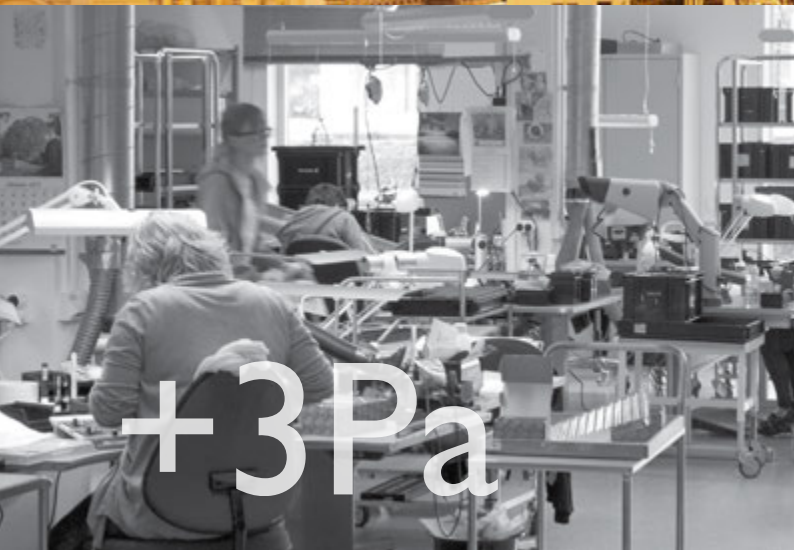
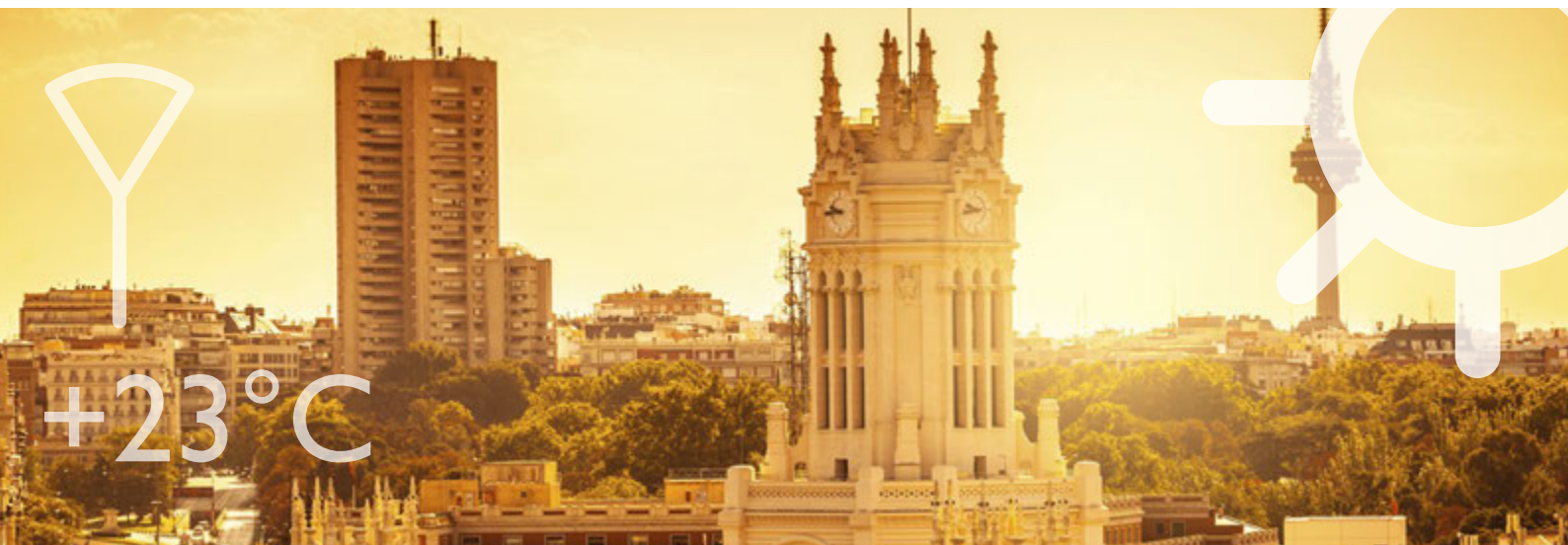


# 7

## SENSORS AND SWITCHES



## Temperature sensors – NTC Regin

### Clamp-on sensor, NTC

Clamp-on sensor for surface temperature measurement. Supplied with 1.5 m cable.



Technical data	
Sensor element	NTC, 15...10 kΩ
Time constant	13 s
Material	Nickel-plated copper tube
Cable length	1.5 m
Protection class	IP65

Article	Description	Temperature range	Note
TG-A130	Clamp-on sensor, including clamp (Ø 40 mm max.)	0...+30 °C	

### Accessories

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	



This sensor cannot be used together with the Pulser series.

### Bulb sensor, NTC

Universal sensor.



Technical data	
Sensor element	NTC, 15...10 kΩ
Diameter	6 mm
Cable length	1.5 m
Protection class	IP65

Article	Temperature range	Note
TG-B130	0...+30 °C	
TG-B150	20...50 °C	
TG-B160	0...60 °C	
TG-B190	60...90 °C	

### Accessories

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	



This sensor cannot be used together with the Pulser series.

## Floor sensor, NTC



Technical data	
Sensor element	NTC, 15...10 kΩ
Diameter	7 mm
Cable length	2.5 m
Protection class	IP65

Article	Description	Temperature range	Note
TG-G130	Floor sensor	0...30 °C	

## Immersion sensor, NTC

For water temperature measurement.



Technical data	
Sensor element	NTC, 15...10 kΩ
Time constant	4 s
Diameter	R1/4" 6 mm
Material, probe	Stainless steel, SUS304
Pressure rating	PN10
Cable length	1.5 m
Protection class	IP65

Article	Temperature range	Insertion length	Note
TG-D130	0...30 °C	135 mm	
TG-D150	20...50 °C	135 mm	
TG-D170	40...70 °C	135 mm	
TG-D230	0...30 °C	220 mm	

## Accessories

Article	Description	Note
DF	Mounting flange for TG-D1... for mounting in ventilation ducts	



This sensor cannot be used together with the Pulser series.

## Well

Well for immersion sensors.



Technical data	
Connection	R1/2"
Pressure rating	PN25

Article	Description	Material	Insertion length	Note
DR-90R	Well	Acid-proof stainless steel, SUS316	90 mm	
DR-90W	Well for TG-DHW...	Acid-proof stainless steel, SUS316	90 mm	
DR-135R	Well	Acid-proof stainless steel, SUS316	135 mm	

## Accessories

Article	Description	Note
ADAPTER	Adapter 1/4" to 1/2". For mounting TG-D1... in 1/2".	

## Duct sensor, NTC

For air temperature measurement in ventilation ducts. Adjustable insertion length.



Technical data	
Sensor element	NTC, 15...10 kΩ
Time constant	38 s
Diameter	9 mm
Insertion length	15...130 mm
Cable length	1.5 m
Protection class	IP20

Article	Description	Temperature range	Note
TG-K300	Duct sensor	-30...+30 °C	
TG-K310	Duct sensor	-20...+10 °C	
TG-K330	Duct sensor	0...30 °C	
TG-K350	Duct sensor	20...50 °C	
TG-K360	Duct sensor	0...60 °C	
TG-K370	Duct sensor	40...70 °C	
TG-K340	Duct sensor for Floorigo/AL24A1T	0...40 °C	

## Room sensor, NTC, with setpoint adjustment

Room sensor for room temperature measurement. Can also be used for setpoint adjustment only.



Technical data	
Sensor element	NTC, 15...10 kΩ
Protection class	IP30

Article	Description	Temperature range	Note
TG-R430	Room sensor with setpoint adjustment	0...30 °C	

## Room sensor, NTC



Technical data	
Sensor element	NTC, 15...10 kΩ
Protection class	IP30

Article	Description	Temperature range	Note
TG-R530	Room sensor	0...30 °C	
TG-R550	Room sensor	20...50 °C	
TG-R540	Room sensor for Floorigo/AL24A1T	0...40 °C	
TG-R530M	Room sensor for average measurement	0...30 °C	

## Outdoor sensor, NTC



Outdoor sensor for outdoor temperature measurement or for temperature measurement in rooms where higher protection class is needed.

Technical data	
Sensor element	NTC, 15...10 kΩ
Protection class	IP54

Article	Temperature range	Note
TG-R600	-30...+30 °C	
TG-R630	0...30 °C	

## Setpoint device for panel mounting

Setpoint device intended for NTC sensors only.



Technical data	
Protection class	IP20

Article	Temperature range	Note
TBI-10	-20...+10 °C	
TBI-30	0...30 °C	
TBI-50	20...50 °C	
TBI-100	0...100 °C	

## Sensor characteristics, NTC Regin

Temperature range	-30...30°C	-20...10°C	0...30°C	0...40°C	0...60°C	20...50°C	40...70°C	60...90°C
Temp. °C	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω
150								
140								
130								
120								
110								
100								
90								10000
80								11667
70							10000	13333
65							10833	14167
60					10000		11667	15000
55					10417		12500	
50					10833	10000	13333	
45					11250	10833	14167	
40				10000	11667	11667	15000	
35				10625	12083	12500		
30	10000		10000	11250	12500	13333		
29	10083		10167	11375	12583	13500		
28	10167		10333	11500	12667	13667		
27	10250		10500	11625	12750	13833		
26	10333		10667	11750	12833	14000		
25	10417		10833	11875	12917	14167		
24	10500		11000	12000	13000	14333		
23	10583		11167	12125	13083	14500		
22	10667		11333	12250	13167	14667		
21	10750		11500	12375	13250	14833		
20	10833		11667	12500	13333	15000		
19	10917		11833	12625	13417			
18	11000		12000	12750	13500			
17	11083		12167	12875	13583			
16	11167		12333	13000	13667			
15	11250		12500	13125	13750			
14	11333		12667	13250	13833			
13	11417		12833	13375	13917			
12	11500		13000	13500	14000			
11	11583		13167	13625	14083			
10	11667	10000	13333	13750	14167			
9	11750	10167	13500	13875	14250			
8	11833	10333	13667	14000	14333			
7	11917	10500	13833	14125	14417			
6	12000	10667	14000	14250	14500			
5	12083	10833	14167	14375	14583			
4	12167	11000	14333	14500	14667			
3	12250	11167	14500	14625	14750			
2	12333	11333	14667	14750	14833			
1	12417	11500	14833	14875	14917			
0	12500	11667	15000	15000	15000			
-5	12917	12500						
-10	13333	13333						
-15	13750	14167						
-20	14167	15000						
-25	14583							
-30	15000							
-35								
-40								

## Temperature sensors – other elements (PT100(0) / Ni1000... / NTC...)

### Clamp-on sensor with cable

For surface temperature measurement. Including clamp.



Technical data	
Time constant	13 s
Material	Nickel-plated copper tube
Cable length	1.5 m
Protection class	IP65

Article	Description	Sensor element	Nominal resistance	Temperature range	Equivalent	Note
TG-A1/PT100	Clamp-on sensor, including clamp (Ø 40 mm max.)	PT100	100 Ω/0°C	-30...+150 °C	-	
TG-A1/PT1000		PT1000	1000 Ω/0°C	-30...+150 °C	-	
TG-A1/NTC1.8		NTC 1.8	1800 Ω/25°C	-30...+120 °C	TAC	
TG-A1/NTC2.2		NTC 2.2	2252 Ω/25°C	-30...+150 °C	Johnson Controls	
TG-A1/NTC10-01		NTC 10	10 kΩ/25°C	-30...+150 °C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell	
TG-A1/NTC10-02		NTC 10	10 kΩ/25°C	-30...+110 °C	Carel - Evco - Eliwell - AB Industrietechnik	
TG-A1/NTC10-03		NTC 10	10 kΩ/25°C	-30...+150 °C	Andover - Delta Controls - Siebe - York	
TG-A1/NTC20		NTC 20	20 kΩ/25°C	-30...+150 °C	Honeywell	
TG-A1/Ni1000-01		Ni1000	1000 Ω/0°C	-30...+150 °C	Siemens - Landis & Staefa	
TG-A1/Ni1000-02		Ni1000	1000 Ω/0°C	-30...+150 °C	Sauter	

## Clamp-on sensor with housing

Clamp-on sensor for surface temperature measurement, including a metal strap for easy fastening and a tube of heat-conductive contact paste.



Technical data	
Cable gland	M16
Time constant	5 s
Protection class	IP42 (or IP40 depending on the mounting position)

Article	Sensor element	Nominal resistance	Temperature range	Equivalent	Note
TG-AH1/PT100	PT100	100 Ω/0°C	-20...+120 °C	-	
TG-AH1/PT1000	PT1000	1000 Ω/0°C	-20...+120 °C	-	
TG-AH1/NTC1.8	NTC 1.8	1800 Ω/25°C	-20...+120 °C	TAC	
TG-AH1/NTC2.2	NTC 2.2	2252 Ω/25°C	-20...+120 °C	Johnson Controls	
TG-AH1/NTC10-01	NTC 10	10 kΩ/25°C	-20...+120 °C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell	
TG-AH1/NTC10-02	NTC 10	10 kΩ/25°C	-20...+110 °C	Carel - Evco - Eliwell - AB Industrietechnik	
TG-AH1/NTC10-03	NTC 10	10 kΩ/25°C	-20...+120 °C	Andover - Delta Controls - Siebe - York	
TG-AH1/NTC20	NTC 20	20 kΩ/25°C	-20...+120 °C	Honeywell	
TG-AH1/Ni1000-01	Ni1000	1000 Ω/0°C	-20...+120 °C	Siemens - Landis & Staefa	
TG-AH1/Ni1000-02	Ni1000	1000 Ω/0°C	-20...+120 °C	Sauter	

## Accessories

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	



## Bulb sensor

Universal sensor.



TG-B6/PT100



TG-B6...

Technical data	
Material	Stainless steel
Cable length	1.5 m
Diameter	6 mm

Article	Sensor element	Nominal resistance	Temperature range	Protection class	Equivalent	Note
TG-B6/PT100	PT100	100 Ω/0°C	-30...+110 °C	IP65	-	
TG-B6/PT1000	PT1000	1000 Ω/0°C	-50...+110 °C	IP67	-	
★ TG-B6/NTC1.8	NTC 1.8	1800 Ω/25°C	-50...+110 °C	IP67	TAC	
★ TG-B6/NTC2.2	NTC 2.2	2252 Ω/25°C	-50...+110 °C	IP67	Johnson Controls	
★ TG-B6/NTC10-01	NTC 10	10 kΩ/25°C	-50...+110 °C	IP67	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell	
★ TG-B6/NTC10-02	NTC 10	10 kΩ/25°C	-50...+110 °C	IP67	Carel - Evco - Eliwell - AB Industrietechnik	
★ TG-B6/NTC10-03	NTC 10	10 kΩ/25°C	-50...+110 °C	IP67	Andover - Delta Controls - Siebe - York	
★ TG-B6/NTC20	NTC 20	20 kΩ/25°C	-50...+110 °C	IP67	Honeywell	
★ TG-B6/Ni1000-01	Ni1000	1000 Ω/0°C	-50...+110 °C	IP67	Siemens - Landis & Staefa	
★ TG-B6/Ni1000-02	Ni1000	1000 Ω/0°C	-50...+110 °C	IP67	Sauter	

## Accessories

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	

## Duct sensor with housing

Duct sensor for air temperature measurement in ventilation ducts.



Technical data	
Temperature range	-30...+70 °C
Time constant	16 s
Cable gland	M16
Material, probe	Stainless steel, SUS304
Diameter	8 mm
Protection class	IP65

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-KH/PT100	PT100	100 Ω/0°C	60...205 mm	-	
TG-KH/PT1000	PT1000	1000 Ω/0°C	60...205 mm	-	
TG-KH/PT1000-430	PT1000	1000 Ω/0°C	60...405 mm	-	
TG-KH/NTC1.8	NTC 1.8	1800 Ω/25°C	60...205 mm	TAC	
TG-KH/NTC2.2	NTC 2.2	2252 Ω/25°C	60...205 mm	Johnson Controls	
TG-KH/NTC10-01	NTC 10	10 kΩ/25°C	60...205 mm	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell	
TG-KH/NTC10-02	NTC 10	10 kΩ/25°C	60...205 mm	Carel - Evco - Eliwell - AB Industrietechnik	
TG-KH/NTC10-03	NTC 10	10 kΩ/25°C	60...205 mm	Andover - Delta Controls - Siebe - York	
TG-KH/NTC20	NTC 20	20 kΩ/25°C	60...205 mm	Honeywell	
TG-KH/NI1000-01	Ni1000	1000 Ω/0°C	60...205 mm	Siemens - Landis & Staefa	
TG-KH/NI1000-02	Ni1000	1000 Ω/0°C	60...205 mm	Sauter	

## Duct sensor

Duct sensor for air temperature measurement in ventilation ducts. Adjustable insertion length.



Technical data	
Temperature range	-30...+70 °C
Time constant	50 s including dead time
Insertion length	15...130 mm adjustable
Diameter	9 mm
Protection class	IP65

Article	Sensor element	Nominal resistance	Cable length	Equivalent	Note
TG-K3/PT100	PT100	100 Ω/0°C	1.5 m	-	
TG-K3/PT1000	PT1000	1000 Ω/0°C	1.5 m	-	
TG-K3/PT1000/3,0	PT1000 (DIN class B)	1000 Ω/0°C	3 m	-	
TG-K3/NTC1.8	NTC 1.8	1800 Ω/25°C	1.5 m	TAC	
TG-K3/NTC2.2	NTC 2.2	2252 Ω/25°C	1.5 m	Johnson Controls	
TG-K3/NTC10-01	NTC 10	10 kΩ/25°C	1.5 m	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell	
TG-K3/NTC10-02	NTC 10	10 kΩ/25°C	1.5 m	Carel - Evco - Eliwell - AB Industrietechnik	
TG-K3/NTC10-03	NTC 10	10 kΩ/25°C	1.5 m	Andover - Delta Controls - Siebe - York	
TG-K3/NTC20	NTC 20	20 kΩ/25°C	1.5 m	Honeywell	
TG-K3/Ni1000-01	Ni1000	1000 Ω/0°C	1.5 m	Siemens - Landis & Staefa	
TG-K3/Ni1000-02	Ni1000	1000 Ω/0°C	1.5 m	Sauter	

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## Average temperature sensor with housing

Average temperature sensor for duct mounting. It has a cable with four PT1000 elements. The cable is mounted with clamps and is held in place inside the duct by an end spring.



Technical data	
Time constant	1 s
Cable gland	M16
Cable length	3 m
Insertion length	0...75 mm
Diameter	8 mm
Protection class	IP65

Article	Sensor element	Nominal resistance	Equivalent	Note
TG-MH/PT1000	PT1000 (DIN class B)	1000 Ω/0°C	-	

## Immersion sensor with cable

Immersion sensor for water temperature measurement.



Technical data	
Temperature range	-30...+70 °C
Time constant	4 s
Cable length	1.5 m
Connection	R $\frac{1}{4}$ "
Diameter	4 mm
Material, probe	Stainless steel, SUS304
Pressure rating	PN10
Protection class	IP65

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-D1/PT100	PT100	100 $\Omega/0^{\circ}\text{C}$	135 mm	-	
TG-D1/PT1000	PT1000	1000 $\Omega/0^{\circ}\text{C}$	135 mm	-	
TG-D1/NTC1.8	NTC 1.8	1800 $\Omega/25^{\circ}\text{C}$	135 mm	TAC	
TG-D1/NTC2.2	NTC 2.2k3A1	2252 $\Omega/25^{\circ}\text{C}$	135 mm	Johnson Controls	
TG-D1/NTC10-01	NTC 10	10 k $\Omega/25^{\circ}\text{C}$	135 mm	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell	
TG-D1/NTC10-02	NTC 10	10 k $\Omega/25^{\circ}\text{C}$	135 mm	Carel - Evco - Eliwell - AB Industrietechnik	
TG-D1/NTC10-03	NTC 10	10 k $\Omega/25^{\circ}\text{C}$	135 mm	Andover - Delta Controls - Siebe - York	
TG-D1/NTC20	NTC 20	20 k $\Omega/25^{\circ}\text{C}$	135 mm	Honeywell	
TG-D1/Ni1000-01	Ni1000	1000 $\Omega/0^{\circ}\text{C}$	135 mm	Siemens - Landis & Staefa	
TG-D1/Ni1000-02	Ni1000	1000 $\Omega/0^{\circ}\text{C}$	135 mm	Sauter	

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-D2/PT100	PT100	100 $\Omega/0^{\circ}\text{C}$	220 mm	-	
TG-D2/PT1000	PT1000	1000 $\Omega/0^{\circ}\text{C}$	220 mm	-	

## Accessories

Article	Description	Note
DF	Mounting flange for TG-D1... for mounting in ventilation ducts	
ADAPTER	Adapter 1/4" to 1/2". For mounting TG-D1... in 1/2".	

## Immersion sensor with cable, adjustable insertion length

Immersion sensor for water temperature measurement.



Technical data	
Temperature range	-30...+70 °C
Time constant	4 s
Cable length	1.5 m
Connection	R1/4"
Diameter	4 mm
Material, probe	Stainless steel, SUS304
Pressure rating	PN10
Protection class	IP65

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-D3/PT100	PT100	100 Ω/0°C	300 mm	-	
TG-D3/PT1000	PT1000	1000 Ω/0°C	300 mm	-	
TG-D3/NTC1.8	NTC 1.8	1800 Ω/25°C	Max. 300 mm	TAC	
TG-D3/NTC2.2	NTC 2.2	2252 Ω/25°C	300 mm	Johnson Controls	
TG-D3/NTC10-01	NTC 10	10 kΩ/25°C	300 mm	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell	
TG-D3/NTC10-02	NTC 10	10 kΩ/25°C	300 mm	Carel - Evco - Eliwell - AB Industrietechnik	
TG-D3/NTC10-03	NTC 10	10 kΩ/25°C	300 mm	Andover - Delta Controls - Siebe - York	
TG-D3/NTC20	NTC 20	20 kΩ/25°C	300 mm	Honeywell	
TG-D3/Ni1000-01	Ni1000	1000 Ω/0°C	300 mm	Siemens - Landis & Staefa	
TG-D3/Ni1000-02	Ni1000	1000 Ω/0°C	300 mm	Sauter	

## Immersion sensor with housing, without well



Technical data	
Temperature range	-20...+120 °C
Time constant	4 s
Cable gland	M16
Insertion length	90 mm
Diameter	5 mm
Connection	R1/4"
Material, probe	Stainless steel, SUS304
Diameter, probe	5 mm
Pressure rating	PN16
Protection class	IP65

Article	Sensor element	Nominal resistance	Temperature range	Equivalent	Note
TG-DH4/PT100	PT100	100 Ω/0°C	-20...+120 °C	-	
TG-DH4/PT1000	PT1000	1000 Ω/0°C	-20...+120 °C	-	
TG-DH4/NTC1.8	NTC 1.8	1800 Ω/25°C	-20...+120 °C	TAC	
TG-DH4/NTC2.2	NTC 2.2	2252 Ω/25°C	-20...+120 °C	Johnson Controls	
TG-DH4/NTC10-01	NTC 10	10 kΩ/25°C	-20...+120 °C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell	
TG-DH4/NTC10-02	NTC 10	10 kΩ/25°C	-20...+110 °C	Carel - Evco - Eliwell - AB Industrietechnik	
TG-DH4/NTC10-03	NTC 10	10 kΩ/25°C	-20...+120 °C	Andover - Delta Controls - Siebe - York	
TG-DH4/NTC20	NTC 20	20 kΩ/25°C	-20...+120 °C	Honeywell	
TG-DH4/Ni1000-01	Ni1000	1000 Ω/0°C	-20...+120 °C	Siemens - Landis & Staefa	
TG-DH4/Ni1000-02	Ni1000	1000 Ω/0°C	-20...+120 °C	Sauter	

## Immersion sensor with housing and well

The sensor part has a clip fastening which makes it easy to mount. The sensor is supplied with well model DR-90WS. The acid-proof stainless steel well DR-90W can be ordered separately.



Technical data	
Temperature range	-20...+120 °C
Time constant	18 s (12 s with heat-conductive paste)
Cable gland	M16
Insertion length	90 mm
Connection, well	R1/2"
Material, probe	Stainless steel, SUS304
Material, well	Stainless steel, SUS304
Diameter, well	8 mm
Pressure rating	PN25
Protection class	IP65

Article	Sensor element	Nominal resistance	Temperature range	Equivalent	Note
TG-DHW1/PT100	PT100 (DIN class B)	100 Ω/0°C	-20...+120 °C	-	
TG-DHW1/PT1000	PT1000 (DIN class B)	1000 Ω/0°C	-20...+120 °C	-	
TG-DHW1/NTC1.8	NTC 1.8	1800 Ω/25°C	-20...+120 °C	TAC	
TG-DHW1/NTC2.2	NTC 2.2k3A1	2252 Ω/25°C	-20...+120 °C	Johnson Controls	
TG-DHW1/NTC10-01	NTC 10k3A1	10 kΩ/25°C	-20...+120 °C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell	
TG-DHW1/NTC10-02	NTC 10k	10 kΩ/25°C	-20...+110 °C	Carel - Evco - Eliwell - AB Industrietechnik	
TG-DHW1/NTC10-03	NTC 10k4A1	10 kΩ/25°C	-20...+120 °C	Andover - Delta Controls - Siebe - York	
TG-DHW1/NTC20	NTC 20k6A1	20 kΩ/25°C	-20...+120 °C	Honeywell	
TG-DHW1/Ni1000-01	Ni1000	1000 Ω/0°C	-20...+120 °C	Siemens - Landis & Staefa	
TG-DHW1/Ni1000-02	Ni1000	1000 Ω/0°C	-20...+120 °C	Sauter	

## Immersion sensor with housing and well in acid-proof stainless steel

The sensor part has a clip fastening which makes it easy to mount. The sensor is supplied with well model DR-90W.



Technical data	
Temperature range	-20...+120 °C
Cable gland	M16
Time constant	18 s (12 s with heat-conductive paste)
Insertion length	90 mm
Connection, well	R1/2"
Material, probe	Stainless steel, SUS304
Material, well	Acid-proof stainless steel, SUS316
Diameter, well	8 mm
Pressure rating	PN25
Protection class	IP65

Article	Sensor element	Nominal resistance	Note
TG-DHWA/PT100	PT100 (DIN class B)	100 Ω/0°C	
TG-DHWA/PT1000	PT1000 (DIN class B)	1000 Ω/0°C	

## Well

Well for immersion sensors.



Technical data	
Connection	R1/2"
Pressure rating	PN25

Article	Description	Material	Insertion length	Note
DR-90R	Well	Acid-proof stainless steel, SUS316	90 mm	
DR-90W	Well for TG-DHW...	Acid-proof stainless steel, SUS316	90 mm	
DR-135R	Well	Acid-proof stainless steel, SUS316	135 mm	

## Accessories

Article	Description	Note
ADAPTER	Adapter 1/4" to 1/2". For mounting TG-D1... in 1/2".	



## Room sensor

For room temperature measurement.



Technical data	
Temperature range	0...50 °C
Protection class	IP30

Article	Sensor element	Nominal resistance	Equivalent	Note
TG-R5/PT100	PT100	100 Ω/0°C	-	
TG-R5/PT1000	PT1000	1000 Ω/0°C	-	
TG-R5/NTC1.8	NTC 1.8	1800 Ω/25°C	TAC	
TG-R5/NTC2.2	NTC 2.2	2252 Ω/25°C	Johnson Controls	
TG-R5/NTC10-01	NTC 10	10 kΩ/25°C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell	
TG-R5/NTC10-02	NTC 10	10 kΩ/25°C	Carel - Evco - Eliwell - AB Industrietechnik	
TG-R5/NTC10-03	NTC 10	10 kΩ/25°C	Andover - Delta Controls - Siebe - York	
TG-R5/NTC20	NTC 20	20 kΩ/25°C	Honeywell	
TG-R5/Ni1000-01	Ni1000	1000 Ω/0°C	Siemens - Landis & Staefa	
TG-R5/Ni1000-02	Ni1000	1000 Ω/0°C	Sauter	

## Room sensor with setpoint adjustment

For room temperature measurement. Can also be used for setpoint adjustment only.



Technical data	
Sensor element	PT1000 (DIN class B)
Nominal resistance	1000 Ω/0°C
Protection class	IP30

Article	Description	Temperature range	Note
TG-R4/PT1000	Room sensor with setpoint adjustment	0...50 °C	
TG-R4/PT1000-RB	Room sensor with setpoint adjustment, red/blue (increase/decrease) scale	0...30 °C	

## Outdoor sensor



Technical data	
Temperature range	-30...+70 °C
Cable gland	M16
Protection class	IP65

Article	Sensor element	Nominal resistance	Equivalent	Note
TG-UH/PT100	PT100	100 Ω/0°C	-	
TG-UH/PT1000	PT1000	1000 Ω/0°C	-	
TG-UH/NTC1.8	NTC 1.8	1800 Ω/25°C	TAC	
TG-UH/NTC2.2	NTC 2.2	2252 Ω/25°C	Johnson Controls	
TG-UH/NTC10-01	NTC 10	10 kΩ/25°C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell	
TG-UH/NTC10-02	NTC 10	10 kΩ/25°C	Carel - Evco - Eliwell - AB Industrietechnik	
TG-UH/NTC10-03	NTC 10	10 kΩ/25°C	Andover - Delta Controls - Siebe - York	
TG-UH/NTC20	NTC 20	20 kΩ/25°C	Honeywell	
TG-UH/Ni1000-01	Ni1000	1000 Ω/0°C	Siemens - Landis & Staefa	
TG-UH/Ni1000-02	Ni1000	1000 Ω/0°C	Sauter	

## Setpoint device for PT1000 sensors

Setpoint device which gives resistance corresponding to the standard PT1000 table.



Technical data	
Temperature range	5...30 °C
Mounting	Panel mounting
Protection class	IP20

Article	Description	Note
TBI-PT1000	Setpoint device	

# Sensor characteristics, other elements (PT100(0)/Ni1000.../NTC...)

Sensor element	PT100	PT1000	NTC1,8	NTC2,2	NTC10-01	NTC10-02	NTC10-03	NTC20	NI1000-01	NI1000-02
Equivalent			Tac	Johnson Controls	Aquatrol Johnson Controls Satchwell Trend Cylon Honeywell	Carel Evco Eliwell Industrie- technik	Andover Delta Controls Siebe York	Honeywell	Siemens Landis & Staefa	Sauter
Temp. °C	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω
150	157.3	1573								
140	153.6	1536	71	53				351	1737	1909
130	149.8	1498	87	68				459	1675	1833
120	146.1	1461	110	90	388		482	609	1615	1760
110	142.3	1423	139	115	510	767	624	818	1557	1688
100	138.5	1385	178	153	678	973	817	1114	1500	1618
90	134.7	1347	230	207	916	1266	1084	1541	1444	1549
80	130.9	1309	303	283	1256	1668	1458	2166	1390	1483
70	127.1	1271	403	395	1752	2228	1990	3099	1337	1417
65	125.2	1252	468	469	2082	2588	2339	3732	1311	1385
60	123.2	1232	545	560	2467	3020	2760	4517	1285	1353
55	121.3	1213	638	673	2985	3536	3271	5494	1260	1322
50	119.4	1194	750	811	3601	4160	3893	6718	1235	1291
45	117.5	1175	885	984	4367	4911	4656	8259	1210	1260
40	115.5	1155	1049	1200	5325	5827	5594	10211	1186	1230
35	113.6	1136	1250	1471	6530	6940	6754	12698	1162	1200
30	111.7	1117	1496	1814	8056	8313	8196	15887	1138	1171
29	111.3	1113	1552	1893	8408	8622	8525	16628	1132	1165
28	111.0	1110	1610	1977	8777	8944	8869	17407	1128	1159
27	110.5	1105	1671	2064	9165	9281	9229	18228	1123	1153
26	110.1	1101	1734	2156	9572	9632	9606	19092	1119	1147
25	109.7	1097	1800	2252	10000	10000	10000	20000	1114	1141
24	109.3	1093	1869	2353	10450	10380	10413	20962	1109	1136
23	109.0	1090	1941	2458	10923	10780	10845	21973	1105	1130
22	108.6	1086	2017	2572	11420	11200	11297	23039	1100	1124
21	108.2	1082	2095	2689	11943	11630	11771	24164	1095	1118
20	107.8	1078	2177	2813	12493	12080	12268	25350	1091	1112
19	107.4	1074	2263	2944	13073	12560	12788	26600	1086	1107
18	107.0	1070	2353	3081	13662	13060	13334	27920	1081	1101
17	106.6	1066	2447	3225	14324	13580	13906	29320	1077	1095
16	106.2	1062	2546	3378	15001	14120	14506	30790	1072	1089
15	105.9	1059	2649	3538	15714	14690	15136	32346	1068	1084
14	105.5	1055	2756	3707	16465	15280	15797	33990	1063	1078
13	105.1	1051	2869	3885	17257	15800	16490	35726	1058	1072
12	104.7	1047	2987	4073	18092	16560	17219	37562	1054	1067
11	104.3	1043	3111	4271	18973	17240	17983	39503	1049	1061
10	103.9	1039	3241	4482	19903	17960	18787	41567	1045	1056
9	103.5	1035	3376	4702	20885	18700	19631	43733	1040	1050
8	103.1	1031	3519	4936	21921	19480	20518	46037	1036	1044
7	102.7	1027	3668	5183	23016	20300	21450	48478	1031	1039
6	102.3	1023	3825	5444	24172	21150	22431	51064	1027	1033
5	101.9	1019	3989	5718	25395	22050	23462	53812	1022	1028
4	101.6	1016	4161	6012	26787	23000	24547	56720	1018	1022
3	101.2	1012	4342	6320	28054	23990	25689	59790	1013	1016
2	100.8	1008	4532	6646	29500	25030	26891	63060	1009	1011
1	100.4	1004	4731	6990	31031	26130	28157	66520	1004	1005
0	100.0	1000	4940	7353	32651	27280	29490	70203	1000	1000
-5	98.0	980	6159	9533	42317	33900	37316	92322	978	973
-10	96.1	961	7730	12460	55304	42470	47549	122431	956	946
-15	94.1	941	9771	16428	72911	53410	61031	163777	935	919
-20	92.2	922	12443	21860	97006	67770	78930	221088	914	893
-25	90.2	902	15969	29398	130306	86430	102889	301297	893	867
-30	88.2	882	20659	39908	176803	111300	135233	414698	872	842
-35	86.3	863	26955	54751	242427	144100	179282	576763	851	816
-40	84.3	843	35480	75953	336098	188500	239828	810861	831	791

# Temperature transmitters

## Temperature transmitter for room mounting



Technical data	
Output signal	Analogue, 0...10 V
Supply voltage	24 V AC $\pm 10\%$ / 15...35 V DC
Power consumption	< 1 W
Transformer power	2 VA
Temperature range	0...50 °C
Accuracy	$\pm 0.4^\circ\text{C}$ at 20°C
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Description	Note
TRT5	Temperature transmitter	
TRT5-D	Temperature transmitter with display	

## Temperature transmitter for room mounting



Technical data	
Temperature range	0...50 °C
Mounting	Room
Protection class	IP30

Article	Description	Note
TRTN-420	Temperature transmitter	

## Temperature transmitter for wall mounting



Technical data	
Temperature range	0...50 °C
Accuracy	$\pm 0.7^\circ\text{C}$
Mounting	Wall
Protection class	IP65

Article	Supply voltage	Output signal	Note
TRT50	24 V AC or 15...35 V DC , 1 VA	0...10 V DC	
TRT50-420	20...35 V DC	4...20 mA	

## Temperature transmitter for Modbus communication, room mounting



Technical data	
Output signal	Modbus
Supply voltage	24 V AC $\pm 10\%$ / 15...35 V DC
Power consumption	< 1 W
Transformer power	2 VA
Temperature range	0...50 °C
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Description	Note
TRTC5	Temperature transmitter	
TRTC5-D	Temperature transmitter with display	

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## Temperature transmitter for duct mounting



Technical data	
Temperature range	0...50 °C
Accuracy	$\pm 0.5^\circ\text{C}$ at 20°C
Insertion length	60...230 mm (adjustable)
Protection class	IP65
Mounting	Duct

Article	Supply voltage	Output signal	Note
TDT200	24 V AC or 20...35 V DC, 1 VA	0...10 V DC	
TDT200-420	20...35 V DC	4...20 mA	

## Temperature accessories



### Well

Well for immersion sensors.

Technical data	
Connection	R1/2"
Pressure rating	PN25

Article	Description	Material	Insertion length	Note
DR-90R	Well	Acid-proof stainless steel, SUS316	90 mm	
DR-90W	Well for TG-DHW...	Acid-proof stainless steel, SUS316	90 mm	
DR-135R	Well	Acid-proof stainless steel, SUS316	135 mm	

### Accessories

Article	Description	Note
ADAPTER	Adapter 1/4" to 1/2". For mounting TG-D1... in 1/2".	