

# Electro-Pneumatic Positioner YT-1000L

Product Number: YT-1000L ■ ■ ■ ■ ■ ■ (specify your requirement)

Model	Acting Type	Explosion Proof	Lever Type	Orifice Type	Connection Type	Ambient Temp	Option
YT-1000L	<span style="border: 1px solid black; padding: 1px;">S</span> Single	<span style="border: 1px solid black; padding: 1px;">m</span> ExdmIIBT5	<span style="border: 1px solid black; padding: 1px;">1</span> 10 ~ 40mm	<span style="border: 1px solid black; padding: 1px;">1</span> $\phi$ 1	<span style="border: 1px solid black; padding: 1px;">1</span> PT	<span style="border: 1px solid black; padding: 1px;">S</span> -20°C ~ 60°C	<span style="border: 1px solid black; padding: 1px;">0</span> NONE
	<span style="border: 1px solid black; padding: 1px;">D</span> Double	<span style="border: 1px solid black; padding: 1px;">f</span> ExdmIIBT5 (FM)	<span style="border: 1px solid black; padding: 1px;">2</span> 30 ~ 70mm	<span style="border: 1px solid black; padding: 1px;">2</span> $\phi$ 2	<span style="border: 1px solid black; padding: 1px;">2</span> NPT	<span style="border: 1px solid black; padding: 1px;">H</span> -20°C ~ 120°C	<span style="border: 1px solid black; padding: 1px;">1</span> + PTM (Analog type)
		<span style="border: 1px solid black; padding: 1px;">C</span> ExdmIIC T5	<span style="border: 1px solid black; padding: 1px;">3</span> 60 ~ 100mm	<span style="border: 1px solid black; padding: 1px;">3</span> None		<span style="border: 1px solid black; padding: 1px;">L</span> -40°C ~ 70°C	<span style="border: 1px solid black; padding: 1px;">2</span> + SPTM (Smart type)
		<span style="border: 1px solid black; padding: 1px;">i</span> ExialIBT6	<span style="border: 1px solid black; padding: 1px;">4</span> 100 ~ 150mm				
		<span style="border: 1px solid black; padding: 1px;">n</span> Non-Explosion					



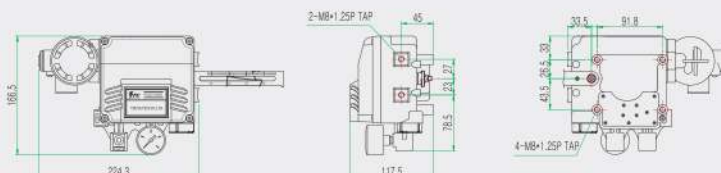
YT-1000L



YT-1000L+PTM(int.)

Item · Type	Single	Double
Input Signal	4-20mA DC	
Impedance	250 ± 15 Ω	
Supply Pressure	1.4 ~ 7kgf/cm <sup>2</sup> (20 ~ 100 psi)	
Stroke	10 ~ 150mm	
Air Connection	PT(NPT) 1/4	
Gauge Connection	PT(NPT) 1/8	
Conduit	PF 1/2 (G 1/2)	
Explosion Proof	Ex dm IIB T5 Ex dm IIC T5 Ex ia IIB T6	
Enclosure	IP66	
Ambient Temp.	Operating	-20°C~70°C(-4~158°F)
	Explosion	-20°C~60°C(-4~140°F)
Linearity	± 1% F.S.	± 2% F.S.
Hysteresis	± 1% F.S.	
Sensitivity	± 0.2% F.S.	± 0.5% F.S.
Repeatability	± 0.5% F.S.	
Air Consumption	3LPM (Sup=1.4kgf/cm <sup>2</sup> , 20psi)	
Flow Capacity	80LPM (Sup=1.4kgf/cm <sup>2</sup> , 20psi)	
Material	Aluminum Diecasting	
Weight	2.7kg (6.1 lb)	

\* For additional PTM specification refer to p.23.



The Electro-Pneumatic Positioner YT-1000L is used for operation of pneumatic linear valve actuators by means of electrical controller or control system with an analog output signal of DC 4 to 20mA or split ranges.

- Simple zero and span adjustment
- No resonance between 5-200Hz
- Auto/Manual switch
- RA v.s. DA action and 1/2 split range setting by simple adjustment
- Internal feedback signal is available as an option (weather proof only)

# Electro-Pneumatic Positioner YT-1000R

Model	Acting Type	Explosion Protection	Lever Type	Orifice Type	Conduit - Air Connection	Operating Temp *2	Option1	Option2 *2
YT-1000R	<b>S</b> Single	<b>N</b> Non-Explosion	<b>1</b> M6 x 34L	<b>1</b> $\phi$ 1	<b>1</b> G1/2 - PT1/4	<b>S</b> -20°C ~ 60°C	<b>0</b> NONE (St'd)	<b>0</b> NONE
	<b>D</b> Double	<b>M</b> ATEX, IECEx, TS, KCs	<b>2</b> M6 x 63L	<b>2</b> $\phi$ 2	<b>2</b> G1/2 - NPT1/4	<b>H</b> -20°C ~ 120°C	<b>1</b> Dome Cover	<b>1</b> + SPTM(Internal)
		<b>A</b> CSA, FM	<b>3</b> M8 x 34L	<b>3</b> None	<b>3</b> G1/2 - G1/4	<b>L</b> -40°C ~ 70°C		<b>2</b> + SPTM(External)
		<b>C</b> KCs, NEPSI	<b>4</b> M8 x 63L		<b>4</b> M20 - NPT1/4 *1			<b>3</b> + L/S (Internal)
		<b>I</b> KCs	<b>5</b> NAMUR		<b>5</b> NPT1/2 - NPT1/4			<b>4</b> + L/S (External)
		<b>X</b> TIIS						<b>5</b> + SPTM + L/S (Internal)
							<b>6</b> + SPTM + L/S (External)	

\*1 M20 adapter is attached to conduit entry

\*2 With high-low temp and/or internal external SPTM, L/S option, positioner must be non-explosion type.



YT-1000R



YT-1000R+SPTM(int)



YT-1000R+SPTM+L/S(int)



YT-1000R+DOME



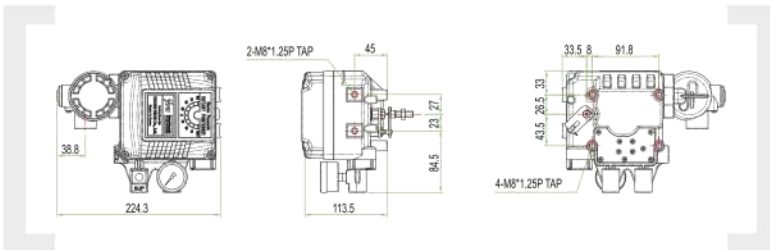
YT-1000R+L/S(ext)  
YT-1000R+SPTM+L/S(ext)



YT-1000R+SPTM(ext)

Item · Type	Single	Double
Input Signal	4-20mA DC	
Impedance	250 ± 15 Ω	
Supply Pressure	0.14~0.7MPa(1.4~7 bar)	
Stroke	0 ~ 90°	
Air Connection	PT(NPT,G)1/4	
Gauge Connection	PT(NPT) 1/8	
Conduit	G(PF,NPT)1/2, M20	
Explosion Protection Type	<b>ATEX</b> (II 2 G)Ex dmb IIB T5 <b>IECEx</b> (II 2 G)EEEx md IIB T5 <b>KCs</b> Ex dmb IIB T5;Ex d IIC T5 IP66/Ex ia IIB T6 Gb <b>TS</b> Ex db mb IIB T5 Gb X <b>CSA</b> (Class I, Zone 1)Ex dm IIB T5 <b>FM</b> XP-S/1/CD/T5 Ta=60...; DIP/1/1/1/1/EF/G/T5 Ta=60...;Type 4X <b>NEPSI</b> Ex dmb IIC T6 Gb <b>TIIS</b> Ex dmb IIB T5	
Ingress Protection	IP66	
Operating Temp	Operating	-20°C~70°C(-4~158°F)
	Explosion	-20°C~60°C(-4~140°F)
Linearity	± 1% F.S.	± 2% F.S.
Hysteresis	± 1% F.S.	
Sensitivity	± 0.2% F.S.	± 0.5% F.S.
Repeatability	± 0.5% F.S.	
Air Consumption	2.5LPM (sup=0.14MPa)	
Flow Capacity	80LPM (sup=0.14MPa)	
Material	Aluminum Diecasting	
Weight	2.8kg (6.2 lb)	

\* For additional **SPTM, L/S specification** refer to p. 25, 27(Internal) and 26, 28 (External).



The Electro-Pneumatic Positioner YT-1000R is used for operation of pneumatic rotary valve actuators by means of electrical controller or control system with an analog output signal of DC 4 to 20mA or split ranges. refer to YT-1000I

# Smart Positioners YT-3300 / YT-3350 / YT-3301 / YT-3303

Torque motor technology with communications

## Design features

- **Auto calibration.** Simple menu structure with options to auto calibrate all parameters or zero and end points only.
- **LCD display.** Alphanumeric digital display for process values and calibration.
- **Partial Stroke Test (PST).** Fully adjustable Partial Stroke Test. All functionality can be performed and selected locally, through push buttons, or remotely with communication protocol.
- **Feedback signal.** Analogue and Digital feedback signals with 4 to 20 mA, mechanical and proximity switch options (Limit switch options for YT-3300 and YT-3350 models).
- **PID control.** Pre-calibrated and user configurable variables via front panel pushbutton menu.

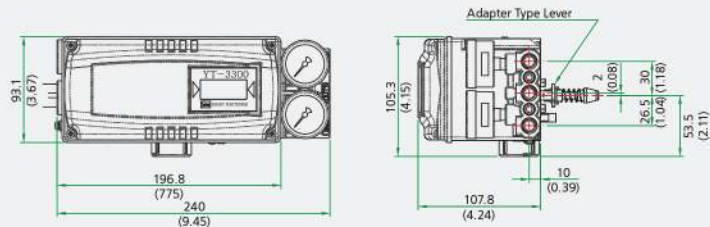
- **Auto / Manual switch.** Enables closed-loop automatic valve position control or manual positioning via the A/M switch. The manual mode is useful for troubleshooting, calibration, system testing or as a manual bypass.
- **HART® communication.** Allows commands, position feedback and diagnostics to be sent digitally over the current loop.
- **Front panel pushbuttons for configuration.** 4 robust and positive acting pushbuttons for field configuration.
- **Remote Mounting Option (YT-3301 model).** Remote sensor via cable to enable the positioner to be mounted away from extreme temperature.



## YT-3300 Aluminium Enclosure

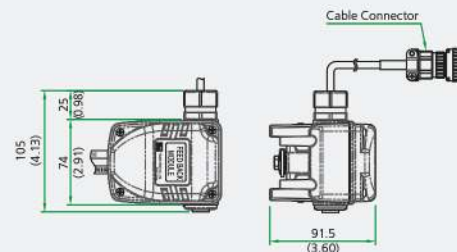


## YT-3350 STS316 Enclosure

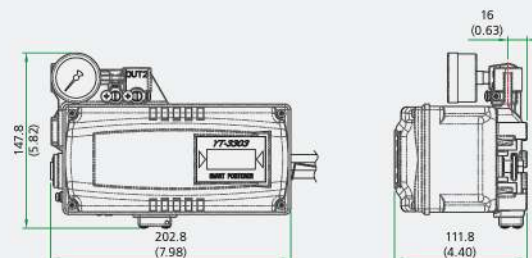


Dimensions: mm (Inches \*)

## YT-3301 Remote Mounting Option



## YT-3303 Left Side Mounting Option



Item Type	YT-3300	YT-3303	YT-3350	YT-3301
Input Signal	4 to 20 mA DC			
Supply Pressure	0.14 to 0.7 MPa (1.4 to 7 bar)			
Stroke	Linear Type	10 to 150 mm		
	Rotary Type	0 to 90°		
Impedance	Max. 500 Ω @ 20 mA DC			
Air Connection	PT(NPT,G)1/4	NPT1/4	PT(NPT,G)1/4	
Gauge Connection	PT(NPT)1/8	NPT1/8	PT(NPT)1/8	
Conduit	G(PF,NPT)1/2, M20	G(PF)1/2	G(PF,NPT)1/2, M20	
Operating Temp.	Standard Type	-30 to 85 °C (-22 to 185 °F)		
	Low Temp. Type	-40 to 85 °C (-40 to 185 °F)		
	LCD	-30 to 85 °C (-22 to 185 °F)		
	Explosion Temp.	-40 to 60 °C (T5) -40 to 40 °C (T6)		
	Remote Sensor	-	-40 to 120 °C (-40 to 248 °F)	
Linearity	±0.5% F.S.			
Hysteresis	±0.5% F.S.			
Sensitivity	±0.2% F.S.			
Repeatability	±0.3% F.S.			
Air Consumption	Below 2 LPM (sup = 0.14 MPa)			
Flow Capacity	70 LPM (sup = 0.14 MPa)			
Output Characteristics	Linear, EQ%, Quick Open user set (18 Point)			
Material	Aluminium Diecasting	Stainless Steel 316	Aluminium Diecasting	
Ingress Protection	IP66			
Explosion Protection Type	<b>ATEX, IECEx</b> Ex ia IIC T5/T6 Gb, EX iaD IIIC T100°C/T85°C Db IP66			
	<b>NEPSI</b> Ex ia IIC T5/T6			
	<b>KCs</b> Ex ia IIC T5/T6, EX iaD IIIC T100°C/T85°C			
	<b>CSA</b> Certification in progress			
	<b>FM</b> Class I, Div 1, Groups ABCD Class I, Zone 0 AEx ia IIC Class II/III, Div 1, Groups EFG Class I, II, III, Div 2, Groups ABCDEFG NEMA Type 4X IP66 AMBIENT TEMP: -40 - 60°C (T5) / -40 - 40°C (T6)			
	Communication (Option)			
L/S Rating	Mechanical Type (Omron)	AC 125 V, 3 A DC 30 V, 2 A	-	AC 125 V, 3 A DC 30 V, 2 A
	Proximity Type (P&F)	DC 8.2 V 8.2 mA	-	DC 8.2 V 8.2 mA
Weight	Body	2 kg (4.4 lb)	5.1 kg (11.2 lb)	2 kg (4.4 lb)
	Remote Sensor	-	-	0.9 kg (2.0 lb)

## Product Code

**YT-3301 - L - S - N - 2 - 4 - 2 - 4 - S - (1)**

### Model

YT-3300 = Aluminium housing  
 YT-3301 = Aluminium housing with remote sensor  
 YT-3303 = Aluminium housing with right side lever  
 YT-3350 = Stainless steel housing

### Motion Type

L = Linear  
 R = Rotary

### Acting Type

S = Single  
 D = Double

### Area Protection

N = Safe Area  
 I = Intrinsically Safe ATEX, IECEx, NEPSI, KCs  
 A = Intrinsically Safe CSA, FM

### Lever Type

Linear	Rotary	
0 = 10 to 40 mm	1 = M6 x 34L	fork type
1 = 20 to 100 mm	2 = M6 x 63L	
2 = 90 to 150 mm	3 = M8 x 34L	roller type
3 = 16 to 30 mm	4 = M8 x 63L	
4 = 16 to 60 mm	5 = NAMUR	
5 = 16 to 100 mm		
6 = 90 to 150 mm		

### Conduit & Air Connection

1 = G1/2 - PT1/4  
 2 = G1/2 - NPT1/4  
 3 = G1/2 - G1/4  
 4 = M20 - NPT1/4  
 5 = NPT1/2 - NPT1/4

### Communications

0 = NONE  
 2 = HART protocol communication

### Output Options

0 = NONE  
 1 = 4 to 20 mA feedback  
 2 = Limit Switch - Mechanical Type (YT-3300 and YT-3350 only)  
 3 = Limit Switch - Proximity Type (YT-3300 and YT-3350 only)  
 4 = 4 to 20 mA + Limit Switch - Mechanical Type (YT-3300 and YT-3350 only)  
 5 = 4 to 20 mA + Limit Switch - Proximity Type (YT-3300 and YT-3350 only)

### Operating Temp.

S = -30 to 85 °C  
 L = -40 to 85 °C

### Cable Length (YT-3301 only)

Option for YT-3301 only. Standard cable length is 5 m.  
 1 = 5 m  
 2 = 10 m  
 3 = 15 m  
 4 = 20 m