

# Thermometers with Adjustable Angle

Models

## Bayonet Ring Case Stainless Steel

Standard (TGeICh) or with Case Filling (TGeIChG)

Accuracy Class 1  
Case Sizes 100 (4")  
160 (6")

**TGeICh**  
**TGeIChG**

### Application

These thermometers are designed to meet the requirements of industrial temperature measurement, for fluid or gaseous media. They are suitable also for aggressive media as you find in chemical industries, petrochemistry, process technology, apparatus engineering and food and beverage industries; compare data sheet 8210.

### Nominal Case Sizes

100 (4"), 160 (6")

### Accuracy Class

Class 1 according to DIN 16 203

### Temperature Ranges (DIN EN 13190)

-50/+50 °C (-58/+122 °F) up to +100/+600 °C (+212/+1112 °F), compare table (reverse side)

### Temperature Limitations

Ambient temperature : -20 / +60 °C (-4 °F / +140 °F)

### Protection Type (EN 60529 / IEC 529)

IP 55 dry version / IP 65 filled version



## Standard Configuration

### Case

Bayonet ring case 304 stainless steel (1.4301), adjustable angle for stem adjustment up to 145° and case rotation up to 360°;  
TGeICh = without case filling  
TGeIChG = case filled with silicone oil

### Window

Single strength glass lens

### Connection

Center back connection with adjustable angle stainless steel

### Stem

316 stainless steel (1.4571), stem Ø 6 or 8 mm (.24" or .32")

- Type A 1 plain stem, without thread
- Type A 3 turnable union nut ½" BSP
- Type A 4.1 rigid male thread connection ½" BSP
- Type A 5 plain stem A1 with clamp resp. compression fitting with ½" BSP male thread

(Please compare data sheet 8210.)

Minimum immersion length and stem length L: see reverse side.

### Principle of Measurement

Inert gas expansion system (measuring system nitrogen-filled, non-toxic and environmentally safe)

### Movement

Brass / German silver

### Dial

Aluminum alloy, black figures, white background

### Pointer

Aluminum black

## Optional Special Configurations

- Other ranges upon request
- Special scales such as °F, K or dual ranges (e.g. °C/°F)
- Red mark or stationary red pointer on the dial or adjustable from outside
- Movement stainless steel
- Acrylic lens; laminated safety glass upon request
- Maximum pressure pointer, external adjustment (acrylic window or polycarbonate)
- Other connection threads, e.g. M 20 x 1.5, ½" NPT
- Other stem diameter upon request
- Adjustable angle for 145° stem adjustment only, ordering code: **KGel** (instead of rmGel)
- Electrical accessories such as magnetic, inductive or electronic limit switch contacts, or transducers (see data sheets 9000 ff)

## How to Order:

Please specify:

Model code: **TGeICh** = dry version  
**TGeIChG** = filled version

Case size: **100** or **160**

Case configuration: **rmGel** (standard)

Temperature range: see reverse side, e.g. **-50/+50 °C**

Stem specification: stem type **A1, A3, A4.1** or **A5**, stem diameter of **6** or **8** mm, desired stem length **L** and required immersion length **ET**, see table reverse side

Special configuration: (see above)

### Examples for Ordering Information:

- TGeICh 160, -50/+50 °C, A1, Ø 8, L = 80, ET 75 mm
- TGeIChG 100, 0/250 °C, A 4.1, df 6 mm, L = 135, ET 120 mm, ½" BSP



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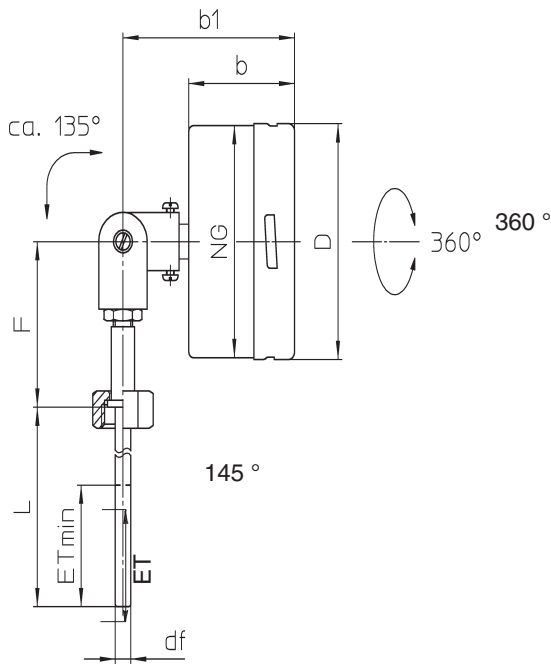
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**8210.1**

**11/07**

# Case Configuration, Dimensional Data, Weight and Temperature Ranges



Dimensional Data\* ( mm / inches ) and Weight ( kg / lb )

Nominal Case Size NG	b	b1	D	F	Weight <sup>1)</sup>	
					TGelCh	TGelChG
100 4"	50 1.97	100 3.94	101 3.98	87 3.43	0.700 1.54	1.000 2.21
160 6"			161 6.34	87 3.43	1.200 2.65	2.100 4.63

\* Dimensions without built in contact assembly; <sup>1)</sup> for stem length L = 200 mm when limit switch contacts are assembled, the dimensions of the depths b and b1 are different. **(7.87")**

The minimum immersion length of the stem is the length of that part of the vessel, which has to be completely immersed into the medium to receive an accurate temperature measurement.

The minimum immersion length depends on the stem diameter and the temperature range. Out of the required minimum immersion length and the stem type results the minimum stem length.

## Minimum Immersion Length ET and Minimum Stem Length L (Rigid Stem Mount)

Temperature Range (°C)	Minimum Immersion Length ETmin ( mm / inches )		Minimum Stem Length L ( mm / inches )							
	Stem Types A1, A3, A4.1, A5		Stem Type:							
	Ø 6 / .24	Ø 8 / .32	A1		A3		A4.1		A5	
	Ø 6 / .24	Ø 8 / .32	Ø 6 / .24	Ø 8 / .32	Ø 6 / .24	Ø 8 / .32	Ø 6 / .24	Ø 8 / .32	Ø 6 / .24	Ø 8 / .32
≤ 500 °C 932 °F	120 4.72	75 2.95	125 4.92	80 3.15	135 5.32	90 3.54	135 5.32	90 3.54	160 6.30	115 4.53
> 500 °C 932 °F	285 11.22	165 6.50	290 11.42	170 6.69	300 11.81	180 7.09	300 11.81	180 7.09	325 12.80	205 8.07

Scale (°C)	Measuring Range (°C)	Subdivision Dial Graduation (°C)	Temperature-difference Δ T (K)
-50 / 50	-40 / 40	1	100
-30 / 50	-20 / 40	1	80
-30 / 120	-10 / 100	2	150
-30 / 170	-10 / 150	5	200
-20 / 40	-10 / 30	1	60
-20 / 60	-10 / 50	1	80
-20 / 80	-10 / 70	1	100
-20 / 100	0 / 80	2	120
0 / 60	10 / 50	1	60
0 / 80	10 / 70	1	80
0 / 100	10 / 90	1	100
0 / 120	20 / 100	2	120
0 / 150	20 / 130	2	150
0 / 160	20 / 140	2	160
0 / 200	20 / 180	5	200
0 / 250	30 / 220	5	250
0 / 300	30 / 270	5	300
0 / 350	50 / 300	5	350
0 / 400 <sup>1)</sup>	50 / 350	10	400
0 / 500 <sup>1)</sup>	50 / 450	10	500
0 / 600 <sup>1)</sup>	100 / 500	10	600
50 / 300	80 / 270	5	250
50 / 400	100 / 350	5	350
100 / 500	150 / 450	10	400
100 / 600	150 / 550	10	500

<sup>1)</sup> only available without limit switch contact

The information in this data sheet is given in good faith, but we reserve the right to make changes without notice.