

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

Torque motor technology with communications

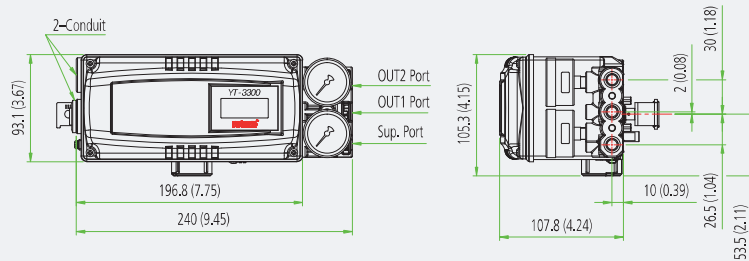
Design features

- **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.

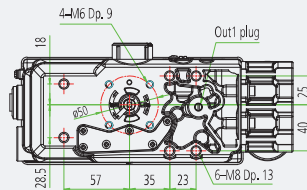
- **Auto / Manual switch.** Enables closed-loop automatic valve position control or manual positioning via the A/M switch. The manual mode is useful for troubleshooting, calibration, system testing or as a manual bypass.
- **HART® communication.** Allows commands, position feedback and diagnostics to be sent digitally over the current loop.
- **Front panel pushbuttons for configuration.** Four 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.



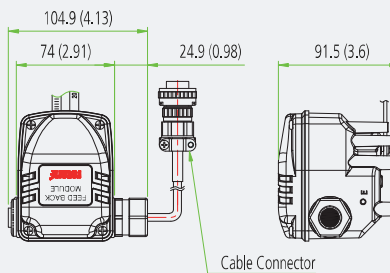
YT-3300 Aluminium Enclosure



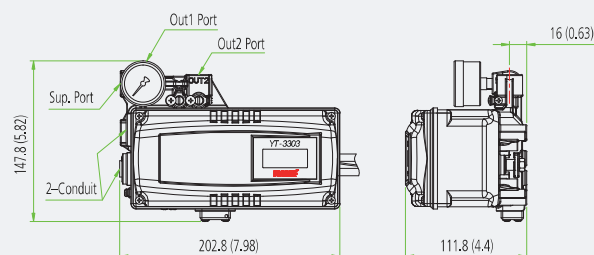
YT-3350 STS316 Enclosure



YT-3301 Remote Mounting Option



YT-3303 Left Side Mounting Option



Dimensions: mm (Inches ")

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

| Item Type | YT-3300 | YT-3303 | YT-3301 | YT-3350 | |
|---------------------------|--|---|----------------------|---------------------|-------------------------------|
| Input Signal | 4 to 20 mA DC | | | | |
| Supply Pressure | 0.14 to 0.7 MPa = 1.4 to 7 bar = 20 to 102 psi | | | | |
| Stroke | Linear Type | 10 to 150 mm (0.4 to 6") | | | |
| | Rotary Type | 55 to 110° | | | |
| Impedance | Max. 500 Ω @ 20 mA DC | | | | |
| Air Connection | Rc 1/4, 1/4 NPT, G 1/4 | | | 1/4 NPT | |
| Gauge Connection | Rc 1/8, 1/8 NPT | | | 1/8 NPT | |
| Conduit | G 1/2, 1/2 NPT, M20x1.5P | | | G1/2 | |
| Operating Temp. | Standard Type | -30 to +85 °C (-22 to +185 °F) | | | |
| | Low Temp. Type | -40 to +85 °C (-40 to +185 °F) | | | |
| | Arctic Temp. Type | -55 to +85 °C (-67 to +185 °F) | | | |
| | LCD | withstands -55 to +85 °C (-67 to +185 °F) only visible above -40 °C (-40 °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) Below 0.08 CFM (sup = 20 psi) | | | | |
| Flow Capacity | 70 LPM (sup = 0.14 MPa) 2.47 CFM (sup = 20 psi) | | | | |
| Output Characteristics | Linear, EQ%, Quick Open, User Set (5 or 18 Points) | | | | |
| Material | Aluminium Diecasting | Aluminium Diecasting | Aluminium Diecasting | Stainless Steel 316 | |
| Ingress Protection | NEMA 4X, IP66 | IP66 | IP66, IP54 | NEMA 4X, IP66 | |
| Explosion Protection Type | ATEX, IECEx, EAC Ex ia IIC T5/T6 Gb, Ex ia IIIC T100°C/T85°C Db IP66 CCC Ex ia IIC T5/T6 Gb Ex iaD 21 T100/T85 KCs Ex ia IIC T5/T6, Ex iaD IIIC T100°C/T85°C CSA CSA certificate FM 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, IP54 AMBIENT TEMP: -40 - 60°C (T5) / -40 - 40°C (T6) NEPSI (only YT-3300/3350) Ex ia IIC T5/T6 INMETRO Ex ia IIC T5/T6 Gb, Ex ia IIIC T100°C/T85°C Db | | | | |
| Communication (Option) | HART (ver.7) | | | | |
| 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) | 2.2 kg (4.9 lb) | 5.1 kg (11.2 lb) | - |
| | Remote Sensor | - | - | 1 kg (2.1 lb) | - |

Product Code

YT-3300 - L - S - N - 2 - 4 - 2 - 4 - S - (1)

Model

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

Motion Type

L = Linear
 R = Rotary

Acting Type

S = Single
 D = Double

Explosion Protection

N = Non-explosion
 i = Intrinsically Safe ATEX, IECEx, KCs, INMETRO, NEPSI
 E = Intrinsically Safe EAC
 A = Intrinsically Safe CSA, FM
 Z = Intrinsically Safe CCC

Lever Type

| | | |
|-----------------------|---------------------|-----------|
| Linear YT-3300/3350 | Rotary | fork type |
| 0 = 10 to 40 mm | 1 = M6 x 34L | |
| 1 = 20 to 100 mm | 2 = M6 x 63L | |
| 2 = 90 to 150 mm | 3 = M8 x 34L | |
| 3 to 6 = Adapter type | 4 = M8 x 63L | |
| Linear YT-3301/3303 | 5 = NAMUR (YT-3301) | |
| 1 = 10 to 40 mm | | |
| 2 = 20 to 70 mm | | |
| 3 = 50 to 100 mm | | |
| 4 = 100 to 150 mm | | |

Conduit & Air Connection

1 = G1/2 - Rc1/4
 2 = G1/2 - 1/4 NPT
 (YT-3350 only available with conduit connection code 2)
 3 = G1/2 - G1/4
 4 = M20 - 1/4 NPT (YT-3303 and YT-3301 will come with electrical conduit adaptors)
 5 = 1/2 NPT - 1/4 NPT
 (YT-3303 and YT-3301 will come with electrical conduit adaptors)

Communications

0 = None
 2 = HART protocol communication
 3 = Profibus PA communication protocol (only YT-3300/3350)
 4 = Foundation Fieldbus (only YT-3300/3350)

Output Options

0 = None
 1 = 4 to 20 mA feedback
 2¹ = Limit Switch - Mechanical Type (YT-3300 and YT-3350 only)
 3² = Limit Switch - Proximity Type (YT-3300 and YT-3350 only)
 4¹ = 4 to 20 mA + Limit Switch - Mechanical Type (YT-3300 and YT-3350 only)
 5² = 4 to 20 mA + Limit Switch - Proximity Type (YT-3300 and YT-3350 only)

Operating Temp. (Non-explosionproof)³

S = -30 to +85 °C (-22 to +185 °F) (N/A for EAC)
 L = -40 to +85 °C (-40 to +185 °F)
 A = -55 to +85 °C (-67 to +185 °F) (only available with EAC certification)

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

Notes:

1. Only S, L of Operating Temperature are available for 2, 4 of Output Options.
2. Only S of Operating Temperature is available for 3, 5 of Output Options.
3. This option is just the normal operating temperature of the product and is not related to explosion protection temperature. See certificates for explosion protection temperature.