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.
- NEW 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.
- **NEW 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.
- Non-contact sensor for increased performance for high frequency operating valves and an enhanced lifetime.























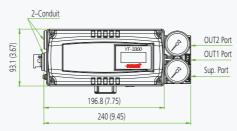


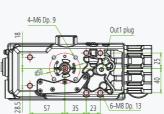
YT-3300 Aluminium Enclosure

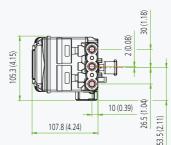


YT-3350 STS316 Enclosure









Dimensions: mm (Inches ")

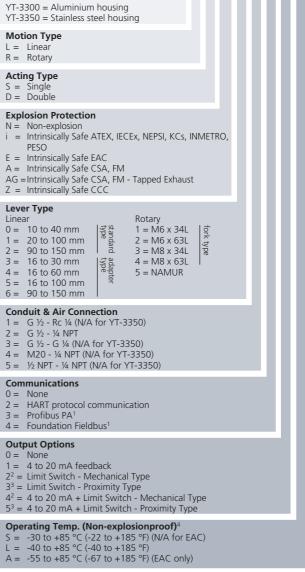
Smart Positioners YT-3300 / YT-3350

Input Signal	Item Type		YT-3300	YT-3350
Supply Pressure 0.14 to 0.7 MPa / 1.4 to 7 bar / 20 to 102 psi Stroke Linear Type Rotary Type 10 to 150 mm (0.4 to 6*) Impedance Max. 500 Ω @ 20 mA DC Air Connection Rc ¼, ¼ NPT G ¼ ¼ NPT Gauge Connection Rc ¼, ¼ NPT G ½ 30 to +85 °C (-22 to +185 °F) Conduit G ½ 2, M20, ½ NPT G ½ -30 to +85 °C (-22 to +185 °F) Unw Temp. -40 to +85 °C (-67 to +185 °F) Operating Type Low -40 to +85 °C (-67 to +185 °F) Temp. -55 to +85 °C (-67 to +185 °F) Uperating Type LCD withstands -55 to +85 °C (-67 to +185 °F) Withstands -55 to +85 °C (-67 to +185 °F) withstands -55 to +85 °C (-67 to +185 °F) Withstands -55 to +85 °C (-67 to +185 °F) withstands -55 to +85 °C (-67 to +185 °F) Hysteresis ±0.5% F.S. Sensitivity ±0.2% F.S. Repeatability ±0.2% F.S. Air Consumption Below 2 LPM (sup = 0.14 Mpa) Below 2 LPM (sup = 0.14 Mpa) 2.47 CFM (sup = 2.0 psi) Output Characteristics Linear, EQ%, Quick Open, User Set (5, 21 Points) Material Aluminium Diecasting Stainles			4-20 mA DC	
Stroke Type Rotary Type 10 to 150 mm (0.4 to 6) Impedance Max. 500 Ω @ 20 mA DC Air Connection Rc ¼, ¼ NPT, G ¼ ¼ NPT Gauge Connection Rc ½, ½ NPT ½ NPT Conduit G ½, M20, ½ NPT G ½ Jame -30 to +85 °C (-22 to +185 °F) Operating Type -40 to +85 °C (-40 to +185 °F) Operating Type -40 to +85 °C (-67 to +185 °F) Arctic Temp. Type -55 to +85 °C (-67 to +185 °F) LCD withstands -55 to +85 °C (-67 to +185 °F) Hysteresis ±0.5% F.S. Sensitivity ±0.5% F.S. Repeatability ±0.3% F.S. Air Consumption Below 2 LPM (sup = 0.14 Mpa) Below 2 LPM (sup = 0.14 Mpa) Below 2 LPM (sup = 0.14 Mpa) Below 2 LPM (sup = 20 psi) Doutput Characteristics Linear, EQ%, Quick Open, User Set (5, 21 Points) Material Aluminium Diecasting Stainless Steel 316 Ingress Protection NEMA 4X, IP66 KCs Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb Ex ia IIC T6/T5 Ex i				
Rotary Type				
Impedance	Stroke	Rotary	55 to 110°	
Gauge Connection Conduit Co	Impedan		Max. 500 Ω @ 20 mA DC	
Standard Type -30 to +85 °C (-22 to +185 °F) Low Temp. -40 to +85 °C (-40 to +185 °F) Type Low Temp. -45 to +85 °C (-67 to +185 °F) Type LCD withstands -55 to +85 °C (-67 to +185 °F) Type LCD withstands -55 to +85 °C (-67 to +185 °F) withstands -57	Air Conn	ection	Rc ¼, ¼ NPT, G ¼	1/4 NPT
Standard Type Low Temp. Operating Type LCD Operating Temp. Operating Temp. Operating Temp. Operating Type LCD Integrity LCD Visible above -40 °C (-67 to +185 °F) Visible above -40 °C (-67 to +185 °F) Only visible above -40 °C (-67 to +185 °F) Only visible above -40 °C (-40 °F) Linearity Linearity LCD Visible above -40 °C (-67 to +185 °F) Only visible above -40 °C (-40 °F) Visible above -40 °C (-67 to +185 °F) Visible above -40 °C (-67	Gauge C	onnection	Rc ¹ /8, ¹ /8 NPT	¹/8 NPT
Type	Conduit		G ½, M20, ½ NPT	G 1/2
Operating Temp. Temp. Type Type LCD Withstands -55 to +85 °C (-67 to +185 °F) Type LCD Withstands -55 to +85 °C (-67 to +185 °F) Type 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 Output Characteristics Linear, EQ%, Quick Open, User Set (5, 21 Points) Material Aluminium Diecasting Stainless Steel 316 Ingress Protection NEMA 4X, IP66 ATEX / IECEx / EAC Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb Ex ia IIC T6/T5 Ex ia IIC T85°C/T100°C CSA CSA CSA certificate FM Type Class I, Div 1, Groups A, B, C & D Class I, IIII, Div 1, Groups A, B, C, D, E, F & G Class I/IIII, Div 2, Groups A, B, C, D, E, F & G Class I/IIII, Div 2, Groups A, B, C, D, E, F & G NEMA Type 4X, IP66, IP54 Ambient temp: -40 to +60°C (T5) / -40 to +40°C (T6) NEPSI Ex ia IIC T5/T6 Gb Ex ia II		Туре	-30 to +85 °C (-22 to +185 °F)	
Temp. Type 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. 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 Output Characteristics Material Aluminium Diecasting Stainless Steel 316 Ingress Protection NEMA 4X, IP66 ATEX / IECEX / EAC Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb Ex ia IIC T6/T5 Ex ia IIC T5/T6 INMETRO Ex ia IIC T5/T6 Gb Ex ia IIC		Temp. g Type	-40 to +85 °C (-40 to +185 °F)	
Linearity		Temp.		
Hysteresis ±0.5% F.S. Sensitivity ±0.3% F.S. Air Consumption Below 2 LPM (sup = 0.14 Mpa) Below 0.07 CFM (sup = 20 psi) 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 ATEX / IECEX / EAC Ex ia IIIC T5/T6 Gb Ex ia IIIC T6/T5 Ex ia IIIC T5/T6 Gb Ex ia IIIC T6/T5 Ex ia IIIC T5/T6 Gb Ex ia I		LCD		
Sensitivity Repeatability #0.2% F.S. Air Consumption Below 2 LPM (sup = 0.14 Mpa) Below 0.07 CFM (sup = 20 psi) 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 ATEX / IECEx / EAC Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb 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, Jin 1, Groups A, B, C & D Class I, Jin 1, Groups A, B, C, D, E, F & G NEMA Type 4X, IP66, IP54 Ambient temp: -40 to +60°C (T5) / -40 to +40°C (T6) NePSI Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 INMETRO Ex ia IIC T5/T6 Gb	Linearity		±0.5% F.S.	
Repeatability #0.3% F.S. Air Consumption Below 2 LPM (sup = 0.14 Mpa) Below 0.07 CFM (sup = 20 psi) 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 ATEX / IECEx / EAC Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb Ex ia IIC T100°C/T85°C Db IP66 CCC Ex ia IIC T8/T6 Gb CSA certificate FM Class I, Div 1, Groups A, B, C & D Class I/I/III, Div 1, Groups E, F & G Class II/III, Div 2, Groups A, B, C, D, E, F & G NEMA Type 4X, IP66, IP54 Ambient temp: -40 to +60°C (T5) / -40 to +40°C (T6) NEPSI Ex ia IIC T5/T6 Gb Ex ia	Hysteresis		±0.5% F.S.	
Air Consumption Below 2 LPM (sup = 0.14 Mpa) Below 0.07 CFM (sup = 20 psi) 70 LPM (sup = 0.14 MPa) 2.47 CFM (sup = 20 psi) Output Characteristics Material Aluminium Diecasting Stainless Steel 316 Ingress Protection NEMA 4X, IP66 ATEX / IECEx / EAC Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb 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/III, Div 1, Groups A, B, C, D, E, F & G NEMA Type 4X, IP66, IP54 Ambient temp: -40 to +60°C (T5) / -40 to +40°C (T6) NEPSI Ex ia IIC T5/T6 Gb Ex ia IIIC T5/T6 Gb Ex ia IIIC T5/T6 INMETRO Ex ia IIIC T5/T6 Gb Ex ia IIIC T5/T6 INMETRO Ex ia IIIC T5/T6 Gb Ex ia IIC T5/T6 Gb	Sensitivity		±0.2% F.S.	
Flow Capacity Output Characteristics Material Aluminium Diecasting ATEX / IECEx / EAC Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb Ex ia IIC T6/T5 Ex ia IIC T8/T00°C Class I, Zone 0 Aex ia IIC Class II/III, Div 2, Groups A, B, C, D, E, F & G NEMA Type 4X, IP66, IP54 Ambient temp: -40 to +60°C (T5) / -40 to +40°C (T6) NEPSI Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 INMETRO Ex ia IIC T5/T6 Gb Ex ia IIC T8/T6 Ex ia IIC T5/T6 Ex ia IIC	Repeatability		±0.3% F.S.	
Output Characteristics Material Aluminium Diecasting Stainless Steel 316 Ingress Protection NEMA 4X, IP66 ATEX / IECEx / EAC Ex ia IIC T5/T6 Gb 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 II/III, Div 2, Groups A, B, C, D, E, F & G NEMA Type 4X, IP66, IP54 Ambient temp: -40 to +60°C (T5) / -40 to +40°C (T6) NEPSI Ex ia IIC T5/T6 Gb	Air Consumption		Below 0.07 CFM (sup = 20 psi)	
Characteristics Material Aluminium Diecasting Stainless Steel 316 NEMA 4X, IP66 ATEX / IECEx / EAC Ex ia IIC T5/T6 Gb Ex ia IIC T6/T5 Ex ia IIC T6/T5 Ex ia IIC T6/T5 Ex ia IIC 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 I/II/II, Div 2, Groups A, B, C, D, E, F & G Class I/II/II, Div 2, Groups A, B, C, D, E, F & G NEMA Type 4X, IP66, IP54 Ambient temp: -40 to +60°C (T5) / -40 to +40°C (T6) NEPSI Ex ia IIC T5/T6 Gb Ex	Flow Capacity		the state of the s	
Ingress Protection ATEX / IECEx / EAC Ex ia IIC T5/T6 Gb Ex ia IIC T100°C/T85°C Db IP66 CCC Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb Ex ia IIC T6/T5 Ex ia IIC T6/T5 Ex ia IIIC T85°C/T100°C CSA CSA CSA certificate FM Class I, Div 1, Groups A, B, C & D Class I, Zone 0 Aex ia IIC Class II/III, Div 1, Groups E, F & G Class I/II/III, Div 2, Groups A, B, C, D, E, F & G NEMA Type 4X, IP66, IP54 Ambient temp: -40 to +60°C (T5) / -40 to +40°C (T6) NEPSI Ex ia IIC T5/T6 INMETRO Ex ia IIC T5/T6 Gb Ex ia IIC T5/			Linear, EQ%, Quick Open, User Set (5, 21 Points)	
ATEX / IECEx / EAC Ex ia IIIC T5/T6 Gb Ex ia IIIC T100°C/T85°C Db IP66 CCC Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb Ex ia IIC T6/T5 Ex ia IIC T6/T5 Ex ia IIC T6/T5 Ex ia IIIC T85°C/T100°C CSA Explosion Protection Type Class I, Div 1, Groups A, B, C & D Class I, Zone 0 Aex ia IIC Class II/III, Div 1, Groups A, B, C, D, E, F & G Class I/II/III, Div 2, Groups A, B, C, D, E, F & G NEMA Type 4X, IP66, IP54 Ambient temp: -40 to +60°C (T5) / -40 to +40°C (T6) NEPSI Ex ia IIC T5/T6 INMETRO Ex ia IIC T5/T6 Gb	Material		Aluminium Diecasting	Stainless Steel 316
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 T1 00/T85 KCs Ex ia IIC T6/T5 Ex ia IIIC T6/T5 Ex ia IIIC T85°C/T100°C CSA CSA CSA certificate Protection Type Class I, Div 1, Groups A, B, C & D Class I, Zone 0 Aex ia IIC Class II/III, Div 1, Groups A, B, C, D, E, F & G Class I/II/III, Div 2, Groups A, B, C, D, E, F & G NEMA Type 4X, IP66, IP54 Ambient temp: -40 to +60°C (T5) / -40 to +40°C (T6) NEPSI Ex ia IIC T5/T6 INMETRO Ex ia IIIC T5/T6 Gb Ex ia IIC T	Ingress Protection		NEMA 4X, IP66	
Communication (Option) HART (ver.7) Profibus PA¹ Foundation Fieldbus¹ Mechanical L/S Type (Omron) Rating Proximity Type (P&F) HART (ver.7) Profibus PA¹ Foundation Fieldbus¹ 125 VAC, 3 A / 30 VDC, 2 A 8.2 VDC, 8.2 mA	Protection		Ex ia IIC T5/T6 Gb Ex ia IIIC T100°C/T85°C Db IP66 CCC Ex ia IIC T5/T6 Gb Ex ia IIC T5/T6 Gb Ex ia D 21 T1 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 II/III, Div 1, Groups A, B, C, D, E, F & G Class II/III, Div 2, Groups A, B, C, D, E, F & G NEMA Type 4X, IP66, IP54 Ambient temp: -40 to +60°C (T5) / -40 to +40°C (T6) NEPSI Ex ia IIC T5/T6 INMETRO Ex ia IIC T5/T6 Gb	
Mechanical L/S Type (Omron) Rating Proximity Type (P&F) 125 VAC, 3 A / 30 VDC, 2 A 8.2 VDC, 8.2 mA			HART (ver.7) Profibus PA ¹	
Rating Proximity Type (P&F) Ref (Omron) 8.2 VDC, 8.2 mA				
	Rating P	roximity		
	Weight		2 kg (4.4 lb)	5.1 kg (11.2 lb)

Product Code

Model

YT-3300 - L - S - N - 2 - 4 - 2 - 4 - 5



Notes:

- Only available to ATEX/IECEx and Output Option code 0. Potentiometer feedback sensor is only applicable. Arctic temperature option is not available.
- 2. Only S, L of Operating Temperature are available for 2, 4 of Output Options. This option is only available with potentiometer feedback sensor.
- 3. Only S of Operating Temperature is available for 3, 5 of Output Options. This option is only available with potentiometer feedback sensor.
- 4. 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.