



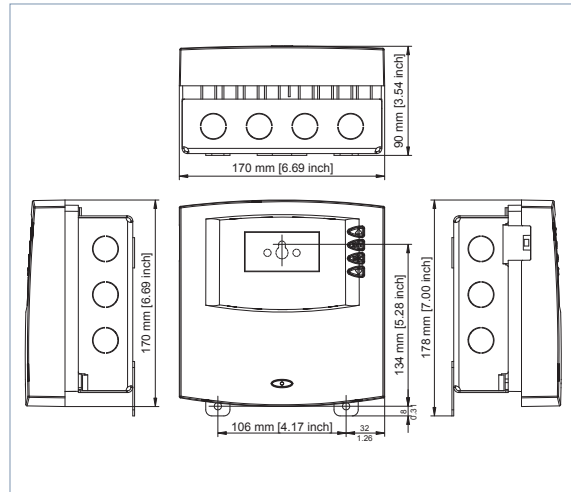
## Steca TR 0502 U

5 inputs,  
2 outputs

The Steca TR 0502 U controller was specially developed for the North American market based on the Steca TR 0502 basic controller. With its special certification (ETL label) from a Nationally Recognized Testing Laboratory (NRTL) in the US, the controller meets the safety standards and minimum requirements of the North American market.

The equipment is connected inside the installation casing using either a plug & play solution for the mains and pump connections or alternatively 1/2 inch cut-outs.

This controller provides everything to operate your solar thermal system safely over a long service life. The Steca TR 0502 U controller monitors and controls solar thermal systems with two differently oriented collector arrays and a maximum of two domestic hot water or buffer storage tanks. The large graphic display shows the animated control circuits, which allows you to view the operating statuses of each system. The clearly arranged display ensures easy operation using pictograms. Pre-programmed systems enable universal usage. The Steca TR 0502 U controller has five inputs for recording temperatures or pulse values, as well as two outputs (one is speed-controlled) for controlling pumps or switching valves.



### Product features

- Compact, multipart designer casing
- Electronic speed control
- High level of operational safety through fault diagnosis
- Hours-of-operation logger
- Software update possible
- Storage tank target temperature loading
- Daily pump start
- Plug & play for 120 V AC mains and pump connections in installation casing
- Screwed connections facilitate fast sensor installation
- Integrated Steca TPC 1 bus

### Displays

- Multifunction graphical LCD display with backlighting
- Animated representation of the systems and operating states

### Operation

- Multilingual menu navigation
- Side switch for manual, auto, off

### Options

- Installation casing with 1/2 inch cut-outs as an alternative to plug & play

### Functions

- Heat quantity (Grundfos Direct Sensors™\*, pulse generator, determination)
- Heating return increase
- Reduction of stagnation phases
- Holiday (storage tank recooling)
- Circulation (controlled by temperature / time / pulse)
- Back-up heating
- Solid fuel boiler
- Storage tank quick charge
- Thermostat
- Differential thermostat
- Timer
- Interval / tube collector
- Anti-freeze
- Display storage tank top
- Alarm output
- Two loading zones

[areas of application]



[inputs/outputs]

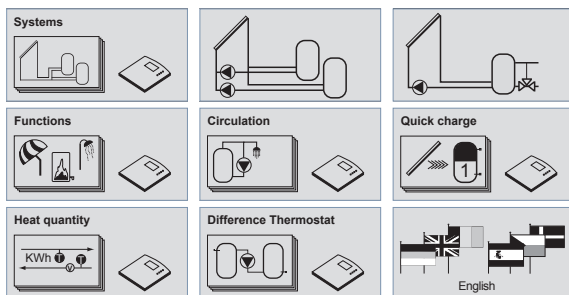
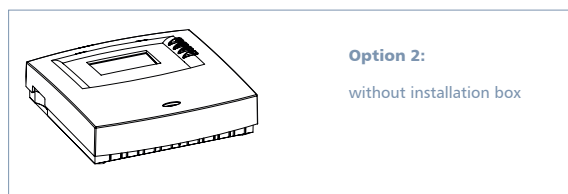
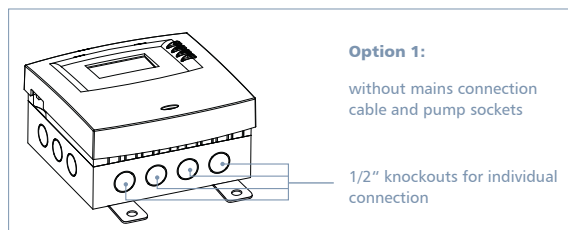
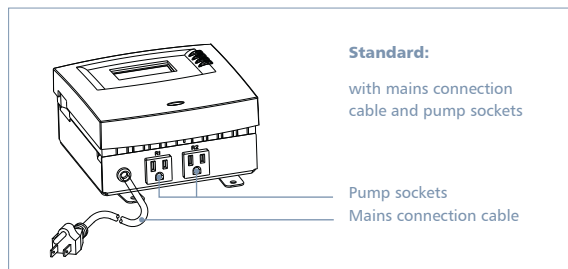


\*The trademark Grundfos Direct Sensors™ is owned and controlled by the Grundfos group.



	TR 0502 U
System voltage	120 V AC, 60 Hz optional 240 V AC, 60 Hz
Own consumption	≤ 2 W [0.003 HP]
Inputs	5 4 x temperature (Pt1000) 1 x temperature (Pt1000) or pulse
Additional input	1 x Grundfos Direct Sensors™ (temperature / flow rate)
Outputs	2 1 x triac for speed control (R1), max. 230 W / 0.3 HP (120 V AC) 1 x switch output relay (R2), max. 400 W / 0.5 HP (120 V AC) or R2 voltage free
Additional output	1 x alarm output
Line cord	75 inch, 3 x 18 AWG at 221 °F
Hydraulic schemes	14
Ambient temperature	0 °C [+32 °F] ... +45 °C [+113 °F]
Interfaces	RS232, RS485 (Steca TPC 1 bus)
Degree of protection	IP 20 / DIN 40050
Dimensions (X x Y x Z)	170 x 178 x 90 mm [6.69 x 7.0 x 3.54 inch]
Weight	1.4 kg [45.01 oz]

Technical data at 25 °C / 77 °F



### Display examples

The display examples shown here are merely a selection, designed to show the many and diverse function displays of the solar controller Steca TR 0502 U.

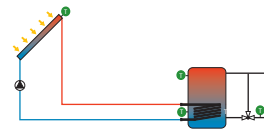


**Systems with one storage tank**

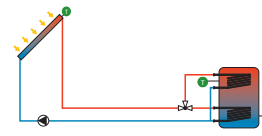
**1 collector array**



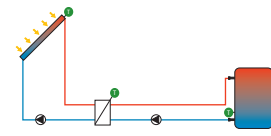
Internal heat exchanger, intelligent pump control



Internal heat exchanger, intelligent pump control, heating return increase



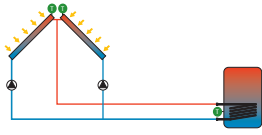
Internal heat exchanger, zone loading, intelligent valve control



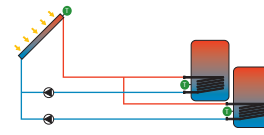
External heat exchanger, intelligent pump control

**Systems with two storage tanks**

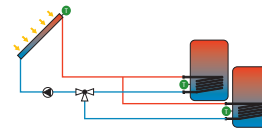
**2 collector arrays (east/west roof) 1 collector array**



Internal heat exchanger, intelligent pump control



Internal heat exchanger, intelligent pump control



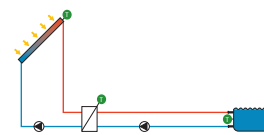
Internal heat exchanger, intelligent valve control

**Systems with a swimming pool**

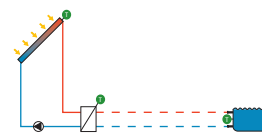
**1 collector array**



Direct flow-through, intelligent pump control

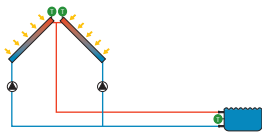


External heat exchanger, intelligent pump control

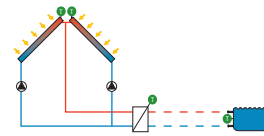


Stand-alone operation of the external heat exchanger, intelligent pump control

**2 collector arrays (east/west roof)**



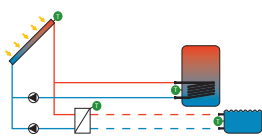
Direct flow-through, intelligent pump control



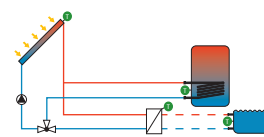
Stand-alone operation of the external heat exchanger, intelligent pump control

**Systems with one storage tank and a swimming pool**

**1 collector array**



Stand-alone operation of the external heat exchanger, intelligent pump control



Stand-alone operation of the external heat exchanger, intelligent valve control