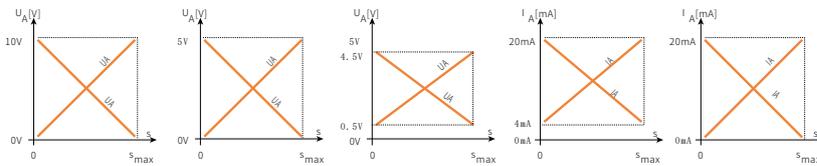




## T3D Split Type

T-Series III

T3D -Analog



- + Updated new generation: stronger performance
- + Quick installation: split type design, adaptable with installation in rather tight space
- + Direct analog output, position and velocity
- + Resolution highest up to 0.1 $\mu$ m



## 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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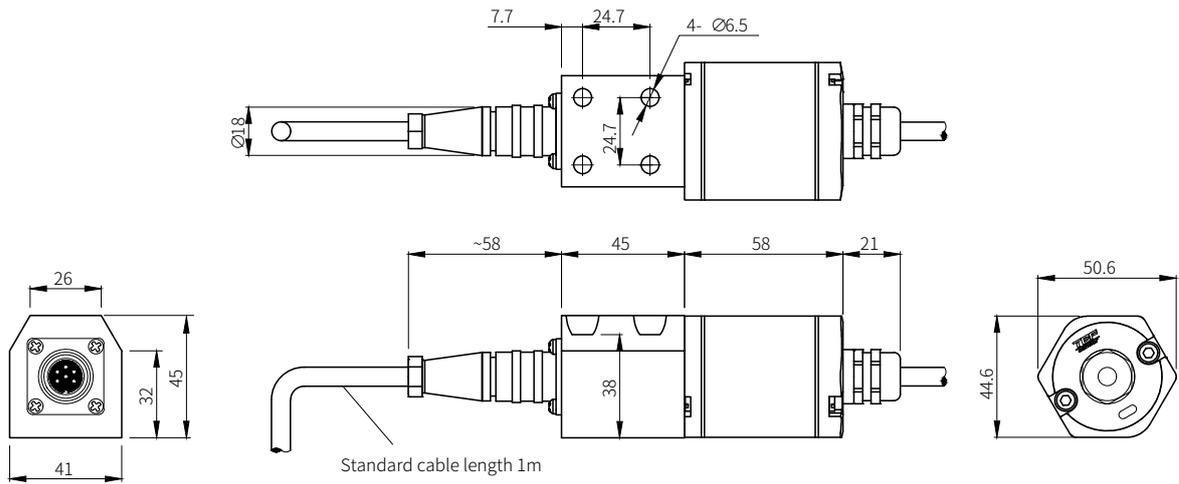
<b>Input</b>	Measured data	Position/Velocity				
	Position measurement range	25mm...5600mm				
	Velocity measurement range	0.01...10m/s				
<b>Output</b>	Voltage	0...10VDC, 10...0VDC, 0...5VDC, 5...0VDC, 0.5...4.5VDC, 4.5...0.5VDC (Controller min. load impedance >5KΩ)				
	Current	4...20mA, 20...4mA, 0...20mA, 20...0mA (min./max. load 0/750Ω)				
<b>Resolution</b>	Position resolution	16 bit D/A (internal resolution 0.1 μm)				
	Velocity resolution	16 bit D/A (min. 0.01mm/s)				
	None-Linearity	< ±0.01%F.S. (min. ±50μm)				
	Repeatability	< ±0.001%F.S. (min. ±1μm)				
	Update time	Stroke length	≤ 1200mm	≤ 2400mm	≤ 4800mm	≤ 5600mm
		Update time	0.5ms	1ms	2ms	2.3ms
Temperature coefficient	<30ppm/°C					
<b>Mounting</b>	Mounting position	Any				
	Electronics housing	Fixed with M6 screw				
	Pressure resistance outer tube	Embedded installation, thread metric M18×1.5, metric M16x1.5				
<b>Design/ Material</b>	Electronics housing	Aluminum alloy/zinc alloy				
	Measuring rod	Stainless steel 304/316L				
	Operating pressure	35MPa (continuous) ,70MPa (peak)				
<b>Electrical connection</b>	Wiring connection	Straight out cable, M12 connector (5 pin) , M16 connector (6 pin) , M12 connector (8 pin) , M16 connector (8 pin)				
	Operating voltage	9VDC...36VDC				
	Polarity protection	Up to -36VDC				
	Overvoltage protection	Up to +36VDC				
	Power consumption	< 70mA (varies with range size)				
	Dielectric strength	500 VDC (DC ground to machine ground)				
<b>Operating conditions</b>	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**

T3D- \_\_\_ - **RP** - \_\_\_

Straight out cable

T3D- \_\_\_ - **RT** - \_\_\_



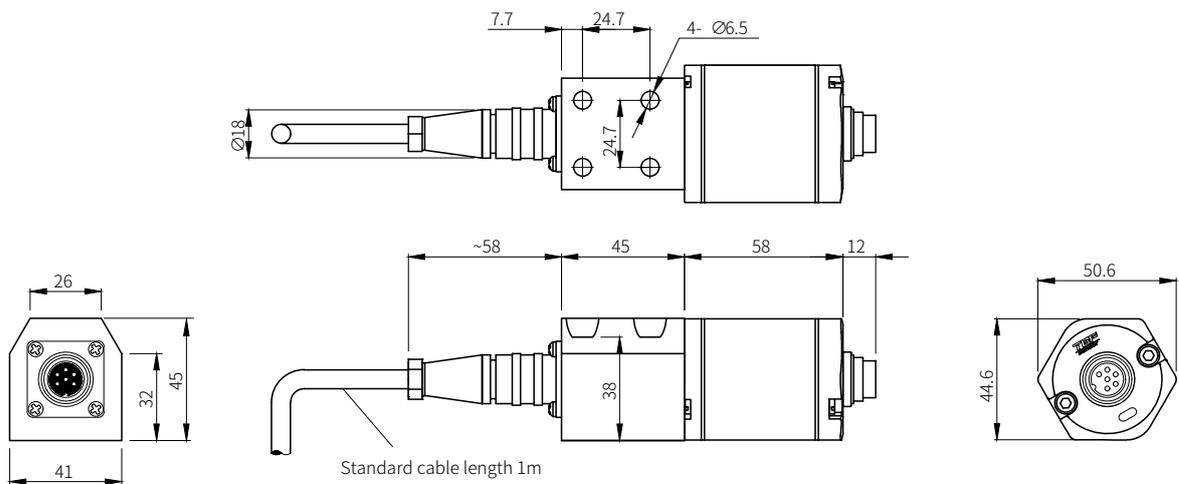
T3D- \_\_\_ - **D512** - \_\_\_

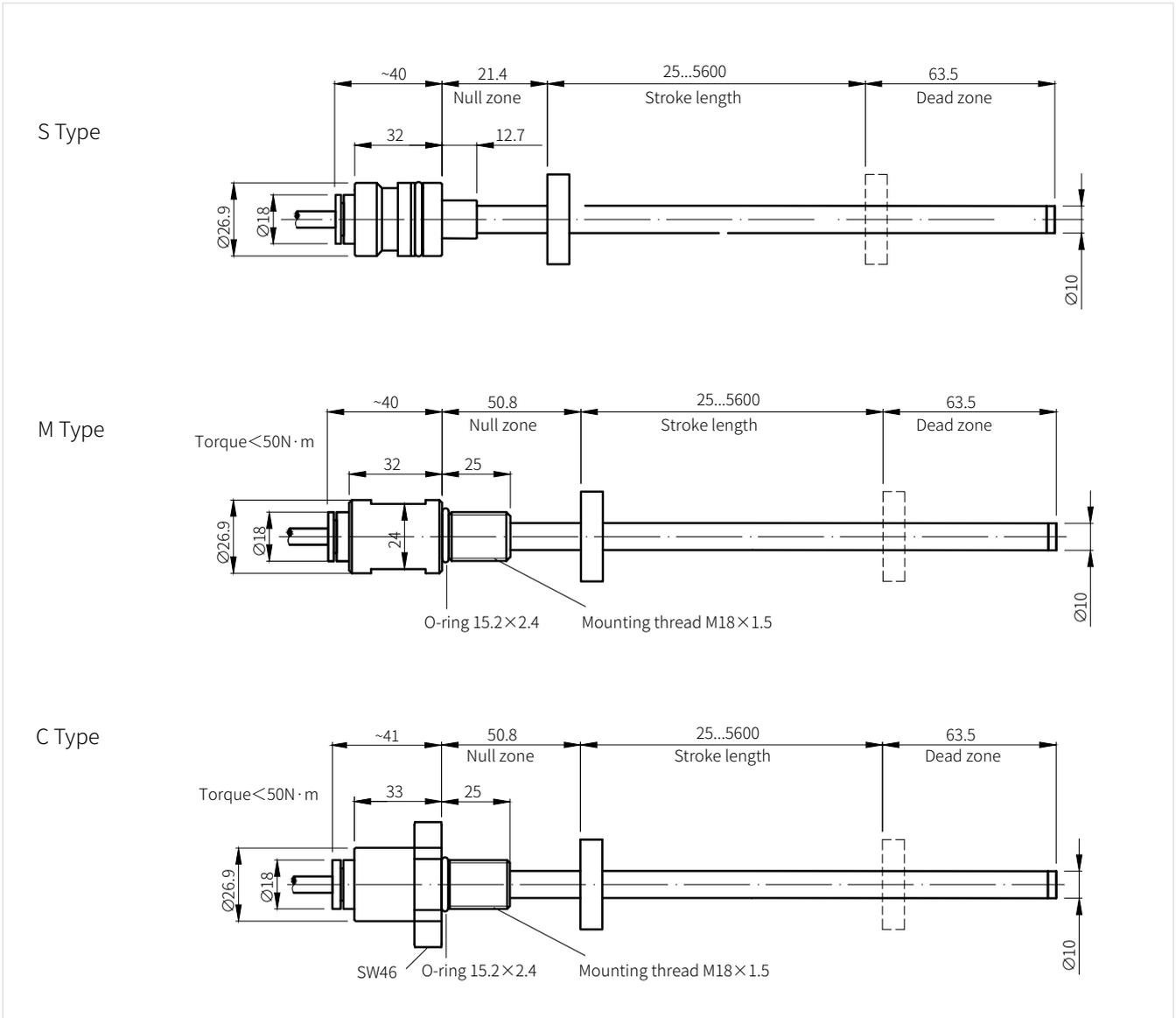
Aviation plug

T3D- \_\_\_ - **D616** - \_\_\_

T3D- \_\_\_ - **D812** - \_\_\_

T3D- \_\_\_ - **D816** - \_\_\_

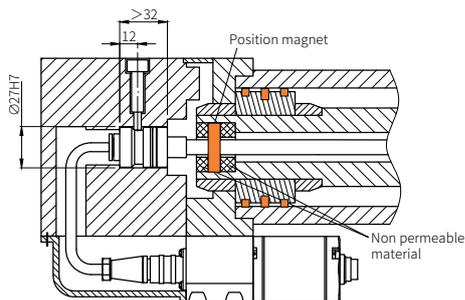




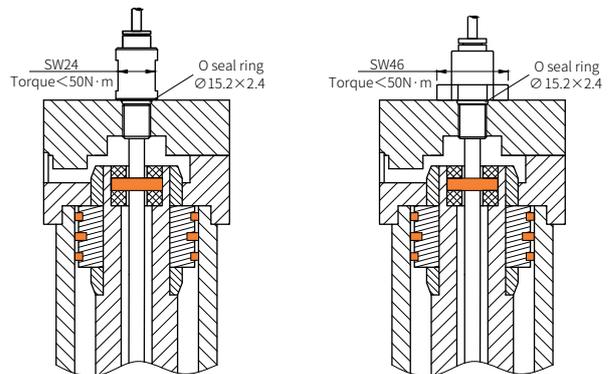
**MECHANICAL MOUNTING DIAGRAM**

- + 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  $\varnothing 13.5$  ( $\varnothing 10$  measuring rod).

**Mounting drawing for S Type**



**Mounting drawing for M and C Type**



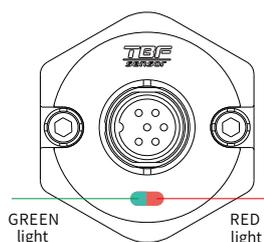
**FUNCTION**

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5 pin M12 connector	D512	PIN	Function	
	<p>View on sensor</p>	1	9 VDC...36 VDC	
		2	Signal output 1	
		3	0 VDC (GND)	
		4	Signal output 2*	
		5	Signal ground	
6 pin M16 connector	D616	PIN	Function	
	<p>View on sensor</p>	1	Signal output 1	
		2	Signal ground 1	
		3	Signal output 2 *	
		4	Signal ground 2 *	
		5	9 VDC...36 VDC	
		6	0 VDC (GND)	
8 pin M12 connector	D812	PIN	Function	
	<p>View on sensor</p>	1	Signal ground 2 *	
		2	Signal ground 1	
		3	Signal output 2 *	
		4	NC	
		5	Signal output 1	
		6	0 VDC (GND)	
		7	9 VDC...36 VDC	
		8	NC	
8 pin M16 connector	D816	PIN	Current	Voltage
	<p>View on sensor</p>	1	Current signal (output 1)	NC
		2	Signal ground	Signal ground
		3	Current signal (output 2) *	Voltage signal (output 2) *
		4	NC	NC
		5	NC	Voltage signal (output 1)
		6	0 VDC (GND)	0 VDC (GND)
		7	9 VDC...36 VDC	9 VDC...36 VDC
		8	NC	NC
Straight out cable		Color	Function	
	Brown	9 VDC...36 VDC		
	White	0 VDC (GND)		
	Yellow	Signal ground1		
	Green	Signal output 1		
	Gray	Signal ground2 *		
	Pink	Signal output 2 *		
<b>**"adaptable for dual output signal connection</b>				

## Enhanced monitoring and diagnostic functions

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Green light	Red light	Function
ON	OFF	Normal work
ON	ON	Magnet is out of effective range, or magnet cannot be measured, nor magnet number is correct.
FLASH	ON	Enter programming status

### ORDER CODE

T3D	M	Stroke length	Connection type	Output
S	S type	0025...5600mm (5mm increments)	RP__ Straight out __m high performance cable	(Output Code)
N	M type, M16x1.5		RT__ Straight out __m high temperature cable (Fill in zero if less than 2 places)	
M	M type, M18x1.5		D512 5 pin M12 connector	
C	C type, M18x1.5		D616 6 pin M16 connector	
			D812 8 pin M12 connector	
			D816 8 pin M16 connector	

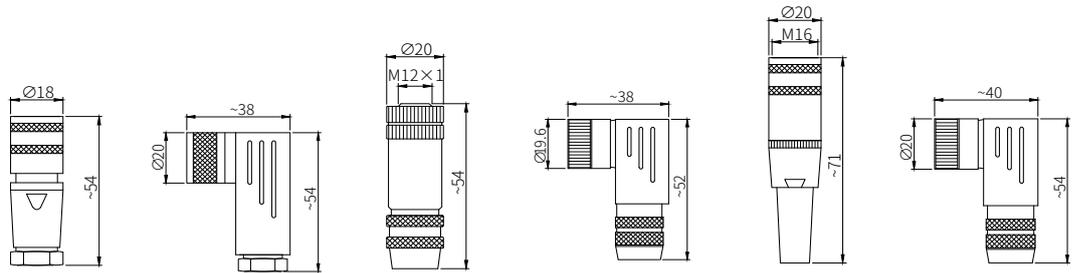
Analogue Output Code	[1][2]-[3][4] [5]		
[1] System	[2] Output	[3][4] Current/Voltage	[5] Magnet
1 Standard	1 Position	A0 4...20mA (forward)	1 one magnet
K Anti-vibration program	2 Position and velocity	A1 20...4mA (reverse)	2 two magnets
	3 Position and reverse position	A2 0...20mA (forward)	
	4 Differential (2 magnets)	A3 20...0mA (reverse)	
	5 Position and temperature inside the sensor electronics housing	A4 4...20mA (dual output forward)	
	6 Position and rate	V0 0...10V (forward)	
		V1 10...0V (reverse)	
V2 0...5V (forward)			
V3 5...0V (reverse)			
		V5 0.5...4.5V (forward)	
		V8 4.5...0.5V (reverse)	

**Note:** forward, data grows larger when the magnet is distant from the electronics housing;  
reverse, data grows larger when the magnet approaches the electronics housing.

**Model selection** | Model : T3D-M-0600M-D512-11-A01

Explanation: T series III generation, T3D split type sensor with measuring rod M type, mounting thread metric M18x1.5, stroke length 600mm, 5pin M12 aviation plug, standard, position measurement, 4...20mA (forward), single magnet.

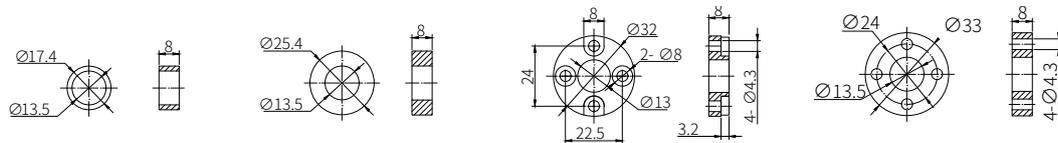
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Name	6 pin M16 female connector	6 pin M16 female connector (90 degree angle)	8 pin M12 female connector	8 pin M12 female connector (90 degree angle)	8 pin M16 female connector	8 pin M16 female connector (90 degree angle)
End view drawing						
Material	Galvanized nickel					
Fitting diameter	6...8mm	6...8mm	8...10mm	6...8mm	6...9mm	6...8mm
Connection	Welding		Threaded		Welding	
<b>Order code</b>	<b>18-3001</b>	<b>18-3003</b>	<b>18-5004</b>	<b>18-5005</b>	<b>18-5002</b>	<b>18-5003</b>



Connector	5 pin M12 female connector	5 pin female connector (90 degree angle)
Name	Integral cable	Integral cable
Cable	5 wire 0.25mm <sup>2</sup> shielded cable	5 wire 0.25mm <sup>2</sup> shielded cable
Color/Diameter	Orange/ Ø 6	Orange/ Ø 6
Plug surface	<ul style="list-style-type: none"> <li>1-Brown</li> <li>2-Green</li> <li>3-White</li> <li>4-Gray</li> <li>5-Yellow</li> </ul>	<ul style="list-style-type: none"> <li>1-Brown</li> <li>2-Green</li> <li>3-White</li> <li>4-Gray</li> <li>5-Yellow</li> </ul>
Length	5...30M	5/10/15/20/30M
<b>Order code</b>	<b>16-1035</b>	<b>16-1040</b>



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

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