

# thermometers with electric contacts all stainless steel construction DS 4" (100 mm)

# TCE



**CE** Compliance to requirements of  
BT 73/23/CEE

They are used to control the electrical operation of compressors, pumps, presses, hydraulic and pneumatics equipment, chemical and petrochemical plant. The contacts open or close the circuit depending on the position of the indicating pointer and they are adjustable over the whole range. The filling drastically reduces the effect of such factors as well as those caused by a corrosive atmosphere, giving longer life and better performances of the pressure gauge and their electric contacts. They are also available with inductive contacts intrinsically safe.

## 6.TCE - Standard Model

**Designation:** EN 13190.

**Indication ranges:** -320...+1200 °F (-200...+600 °C).

**Measuring ranges:** -280...+1100 °F (-170...+500 °C).

**Mechanical contact:** sliding contact, magnetic snap-action, electronic, inductive.

**Accuracy class:** 1 as per EN 13190, measuring range.

**Overtemperature:** not suitable.

**Ambient temperature:** -13...+149 °F (-25...+65 °C).

**Max working pressure:** 360 *psi* - 25 bar (without thermowell).

**Protection degree:** IP 55 as per IEC 529.

**Process connection:** AISI 316 st.st.

**Bulb:** AISI 316 st.st.  $\varnothing$  0.31-0.37-0.45" (8-9,5-11,5 mm), with rigid extension  $\varnothing$  0.31" (8 mm)

**Immersion length of the bulb with rigid extension "S":**

**S22** -  $\varnothing$  0.31" (8 mm) = 5.63"...36.37" (143...1000 mm);

**S21** -  $\varnothing$  0.38" (9,6 mm) = 4.41"...36.37" (112...1000 mm);

**S20** -  $\varnothing$  0.45" (11,5 mm) = 3.35"...36.37" (85...1000 mm).

**Measuring element:** inert gas filled expansion system.

**Case:** stainless steel.

**Ring:** stainless steel bayonet lock.

**Window:** plexiglas.

**Movement:** stainless steel.

**Internal compensation device:** by a bimetallic linkage.

**Dial:** aluminium, white with black markings.

**Pointer:** adjustable, aluminium, black.

## 6.TCE...R13 - Filled Model

**Indication ranges:** -40...+500 °F (-40...+250 °C).

**Measuring ranges:** -20...+425 °F (-30...+220 °C).

**Mechanical contact:** magnetic snap-action, electronic, inductive.

**Accuracy class:** 2 as per EN 13190, measuring range.

**Filling liquids:** silicon oil.

**Protection:** IP 65 as per IEC 529.

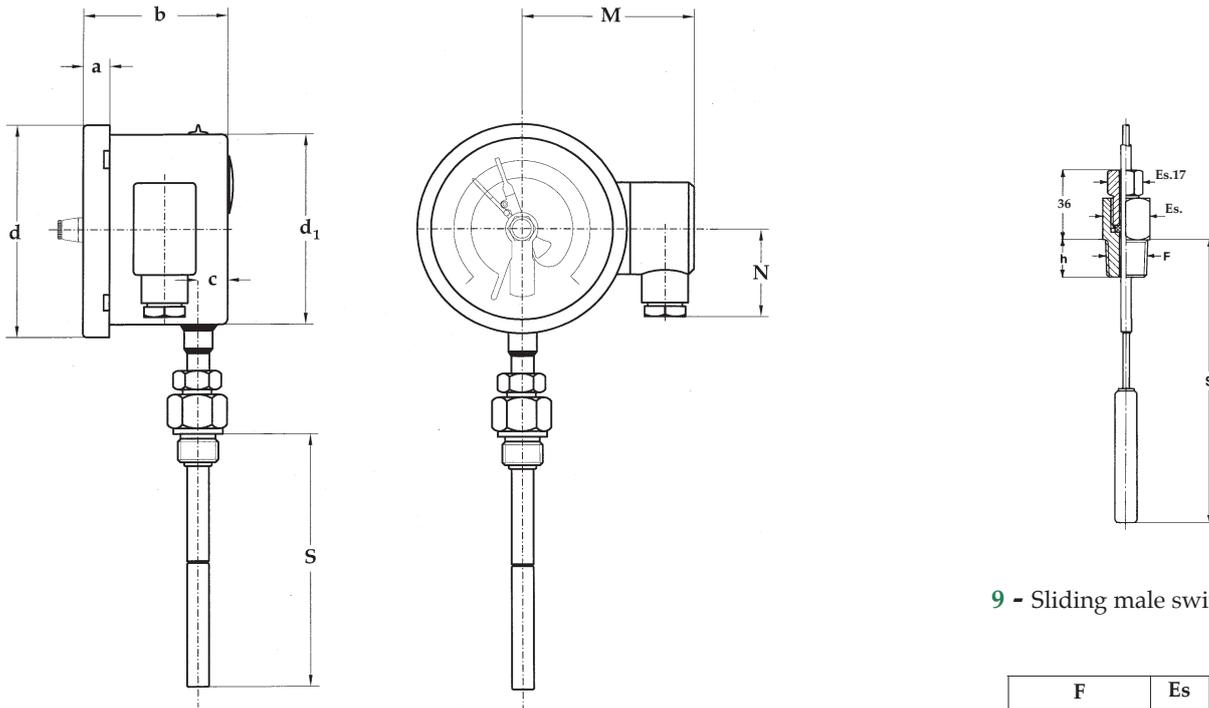
**Other features:** as Standard Model.

(1) The addition of mechanical electric contacts affects the accuracy of instruments such that 1% becomes 1,5%, 1,6% becomes 2,4% etc. (add the 50% of accuracy; if the contact is of the magnetically assisted type, this value can't be added within the  $\pm 5\%$  of setting point).

**thermometres with electric contacts**  
**all stainless steel construction, DS 4" (100mm)**

**TCE**

RB1 - 06/08



**1 - Lower connection**

**9 - Sliding male swivel nut**

DS	a	b (1)	d	d <sub>1</sub>	M	N
4" (100)	0.51" (13)	2.81/2.85" (71,5/82,5)	4.41" (112)	3.98" (101)	3.54" (90)	1.81" (46)

dimensions : inches (mm)

F	Es	h
<b>41M</b> G 1/2 A	0.87" (22)	0.55" (14)
<b>43M</b> 1/2-14 NPT	0.87" (22)	0.67" (17)
<b>51M</b> G 3/4 A	1.06" (27)	0.63" (16)
<b>53M</b> 3/4-14 NPT	1.06" (27)	0.67" (17)

**CONTACT TYPE (1)**

MODEL	Standard			Filled		
	Sliding contact, electronic			Magnetic snap-action contact, electronic		
Contact type						
Contact number	1	2	2 independent	1	2	2 independent
Junction box	3 poles + GND	3 poles + GND	6 poles + GND	6 poles + GND	6 poles + GND	6 poles + GND
ø exit cables: inches (mm)	0,23...0,35 (6...9)	0,23...0,35 (6...9)	0,27...0,51 (7...13)	0,27...0,51 (7...13)	0,27...0,51 (7...13)	0,27...0,51 (7...13)
Minimum range	140°F (60°C)	140°F (60°C)	140°F (60°C)	140°F (60°C)	140°F (60°C)	140°F (60°C)

(1) Functional characteristics, electric diagrams and contact types are available on data-sheets :  
 "ELECTRIC CONTACTS", "ELECTRONIC CONTACTS"

**OPTIONS**

<b>R13 - Filling liquid:</b> silicon oil, for temperature range ≤ +500 °F (250 °C)
ATEX version, with intrinsic safety inductive contact (1)

(1) See ATEX data-sheet for technical details

**"HOW TO ORDER" SEQUENCE**

Section / Model / Mounting / Connection type / Diameter / Range / Process connection / Bulb / Options  
**6 TCE 1 9 E 41M, 43M 51M, 53M S20...22 R13**