

Gas Actuated Thermometers

Process Industry Series • Model 73
Distant Reading with Capillary

Thermometers

Service intended

All stainless steel thermometer. Suitable for corrosive media and environments in chemical process, petroleum and food industry. The instruments meet the highest standards of measurement technique.

Nominal size

100 and 160 mm

Temperature element

Inert gas expansion system (non-toxic)

Accuracy

Class 1 per DIN EN 13 190

Working range

Permanent (1 year): measuring range per DIN EN 13 190

Short time (24 h max.): scale range per DIN EN 13 190

Pressure rating of stem

25 bar maximum

Nominal use

DIN EN 13 190

Ingress protection

IP 56 / IP 65 per EN 60 529 / IEC 529

IP 65 per EN 60 529 / IEC 529 for gauges with alarm contacts

Standard features

Distant reading capillary entry

Centre back or radial bottom

Case material

Stainless steel

Bezel

Cam ring (bayonet type) bezel, natural finish stainless steel

Connection

Plain stem, stainless steel 1.4571

Capillary

Length to user specifications, 2 mm diameter, stainless steel 1.4571, bending radius no less than 6 mm

Stem

8 mm diameter, stainless steel 1.4571

The active length of the stem depends upon the diameter and the scale range.

Dial

White aluminium with black lettering per DIN EN 13 190

Pointer

Adjustable black aluminium pointer

Window

Laminated safety glass

Mounting provisions

- 3-hole surface mounting flange (code H), stainless steel
- Surface mounting bracket made of die cast aluminium (code M)
- 3-hole panel mounting flange (code V), stainless steel
- Triangular bezel with clamp (code D), stainless steel



Scale, measuring ranges¹⁾, limits of error per DIN EN 13 190, class 1

Scale range °C	Scale spacing °C	Measuring range ¹⁾ °C	Limit of error °C
- 80 ... + 60	2	- 60 ... + 40	2
- 60 ... + 40	1	- 50 ... + 30	1
- 40 ... + 60		- 30 ... + 50	
- 30 ... + 50		- 20 ... + 40	
- 20 ... + 60		- 10 ... + 50	
- 20 ... + 80		- 10 ... + 70	
0 ... 60		+10 ... + 50	
0 ... 80		+10 ... + 70	
0 ... 100		+10 ... + 90	
0 ... 120	2	+ 10 ... + 110	2
0 ... 160		+ 20 ... + 140	
0 ... 200		+ 20 ... + 180	
0 ... 250	5	+ 30 ... + 220	2.5
0 ... 300		+ 30 ... + 270	5
0 ... 400		+ 50 ... + 350	
0 ... 500		+ 50 ... + 450	
0 ... 600	10	+100 ... + 500	10
0 ... 700		+100 ... + 600	

1) The measuring range is indicated on the dial by two triangular marks.
Within this range the stated limit of error is valid according to DIN EN 13 190.

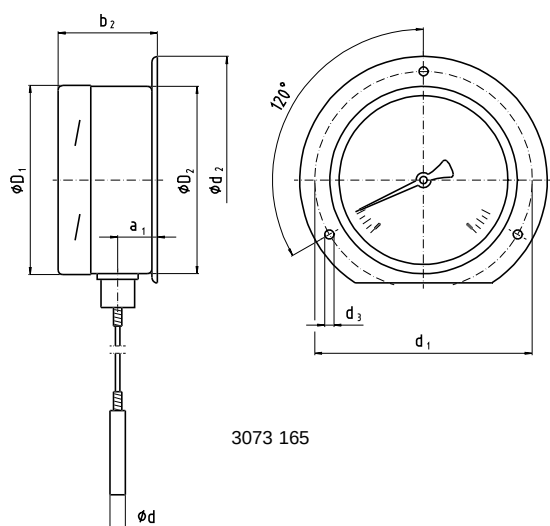
Models

Model	Nominal size	Capillary entry
H 7308	100	Radial bottom
H 7309	160	
M 7310	100	
M 7311	160	
V 7312	100	Back
V 7313	160	
D 7340 ¹⁾	100	
D 7350 ¹⁾	160	

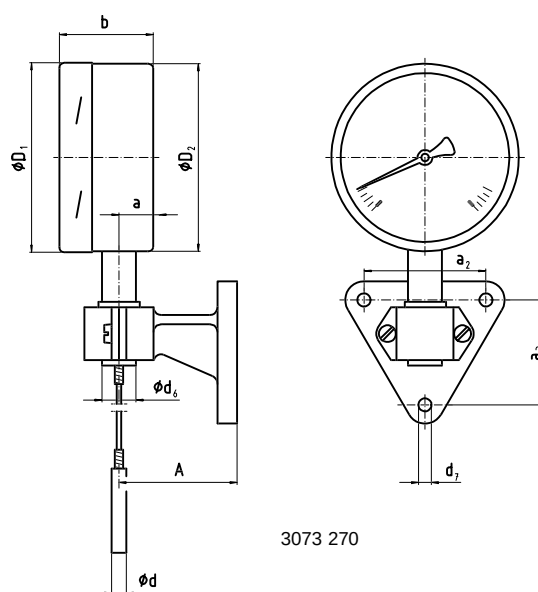
1) not suitable for alarm contacts

Optional extras

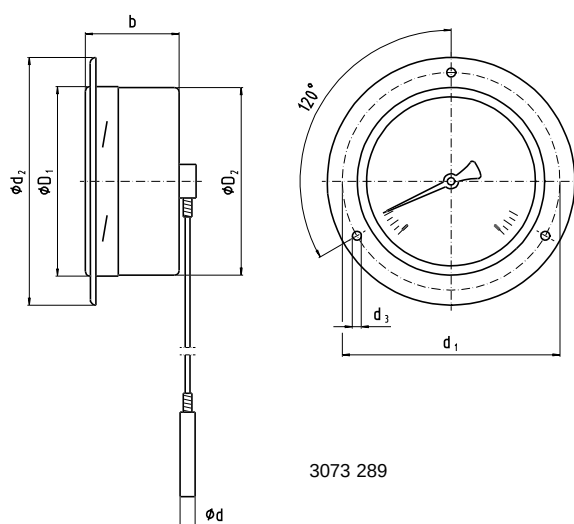
- Liquid damping
- Ingress protection IP 66 (not for gauges with alarm contacts)
- Scale °F, K; dual scale °C/°F
- Window of non-splintering plastic
- Stem 6, 10 or 12 mm diameter
- Armoured or coated capillary
- Capillary entry other than radial bottom
- Thermowells per DIN 43 772 or to user specifications
- Alarm contacts (see data sheet AC 08.01)
- Surface mounting bracket made of other material
- Other mounting provisions

Dimensions in mm**3-hole surface mounting flange (H)**

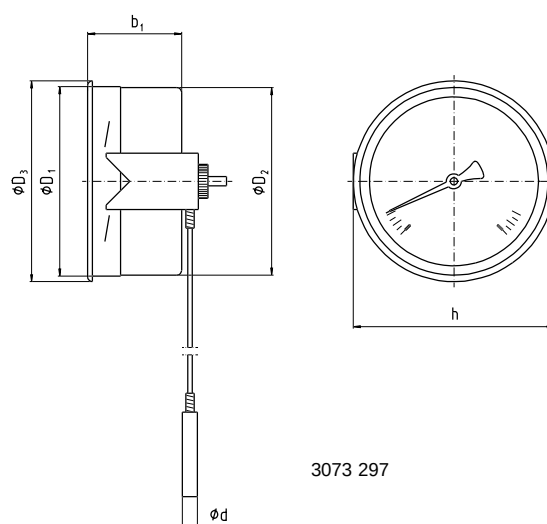
3073 165

Surface mounting bracket (M)

3073 270

3-hole panel mounting flange (V)

3073 289

Triangular bezel (D) ¹⁾

3073 297

Nominal size	Dimensions in mm											
	A	a	a ₁	a ₂	a ₃	alarm contacts of model 811, 821, 830 E or 831						
						without			1 or 2		3	
						b	b ₁	b ₂	b	b ₂	b	b ₂
100	100	19	22	65	56	50	51	53	88	91	97	100
160												

Nominal size	Dimensions in mm										Weight in kg
	d	d_1	d_2	d_3	d_6	d_7	D_1	D_2	D_3	h	
100	8	116	132	4.8	18	7	101	99	107	107	1.400
160		178	196	5.8			161	159	166	172	1.800

1) not suitable for alarm contacts

Design of connection

Dimensions in mm

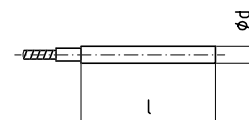
Connection 1

Plain stem

Length of stem $l = 140, 200, 240$ or 290 mm

Stainless steel 1.4571

To suit compression fitting of connection no. 4



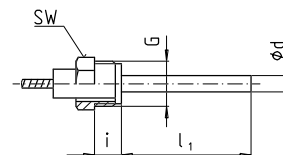
Connection 2

Male nut G 1/2 B

Length of stem $l_1 = 80, 140, 180$ or 230 mm

Stainless steel 1.4571

Male thread G	SW	i
G 1/2 B	27	20



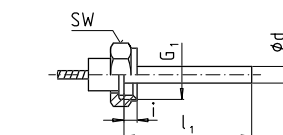
Connection 3

- Union nut G 1/2, G 3/4 or M 24 x 1.5

Length of stem $l_1 = 89, 126, 186, 226$ or 276 mm

Stainless steel 1.4571

Female thread G ₁	SW	i
G 1/2	27	8.5
G 3/4	32	10.5
M 24 x 1.5	32	13.5



Connection 4

Compression fitting (sliding on stem)

G 1/2 B, G 3/4 B, M 18 x 1.5, 1/2 NPT or 3/4 NPT

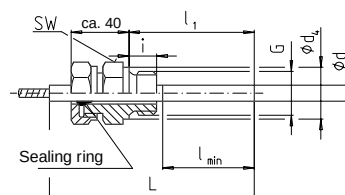
Minimum insertion length l_{min} approx. 60 mm

Length of stem $l_1 = \text{variable}$

Length $L = l_1 + 40$ mm

Stainless steel 1.4571

Male thread G	SW	d ₄	i
G 1/2 B	27	26	14
G 3/4 B	32	32	16
M 18 x 1.5	24	23	12
1/2 NPT	22	—	19
3/4 NPT	30	—	20



Connection 5

- Union nut G 1/2

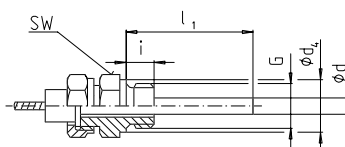
with fitting G 1/2 B, G 3/4 B, 1/2 NPT or 3/4 NPT

Length of stem $l_1 = 63, 100, 160, 200$ or 250 mm

Stainless steel 1.4571

- Union nut M 24 x 1.5 with fitting M 18 x 1.5

Male thread G	SW	d ₄	i
G 1/2 B	27	26	14
G 3/4 B	32	32	16
M 18 x 1.5	24	23	12
1/2 NPT	22	—	19
3/4 NPT	30	—	20



Connection 6

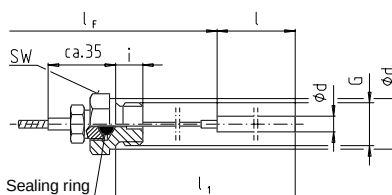
Compression fitting (sliding on capillary)

G 1/2 B, G 3/4 B, 1/2 NPT or 3/4 NPT

Length of stem $l = 100$ mm (other on inquiry)

Stainless steel 1.4571

Male thread G	SW	d ₄	i
G 1/2 B	27	26	14
G 3/4 B	32	32	16
1/2 NPT	22	—	19
3/4 NPT	30	—	20



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Ordering information

Model / Nominal size / Scale range / Location of capillary entry / No. and size of connection / Mounting provisions / Length of stem l , l_1 / Length of capillary l_f / Optional extras required

Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.



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