



# Resistance Thermometer With protection tube TR30

## Applications

- General purpose applications
- Machine building
- Pharmaceutical, Cosmetic and Biotechnological Industry
- Food and beverage industry
- Hydraulic and Pneumatic Industry
- Storage Systems
- Skids and Cleaning Systems
- Power Plants

## Special Features

- Pt100 o Pt1000, sensors with 2, 3 o 4wires
- Direct Output or with Temperature Transmitter
- Available in ranges from -200°C to 600°C
- Simple, Double or Triple Elements
- Completely made of 316L Stainless Steel
- ATEX versions
- Material and/or calibration certificates available



TR30 Threaded

## Technical characteristics

TR30 resistance thermometers are manufactured with the protection thermowell and can install directly to the process.

These thermometers can be supplied with or without a Removable Measurement Unit (in case it has one, it must be taken into account that the sensor will have two metallic covers).

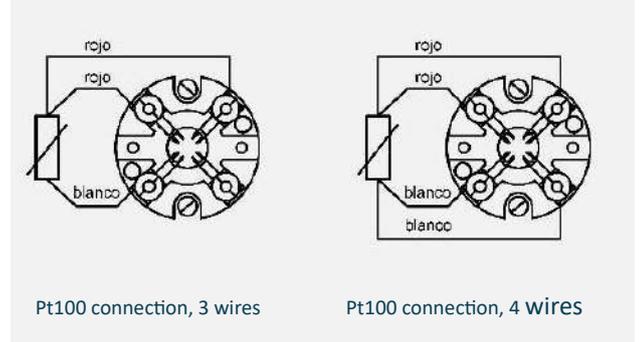
The TR30 model can be manufactured with free wires (prepared for a transmitter), with a ceramic terminal or with an analog output through a temperature transmitter.

Are available with different fixed or sliding threaded connections (GAS, NPT, SAE or METRIC), or plain without thread. Manufacturing is customized, therefore, the exact length can be selected for each type of installation. Both the body and the wetter parts are made of 316L Stainless Steel.

These thermometers are manufactured with a mineral insulated (MI-Cable) or compacted with magnesium oxide.

## Temperature and accuracy limits according to EN 60751

Tipo	Rango
Pt100 Clase B	-200...+600°C
Pt100 Clase A	-100...+450°C
Pt100 Clase 1/3DIN	-50...+250°C
Otros sensores, consultar	



## Terminal Heads



## Temperature Transmitters

### Programmable Pt100 TT22C



For Resistance Thermometers  
 Input: 2,3 or 4-wires Pt100  
 Output: 4...20mA, 2 wires  
 Measurement range: -200... 850°C  
 Accuracy: ± 0,1%  
 ATEX protection, optional  
 Ø42mm, for head

### Universal Programmable TT33C



Resistance thermometers and thermocouples  
 Input: RTD, TC, mV and Ohms  
 Galvanic isolation 1.500V  
 Output: 4...20mA, 2wires  
 Measurement Range RTD: -250...+850°C  
 Accuracy RTD: ± 0,08%  
 Measurement Range TC: -250...+1800°C  
 Accuracy TC: ± 0,1%  
 ATEX protection, optional  
 Ø42mm, for head

### Universal Protocolo HART TT53C



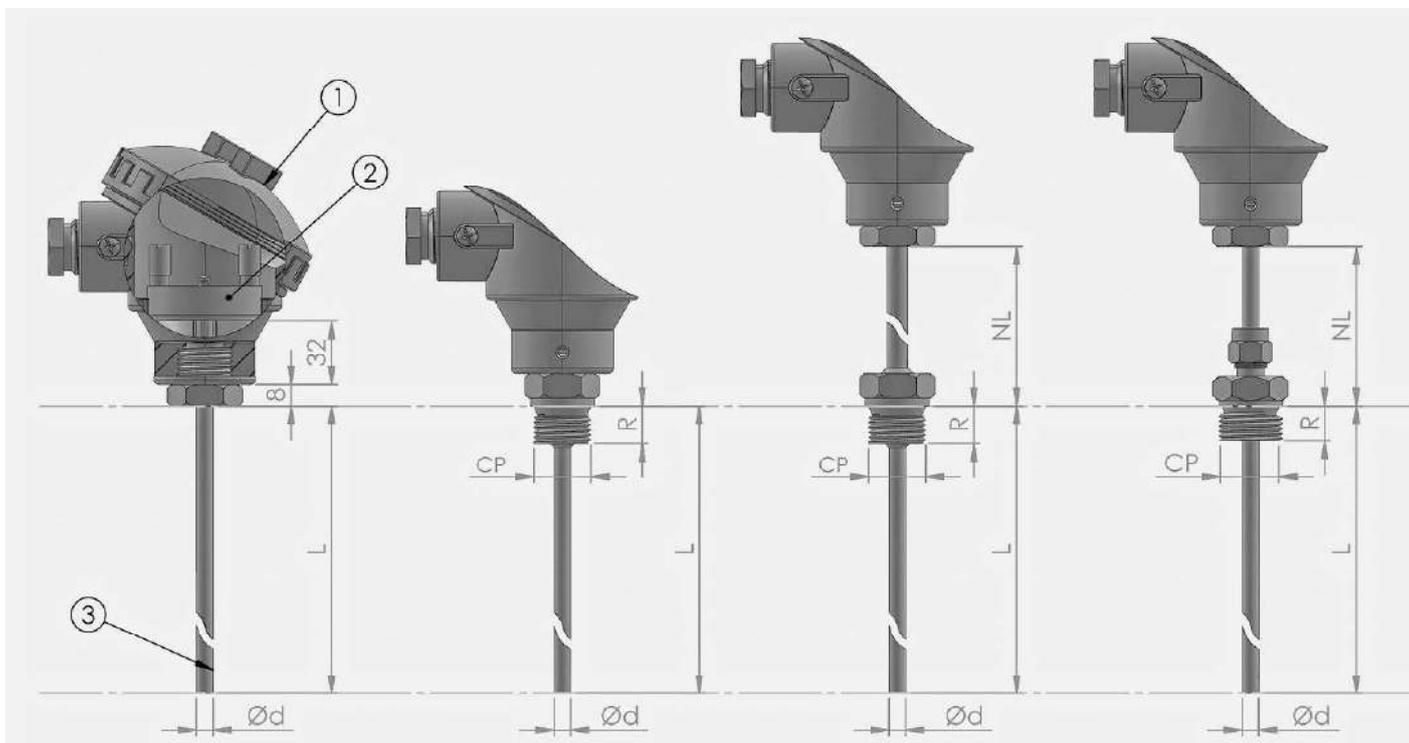
Resistance thermometers and thermocouples  
 Input: RTD, TC, mV and Ohms  
 Galvanic isolation 1.500V  
 Output: 4...20mA, 2wires and HART  
 Measurement Range RTD: -200...+1.000°C  
 Accuracy RTD: ± 0,01%  
 Measurement Range TC: -250...+1800°C  
 Accuracy TC: ± 0,01%  
 Protección ATEX, opcional  
 ATEX protection, optional

### Universal Programmable TT51C



Resistance thermometers and thermocouples  
 Input: RTD, TC, mV and Ohms  
 Galvanic isolation 1.500V  
 Output: 4...20mA, 2wires and HART  
 Measurement Range RTD: -250...+850°C  
 Accuracy RTD: ± 0,05%  
 Measurement Range TC: -250...+1800°C  
 Accuracy TC: ± 0,1%  
 ATEX protection  
 SIL 2 (according to IEC 61508-2)  
 Ø42mm, for head

Drawing Executions



Caption:

- |   |                             |
|---|-----------------------------|
| ① Terminal Head                               | Ød Protection tube diameter |
| ② Ceramic Terminal, Transmitter or Free Wires | L Immersion Length          |
| ③ Removable Measurement Unit                  | NL Neck tube Length         |
|   | R Thread Distance           |
|   | CP Process Connection       |

Thermowells Types



Flange Thermowell  
VT10



Threaded Thermowell  
VT20



Weld-In Thermowell  
VT30



Weld-In Thermowell  
VT40



Threaded Thermowell  
VT60

## Order Details

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12)(13)(14)

**Code** TR30S-O-KNE-13H-CA-G12-Ø6A-0050-SIN-ZOCAL-SINT-SSS

(1) - Modelo	
TR30S	Termorresistencia Estándar con Vaina SIN UME
TR30C	Termorresistencia Estándar con Vaina CON UME
(2) - Ejecución	
M	Encamisado   Mantel   MI-Cable
O	Compactada Óxido de Magnesio
(3) - Cabezales	
SIN	Sin cabezal
MIN	MA de aluminio atornillado, MiniDin
DIN	DIN-B de aluminio atornillado
KNN	KN-E de aluminio roscado
KBO	KN-O Baketita (negro)
BSZ	BSZ-H para termo elemento doble
XDA	XDA - ATEX Eex (d) de aluminio azul
XXX	Otros
(4) - Sensores	
13H	1 x Pt100 3hilos
23H	2 x Pt100 3 hilos
14H	1 x Pt100 4 hilos
24H	2 x Pt100 4 hilos
XXX	Otros
(5) - Clase del Sensor   Tolerancia Temperatura	
CB	Clase B   -70...+500°C
CC	Clase B   -196...+150°C, criogénica
CD	Clase B   -70...+600°C, construcción con encamisado
CA	Clase A   -50...+300°C
C1	Clase 1/3 DIN   0...150°C
XX	Otros
(6) - Conexión Proceso "CP"	
SIN	Tubo liso sin conexión
G12	Rosca fija de G 1/2"B
G14	Rosca fija de G 1/4"B
N14	Rosca fija de 1/4" NPT-M
N12	Rosca fija de 1/2" NPT-M
G2N	Rosca deslizante de G 1/2"
G4N	Rosca deslizante de G 1/4"
N2N	Rosca deslizante de 1/2" NPT
XXX	Otras
(7) - Diámetro del Inmisor	
Ø3A	Ø exterior 3mm
Ø6A	Ø exterior 6mm
Ø8A	Ø exterior 8mm
Ø6B	Ø exterior 6mm con punta reducida a Ø 4mm (30mm)
XXX	Otros

Carry On ⇅

<b>(8) - Longitud de Inmersión "L"</b>					
0050	50mm	0100	100mm	0150	150mm
0200	200mm	0250	250mm	0300	300mm
0350	350mm	0400	400mm	0450	450mm
0500	500mm	0550	550mm	0600	600mm
XXXX	Otras longitudes, indicar en mm				
<b>(9) - Longitud de Extensión "NL"</b>					
SIN	Sin cuello				
6050	∅ 6 x 50mm	6075	∅ 6 x 75mm	6100	∅ 6 x 100mm
8050	∅ 8 x 50mm	8075	∅ 8 x 75mm	8100	∅ 8 x 100mm
1050	∅ 10 x 50mm	1075	∅ 10 x 75mm	1010	∅ 10 x 100mm
XXXX	Otros				
<b>(10) - Tipo de Conexión Eléctrica   Transmisor Temperatura</b>					
HILOS	Hilos sueltos, preparado para transmisor				
ZOCAL	Zócalo de Terminales cerámico				
TT22C	Transmisor TT22C, digital programable Pt100				
TT33C	Transmisor TT33C, digital programable universal				
TT33X	Transmisor TT33C Ex, digital programable universal ATEX				
TT53C	Transmisor TT53C, digital HART				
TT53E	Transmisor TT53C Ex, digital HART ATEX				
TT51S	Transmisor TT51C, digital SIL2 ATEX				
XXXXX	Otros				
<b>(11) - Rango Configuración Transmisor</b>					
SINT	Sin Transmisor	0050	0...50°C	0250	0...250°C
5050	-50...+50°C	0100	0...100°C	0300	0...300°C
2010	-50...+100°C	0150	0...150°C	0400	0...400°C
2060	-20...+60°C	0200	0...200°C	XXXX	Otros
<b>(12) - Informes y Certificados de Calibración</b>					
S	Sin certificados				
A	1 punto - especificar				
B	2 puntos, especificar				
C	3 puntos, especificar				
D	Certificado Oficial Laboratorio ENAC				
X	Otros				
<b>(13) - Certificados de Materiales</b>					
S	Sin certificados				
1	Certificado de conformidad 2.1 según EN 10204				
2	Certificado de materiales 3.1 según EN 10204				
X	Otros				
<b>(14) - Miscelánea</b>					
S	Sin				
E	Etiqueta Cliente				
X	Otros				

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12)(13)(14)

Code

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