

Hygienic temperature sensor with Pt100 or 4 to 20 mA output

## Easytemp TMR35



€ 71.-  
11-35 pcs.

- Hygienic process connections, surface finishing  $R_a \leq 0.8 \mu\text{m}$
- Fast response times without reduced tip
- Compact thermometer from stainless steel

### i Specs at a glance:

- **Temperature range:**  
-50 to +200 °C (-58 to 392 °F)
- **Accuracy:**  
<0.08 %, Pt100 class A
- **Immersion length (diameter):**  
40 to 600 mm ( $\varnothing$  6 mm)  
(1.6 to 23.6" ( $\varnothing$  0.24"))
- **Sensor response time:**  
<1.0 s ( $T_{50}$ ), <2.0 s ( $T_{90}$ )

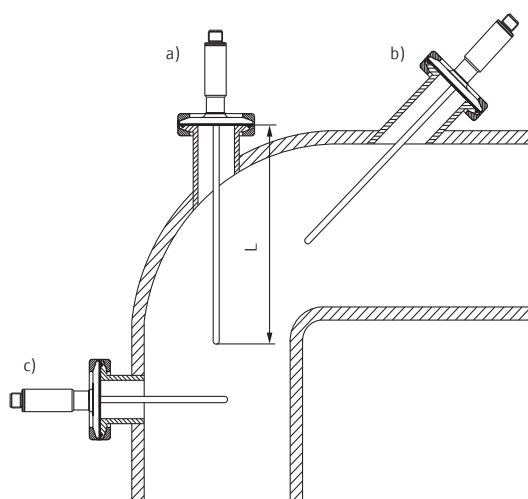
**Application** Characterized by simplicity and compact construction, the Easytemp TMR35 is available with a range of hygienic process connections. It offers good accuracy and response times and has been specifically designed for hygienic applications with 3-A certification.

**Function** The compact thermometer consists of a Pt100 class A sensor, (optional) transducer and housing with hygienic process connection. The built-in electronics can be programmed using a PC and TXU10-BA configuration kit to convert the Pt100 input signal into a temperature linear 4 to 20 mA signal.



Complete product information:  
[www.e-direct.endress.com/tmr35](http://www.e-direct.endress.com/tmr35)

### Installation instructions



#### Pipe installation

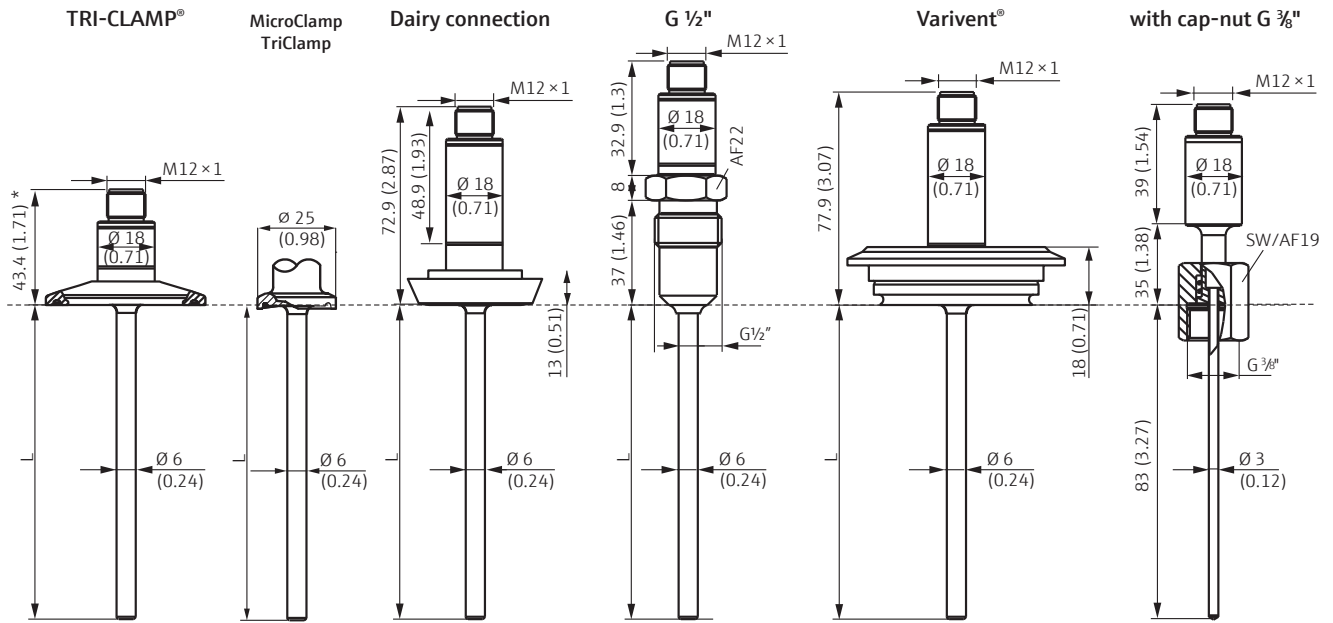
- At angle sections, against the direction of flow
- In smaller pipes, turned against the direction of flow
- Perpendicular to the direction of flow

L = Insertion length

## Technical data

Sensor		Power supply	
Sensing element	1 × Pt100	Supply voltage	$U_b = 10$ to 35 V DC
Tolerance	Class A according to IEC 751	Residual ripple	Permitted residual ripple $U_{ss} \leq 3$ V at $U_b \geq 13$ V, $f_{max} = 1$ kHz
Process temperature	-50 to +200 °C	<b>Accuracy</b>	
Material	316L	Transmitter response time	1 s
Surface finishing	$R_a \leq 0.8 \mu\text{m}$	Reference operating conditions	0 °C (32 °F) (ice bath)
Sensor diameter	6 mm (0.24")	Measuring error	0.1 K (0.18 °F) or 0.08 %
Sensor length	40 to 600 mm selectable (please specify)	Influence of supply voltage	$\leq \pm 0.01$ %/V deviation from 24 V
Response time	$T_{50} = \leq 1.0$ s; $T_{90} = \leq 2.0$ s	Influence of ambient temperature (temperature drift)	$T_d = \pm(15 \text{ ppm} / \text{K} \times (\text{full scale value of measuring range} + 200) + 50 \text{ ppm/K} \times \text{set measuring range}) \times \Delta\theta$ $\Delta\theta =$ deviation of ambient temperature from the reference operating condition
Max. pressure	100 bar / 1500 psi (at 100 mm / 3.94" and 20 °C / 68 °F, depending on process connection)	Long-term stability	$\leq 0.1$ K/year or 0.05 %/year
<b>Process connection</b>		Influence of load	$\leq \pm 0.02$ %/100 $\Omega$
Version	Conical metal-to-metal connection, with G $\frac{1}{2}$ "; TRI-CLAMP® flange 1" 1- $\frac{1}{2}$ ", ISO 2852 DN 25/38; Microclamp $\frac{1}{2}$ " to $\frac{3}{4}$ "; Dairy connection DIN 11851 DN 25; Varivent® $\varnothing$ 68 mm for DN 32/125	<b>Operating conditions</b>	
<b>Transmitter housing</b>		Ambient temperature	-40 to +85 °C (-40 to 185 °F)
Degree of protection	IP 66/67	Storage temperature	-40 to +85 °C (-40 to 185 °F)
Electrical connection	M12×1-plug-in connector	Climate class	As per EN 60 654-1, Class C
Material	304	Shock resistance	4 g/2 to 150 Hz as per IEC 60068-2-6
<b>Output characteristics</b>		EMC	According to IEC 61326 Series and NAMUR NE21
Output signal	4 to 20 mA, 20 to 4 mA / Pt100	<b>Approvals</b>	
Signal on alarm	Sensor break; Sensor short-circuit: $\leq 3.6$ mA or $\geq 21.0$ mA	3-A	
Load	Max. ( $U_{power\ supply} - 10$ V)/0.023 A		
Ind. current requirem.	$\leq 3.5$ mA		
Current limitation	$\leq 23$ mA		
Switch-on delay	2 s		

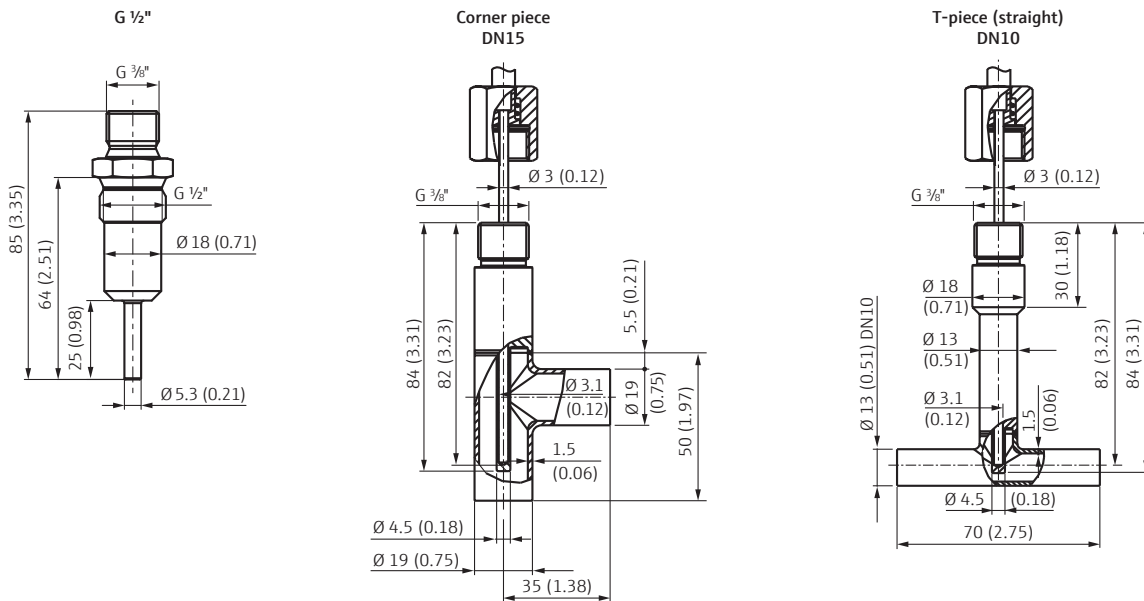
## Dimensions in mm (inches)



\* Version with extension neck add 35 mm (1.38") L = selectable length from 40 to 600 mm (1.6" to 23.6")

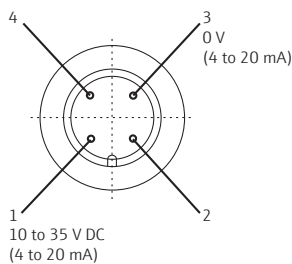
Installation according to instruction manual.

## Thermowells

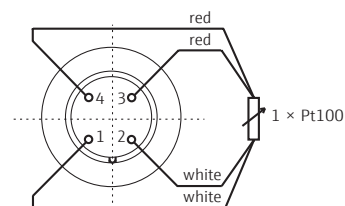


## Electrical connection

4 to 20 mA



1 x Pt100



## Price table

## Measuring range

Code	Measuring range
A	0 to +100 °C
B	0 to +150 °C
C	-50 to +100 °C
D	-50 to +150 °C
E	-50 to +200 °C
F	0 to +200 °C
X	Freely selectable (Temperature range: -50 to +150 °C, please specify)

## Neck

Code	Neck
A	W/o
B	35 mm (1.38")

Easytemp TMR35			Order no.	Price/pcs. in €		
Output	Process connection	Length**	*	1 to 3	4 to 10	11 to 35
4 to 20 mA with extension neck	TRI-CLAMP®	<input type="text"/> mm	TMR35-A1 <input type="text"/> <input type="text"/> DBAX1AAA	116.-	108.-	102.-
	Microclamp 1/2" - 3/4"	<input type="text"/> mm	TMR35-A1 <input type="text"/> <input type="text"/> DMAX1AAA	116.-	108.-	102.-
	G1/2"	<input type="text"/> mm	TMR35-A1 <input type="text"/> <input type="text"/> MBAX1AAA	116.-	108.-	102.-
	Dairy connection	<input type="text"/> mm	TMR35-A1 <input type="text"/> <input type="text"/> PHAX1AAA	152.-	142.-	134.-
	Varivent®	<input type="text"/> mm	TMR35-A1 <input type="text"/> <input type="text"/> LBAX1AAA	152.-	142.-	134.-
	Weld-in adapter G 3/4"	<input type="text"/> mm	TMR35-A1 <input type="text"/> <input type="text"/> ACAX1AAA	152.-	142.-	134.-
	With cap-nut G 3/8"	83 mm	TMR35-A1 <input type="text"/> <input type="text"/> CR1BB1AAA	171.-	159.-	150.-
	With thermowell G1/2"	83 mm	TMR35-A1 <input type="text"/> <input type="text"/> CR1WC1AAA	232.-	216.-	204.-
	With corner piece DN15	82 mm	TMR35-A1 <input type="text"/> <input type="text"/> CR1CB3AAA	390.-	362.-	343.-
	With T-piece DN10	82 mm	TMR35-A1 <input type="text"/> <input type="text"/> CR1TB3AAA	361.-	336.-	318.-
Pt100 with extension neck	TRI-CLAMP®	<input type="text"/> mm	TMR35-A11 <input type="text"/> <input type="text"/> DBBAX1AAA	81.-	75.-	71.-
	Microclamp 1/2" - 3/4"	<input type="text"/> mm	TMR35-A11 <input type="text"/> <input type="text"/> BDMAX1AAA	81.-	75.-	71.-
	G1/2"	<input type="text"/> mm	TMR35-A11 <input type="text"/> <input type="text"/> BMBAX1AAA	81.-	75.-	71.-
	Dairy connection	<input type="text"/> mm	TMR35-A11 <input type="text"/> <input type="text"/> BPHAX1AAA	116.-	108.-	102.-
	Varivent®	<input type="text"/> mm	TMR35-A11 <input type="text"/> <input type="text"/> BLBAX1AAA	116.-	108.-	102.-
	Weld-in adapter G 3/4"	<input type="text"/> mm	TMR35-A11 <input type="text"/> <input type="text"/> BACAX1AAA	116.-	108.-	102.-
	With cap-nut G 3/8"	83 mm	TMR35-A11 <input type="text"/> <input type="text"/> CR1BB1AAA	135.-	126.-	119.-
	With thermowell G1/2"	83 mm	TMR35-A11 <input type="text"/> <input type="text"/> CR1WC1AAA	196.-	183.-	173.-
	With corner piece DN15	83 mm	TMR35-A11 <input type="text"/> <input type="text"/> CR1CB3AAA	354.-	329.-	311.-
	With T-piece DN10	83 mm	TMR35-A11 <input type="text"/> <input type="text"/> CR1TB3AAA	325.-	302.-	286.-

\* Please add code for measuring range and neck.

\*\* Please specify sensor length (40 to 300 mm).

Accessories	Order no.	Price/pcs. in €
Flange welding boss for TMR35 with process connection G1/2"	60021387	23.87
Weld-in adapter G 3/4"	71258355	25.77
Configuration kit with USB connection	TXU10-BA	125.52
5 m cable with M12x1 plug	51005148	9.56

Prices are applicable for Latvia until 30.09.2019, in Euro per unit. At Endress+Hauser sales and delivery terms excluding value added tax (VAT), cost of packing and dispatch. Delivery times: 48 hours or 5 working days – please check [www.e-direct.endress.com](http://www.e-direct.endress.com) for exact delivery times. Endress+Hauser retains the right to change or modify pricing at any time. Prices can be verified prior to ordering on [www.e-direct.endress.com](http://www.e-direct.endress.com).

 Complete product information:  
[www.e-direct.endress.com/tmr35](http://www.e-direct.endress.com/tmr35)

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