

## The TD1000 Series Ultra High Resolution Digital Measurement, General Purpose, Pressure Transducer



**SERIES: TD1000**

### FEATURES

- Totally digital proprietary design
- Innovative redundant sensing elements
- 24V digital output for pressure or temp switch point
- Voltage and current outputs
- Spike Monitoring Technology™
- Vacuum and compound pressure ranges available
- Custom pressure Ranges and outputs available
- More standard pressure ranges, Industry First
- 0.25% and 0.15% accuracy available
- Optional 4x or 10x over pressure (on most ranges)
- ASIC technology, no zero/span potentiometers
- All stainless steel welded housing
- IP-69K rated seal available (high pressure wash down)
- Innovative low current consumption, ideal for custom wireless solutions
- Programable systems available for OEM/systems integrators for in-house configuring of outputs, ranges and set points to reduce inventory and lead times
- Calibration Certificates available (contact customer service)

### DESCRIPTION

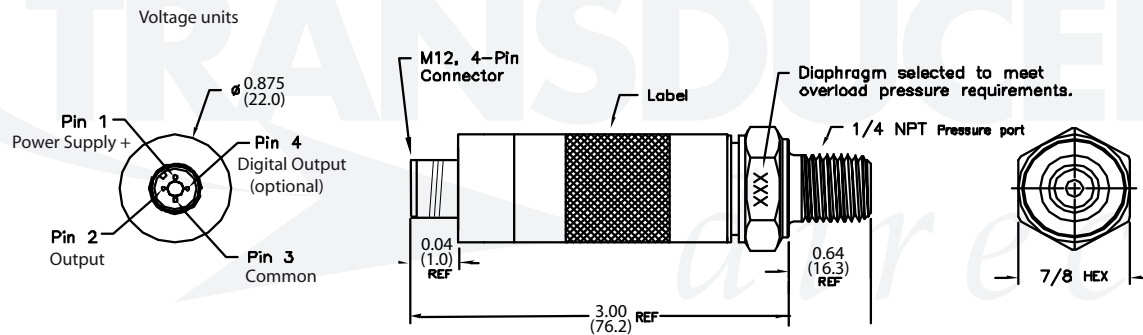
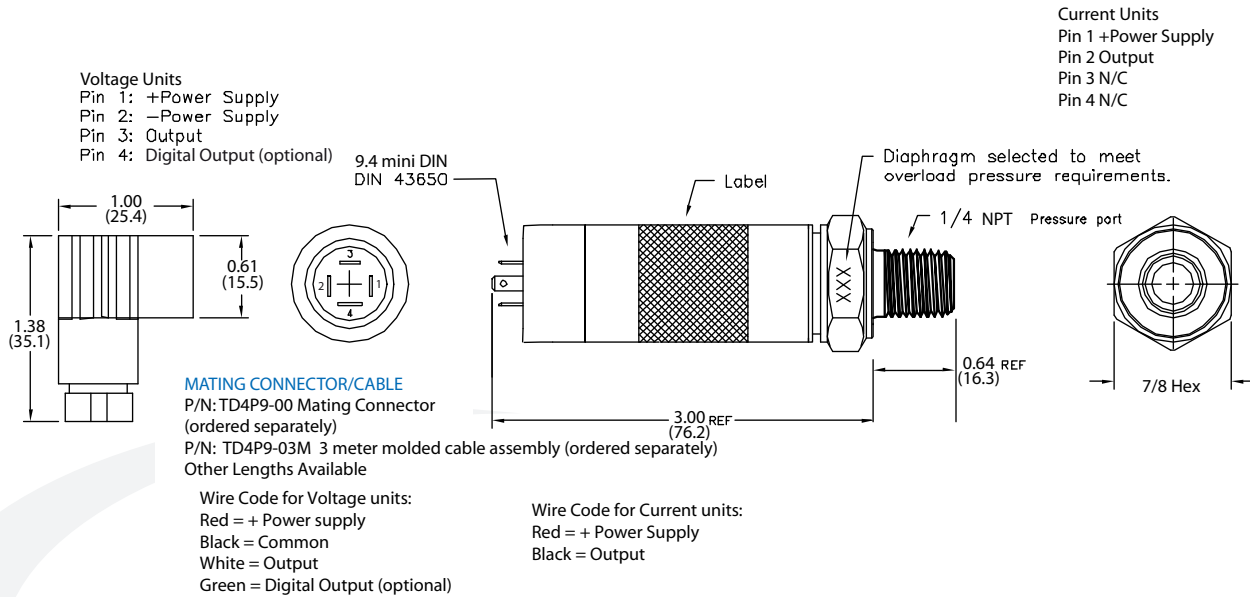
The TD1000 Series digital/configurable (an industry first) industrial pressure transducer features stability and accuracy over a wide temperature range at lower cost than competitive units typically not found in older analog designs yet is plug and play with most lower grade competitive units.

With its proprietary digital/ASIC technology, the TD1000 Series features field proven redundant sensing elements without the need for solder in resistors or trim pots that can drift over time. This provides years of excellent performance and reliability even in the harshest/demanding applications. This combined with optional 4x or 10x over pressure and the optional integrated temperature or pressure digital switch feature, makes the TD1000 Series truly an industry first and second to none.

For extreme applications where power washers are used for wash down, the TD1000 Series optional IP69K seal, another industry first, makes it ideal no matter what the environment.

With its flexible low power design and lower manufacturing costs, the TD1000 Series offers outstanding value and makes it ideal for custom wireless applications.

**ELECTRICAL CONNECTIONS**



**M12 MATING CABLE ASSEMBLIES**

**VOLTAGE OUTPUT TRANSDUCERS ONLY**  
M12 with 2 LEDs (green and yellow) Green shows power, Yellow shows digital output  
P/N: TDM12-4F69-CR2L-01M 1 meter molded cable assembly  
for voltage outputs only

**CURRENT OUTPUT TRANSDUCERS ONLY**  
M12 with no LEDs  
P/N: TDM12-4F69-CR-01M 1 meter molded cable assembly  
for 4-20mA outputs (no digital output available with 4-20mA outputs)

Other Lengths Available

Wire Code for voltage units:  
Brown = + Power Supply  
White = Output  
Blue = Common  
Black = Digital Output (optional)

Wire Code for Current units:  
Brown = + Power Supply  
Blue = Output

**Current Units**  
Pin 1 + power Supply  
Pin 2 N/C  
Pin 3 Output  
Pin 4 N/C

## SPECIFICATIONS

### Performance

Accuracy	Performance @ 25°C (77 °F) 0.25% (optional 0.15%) BFSL - (vac to zero range with 4-20mA output, 0.5% BFSL), TD1010 units: 0.5% BFSL (includes non-linearity, hysteresis and non-repeatability)
Overrange Protection	2x Rated Pressure or optional 4x and 10x
Pressure Range	see ordering chart - up to 6000 psi (414 bar) (optional higher ranges available)
Burst Pressure	5x or 20,000 psi, whichever is less
Pressure Cycles	>100 million
Update Time	<=1msec
Digital Output	Optional digital output for pressure, maintenance or temp switch point (not available on 4-20mA output units), max load current 20mA

### Environmental Data

Temperature	-40° to 100° C (-40 to 212° F)
Compensated Temperatures	-40° to 100° C (-40 to 212° F)
Operating Temperatures	-40° to 100° C (-40 to 212° F)
Storage	-40° to 125° C (-40° to 250° F)
TEB	0.9% FS
Long Term Drift	0.2% FS/year (non-cumulative)
Shock	100g, 11 ms, 1/2 sine
Vibration	20g, peak, 20 to 2400 Hz
EMI/FRI Protection	Yes
Rating	Up to IP-69K available (high pressure wash down)
Approvals	CE

### Mechanical Configuration

Pressure Connections	See ordering chart
Wetted Material	17-4PH stainless steel (for other materials consult factory)
Electrical Connection	Cable, 9.4 Din, IP-69K 4 pin M12 Connector
Case	(housing) 304 stainless steel

### Electrical Data

Excitation	4-28VDC, Typ (must be at least 0.3V above full output voltage), 7.5VDC min for 4-20mA
Output	see ordering chart
Output Impedance	<100 Ohms, Nominal
Current Consumption	25mA max (current output), <5mA (voltage output)
Output Noise	<2mV RMS
Reverse Polarity Protection	Yes
Zero and Span Offset Tolerance	1%
Maintenance Mode	The maintenance mode digital output indicates 1/2 bridge failure and can be selected instead of pressure or temp set point with the designation "M".
Set Point for Pressure or Temp	For pressure, this is done by selecting a percentage of your transducer's full positive range (not vacuum) and this will be the set point (40% of a 1000 psi range will have the set point at 400psi) "P40". For temperature, select your set point in degrees C such as 40° C (104° F) and this will be the set point "T40". When set point is reached and becomes active there is a digital output on pin 4.
Set Point Hysteresis/Reset	5% below pressure set point or 1° C below temp set point

## ORDERING

Series	Output	Pressure Type	Pressure Range	Pressure Connection	Electrical Connection	Accuracy	Pressure or Temp Set Point % (P or T), Maint Mode
TD1000	BB	G	0015	03	Q00	2	T40
TD1000	BB= 4-20mA = 2x Over Pressure CC= 0-5 vdc	G = Gauge	V000 0300 V015 0400	03= 1/4" NPT Male 09= 7/16" x 20	Q00= IP69K M12 D00= 4 pin 9.4 Mini DIN	2 = 0.25% 1 = 0.15%	M = Maintenance Mode P or T10= 10% of pressure range or 10° C P or T20= 20% of pressure range or 20° C P or T30= 30% of pressure range or 30° C P or T40= 40% of pressure range or 40° C P or T50= 50% of pressure range or 50° C P or T60= 60% of pressure range or 60° C P or T70= 70% of pressure range or 70° C P or T80= 80% of pressure range or 80° C P90= 90% of pressure range
TD1004	DD= 0-10 vdc = 4x Over Pressure HH= 1-5 vdc (up to 5000 psi) JJ= 1-6 vdc		V045 0500 V085 0600 V135 0700	**	**	3 = 0.5% (TD1010) **	
TD1010	GG= 0.5-5.5 vdc (nonratiometric) = 10x Over Pressure (up to 2000 psi) WW= 0.5-4.5 vdc (nonratiometric) **		V185 0800 V285 0900 0015 2000 0025 3000 0050 4000 0100 5000 0150 6000 0200 010K 0250 **				(P= % of the full pressure range selected) (full temp range is 10 to 80° C) **

\*\*= Consult factory for further options.

Consult factory for quick ship versions.

Pressure, maintenance and temp set points are available with voltage outputs only. Configured as normally-open.

All straight-thread o-rings are Viton. It is customer's responsibility to determine compatibility.