

TTM2... TTW2...

Immersion thermostats

for control and monitoring of water temperatures



TTM2

TTW2

Immersion thermostats for control and monitoring of hot water temperatures

- Switch-over contact AC 250 V / 10(2) A
- Measuring range 35 ... 95 °C / 50 ...130 °C
- Single or double thermostats
- Pocket length 113 mm or 400 mm

Use

The TTM2... and TTW2... immersion thermostats are typically used for monitoring hot water systems. If the temperature at the sensor falls or rises to the preselected setpoint, the thermostat switches over.

Type summary

5 types are available. They differ in their measuring range, the length of the pocket and in the number of switching systems.

<i>Type</i>	<i>Pocket length</i>	<i>Measuring range</i>	<i>Weight</i>
<i>Immersion thermostats</i>			
TTM2	113 mm	35 ... 95 °C	0.4 kg
TTW2	113 mm	50 ...130 °C	0.4 kg
TTW2L	400 mm	50 ...130 °C	0.54 kg
<i>Double immersion thermostats</i>			
TTM22	113 mm	50 ...130 °C	0.63 kg
TTM22L	400 mm	50 ...130 °C	0.76 kg

Ordering

The immersion thermostats and, if required, stainless steel pockets (instead of the standard brass pockets) must be ordered separately.

When placing an order, please specify the quantity, product description and type code.

Example: **3 immersion thermostats TTM2** and **1 pocket Z617**

Technical design

The measuring sensor in the immersion thermostats TTM2... and TTW2... operates according to liquid expansion principles. When the water temperature falls or rises to the pre-selected setpoint, the thermostat switches over.

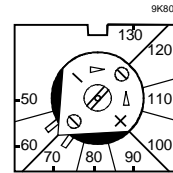
The TTM22 and TTM22L double immersion thermostats incorporate two independent sensor and switching systems.

Adjustments

To adjust the setpoint, remove the cover.

Setpoint X_K (per system):

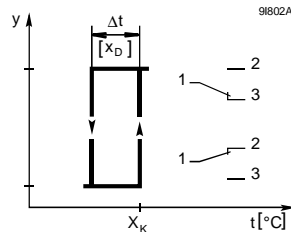
The adjustment range is the same as the measuring range.



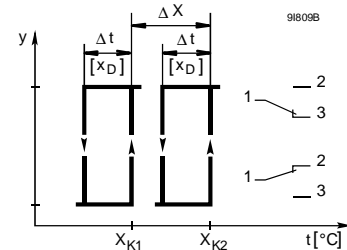
The switching differential, Δt , is as follows, and *cannot* be adjusted:

- Immersion thermostats 3 ... 5 K, fixed
- Double immersion thermostats 3 K, fixed

Operating diagrams



TTM2, TTW2, TTW2L single thermostats



TTM22, TTM22L double thermostats

Mechanical design

Die-cast aluminium housing with removable screw-on cover.

The housing and cover of the immersion thermostats are made of aluminium (the single thermostats have a plastic cover). The removable covers are fixed by 2 screws.

The standard pockets are made of nickel-plated brass. They may, if required, be replaced by stainless steel pockets (see 'Accessories').

Accessories

Pockets made of stainless steel (V4A), may be used as an alternative to the standard brass pocket. The Z615 ... Z618 pockets are threaded with $R\frac{1}{2}$ to ISO7/1 and are suitable for nominal system pressures up to PN40.

Mounting instructions are enclosed with the accessories (Ref. 35195).

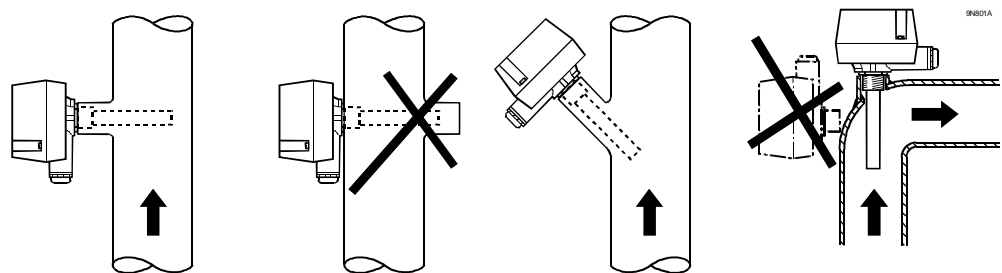
Z615	pocket for TTM22	length 113 mm
Z616	pocket for TTM22L	length 400 mm
Z617	pocket for TTM2 and TTW2	length 113 mm
Z618	pocket for TTW2L	length 400 mm

Mounting notes

Mounting instructions are enclosed with the thermostats (Ref. 35199).

The immersion thermostat can be removed from its pocket by loosening a clamping screw. With high pressures (> PN16), the standard pocket should be replaced by a type Z615 ... Z618 pocket (see "Accessories").

The thermostat must not be installed without a pocket.



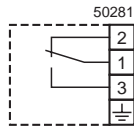
Technical data

Output per system	SPDT, volt-free	
Contact rating	Max. AC 250 V Max. 10 A resistive Max. 2 A inductive, $\cos \varphi > 0.2$	
Voltage against earth	Max. AC 250 V	
Setpoint Xk	35 ... 95 °C / 50 ... 130 °C, see 'Type summary'	
Switching differential Δt :		
– Immersion thermostats	3 ... 5 K, fixed	
– Double immersion thermostats	3 K, fixed	
Nominal pressure	with standard pocket	PN16
	with stainless steel pocket	PN40
Pocket thread	R1/2 to ISO7/1	
Orientation	Any	
Materials:		
Housing and cover	Die-cast aluminium / plastic	
Standard pocket	Nickel-plated brass	
Optional pocket Z615 ... Z618	Stainless steel V4A	
Cable entry	Self-sealing grommet, PG13.5	
Protection class	I (VDE)	
Protection standard	IP43 to IEC529	
Ambient temperatures:		
– Housing	Single thermostat:	max. 80 °C
	Double thermostats:	max. 100 °C
– Sensor	Max. 15 % above measuring range	
Weight (including packaging)	see 'Type summary'	
Conformity	Meets the requirements for CE marking	

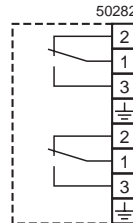
Connection terminals

"Cold" contact position

TTM2, TTW2, TTW2L



TTM22, TTM22L



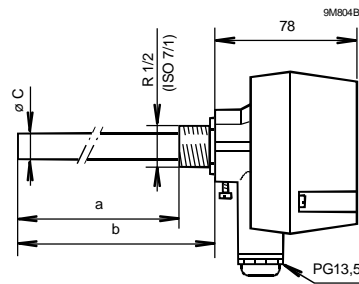
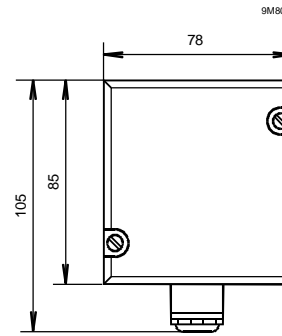
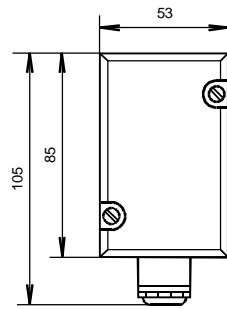
Caution
Observe the technical data
for the switching contacts:
AC 250 V / 10(2) A

Dimensions

All dimensions in mm

Immersion thermostats TTM2 , TTW2, TTW2L

Double immersion thermostats TTM22, TTM22L



External pocket thread
R $\frac{1}{2}$ to ISO 7/1

Type	a [mm]	b [mm]	ø c [mm]
TTM2	100	113	10
TTW2	100	113	10
TTM22	100	113	17
TTW2L	387	400	10
TTM22L	387	400	17