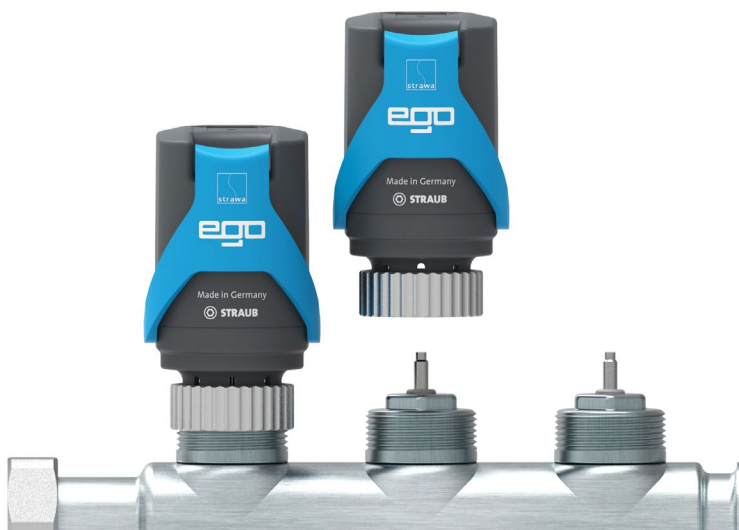


EGO ADAPTIVE FLOW CONTROLLER M30 OPERATING INSTRUCTIONS



1. General purpose

Autonomous intelligent electrothermal Adaptive Flow Controller 230 V NC used for an adaptive hydraulic balance for each circuit of a manifold for radiant panel heating and cooling systems. The folding lever of the normally closed actuator is used to ease mounting or to open the thermostatic valve manually. With integrated flow temperature limiter.

For installation on radiant manifolds with at least 50 mm heating circuit spacing. Suitable for thermostatic valves M30x1.5 external thread (11.8 mm closing dimension) from well-known manufacturers. Temperature sensors are suitable for panel heating pipes made of plastic, metal or combination thereof with outside diameter from 12 to 20 mm.

Due to its capacitor power supply, the ego represents a capacitive load. All upstream actuators (e.g. room controllers or terminal strips) must be suitable for this.

2. Assembly

- **Fully open the balancing valves of all heating circuits.**
- **Open the blue folding lever** (manually open).
- **Screw on the ego with M30 x 1.5 nut onto the thermostatic valve by hand,** with the logo oriented to the front.

i Notice: Mounting position: Any (up, down, horizontal)

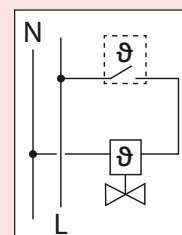
- **Close the blue folding lever** (Automatic position = normally closed, regulating on current).
- **Attach temperature sensor clips to the heating pipes on the corresponding heating circuit** (black-red: inlet flow, black-blue: return flow).
- **Connect the electrical connection cable to the corresponding room temperature controller / voltage source** (brown on switched outer conductor, blue on neutral conductor).



Caution: Must be carried out by an electrician. Valid safety regulations apply.

i Notice: As with all surface heating systems, the electronically controlled heating circuit pump must be operated under constant pressure mode Δp -c.

i Notice: Several Flow Controllers can also be connected to one room temperature controller.



3. Self-Commissioning

The ego starts operating automatically when an electrical current is applied (e.g. by heat demand through the room temperature controller). Then initialization starts (determination of the functional parameters), the LED flashes blue.

The initialization is complete after about four minutes.

The ego starts the hydraulic balancing, the LED flashes green.

- i Notice:** The ego detects when voltage is applied to an unmounted ego. Initialization is not started. The ego flashes yellow. In this case, disconnect the ego from the power supply, mount it on a thermostatic valve and apply voltage again. The Initialization then starts automatically.

4. Status and operating conditions

LED-Code	Information
Flashing Green	Normal operation
Flashing Blue	Initialization (see 3. and 5.) or valve flushing (see 6.)
Flashing Yellow	Not mounted ego is energized
Flashing Red (twice)	Flow temperature > 60 °C (see 7.)
Flashing Red	Malfunction/ limited function (see 10.)

5. Manual initialization

If the ego has been mounted on another valve, it must be re-initialized. This can be triggered manually at any time. The start of a single ego can, for example, take place from the room temperature controller (switching between min. and max. temperature). Several egos can be started simultaneously, for example, from the terminal strip.

- Start: ON (<10s) → OFF → ON (<10s) → OFF → ON and leave → LED flashes blue

i Notice: During initialisation, all previously taught-in heating circuit-specific data will be deleted.

i Notice: The initialisation is also triggered if the ego is supplied with voltage when it is cold and not mounted. It then flashes yellow (cf. 3.).

6. Flushing the valve

At fixed intervals the thermostatic valve will be fully opened and closed once and the flow area cleaned of possible dirt particles.

7. Flow temperature limit

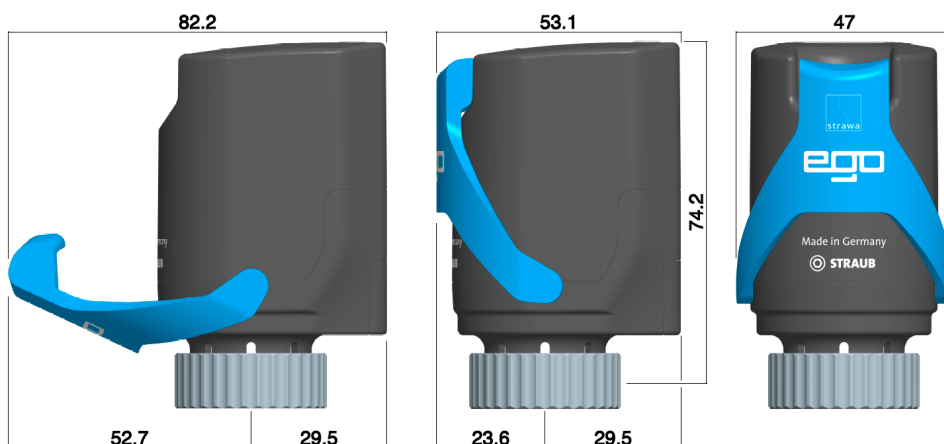
When the inlet flow temperature sensor measures a temperature above 60 °C, the ego will close the thermostatic valve in order to prevent damage to the heating system. The LED will flash red twice slowly. If the flow temperature drops below this maximum value, the ego will automatically resume its normal operation after a short time.

i Notice: The flow temperature limit works only when the blue folding lever is moved upward to the automatic position. This function does not replace a maximum temperature limiter, which safely prevents excess of temperature in the heating system (e.g. according to standard DIN 18560-2).

8. Technical data

Type	Ego 230 V, NC (normally closed), M 30 x 1.5
Version	Normally closed
Valve connection	Union nut M 30 x 1.5
Voltage	230 V AC, 50 Hz
Inrush current	130 mA for max. 200 ms
Power consumption	1.7 W
Power factor λ	0.1 to 0.99 (capacitive acting)
Closing/ opening time	~ 3 min
Travel range	≥ 3.5 mm
Actuating force	110 N
Ego closing dimension	10.8 mm
Valve closing dimension	11.8 mm
Fluid temperature	10 to 60 °C (flow temperature limitation is active when lever is closed)
Storage temperature	-25 to 60 °C
Ambient temperature	0 to 50 °C
Air humidity	10 to 100 % non-condensing
Protection type / class	IP 54 / II
Mounting position	Any position
Housing / Housing color	Polyamide / grey – blue color
Weight	180 g (including cables and sensors)
Connection cable	Flexible, black, 1 m with ferrules, 2 x 0.34 mm ²
Inlet flow sensor cable	Flexible, black with red stripes, 0.4 m, 2 x 0.22 mm ² hard-wired
Return flow sensor cable	Flexible, black with blue stripes, 0.4 m, 2 x 0.22 mm ² hard-wired
Temperature sensors	NTC 10k (at 25 °C), Clip for pipe outer diameter from 12 to 20 mm

9. Dimensions (mm)



10. Malfunctions and troubleshooting

If the regulatory capability is substantially disrupted by an error, the LED will flash red. When ego goes into maintenance mode, it will try to keep the thermostatic valve open to allow further heating. Manual initialization (see 5.) may be able to correct the cause.

i Notice: Once the cause of malfunction has been rectified, the ego will automatically switch to its regular operation. The LED will flash green again.

If the malfunction cannot be rectified, the ego must be replaced.

General problems with panel heating systems:

- **Flow noise**
 - reduce pump capacity, if it is not working adjust the throttle valve until the noise disappears
- **Knocking, tapping or vibrating at the thermostatic valve**
 - place the valve in the return flow
- **Rooms are not heated sufficiently**
 - adjust the supply temperature according to the heat requirement
 - check ego power supply
 - switch the operating mode of the pump to constant pressure Δp -c and adjust the flow pressure
 - check the room temperature controller or set a higher room temperature
 - check the flow and vent the air from the heating system if necessary

Manufacturer:

STRAUB KG
Dr.-Troch-Straße 17
99867 Gotha
Germany

www.strawa.com/produkt/2110210002



Do not dispose with domestic waste.
Local regulations for electrical scrap recycling applies.

Mounting instructions

www.strawa.com/wp-content/uploads/2021/06/2110210002_EN_MA.pdf

