



T3D Split Type

T-Series III

T3D -Profinet

PROFINET IO Real-time Message										
Pre-ambel	Svnc	Source MAC	Dest. MAC	TPID	VLAN	Ether type	Frame ID	Data	Status Information	FC
7	1	6	6	2	2	2	2	44*-1498Byte	4	4

- + Updated new generation: stronger performance
- + Quick installation: split type design, adaptable with installation in rather tight space
- + Resolution highest up to 0.5µm
- + Profinet output, position and velocity



THE NEW III GENERATION



High precision



Double anti-interference



High performance chip



Wide operating voltage



Reverse polarity protection



Shock/vibration resistant

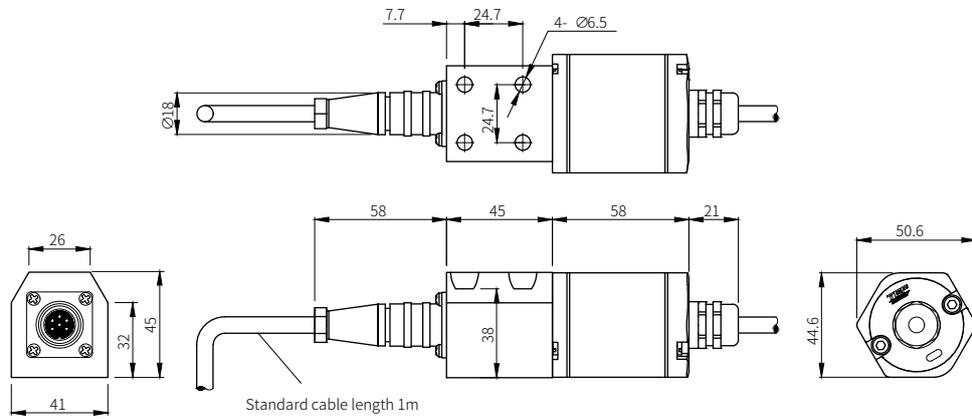
TECHNICAL PARAMETER

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Input	Measured data	Position/Velocity
	Position measurement range	25mm...5600mm
Output	Interface	Profinet RT
	Data protocol	Encoder Profile 4.2, compatible with MTS protocols
	Transmission	Max. 100Mbit/s
Resolution	Position resolution	0.5...1000µm optional
	None-Linearity	< ±0.01%F.S. (min. ±25µm)
	Repeatability	< ±0.001%F.S. (min. ±2.5µm)
	Update time	Depends on stroke length
	Temperature coefficient	< 15ppm/°C
Mounting	Mounting position	Any
	Electronics housing	Fixed with M6 screw
	Pressure resistance outer tube	Embedded installation, thread metric M18×1.5, metric M16x1.5
Design/ Material	Electronics housing	Aluminum alloy/zinc alloy
	Measuring rod	Stainless steel 304/316L
	Operating pressure	35MPa (continuous) ,70MPa (peak)
Electrical connection	Wiring connection	6 pin M16 connector, two 5 pin M12 connectors and one 4 pin M12 connector, two 5 pin M12 connectors and one 4 pin M8 connector, straight out cable
	Operating voltage	9VDC...36VDC
	Polarity protection	Up to -36VDC
	Overvoltage protection	Up to +36VDC
	Power consumption	< 120mA (varies with range size)
	Dielectric strength	500 VDC (DC ground to machine ground)
Operating conditions	Loop velocity	Any
	Operating temperature	-40...85°C (105°C customizable)
	Humidity	90 % relative humidity, no condensation
	Ingress protection	Measuring rod IP68, Electronics housing IP67
	Shock	100 g/11 ms, IEC standard 60068-2-27
	Vibration	10 g/10...2000 Hz, IEC standard 60068-2-6 (resonant frequencies excluded)
	EMC	Electromagnetic emission according to EN 61000-6-3 Electromagnetic immunity according to EN 61000-6-2
ITEM	CATEGORY	PARAMETER

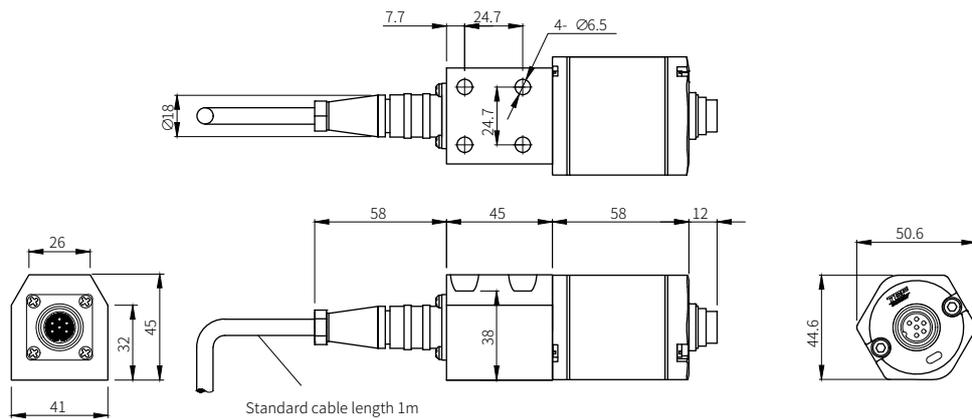
Straight out cable

T3D- ____ - RP ____ - ____



Aviation plug : 6 pin M16 (male)

T3D- ____ - D616 - ____

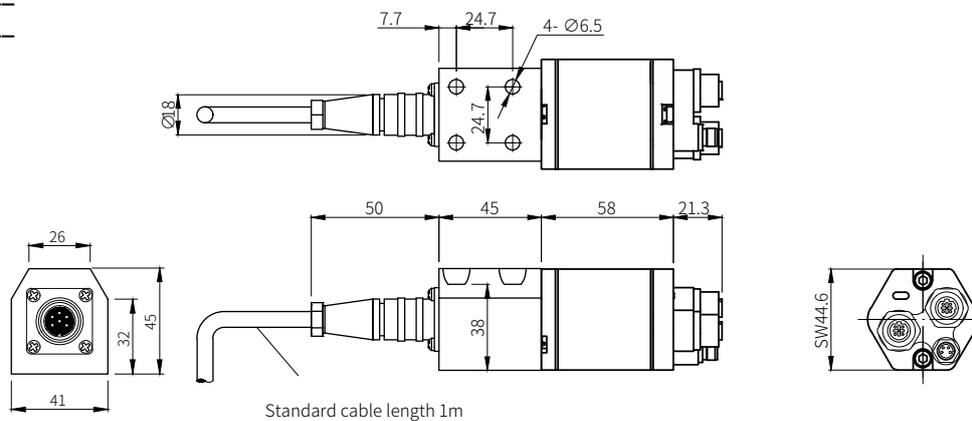


Aviation plug : Two 5 pin M12 (female) + One 4 pin M12 (male)

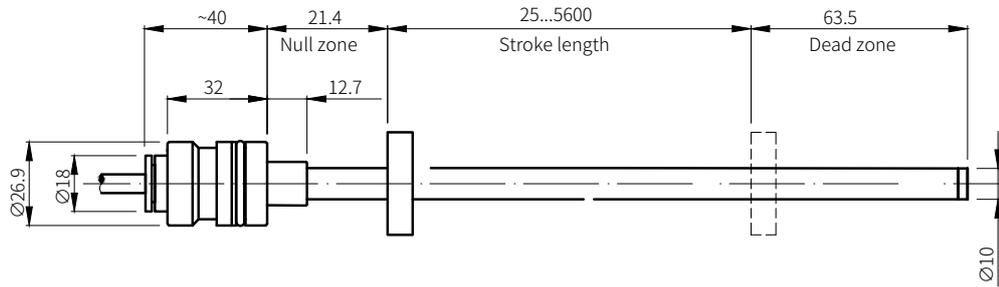
Aviation plug : Two 5 pin M12 (female) + One 4 pin M8 (male)

T3D- ____ - D5D42 - ____

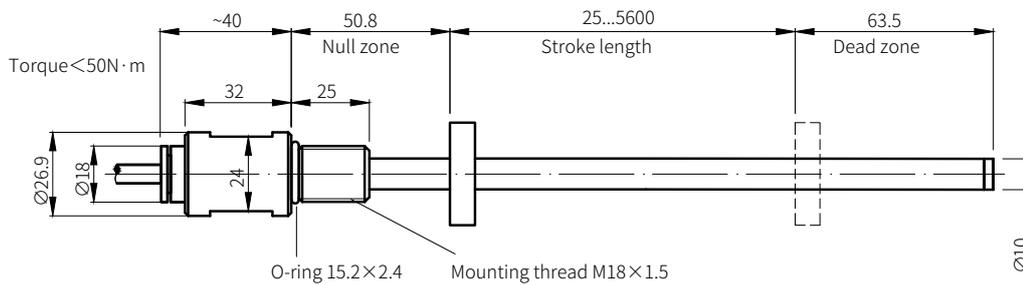
T3D- ____ - D5D48 - ____



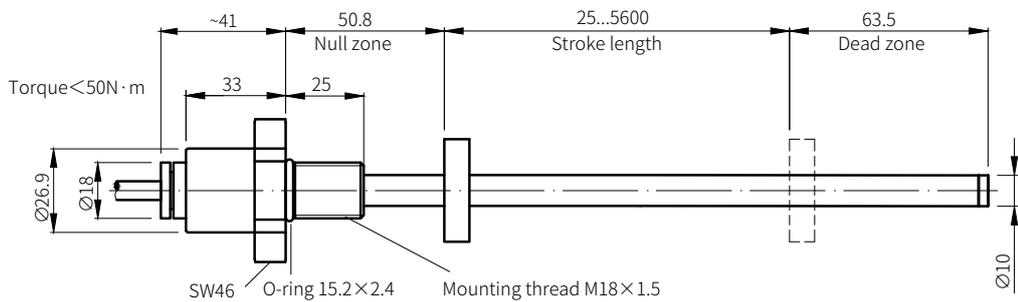
S Type



M Type



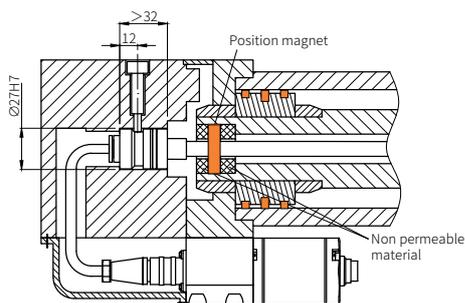
C Type



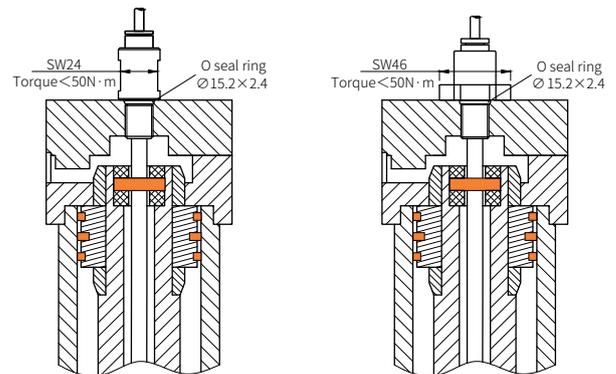
MECHANICAL MOUNTING DIAGRAM

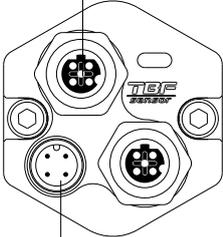
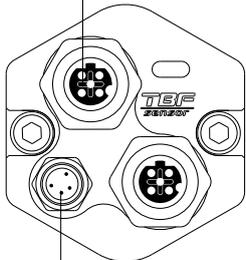
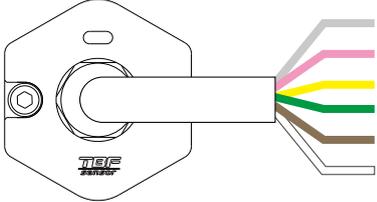
- + Secure the magnet with non-permeable gasket.
- + The size of hole in the piston rod depends on factors such as hydraulic pressure and piston speed. The minimum hole size is $\Phi 13.5$ ($\Phi 10$ measuring rod).

Mounting drawing for S Type



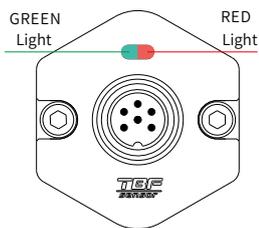
Mounting drawing for M and C Type



6 pin M16 male connector	D616	PIN	Function
	 View on sensor	1	TX+
		2	RX+
<hr/>			
Two 5 pin M12 female connectors (D-coded), One 4 pin M12 male connector	D5D42	PIN	Function
5 pin M12 female connector (D-coded)  4 pin M12 male connector	 D512 (female) View on sensor	1	TX+
		2	RX+
<hr/>			
	D412(male)	PIN	Function
	 View on sensor	1	9VDC...36VDC
		2	NC
		3	0 VDC(GND)
		4	NC
<hr/>			
Two 5 pin M12 female connectors (D-coded), One 4 pin M8 male connector	D5D48	PIN	Function
5 pin M12 female connector (D-coded)  4 pin M8 male connector	 D512 (female) View on sensor	1	TX+
		2	RX+
<hr/>			
	D408(male)	PIN	Function
	 View on sensor	1	9VDC...36VDC
		2	NC
		3	0 VDC(GND)
		4	NC
<hr/>			
Straight out cable	Color	Function	
	Gray	TX-	
	Pink	TX+	
	Yellow	RX+	
	Green	RX-	
	Brown	9VDC...36VDC	
	White	0 VDC(GND)	

Enhanced monitoring and diagnostic functions

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Green light	Red light	Function
ON	OFF	View on sensor
ON	ON	Magnet cannot be measured, nor magnet number is correct.
OFF	OFF	Communication exception

ORDER CODE

T3D - - - - M- - - - 1- U - - - -

Measuring rod	Stroke length	Connection type	Output
S S type	0025...5600mm (5mm increments)	RP__ Straight out __m high performance cable (Fill in zero if less than 2 places)	(Output Code)
N M type, M16x1.5		D616 M16 male connector (6 pin)	
M M type, M18x1.5		D5D42 Two sets of M12 female connectors (D-coded), One set of M12 male connector	
C C type, M18x1.5		D5D48 Two sets of M12 female connectors (D-coded), One set of M8 male connector	

Profinet Output Code [1]-U[2][3][4]-[5][6]

[1] System	[2][3][4] Output	[5][6] Magnet number
1 Standard	401 Profinet RT, position measurement 402 Profinet RT, position and velocity measurement, multi-magnets supportive	01 one magnet 02 two magnets

Model selection | Model: T3D-M-0600M-D616-1-U401-01

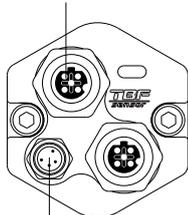
Explanation: T series III generation, T3D split type sensor with measuring rod M type, mounting thread metric M18x1.5, stroke length 600mm, 6pin M16 aviation plug, standard, Profinet output, position measurement, single magnet.

■ Please contact us for more customized products.

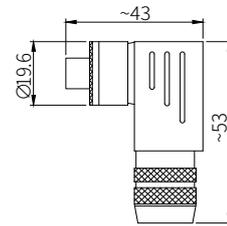
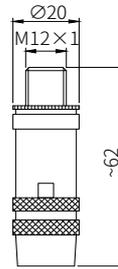
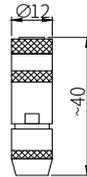
PARTS SELECTION

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5 pin M12(D-coded) female connector

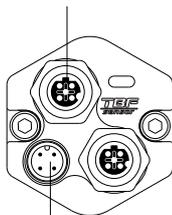


4 pin M8 male connector



Name	4 pin M8 female connector	4 pin M12(D-coded) male connector	4 pin M12(D-coded) male connector (90 degree angle)
End view drawing			
Material	Galvanized nickel		
Fitting diameter	3.5...5mm	6...8mm	
Connection	Welding	Threaded	
Adaptive	4 pin M12 (Power connector)	5 pin M12(D-coded)	
Order code	18-1001	18-1011	18-1012

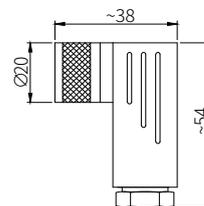
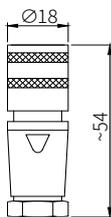
5 pin M12(D-coded) female connector



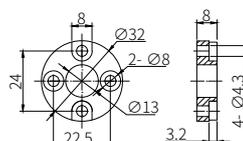
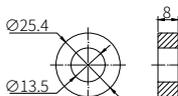
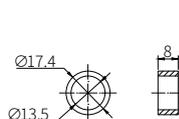
4 pin M12 male connector



Connector	5 pin M12 female connector	5 pin female connector (90 degree angle)	4pin M12(D-coded) male connector
Name	Integral cable	Integral cable	Integral cable
Cable	5 wire 0.25mm ² shielded cable	5 wire 0.25mm ² shielded cable	4 wire 0.25mm ² shielded cable
Color/Diameter	Orange/ Ø 6	Orange/ Ø 6	Green/ Ø 6
Plug surface	 1-Brown 2-Green 3-White 4-Gray 5-Yellow	 1-Brown 2-Green 3-White 4-Gray 5-Yellow	 1-Yellow 2-White 3-Orange 4-Blue
Length	5...30M	5/10/15/20/30M	5...30MM
Adaptive	4 pin M12 (Power connector)	4 pin M12 (Power connector)	5 pin M12(D-coded)
Order code	16-1035	16-1040	16-1045



Name	6 pin M16 female connector	6 pin M16 female connector (90 degree angle)
End view drawing		
Material	Galvanized nickel	Galvanized nickel
Fitting diameter	6...8mm	6...8mm
Connection	Welding	Welding
Order code	18-3001	18-3003



Name	Ring magnet	Ring magnet	Ring magnet	Ring magnet
Operating temperature	-40...125°C			
Order code	12-1032	12-1019	12-1024	12-1001
Fitting non-permeable gasket				
Name	Non-permeable gasket	Non-permeable gasket	Non-permeable gasket	Non-permeable gasket
Operating temperature	-40...125°C			
Order code	12-1037	12-1021	12-1025	12-1008

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