

# Self-operated Temperature Regulators



**Double Adapter (Do)** · with travel indicator and optional electric Switch (DoS)

**Manual Adjuster (Ma)** · with travel indicator and optional electric Switch (MaS)

## Application

**Double adapter** for attachment of a second thermostat module. Allows thermostat redundancy or the control or limitation of an additional variable.

**Manual adjuster** to manually close or limit the valve travel.

## For temperature regulators Type 1, 4, 8 and 9

For mounting between the regulating valve and the thermostat. Double adaptor allows connection of two thermostat modules. Manual adjuster allows connection of one thermostat.

Compatible thermostat types according to Table 1.

## Features

- Quick connection/disconnection of thermostat modules
- Exchange of thermostats possible while valve is under pressure
- Do1, DoS, Ma, MaS with mechanical travel indicator
- DoS, MaS with electric limit switch for valve closing position
- May also be combined with distance piece and/or reversing piece (see Technical Data Sheet of the corresponding valve)
- For all device combinations, the module with the higher signal (travel) actuates the valve.

## Versions

### Double adapter Do1 (Fig. 1)

- With mechanical travel indicator
- Sealing of the valve stem pin at connection "a"
- Thermostat modules connections at "b" and "c".

### Manual adjuster Ma

- With mechanical travel indicator
- To manually close the valve or limit the valve travel.

### Double adapter DoS or manual adjuster MaS (Fig. 3)

- With position switch and mechanical travel indicator
- When the valve is closed, the electric switch is engaged
- Switch provides a signal to indicators or alarm devices

**Table 1 · Valve types for double adapter and manual adjuster**

Regulator	Type 1	Type 4	Type 8	Type 9
Tech. Data Sheet	T 2115	T 2025	T 2031	T 2033
Valve pattern	Globe		Three-way globe	
Valve Type	2111	2114	2118	2119
Nominal Size	ANSI ½" to 4"	½" to 10"	–	½" to 6"
	DIN 15 to 100	15 to 250	15 to 100	15 to 150
Thermostat Type	Types 2231, 2232, 2234 and 2235 see Information Sheet T 2010			
For more information regarding the regulators, see the respective Technical Data Sheet				

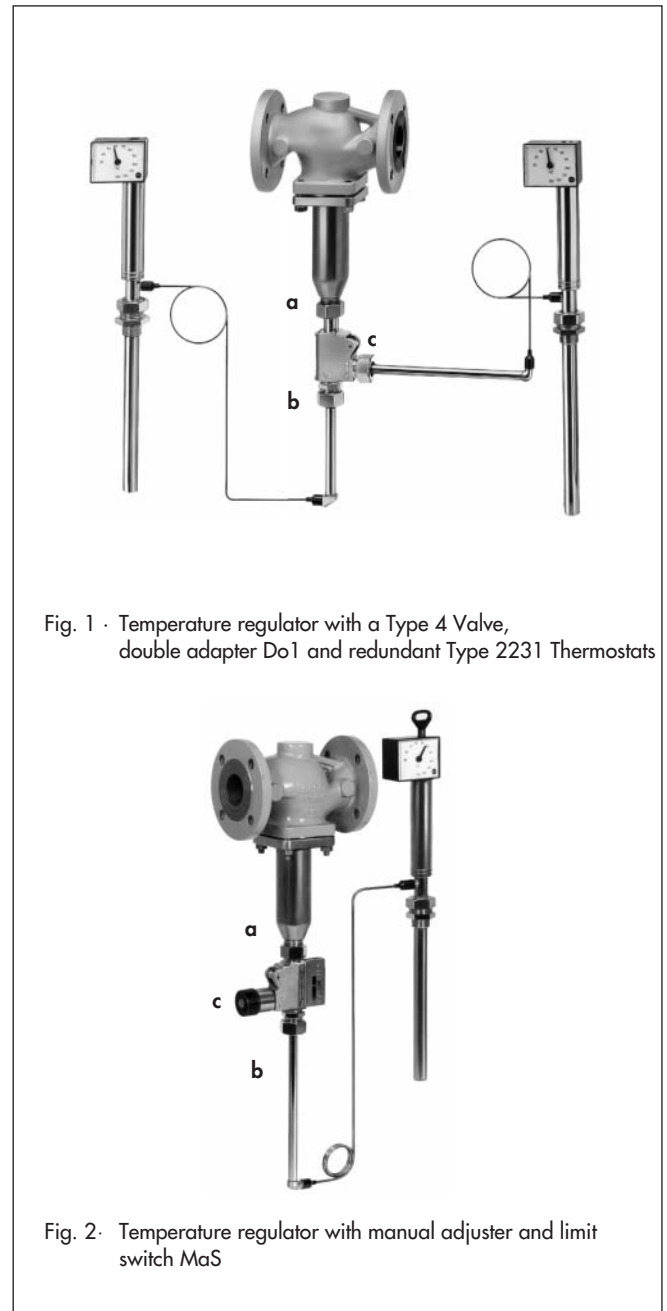


Fig. 1 · Temperature regulator with a Type 4 Valve, double adapter Do1 and redundant Type 2231 Thermostats

Fig. 2 · Temperature regulator with manual adjuster and limit switch MaS

### Principle of operation (Figs. 3 and 4)

The **double adapter** (Do1) is mounted between the valve (10) at connection "a" and the thermostat (11) at connection "b" of the temperature regulator.

An additional thermostat (12) is attached to connection "c". The travel of this attached device is transmitted either directly (connection "b") or from the connection "c" via the lever (6) to the coupling pin (5) and the plug stem (10.1) of the regulating valve. The device with the largest travel transmits the positioning force to the plug stem.

The **indicator** (5.1), which is firmly connected with the coupling pin (5), points to the position of the valve on the travel scale.

The **manual adjuster** (Ma), (Fig. 4) is mounted to connection "c" instead of a second thermostat. By turning the handle (8.1), the pin (8.2) can be moved, which acts via the lever (6) onto the coupling pin (5).

The **microswitch** (9.1) of the double adapter or manual adjuster with limit switch (DoS or MaS), is located in a separate housing. It is operated by the travel indicator (5.1) connected to the coupling pin (5). The screw (9.2) is used for fine adjustment of the switch.

**Table 2 · Technical data · Materials**

Version	Double adapter				Manual adjuster			
	Do1	DoS	Ma	MaS	Ma	MaS	Ma	MaS
For valve 1/2" to 4"	•		•		•		•	
For valve 6" to 10"		•		•		•		•
Perm. temperature	32 to 266 °F (0 to 130 °C)							
<b>Dimensions in inches · Weights in lbs</b>								
Dimension A, inches	5.0	6.7	5.0	6.7	5.0	6.7	5.0	6.7
Dimension A1, in.	3.0	4.5	3.0	4.5	3.0	4.5	3.0	4.5
Dimension A2, in.	2.4	3.5	2.4	3.5	–	–	–	–
Dimension A3, max.	–	–	–	–	3.9	4.9	3.9	4.9
Approx. weight in lb	2.4	4.0	3.3	5.1	3.3	5.1	4.0	5.7
<b>Dimensions in mm · Weights in kg</b>								
Dimension A, mm	128	170	128	170	128	170	128	170
Dimension A1, mm	77	115	77	115	77	115	77	115
Dimension A2, mm	62	88	62	88	–	–	–	–
Dimension A3, max.	–	–	–	–	100	125	100	125
Approx. weight in kg	1.1	1.8	1.5	2.3	1.5	2.3	1.8	2.6
<b>Technical Data · Electric limit switch</b>								
Load	230 V~, 10 A at ohmic load							
<b>Materials</b>								
Body	Brass CuZn37Pb, nickel-plated							
Coupling pin	Stainless steel AISI 304 (WN 1.4301)							
Stem seal at "a"	EPDM seal between PTFE disks							

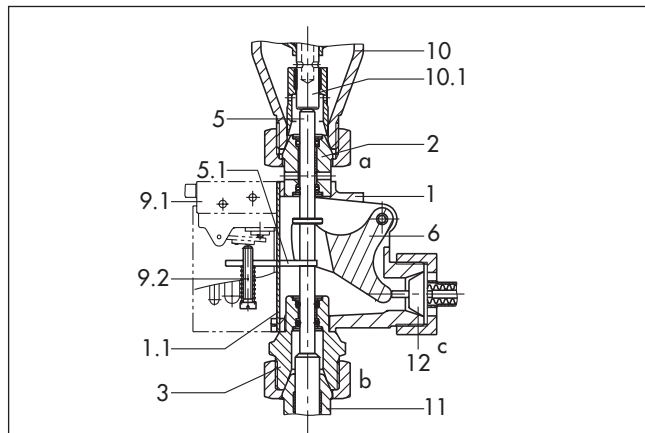


Fig. 3: Double adapter Do1 - with limit switch, DoS -

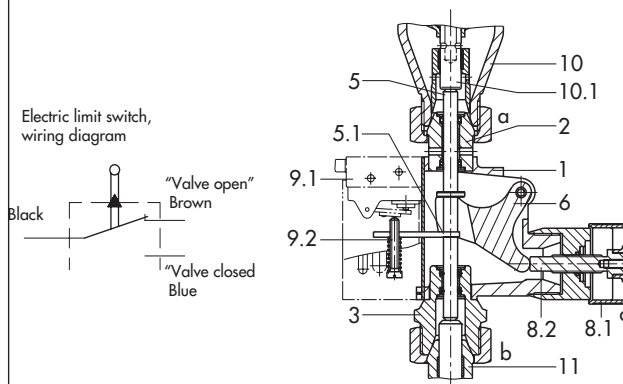


Fig. 4: Manual adjuster Ma - with limit switch, MaS -

#### Legend

- a, b, c: Connections
- 1 Body
- 1.1 Cover plate
- 2 Connection with seal
- 3 Plug without seal
- 5 Coupling pin
- 5.1 Indicator
- 6 Lever
- 8 Manual adjuster
- 8.1 Handle
- 8.2 Coupling pin
- 9 Limit switch
- 9.1 Microswitch
- 9.2 Screw for fine adjustment
- 10 Regulating valve
- 10.1 Plug stem of the valve
- 11 Thermostat
- 12 Additional thermostat at connection "c"

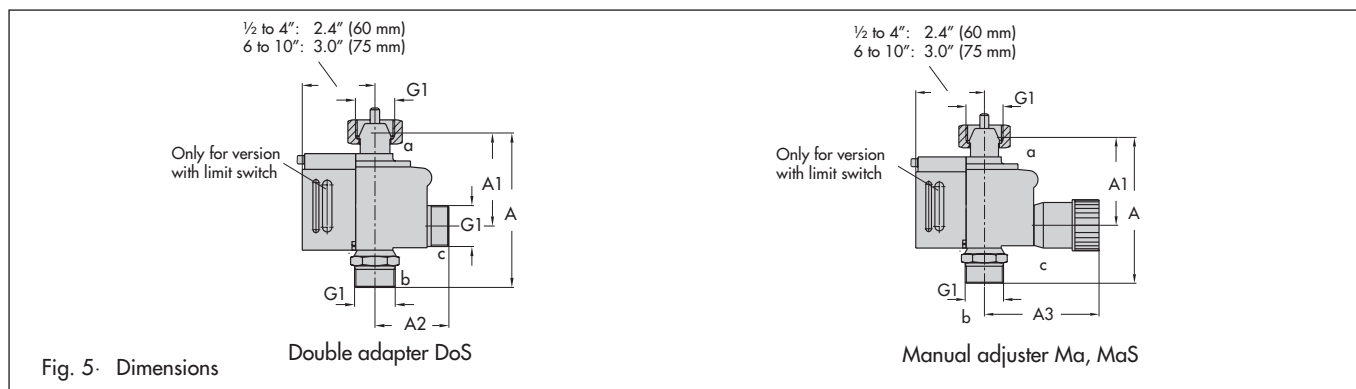


Fig. 5: Dimensions

Specifications subject to change without notice.



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