DeltaSol® BX

System controller for solar and heating systems

TÜVRheinland

C   US

cTUVus certified!

Made in Germany

## Complex systems – simply mastered!

- ✓ 4 relay outputs / 7 sensor inputs
- ✓ RESOL VBus®
- ✓ Data logging onto SD memory card
- ✓ Inputs for Grundfos Direct Sensors™
- ✓ 2 PWM outputs for speed control of high-efficiency pumps
- ✓ Extra large display
- ✓ Thermal disinfection function, heat dump function
- ✓ Drainback option
- ✓ Programming and remote control of the system via RESOL ServiceCenter software possible
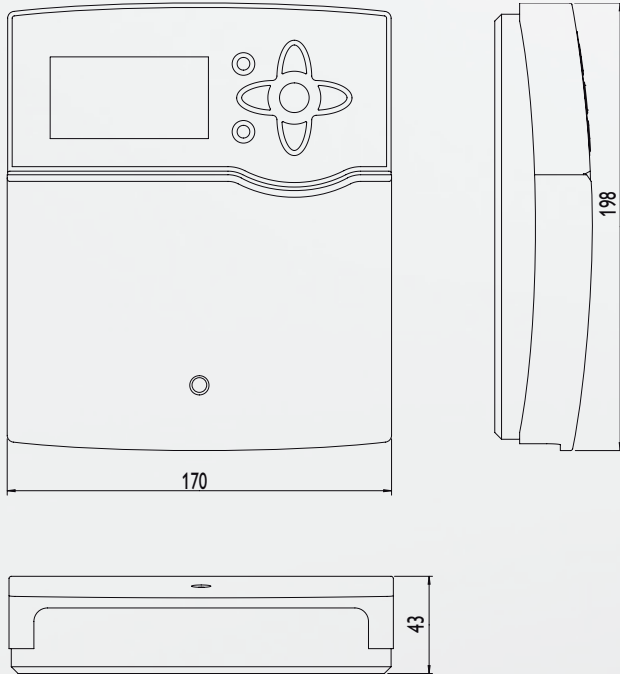
Keep an eye on your system...
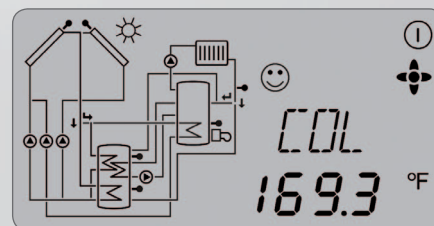
...with the comprehensive display

www.resol.com

Technical data

Housing: plastic, PC-ABS and PMMA

Protection type: IP 20 / EN 60 529

Protection class: I

Ambient temp.: 0 ... 40 °C / 32 ... 104 °F

Dimensions: 170 × 198 × 43 mm / 6.69" × 7.79" × 1.69"

Mounting: wall mounting, also suitable for mounting into patch panels

Display: System-Monitoring-Display for system visualization, 16-segment display, 7-segment display, 8 symbols, control lamp (directional pad) and background illumination

Operation: 7 push buttons at the front of the housing

Functions: System controller for solar and heating systems. Functions such as: ΔT control, pump speed control, energy metering, operating hours counter for the solar pump, evacuated tube collector function, thermostat function, vertical tank loading, priority logic, drainback option, booster function, heat dump function, thermal disinfection function, PWM pump control

Inputs: 5 inputs for Pt1000 temperature sensors, inputs for 1 Grundfos Direct Sensor™ VFS and 1 Grundfos Direct Sensor™ RPS, 1 V40 impulse input

Outputs: 3 semiconductor relays, 1 standard relay, 2 PWM outputs

Interfaces: RESOL VBus®, SD card slot

Power supply: 100 ... 240 V~, 50 ... 60 Hz

Switching capacity per relay:
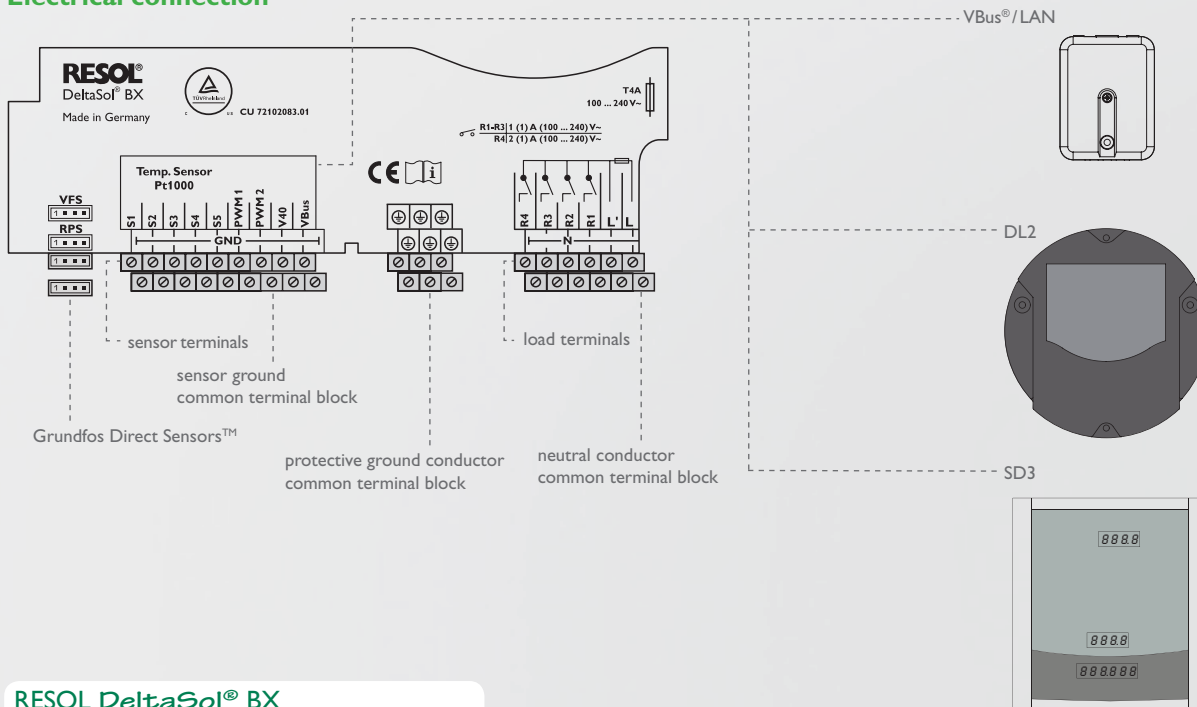1 (1) A 100 ... 240 V~ (semiconductor relay)
2 (1) A 100 ... 240 V~ (standard relay)

Total switching capacity: 4 A

Standby power consumption: < 1 W

Mode of operation: type 1.Y

Electrical connection

RESOL DeltaSol® BX

sensor terminals

sensor ground
common terminal block

Grundfos Direct Sensors™

protective ground conductor
common terminal block

load terminals

neutral conductor
common terminal block

VBus® / LAN

DL2

SD3

RESOL DeltaSol® BX
System controller for solar and heating systems
**Article no.: 115 450 07**

RESOL DeltaSol® BX - Full kit
System controller for solar and heating systems incl. 4 Pt1000 sensors (2 × FKP6, 2 × FRP6)
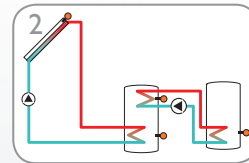**Article no.: 115 450 17**

System examples

The *DeltaSol®* BX has 26 pre-defined basic system layouts for one- and two-tank systems. For each basic system layout, specific adjustments are already stored. They can be individually extended through a range of additional functions.
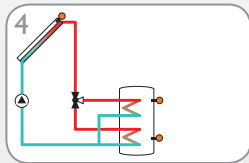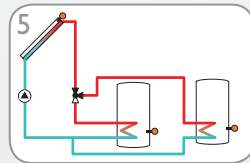

1
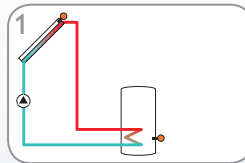
Standard solar system with 1 tank
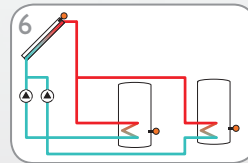

2

Solar system with 2 tanks and heat exchange

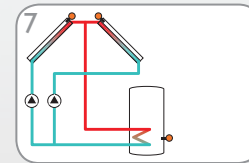**3**

Solar system with 1 tank and backup heating

4
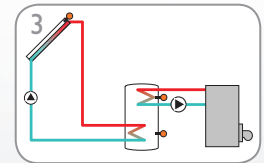
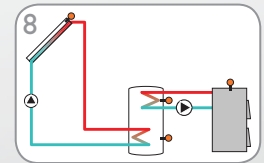Solar system with 1 tank and 3-port valve for vertical tank loading

5

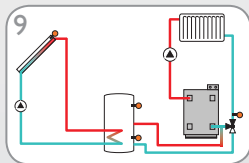2-tank system with valve logic, 1 pump, 3 sensors and 3-port valve

6

2-tank solar system with pump logic
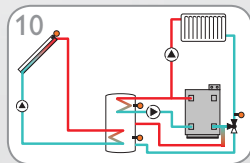

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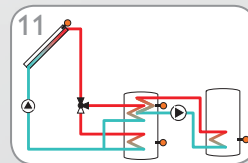Solar system with east-/west collectors

8

Solar system with 1 tank and backup heating with solid fuel boiler
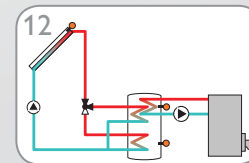

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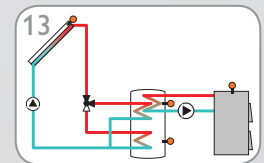Solar system with 1 tank and heating circuit return preheating

10

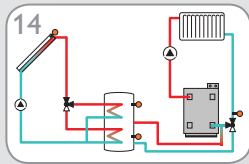Solar system with 1 tank, heating circuit return preheating and thermostatic backup heating

11

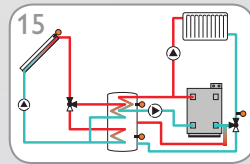Solar system with vertical tank loading and heat exchange control

12

Solar system with vertical tank loading and thermostatic backup heating
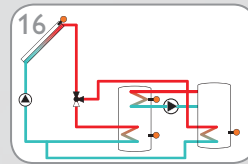

13

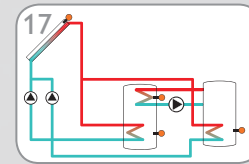Solar system with vertical tank loading and backup heating with solid fuel boiler

14

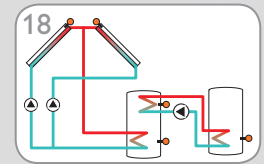Solar system with vertical tank loading and return preheating

15

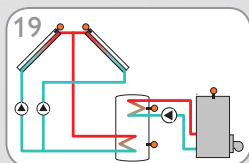Solar system with vertical tank loading and backup heating with heating backup

16

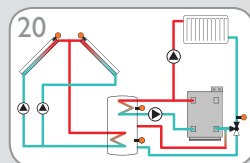2-tank solar system with valve logic and heat exchange control

17

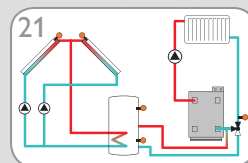2-tank solar system with pump logic and heat exchange control

18

Solar system with east-/west collectors and heat exchange control

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Solar system with east-/west collectors and thermostatic backup heating

20

Solar system with east-/west collectors, thermostatic backup heating and return preheating

21

Solar system with east-/west collectors and heating circuit return preheating

22
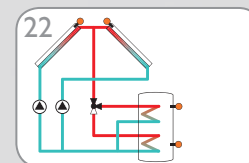
Solar system with vertical tank loading and east-/west collectors

23
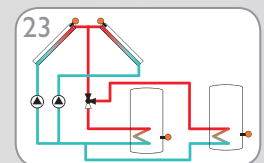
Solar system with east-/west collectors and 2 tanks (valve logic)

24

Solar system with east-/west collectors, vertical tank loading and heat exchange

25

Solar system with east-/west collectors, vertical tank loading and and thermostatic backup heating

26

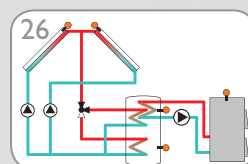Solar system with east-/west collectors, vertical tank loading and backup heating with solid fuel boiler

Accessories

GA3 Large Display

The RESOL GA3 is a completely mounted large display module for visualization of collector- and tank temperatures as well as the heat quantity yield of the solar system. An easy connection to all controllers with RESOL VBus® is possible.

RESOL GA3 °C   Article no.: **180 006 53**
RESOL GA3 °F   Article no.: **180 007 87**

VBus® Touch

The RESOL app for the Apple iPad makes your solar yield palpable – worldwide! The basic version of the VBus®Touch app is available for download free of charge on the App Store.
To visualize your individual system, a RESOL controller with VBus® data interface and a DL2 datalogger are required.

Grundfos Direct Sensor™ VFS und RPS

The RPS Grundfos Direct Sensor is a sensor for measuring the temperature and the pressure.

The VFS Grundfos Direct Sensor is a sensor for measuring the temperature and the flow rate.

Grundfos Direct Sensor™ VFS 1-12 analog   Article no.: **130 000 27**
Grundfos Direct Sensor™ VFS 2-40 analog   Article no.: **130 000 37**
Grundfos Direct Sensor™ RPS 0-10 analog   Article no.: **130 000 47**

VBus®/USB and VBus®/LAN interface adapter

The interface adapters enable the communication between the controller and a computer. A full version of the RESOL ServiceCenter software is included.

RESOL VBus®/USB   Article no.: **180 008 50**
RESOL VBus®/LAN   Article no.: **180 008 80**

V40 flowmeter

The RESOL V40 is a measuring instrument for detecting the flow of water or water/glycol mixtures. After a specific volume has passed, the V40 reed switch sends an impulse to the calorimeter.

RESOL V40   Article no.: **280 011 07**

Temperature sensors

The product range includes high-precision platinum temperature sensors, flatscrew sensors, outdoor temperature sensors, indoor temperature sensors, cylindrical clip-on sensors, also as complete sensors with immersion sleeve.

DL2 datalogger

This additional module enables the acquisition and storage of large amounts of data (such as measuring and balance values of the solar system) over a long period of time. The DL2 can be configured and read out with a standard Internet browser via its integrated web interface.

RESOL Datalogger DL2   Article no.: **180 007 10**

SD3 Smart Display

The RESOL Smart Display is designed for simple connection to RESOL controllers with RESOL VBus®. It is used for visualizing data issued by the controller: collector temperature, tank temperature and energy yield of the solar thermal system. An additional power supply is not required.

RESOL Smart Display SD3 °C   Article no.: **180 004 90**
RESOL Smart Display SD3 °F   Article no.: **180 007 77**