

TRANTECH R-SERIES MAGNETOSTRICTIVE SENSOR

TTRH-ROD TYPE



TTRP-PROFILE TYPE



TTRS-LEVEL SENSOR TYPE



Features

- Robust and reliable, oil and dirt resistant
- Non-contact sensing technology
- High accuracy, 16 bit D/A for analog output type, min 0.5um for SSI output type
- Non-linearity $< \pm 0.01\%$ of full stroke
- Repeatability: $< \pm 0.001\%$ of full stroke
- Easy to diagnose, LED light real-time display
- Modular design, easy to replace

Parameters Specification

Measuring Parameters

Measured Range	50mm - 7000mm
Output	Current 4-20mA (Load resistance: $\leq 500\Omega$) Voltage 0-10Vdc (Load resistance: $> 5k\Omega$) Others available
Resolution	16 bit D/A (no limit)
Non-linearity	$< \pm 0.01\%$ of full stroke (Min. 50um)
Repeatability	$< \pm 0.002\%$ of full stroke (Min. 2um)
Updated time	0.5ms (stroke $<0.5m$) 1.0ms (0.5m $<$ stroke $<1m$) 2.0ms (1m $<$ stroke $<2m$) 3.0ms (2m $<$ stroke $<3m$)

Operating Conditions

Operating temperature		-40°C to +85°C
Temperature coefficient		$< 30\text{ppm}^\circ\text{C}$
Relative humidity		90% no consideration
Electronic protection	RH and RP	IP67
	RS	IP68 (cable version), IP67 plug version



Parameters Specification

Mounting and Attachment

Mounting orientation		Any
Mounting type	Rod	Screw thread mounting, M18x1.5 or custom, pressure max 35mpA (70mpA peak)
	Profile	Mounting brackets
Magnet type	Rod	Magnet ring OD33, OD25.4, OD17.4, 52mm ball float for RS type
	Profile	Slider magnet or floating magnet

Electrical Characteristics

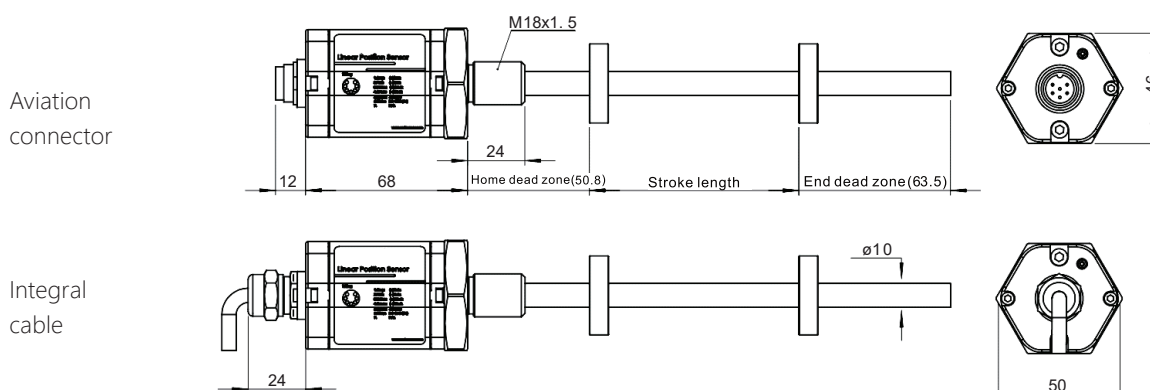
Wiring type	Integral cable or 6 pin Aviation connector
Operating voltage	24Vdc ($\pm 15\%$)
Operating current	<60mA (Varies with range)
Polarity protection	up to -30Vdc
Overvoltage protection	up to 36Vdc
Insulating ability	500V (Between Signal and housing)
Fault Display	Red, Green dual LED display

Structure and Housing

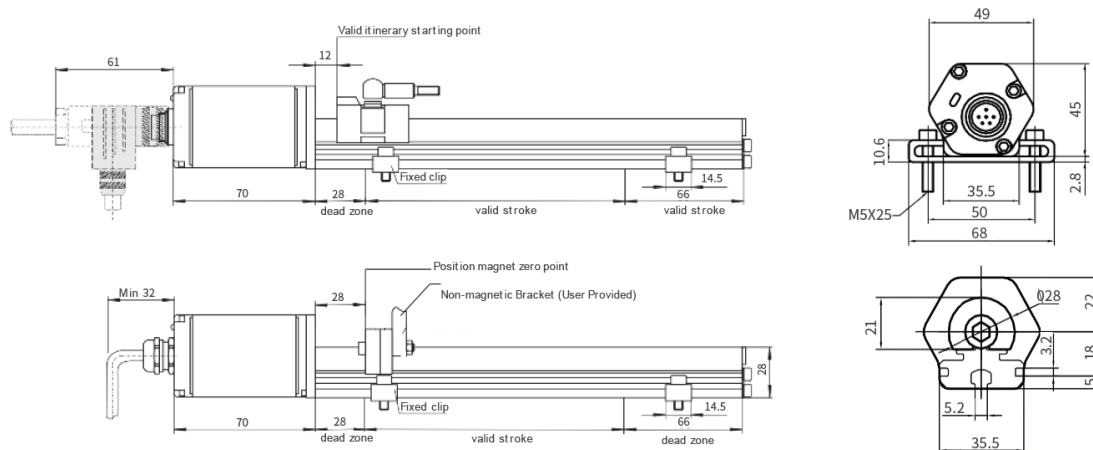
Sensor Electronic Housing	Aluminium Alloy
Rod Type	304L stainless steel
Profile Type	Aluminium
Mounting Flange	304L stainless steel

Model TTRH and TTRS Sensor Dimensions Reference

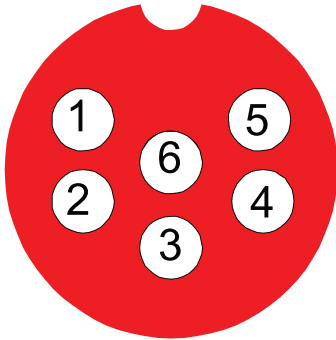
Model RHS Sensor: Drawing is for reference only, contact applications engineering for tolerance specific information



Model TTRP Aluminium Profile Dimensions Reference

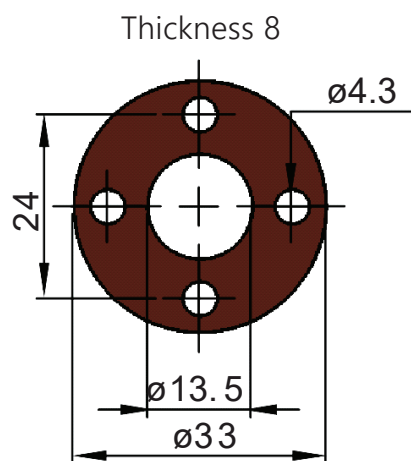


Analog Output type

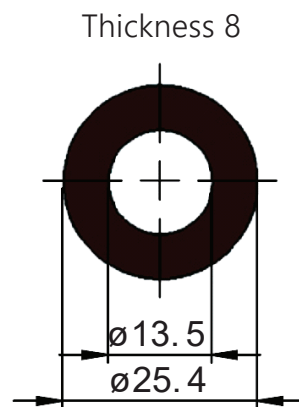


Pin	Color	Description
1	Grey	Output Signal (4-20mA, 0-10V)
2	Pink	Output(GND)
3	Yellow	No connection
4	Green	No connection
5	Brown	(+) Power + 24Vdc(-15/+20%)
6	White	(GND) Power

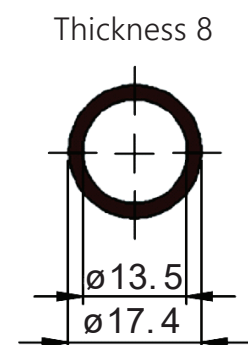
Standard Magnet Selections



Magnet Ring:OD33

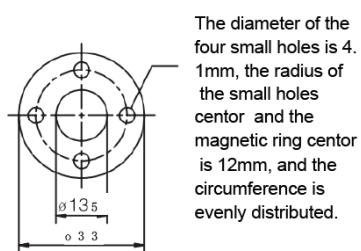


Magnet Ring:OD25.4

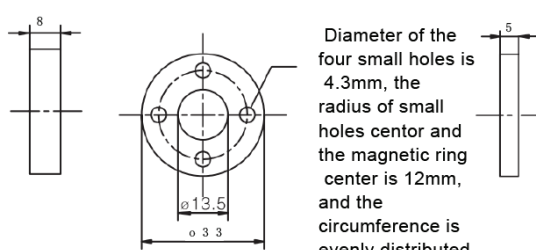


Magnet Ring:OD17.4

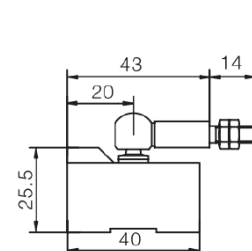
Magnetic Rings and Slider Accessories



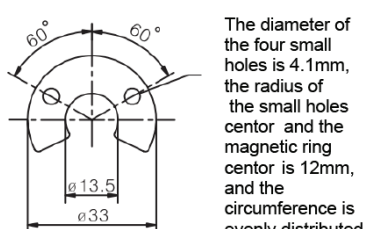
Magnetic Ring



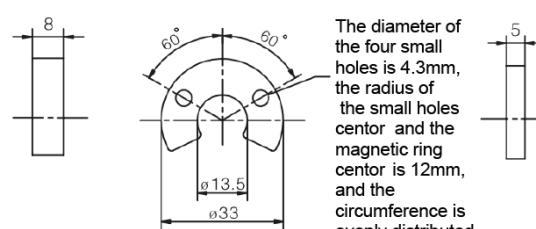
Magnetic spacer



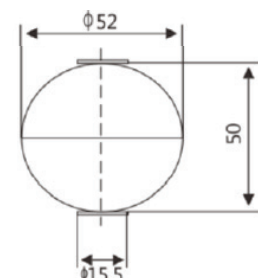
Slider magnet



Open ring



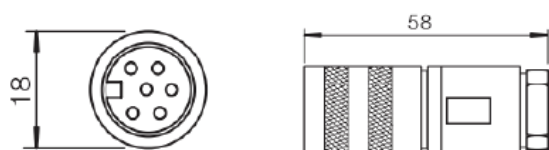
Open magnetic ring gasket



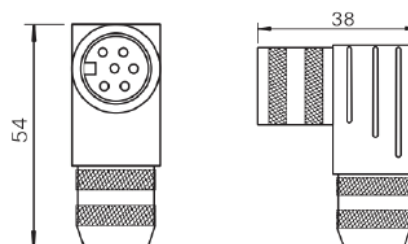
Stainless steel ball float



Sensor Connector Dimensions

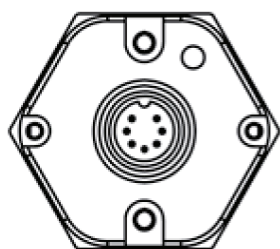


Six-pin straight connector



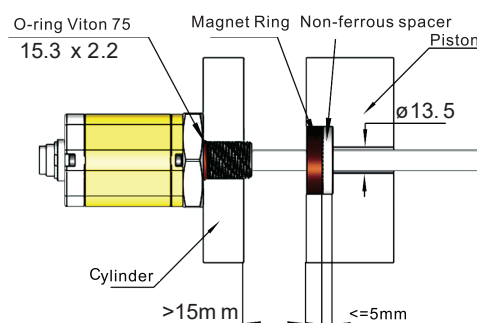
Six-pin 90° connector

Status Indicator

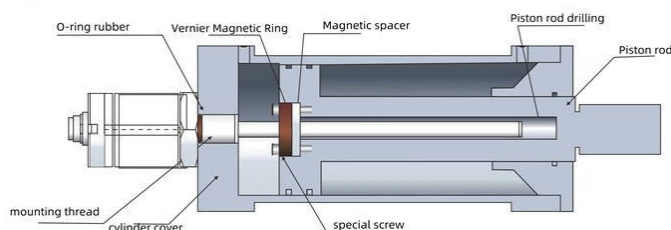


Status	Description
Green on	Normal working
Green flash	Programming mode
Red flash	Magnet out of range
Red on	Magnet not detected

Installation



Hydraulic cylinder built-in installation method



Selection Guide

Sensor type	Install thread	Electrical Connection	Output Signal
<p>RH = Pressure resistant round tube</p> <p>RP = Aluminium profile</p> <p>RS = Level sensor type (52mm ball float)</p> <p>Magnet type</p> <p>L = Magnet ring</p> <p>K = Open magnet ring</p> <p>U = Slider magnet</p> <p>Range</p> <p>Unit=mm</p>	<p>S1 = M18X1.5</p> <p>S2 = M120X1.5</p> <p>S3 = 3/4"-16UNF-3A</p> <p>S4 = M18X1.5, end with M4X6 thread</p> <p>S0 = No thread</p>	<p>Connector table</p> <p>C = Straight out cable</p> <p>Y = Waterproof</p> <p>H = M16, 6pin aviation plug</p> <p>T = M16, 8pin aviation plug</p> <p>J = M16, 6pin 90° Right-angle aerial plug</p> <p>E = M16, 6pin aviation plug (import)</p> <p>Cable type</p> <p>P = PVC cable</p> <p>R = PUR cable</p> <p>G = High temperature cable</p>	<p>A01 = 4~20mA</p> <p>V01 = 0~10V</p> <p>A10 = 20~4mA</p> <p>V05 = 0~5V</p> <p>Cable length</p> <p>unit: m</p>