

SOLAR CONTROL

SC100/3



The Solar Control thermostat is an electronic instrument based on **AKUATEK's** many years of experience in temperature control.

This device allows maintaining precise control of the temperature of the solar panels connected to the boiler's sanitary hot water.

It detects the boiler water temperature through the 3 provided sensors and compares it with the solar panels fluid.

When the panels temperature is higher than the boiler's water, the control unit starts the pump allowing thermal exchange between panels and boiler.

Its second main function is to use a supplementary source of heat when the temperature is lower than the set integration temperature.

In order to ensure a perfect thermal exchange, the device is fitted with a "delta T" temperature differential that varies from 1 to 9°C, and can be regulated using the knob on the thermostat front panel.

Thanks to the 3-module Omega-type format, you can build several systems exploiting the modularity of the DIN rail in the previously set electrical panels.

Checking package contents

No. 1 SOLAR CONTROL SC100 control unit
 No. 3 Temperature probes in thermoplastic weatherproof case,
 immersion version with IP55 protection degree



Installation and user guide

Firmware

Version 1.0

CONFORMITY

EMC EN50270

Important Note

Before connecting the unit careful reading of instruction booklet is recommended, and it is kept in a safe place for future reference.

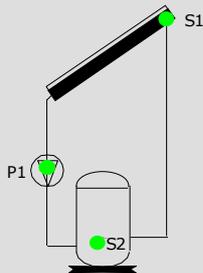
Furthermore, the correct electrical connections according to the enclosed drawings, complying with instructions and regulations in force, is recommended.

Technical Specifications

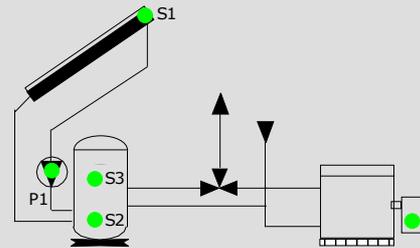
Power supply	230V~ ±10% 50Hz
Power demand	1 VA
Relay Contact Range	10A 250V resistive 5A 30V resistive
Free of voltage contacts	
Type of sensors	NTC 47K
Functioning temperature sensors	-20°C to 120°C
Accuracy	± 1°C
Resolution	1 °C
Max. distance between probes and unit	150 m
Cable diameter for connecting probes	1 mm ²
Integration Switch	Automatic, Manual
Force pump switch on the panel	Built in
Functioning temperature	0°C to 50°C
Storage temperature	-10°C to +60°C
Humidity limits	90% RH non-condensing
Electromagnetic Compatibility "CE"	Reference norms
Degree of protection	IP20 air
Omega-type size DIN EN 50092 3 modules	53*90*58
Mounting	Panel mounted
Warranty	Three years

System Types

System with boiler only,
without integration



System with boiler only, and
heating with integration



Accessories on demand

Immersion version temperature probes with chromium plated weatherproof case and IP67 protection degree.



Before calling a technician, check...

If the device does not turn on: Check that all the 230V cables are firmly connected the terminal block's poles 1 and 2. Check if the mains power supply is present.

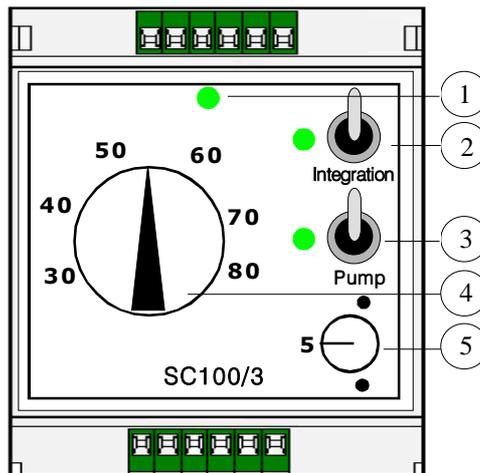
The control unit works well but cannot drive the appliances: Check that all the wiring is correct. Please remind that all relays are free of voltage. Check that the resistive values are right. Please see table on the side.

PROBES

Conversion from temperature to ohmic value of the probes

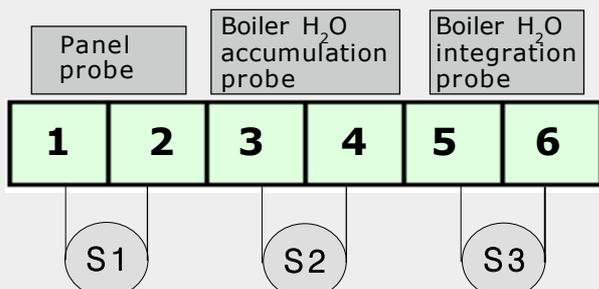
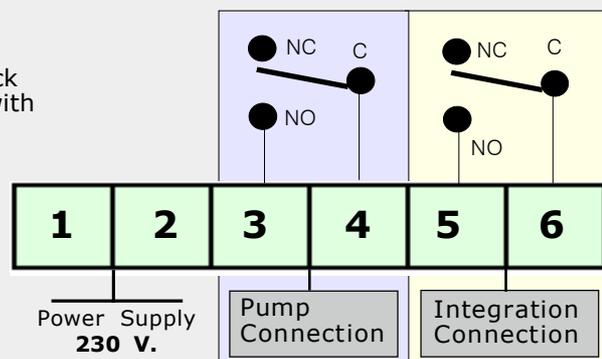
Temp.	Resistive values	Temp.	Resistive values
0°C	155.820	10°C	94.523
30°C	37.704	40°C	24.695
50°C	16.533	60°C	11.296
70°C	7.865	80°C	5.573
95°C	3.427	100°C	2.936

SC100/3 Components and Commands



- 1) "Power connected" LED, thermostat working.
- 2) Automatic/Manual Switch for sanitary hot water integration.
AUTOMATIC. By setting the switch up, you select the automatic functioning. The automatic functioning works according to the temperature set using the graduated knob from 30°C to 80°C. Please see point No. 4
MANUAL. By setting the switch down, you select the manual functioning. When selecting the manual functioning, the integration is always ON.
- 3) Forced pump insertion switch, between boiler and panel.
By setting the switch down, you select to forcedly insert the circulation pump between panel and boiler.
- 4) Temperature selection knob. It is used to set the desired sanitary hot water temperature before activation of the integration.
- 5) DELTA T knob on the panel. It is used to program the temperature difference between BOILER and PANEL. It was set to 5°C in the factory.
To change the temperature difference, proceed as follows:
If you turn the knob clockwise, the difference decreases, if you turn it counter clockwise, it increases.

Electrical connection of the upper terminal block
The relays in the diagram are free of voltage with a range of 10 A resistive.



Electrical connection of the lower terminal block
The immersion probes can be inverted one with the other both for position and polarity
Max. distance 150 m, with minimum diameter of 1 mm²

INSURANCE. This device is insured by the SOCIETÀ REALE MUTUA for the PRODUCT'S GENERAL LIABILITY up to a maximum of 1,500,000.00 EURO against damages caused by the device in case of failures in functioning.

WARRANTY. The warranty term is 3 years from manufacturing date, in agreement with the following conditions. The components acknowledged as faulty will be replaced free of charge, excluding the replacement of plastic or aluminium cases, bags, packing, batteries and technical reports.

The device must arrive free of shipment charges to **BOLDRIN S.r.l.**

Defects caused by unauthorized personnel tampering, incorrect installation and negligence resulting from phenomena outside normal functioning shall be excluded from the warranty.

BOLDRIN S.r.l. is not liable for possible damage, direct or indirect, to people, animals, or things; from product faults and from its enforced suspension of use.



Made in Italy

Solar Thermostat SC100/3		Styling by b&b design
TO BE FILLED AFTER INSTALLATION		
Purchase date	Stamp and signature of the dealer	
Registration number		

In agreement with its continuous development policy, **BOLDRIN S.r.l.** reserves the right to modify its products without notice.

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