



The Oventrop Quality Management System is certified to DIN-EN-ISO 9001

### Tender specification:

Oventrop electrothermal actuators, closed with current "off", convertible to opened with current "off", with stroke index.

Operating current: 230 V ~ or 24 V  
Starting current: 0.15 A for 230 V or 0.25 A for 24 V

Current: 0.011 A for 230 V or 0.125 A for 24 V

Closing/opening time: 3.5 min. for 230 V or 4.5 min. for 24 V

Protection: IP 44 vertical upward position  
IP 43 other position, installation in vertical downward position is not permitted

Max. fluid temperature: 100°C

Ambient temperature: -5°C up to +50°C

Length of cable: 1.2 m

### Item nos.:

Closed with current "off", 230 V 101 24 85

Closed with current "off", 24 V 101 24 86

Closed with current "off", 230 V with mounted auxiliary switch 101 24 87

### Accessory:

Auxiliary switch – unit 101 24 91

for subsequent fitting to actuators

item nos. 101 24 85/86

Switching current: 5 (2) A for 230 V ~

### Tender specification:

Oventrop electrothermal actuator, **reduced dimensions**, closed with current "off", convertible to opened with current "off", with stroke index.

Operating current: 230 V ~ or 24 V

Starting current: 0.15 A for 230 V or 0.25 A for 24 V

Current: 0.011 A for 230 V or 0.125 A for 24 V

Closing/opening time: 3 min. for 230 V or 4 min. for 24 V

Protection: IP 44 vertical upward position  
IP 43 other position, installation in vertical downward position is not permitted

Max. fluid temperature: 100°C

Ambient temperature: -5°C up to +50°C

Length of cable: 0.8 m

### Item nos.:

Closed with current "off", 230 V 101 24 65

Closed with current "off", 24 V 101 24 66

For distributors/collectors for surface heating systems and thermostatic radiator valves. Not suitable for three-way diverting and mixing valves, item no. 113 ... and regulating valves "Cocon" and "Hycocoon TM", item nos. 114 5 ... and 106 8 ...

### Accessory:

Auxiliary switch – unit 169 45 66

for subsequent fitting to actuators

item nos. 101 24 65/66

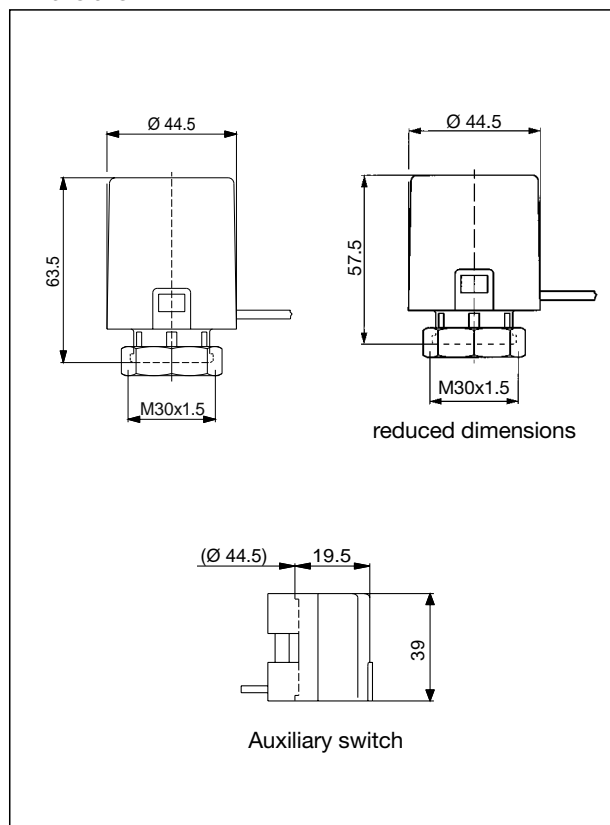
Switching current: 5 (2) A for 230 V ~

### Note:

Due to their construction, the electrothermal actuators are secured against overloading which could e.g. occur when switching on neon tubes. A varistor is thus not necessary.



### Dimensions:



**Installation and fitting:**

Please observe: The brown cable must be connected to phase (R). It is recommended that the electric circuit should be fused. Connecting cables must not be laid alongside hot pipework as excessive heat will accelerate the ageing of cable insulation. Electrical connections must be carried out in accordance with the requirements of the local Electricity Board.

When choosing the switching contacts and network fuses, the start up load of the heating element has to be taken into consideration. The loss of potential may not exceed 10% so that the indicated operating time is kept.

Max. length of cable for 1 actuator, with given wire cross sections (indication with a voltage drop of about 5%, for 230 V voltage drop about 10 V, for 24 V voltage drop about 1 V).

Wire cross section (mm <sup>2</sup> )	230 V max. length (m)	24 V max. length (m)
2 x 0.75	1680	168
2 x 1.00	2240	224
2 x 1.50	3360	340
2 x 2.50	5600	560

When installing several actuators, the indicated length of cable must be divided by the number of connected actuators.

With a period of 4 minutes, an almost constant control can be achieved with a "pulse/no-current" timing signal (pulse-width modulation) provoking a periodic open/close position. Permissible period: up to 4 minutes or larger than 12 minutes.

Oventrop electrothermal actuators can be installed in any position, but the installation in vertical downward position is not permitted. In order to avoid unnecessary working hours out of heating seasons or when not required, actuators should be switched off via a main switch during these periods.

**Accessories:**

Room thermostat 230 V	115 20 51
Room thermostat 24 V	115 20 52
Room thermostat-clock 230 V, with daily setting	115 25 51
as above, 230 V, with weekly setting	115 25 52
as above, 24 V, with weekly setting	115 25 54
Room thermostat heating/cooling 24 V	115 22 51

**Operation:**

When combined with Oventrop radiator valves and Oventrop room thermostats, two point electrothermal actuators allow an individual room temperature control. Dependant on the layout of the heating circuit, it is possible to control a number of radiators (zones) with one control valve only.

The working element of the Oventrop actuators is of a semi solid type which expands when electrically heated. It is silent in operation with low current consumption.

When leaving the factory, the Oventrop actuators are closed with current "off" but may be converted to opened with current "off" by removing a plug-in piece and the stroke index. The actuators may be used for heating and cooling circuits.

If room temperatures are controlled via the Oventrop electrothermal actuators, it is recommended to carry out the room temperature setback via the room thermostat, e.g. the Oventrop electronic room thermostat Heating/Cooling or the Oventrop room thermostat-clock (see technical data sheet "Wireless controls").

If for some reason a setback of the flow temperature is required during night hours or at other times, a setback of the room temperature via the room thermostat should be carried out in addition.

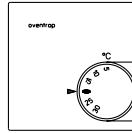
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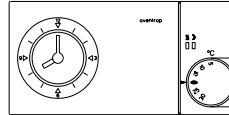
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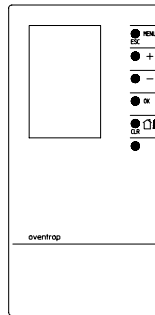
**Room thermostat**

for electric individual room temperature control. Temperature setback via external time switch (item nos. 115 25 51/52/54) (not with actuator opened with current "off") Item no. 115 20 5.



**Room thermostat-clock**

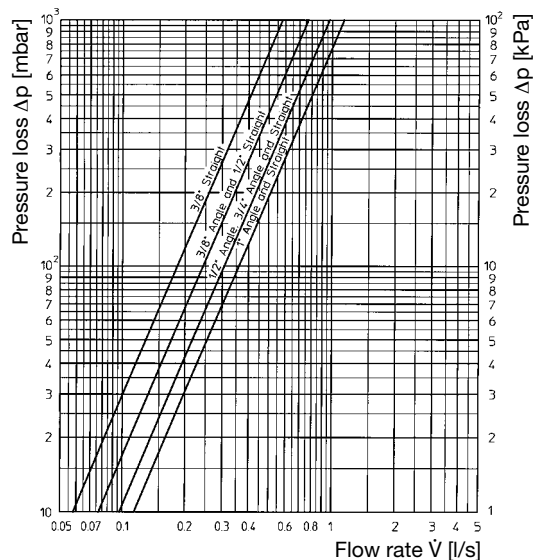
for electric individual room temperature control and central temperature setback. Item no. 115 25 5.



**Room thermostat Heating/Cooling**

with proportional and proportional-plus integral control, for electric individual room temperature control and central temperature setback Item no. 115 22 51

**Oventrop thermostatic radiator valves "Series AZ" valves fully opened**



**Oventrop three-way mixing and diverting valve**

