

ST3000 Series 900 Smart Transmitter

Differential Pressure Transmitters with FOUNDATION™ fieldbus

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

OVERVIEW

The ST3000 Series 900 with FOUNDATION™ fieldbus is an accurate, stable, and reliable pressure / differential pressure transmitter, which fully complies with the 31.25kbps voltage mode FOUNDATION™ fieldbus. Its built-in AI function blocks provide process variables to devices on the Fieldbus and its PID control function block enables process control in the field.

Since the ST3000 Series 900 is FOUNDATION™ registered, it can operate seamlessly with other registered field devices as well as host systems in a wide range of control applications.



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 (range ability)

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.

FOUNDATION™ is a registered trademark of the Fieldbus Foundation.

APPLICATION

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 fluid such as chemical liquids and corrosive fluids.

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, vibration, 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

Measuring span / Setting range / Working pressure range

	Measuring Span	Measuring range	Working Pressure Range
STD 910	0.1~2kPa {10 to 200mmH ₂ O}	-1 to 1kPa {-100 to 100mmH ₂ O}	-70 to 210kPa {-0.7 to 2.1kgf/cm ² } (See Figure 2)
STD 920	0.75 to 100kPa {75~10160mmH ₂ O}	-100 to 100kPa {-10160 to 10160mmH ₂ O}	2.0kPa abs to 21MPa {15mmHg abs to 210kgf/cm ² } *Note 1, Note 2 (For vacuum pressure, see Figure 1)
STD 930	35 to 700kPa {0.35 to 7kgf/cm ² }	-100 to 700kPa {-1 to 7kgf/cm ² }	2.0kPa abs to 21MPa {15mmHg abs to 210kgf/cm ² } *Note 2 (For vacuum pressure, see Figure 1)
STD 960	0.25 to 14MPa {2.5 to 140kgf/cm ² }	-0.1 to 14MPa {-1 to 140kgf/cm ² }	2.0kPa abs to 21MPa {15mmHg abs to 210kgf/cm ² } *Note 2 (For vacuum pressure, see Figure 1)
STD 921	2.5 to 100kPa {250~10160mmH ₂ O}	-100 to 100kPa {-10160 to 10160mmH ₂ O}	2.0kPa abs to 42MPa {15mmHg abs to 420kgf/cm ² } *Note 3 (For vacuum pressure, see Figure 1)
STD 931	35 to 700kPa {0.35 to 7kgf/cm ² }	-100 to 700kPa {-1 to 7kgf/cm ² }	2.0kPa abs to 42MPa {15mmHg abs to 420kgf/cm ² } *Note 3 (For vacuum pressure, see Figure 1)
STD 961	0.25 to 14MPa {2.5 to 140kgf/cm ² }	-0.1 to 14MPa {-1 to 140kgf/cm ² }	2.0kPa abs to 42MPa {15mmHg abs to 420kgf/cm ² } *Note 3 (For vacuum pressure, see Figure 1)

- Note) 1) With PVC wetted parts, the maximum working pressure is 1.5 MPa {15 kgf/cm²}.
- 2) With SUS304 bolts and nuts, the maximum working pressure is 7 MPa {70 kgf/cm²}.
- 3) With SUS304 bolts and nuts, the maximum working pressure is 23 MPa {230 kgf/cm²}.

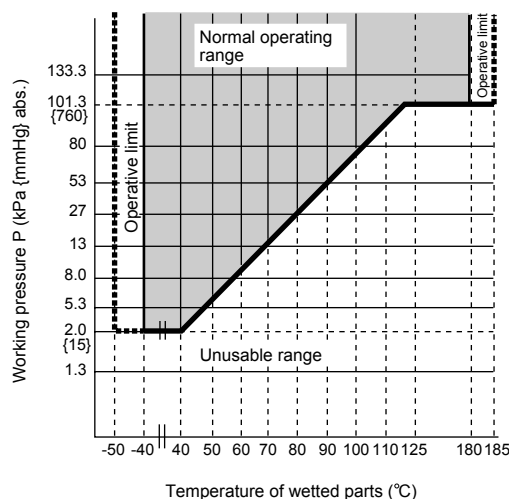


Figure 1 Working Pressure and Temperature of Wetted Parts Section (for General purpose models)

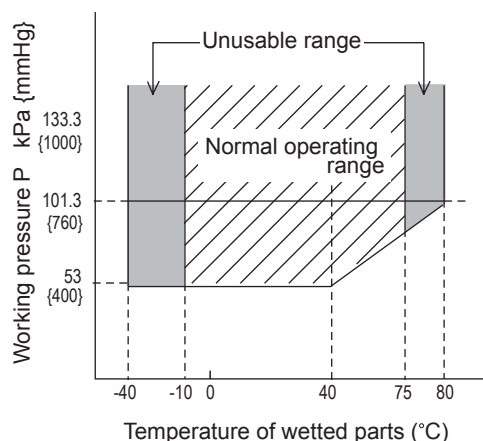


Figure 2 Working Pressure and Temperature of Wetted Parts Section (for Oxygen and chlorine service)

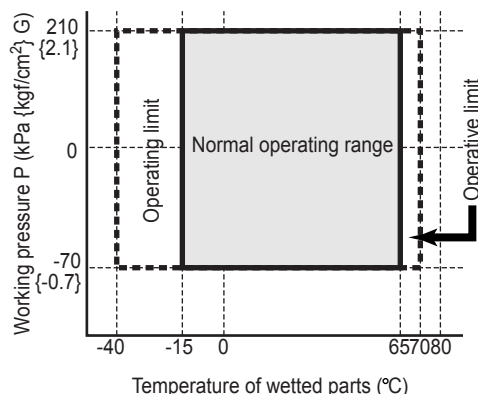


Figure 3 Working Pressure and Temperature of Wetted Parts Section (For STD910)

Supply voltage

9 to 32V DC.

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

Lightning protection

Peak value of voltage surge: 12kV

Peak value of current surge: 1000A

Optional specifications**Built-in indicating meter**

The digital LCD indicator (optional) indicates engineering units and can be set freely between -19999 and 19999 (4.5 digits).

Bolts and nuts materials (for fastening meter body cover)

Carbon steel (SNB7), SUS304, SUS630

(Pressure rating 7000kPa {70kgf/cm²} or Flange rating)

Baked acrylic paint.

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 coated with silver paint 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.

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 as specified.

PHYSICAL SPECIFICATIONS**Materials****Fill fluid**

Silicone oil for general purpose and 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

Carbonsteel (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 is the percentage ratio for χ (kPa), which is the greatest value of either XD_SCALE_EU_100, XD_SCALE_EU_0, or the span.

STD910

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

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

STD920 / 921

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

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

Note (*1):XD_SCALE_EU_100 denotes the upper limit of the calibration range.

(*2):XD_SCALE_EU_0 denotes the lower limit of the calibration range.

(*3):Within a range of XD_SCALE_EU_100 ≥ 0 and XD_SCALE_EU_0 ≥ 0

STD930 / 931

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

Accuracy (*3)	<p>Linear output: $\pm 0.1\%$ (For $\chi \geq 140kPa$ {1.4kgf/cm²}) $\pm \left(0.025 + 0.075 \times \frac{140}{\chi}\right) \%$ (For $\chi < 140kPa$ {1.4kgf/cm²})</p> <p>Square-root output: When output is 50 to 100%: same as the linear output When output is 7.1 to 50%: linear output $\times \frac{50}{\text{square-root} \cdot \text{output}} \%$ When output is less than 7.1%: dropout</p>
Temperature characteristics (Shift from the set range) (*3) Change of 55°C	<p>Zero shift: $\pm \left(0.25 + 0.3 \times \frac{210}{\chi}\right) \%$</p> <p>Combined shift: (including zero and span shifts) $\pm 0.8\%$ (For $\chi \geq 210kPa$ {2.1kgf/cm²}) $\pm \left(0.35 + 0.45 \times \frac{210}{\chi}\right) \%$ (For $\chi < 210kPa$ {2.1kgf/cm²})</p>
Static pressure effect (Shift with respect to Setting range) (*3) Change of 7 MPa {70 kgf/cm ² }	<p>Zero shift: $\pm \left(0.03 + 0.17 \times \frac{700}{\chi}\right) \%$</p> <p>Combined shift: (including zero and span shifts) $\pm \left(0.03 + 0.37 \times \frac{700}{\chi}\right) \%$</p>

STD960 / 961

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

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

Note) (*3): Within a range of XD_SCALE_EU_100 ≥ 0 and XD_SCALE_EU_0 ≥ 0

STD920

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

Accuracy (*3)	Linear output: $\pm 0.3\%$ (For $\chi \geq 5.0kPa$ {500mmH ₂ O}) $\pm\left(0.225 + 0.075 \times \frac{5.0}{\chi}\right)\%$ (For $\chi < 5.0kPa$ {500mmH ₂ O}) Square-root output: When output is 50 to 100%: same as the linear output When output is 7.1 to 50%: linear output $\times \frac{50}{\text{square-root} \cdot \text{output}}\%$ 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: $\pm\left(0.15 + 0.6 \times \frac{20.0}{\chi}\right)\%$ Combined shift: (including zero and span shifts) $\pm\left(0.55 + 0.65 \times \frac{20.0}{\chi}\right)\%$
Static pressure effect (Shift with respect to Setting range) (*3) Change of 7 MPa {70 kgf/cm ² }	Zero shift: $\pm\left(0.03 + 0.62 \times \frac{20.0}{\chi}\right)\%$ Combined shift: (including zero and span shifts) $\pm\left(0.55 + 0.45 \times \frac{20.0}{\chi}\right)\%$ ($\chi \geq 20.0kPa$ {2000mmH ₂ O}) $\pm\left(0.18 + 0.82 \times \frac{20.0}{\chi}\right)\%$ ($\chi < 20.0kPa$ {2000mmH ₂ O})

STD930

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

Accuracy (*3)	Linear output: $\pm 0.3\%$ ($\chi \geq 140kPa$ {1.4kgf/cm ² }) $\pm\left(0.025 + 0.075 \times \frac{140}{\chi}\right)\%$ (For $\chi < 140kPa$ {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 $\times \frac{50}{\text{square-root} \cdot \text{output}}\%$ 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: $\pm\left(0.15 + 0.6 \times \frac{210}{\chi}\right)\%$ Combined shift: (including zero and span shifts) $\pm 1.20\%$ ($\chi \geq 210kPa$ {2.1kgf/cm ² }) $\pm\left(0.55 + 0.65 \times \frac{210}{\chi}\right)\%$ (For $\chi < 210kPa$ {2.1kgf/cm ² })
Static pressure effect (Shift with respect to Setting range) (*3) Change of 7 MPa {70 kgf/cm ² }	Zero shift: $\pm\left(0.03 + 0.62 \times \frac{700}{\chi}\right)\%$ Combined shift: (including zero and span shifts) $\pm\left(0.03 + 0.50 \times \frac{700}{\chi}\right)\%$

Note) (*3): Within a range of XD_SCALE_EU_100 ≥ 0 and XD_SCALE_EU_0 ≥ 0

STD960

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

Accuracy (*3)	Linear output: $\pm 0.3\%$ (For $\chi \geq 3.5\text{MPa}$ {35kgf/cm ² }) $\pm\left(0.25 + 0.05 \times \frac{3.5}{\chi}\right)\%$ (For $\chi < 3.5\text{MPa}$ {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 $\times \frac{50}{\text{square-root} \cdot \text{output}}\%$ 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: $\pm\left(0.15 + 0.6 \times \frac{3.5}{\chi}\right)\%$ Combined shift: (including zero and span shifts) $\pm 1.20\%$ (For $\chi \geq 3.5\text{MPa}$ {35kgf/cm ² }) $\pm\left(0.55 + 0.65 \times \frac{3.5}{\chi}\right)\%$ (For $\chi < 3.5\text{MPa}$ {35kgf/cm ² })
Static pressure effect (Shift with respect to Setting range) (*3) Change of 7 MPa {70 kgf/cm ² }	Zero shift: $\pm\left(0.03 + 0.295 \times \frac{7}{\chi}\right)\%$ Combined shift: (including zero and span shifts) $\pm\left(0.45 + 0.125 \times \frac{7}{\chi}\right)\%$ (For $\chi \geq 7\text{MPa}$ {70kgf/cm ² }) $\pm\left(0.08 + 0.495 \times \frac{7}{\chi}\right)\%$ (For $\chi < 7\text{MPa}$ {70kgf/cm ² })

Note) (*3): Within a range of XD_SCALE_EU_100 ≥ 0 and XD_SCALE_EU_0 ≥ 0

Table 1: Measuring span/Measuring range/working pressure range

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

Note 1) With PVC wetted parts, the maximum working pressure is 1.5 MPa {15 kgf/cm²}.2) With SUS304 bolts and nuts, the maximum working pressure is 7 MPa {70 kgf/cm²}.3) With SUS304 bolts and nuts, the maximum working pressure is 23 MPa {230 kgf/cm²}.

FIELDBUS SPECIFICATIONS**Block supported by the S900**

Name of block	Number of block	Description	Max. execution time msec.
Resource block	1	The Resource Block (RB) maintains overall resources of the S900.	-
Transducer block	1	The Transducer Block (XB) interfaces with the sensing element of the S900, converts the measured value into specified engineering unit, and sends it to the AI Function Block.	-
AI Function Block	2	The AI Function Block (AI FB) accepts an analog input signal from the XB, scales it, detects alarm conditions, and provides it in a uniform format on the Fieldbus network.	75
Diagnostics Block	1	The Diagnostics Block (DB) is Yamatake proprietary block which provides the result of self-diagnostics of the S900.	-
PID Function Block	1	The PID Function Block (PID FB) accepts a process variable (PV) from an AI Function Block on the Fieldbus network, calculates the valve position using the PID algorithm, and sends a new valve output signal to the AO Function Block.	125

VCR structure

The S900 has 16 VCRs (Virtual Communication Relationships), of which the first one is dedicated to the SMIB/NMIB as defined by Foundation Fieldbus specifications. The rest of the VCRs are fully configurable. Their default configurations are shown below:

VCR No.	Configuration	VCR No.	Configuration
1	QUB (Server) for NIMIB/SMIB	9	QUU (Source)
2	BNU (Subscriber)	10	QUU (Source)
3	BNU (Subscriber)	11	QUU (Source)
4	BNU (Subscriber)	12	QUB (Server)
5	BNU (Subscriber)	13	QUB (Server)
6	BNU (Publisher)	14	QUB (Server)
7	BNU (Publisher)	15	QUB (Server)
8	QUU (Source)	16	QUB (Server)

Network parameters

The following table lists the key parameter values that affect the interoperability of the Fieldbus devices. The LAS must be configured to satisfy these parameters. If other devices on the same Fieldbus network require a greater number for them, the greater number must be used. This however will degrade network performance.

Symbol	Parameter name	Range of value
V (ST)	Slot Time	4 to 100
V (MID)	Minimum Interframe Gap	10 to $(V (MRD) - 1) \times V (ST)$, less than 120 inclusive.
V (MRD)	Maximum Response Delay	$V (MRD) \times V (ST)$ shall be greater than 20 and $V (MRD)$ shall be less than 11, inclusive.
T1	SM step timer	96000 (3 seconds)
T2	SM set address sequence timer	1920000 (60 seconds)
T3	SM set address wait timer	480000 (15 seconds)

- Note)
- An LAS requires parameters other than those listed here for operation. Please refer to the user's manual that is provided with your LAS device.
 - The T3 must be set between 15 seconds and 60 seconds.

MODEL SELECTION**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 200mmH ₂ O)	STD910
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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) *3				2	✓
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		
	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 *4				W	✓	
	SUS630 Bolt and nuts material *4				U	✓	
	Corrosion-resistant finish				A	✓	
	Corrosion-proof finish				B	✓	
	Corrosion-resistant finish, silver paint				D	✓	
	Oil Free finish				K	✓	
	Long Vent/drain plugs				J	✓	
			-				
Options II	No options				XX	✓	
	Water free finish (with Oil free finish)				A7	✓	
	Custom calibration				C7	✓	
	One Elbow				E1	✓	
	Two Elbows				E2	✓	
	Mounting bracket				E9	✓	
	Side vent/drain top				F1	✓	
	Side vent/drain bottom				F2	✓	
	SI unit				U1	✓	
	FOUNDATION™ fieldbus *33				D6	✓	
	Fieldbus communication stack BASIC class *33				L1	✓	

Note) *1 SCS14A (Equivalent SUS316) or SUSF316

*3 In case "For oxygen or chlorine (Fluorine oil) service" is used, "oil free finish - code K" must be selected.

*4 Notes of "Order Entry": "W" or "U" must be selected.

*33 "FOUNDATION™ fieldbus - code D6" and "Fieldbus communication stack BASIC class - code L1" must be selected.

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 10,160mmH ₂ O)	STD920
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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 *8	M											
		PVC	PVC	PVC	Diaphragm: Tantalum Others: Tantalum *8	P											
		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) *3			2				✓	✓	✓	✓	✓	✓	✓	✓	
		For chlorine service (Fluorine oil) *3			5						✓			✓			
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	✓	✓		✓	✓						✓	✓
					U							✓	✓				
	Top or Bottom Connection	Rc1/2 with adapter flange *7		Q						✓	✓	✓	✓	✓	✓	✓	✓
		1/2NPT internal thread with adapter flange *7		R						✓	✓	✓	✓	✓	✓	✓	✓
		Rc1/4 with adapter flange *7		S						✓	✓	✓	✓	✓	✓	✓	✓
		1/4NPT internal thread with adapter flange *7		T						✓	✓	✓	✓	✓	✓	✓	✓
		1/4NPT internal thread on head *7		U						✓	✓	✓	✓	✓	✓	✓	✓
				-													
					00000												
					-												
Options I					No options	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
					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	✓	✓	✓	✓	✓	✓	✓	✓	✓		
					-												
Options II					No option	XX	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
					Adapter flange for corrosion -resistant application *6	A1			✓	✓	✓	✓	✓	✓	✓		
					Water free finish (with Oil free finish)	A7				✓	✓	✓	✓	✓	✓		
					Custom calibration	C7	✓	✓	✓	✓	✓	✓	✓	✓	✓		
					One Elbow	E1	✓	✓	✓	✓	✓	✓	✓	✓	✓		
					Two Elbows	E2	✓	✓	✓	✓	✓	✓	✓	✓	✓		
					Mounting bracket	E9	✓	✓	✓	✓	✓	✓	✓	✓	✓		
					Side vent/drain top	F1	✓	✓		✓				✓	✓		
					Side vent/drain bottom	F2	✓	✓		✓				✓	✓		
					SI unit	U1	✓	✓	✓	✓	✓	✓	✓	✓	✓		
					FOUNDATION™ fieldbus *33	D6	✓	✓	✓	✓	✓	✓	✓	✓	✓		
					Fieldbus communication stack BASIC class *33	L1	✓	✓	✓	✓	✓	✓	✓	✓	✓		

- Note) *1 SCS14A (Equivalent SUS316) or SUSF316
 *3 In case "For oxygen or chlorine (Fluorine oil) service" is used, "oil free finish - code K" must be selected.
 *6 In case Manifold valve is used and in case code D, H, U or P is used, please select code A1 of Option II
 *7 Applicable for wetted parts of center body material;Tantalum,SUS316L
 *8 SUS304 bolts and nuts material (-W) must be selected when PVC meterbody cover is selected (-M or -P)
 *33 "FOUNDATION™ fieldbus - code D6" and "Fieldbus communication stack BASIC class - code L1" must be selected.

**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/cm ²)	STD930
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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 *8	M													
		PVC	PVC	PVC	Diaphragm: Tantalum Others: Tantalum *8	P													
		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) *3				2				✓	✓	✓	✓	✓	✓		-		
		For chlorine service (Fluorine oil) *3				5					✓					✓			
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	✓	✓		✓	✓							✓	✓
			Rc1/2 with adapter flange *7			Q			✓			✓	✓	✓	✓	✓			
	Top or Bottom Connection	1/2NPT internal thread with adapter flange *7			R			✓			✓	✓	✓	✓	✓				
		Rc1/4 with adapter flange *7			S			✓			✓	✓	✓	✓	✓				
		1/4NPT internal thread with adapter flange *7			T			✓			✓	✓	✓	✓	✓				
		1/4NPT internal thread on head *7			U			✓			✓	✓	✓	✓	✓				
					-														
					00000														
Options I		No options				X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
						-													
Options II		No option				XX	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		Adapter flange for corrosion-resistant application *6				A1			✓			✓	✓	✓	✓	✓	✓		
		Water free finish (with Oil free finish)				A7				✓	✓	✓	✓	✓	✓	✓	✓		
		Custom calibration				C7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		One Elbow				E1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		Two Elbows				E2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		Mounting bracket				E9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		Side vent/drain top				F1	✓	✓		✓	✓					✓	✓		
		Side vent/drain bottom				F2	✓	✓		✓	✓					✓	✓		
		SI unit				U1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		FOUNDATION™ fieldbus *33				D6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		Fieldbus communication stack BASIC class *33				L1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

- Note) *1 SCS14A (Equivalent SUS316) or SUSF316
 *3 In case "For oxygen or chlorine (Fluorine oil) service" is used, "oil free finish - code K" must be selected.
 *6 In case Manifold valve is used and in case code D, H, U or P is used, please select code A1 of Option II
 *7 Applicable for wetted parts of center body material; Tantalum,SUS316L
 *8 SUS304 bolts and nuts material (-W) must be selected when PVC meterbody cover is selected (-M or -P)
 *33 "FOUNDATION™ fieldbus - code D6" and "Fieldbus communication stack BASIC class - code L1" must be selected.

**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
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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) *3			2				✓	✓	✓	✓	✓				
		For chlorine service (Fluorine oil) *3			5						✓						
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 *9		Q		✓	✓		✓	✓	✓	✓	✓	✓	✓	
			1/2NPT internal thread with adapter flange *9		R		✓	✓		✓	✓	✓	✓	✓	✓	✓	
			Rc1/4 with adapter flange *9		S		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
			1/4NPT internal thread with adapter flange *9		T		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
			1/4NPT internal thread on head *9		U		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
					-												
					00000												
					-												
Options I	No options				X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
					-												
Options II	No option				XX	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	Adapter flange for corrosion-resistant application *6				A1		✓	✓		✓	✓	✓	✓	✓	✓		
	Water free finish (with Oil free finish)				A7				✓	✓	✓	✓	✓				
	Custom calibration				C7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	One Elbow				E1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	Two Elbows				E2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	Mounting bracket				E9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	Side vent/drain top				F1	✓			✓						✓		
	Side vent/drain bottom				F2	✓			✓						✓		
	SI unit				U1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	FOUNDATION™ fieldbus *33				D6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	Fieldbus communication stack BASIC class *33				L1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

Note) *1 SCS14A (Equivalent SUS316) or SUSF316
 *3 In case "For oxygen or chlorine (Fluorine oil) service" is used, "oil free finish - code K" must be selected.
 *6 In case Manifold valve is used and in case code D, H, U or P is used, please select code A1 of Option II
 *9 Applicable for wetted parts of center body material: Hastelloy C or Tantalum.
 *33 "FOUNDATION™ fieldbus - code D6" and "Fieldbus communication stack BASIC class - code L1" must be selected.

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 10,160mmH ₂ O)	STD921
		35 to 700kPa (0.35 to 7kgf/cm ²)	STD931

Selection I			Code	Material Code			
I	Material	Meter Body Cover	-	A	E	9	
		Carbon steel	SUS316	A			
		SCS14A*1	SUS316	E			
		Carbon steel Ni plating	SUS316	9			
II	Fill Fluid	Regular type (Silicone oil)	1	✓	✓	✓	
		For oxygen service (Fluorine oil) *3	2		✓		
III	Process Connection	Top or Bottom Connection	Rc1/2	Q	✓	✓	✓
			1/2NPT internal thread	R	✓	✓	✓
			Rc1/4	S	✓	✓	✓
			1/4NPT internal thread	T	✓	✓	✓
			-	-			
Options I			00000				
			-				
No options			X	✓	✓	✓	
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	✓	✓	✓	
			-	-	-	-	
Options II			XX	✓	✓	✓	
Water free finish (with Oil free finish)			A7		✓		
Custom calibration			C7	✓	✓	✓	
One Elbow			E1	✓	✓	✓	
Two Elbows			E2	✓	✓	✓	
Mounting bracket			E9	✓	✓	✓	
SI unit			U1	✓	✓	✓	
FOUNDATION™ fieldbus *33			D6	✓	✓	✓	
Fieldbus communication stack BASIC class *33			L1	✓	✓	✓	

Note) *1 SCS14A (Equivalent SUS316) or SUSF316
 *3 In case “For oxygen or chlorine (Fluorine oil) service” is used, “oil free finish - code K” must be selected.
 *33 “FOUNDATION™ fieldbus - code D6” and “Fieldbus communication stack BASIC class - code L1” must be selected.

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/cm ²)	STD961
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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) *3		2		✓		
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	✓	✓	✓		
	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	✓	✓	✓		
			-					
Options II	No option		XX	✓	✓	✓		
	Water free finish (with Oil free finish)		A7		✓			
	Custom calibration		C7	✓	✓	✓		
	One Elbow		E1	✓	✓	✓		
	Two Elbows		E2	✓	✓	✓		
	Mounting bracket		E9	✓	✓	✓		
	SI unit		U1	✓	✓	✓		
	FOUNDATION™ fieldbus *33		D6	✓	✓	✓		
	Fieldbus communication stack BASIC class *33		L1	✓	✓	✓		

Note) *1 SCS14A (Equivalent SUS316) or SUSF316

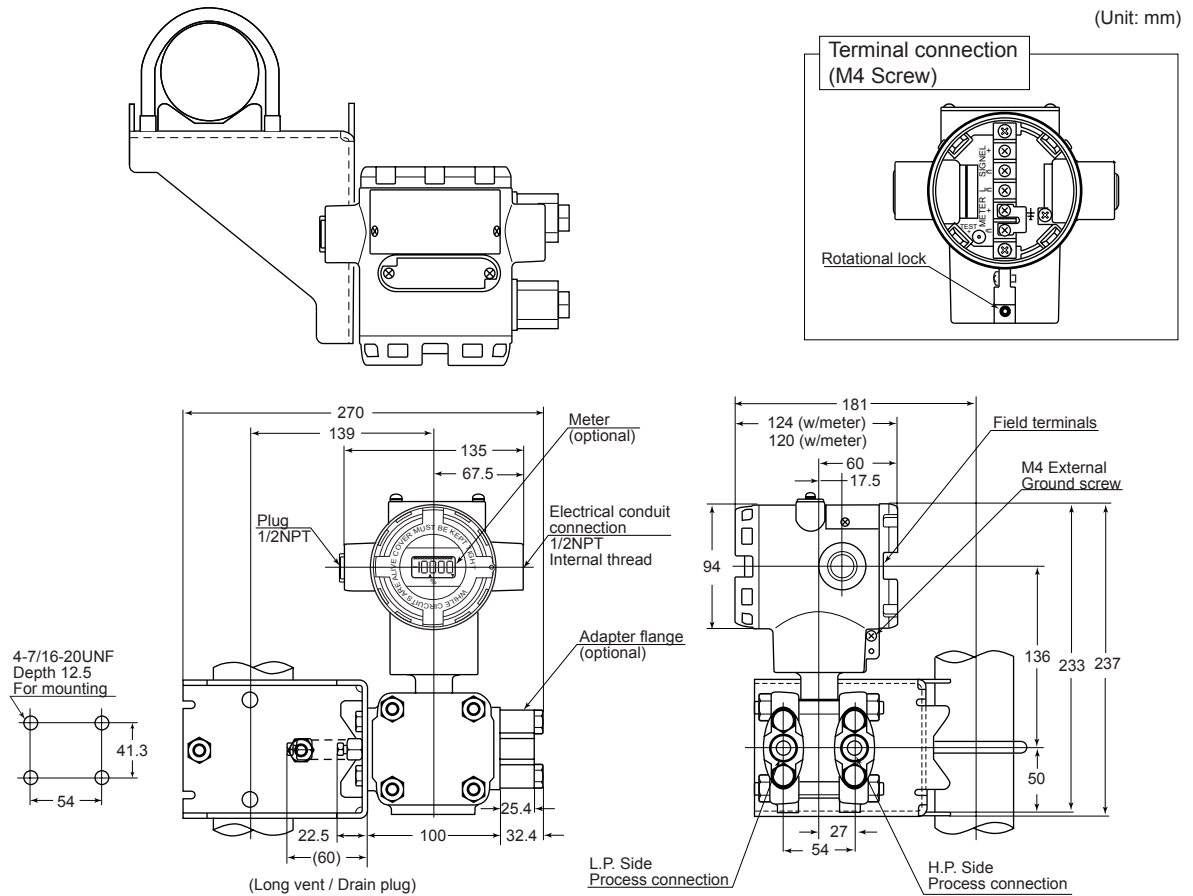
*3 In case “For oxygen or chlorine (Fluorine oil) service” is used, “oil free finish - code K” must be selected.

*33 “FOUNDATION™ fieldbus - code D6” and “Fieldbus communication stack BASIC class - code L1” must be selected.

DIMENSIONS

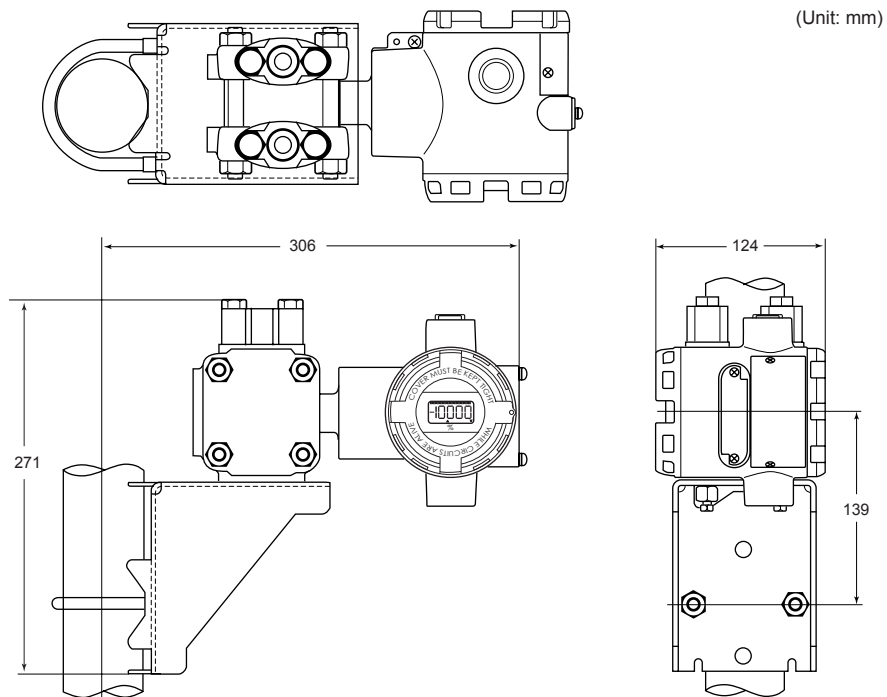
STD910/960

Process connection: Front side



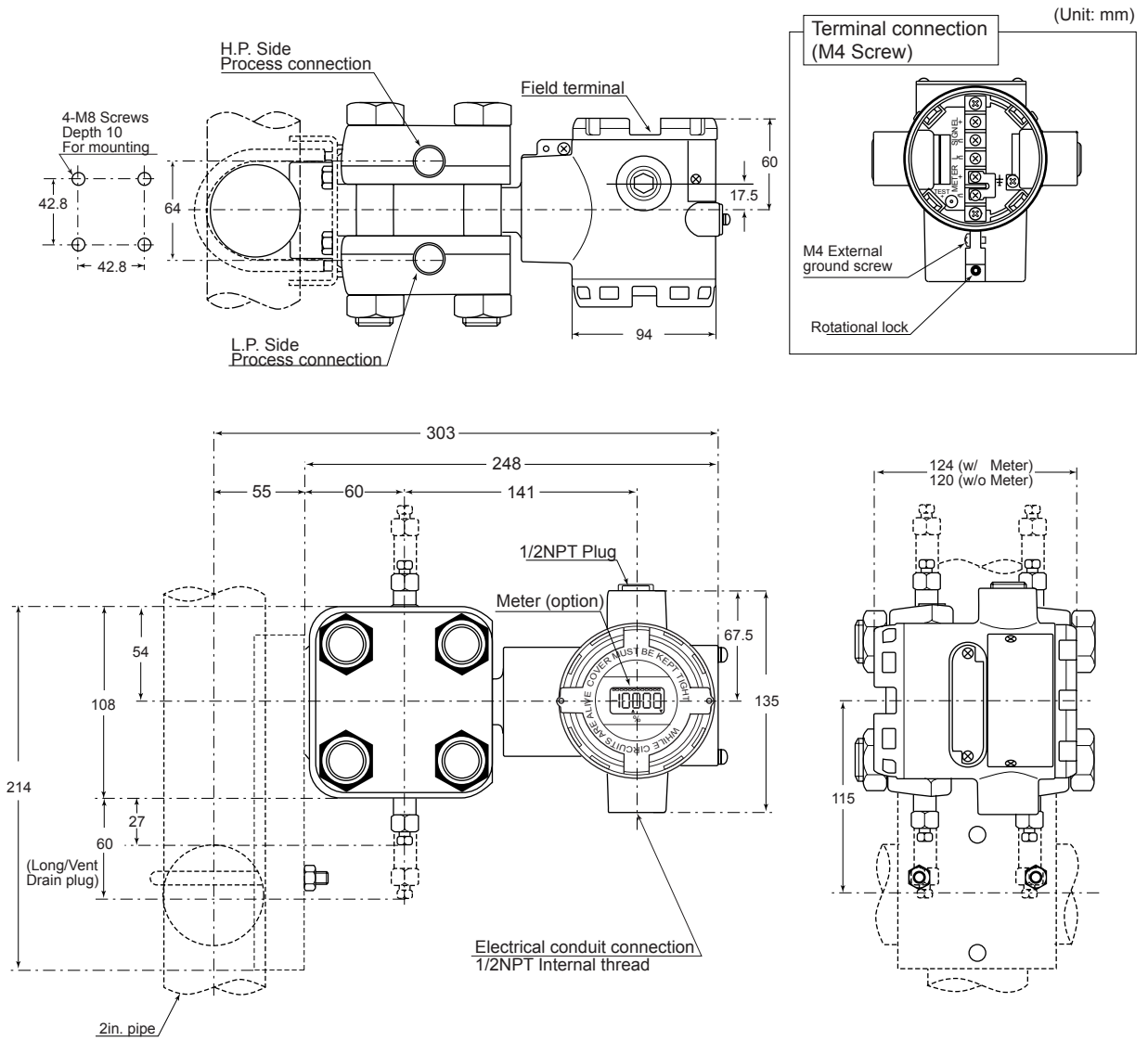
Process connection: Top or bottom side

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



STD921/931/961

Process connection: Top or bottom side

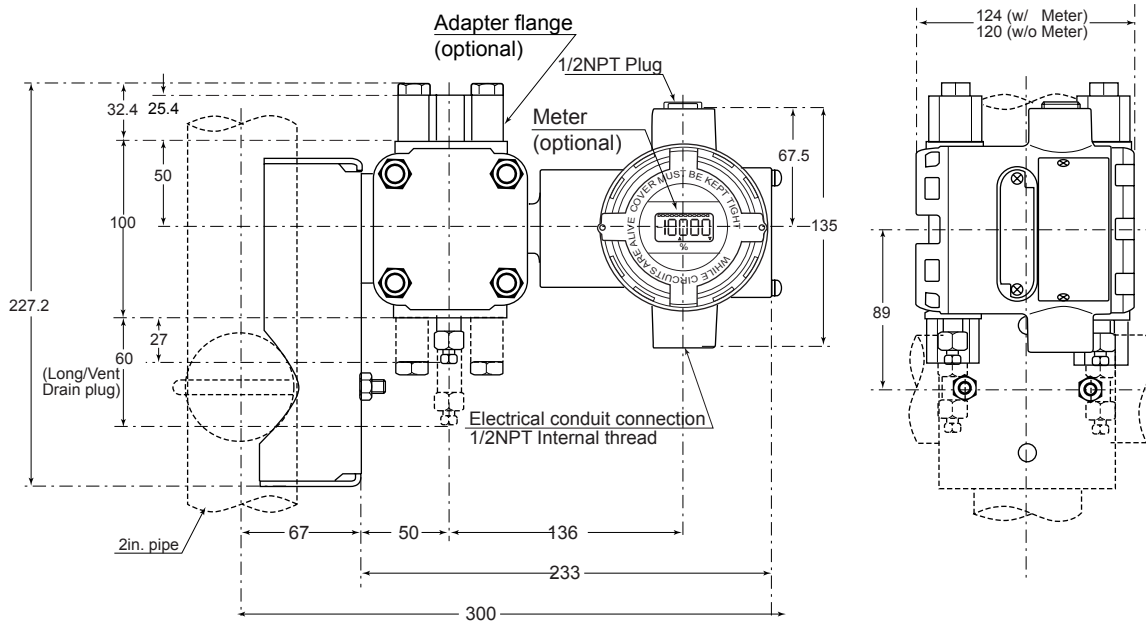
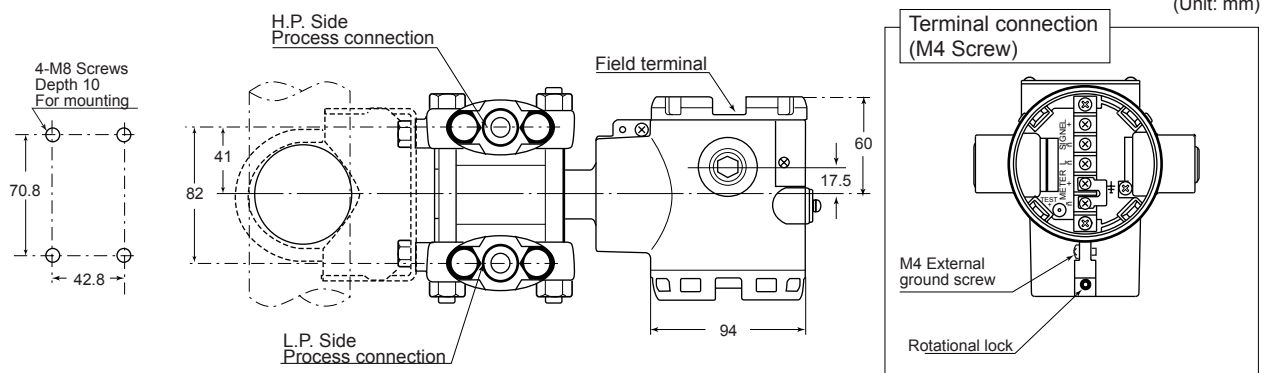


STD920 (Wetted parts materials: Tantalum, SUS316L)

STD930 (Wetted parts materials: Tantalum, SUS316L)

STD960 (Wetted parts materials: Tantalum, Hastelloy C)

Process Connection: Top or bottom side

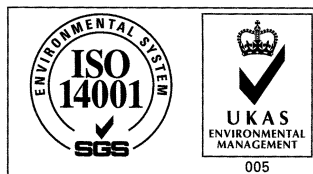


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