

**FACTORY  
CONTROLS**

**03 5278 8222**

[sales@factorycontrols.com.au](mailto:sales@factorycontrols.com.au)

[www.factorycontrols.com.au](http://www.factorycontrols.com.au)

65 Douro Street, North Geelong Victoria 3215

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## TD Series Temperature Transmitter with Local Display

One-piece sanitary construction • 2-wire electronics • High accuracy

Temperature sensing technology



# Temperature transmitter for sanitary applications



The TD Series temperature transmitters monitor the temperature of liquids in sanitary applications such as food and beverage processing and pharmaceutical applications.

The one-piece housing features integrated electronics, a process connector, and a Pt1000 Class "A" RTD probe that are laser welded for a water-tight, factory calibrated IP69K sealed sensor.

Robust and durable, the TD transmitters are constructed of 316 stainless steel. The units are corrosion-resistant against chemicals and harsh industrial solvents.

The 2-wire loop powered transmitters are pre-scaled for ranges of 0...100 °C and 0...300 °F. Applications requiring different ranges can be scaled with a programming tool via IO-Link.

High performance temperature transmitter at a great price.



Simple to install 2-wire analog signal



High accuracy at critical process temperatures (calibrated accuracy of 0.5 °F)



Process connector and wetted parts meet all 3A requirements



Fast response time of temperature change: 50% in 1 second and 90% in 3 seconds



Transmitter with LED display indicates local temperature measurement



Transmitter can be scaled in any range between -58...302 °F



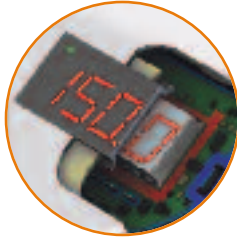
The TD temperature transmitters are designed to perform in the harshest environments. Completely sealed housing eliminates liquid ingress.



Standard 2-wire loop power operation with an innovative 4-digit LED display for a unique, easy to implement or retrofit transmitter with local indication of the measured temperature.

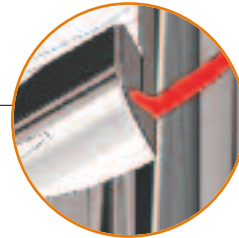
# Designed and tested to withstand the harshest sanitary environments

*High performance polymer display window is resistant to high temperatures and aggressive cleaners. The proven window sealing design eliminates issues with fluid ingress.*



*Full 316L stainless steel construction eliminates corrosion that compromises instrument integrity.*

*2-wire loop power operation for easy installation in typical transmitter applications.*



*State-of-the-art laser welded construction creates a hermetically sealed one-piece device.*

*Highly engineered tip design ensures fast response time with constant and repeatable measurement from -58 to 302 °F (-50 to 150 °C). The TD minimizes thermal mass and locates the RTD element precisely with constant force and position.*



*1-piece design is factory calibrated and tested during assembly which guarantees out-of-the-box performance.*

## Ideally suited for...



The TD temperature transmitter reliably monitors the fluid temperature in a CIP application. Its fast reacting design responds to temperature changes of 50% in 1 second and 90% in 3 seconds (T05 and T09).



Heat exchanger fluid temperatures are critical measurements in process applications. The TD transmitter is an ideal solution for monitoring their process fluids. The 3A authorized one-piece construction offers the highest level of integrity in sanitary applications.



The TD transmitter offers a compact measuring system. Its easy to install small diameter, low profile housing provides efficient thermal decoupling to protect the electronics without compromising mechanical durability.

# ifm's new TD transmitter is a more reliable alternative to traditional sensors

- ✓ High accuracy (Class A) Pt1000 RTD
- ✓ Eliminates the need to match the RTD and transmitter on the factory floor
- ✓ Transmitter with 4-digit display
- ✓ One-piece, 316 stainless steel housing
- ✓ IP69K washdown rated with 3A authorization



### Challenge

*Traditional sensors with connection head and well assemblies are prone to damage from moisture ingress. They require costly calibration and matching of the transmitter with the RTD probe. The assemblies do not have displays for local indication.*



### Solution

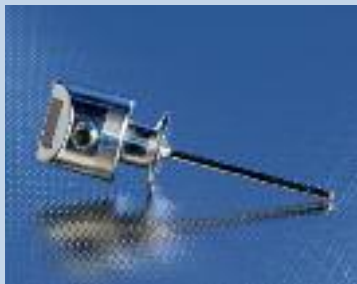
*The Pt1000 sensor element, evaluation electronics and LED display are calibrated to operate as a system solution for your process monitoring. The one-piece device eliminates wiring issues and moisture ingress.*

**Delivered completely assembled, calibrated and ready to install for "Plug and Play" operation**



To get a "First Look" of the TD Transmitter, visit [www.ifm.com/us/td](http://www.ifm.com/us/td)

Starting List Price  
**\$190**






*The TD temperature transmitter product line is available in one-piece housings with RTD lengths of 30, 50, 100, 150, 200 and 250 mm and industry standard process connectors.*

Transmitter type	Process connection	Pre-scaled Temperature range*
TD28 Series	1.5" Tri-clamp	0...100 °C
		0...300 °F
TD29 Series	2" Tri-clamp	0...100 °C
		0...300 °F
TD22 Series	Compression fittings	0...100 °C
		0...300 °F





\* All units can be rescaled between -58...302 °F (-50...150 °C) using IO-Link.



## Product selection guide

Sensor Type	Temperature range (scaled 4...20 mA)	Probe Length [mm]	Probe Diameter [mm]	Process Connector	Part No.
	0...100 °C	30	6	1.5" tri-clamp	<b>TD2807</b>
	0...100 °C	50	6	1.5" tri-clamp	<b>TD2817</b>
	0...100 °C	100	6	1.5" tri-clamp	<b>TD2837</b>
	0...100 °C	150	6	1.5" tri-clamp	<b>TD2847</b>
	0...300 °F	30	6	1.5" tri-clamp	<b>TD2803</b>
	0...300 °F	50	6	1.5" tri-clamp	<b>TD2813</b>
	0...300 °F	100	6	1.5" tri-clamp	<b>TD2833</b>
	0...300 °F	150	6	1.5" tri-clamp	<b>TD2843</b>
	0...100 °C	30	6	2" tri-clamp	<b>TD2907</b>
	0...100 °C	50	6	2" tri-clamp	<b>TD2917</b>
	0...100 °C	100	6	2" tri-clamp	<b>TD2937</b>
	0...100 °C	150	6	2" tri-clamp	<b>TD2947</b>
	0...300 °F	30	6	2" tri-clamp	<b>TD2903</b>
	0...300 °F	50	6	2" tri-clamp	<b>TD2913</b>
	0...300 °F	100	6	2" tri-clamp	<b>TD2933</b>
	0...300 °F	150	6	2" tri-clamp	<b>TD2943</b>
	0...100 °C	50	6	N/A	<b>TD2217</b>
	0...100 °C	100	6	N/A	<b>TD2237</b>
	0...100 °C	150	6	N/A	<b>TD2247</b>
	0...100 °C	250	6	N/A	<b>TD2267</b>
	0...300 °F	50	6	N/A	<b>TD2213</b>
	0...300 °F	100	6	N/A	<b>TD2233</b>
	0...300 °F	150	6	N/A	<b>TD2243</b>
	0...300 °F	250	6	N/A	<b>TD2263</b>

### Optional Accessories



Type	Description	Part No.
	USB IO-Link master cable connects PC to sensor	<b>E30396</b>
	Line recorder sensor software	<b>ZGS210</b>
	1/4" NPT compression fitting	<b>E30049</b>
	1/2" NPT compression fitting	<b>UT0038</b>
	1/2" NPT clamp fitting	<b>E30025</b>
	G1/2 BSPP clamp fitting	<b>E30018</b>

### Technical specs

Operating voltage	18...32 V DC
Analog output	4...20 mA
Current consumption	< 50 mA
Resolution of analog output	0.1 K
Accuracy of analog output	± 0.3 + (± 0.1% MS) K*
Pressure rating	-1...150 bar
Ambient temperature	-13...176 °F (-25...80 °C)
Maximum measuring range	-58...302 °F (-50...150 °C)
Programmable	IO-Link
Housing	316L, fully welded
LED display	4-digit red
Protection	IP 69K
Dynamic response	1/3 sec. (according to DIN EN 60751)

\* MS = set measuring span

### Cordsets

Type	Description	Part No.
	M12 Micro DC (4-pin) 10 m, PUR	<b>EVT002</b>
	M12 Micro DC (4-pin) 25 m, PUR	<b>EVT003</b>
	M12 Micro DC (4-pin) 10 m, PUR	<b>EVT005</b>
	M12 Micro DC (4-pin) 25 m, PUR	<b>EVT006</b>

## IO-Link

Applications that require different ranges can be scaled with the programming tool IO-Link. IO-Link unlocks the intelligence of sensors to provide users with a large amount of information such as diagnostic messaging and parameter data.

### About IO-Link

IO-Link is a manufacturer-independent point-to-point connection technology for sensors and actuators in factory automation. It can be used to automatically parameterize sensors, diagnose plant conditions and transmit measured values.

### An international consortium developed IO-Link

IO-Link originated from a group of leading sensor and actuator manufacturers

who developed a protocol to help bring intelligent sensor data back to the control system. The main goal of the consortium was to enable users to extract sensor intelligence without adding cost.

ifm is making the commitment to IO-Link by producing more IO-Link-enabled sensors such as the TD transmitter for this new sensor communication interface.





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*You can count on our service team to be a reliable partner. That means easy order placement and knowledgeable technical support. Your time is too valuable to waste.*

### ifm product lines

- Inductive sensors
- Cylinder sensors
- Photoelectric sensors
- Vision sensors
- Capacitive sensors
- Safety sensors
- Pressure sensors
- Flow sensors
- Temperature sensors
- Level sensors
- Vibration monitoring
- Valve sensors
- Power supplies
- AS-i bus system
- Safety-at-Work
- Identification products
- Cable assemblies
- Mobile controls

### ifm efector North America

**ifm efector USA**  
782 Springdale Dr.  
Exton, PA 19341  
800-441-8246  
[www.ifm.com/us](http://www.ifm.com/us)

**ifm efector Canada**  
2233 Argentia Road, Suite 104  
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San Pedro Garza García, N.L. 66269  
01-800-813-4363  
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### Why select ifm for your sensors and controls needs?

**ifm people.** The ifm team of employees is committed to helping you succeed in your business. We directly service and work with over 20,000 customers in the US.

**ifm products.** For over 40 years, ifm has developed, manufactured, and marketed sensors to industries that include assembly and robotics, automotive, material handling, packaging, metal forming, plastics, and food and beverage. We offer a complete family of position sensors, fluid sensors, diagnostic systems, networking products, and wiring solutions.

**Quality.** There can be no compromise in the quality and reliability of sensors that are applied in your production facility. The ifm new product development process incorporates specific testing for sensors and controls to withstand environments with shock and vibration, electrical noise and temperature fluctuations.

**Investment in R&D.** Developing new products that increase uptime and productivity is a core belief of our company. We apply practical innovation to simplify technology and develop products that can have a positive impact on your production process.

**Application know-how.** ifm has over 40 years of experience in working with industrial automation applications. Our knowledgeable team of technical support engineers will work with you to recommend the right solution, the first time.

**ifm business philosophy.** ifm provides a knowledgeable and courteous service center team to assist with order placement and technical support. We offer an efficient distribution center for accurate and on-time delivery of products. ifm publishes list prices in literature and on our website, and we always stand behind the quality and performance of our products.

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