

# Thermostats

SAMSON

Types 5312-2, 5313-., 5314-.,  
5315-., 5317-., 5318-.

## Application

Typetested thermostats equipped with an immersion sensor, which act as temperature monitors (TM), temperature regulators (TR) and/or safety temperature limiters (STL).



**Types 5313-4 to 5318-4** · Thermostats which operate according to the liquid expansion principle and are equipped with an immersion sensor (Type 5312-2 equipped with a capillary sensor made of Cu, filled with gas and sensitive over its entire length) and a diaphragm measuring system. They provide an electric signal whenever a preset set point value is exceeded.

## Versions

**Temperature monitor thermostat (TM)** with one double-throw contact and automatic resetting

**Type 5312-2** Set point range -10 to 12 °C

**Safety temperature monitor thermostats (STM)** causing the circuit to open in the event of a fracture of the measuring system (leakage)

**Type 5313-4** Set point range 0 to 60 °C

**Type 5313-5** Set point range 60 to 100 °C

**Type 5313-6** Set point range 60 to 110 °C

**Type 5313-7** Set point range 60 to 120 °C

**Type 5313-8** Set point range 60 to 130 °C

**Type 5313-9** Set point range 20 to 95 °C

**Type 5313-10** Set point range 50 to 300 °C

**Temperature regulator thermostats (TR)** with a double-throw contact for temperature control. Set point adjustable at rotary knob.

**Type 5314-1** Set point range 20 to 90 °C

**Type 5314-2** Set point range 20 to 90 °C

**Type 5314-3** Set point range 20 to 150 °C

**Safety temperature limiter thermostats (STL)** with one break contact and a reclosing lockout. The contact can be reset via pushbutton only after the temperature falls below the limit value.

**Type 5315-1** Set point range 30 to 110 °C

**Type 5315-2** Set point range 60 to 130 °C

**Type 5315-3** Set point range 130 to 200 °C

**Double thermostat (TR/STL)** Combination of the Types 5314 and 5315 with two temperature sensors in one immersion tube.

**Type 5317-2** Set point range 30 to 110 °C

**Type 5317-3** Set point range 20 to 90 °C

**Type 5317-4** Set point range 50 to 120 °C

**Type 5317-5** Set point range 60 to 130 °C

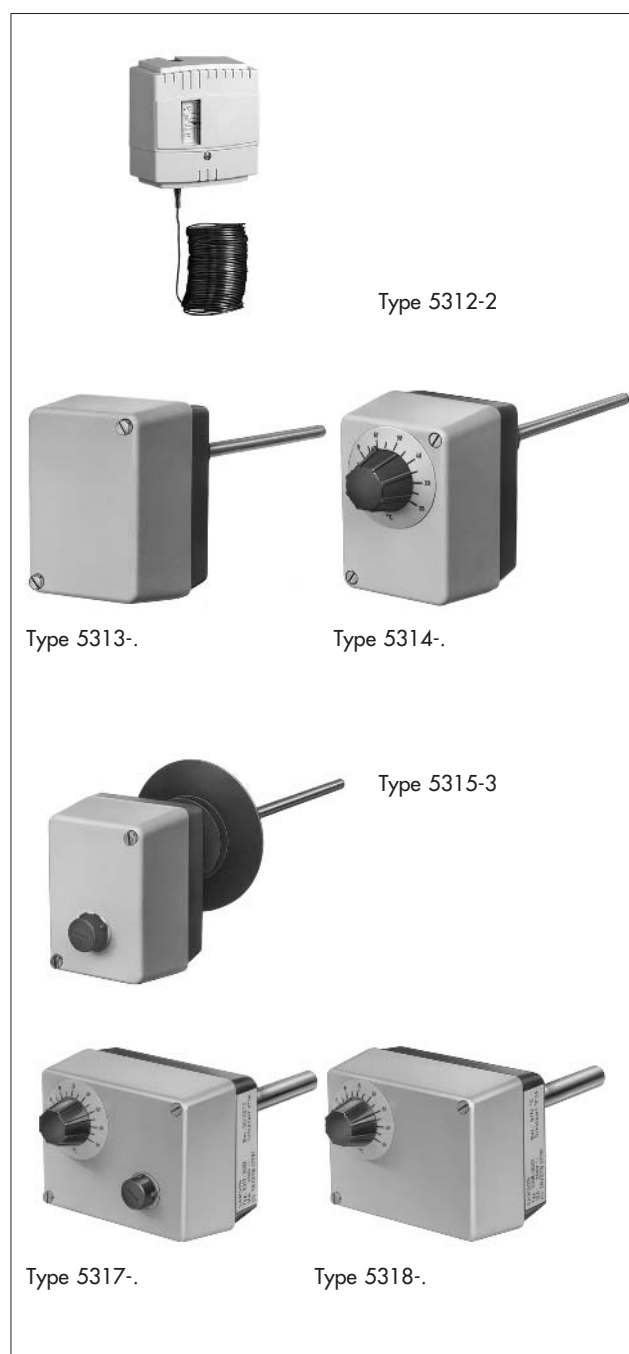
**Double thermostat (TR/STM)** Combination of the Types 5314 and 5313 with two temperature sensors in one immersion tube.

**Type 5318-1** Set point range 0 to 70 °C

**Type 5318-2** Set point range 20 to 120 °C

**Type 5318-3** Set point range 20 to 100 °C

**Type 5318-4** Set point range 20 to 110 °C



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Data Sheet

T 5205 EN

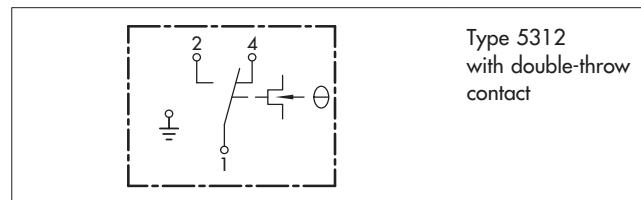
## Technical data

### Type 5312-2

Type	5312-2
Set point range	-10 to +12 °C
Function	Temperature monitor
Sensor	Copper capillary tube, approx. 6 m long, already active in sections of approx. 0.3 m
Switching differential	Approx. 1 K
Max. <u>of medium</u> temperature at housing	200 °C -15 to 55 °C
Min. housing temperature	As adjusted set point
Switch element	Microswitch, 1 changeover contact
Contact rating	At 24–250 V~: 15 (8) A with resistive load 2 A with $\cos \varphi = 0.6$ At 24 V~ min. 150 mA
Housing	Sheet steel, degree of protection IP 40

## Electrical connection

### Type 5312

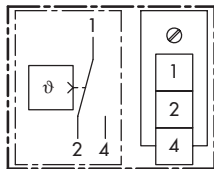


Type 5312  
with double-throw  
contact

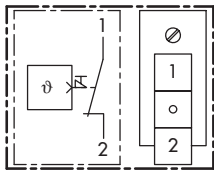
### Ordering text

Type 5312-2 Frost Protection Thermostat  
Kit of mounting clamps if need be (6 pieces)

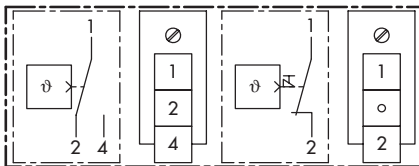
## Electrical connection of Types 5313 to 5318



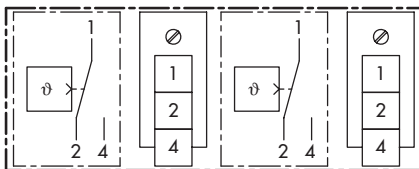
**Type 5313 and Type 5314**  
with double-throw contact



**Type 5315**  
with break contact  
and lockout  
function



**Type 5317**  
System I with double-throw contact,  
System II with break contact and lockout function



**Type 5318**  
Systems I and II with a double-throw contact

### Ordering text

Thermostat Type ...  
Immersion tube made of CrNiMo if need be

**Technical data related to Types 5313 to 5318**

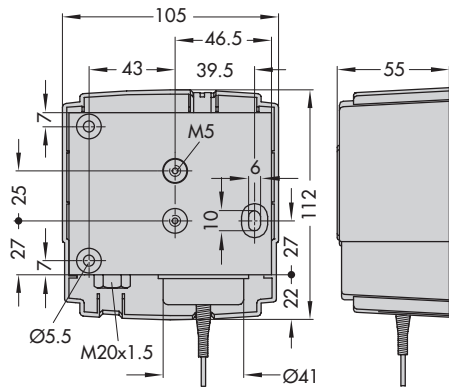
Type	Set point range	Function	Sensor material	Sensor dimensions	Insulating piece	Max. pressure <sup>1)</sup>	Switching differential approx. K	Repeat accuracy K	Max. medium temperature
5313-4	0 to 60 °C	STM	Immer. tube Brass	200 x 8 mm G ½		50 bar (92 bar)	3	+0 -3	69 °C
5313-5	60 to 100 °C	STM	Immer. tube Brass	150 x 8 mm G ½		48 bar (88 bar)	4	+0 -4	149 °C
5313-6	60 to 110 °C	STM	Immer. tube Brass	150 x 8 mm G ½		48 bar (88 bar)	4	+0 -4	149 °C
5313-7	60 to 120 °C	STM	Immer. tube Brass	150 x 8 mm G ½		48 bar (88 bar)	4	+0 -4	149 °C
5313-8	60 to 130 °C	STM	Immer. tube Brass	150 x 8 mm G ½		48 bar (88 bar)	4	+0 -4	149 °C
5313-9	20 to 95 °C	STM	Immer. tube CrNiMo	300 x 8 mm G ½		88 bar	5	+0 -4	138 °C
5313-10	50 to 300 °C	STM	Immer. tube Steel <sup>2)</sup>	150 x 8 mm G ½	•	50 bar (72 bar)	15	+0 -12	345 °C
5314-1	20 to 90 °C	TR	Immer. tube Brass	150 x 8 mm G ½		50 bar (92 bar)	3	±1	103 °C
5314-2	20 to 90 °C	TR	Immer. tube Brass	300 x 8 mm G ½		50 bar (92 bar)	3	±1	103 °C
5314-3	20 to 150 °C	TR	Immer. tube Brass	100 x 8 mm G ½		48 bar (88 bar)	5	±2	172 °C
5315-1	30 to 110 °C	STL	Immer. tube Brass	150 x 8 mm G ½		48 bar (88 bar)	8	+0 -4	126 °C
5315-2	60 to 130 °C	STL	Immer. tube Brass	150 x 8 mm G ½		48 bar (88 bar)	7	+0 -4	149 °C
5315-3	130 to 200 °C	STL	Immer. tube Steel <sup>2)</sup>	150 x 8 mm G ½	•	78 bar (83 bar)	7	+0 -4	230 °C
5317-2	30 to 110 °C	TR/STL	Immer. tube Brass	150 x 15 mm G ½		26 bar (48 bar)	TR: 3 STL: 8	±1.2	126 °C
5317-3	20 to 90 °C	TR/STL	Immer. tube Brass	150 x 15 mm G ½		27 bar (50 bar)	TR: 3 STL: 8	±1.2 -4	103 °C
5317-4	50 to 120 °C	TR/STL	Immer. tube Brass	150 x 15 mm G ½		26 bar (48 bar)	TR: 3 STL: 8	±1.2 -4	138 °C
5317-5	60 to 130 °C	TR/STL	Immer. tube Brass	150 x 15 mm G ½		26 bar (48 bar)	TR: 3 STL: 8	±1 -4	149 °C
5318-1	0 to 70 °C	TR/STM	Immer. tube Brass	300 x 15 mm G ½		27 bar (50 bar)	TR: 3 STM: 8	±1 -4	80 °C
5318-2	20 to 120 °C	TR/STM	Immer. tube Brass	150 x 15 mm G ½		26 bar (48 bar)	TR: 3 STM: 8	±2 -5	138 °C
5318-3	20 to 100 °C	TR/STM	Immer. tube Brass	150 x 15 mm G ½		27 bar (50 bar)	TR: 3 STM: 8	±2 -5	138 °C
5318-4	20 to 110 °C	TR/STM	Immer. tube Brass	150 x 15 mm G ½		26 bar (48 bar)	TR: 3 STM: 8	±2 -5	138 °C

<sup>1)</sup> Values in parentheses apply to version with immersion tube made of stainless steel 1.4571 (immersion tube is delivered with the thermostat.)

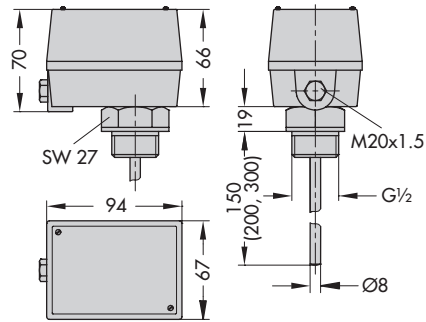
<sup>2)</sup> Steel St 35.8

Permissible ambient temperature	0 to 80 °C; 55 °C for Type 5312
Degree of protection	IP 54; IP 40 for Type 5312
Weight	Approx. 0.5 kg; Type 5317-2 approx. 0.7 kg
Switching capacity	at 230 V AC 10 A with resistive load 2 A with $\cos \varphi = 0.6$ Protection 10 A; 6 A for Type 5312
	at 230 V DC 0.25 A Protection 10 A; 6 A for Type 5312
Cover/housing	Housing: die-cast aluminum; Type 5312 sheet steel Cover: plastics (lead-sealable cover screws except for Type 5314)

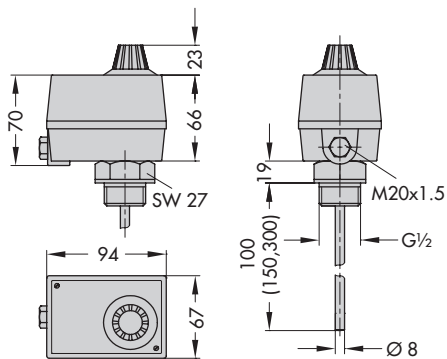
The associated DIN register numbers are listed in the mounting and operating instructions EB 5205 EN.



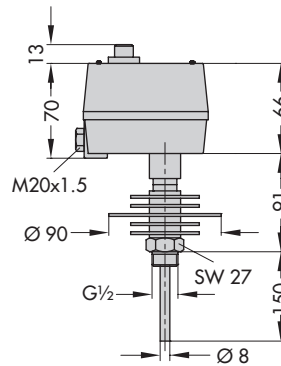
Type 5312-2 (Frost protection TM)



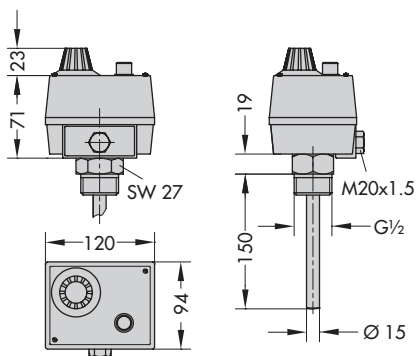
Type 5313 (STM)



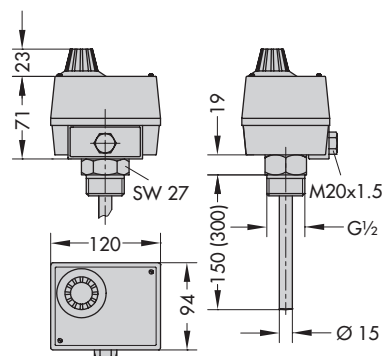
Type 5314 (TR)



Type 5315-3 (STL)  
with insulating piece (from 150 °C upwards)



Type 5317 (TR/STL)



Type 5318 (TR/STM)