

# Stainless Steel Gas Filled Thermometer with/without Contact **TCE Series**

## Application

TCE Series is a premium gas expansion capillary thermometer supported with contacts function, designed with all stainless steel construction and wetted parts, suitable for corrosive environment in chemical plants, processing, food industry, machinery, piping and mechanical engineering plant, building construction and various industries. Liquid fillable option to be used for extreme vibration application. TCE Series area designed mostly pipe and tank application, where corrosive and contact function is concern.

## Features

- Accuracy Class 1.0 per EN 13190
- Gas filled temperature measuring system
- Quick response and high accuracy
- Remote system with capillaries
- Various protection capillaries available
- Temperature range -260°C..+800°C
- Sliding connection as standard
- Sensor length up to 1000 mm
- Sensor diameter 6, 8, 10, 12 or 15 mm
- Liquid fillable for extreme vibration application
- Optional electrical contact function, 1 or 2 contacts



## Technical Specification

- Nominal Size  
2½", 3", 4", 6" and 10"
- Accuracy Class  
Class 1.0 per EN 13190
- Ingress Protection  
IP 65 per DIN 40 050
- Sensor Diameter  
Ø 8 mm (Standard), 6, 10, 12, 15 according to connection size
- Connection Size  
Sliding connection standard  
¼", ½", ¾" or 1" BSP/NPT
- Temperature Scale Range  
-20°..+800 °C
- Filling  
Dry, but fillable Glycerine/Silicone oil

## Design Material

- Casing and Bezel Ring  
Stainless steel 304, \*SS 316
- Sensor / Stem  
Stainless steel 321, \*SS 316
- Connection  
SS 304, sliding connection standard
- Capillary  
SS 304, stainless steel armored standard
- Window  
Mineral glass, thickness 4 mm
- Pointer and Dial Plate  
Aluminum, pointer micro-adjustable std
- Movement  
Brass, \*Stainless steel
- Overload Resistance  
Up to 30% of Full Scale (max. 800°C)



## Contact Function

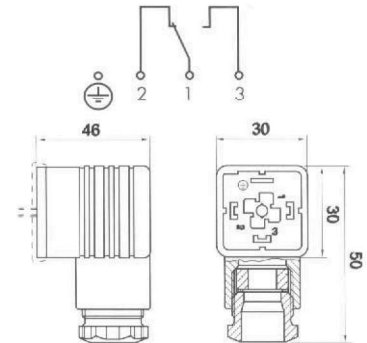


### Hirschmann Connector

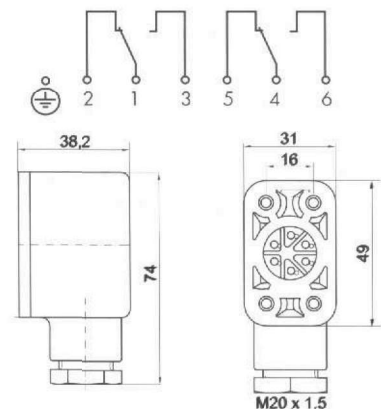


- Minimal range 60 °C
- Connector Cable junction box
- Hysteresis max. 1% up and down
- Setpoint (s) from outside with key
- SPDT and DPDT contact type
- Electrical switch capacity :  
125 Vac : 5A (Ind. load 0.1A)  
250 Vac : 3A (Ind. load 0.1A)  
DC 30V : 5A (Ind. load 0.1A)  
DC125V : 0.4A  
DC250V : 0.2A

### Type S1 : SPDT - Hirschmann



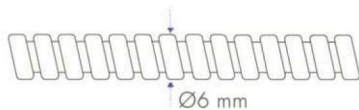
### Type S2 : DPDT - Wiebrock



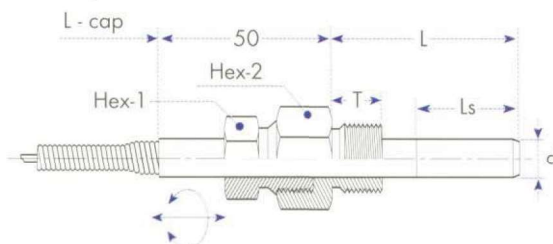
## Sensor and Capillary



- Capillary standard  
Capillary tube SS321 with Stainless steel armored protection, working temperature -260° Min..+800 °C Max. Other types as option, Stainless steel armored + PVC


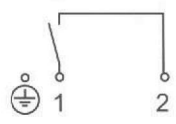
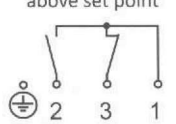
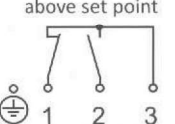
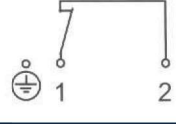
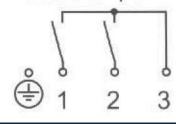
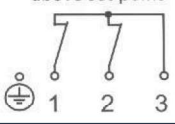


- Design Sensor  
Standard direct straight tube / sensor SS316



# Contact Types



Contact Capacity	Type O	Type OC	Type CO
 <p>* Low-Action Contact (4" &amp; 6" only) Electrical switch high capacity (max.250V) AC 50 VA and DC 30 W</p> <p>* Inductive contact, please contact us...</p>	Contact open above set point 	1st contact open & 2nd close above set point 	1st contact close & 2nd open above set point 
	Type C	Type OO	Type CC
	Contact close above set point 	1st contact open & 2nd open above set point 	1st contact close & 2nd close above set point 

# Ordering Code



TCEDial<sup>①</sup><Temperature range><sup>②</sup> Mounting<sup>③</sup> - Sensor L- Connection<sup>④</sup> - Capillary<sup>⑤</sup> - Contact<sup>⑦</sup> - Filling<sup>⑧</sup>\*Option<sup>⑨</sup>

①	Dial size
250	2½" / 63 mm
300	3" / 80 mm
500	4" / 100 mm
750	6" / 160 mm
900	10" / 250 mm

② Temperature range (single range)	
°C	°F
-100° .. +500°	-100° .. +120°
-200° .. +50°	-50° .. +120°
-120° .. +40°	-40° .. +160°
-100° .. +60°	0° .. +140°
-80° .. +40°	0° .. +200°
-70° .. +40°	0° .. +250°
-60° .. +50°	0° .. +300°
-40° .. +40°	0° .. +400°
-30° .. +170°	0° .. +500°
-30° .. +70°	-32° .. 140°
-30° .. +30°	-32° .. 250°
-20° .. +100°	-32° .. 320°
-20° .. +60°	-32° .. 400°
-20° .. +40°	-32° .. 580°
-10° .. +30°	-32° .. 750°
0° .. 40°	-32° .. 800°
0° .. 60°	-32° .. 1000°
0° .. 100°	
0° .. 120°	
0° .. 160°	
0° .. 200°	
0° .. 250°	
0° .. 300°	
0° .. 400°	
0° .. 500°	
0° .. 600°	
0° .. 800°	

③	Mounting Type
D	Direct bottom mounting
B	Back mounting
W	Bottom mount, back flange (Wali)
Y	Bottom mount, front flange
S	Back mount, back flange (Surface)
P	Back mount, front flange (Panel)
U	Back mount, with U-clamp
C	Wall mount with console handle

④	Stem Length in Inch (mm)
	Sensor length 2.5" (60mm) .. 24" (600 mm)

⑤	Connection size
B4	¼" BSP
N4	¼" NPT
B2	½" BSP
N2	½" NPT
B3	¾" BSP
N3	¾" NPT
B1	1" BSP
N1	1" NPT

⑥	Capillary Length
NO	No capillary or Direct mount
01	1 meter
02	2 meters
05	5 meters
10	10 meters
15	15 meters
XX	Specify length required (Max. 30 mtrs)

⑦	Contact Function
XX	No contact
S1	SPDT contact type
S2	DPDT contact type
O	Contact open above set point
C	Contact close above set point
OC	1st open & 2nd close above setpoint
OO	1st open & 2nd open above setpoint
CO	1st close & 2nd open above setpoint
CC	1st close & 2nd close above setpoint

⑧	Filling
D	Dry
O	Electrical oil filled (For contact only)
G	Glycerine (Non-contact only)

⑨	Option
ST	Other sensor type, please contact us!
DX	Sensor Ø, eg, D6 - Ø6 mm, etc
SC	SS316 case and bezel ring
SM	Stainless steel movement
PD	Dial with Parallax mirror design
KL	Accuracy Class 0,5
PC	SS armored with PVC capillary
OC	Other connection size
AV	Anti Vibration spring
PG	Plexiglass
SG	Safety glass
DP	Drag pointer, resetable with key