

Smart positioners YT-3700 / YT3702 / YT-3750

Digital smart positioner with enhanced diagnostics

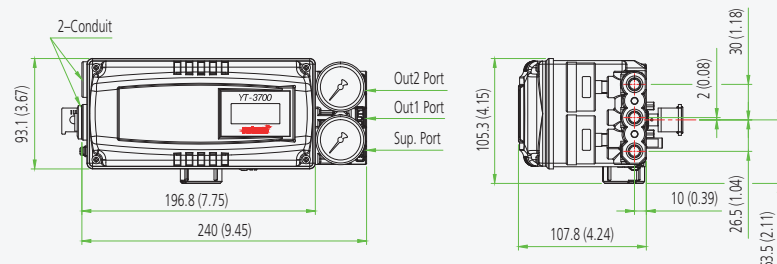
Design features

- **Enhanced diagnostic** (including offline and online) to fully check the integrity of the system. Valve signature, advanced step tests and Partial Stroke Testing (PST) can be operated from local or remote positions. Device Description (DD) and Device Type Manager (DTM) files allow for full software compatibility.
- **Visual diagnostic info** to NE107 standard for a user-friendly analysis with a severity alarm scale and a clear visual identification locally on the display or remotely through HART®.

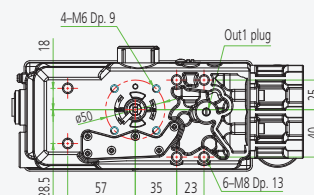
- **Digital input/output configurable** depending on the application and customer preferences. Multiple options are available e.g. start a pre-set PST event or receive error alarms, tailoring interaction with the device as necessary.
- **Auto tuning** functionality.
- **Non-contact sensor** for increased performance for high frequency operating valves and an enhanced lifetime.



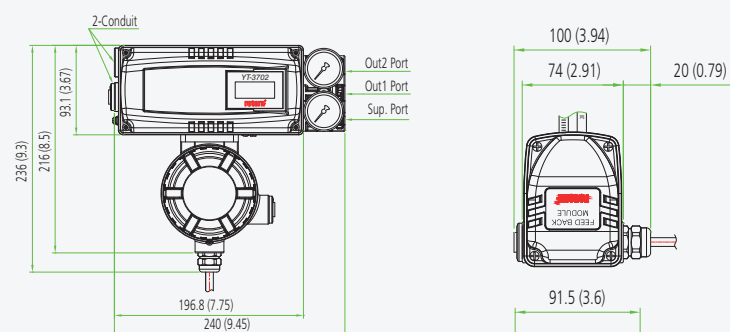
YT-3700 aluminium enclosure



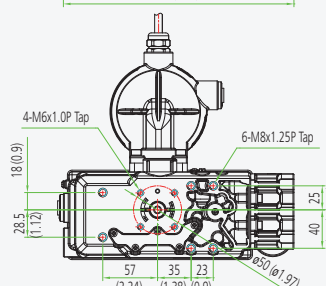
YT-3700 aluminium enclosure with limit switches and dome indicator



YT-3702 remote mounting option



YT-3750 STS316 enclosure



Dimensions: mm (Inches ")

Smart positioners YT-3700 / YT3702 / YT-3750

Item type		YT-3700 / 3702	YT-3750
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		Rc ¼, ¼ NPT, G ¼	¼ NPT
Gauge connection		Rc ⅛, ⅛ NPT	⅛ NPT
Conduit		G ½, M20, ½ NPT	G ½
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)	
	Remote NCS	-55 to +125 °C (-67 to +257 °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		IP66, NEMA 4X	
Explosion protection type	ATEX / IECEx / CCC / UKEX Ex ia IIC T5/T6 Gb Ex ia IIIC T100°C/T85°C Db		
	NEPSI Ex ia IIC T5/T6 Gb Ex iaD 21 T100/T85		
	FM / CSA / EAC Intrinsically Safe. Refer to the product manual for details.		
	KCs Ex ia IIC T5/T6 Ex ia IIIC T100°C/T85°C		
	INMETRO Ex ia IIC T5/T6 Gb Ex ia IIC T100°C/T85°C Db IP66		
	PESO Ex ia IIC T5T6 Gb		
	SIL SIL2 and SIL3 Non-interference device statement for SIS		
	Communication (option)		
	HART (ver.7)		
	L/S rating	Mechanical type (Omron)	AC 125 V, 3 A / DC 30 V, 2 A (YT-3702 is not available)
Proximity type (P&F)		DC 8.2 V 8.2 mA (YT-3702 is not available)	
Weight		2 kg (4.4 lb) / 3.1 kg (6.8 lb)	5.1 kg (11.2 lb)
Digital input		Low level control voltage 0 to 5 VDC High level control voltage 10 to 28 VDC Max current < 4 mA	
Digital output		Supply voltage 5 to 28 VDC Low level current < 1 mA High level current > 2.2 mA @5 VDC, < 14mA @28 VDC	

Product code

YT-3700 - L - S - N - 2 - 4 - 2 - 4 - S - (1)

Model

YT-3700 = Aluminium housing
YT-3702 = Aluminum housing with remote NCS
YT-3750 = Stainless steel housing

Motion type

L = Linear
R = Rotary (in case of a switches request the device will have visual position indicator as standard)

Acting type

S = Single
D = Double

Explosion protection

N = Non-explosion (YT-3702 is N only)
i = Intrinsically safe ATEX, IECEx, NEPSI, KCs, INMETRO, UKEX, PESO
A = Intrinsically safe CSA, FM
AG = Intrinsically safe CSA, FM - tapped exhaust
E = Intrinsically safe EAC
Z = Intrinsically safe CCC

Lever type

Linear Rotary
0 = 10 to 40 mm (YT-3700/3750) 5 = NAMUR
1 = 20 to 100 mm (YT-3700/3750)
2 = 90 to 150 mm (YT-3700/3750)
1 = 10 to 40 mm (YT-3702 only)
2 = 20 to 70 mm (YT-3702 only)
3 = 50 to 100 mm (YT-3702 only)
4 = 100 to 150 mm (YT-3702 only)

Conduit & air connection

1 = G ½ - Rc ¼ (N/A for YT-3750)
2 = G ½ - ¼ NPT
3 = G ½ - G ¼ (N/A for YT-3750)
4 = M20 - ¼ NPT (N/A for YT-3750)
5 = ½ NPT - ¼ NPT (N/A for YT-3750)

Communication protocols

2 = HART communication

Output options

0 = None (digital I/O are built-in)
1 = 4-20 mA feedback (digital I/O are built-in)
4¹ = 4-20 mA feedback + limit switch (2ea) - mechanical type (potentiometer drive without digital I/O communication)
5² = 4-20 mA feedback + limit switch (2ea) - proximity type (potentiometer drive without digital I/O communication)

Operating temp. (non-explosion proof)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) (EAC only)

Cable length (YT-3702 only)

Standard cable length is 5 m.
1 = 5 m
2 = 10 m
3 = 15 m
4 = 20 m

Notes:

- Only S, L of operating temperature are available for 4 of output options. This option is only available with potentiometer feedback sensor.
- Only S of operating temperature is available for 5 of output options. This option is only available with potentiometer feedback sensor.
- 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.