YAMATAKE Specification

ST3000 Series 900 Smart Transmitter

Model STD910/STD920/STD930/STD960/STD921/STD931/STD961

Differential Pressure Transmitters

OVERVIEW

The ST3000 Smart Transmitter is a microprocessor-based smart transmitter that features high performance and excellent stability. Capable of measuring gas, liquid, and vapor flow rates, pressures, and liquid levels, it transmits 4 to 20 mA dc analog and digital signals according to the measured differential pressure.

It can also execute two-way communications between the SFC (Smart Field Communicator) or HART® 275 communicator, and, via DE protocol, with the TDCS3000 or 3000X and a database, thus facilitating self-diagnosis, range resetting, and automatic zero adjustment.

FEATURES

Excellent stability and high performance

- Long-term stability is proven in 500,000 installations worldwide.
- Unique characterization and composite semiconductor sensors realize excellent temperature and static pressure characteristics.

Wide measuring range (rangeability)

- A wide measuring range is available from a single model. This feature is highly effective in taking measurements over a wide range and reducing the need for reserve units. The measuring range of the STD920, for example, is 0.75 to 100 kPa (rangeability = 1:135).

A diverse lineup

- A wide range of models is available to meet user requirements. They include micro-differential pressure, standard differential pressure, high differential pressure, standard differential pressure/high static pressure, and high differential pressure/high static pressure models.
- A wide variety of corrosion-resistant materials for wetted parts is also available.

Remote communication

- Either analog output (4 to 20 mA dc), or digital output (DE protocol) is possible.
- Two-way communication using digital output facilitates self-diagnosis, range resetting, automatic zero adjustment, and other operations.
- HART® protocol communication is available. (Option)

APPLICATIONS

Petroleum/Petrochemical/Chemical

- For strict flow control in combination with orifice plates
- For measuring pressures and liquid levels in pipes and tanks

Electric Power/City Gas/Other Utilities

- For measurement applications that require high degrees of stability and accuracy

Draft range applications such as Semiconductor Equipment Manufacturing /Clean Rooms

- For applications that require highly stable, accurate measurement

Pulp and Paper

- For lines that need transmitters resistant to chemical liquids, corrosive fluids and the like

Iron and Steel/Nonferrous Metal/Ceramics

- For highly stable, accurate measurements such as furnace pressure measurement
- For lines that require stable measurement under strictly controlled (temperature, humidity, etc.) conditions

Machinery/Shipbuilding

- For lines that require stable measurement under strictly controlled (temperature, humidity, etc.) conditions

FUNCTIONAL SPECIFICATIONS

Type of protection

JIS C0920 watertight : NEMA3 and 4X

JIS F8001 class 2 watertight : IEC IP67

FM Explosionproof approval

Explosionproof for Class I (Gas, steam), Division 1, Group A, B, C, D

Dust-ignition for Class II (Inflammable dust), Division 1, Group E, F, G

Suitable for Class III (inflammable fiber), Division 1

Nonincendive for Class I, Division 2, Group A, B, C, D

FM Intrinsically safe approval

Intrinsically safe for Class I, II, III, Division 1, Group A, B, C, D, E, F, G

INERIS/CENELEC Flameproof approval

EEx d IIC T6

NEPSI Flameproof approval

Ex d IIC T6 (with NEPSI Dust Ignition DIP DT T13)

NEPSI Intrinsically safe approval

Ex ia IIC T6/T5 (with NEPSI Dust Ignition DIP DT T13)

Measuring span/Measuring range/working pressure range

	Measuring Span	Measuring range	Working Pressure Range
STD910	0.1~2kPa {10~200mmH_2O}	-1~1kPa {-100~100mmH_2O}	-70~210kPa {-0.7~2.1kgf/cm^2} (See Figure 2)
STD920	0.75~100kPa {75~10160mmH_2O}	-100~100kPa {-10160~10160mmH_2O}	2.0kPa abs~21MPa {15mmHgabs~210kgf/cm^2} Note 1, Note 2 (For vacuum pressure, see Figure 1)
STD930	35~700kPa {0.35~7kgf/cm^2}	-100~700kPa {-1~7kgf/cm^2}	
STD960	0.25~14MPa {2.5~140kgf/cm^2}	-0.1~14MPa {-1~140kgf/cm^2}	2.0kPa abs~21MPa {15mmHgabs~210kgf/cm^2} Note 2 (For vacuum pressure, see Figure 1)
STD921	2.5~100kPa {250~10160mmH_2O}	-100~100kPa {-10160~10160mmH_2O}	2.0kPa abs~42MPa {15mmHgabs~420kgf/cm^2} Note 3 (For vacuum pressure, see Figure 1)
STD931	35~700kPa {0.35~7kgf/cm^2}	-100~700kPa {-1~7kgf/cm^2}	
STD961	0.25~14MPa {0.25~140kgf/cm^2}	-0.1~14MPa {-1~140kgf/cm^2}	

Note 1) With PVC wetted parts, the maximum working pressure is 1.5 MPa {15 kgf/cm2}.

Note 2) With SUS304 bolts and nuts, the maximum working pressure is 7 MPa {70 kgf/cm2}.

Note 3) With SUS304 bolts and nuts, the maximum working pressure is 23 MPa {230 kgf/cm2}.

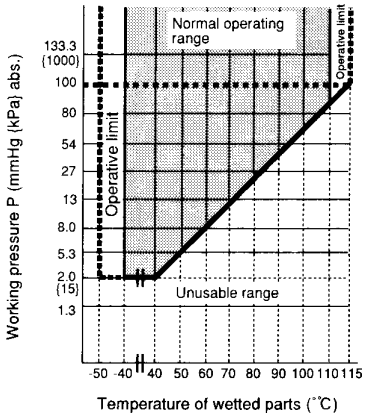


Figure 1 Working Pressure and Temperature of Wetted Parts Section

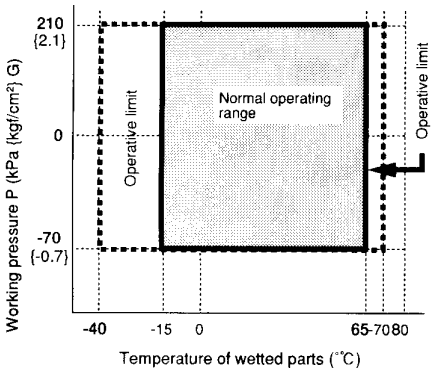
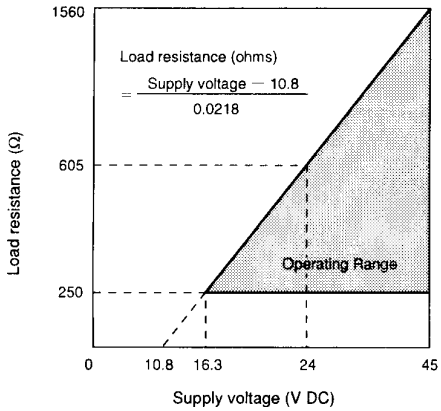


Figure 2 Working Pressure and Temperature of Wetted Parts Section (For STD910)

Supply voltage and load resistance

10.8 to 45 V dc. A load resistance of 250 Ω or more is necessary between loops. See Figure 3.



Note: For communication with SFC, a load resistance of 250 ohms or more is needed.

Figure 3 Supply voltage vs load resistance characteristics

Output

Analog output (4 to 20 mA DC) with DE protocol
Analog output (4 to 20mA DC) with HART protocol
Digital output (DE protocol)

Ambient temperature limits

Normal operating range

-40 to 85°C for general purpose models
-15 to 65°C for general purpose model (STD910)
-10 to 75°C for oxygen and chlorine models
-20 to 70°C for models with digital indicators

Operative limits

-50 to 93°C for general purpose models
-40 to 70°C for general purpose model (STD910)
-40 to 80°C for oxygen and chlorine models
-30 to 80°C for models with digital indicators

Transportation and storage conditions

-50 to 85°C for general purpose models
-15 to 65°C for general purpose model (STD910)

Temperature ranges of wetted parts

Normal operating range

-40 to 110°C for general purpose models
-15 to 65°C for general purpose model (STD910)
-10 to 75°C for oxygen and chlorine models

Operative limits

-50 to 115°C for general purpose models
-40 to 70°C for general purpose model (STD910)
-40 to 80°C for oxygen and chlorine models

Ambient humidity limits

5 to 100% RH

Stability against supply voltage change

±0.005% FS/V

Dead time

Approximately 0.4 sec

Damping time

Selectable from 0 to 32 sec in ten stages

Optional specifications

Lightning protection

Peak value of voltage : 200kV
Peak value of current surge : 2000A

Built-in indicating meter

The digital LCD indicator (optional) indicates engineering units and can be set freely between -19999 and 19999 (4.5 digits). For meter calibration, specify the following items when placing your order

- Meter calibration range
- Meter calibration unit
- Proportional representation and instructions about square-root extraction
- Various kinds of data can be set using the SFC smart communicator (Ver. 7.1 or later).

Bolts and nuts materials (for fastening meter body cover)

Carbon steel (SNB7), SUS304, SUS630

Corrosion-resistant finish

Standard

Corrosion-resistant paint (Baked acrylic paint)

Corrosion-resistant finish

Corrosion-resistant paint (Baked acrylic paint), fungus-proof finish

Corrosion-proof finish

Corrosion-proof paint (Baked epoxy paint), fungus-proof finish

Corrosion-resistant finish (silver paint)

Transmitter case is silver-painted in addition to the above corrosion-resistant finish.

Oil free finish

The transmitter is shipped with oil-free wetted parts. (The vent drain plug is coated with a small amount of fluorine oil to prevent galling.)

Long vent/drain plugs

A longer (58 mm) drain than the standard (24 mm) can be used for maintenance, process, and safety reasons.

Adapters for anticorrosion materials

These are adaptor flanges to connect 82 mm pipes made of anticorrosion materials (excluding Hastelloy C) to 54 mm general-purpose pipes.

External zero/span adjustment function

The transmitter can be easily zero/span adjusted in the field with a flat-blade screwdriver.

Burnout feature

Choice of three states at abnormal condition

Burnout of output values : None, upper limit, lower limit

Elbow

This is an adaptor for changing the electrical conduit connection port from the horizontal to the vertical direction, if required by wiring conditions in the field. One or two elbows may be used as needed.

Conformance to SI units

We deliver transmitters set to any SI units you specify.

PHYSICAL SPECIFICATIONS

Materials

Fill fluid

Silicone oil for general purpose models Fluorine oil for oxygen and chlorine models

Center body

SUS316

Transmitter case

Aluminum alloy

For Wetted parts

Meter body cover

Carbon steel (SF440A), galvanized

Carbon steel (SF440A), nickel plated

SCS14A (Equivalent to SUS316) or SUSF316, PVC

Adapter flange (option)

SCS14A (Equivalent to SUS316), PVC

Center body

SUS316 (Diaphragm SUS316L)

Hastelloy C, Tantalum, SUS316L

Vents and plugs

SUS316, PVC

Gaskets

FEP

Finish

Housing light beige (Munsell 4Y7.2/1.3)

Cap dark beige (Munsell 10YR4.7/0.5)

Weight

Approx. 4.4 kg (STD920)

INSTALLATION

Electrical connection

1/2NPT internal thread

Grounding

Resistance 100 Ω max

Mounting

Can be installed on a 2-inch horizontal or vertical pipe (can be directly mounted on a process pipe)

Process connection

Rc1/2, 1/2NPT internal thread and Rc1/4, 1/4NPT internal thread

PERFORMANCE SPECIFICATIONS

Accuracy

Shown for each item are the upper limit (URV) (*1) and the lower limit (LRV) (*2) of the calibration range or the percentage ratio of the maximum value of the span to χ (kPa).

STD910 (Material of wetted parts: Diaphragm ; SUS316L, Others ; SUS316)

Accuracy	Linear output:	$\pm (0.15+0.15\times \frac{1.0}{\chi})\%$
		When output is 50 to 100%: same as linear output
	Square-root output:	When output is 7.1 to 50%: linear output $\times \frac{50}{\text{square - root output \%}}$
		When output is less than 7.1%: dropout
Temperature characteristics (Shift from the set range)	Zero shift:	$\pm (0.15+0.35\times \frac{1.0}{\chi})\%$
Change of 30°C	Combined shift: (including zero and span shifts)	$\pm (0.2+0.6\times \frac{1.0}{\chi})\%$
Static pressure effect (Shift with respect to Measuring range)	Zero shift:	$\pm (0.03+0.4\times \frac{1}{\chi})\%$
Change of 70 kPa {0.7 kgf/cm^2}	Combined shift: (including zero and span shifts)	$\pm (0.03+0.45\times \frac{1}{\chi})\%$

STD920 / 921 (Material of wetted parts: Diaphragm ; SUS316L, Others ; SUS316)

Accuracy (*3)	Linear output:	$\pm$ 0.075% (For $\chi \geq$ 50.0kPa {5000mmH_2O})
		$\pm$ 0.1% (For 50.0kPa {5000mmH_2O}> $\chi \geq$ 5.0kPa {500mmH_2O})
		$\pm (0.025+0.075\times \frac{5.0}{\chi})$ % (For χ < 5.0kPa {500mmH_2O})
	Square-root output:	When output is 50 to 100%: same as the linear output
		When output is 7.1 to 50%: linear output $\times \frac{50}{\text{square - root output \%}}$
		When output is less than 7.1%: dropout
Temperature characteristics (Shift from the set range) (*3)	Zero shift:	$\pm (0.25+0.3\times \frac{12.5}{\chi})\%$
		$\pm$ 0.8% (For $\chi \geq$ 12.5kPa {1250mmH_2O})
Change of 55°C	Combined shift: (including zero and span shifts)	$\pm (0.35+0.45\times \frac{12.5}{\chi})\%$ (For χ < 12.5kPa {1250mmH_2O})
Static pressure effect (Shift with respect to Measuring range) (*3)	Zero shift:	$\pm (0.03+0.17\times \frac{20}{\chi})\%$
	Combined shift:	$\pm$ 0.4% (For $\chi \geq$ 20.0kPa {2000mmH_2O})
Change of 7 MPa {70 kgf/cm^2}	(including zero and span shifts)	$\pm (0.03+0.37\times \frac{20}{\chi})\%$ (For χ< 20.0kPa {2000mmH_2O})

STD930 / 931 (Material of wetted parts: Diaphragm ; SUS316L, Others ; SUS316)

Accuracy (*3)	Linear output:	$\pm$ 0.1% (For $\chi \geq$ 140kPa {1.4kgf/cm^2})
		$\pm (0.025+0.075\times \frac{140}{\chi})\%$ (For χ < 140kPa {1.4kgf/cm^2})
	Square-root output:	When output is 50 to 100%: same as the linear output
		When output is 7.1 to 50%: linear output $\times \frac{50}{\text{square - root output \%}}$
		When output is less than 7.1%: dropout
Temperature characteristics (Shift from the set range) (*3)	Zero shift:	$\pm (0.25+0.3\times \frac{210}{\chi})\%$
		$\pm$ 0.8% (For $\chi \geq$ 210kPa {2.1kgf/cm^2})
Change of 55°C	Combined shift: (including zero and span shifts)	$\pm (0.35+0.45\times \frac{210}{\chi})\%$ (For χ < 210kPa {2.1kgf/cm^2})
Static pressure effect (Shift with respect to Measuring range) (*3)	Zero shift:	$\pm (0.03+0.17\times \frac{700}{\chi})\%$
Change of 7 MPa {70 kgf/cm^2}	Combined shift: (including zero and span shifts)	$\pm (0.03+0.37\times \frac{700}{\chi})\%$

STD960 / 961(Material of wetted parts: Diaphragm ; SUS316L, Others ; SUS316)

Accuracy (*3)	Linear output:	± 0.15% (For $\chi \geq$ 3.5MPa {35kgf/cm^2})
		± (0.1+0.05× $\frac{3.5}{\chi}$)% (For χ <3.5MPa {35kgf/cm^2})
	Square-root output:	When output is 50 to 100%: same as the linear output
		When output is 7.1 to 50%: linear output × $\frac{50}{\text{square - root output \%}}$
		When output is less than 7.1%: dropout
Temperature characteristics (Shift from the set range)	Zero shift:	± (0.25+0.3× $\frac{3.5}{\chi}$)%
Change of 55°C (*3) **(Range from -5 to 55°C)**	Combined shift: (including zero and span shifts)	± 0.8 % (For $\chi \geq$ 3.5MPa{35kgf/cm^2})
		± (0.35+0.45× $\frac{3.5}{\chi}$)%(χ < 3.5MPa {35kgf/cm^2})
Static pressure effect (Shift with respect to Measuring range) (*3) **Change of 7 MPa {70 kgf/cm2}**	Zero shift:	± { $\frac{\lvert T - 2.5 \rvert}{200}$ +0.17)× $\frac{7}{\chi}$ +0.03} %
	Combined shift: (including zero and span shifts)	± { $\frac{\lvert T - 2.5 \rvert}{200}$ +0.4)% (For $\chi \geq$ 7MPa {70kgf/cm^2})
		± { $\frac{\lvert T - 2.5 \rvert}{200}$ +0.37)× $\frac{7}{\chi}$ +0.03}% (For χ < 7MPa {70kgf/cm^2})
		T: ambient temperature(°C)

STD920 (Material of wetted parts: Diaphragm ; Hastelloy C, Tantalum, SUS316L Others; Hastelloy C, Tantalum, SUS316L)

Accuracy (*3)	Linear output:	± 0.3% (For $\chi \geq$ 5.0kPa {500mmH_2O})
		± (0.225+0.075× $\frac{5.0}{\chi}$)% (For χ <5.0kPa {500mmH_2O})
	Square-root output:	When output is 50 to 100%: same as the linear output
		When output is 7.1 to 50%: linear output × $\frac{50}{\text{square - root output \%}}$
		When output is less than 7.1%: dropout
Temperature characteristics (Shift from the set range)	Zero shift:	± (0.15+0.6× $\frac{20.0}{\chi}$)%
Change of 30°C (*3) **(Range from -5 to 55°C)**	Combined shift: (including zero and span shifts)	± (0.55+0.65× $\frac{20.0}{\chi}$)%
Static pressure effect (Shift with respect to Measuring range) (*3) **Change of 7 MPa {70 kgf/cm^2}**	Zero shift:	± (0.03+0.62× $\frac{20.0}{\chi}$)%
	Combined shift: (including zero and span shifts)	± (0.55+0.45× $\frac{20.0}{\chi}$)%($\chi \geq$ 20.0kPa {2000mmH_2O})
		± (0.18+0.82× $\frac{20.0}{\chi}$)%(χ < 20.0kPa {2000mmH_2O})

STD930 (Material of wetted parts: Diaphragm ; Hastelloy C, Tantalum, SUS316L Others; Hastelloy C, Tantalum, SUS316L)

Accuracy (*3)	Linear output:	± 0.3%($\chi \geq$ 140kPa {1.4kgf/cm^2})
		± (0.025+0.075× $\frac{140}{\chi}$)% (For χ < 140kPa {1.4kgf/cm^2}
	Square-root output:	When output is 50 to 100%: same as the linear output
		When output is 7.1 to 50%: linear output × $\frac{50}{\text{square - root output \%}}$
		When output is less than 7.1%: dropout
Temperature characteristics (Shift from the set range)	Zero shift:	± (0.15+0.6× $\frac{210}{\chi}$)%
Change of 30°C (*3) **(Range from -5 to 55°C)**	Combined shift: (including zero and span shifts)	± 1.20%(x≥ 210kPa {2.1kgf/cm^2})
		± (0.55+0.65× $\frac{210}{\chi}$)% (For χ < 210kPa {2.1kgf/cm2})
Static pressure effect (Shift with respect to Measuring range) (*3) **Change of 7 MPa {70 kgf/cm^2}**	Zero shift:	± (0.03+0.62× $\frac{700}{\chi}$)%
	Combined shift: (including zero and span shifts)	± (0.03+0.50× $\frac{700}{\chi}$)%

STD960 (Material of wetted parts: Diaphragm ; SUS316L, Others ; SUS316L)

Accuracy (*3)	Linear output:	± 0.3% (For $\chi \geq$ 3.5MPa {35kgf/cm^2})
		± (0.25+0.05× $\frac{3.5}{\chi}$)% (For χ < 3.5MPa {35kgf/cm^2})
	Square-root output:	When output is 50 to 100%: same as the linear output
		When output is 7.1 to 50%: linear output × $\frac{50}{\text{square - root output \%}}$
		When output is less than 7.1%: dropout
Temperature characteristics (Shift from the set range) **Change of 30°C** (*3) **(Range from -5 to 55°C)**	Zero shift:	± (0.15+0.6× $\frac{3.5}{\chi}$)%
	Combined shift: (including zero and span shifts)	± 1.20% (For $\chi \geq$ 3.5MPa {35kgf/cm^2})
		± (0.55+0.65× $\frac{3.5}{\chi}$)% (For χ < 3.5MPa {35kgf/cm^2})
Static pressure effect (Shift with respect to Measuring range) (*3) **Change of 7 MPa {70 kgf/cm^2}**	Zero shift:	± (0.03+0.295× $\frac{7}{\chi}$)%
	Combined shift: (including zero and span shifts)	± (0.45+0.125× $\frac{7}{\chi}$)% (For $\chi \geq$ 7MPa {70kgf/cm^2})
		± (0.08+0.495× $\frac{7}{\chi}$)% (For χ < 7MPa {70kgf/cm^2})

Notes)(*1): URV denotes the value for 100% (20 mA dc) output.

(*2): LRV denotes value for 0% (4 mA dc) output.

(*3): Within a range of URV ≥ 0 and LRV ≥

MODEL SELECTIONS

ST3000 Series 900 Electric Differential Pressure Transmitter
Model STD910 (Standard Type for Lowest Differential Pressure)

Model No. : STD910 - I II III - 00000 - Option I - Option II

Basic Model No.

	Measuring Span	0.1 to 2.0kPa (10 to 200mmH2O)	STD910

Selection I								Code	Material Code
I	Material		Meter Body Cover	Adapter Flange	Vent/Drain Plugs	Wetted Parts of Center Body			E
			SCS14A *1	SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316		E	
II	Fill Fluid		Regular type (Silicone oil)					1	✔
			For oxygen service (Fluorine oil)					2 *3	✔
III	Process Connection	Front Connection	Rc1/2 with adapter flange					J	✔
			1/2NPT internal thread with adapter flange					H	✔
			Rc1/4 with adapter flange					M	✔
			1/4NPT internal thread with adapter flange					N	✔
			1/4NPT internal thread on head					P	✔
								-	
								00000	
								-	

Options I			
	No options	X	
	Lightning arrester	L	✔
	Built-in indicating smart meter(0 to 100% liner scales)	P	✔
	Built-in indicating smart meter(engineering unit scales)	R	✔
	SUS304 Bolt and nuts material	**W *4**	✔
	SUS630 Bolt and nuts material	**U *4**	✔
	Corrosion-resistant finish	A	✔
	Corrosion-proof finish	B	✔
	Corrosion-resistant finish, silver paint	D	✔
	Oil Free finish	K	✔
	Long Vent/drain plugs	J	✔
	FM Explosionproof	3	✔
	FM Intrinsically safe	4	✔
	Combination of FM Explosionproof and Intrinsically safe	5	✔
	INERIS/CENELEC Flameproof	6	✔
		-	

Options II			
	No options	XX	✔
	Burn-out feature (Lower limit of value at abnormal condition)	A4 *2	✔
	Burn-out feature (Upper limit of value at abnormal condition)	A5 *2	✔
	Water free finish (with Oil free finish)	A7	✔
	NEPSI Flameproof	C1	✔
	NEPSI Intrinsically safe	C2	✔
	Custom calibration	C7	✔
	Digital output	D5	✔
	HART communication	D7*N	✔
	One Elbow	E1	✔
	Two Elbows	E2	✔
	External zero/span adjustment	E5	✔
	Mounting bracket	E9	✔
	Side vent/drain top	F1	✔
	Side vent/drain bottom	F2	✔
	SI unit	U1	✔

*1 SCS14A (Equivalent SUS316) or SUSF316
*2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.
*3 In case "For oxygen or chlorine (Fluorine oil) service" is used, it's recommended to select "oil free finish - code K"
***4 Notes of "Order Entry" : "W" or "U" must be selected.**
*N Intrinsically safe for FM or NEPSI approval cannot be selected with -D7.

ST3000 Series 900 Electric Differential Pressure Transmitter
Model STD920 (Standard Type for Medium Differential Pressure)

Model No. : STD920 - I II III - 00000 - Option I - Option II

Basic Model No.

	Measuring Span	0.75 to 100kPa (75 to 10,160mmH2O)	STD920

Selection I							Code	Material Code										
I	Material		Meter Body cover	Adapter Flange	Vent/Drain Plugs	Wetted Parts of Center Body		A	B	D	E	F	H	U	M	P	8	9
			Carbon steel	SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316	A											
			Carbon steel	SCS14A*1	SUS316	Diaphragm : Hastelloy C Others : Hastelloy C	B											
			Carbonsteel	SCS14A*1	SUS316	Diaphragm : Hastelloy C Others : Hastelloy C	D											
			SCS14A*1	SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316	E											
			SCS14A*1	SCS14A*1	SUS316	Diaphragm : Hastelloy C Others : Hastelloy C	F											
			SCS14A*1	SCS14A*1	SUS316	Diaphragm : Tantalum Others : Tantalum	H											
			SCS14A*1	SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316L	U											
			PVC	PVC	PVC	Diaphragm : Hastelloy C Others : Hastelloy C	M*6											
			PVC	PVC	PVC	Diaphragm : Tantalum Others : Tantalum	P*6											
			Carbon steel Ni plating	SCS14A*1	SUS316	Diaphragm : Hastelloy C Others : Hastelloy C	8											
			Carbon steel Ni plating	SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316	9											
II	Fill Fluid		Regular type (Silicone oil)				1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
			For oxygen service (Fluorine oil)				2 *3				✓	✓	✓	✓	✓	✓		
			For chlorine service (Fluorine oil)				5 *3						✓			✓		
III	Process Connection	Front Connection	Rc1/2 with adapter flange				J	✓	✓		✓	✓					✓	✓
			1/2NPT internal thread with adapter flange				H	✓	✓		✓	✓					✓	✓
			Rc1/4 with adapter flange				M	✓	✓		✓	✓					✓	✓
			1/4NPT internal thread with adapter flange				N	✓	✓		✓	✓					✓	✓
			1/4NPT internal thread on head				P	✓	✓		✓	✓					✓	✓
		Top or Bottom Connection	Rc1/2 with adapter flange				Q *5			✓			✓	✓	✓	✓		
			1/2NPT internal thread with adapter flange				R *5			✓			✓	✓	✓	✓		
			Rc1/4 with adapter flange				S *5			✓			✓	✓				
			1/4NPT internal thread with adapter flange				T *5			✓			✓	✓				
			1/4NPT internal thread on head				U *5			✓			✓	✓				
							-											
							00000											
							-											

Options I																		
	No options						X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Lightning arrester						L	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Built-in indicating smart meter(0 to 100% liner scales)						P	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Built-in indicating smart meter(engineering unit scales)						R	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	SUS304 Bolt and nuts material						W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	SUS630 Bolt and nuts material						U	✓	✓	✓	✓	✓	✓	✓			✓	✓
	Corrosion-resistant finish						A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Corrosion-proof finish						B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Corrosion-resistant finish, silver paint						D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Oil Free finish						K				✓	✓	✓	✓	✓	✓		
	Long Vent/drain plugs						J	✓	✓	✓	✓	✓	✓	✓			✓	✓
	FM Explosionproof						3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	FM Intrinsically safe						4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Combination of FM Explosionproof and Intrinsically safe						5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	INERIS/CENELEC Flameproof						6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
							-											

Options II																		
	No option						XX	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Adapter flange for corrosion -resistant application						A1 *4			✓			✓	✓		✓		
	Burn-out feature (Lower limit of value at abnormal condition)						A4 *2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Burn-out feature (Upper limit of value at abnormal condition)						A5 *2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Water free finish (with Oil free finish)						A7				✓	✓	✓	✓	✓	✓		
	NEPSI Flameproof						C1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	NEPSI Intrinsically safe						C2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Custom calibration						C7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Digital output						D5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	HART communication						D7*7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	One Elbow						E1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Two Elbows						E2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	External zero/span adjustment						E5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mounting bracket						E9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Side vent/drain top						F1	✓	✓		✓	✓					✓	✓
	Side vent/drain bottom						F2	✓	✓		✓	✓					✓	✓
	SI unit						U1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

*1 SCS14A (Equivalent SUS316) or SUSF316
*2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.
*3 In case "For oxygen or chlorine (Fluorine oil) service" is used, it's recommended to select "oil free finish - code K"
*4 In case Manifold valve is used and in case code D, H, U or P is used, please select code A1 of OptionII
*5 Applicable for wetted parts of center body material ;Tantalum,SUS316L
*6 SUS304 bolts and nuts material (-W) must be selected when PVC meterbody cover is selected (-M or -P)
*7 Intrinsically safe for FM or NEPSI approval cannot be selected with -D7.

ST3000 Series 900 Electric Differential Pressure Transmitter
Model STD930 (Standard Type for High Differential Pressure)

Model No. : STD930 - I II III - 00000 - Option I - Option II

Basic Model No.

	Measuring Span	35 to 700kPa (0.35 to 7kgf/cm2)	STD930

Selection I							Code	Material Code										
I	Material		Meter Body Cover	Adapter Flange	Vent/Drain Plugs	Wetted Parts of Center Body		A	B	D	E	F	H	U	M	P	8	9
			Carbon steel	SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316	A											
			Carbon steel	SCS14A*1	SUS316	Diaphragm : Hastelloy C Others : Hastelloy C	B											
			Carbon steel	SCS14A*1	SUS316	Diaphragm : Tantalum Others : Tantalum	D											
			SCS14A*1	SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316	E											
			SCS14A*1	SCS14A*1	SUS316	Diaphragm : Hastelloy C Others : Hastelloy C	F											
			SCS14A*1	SCS14A*1	SUS316	Diaphragm : Tantalum Others : Tantalum	H											
			SCS14A*1	SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316L	U											
			PVC	PVC	PVC	Diaphragm : Hastelloy C Others : Hastelloy C	M*6											
			PVC	PVC	PVC	Diaphragm : Tantalum Others : Tantalum	P*6											
			Carbon steel Ni plating	SCS14A*1	SUS316	Diaphragm : Hastelloy C Others : Hastelloy C	8											
			Carbon steel Ni plating	SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316	9											
II	Fill Fluid		Regular type (Silicone oil)				1	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
			For oxygen service (Fluorine oil)				2 *3				✔	✔	✔	✔	✔	✔		
			For chlorine service (Fluorine oil)				5 *3						✔			✔		
III	Process Connection	Front Connection	Rc1/2 with adapter flange				J	✔	✔		✔	✔					✔	✔
			1/2NPT internal thread with adapter flange				H	✔	✔		✔	✔					✔	✔
			Rc1/4 with adapter flange				M	✔	✔		✔	✔					✔	✔
			1/4NPT internal thread with adapter flange				N	✔	✔		✔	✔					✔	✔
			1/4NPT internal thread on head				P	✔	✔		✔	✔					✔	✔
		Top or Bottom Connection	HART communication				Q *5			✔			✔	✔	✔	✔		
			1/2NPT internal thread with adapter flange				R *5			✔			✔	✔	✔	✔		
			Rc1/4 with adapter flange				S *5			✔			✔	✔				
			1/4NPT internal thread with adapter flange				T *5			✔			✔	✔				
			1/4NPT internal thread on head				U *5			✔			✔	✔				
							-											
							00000											
							-											

Options I																		
	No options						X	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Lightning arrester						L	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Built-in indicating smart meter(0 to 100% liner scales)						P	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Built-in indicating smart meter(engineering unit scales)						R	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	SUS304 Bolt and nuts material						W	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	SUS630 Bolt and nuts material						U	✔	✔	✔	✔	✔	✔	✔			✔	✔
	Corrosion-resistant finish						A	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Corrosion-proof finish						B	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Corrosion-resistant finish, silver paint						D	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Oil Free finish						K				✔	✔	✔	✔	✔	✔		
	Long Vent/drain plugs						J	✔	✔	✔	✔	✔	✔	✔			✔	✔
	FM Explosionproof						3	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	FM Intrinsically safe						4	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Combination of FM Explosionproof and Intrinsically safe						5	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	INERIS/CENELEC Flameproof						6	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
							-											

Options II																		
	No option						XX	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Adapter flange for corrosion -resistant application						A1*4			✔			✔	✔		✔		
	Burn-out feature (Lower limit of value at abnormal condition)						A4 *2	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Burn-out feature (Upper limit of value at abnormal condition)						A5 *2	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Water free finish (with Oil free finish)						A7				✔	✔	✔	✔	✔	✔		
	NEPSI Flameproof						C1	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	NEPSI Intrinsically safe						C2	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Custom calibration						C7	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Digital output						D5	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	HART communication						D7*7	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	One Elbow						E1	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Two Elbows						E2	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	External zero/span adjustment						E5	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Mounting bracket						E9	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Side vent/drain top						F1	✔	✔		✔	✔					✔	✔
	Side vent/drain bottom						F2	✔	✔		✔	✔					✔	✔
	SI unit						U1	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔

*1 SCS14A (Equivalent SUS316) or SUSF316
*2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.
*3 In case "For oxygen or chlorine (Fluorine oil) service" is used, it's recommended to select "oil free finish - code K"
*4 In case Manifold valve is used and in case code D, H, U or P is used, please select code A1 of OptionII
*5 Applicable for wetted parts of center body material ;Tantalum,SUS316L
*6 SUS304 bolts and nuts material (-W) must be selected when PVC meterbody cover is selected (-M or -P)
*7 Intrinsically safe for FM or NEPSI approval cannot be selected with -D7.

ST3000 Series 900 Electric Differential Pressure Transmitter
Model STD960 (Standard Type for Super-high Differential Pressure)

Model No. : STD960 - I II III - 00000 - Option I - Option II

Basic Model No.

	Measuring Span	0.25 to 14MPa (2.5 to 140kgf/cm2)	STD960

Selection I							Code	Material Code								
I	Material		Meter Body Cover	Adapter Flange	Vent/Drain Plugs	Wetted Parts of Center Body		A	B	D	E	F	H	U	8	9
			Carbon steel	SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316	A									
			Carbon steel	SCS14A*1	SUS316	Diaphragm : Hastelloy C Others : Hastelloy C	B									
			Carbon steel	SCS14A*1	SUS316	Diaphragm : Tantalum Others : Tantalum	D									
			SCS14A*1	SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316	E									
			SCS14A*1	SCS14A*1	SUS316	Diaphragm : Hastelloy C Others : Hastelloy C	F									
			SCS14A*1	SCS14A*1	SUS316	Diaphragm : Tantalum Others : Tantalum	H									
			SCS14A*1	SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316L	U									
			Carbon steel Ni plating	SCS14A*1	SUS316	Diaphragm : Hastelloy C Others : Hastelloy C	8									
			Carbon steel Ni plating	SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316	9									
II	Fill Fluid		Regular type (Silicone oil)				1	✔	✔	✔	✔	✔	✔	✔	✔	✔
			For oxygen service (Fluorine oil)				2 *3				✔	✔	✔	✔		
			For chlorine service (Fluorine oil)				5 *3						✔			
III	Process Connection	Front Connection	Rc1/2 with adapter flange				J	✔			✔					✔
			1/2NPT internal thread with adapter flange				H	✔			✔					✔
			Rc1/4 with adapter flange				M	✔			✔					✔
			1/4NPT internal thread with adapter flange				N	✔			✔					✔
			1/4NPT internal thread on head				P	✔			✔					✔
		Top or Bottom Connection	Rc1/2 with adapter flange				Q *5		✔	✔		✔	✔	✔	✔	
			1/2NPT internal thread with adapter flange				R *5		✔	✔		✔	✔	✔	✔	
			Rc1/4 with adapter flange				S *5		✔	✔		✔	✔	✔	✔	
			1/4NPT internal thread with adapter flange				T *5		✔	✔		✔	✔	✔	✔	
			1/4NPT internal thread on head				U *5		✔	✔		✔	✔	✔	✔	
							-									
							00000									
							-									

Options I																
	No options	X	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Lightning arrester	L	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Built-in indicating smart meter(0 to 100% liner scales)	P	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Built-in indicating smart meter(engineering unit scales)	R	✔	✔	✔	✔	✔	✔	✔	✔	✔
	SUS304 Bolt and nuts material	W	✔	✔	✔	✔	✔	✔	✔	✔	✔
	SUS630 Bolt and nuts material	U	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Corrosion-resistant finish	A	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Corrosion-proof finish	B	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Corrosion-resistant finish, silver paint	D	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Oil Free finish	K				✔	✔	✔	✔		
	Long Vent/drain plugs	J	✔	✔	✔	✔	✔	✔	✔	✔	✔
	FM Explosionproof	3	✔	✔	✔	✔	✔	✔	✔	✔	✔
	FM Intrinsically safe	4	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Combination of FM Explosionproof and Intrinsically safe	5	✔	✔	✔	✔	✔	✔	✔	✔	✔
	INERIS/CENELEC Flameproof	6	✔	✔	✔	✔	✔	✔	✔	✔	✔
		-									

Options II																
	No option	XX	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Adapter flange for corrosion -resistant application	A1 *4		✔	✔		✔	✔	✔	✔	
	Burn-out feature (Lower limit of value at abnormal condition)	A4 *2	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Burn-out feature (Upper limit of value at abnormal condition)	A5 *2	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Water free finish (with Oil free finish)	A7				✔	✔	✔	✔		
	NEPSI Flameproof	C1	✔	✔	✔	✔	✔	✔	✔	✔	✔
	NEPSI Intrinsically safe	C2	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Custom calibration	C7	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Digital output	D5	✔	✔	✔	✔	✔	✔	✔	✔	✔
	HART communication	D7*6	✔	✔	✔	✔	✔	✔	✔	✔	✔
	One Elbow	E1	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Two Elbows	E2	✔	✔	✔	✔	✔	✔	✔	✔	✔
	External zero/span adjustment	E5	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Mounting bracket	E9	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Side vent/drain top	F1	✔			✔					✔
	Side vent/drain bottom	F2	✔			✔					✔
	SI unit	U1	✔	✔	✔	✔	✔	✔	✔	✔	✔

*1 SCS14A (Equivalent SUS316) or SUSF316

*2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.

*3 In case "For oxygen or chlorine (Fluorine oil) service" is used, it's recommended to select "oil free finish - code K"

*4 In case Manifold valve is used and in case code B, D, F, H or 8 is used, please select code A1 of OptionII

*5 Applicable for wetted parts of center body material ; Tantalum, HastelloyC

*6 Intrinsically safe for FM or NEPSI approval cannot be selected with -D7.

ST3000 Series 900 Electric Differential Pressure Transmitter
Model STD921 (High Static Pressure Type for Medium Differential Pressure)
Model STD931 (High Static Pressure Type for High Differential Pressure)

Model No. : STD921 - I II III - 00000 - Option I - Option II

Model No. : STD931 - I II III - 00000 - Option I - Option II

Basic Model No.

	Measuring Span	2.5 to 100kPa (250 to 10,160mmH2O)	STD921
		35 to 700kPa (0.35 to 7kgf/cm2)	STD931

Selection I						Code	Material Code		
I	Material		Meter Body Cover	Vent/Drain Plugs	Wetted Parts of Center Body		A	E	9
			Carbon steel	SUS316	Diaphragm:SUS316L Others : SUS316	A			
			SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316	E			
			Carbon steel Ni plating	SUS316	Diaphragm:SUS316L Others : SUS316	9			
II	Fill Fluid		Regular type (Silicone oil)			1	✔	✔	✔
			For oxygen service (Fluorine oil)			2 *3		✔	
III	Process Connection	Top or Bottom Connection	Rc1/2			Q	✔	✔	✔
			1/2NPT internal thread			R	✔	✔	✔
			Rc1/4			S	✔	✔	✔
			1/4NPT internal thread			T	✔	✔	✔
						-			
						00000			
						-			
Options I			No options			X	✔	✔	✔
			Lightning arrester			L	✔	✔	✔
			Built-in indicating smart meter(0 to 100% liner scales)			P	✔	✔	✔
			Built-in indicating smart meter(engineering unit scales)			R	✔	✔	✔
			SUS304 Bolt and nuts material			W	✔	✔	✔
			SUS630 Bolt and nuts material			U	✔	✔	✔
			Corrosion-resistant finish			A	✔	✔	✔
			Corrosion-proof finish			B	✔	✔	✔
			Corrosion-resistant finish, silver paint			D	✔	✔	✔
			Oil Free finish			K		✔	
			Long Vent/drain plugs			J	✔	✔	✔
			FM Explosionproof			3	✔	✔	✔
			FM Intrinsically safe			4	✔	✔	✔
			Combination of FM Explosionproof and Intrinsically safe			5	✔	✔	✔
			INERIS/CENELEC Flameproof			6	✔	✔	✔
						-			
Options II			No option			XX	✔	✔	✔
			Burn-out feature (Lower limit of value at abnormal condition)			A4 *2	✔	✔	✔
			Burn-out feature (Upper limit of value at abnormal condition)			A5 *2	✔	✔	✔
			Water free finish (with Oil free finish)			A7		✔	
			NEPSI Flameproof			C1	✔	✔	✔
			NEPSI Intrinsically safe			C2	✔	✔	✔
			Custom calibration			C7	✔	✔	✔
			Digital output			D5	✔	✔	✔
			HART communication			D7*4	✔	✔	✔
			One Elbow			E1	✔	✔	✔
			Two Elbows			E2	✔	✔	✔
			External zero/span adjustment			E5	✔	✔	✔
			Mounting bracket			E9	✔	✔	✔
			SI unit			U1	✔	✔	✔

*1 SCS14A (Equivalent SUS316) or SUSF316

*2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.

*3 In case "For oxygen or chlorine (Fluorine oil) service" is used, it's recommended to select "oil free finish - code K"

*4 Intrinsically safe for FM or NEPSI approval cannot be selected with -D7.

ST3000 Series 900 Electric Differential Pressure Transmitter
Model STD961 (High Static Pressure Type for Super-high Differential Pressure)

Model No. : STD961 - I II III - 00000 - Option I - Option II

Basic Model No.

	Measuring Span	0.25 to 14MPa (2.5 to 140kgf/cm2)	STD961

Selection I						Code	Material Code		
I	Material		Meter Body Cover	Vent/Drain Plugs	Wetted Parts of Center Body		A	E	9
			Carbon steel	SUS316	Diaphragm:SUS316L Others : SUS316	A			
			SCS14A*1	SUS316	Diaphragm:SUS316L Others : SUS316	E			
			Carbon steel Ni plating	SUS316	Diaphragm:SUS316L Others : SUS316	9			
II	Fill Fluid		Regular type (Silicone oil)			1	✔	✔	✔
			For oxygen service (Fluorine oil)			2 *3		✔	
III	Process Connection	Top or Bottom Connection	Rc1/2			Q	✔	✔	✔
			1/2NPT internal thread			R	✔	✔	✔
			Rc1/4			S	✔	✔	✔
			1/4NPT internal thread			T	✔	✔	✔
						-			
						00000			
						-			
Options I			No options			X	✔	✔	✔
			Lightning arrester			L	✔	✔	✔
			Built-in indicating smart meter(0 to 100% liner scales)			P	✔	✔	✔
			Built-in indicating smart meter(engineering unit scales)			R	✔	✔	✔
			SUS304 Bolt and nuts material			W	✔	✔	✔
			SUS630 Bolt and nuts material			U	✔	✔	✔
			Corrosion-resistant finish			A	✔	✔	✔
			Corrosion-proof finish			B	✔	✔	✔
			Corrosion-resistant finish, silver paint			D	✔	✔	✔
			Oil Free finish			K		✔	
			Long Vent/drain plugs			J	✔	✔	✔
			FM Explosionproof			3	✔	✔	✔
			FM Intrinsically safe			4	✔	✔	✔
			Combination of FM Explosionproof and Intrinsically safe			5	✔	✔	✔
			INERIS/CENELEC Flameproof			6	✔	✔	✔
						-			
Options II			No option			XX	✔	✔	✔
			Burn-out feature (Lower limit of value at abnormal condition			A4 *2	✔	✔	✔
			Burn-out feature (Upper limit of value at abnormal condition			A5 *2	✔	✔	✔
			Water free finish (with Oil free finish)			A7		✔	
			NEPSI Flameproof			C1	✔	✔	✔
			NEPSI Intrinsically safe			C2	✔	✔	✔
			Custom calibration			C7	✔	✔	✔
			Digital output			D5	✔	✔	✔
			HART communication			D7*4	✔	✔	✔
			One Elbow			E1	✔	✔	✔
			Two Elbows			E2	✔	✔	✔
			External zero/span adjustment			E5	✔	✔	✔
			Mounting bracket			E9	✔	✔	✔
			SI unit			U1	✔	✔	✔

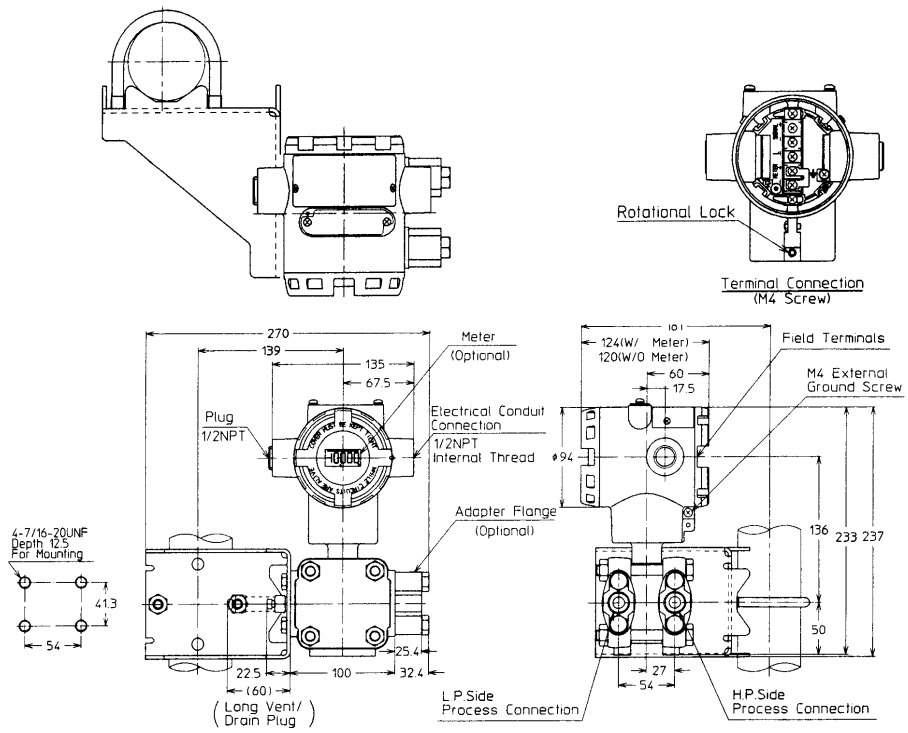
*1 SCS14A (Equivalent SUS316) or SUSF316
*2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.
*3 In case "For oxygen or chlorine (Fluorine oil) service" is used, it's recommended to select "oil free finish - code K"
*4 Intrinsically safe for FM or NEPSI approval cannot be selected with -D7.

DIMENSIONS

STD910 /960

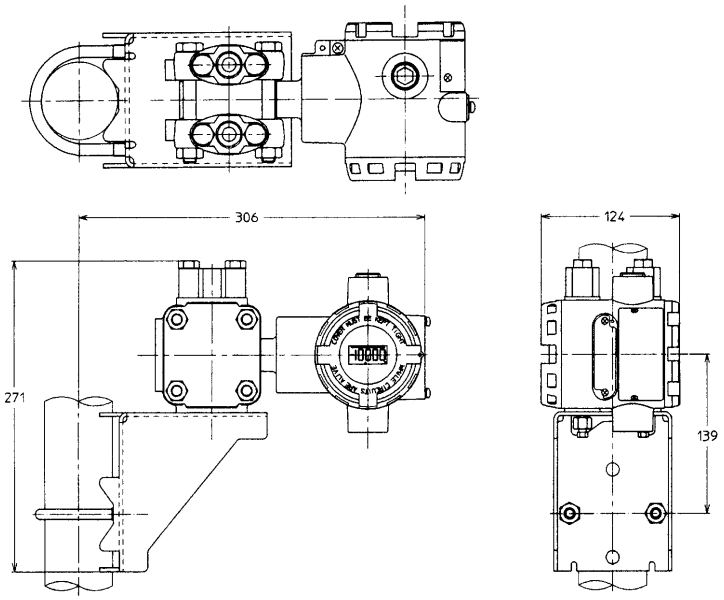
Process Connection : Front side

(Unit: mm)



Process Connection : Top or Bottom side

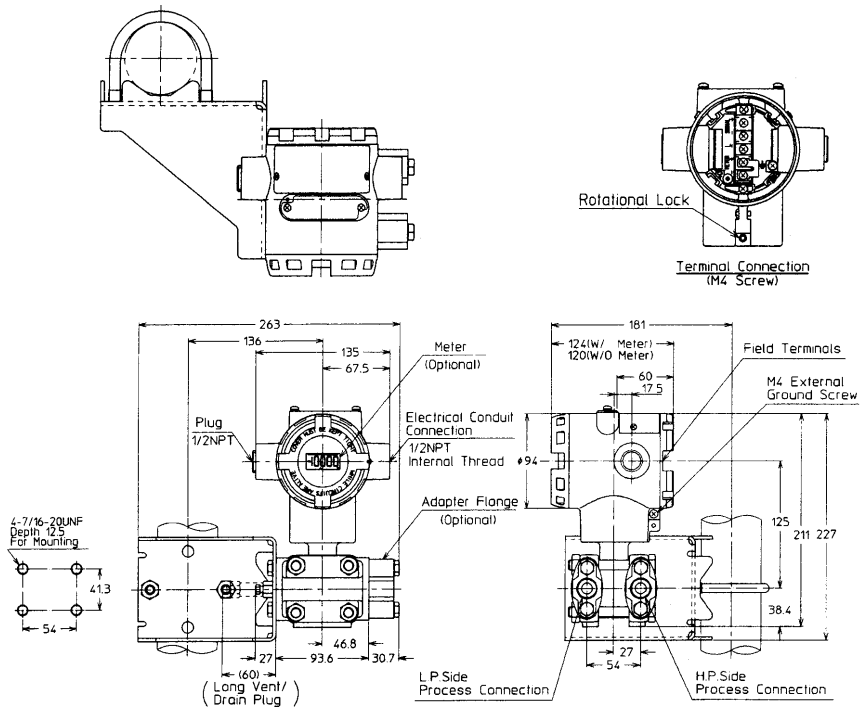
*Meter unit inside of Transmitter can be rotated for the following installation.



STD920/930

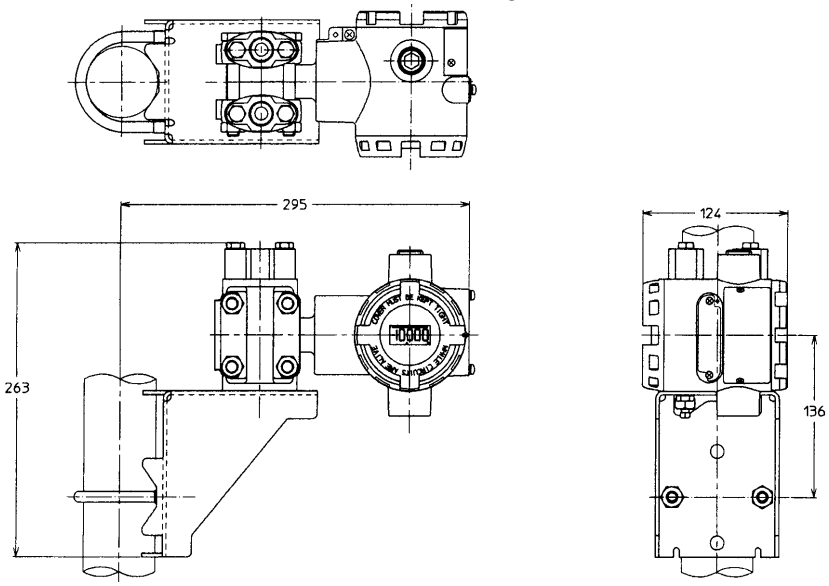
Process Connection : Front side

(Unit: mm)



Process Connection : Top or Bottom side

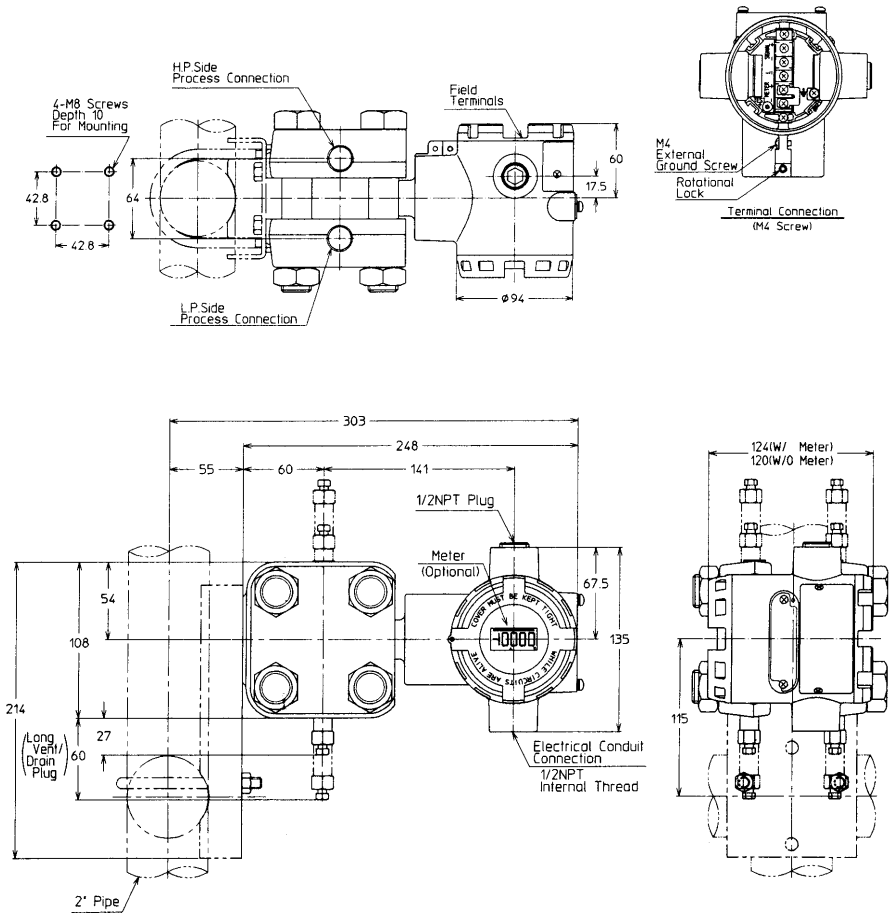
*Meter unit inside of Transmitter can be rotated for the following installation.



STD921/931/961

Process Connection : Top or Bottom side

(Unit: mm)



STD920 (Wetted parts materials: Tantalum, SUS316L)
STD930 (Wetted parts materials: Tantalum, SUS316L)
STD960 (Wetted parts materials: Tantalum, Hastelloy C)

Process Connection : Top or Bottom side

(Unit: mm)