



rotork[®]

Smart Positioners YT-3300 / YT-3350

Torque motor technology with communications

Design features

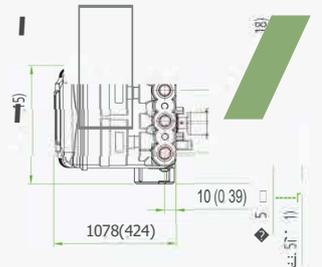
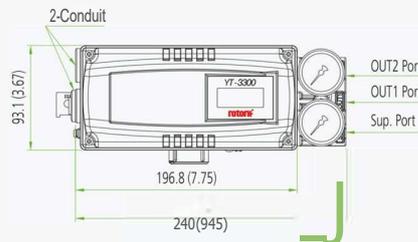
- **Auto calibration.** Simple menu structure with options to auto calibrate all parameters or zero and end points only.
- **LCD display.** Alphanumeric digital display for process values and calibration.
- **Partial Stroke Test (PST).** Fully adjustable Partial Stroke Test. All functionality can be performed and selected locally, through push buttons, or remotely with communication protocol.
- **Feedback signal.** Analogue and digital feedback signals with 4-20 mA, mechanical and proximity switch options.
- **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.
- **mm Profibus Process Automation (PA).** Manages equipment via a process control system in process automation applications. The PA variant is designed for use in hazardous areas (Ex zones 0 and 1). The Physical Layer, with over the bus power, limits current flows so that

explosive conditions are not created, even if a malfunction occurs. The number of devices attached to a PA segment is limited by this feature. However, PA uses the same protocol as DP, and can be linked to a DP network using a coupler device. The much faster DP acts as a backbone network for transmitting process signals to the controller. This means that DP and PA can work tightly together, especially in hybrid applications where process and factory automation networks operate side by side.

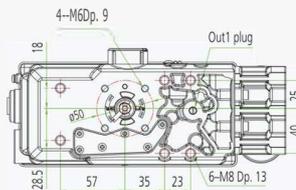
- **Foundation Fieldbus.** A bi-directional communications protocol used for communications among field devices and the control system. It utilizes twisted pair or fibre media to communicate between multiple nodes (devices) and the controller. The controller requires only one communication point to communicate with up to 32 nodes, this is a significant improvement over the standard 4-20 mA communication method which requires a separate connection point for each communication device on the controller system.
- **Front panel pushbuttons for configuration.** Four robust and positive acting pushbuttons for field configuration.

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YT-3300 Aluminium Enclosure



YT-3350 STS316 Enclosure



Dimensions: mm (Inches")



rotork®

Smart Positioners YT-3300 / YT-3350

| Item Type | YT-3300 | YT-3350 | |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|----------------------------|
| Input Signal | 4-20 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 | Rc1/4, 1/4NPT, G1/4 | 1/4NPT | |
| Gauge Connection | Rc1/8, 1/8NPT | 1/8NPT | |
| Conduit | G1/2, M20, 1/2NPT | G1/2 | |
| Operating Temp. | Standard Type | -30 to +85 °C (-22 to +185 °F) | |
| | Low Temp. | -40 to +85 °C (-40 to +185 °F) | |
| | Arctic 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 0.07 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, 21 Points) | | |
| Material | Aluminium Diecasting | Stainless Steel 316 | |
| Ingress Protection | 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 TI 00/T85 | | |
| | KCs Ex ia IIC T6/T5 Ex ia IIIC T85°C/T100°C | | |
| | CSA CSA certificate | | |
| | FM Class I, Div 1, Groups A, B, C & D Class I, Zone 0 Aex ia IIC Class 1/111, Div 1, Groups E, F & G Class 1/11/111, Div 2, Groups A, 8, C, D, E, F & G NEMA Type 4X, IP66, IP54 Ambient temp: -40 to +60°C (TS)/ -40 to +40°C (T6) | | |
| | NEPSI Ex ia IIC T5/T6 | | |
| | INMETRO Ex ia IIC T5/T6 Gb Ex ia IIIC T100°C/T85°C Db | | |
| | HART (ver.7) Profibus PA ¹ Foundation Fieldbus ¹ | | |
| | Communication (Option) | | |
| | L/S Rating | Mechanical Type (Omron) | 125 Vac, 3 A / 30 Vdc, 2 A |
| Proximity Type (P&F) | | 8.2 Vdc, 8.2 mA | |
| Weight | 2 kg (4.4 lb) | 5.1 kg (11.2 lb) | |

Product Code

YT-3300 - L - S - N - 2 - 4 - 2 - 4 - S

Model

YT-3300= Aluminium housing
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, NEPSI, KCs, INMETRO
E= Intrinsically Safe EAC
A= Intrinsically Safe CSA, FM
Z = Intrinsically Safe CCC

Lever Type

| | |
|-----------------|-------------|
| Linear | Rotary |
| 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= 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 | |

standard adapter type

Conduit & Air Connection

1= G1/2 - Rc1/4 (NIA for YT-3350)
2= G1/2 - 1/4 NPT
3= G1/2 - G1/4 (NIA for YT-3350)
4= M20 - 1/4 NPT (N/A for YT 3350)
5= 1/2 NPT-1/4 NPT (N/A for YT-3350)

Communications

0= None
2= HART protocol communication
3= Profibus PA¹
4= Foundation Fieldbus¹

Output Options

0= None
1= 4 to 20 mA feedback
2²= Limit Switch - Mechanical Type
3³= Limit Switch - Proximity Type
4²= 4 to 20 mA+ Limit Switch - Mechanical Type
5³= 4 to 20 mA+ Limit Switch - Proximity Type

Operating Temp. (Non-explosionproof)⁴

S= -30 to +85 °C (-22 to +185 °F) (NIA for EAC)
L = -40 to +85 °C (-40 to +185 °F)
A= -55 to +85 °C (-67 to +185 °F) (EAC only)

Notes:

- Limited to non-explosion/ATEX/IECEx protection and 0 Output Option code only. Excludes Arctic temperature type.
- Only S, L of Operating Temperature are available for 2, 4 of Output Options.
- Only 5 of Operating Temperature is available for 3, 5 of Output Options.
- 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.

