

ST 3000 Ace Smart Transmitter

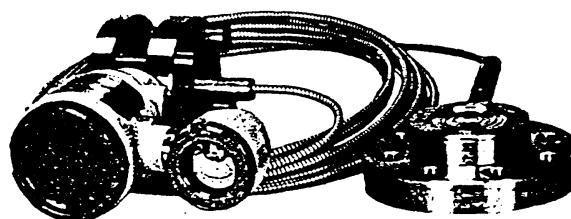
Model JTH940 (Small Flange Remote-Sealed Type for Pressure Transmitter)

Measuring Span: 0.7 to 35kgf/cm² (68.6 to 3430 kPa)

Introduction

The ST 3000* Small Flange Remote-Sealed Type Pressure Transmitter measures a process pressure and transmits an analog 4 to 20mA DC output proportional to the measured variable. The transmitter is a microprocessor-based instrument, whose parameters and settings (range, damping time constant, constant current output and others) can be remote-controlled from the instrument room via the SFC (Smart Field Communicator).

The Remote-Sealed Type Pressure Transmitter is applicable to measurement of pressure of process fluid which is even highly corrosive, highly condensible, of high viscosity, or which separates out metallic substances.



Standard Specifications

Item	Specifications
Measuring span (Continuously adjustable)	0.7 to 35kgf/cm ² (68.6 to 3430 kPa)
Setting range	-1 ≤ URV ^(**1) ≤ 35kgf/cm ² (-98.1 ≤ URV ≤ 3430 kPa) -1 ≤ LRV ^(**2) ≤ 35kgf/cm ² (-98.1 ≤ LRV ≤ 3430 kPa)
Output	Analog output (4 to 20mA DC)
Accuracy ^(**3)	Percentage with respect to χ that represents the URV or LRV of the calibrated range, or the span-whichever is greatest. ±0.3%....When χ is 3.5kgf/cm ² (343 kPa) or greater. ±(0.3 × $\frac{3.5}{\chi}$) %....When χ is less than 3.5kgf/cm ² (343 kPa).
Supply voltage and load resistance	10.8 to 45V DC (See Figure 1).
Working pressure rating	Up to flange pressure rating (For vacuum pressures, see Figure 2.)
Operating temperature range	Ambient temperature: Normal operating conditions; -15 to +65°C Operative limits (for short period); -30 to +80°C Transportation and storage conditions; -15 to +65°C Meter body (Process fluid) temperature: Normal operating conditions; -40 to +110°C Operative limits (for short period); -50 to +115°C
Operating humidity range	Normal operating conditions: 5 to 100% RH
Temperature effect ^(**3) (Shift with respect to setting range)	Percentage with respect to χ that represents the URV or LRV of the setting range, or the span - whichever is greatest. Zero shift; ±0.31%/10°C changeWhen χ is 3.5kgf/cm ² (343 kPa) or greater. ±(0.31 × $\frac{3.5}{\chi}$) %/10°C change....When χ is less than 3.5kgf/cm ² (343 kPa). Combined shift(Including zero and span shifts): ±0.80%/10°C changeWhen χ is 3.5kgf/cm ² (343 kPa) or greater. ±(0.80 × $\frac{3.5}{\chi}$) %/10°C change....When χ is less than 3.5kgf/cm ² (343 kPa) .

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

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

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

Item	Specifications
Lightning resistance	Voltage surge-peak value: 100kV Current surge-peak value: 1000A (Refer to JEC-212-1981)
Stability against supply voltage change	0.005% FS/V
Dead time	Approx. 0.4sec.
Damping time constant	Adjustable within a range of 0 to 32 sec. by 10 steps.
Process connection	Flange Flush Diaphragm type; JIS 10K, 20K, 30K-40mm, 50mm(RF) equivalent ANSI 150, 300-1 1/2" , 2" (RF) equivalent JPI 150, 300-1 1/2" , 2" (RF) equivalent
Electrical conduit connection	G1/2 internal thread
Structure	Water-proof and dust-proof structure: JIS C0920 water-tight, JIS F8001 Class 2 water-tight, NEMA 3 and 4X, IEC IP67.
Materials	Center body: SUS316 Meter body cover: SCS13 Bolts: SNB7 Process connection flange: Carbon steel (SF440A), SUS304 Watted parts: SUS316 (SUS316L for diaphragm only) Capillary tube: SUS316 Armored tube: SUS304 Transmitter case: Aluminium alloy
Finish	Baked acryl paint, Housing: Light beige (Munsell 4Y 7.2/1.3) Cap: Dark beige (Munsell 10YR 4.7/0.5)
Installation	Direct mounting on a process flange (Transmitter body is mounted on a 2-inch horizontal or vertical pipe)
Capillary tube length	2 or 3m (Specific gravity of the fill fluid is 0.935 at 25°C)
Weight	Approx. 7.9kg (with JIS 10K-40mm flange and 3m capillary tube.

Optional Specifications

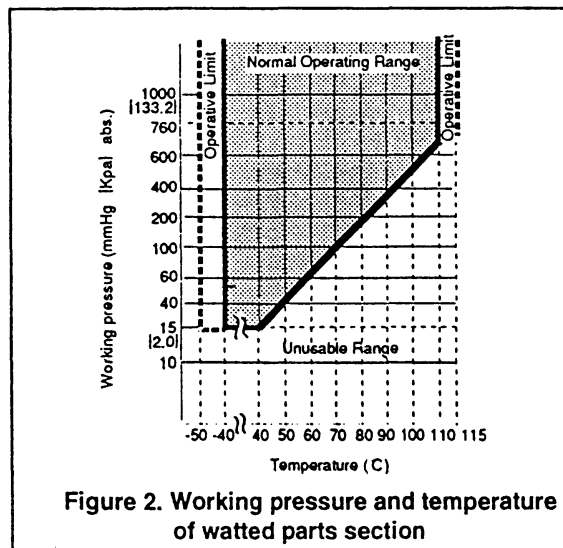
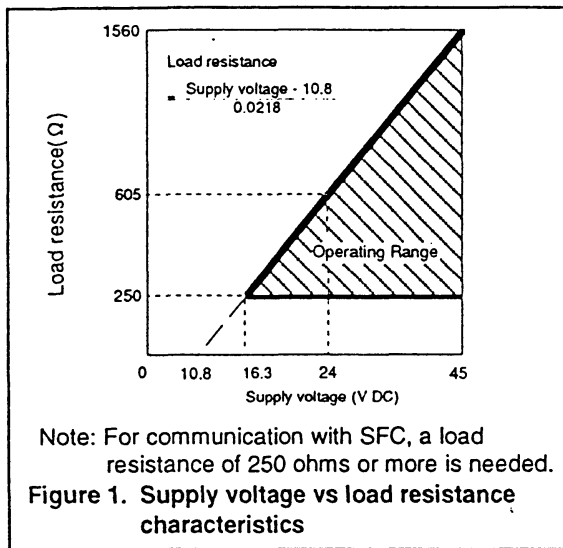
(The items other than the following are identical with those of the Standard Specifications.)

Item	Specifications
With indicating meter (Class 2.5)	Ambient temperature: Normal operating conditions; -15 to +65°C Operative limits (for short period); -30 to +80°C Transportation and storage conditions; -15 to +65°C
Corrosion-resistant finish	Corrosion-resistant paint (Baked acryl paint), fungus-proof finish (Silver paint when bolts and flanges are made of carbon steel.)
Corrosion-proof finish	Corrosion-proof paint (Baked epoxy paint), fungus-proof finish (Silver paint when bolts and flanges are made of carbon steel.)
Corrosion-resistant finish (Silver paint)	Transmitter case is silver-painted in addition to the above corrosion-resistant finish.
No oil finish	Excluding meter body cover is made of carbon steel.
Flame-proof packing type cable connecting adaptor	For electrical connection by the leading-in method of flame-proof packing type for special flame-proof structure.
Explosion-proof structure	JIS C0903 Exds II CT4 special flame-proof structure (Ambient temperature: -15 to +60°C, Meter body(Process fluid)temperature: -20 to +110°C)

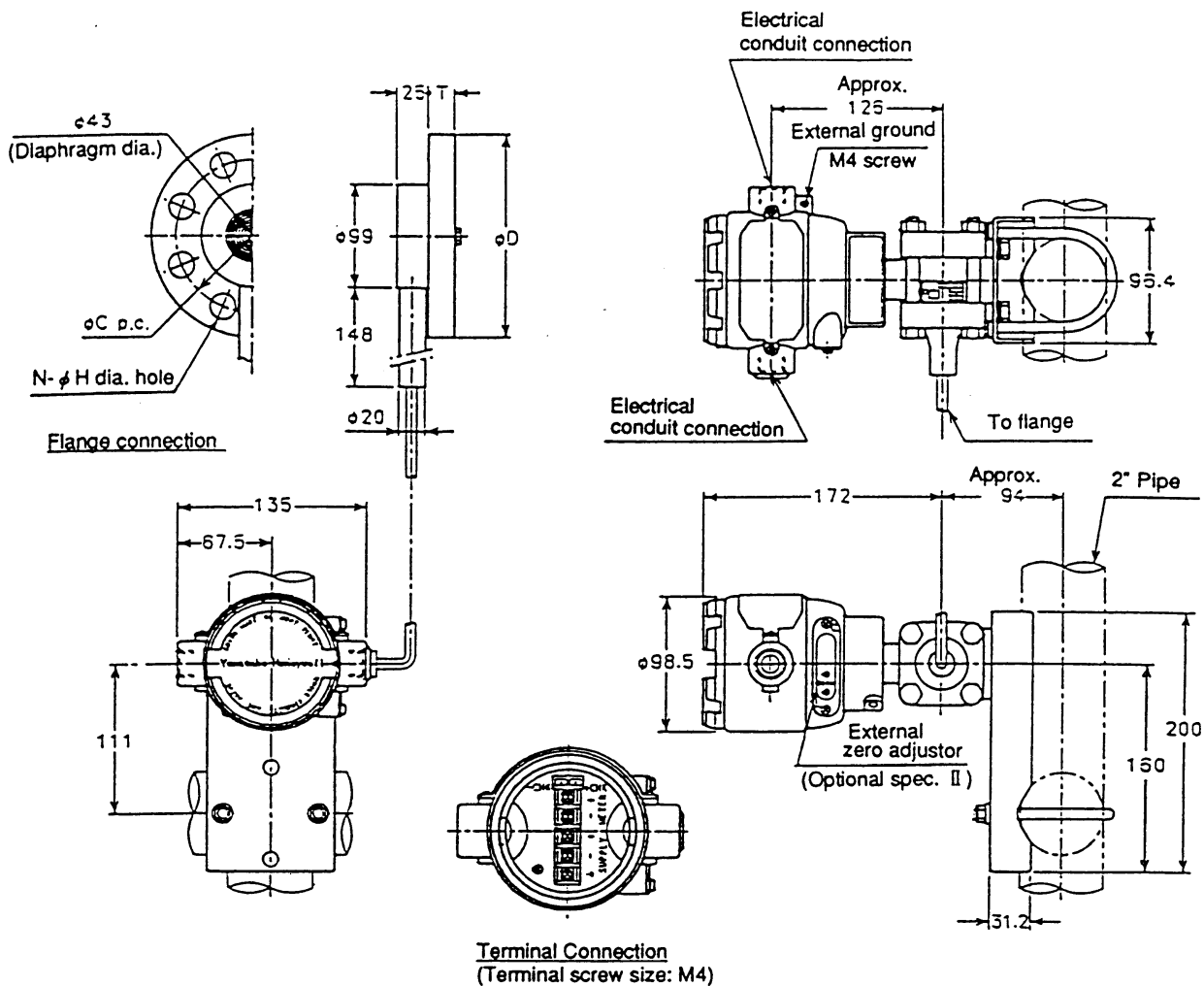
Model Number Table

Basic Model No.	Fill Fluid	Flange							Options I	Options II	Description
		Standard	Type and Rating	Flange Material	Material of Watted Parts	Finish of Gasket Face	Length of Extended Parts	Capillary Tube Length			
JTH940											Measuring span: 0.7 to 35kgf/cm ² (68.6 to 3430 KPa)
	-1										Regular type service (Silicon oil)
		A									ANSI flange
		J									JIS flange
		P									JPI flange
			A								Flush diaphragm type 10K/150
			B								Flush diaphragm type 20K/300
			C								Flush diaphragm type 30K
				1							Carbon steel
				7							SUS304
					2						SUS316 (Diaphragm: SUS316L)
						J					Standard
							01				Flush diaphragm type 2" (50mm)
							02				Flush diaphragm type 1 1/2" (40mm)
								2			$l=2m$
								3			$l=3m$
								-B			$l=2m$ (olefin covered capillary)
								-C			$l=3m$ (olefin covered capillary)
								-X			No option
								-M			With indicating meter (Standard scale)
								-A			Corrosion-resistant finish
								-B			Corrosion-proof finish
								-D			Corrosion-resistant finish, silver paint
								-N			1/2NPT internal-thread electrical conduit connection. (Unavailable combination with JIS special flame-proof structure)
								-K			No oil finish
								-P			One cable adaptor with flame-proof packing
								-Q			Two cable adaptors with flame-proof packing
								-1			JIS special flame-proof structure (Unavailable combination with 1/2 NPT internal)
								-XX			No options
								-A2			With external zero adjustment
								-A4			Burnout feature (Down limit of output at abnormal condition)
								-A5			Burnout feature (Upper limit of output at abnormal condition)
								-E1			With 1 elbow (Electric conduit connection or indicating meter)
								-E2			With 2 elbows (Electric conduit connection and indicating meter)
								-E4			Indicating meter routing (Reversal)

Note: The items enclosed in the bold-line boxes are for standard Specifications.



(Unit : mm)



Flange dimensions (Standard Flange)

Flange Rating	ϕ D	T	ϕ C	N	ϕ H	ϕ B
JIS 10K-40mm	140	16	105	4	19	81
JIS 20K-40mm	140	18	105	4	19	81
JIS 30K-40mm	160	22	120	4	23	81
ANSI150-1 1/2 "	127	18	98.6	4	16	81
ANSI300-1 1/2 "	155	21	114.3	4	22	81
JPI150-1 1/2 "	127	18	98.6	4	16	81
JPI300-1 1/2 "	155	21	114.3	4	22	81
JIS 10K-50mm	155	16	120	4	19	99
JIS 20K-50mm	155	18	120	8	19	99
JIS 30K-50mm	165	22	130	8	19	99
ANSI150-2"	152	19.5	120.6	4	19	99
ANSI300-2"	165	22.5	127	8	19	99
JPI150-2"	152	19.5	120.6	4	19	99
JPI300-2"	165	22.5	127	8	19	99

Figure 3. Dimension drawing

* "ST3000" is a trademark of Yamatake-Honeywell Co., Ltd.

Specifications are subject to change without notice.

Yamatake-Honeywell

Yamatake-Honeywell Co.,Ltd.

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Industrial Systems Division
Totate International Building
2-12-19, Shibuya, Shibuya-ku
Tokyo, 150, Japan
Phone: 81-3-3486-2141
Fax: 81-3-3409-0796

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