



## Installation and Operating Instructions

### Bluetooth Connector S-BC

No. 1430

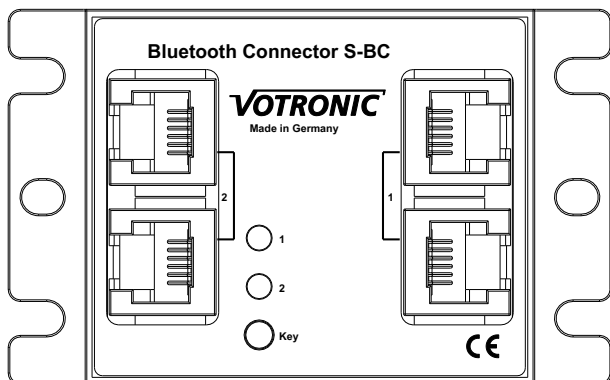
The Votronic Bluetooth Connector S-BC serving as an interface between the solar control, battery computer and phone or tablet. With the associated app, the state of the on-board batteries and photovoltaic system can in mobile homes, caravans, boats, special and emergency vehicles displayed on a smartphone, are graphically displayed and evaluated.



Please read these installation and operating instructions and safety completely before starting the connection and commissioning.

- Solar and battery information via a common communications module
- Compact design and minimal power consumption
- Easy installation (Plug & Play)
- Easy to retrofit
- Connection via Bluetooth 4.0
- Range up to 50 m outdoors
- Free *Votronic Energy Monitor App* (Android and iOS)

the required *Votronic Energy Monitor App* for Android or iOS is available for free from the Google Play Store or iOS App Store.



<http://energymonitor.votronic.de>



**The Bluetooth Connector S-BC is compatible with the following devices:**

- VOTRONIC solar charge controller in SR and MPP technology from 2013 (serial no. 13Vxx.xxxxx)
- VOTRONIC LCD Battery Computer S with smart shunt (all versions)
- VOTRONIC VPC Jupiter with smart shunt (all versions)
- VOTRONIC Battery Charger Type Triple VBCS

### **functionality**

The Bluetooth Connector S-BC records data from a Votronic solar controller (from 2013) and / or a Votronic Smart shunt (eg LCD battery computer S) in its internal memory and places them and current states of the Votronic Energy monitor app via Bluetooth are available. In this manner, the entire information of the on-board battery, such as voltage, charging and discharging currents and the remaining capacity, and all the data of the solar system, such as solar power, solar yield and performance comfortable read over the phone or tablet and controlled. Even the issue as a CSV file for your own analysis purposes is possible. The usual LCD displays (eg LCD Solar Computer S) can still be used.

### **Installation and connection:**

The Bluetooth Connector S-BC can be installed at any time later.

He has two independent connection circuits. Thus can be connected together, a solar regulator and a smart shunt.

The signals are looped through so that LCD displays (eg LCD Solar Computer S) can still be operated. When using the smart shunts need the corresponding original display (LCD battery computer display or VPC Jupiter panel) can be connected.

The operation of a smart shunts without solar controller and vice versa, is of course possible. Also, a second solar controller can be connected instead of the smart shunt. The values are then billed as "a solar system."

Alternatively to the Votronic SR and MPP solar controllers may also be connected a Battery Charger type VBCS Triple to the Bluetooth connector to represent the internal solar controller.

After connecting the Bluetooth Connector S-BC has a one-time charge from the solar charge controller register to recognize him as "Connected". In the absence of solar power, the solar charge controller is in "hibernation" and are not reported themselves to save energy. Once the solar charge controller was once active, it is recognized by the Bluetooth Connector S-BC and displayed in the Votronic Energy Monitor app.

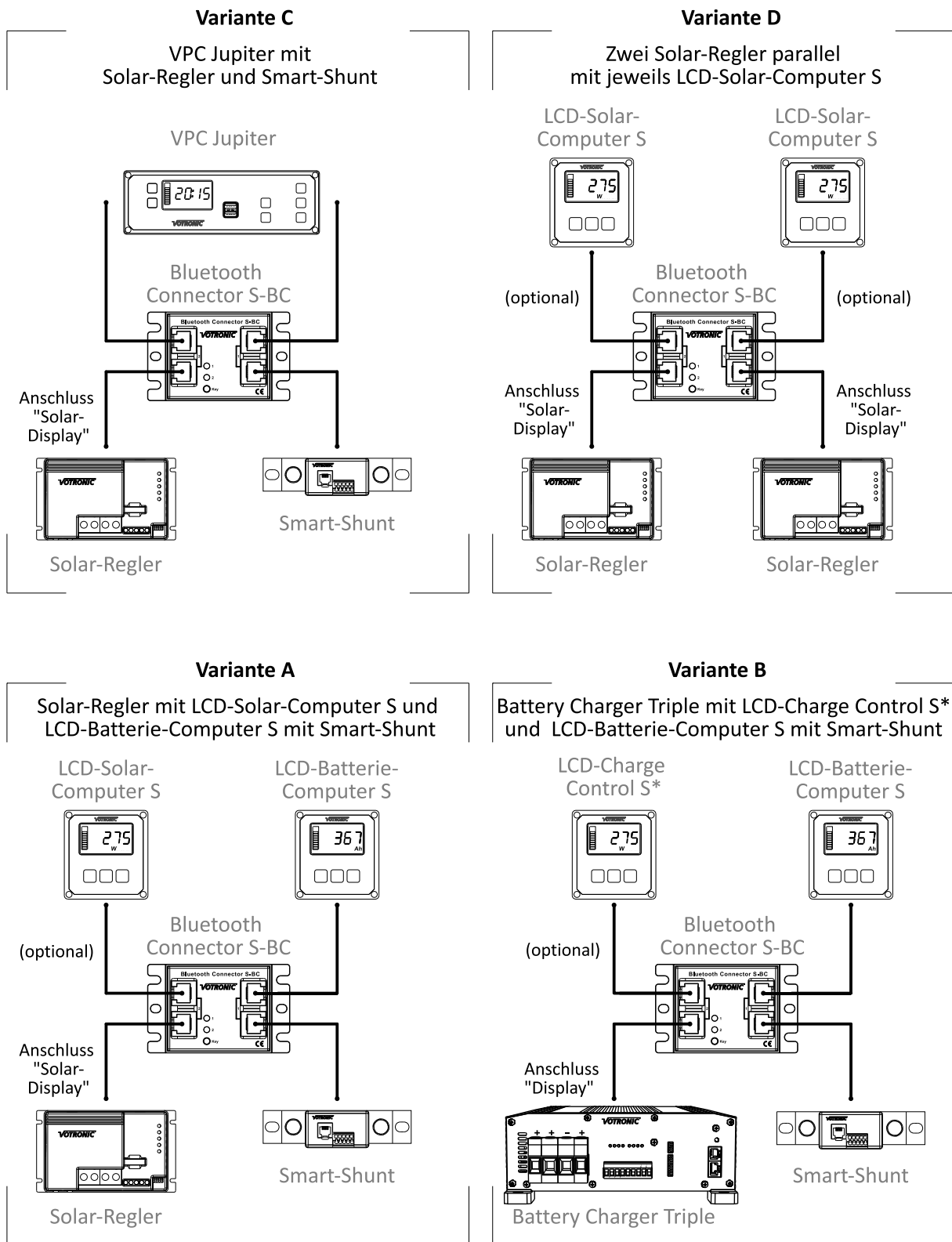
Was only a solar charging control on the Bluetooth Connector S-BC (Port 1) is connected, the Bluetooth Connector S-BC assumes that there is a solar charge controller. In the Votronic Energy Monitor App solar view is displayed accordingly.

### **installation**

The connection of the Bluetooth Connector S-BC is very simple. It is simple, inserted by means of the supplied modular cable, between the Votronic solar charging controller and the LCD solar computer S or between the smart shunt and the LCD battery computer S VPC or Jupiter. In the case of the solar controller, the display unit is optional and not mandatory for the operation of Bluetooth Connectors S-BC.

If only one Votronic device to the Bluetooth Connector S-BC be connected, so this always terminals (right) to the first is connected.

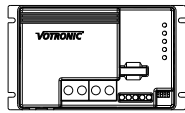
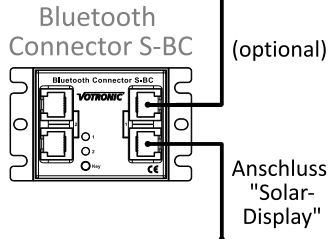
The following are possible connection combinations with the Bluetooth Connector S-BC are listed below:



### Variante E

Solar-Regler mit  
LCD-Solar-Computer S

LCD-Solar-  
Computer S

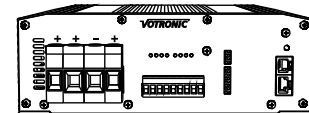
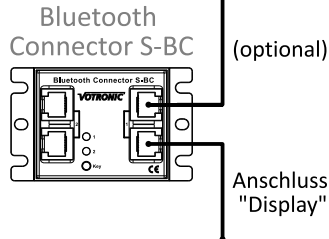
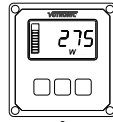


Solar-Regler

### Variante F

VBCS Battery Charger Triple  
mit LCD-Charge Control S\*

LCD-Charge  
Control S\*

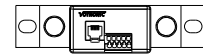
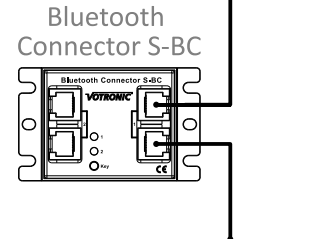
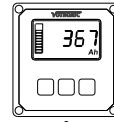


Battery Charger Triple

### Variante G

LCD-Batterie-Computer S  
mit Smart-Shunt

LCD-Batterie-  
Computer S



Smart-Shunt

## service

### safety

For safety reasons, a smartphone / tablet must match the *Votronic Energy Monitor* be coupled to the Bluetooth Connector S-BC app first (bonding), to access the data. Only after the live data and the recorded data (log data) are retrieved as diagrams and displayed. Other devices that are not connected, do not have access to the data. There can be up to ten devices with the Bluetooth Connector S-BC coupled. For every additional coupling the oldest coupling (bonding) is overwritten. There are up to four simultaneous connections on a Bluetooth Connector S-BC possible. In case of loss of the supply voltage (eg battery change) of the Bluetooth Connector loses all recorded data. However, the Bluetooth pairing data is retained.

### Device coupled (bonding)

To pair a smartphone / tablet permanently with the Bluetooth connector, the button must **Key** are once pressed briefly. The two LEDs blink then alternately for about 3 minutes. During this time, the *Votronic Energy Monitor App* on the smartphone / tablet with the Bluetooth Connector couple. To do this in the app dialog *Connect* under *other devices* wherein the corresponding entry in *Couple* typed and the six-digit PIN to be entered (173928). Was the pairing is successful, the interval ends prematurely and the LEDs quit the reciprocal flashing. A short illumination of both LEDs signals a successful coupling. To pair with another device, this process must be repeated.

### Pairing failed




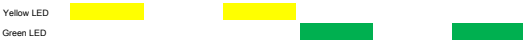
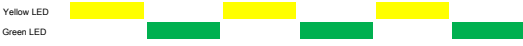
Only in 3 minutes after pressing the button **Key** (LEDs flash can) mutually a smartphone / Tablet with the Bluetooth connector are coupled. Then there is no coupling is possible. Failed coupling experiments to be acknowledged with an LED flashing pattern (see LED blinking pattern).

### Delete all pairings

To all manufactured couplings with all smartphones / tablets to delete, the key must **Key** be kept pressed for 3 seconds. A successful deletion is acknowledged by LED blink patterns (see LED blinking pattern).

### LED flashing pattern

A simple brief flash of the LEDs indicates the communication taking place in the respective input.

action	Blink pattern	reps
device connected		2x
device coupled		1x
Pairing failed		3x
All couplings deleted		5x
Device in pairing mode		Max. 3 min.



### **Safety Regulations and Appropriate Application:**

The Bluetooth Connector S-BC has been designed according to the valid safety regulations.

The Votronic Bluetooth Connector S-BC serving as an interface between the solar control, battery computer and phone or tablet. With the associated app, the state of the on-board batteries and photovoltaic system can in mobile homes, caravans, boats, special and emergency vehicles displayed on a smartphone, are graphically displayed and evaluated.

Use may only be made:

**1. In perfect condition.**

**Second In a well-ventilated room, protected against rain, moisture, dust and aggressive**

Battery gases as well as in non-condensing environments.

- The device must never be used in places where there is danger of gas or dust explosion!
- Do not operate in the open.
- Route cable so that damage is excluded. Pay attention to a good fixing.
- Data lines not with 230 V mains leads into the same cable channel (empty pipe).
- Live cables or leads periodically for insulation faults, points of break or loosened connections. Possible defects rectified immediately.
- In electric welding or work on the electrical system, the device must be disconnected from all connections.
- If is not clear to the user of the present description which characteristics apply to the unit or the regulations must be observed, must be an expert consulted.
- Compliance with building and safety rules is subject to the user / buyer.
- Keep children away from the device.
- The unit does not contain user serviceable parts.
- Negligence could result in injury or material damage.
- The warranty period is 36 months from the date of purchase (upon presentation of the sales slip or invoice).
- For non-functional utilization of the unit in operation with the technical specifications, improper operation or external intervention void the warranty. We accept no liability for any resulting damage. The exclusion of liability extends to any service Services provided by third parties and were not engaged in writing. Service effected exclusively by VOTRONIC, D-36341 Lauterbach.

notes

## General information:

### Troubleshooting:

If no connection to the smartphone / tablet can be established:

- Make sure that Bluetooth is activated on the phone / tablet.
- Make sure the Bluetooth Connector S-BC to connect to the solar controller and / or smart shunt, has by watching the LEDs on the device. These must flash at least every 5 seconds, thus signaling the reception of data.
- Check the operating voltage (battery) of solar controller and / or smart shunt.

### Technical specifications

Nominal voltage (supplied from connected devices)	12 V / 24 V operating voltage
range	8 ... 32 V
Power consumption in standby, typically	0.3 mA
Current consumption with active app, typical	4 mA
Environmental conditions, Humidity	Max. 95% RH, non-condensing
Dimensions	75 x 47 x 24 mm
Weight	approx 37 g
Approvals	CE

<b>Scope of delivery:</b> Bluetooth Connector S-BC manual 2 St. control line 6-pin 1 m long	<b>Available accessories:</b> Control line extension 5 m long No. 2005
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#### Declaration of Conformity:



In accordance with the provisions of Directives 2014/35 / EU 2014/30 / EU 2009/19 / EC this product complies with the following standards or normative documents: EN55014-1; EN55022 B; EN61000-6-1; EN61000-4-2; EN61000-4-3; EN61000-4-4; EN62368-1; EN50498.



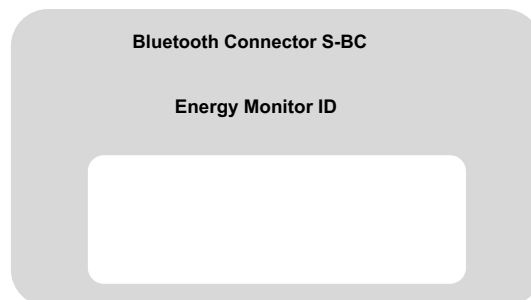
The product must not be disposed of with household waste.



The product is RoHS compliant. It conforms with the Directive 2011/65 / EC on the restriction of hazardous substances in electrical and electronic equipment.

**Qualitäts-Management**

produziert nach  
**DIN EN ISO 9001**



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