

## TDMT-PAA Series High Resolution Magnetostrictive LDT In a Low Profile Package



**SERIES: TDMT-PAA**

### FEATURES

Transducers Direct introduces the innovative TDMT Series, a highly accurate non-contact linear position sensor in an economical package. Features include:

- programmable zero and span
- auto-tuning
- low profile package
- vertical or horizontal mounting
- Magnetostrictive technology
- absolute position, repeatable to .001% of the sensing distance

The TDMT series is a low cost, high performance, effective linear sensing solution.

The TDMT-PAA has some truly unique features.

1. Auto-tuning capability, the ability to sense the distance between the magnet and sensing surface and adjust its signal strength accordingly.
2. Analog output is programmable over the entire active stroke length. The active stroke area lies between the Null Zone and Dead Band.
3. Built-in diagnostics: If there is a loss of magnet, or if the magnet moves beyond the programmed range, the analog output will transmit a fault voltage or current, warning the host controller that it is out of range.

The sensing element and electronics are all housed within the streamlined anodized aluminum extrusion. The magnet moves over the sensing element that determines the position and converts it to a readable output. The TDMT-PAA is a self-contained unit with all of the electronics incorporated in the transducer – all less than one inch tall.

Units can be ordered in span lengths up to 72 inches in 1 inch increments. The slide magnet is designed to move effortlessly along the transducer in guide tracks (with optional floating magnet assembly). A variety of hardware is available for attaching the magnet slide to the moving portion of the process. The transducer can also be customized with 0 to 10 VDC or 4 to 20 mA output. All units are provided with a standard 5 pin 12mm Euro Micro connector.

The TDMT-PAA is designed for applications where economical continuous feedback is necessary. The sensor can be a cost effective replacement to linear potentiometers, limit, and proximity sensors. Applications include presses, blow molding, injection molding, extruding, roll positioning, tire press, and many more.

**The TDMT-PAA is intended for indoor use only.**

### SPECIFICATIONS

Input Voltage	24 VDC $\pm$ 20%
Current Draw	1.1w (44mA typical)
Output	0 to 10 VDC 10 to 0 VDC 4 to 20 mA 20 to 4 mA
Non-Linearity	Less than $\pm$ 0.03% of stroke, or $\pm$ 0.013" whichever is greater
Update Time	1ms
Repeatability	0.001%
Operating Temperature	-40 ° to 85 ° C
Span Length	1" to 72"
Null Zone	3.03"
Dead Zone	2.75"
Connectors	12mm Micro 5 Pin
Enclosure	IP67
Approvals	CE (pending)
Specifications are subject to change without notice.	

## PART NUMBERING

Series TDMT-PAA	Unit of Measure U	Electrical Stroke 0120	Output Type D0	Magnet Type FM	Options X
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U = English US (in)  
M = Metric (mm)

Insert stroke length to 1 inch or 25 mm. Enter as a four-place number. Example: A 12.0" stroke is entered as 0120 (U) or 100 mm as 0100 (M)

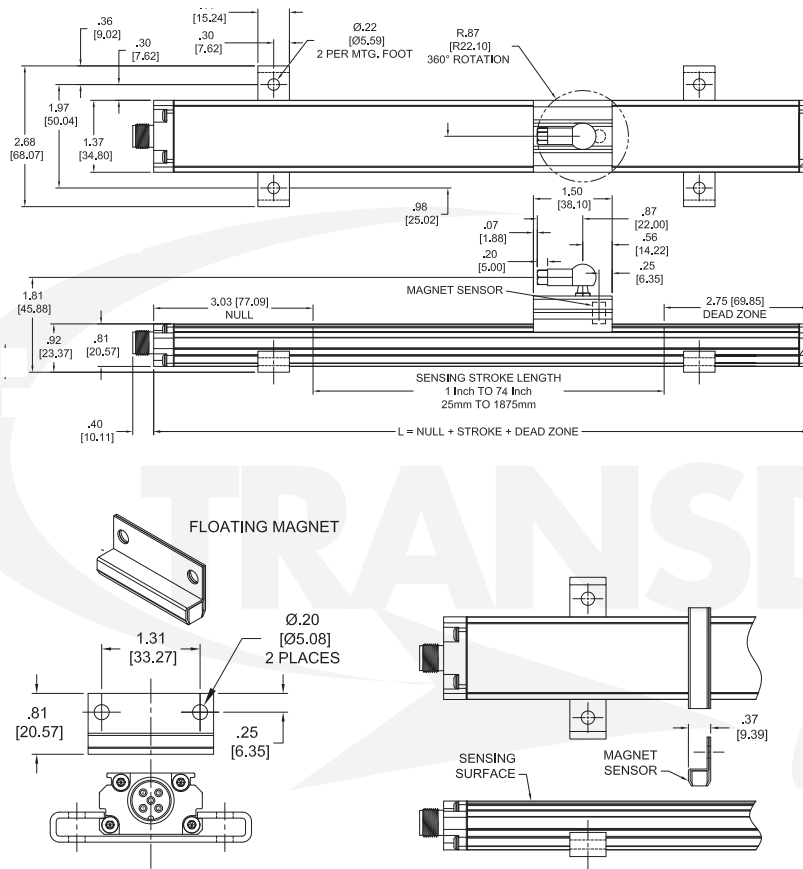
D0 = 0 to 10 Vdc  
D1 = 10 to 0 Vdc  
B0 = 4 to 20 mA  
B1 = 20 to 4 mA

FM = Floating Magnet (Standard)  
SM = Slide Magnet Top Swivel  
SF = Slide Magnet Front Swivel  
X = No Magnet

X = No Options  
P = Programmable Zero & Span  
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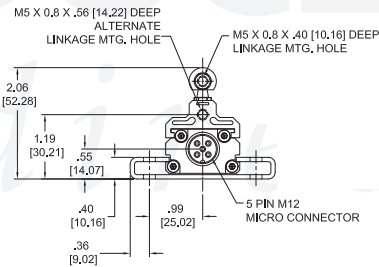
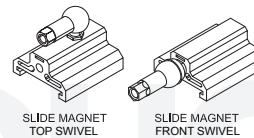
\*\*= Consult factory for further options.

## DIMENSION DRAWING



ALL UNITS ARE PROVIDED WITH MOUNTING FEET AND A MAGNET ASSEMBLY. THE MOUNTING FEET SLIDE IN THE GROOVES ON THE SIDE OF THE EXTRUDED HOUSING. WHEN TIGHTENED DOWN WITH FASTENING HARDWARE, THE MOUNTING FEET CLAMP THE UNIT INTO PLACE. IT IS RECOMMENDED TO USE ONE MOUNTING FOOT ON EACH END AND EVERY THREE FEET BETWEEN

*Dimensions In Inches And Are For Reference*



Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use. While we provide application assistance personally, through our literature and the Transducers Direct web site, it is up to the customer to determine the suitability of the product in the application.

## ACCESSORIES

Item	Part Number
Slide Magnet	TDMT-PAA-MAG1
Slide Magnet Side Adapter	TDMT-PAA-MAG2
Floating Magnet	TDMT-PAA-MAG3
Large Float Magnet	TDMT-PAA-MAG4
Mounting Foot	TDMT-PAA-FOOT
Mating Cables 1m, 3m, 6m	Contact Factory
12m, 15m, 21m	Contact Factory
Control Arm	Contact Factory
Rod Ends	Contact Factory

## WIRING DIAGRAM



PIN NUMBER	FUNCTION	COLOR
1	+VDC POWER SUPPLY	BROWN
2	PROGRAM	WHITE
3	POWER SUPPLY COMMON	BLUE
4	ANALOG OUT	BLACK
5	ANALOG COMMON	GRAY

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