R				
				Z								Special accuracy standards				
Temperature and pressure					S							T(S)P(S)At normal temperature and pressure				
					Z							T(Z)P(Z)Twin extreme pressure				
Communication protocol					N								No communication interface			
					H								HART protocol			
					M								MODBUS protocol			
Output							1						No output			
							2						Two-wire 4-20mA output			
							3						Pulse output			
Power supply								D						DC12V		
								DB						Dual 12V power supply and battery		
								DD						DC24V		
								B						Battery 3.6V power supply, no signal output uses only		
Sensor Material									S						304Stainless steel	
									L						316Stainless steel	
Core Component Materials										S						304Stainless steel Probes
										L						316Stainless steel Probes
Measuring medium											1	Gas				
											2	Liquid				
											3	Saturated steam				
											4	Superheated steam				

WFD Electromagnetic Flow Meter



& TECHNICAL PARAMETER

- 1.Application:liquid with conductive ratio
- 2.Pipe size:DN6-DN2000
- 3.Electrodes Materials:316L(stainless steel),Hastelloy Alloy C Titanium,Tantalum
- 4.Measuring Range:0.1-10m/s(extendable to 15m/s)
- 5.LCD Display,
- 6.Output Signal:4-20mA,pluse ,RS485 ,RS232,HART,Modbus Interface.
- 7.Power supply:220V AC,24V DC,battery
- 8.Installation type:Flange,thread,tri-clamp,insertion

& APPLICATION

1. Drinking water supply, water supply, reservoir and pumping station etc.
2. Chemical acid, lye, conductive solution, cooling fluid, additives etc.
3. Drink water, beer, wine, alcohol, milk, yogurt, fruit juice, syrup, blood etc.
4. Refrigeration / air conditioning and refrigeration thermal measurement, or heat energy.
5. Sewage, industrial sewage discharge, sewage etc.
- 6.Control of metal industrial pump,cooling water and the flow of water.
7. The textile industry of water, pigments, chemicals, bleaching chemicals etc.



FLOW RATE

Diameter (mm)	inch	Min flow m3/h	Normal flow rate m3/h		Max flow m3/h
15	1/2"	0.06	0.19	3.18	6.36
20	3/4"	0.11	0.33	5.65	11.31
25	1"	0.17	0.53	8.83	17.67
32	1-1/4"	0.28	0.86	14.47	28.94
40	1-1/2"	0.45	1.35	22.61	45.23
50	2"	0.71	2.12	35.35	70.68
65	2-1/2"	1.19	3.58	59.72	119.45
80	3"	1.81	5.42	90.47	180.95
100	4"	2.82	8.48	141.37	282.74
125	5"	4.41	13.25	220.85	441.71
150	6"	6.36	19.08	318.08	636.17
200	8"	11.31	33.92	565.48	1130.97
250	10"	17.67	53.01	883.57	1767.14
300	12"	25.44	76.34	1272.34	2544.69
350	14"	34.63	103.91	1731.8	3463.6
400	16"	45.23	135.71	2261.94	4523.89
450	18"	57.25	171.76	2862.77	5725.55
500	20"	70.68	212.05	3534.29	7068.58
600	24"	101.78	305.36	5089.38	10178.76
700	28"	138.54	415.63	6927.21	13854.42
800	32"	180.95	542.86	9047.78	18095.57



MODEL SELECTION

Model	Suffic code								Description
ATWFD	1	2	3	4	5	6	7	8	Electromagnetic flow meter
Diameter	XX								Standard for diameter 0006:DN6;0015: DN15 0100:DN100;2200:DN2200
Structure		S							Integrated type with LCD display
		L							Remote type with 10 meter cable
Electrode material		M							Ss316
		T							Titanium
		D							Tantalum
		H							Hastelloy Alloy C
		P							Plstium-Iridium
Signal output			0						No output
			1						4-20mA/Pulse
Liner material			X						Rubber
			P						Propylene Oxide
			F						PTFE
			A						PFA
Power supply			0						110-240VAC
			1						24VDC(20-36VDC)
			2						Battery power supply
communication			0						NO communication
			1						Modbus RS485
			2						Hart
			3						GPRS
connection								DXX	D16 DIN PN16 Flange, D25 DIN PN25 Flange.....
								AXX	A15 ANSI150#Flange A30 ANSI300#Flange.....
								JXX	J10 JIS 10K Flange J20 JIS 20K Flange.....
								XXX	Other request
Body material								CS	Carbon steel
								S4	Stainless steel 304

TUF-2000S Wall-Mounted Ultrasonic Flow Meter



DESCRIPTION

This flowmeter can be virtually applied to a wide range of measurement. A variety of liquid applications can be accommodated: ultra-pure liquids, potable water, chemicals, raw sewage, reclaimed water, cooling water, river water, plant effluent. etc

Type		Performance Parameters
The main machine	Principle	Ultrasonic transit-time principle, the 4-byte floating point IEEE754
	Accuracy	Flow: better than $\pm 1\%$, heat: better than $\pm 2\%$
	Display	Can be connected to 2×10 backlit characters or 2×20 character LCD display, support for Chinese, English, Italian three languages.
	Single output	4-20mA current output impedance $0 \sim 1K$, accuracy 0.1%
		OCT pulse output (pulse width $6 \sim 1000ms$, default $200ms$)
		relay output
	Signal Input	4-20mA current input, accuracy of 0.1% , can collect temperature, pressure, level and other signals
		Can be connected to three-wire PT100 platinum resistance, heat measurements to achieve
	Data interface	Isolated RS485 serial interface can be upgraded to the meter via a PC computer support protocols such as MODBUS
specific cables	Custom twisted pair, limited to 50 meters under normal circumstances; optional RS485 communication, the transmission distance of up to km or more	
Pipeline situation	tube material	Steel, stainless steel, cast iron, cement pipe, aluminum, copper, PVC, FRP etc. All quality of pipeline, the lining is allowed
	Within the tube diameter	32-100mm, 50-700mm. 300-6000mm
	Straight pipe section	Sensors installed point best meet: upstream 10 D, 5 D, downstream from pump discharge 30 D for pipe diameter (D)
Measuring media	Type	Water, sea water, industrial sewage, various oil, acid alkali, alcohol, beer can support such as ultrasonic single homogeneous liquid
	Temperature	$-30 \sim 130^{\circ}C$
	turbidity	10000ppm and bubble content is small
	flow velocity	$0 \sim \pm 10m/s$
work environment	Temperature	Host: $-20 \sim 60^{\circ}C$; Flow sensor: $-30 \sim 130^{\circ}C$
	Humidity	Host: 85% RH; Flow sensor: can work immersed depth of 2 m or less (note: the sensor after the glue)
Power supply	DC8~36V or AC85~264V	

Types	Picture	Spec.	Model	Measurement Range	Temperature	Dimension
Clamp on		Small Size	TS-2	DN32~DN100	-30~60℃	45×25×32mm
		Medium Size	TM-1	DN50~DN700	-30~60℃	64×39×44mm
		Large Size	TL-1	DN300~DN6000	-30~60℃	97×54×53mm
High temp Clamp on		Small Size	TS-2-HT	DN32~DN100	-30~130℃	45×25×32mm
		Medium Size	TM-1-HT	DN50~DN700	-30~130℃	64×39×44mm
		Large Size	TL-1-HT	DN300~DN6000	-30~130℃	97×54×53mm
Insertion		Standard	TC-1	DN80~DN6000	-30~130℃	190×80×55mm
		Lengthen	TC-2	DN80~DN6000	-30~130℃	335×80×55mm
Pipe		π type	G3	DN15~DN25	-30~130℃	Pls refer to detailed pipe dimensions
		Standard	G2	DN32/DN40	-30~130℃	
		Standard	G1	DN50~DN6000	-30~130℃	

Mounting Bracket Clamp on		Small Size	HS	DN25~DN100	-30~60℃	318×59×85mm
		Medium Size	HM	DN50~DN300	-30~60℃	568×59×85mm
		Extended	EB-1	DN300~DN700	-30~60℃	188×59×49mm
High Temperature Mounting Bracket Clamp on		Small Size	HS-HT	DN25~DN100	-30~130℃	318×59×110mm
		Medium Size	HM-HT	DN50~DN300	-30~130℃	568×59×110mm
		Extended	EB-1-HT	DN300~DN700	-30~130℃	188×59×49mm

Ordering code

Converter	Flow Transducer	Diameter	Pipe Material	Pressure	Cable Length	Temperature Transducer	SD card Memory
TUF-2000S		-DN mm		MPa	m		
W	TS-2		0 Carbon Steel			None	0 Yes
S	TM-1		1 Stainless Steel			CT-1	1 No
D	TL-1		2 Cast Iron			TCT-1	
	TS-2-HT		3 Glass Fiber reinforced			PCT-1	
	TM-1-HT		4 PVC			SCT-1	
	TL-1-HT		5 Cement				
	TC-1		6 Others				
	TC-2						
	G						

Example: TUF-2000SW+TM-1+DN300+0+1.6MPa+10m+PCT-1+0

PS: Standard configuration=TUF-2000SW(converter)+TM-1+5M cable +Steel belt (DN200) +Couplant(1 pc)

TUF-2000H Handheld Ultrasonic Flow Meter



- 1.Accuracy better than 1%.
- 2.Measurement range from DN15~DN6000mm
- 3.Built-in high-capacity NiMH rechargeable batteries can work 20 hours(Fully charged).
- 4.Can achieve measurement with clamp on sensors
- 5.32K BIT built-in data storage,can store two thousand rows of data
- 6.LCD display can display the instant flow,total flow,flow velocity and working condition
- 7.temperature -30 ~ 60°C,-30 ~ 160°C

Linearity	0.5%
Repeatability	0.2%
Accuracy	±1% of reading at rates>0.2 mps
Response Time	0-999 seconds, user-configurable
Velocity	±32 m/s
Pipe Size	25mm-6000mm
Totalizer	7-digit totals for net, positive and negative flow respectively
Liquid Types	Virtually all liquids
Security	Setup values Modification Lockout. Access code needs unlocking
Display	4x8 Chinese characters or 4x16 English letters
Communication Interface	RS-232, baud-rate: from 75 to 57600. Protocol made by the manufacturer and compatible with that of the FUJI ultrasonic flow meter. User protocols can be made on enquiry.
Transducer Cord Length	Standard 5m x 2, optional 10m x 2
Power Supply	3 AAA built-in Ni-H batteries. When fully recharged it will last over 12 hours of operation. 100V-240VAC for the charger
Data Logger	Built-in data logger can store over 2000 lines of data
Manual Totalizer	7-digit press-key-to-go totalizer for calibration
Housing Material	ABS
Case Size	210x90x30mm
Handset Weight	500g with batteries

TUF-2000 Portable Ultrasonic Flow Meter



Portable ultrasonic flow meter realizes the non-contact measurement. It is ideal for flow surveys and closed-pipe application where non-invasive measurement of liquids is required. Built-in SD card and printer can timely or regularly print pre-set measuring results. Temperature and heat can also be measured by connecting clamp on temperature transducer. Widely be used in water supply, heat supply, chemical industry, machinery and energy resources.

Items	Performance & Parameter	
Flow meter	Principle	Transit time ultrasonic flow meter
	Accuracy	±1%
	Display	2×20 character LCD with back light, support the language of Chinese, English and Italian
	Signal Output	1 way 4-20mA output, electric resistance 0~1K, accuracy 0.1%
		1 way OCT pulse output (Pulse width 6~1000ms, the default value is 200ms)
		1 way relay output
	Signal Input	3 way 4-20mA input,, acquire signals such as temperature, pressure and liquid level.
		Achieve to heat measurement by connecting the temperature transducer PT100.
	Data Interface	RS485 serial interface, upgrade the flow meter software by computer, support MODBUS
	Data Record	Thermal printer, external SD card(2G of capacity)
Pipe Installation Condition	Pipe Material	Steel, Stainless steel, Cast iron, Copper, Cement pipe, PVC, Aluminum, Glass steel product, liner is allowed.
	Pipe Diameter	25~6000mm
Measuring Medium	Straight Pipe	Transducer installation should be satisfied: upstream 10D, downstream 5D, 30D from the pump
	Type of Liquid	Single liquid can transmit sound wave, such as water, sewage, oil, chemicals, plant effluent, beverage, ultra-pure liquids, etc.
	Temperature	-30~130℃
	Turbidity	Less than 10000ppm and little bubble
	Flow rate	0~±10m/s
Working Environment	Temperature	Convertor: -20~60C; Transducer: -30~130C
	Humidity	Convertor : 85%RH; Transducer protection level:IP67
Power Supply	8 built-in Ni-MH batteries 1.2V(for over 20 hours of operation) Could operate 8 hours by connecting 4-20mA signal output. 90V - 260V AC adapter	
Power Consumption	1.5W	

Oval Gear Flow Meter



& DESCRIPTION

Oval gear flow meter is pointer and Lcd display. It is a kind of light volume flow meter of which the print wheel has cumulative count and zero. This flow meter is widely used in various industrial areas to control the liquid flow.

It is application to all types of liquid measuring, such as crude oil, diesel, gasoline and so on. with great range and high precision. convenient use and maintenance. Different materials selected can meet the petroleum, chemical, pharmaceutical, food, metallurgy, electricity, transportation and other fields of liquid flow measurement.

& OPERATING PRINCIPLE

Fluid enters inlet port and then passes through the metering chamber. Inside the chamber, fluid forces the internal gears to rotate before exiting through the outlet port. Each rotation of the gears displaces a specific volume of fluid. As the gears rotate, a magnet on each end of the gear passes a reed switch in the top mounted register's circuit board.

1. Application: high viscosity liquid, as heavy oil, fuel oil, diesel oil, etc.
2. Accuracy : class 0.5, class 0.2
3. Measured media temp : -10Deg C ~ +200Deg C
4. Output signal: 4-20mA, Pulse output, RS485
5. LCD Display. pointer display.
5. Viscosity : 0.3 to 2000mPa.S
6. Body material: cast steel , cast iron , stainless steel
7. Working pressure: PN1.6 to 6.4



& MODEL SELECTION

Model							Instruction
LC	/	/	/	/	/	/	
Diameter	10						10mm
	15						15mm
	20						20mm
	25						25mm
	40						40mm
	50						50mm
	80						80mm
	100						100mm
	150						150mm
	200						200mm
Instrument Type		1					Standard Type
		2					High Temperature Type
		3					High Viscosity Type
Instrument Material			1				Cast Iron
			2				Cast Steel
			3				Stainless Steel
Pressure type				1.6			(1.6MPa)
				2.5			(2.5MPa)
				4.0			(4.0MPa)
				6.4			(6.4MPa)
Signal Output Type					1		No signal Output
					2		Pulse Output
					3		4-20mA Output
Instrument head					1		Mechanical pointer display
					2		Resetable head pointer display
					3		LCD display
LC	15/	1	1	1	1	1	Selection Example

Guided Wave Radar Level Meter



Applications : Liquid ,highly corrosive liquid and solid powder measurements,

Explosion Proof : Exib IIC T6 Gb / Exd IIC T6 Gb

Measuring range : liquid 30m, solid 15 meters

Frequency : 500MHz-1.8GHz

Antenna : single cable or single rod antenna

Process temperature : (- 40 ~ 250)C

Process pressure : (- 0.1 ~ 4) MPa

Signal output : (4 ~ 20) mA / HART

Live display : LCD

Power : two-wire (DC24V) / four-wire (DC24V / AC220V)

Shell : Aluminum

Process connection : thread / flange (optional)



& MODEL SELECTION

70 SERIES

Maximum Range / Type of detecting component
30000mm/ Single cable type or 6000mm / single rod type
Explosion Proof Approval
P Standard (Without Approval) I Intrinsically Safe (Exia IIC T6 Ga) G Intrinsically Safe + Explosion proof (Exd [ia] IIC T6 Gb)
Type of detecting component /Material
A cable Φ8mm / Stainless Steel 304 B cable Φ4mm / Stainless Steel 316L C rod Φ10mm / Stainless Steel 304 D rod Φ10mm / Stainless Steel 316L
Process Connection /Material
G Thread G1½" A N Thread 1½" NPT C Flange DN50 PN16C / Stainless Steel D Flange DN80 PN16C / Stainless Steel E Flange DN100 PN16C / Stainless Steel F Flange DN150 PN16C / Stainless Steel H Flange DN200 PN16C / Stainless Steel I Flange 2 " 150LBS ANSI Convex / Stainless Steel 316L J Flange 3 " 150LBS ANSI Convex / Stainless Steel 316L K Flange 4 " 150LBS ANSI Convex / Stainless Steel 316L L Flange 6 " 150LBS ANSI Convex / Stainless Steel 316L M Flange 8 " 150LBS ANSI Convex / Stainless Steel 316 L
Seal / Process Temperature
1. Normal (-40 ~ 130)°C 2. High Temperature (-40 ~ 250)°C
Shell / Protection Class
L Aluminum /IP67 Q Plastic /IP65
Cable Entry
M M 20 x 1.5 N ½" NPT
Display
V With X Without
Programming
V With X Without

26G High Frequency Radar Level Meter



Application : All kinds of liquid, Corrosive liquid. Solid particles, Powder, Strong dust easy to crystallize, condensation occasion,

Measuring Range : 70 meters

Process Connection : Thread, Flange

Medium Temperature : -40C ~ 150C

Process Pressure : -0.1~4 MPa

Accuracy : $\pm 3\text{mm}$

Protection Grade : IP67

Frequency Range : 26GHz

Signal Output : 4... 20mA/HART (Two-wire / Four)

RS485/ Modbus

Explosion-proof Grade : Exib IIC T6 Gb



& MODEL SELECTION

90 SERIES

License	
P	Standard (Non-explosion-proof)
I	Intrinsically safe (Exia IIC T6 Ga)
G	Intrinsically safe type, Flameproof (Exd (ia) IIC T6 Gb)
Process Connection / Material	
G	Thread G1½"A / Stainless Steel 304
N	Thread 1½" NPT / Stainless Steel 304
A	Flange DN50 / Stainless Steel 304
B	Flange DN80 / Stainless Steel 304
C	Flange DN100 / Stainless Steel 304
Y	Special Custom
Antenna Type / Material	
A	Horn Antenna Φ46mm / Stainless Steel 316L
B	Horn Antenna Φ76mm / Stainless Steel 316L
C	Horn Antenna Φ96mm / Stainless Steel 316L
Y	Special Custom
Seal Up / Process Temperature	
V	Viton / (-40~150) °C
K	Kalrez / (-40~250) °C
The Electronic Unit	
2	(4~20) mA / 24V DC / Two wire system
3	(4~20) mA / 24V DC / HART two wire system
4	(4~20) mA / 220V AC / Four wire system
5	RS485 / Modbus
Shell / Protection Grade	
L	Aluminum / IP67
G	Plastic/ IP65
Cable Line	
M	M 20x1.5
N	½" NPT
Field Display/The Programmer	
A	Belt
X	Without

6G Intelligent Radar Level Meter



Suitable for Medium: Liquid, corrosive liquid, Solid particles or block material,

Explosion-proof Grade: Exia IIC T6 Ga/ Exd ia IIC T6 Gb

Measuring Range: 30m

Aerials: The Rod Antenna (PP/PTFE)

Frequency: 6 GHz

Temperature: (-40 ~ 130) °C

Process Pressure: (-0.1 ~ 0.3) MPa

The signal Output: (4 ~ 20) mA/HART

The Scene Display: Four LCD /Can be programmed

Power Source: Two-wire (DC24V)

Four-wire (DC24V/AC220V)

Shell: Aluminum /Plastic

Connection: Flange (optional) / Thread



& MODEL SELECTION

80 SERIES

License	
P	Standard (non-explosion-proof)
I	Intrinsically safe (Exia IIC T6 Ga)
G	Intrinsically safe type, flameproof [Exd (ia) IIC T6 Gb]
Process Connection/ Material	
G	G1½" A Thread
A	DN50 PN16 C flange type / stainless steel 316L
B	DN80 PN16 C flange type / stainless steel 316L
C	DN100 PN16 C flange type / stainless steel 316L
D	DN150 PN16 C flange type / stainless steel 316L
E	DN200 PN16 C flange type / stainless steel 316L
F	DN250 PN16 C flange type / stainless steel 316L
Y	Special Custom
Antenna Type / Material	
1	No horn antenna, guided wave pipe installation / Stainless steel
2	76mm horn antenna / stainless steel
3	96mm horn antenna / stainless steel
4	146mm horn antenna / stainless steel
5	196mm horn antenna / stainless steel
6	242mm horn antenna / stainless steel
Seal / Process Temperature	
1	Ordinary type (-40 ~ 150) °C
2	High temperature (-40 ~ 250) °C
Antenna Extension	
A	100 mm
B	200 mm
C	300 mm
Y	Special Custom
Shell / Protection Class	
L	Aluminum /IP67
Q	Plastics / IP65
Cable Line	
M	M 20x1.5
N	½" NPT
Field Display	
A	Belt
X	Without
The Programmer	
A	Belt
X	Without

Ultrasonic Level Meter



& DESCRIPTION

Application field: Water and sewage treatment: pump house, collecting well, biochemical reaction tank, sedimentation tank, electric power, mine: mortar pool, coal slurry tank, water treatment, etc.

Functions	Integrative Type	Segregated Type
Level Range	5M, 10M, 15M, 20M,30M, 50M	5M, 10M, 15M, 20M, 30M, 50M, 70M
Display	LCD display in English	LCD display in English
Analog Output	4-20mA RS485 Modbus	4-20mA RS485 Modbus
Relay /Alarm Output	AC 250V/ 8A; DC 30V/ 5A; State programmable (optional for 4 wire)	AC 250V/ 8A; DC 30V/ 5A; State programmable (optional)
Power Supply	24VDC 120mA 12VDC	220VAC+15% 50Hz 24VDC 120mA 12VDC
Environment Temperature	Meter : -20~+60°C Sensor: -20~+80°C	Meter -20~+60°C Sensor -20~+80°C
Water Proof	Economic Type: IP65 Standard Type: IP66	Meter IP65 Sensor IP68
Cable of Sensor	No	Standard: 10 Meters, Max to 200 Meter

& MODEL SELECTION

Name	Specification code	Explanation
Model	AT-xxx	
Type	1	Integrated type
	2	Split type
Power supply	S	Special type 12VDC
	DC	4 wire 24VDC
	AC	4 wire 220VAC
	TC	2 wire 24VDC
	TCIA	2 wire 24VDC explosion proof
	DCIA	4 wire 24VDC explosion proof
Sensor installation size	A	Thread G1 1/2 (Range < 5m)
	B	Thread G2A (Range < 10m)
	C	Thread M78*2mm (Range < 15m)
	D	Thread G3 (Range < 30m)
	E	Thread M108*2mm (Range < 50m)
	T	Special type
Output	1	With 4-20mA output
Communication	0	Without
	1	RS232
	2	RS485
Probe material	A	ABS
	P	PTFE
Relay(alarm)	W	With
	O	without
Measure range	05	0-5m
	10	0-10m
	15	0-15m
	20	0-20m
	30	0-30m
	40	0-40m
	50	0-50m
Protection grade	I	IP65
	S	Display part:IP65 Sensors:IP68

ATWLM Water Level Meter

SIZE: 30M, 50M, 100M, 150M, 200M, 250M, 300M, 400M, 500M

& APPLICATION

water conservancy project,
hydrology, geography, environmental protection
other areas of industry and agriculture fields
other liquid level measurement

& TECHNICAL PARAMETERS

Power supply	9V lithium battery
Level range	0-500m optional
Resolution	0.5mm
Response time	≤1ms
Working temperature	-20C-60C
Minimum indication	1mm
Signal	LED,buzzer,electricity meter
Reels color	Orange,blue,yellow,white,silver gray, red
Reels material	ABS,Metal
Application	Depth of water in wells,boreholes, standpipes and tanks
Probe diameter	14mm



Level Switch

Tuning fork level switch

& DESCRIPTION

tuning fork level switch is an economical limit control switch designed for level measurement. The overall structure of the product suitable for containers, storage tanks, tanks and liquid level measurement with foam, air bubbles, viscous liquid and vibration interference.

& TECHNICAL DATA

Environmental temperature: -40 ~ 80°C

Process pressure -1~40bar

Process temperature: -50 ~ 150°C

Relay Single :SPDT,PNP,NPN,DPDT

Power supply:24VDC or 220VAC

Measured medium: liquid, powder or granular solid

Measured medium density: solid $\geq 0.1\text{g/cm}^3$, liquid $\geq 0.7\text{g/cm}^3$

Measured solid particle size: $\leq 10\text{mm}$

Maximum liquid viscosity: $<1000\text{mm}^2/\text{s}$

Connection: thread, flange, tri clamp on

Shell protection: IP65



& MODEL SELECTION

Model	Name
AFTL	Tuning Fork Switch
Code	Power Supply
1	220V AC
2	24VDC
Code	Temperature Type
H	High Temperature Type
S	Common Type
Code	Fork Sort
A	Standard Type
C	Shock Rod Type
S	Compact Type
Code	Fork Type and Insertion Depth Range
G1	Small Fork 45mm~3000mm
G2	Standard Fork 100mm~3000mm
Code	Process Connection
N1	1" NPT thread
G1	G1" thread
DN25	DN25
DN40	DN40
DN50	DN50
TC1	1" Clamp
TC2	2" Clamp
Customers Supply	Insertion Length

Magnetic Level Meter & Float Level Switch



Magnetic Level Meter can be used in a variety of media level measurement towers, tanks, spherical vessels and boilers and other equipment. this series level gauge widely used: the level of the production process in petroleum, chemical, metallurgy, pharmaceutical, food, electricity and other measurement and control.

Ambient temperature: -20-80°C

Range: 0-6 meters

Output: 4-20mA

Medium Pressure: 1.0, 2.5, 4.0, 6.4, 10, 16mPa

Medium Temperature: -120-350°C

Medium density: over 0.5g/cm³

Medium Viscosity: 0.05Pa.s

Wetted Material: SS304, 316, Ti, Etc

Connection: Flange DN50-DN150

Installation: top mounted or side mounted

Online Liquid Density Meter



MD-3051 series online liquid level density meter can be used for online density measurement of various liquid and liquid mixture. It is widely applied to the petrochemical industry, food industry, dairy industry, paper industry, chemical industry, biopharmaceutical industry and other production sites.

Main Features:

1. Output: Two wire 4-20mA, with HART protocol
2. Power Supply: 16-30V DC (24V DC is recommended)
3. Density Range: 0-1g/cm³, 0-2g/cm³, 0-3g/cm³
4. Accuracy: 0.001g/cm³
5. Resolution: 0.0005g/cm³
6. Temperature Range: 0 ~ 180 °C
7. Two parameters (temperature and density) can be alternately displayed
8. Ambient Temperature: -10 ~ 60 °C
9. Humidity Range: 0 ~ 90%

Widely application

1. the measurement of petroleum, natural gas, mining salt, oil refining, oil and water interface detection in the petrochemical industry
2. the measurement of grape juice, tomato juice, fruit syrup, vegetable oil wine alcohol and soft drink processing in the food and dairy industry
3. the measurement of black pulp, green pulp, white pulp and alkali solution in the paper industry
4. the measurement of urea, detergents, ethylene glycol, lubricating oil, acid solution and polymer

Temperature Transmitter



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