

Clorius self-acting temperature controllers - reliable even in extreme conditions



Clorius
Controls A/S

- ensures reliable
control of heating, cooling
and ventilation systems

Good reasons for using Clorius self-acting temperature controllers

Reliability

Self-acting temperature controllers from Clorius will operate in all conditions – without external controls or energy supply. This is why the temperature controllers will continuously adjust temperature even when energy supply has been interrupted and control systems have shut down. The reliability of the temperature controllers ensures continuous operation instead of disastrous breakdowns.

Precise control

Self-acting temperature controllers from Clorius are available for controlling temperatures between -30°C and 280°C . The temperature controllers are easy to adjust, and their technology makes it possible to maintain the set temperature very precisely, as the neutral zone of the controllers is from $1,5^{\circ}\text{C}$ – $2,5^{\circ}\text{C}$. This ensures optimal operating conditions for the systems being regulated.

Easy maintenance

It is easy to service self-acting temperature controllers from Clorius. The simple mechanic construction can be disassembled and serviced even after years of operation by refilling liquid (glycerine) and mounting new seal rings in case of leakage. This means that controlling can continue without problems even when maintenance is required at remote destinations.

A service instruction is included, and you will always have access to an online service instruction at www.cloriuscontrols.com.

Maintenance during operation

It is not necessary to interrupt operations in order to service a self-acting temperature controller from Clorius. The stuffing box is an independent unit, which can remain on the valve while the temperature controller is removed. This means that maintenance can be performed during normal operating hours without interrupting operations. A manual operating unit is available for use during building activities.

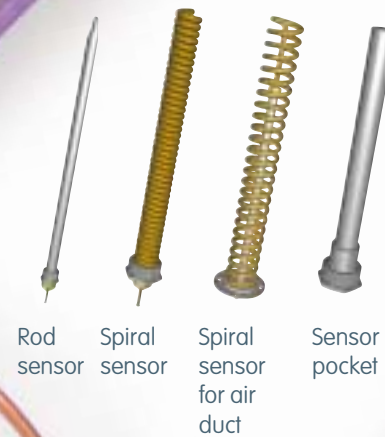


Self-acting temperature controllers are easily disassembled for maintenance purposes.



Sensor liquid can be refilled in case of leakage.

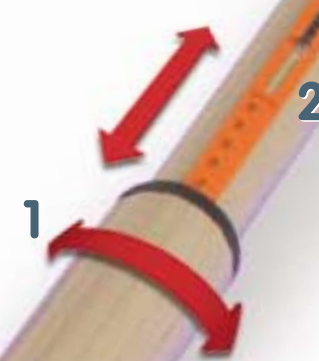
Self-acting temperature controllers are widely used for controlling heating and cooling systems for indoor heating, industrial or marine purposes. The controllers can regulate cold or hot water, steam, oil or lubricating liquids.



Rod sensor Spiral sensor Spiral sensor for air duct Sensor pocket

Simple construction

Self-acting temperature controllers from Clorius exploit the way in which liquid changes its volume as temperature fluctuates. Activation occurs at deviations from the set temperature, where liquid from the sensor part influences the stem of the valve through a capillary tube. Thus there are no operating costs for controlling and activating the valve. Self-acting temperature controllers from Clorius are also available with two sensors, which regulate according to the temperature at two measuring points.



Individual adjustment

Self-acting temperature controllers from Clorius come as a standard with 3 m capillary tube in copper, but are available with up to 21 m tube depending on the customer's needs. The capillary tubes are available in copper or stainless steel and may also be protected by PVC or spiral reinforcement. Several types of sensors in copper or stainless acid-proof steel are available for different applications and measuring in different media. Threaded joints or flanges are available on request. For high-temperature use, cooling units for protection of the stuffing box are available.

Product range

When ordering a controller, please specify the following:

- Controller type
- Temperature range
- Length of capillary tube
- Material of capillary tube
- Type of sensor
- Material of sensor
- Sensor connection

Please refer to our brochure "Quick Choice of Temperature Controls" – also available online at www.cloriuscontrols.com – or to the data sheets for our self-acting temperature controllers – in order to find the correct specifications for your needs.

Below you will find an overview of the main controller types:

Calibration:

The controller is easy to calibrate in case of discrepancies between the set temperature and the actual temperature. Loosen the screw and move the scale (2) until the set temperature is the same as the actual temperature. The scale will now be accurate.

Adjusting the temperature:

Turn the handle (1) until the top of the scale bushing points to the wanted temperature on the scale (2). The temperature setting can be changed at any time, also while the controller is in use.



The duostat controllers regulate according to the temperature at two measuring points.

| Technical data | Controller types | | | | | | |
|--|--------------------------|-------|--------|--------|--------|--------|-----|
| | V2.05 | V4.03 | V4.05 | V4.10 | V8.09 | V8.18 | |
| Max. closing power, N | 200 | 400 | 400 | 400 | 800 | 800 | |
| Setting range for standard controllers, °C ¹⁾ | 0-60 | 0-160 | 0-120 | 0-60 | 0-120 | 0-60 | |
| | 30-90 | | 40-160 | 30-90 | 40-160 | 30-90 | |
| | 60-120 | | | 60-120 | | 60-120 | |
| Neutral zone, °C | 2,5 | 2,0 | 2,0 | 2,0 | 1,5 | 1,5 | |
| Amplification mm/°C in temperature ranges | -30-160 °C ²⁾ | 0,5 | 0,3 | 0,5 | 1,0 | 0,9 | 1,8 |
| | 140-280 °C ³⁾ | 0,7 | 0,33 | 0,7 | 1,33 | 1,2 | 2,4 |

¹⁾ Temperature ranges from -30 – 280°C are available with overheating protection 40°C . ²⁾ Glycerine · ³⁾ Paraffin

Complete control systems

Clorius Controls offers a complete range of tested and reliable equipment for control of heating, cooling and ventilation systems, all with the purpose of achieving the highest reliability and saving energy.

Specialists in selected areas



Residences and institutions

Equipment for control and regulation of heating and ventilation systems



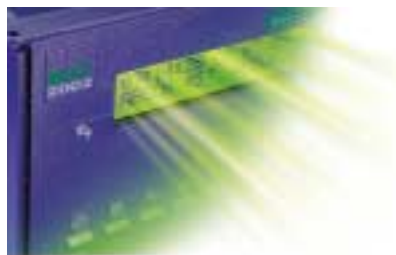
Industry

Valves and thermostats for the regulation of heating, cooling and process heat



Maritime industry

Certified valves, thermostats and motors



Control valves

Clorius valves are simple and reliable for regulation of temperature and pressure differences in heating, cooling and ventilation systems for maritime industry, general industry, institutions and residences.



Controllers

Clorius Controls offers a wide range of electronic controllers for heating, cooling and ventilation systems. The controllers are available for systems in the maritime industry, general industry, institutions and residences. Clorius Controls offers controllers for simple stand-alone solutions or for larger BMS-plants.



Motors

Clorius Controls offers a large program of conventional regulation motors and analogue motors. This includes special motors for maritime use, which are designed to withstand vibrations.

Balancing valves

With Ballorex balancing valves the water flow in the individual heating circuits can be balanced and regulated.

Thermostats

Self-acting thermostats from Clorius Controls are direct-acting and available with sensors for air or liquids. They are also available as safety thermostats for the protection of secondary pipe installations.



Pressure differential controllers

The controllers from Clorius Controls lower large and variable pump pressure to stabilize the flow in the plant.



Clorius Controls' products can also be found on Tribon.com.

Vendor:



Clorius Controls A/S
Tempovej 27
DK-2750 Ballerup
Denmark
Tel.: +45 77 32 31 30
Fax: +45 77 32 31 31
www.cloriuscontrols.com