# **Smart Positioners** YT-2500 / YT-2501 / YT2550

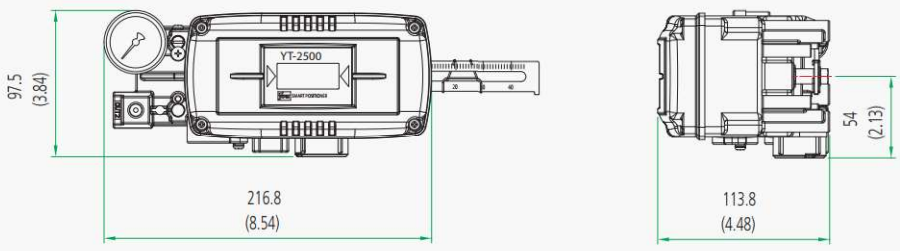
Piezo technology with communications

## Design features

- **Fail Freeze and Fail Safe function.** Enables the valve maintain the last position (Fail Freeze) or move to a pre-determined position (Fail Safe) on the loss of electrical power supply or the pneumatic supply air.
- **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.
- **Low air consumption level.** Almost zero air leakage.
- **Feedback signal.** Analogue feedback signals with 4 to 20 mA, mechanical and proximity switch options.
- **PD control.** Pre-calibrated and user configurable variables via front panel pushbutton menu.
- **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.

## YT-2500 Aluminium Enclosure



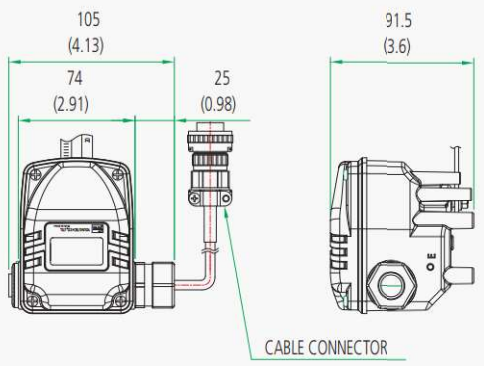




## YT-2550 Stainless Steel Enclosure




## YT-2501 Remote Mounting Option






Dimensions: mm (Inches ")

# **Smart Positioners** YT-2500 / YT-2501 / YT2550

| Item Type | | YT-2500 | YT-2550 | YT-2501 |
|---|---|---|---|---|
| Input Signal | | 4 - 20 mA DC | | |
| Supply Pressure | | 0.14 - 0.7 MPa (1.4 - 7 bar) | | |
| Stroke | Linear Type | 10 - 150 mm | | |
| | Rotary Type | 0 - 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 - 80 °C (-22 - 176 °F) | | |
| | LCD | -30 - 85 °C (-22 - 185 °F) | | |
| | Explosion Temp. | -40 - 60 °C (T5)<br>-40 - 40 °C (T6) | | |
| | Remote Sensor | - | | -40 - 120 ° C (-40 - 248 °F) |
| Linearity | | ±0.5% F.S. | | |
| Hysteresis | | ±0.5% F.S. | | |
| Sensitivity | | ±0.2% F.S. | | |
| Repeatability | | ±0.3% F.S. | | |
| Air Consumption | Fail Freeze | 0.01 LPM (sup = 0.14 MPa) | | |
| | Fail Safe | 6 LPM (sup = 0.14 MPa) | | |
| Flow Capacity | Fail Freeze | 60 LPM (sup = 0.14 MPa) | | |
| | Fail Safe | 40 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 | | **ATEX, IECEx**<br>Ex ia IIC T5/T6 Gb,<br>Ex iaD IIC T85°C/T100°C IP6X | | |
| | | **NEPSI**<br>Ex ia IIC T5/T6 | | - |
| | | **KCs**<br>Ex ia IIC T5/T6, EX iaD IIIC T100°C/T85°C | | |
| Communication (Option) | | HART (ver.5) | | |
| L/S Rating | Mechanical Type (Omron) | AC 125 V, 3 A<br>DC 30 V, 2 A | | - |
| | Proximity Type (P&F) | DC 8.2 V 8.2 mA | | - |
| Weight | Body | 1.5 kg (3.3 lb) | 2.9 kg (6.4 lb) | 1.5 kg (3.3 lb) |
| | Linear Remote sensor | - | - | 0.6 kg (1.3 lb) |
| | Rotary Remote sensor | - | - | 0.9 kg (2.0 lb) |

## Product Code

**YT-2501 - L - S - N - 2 - 4 - 2 - 3 - S - (1)**

**Model**
YT-2500 = Aluminium housing
YT-2550 = Stainless steel house
YT-2501 = Aluminium housing with remote sensor

**Motion Type**
L = Linear
R = Rotary

**Acting Type**
S = Single
D = Double

**Explosion Protection**

| YT-2500, YT-2550 | YT2501 |
|---|---|
| N = Non-Explosion | N = Non-Explosion |
| I = ATEX, IECEx, NEPSI, KCs | I = ATEX, IECEx, KCs |

**Lever Type**

| Linear | Rotary |
|---|---|
| 1 = 10-40 mm | 1 = M6 x 34L |
| 2 = 20-70 mm | 2 = M6 x 63L |
| 3 = 50-100 mm | 3 = M8 x 34L |
| 4 = 100-150 mm | 4 = M8 x 63L |
| | 5 = NAMUR (YT-2501) |

**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 - 20 mA feedback
2 = Limit switch - Mechanical Type (YT-2500 and YT-2550 only)
3 = Limit switch - Proximity Type (YT-2500 and YT-2550 only)
4 = 4 - 20 mA feedback + Limit switch - Mechanical Type) (YT-2500 and YT-2550 only)
5 = 4 - 20 mA feedback + Limit switch - Proximity Type (YT-2500 and YT-2550 only)

**Fail Option**
F = Fail Freeze
S = Fail Safe

**Cable Length** (YT-2501 only)
Option for YT-2501 only. Standard cable length is 5 m.
1 = 5 m
2 = 10 m
3 = 15 m
4 = 20 m