

VOTRONIC

Installation and operating instructions

LED Remote Control S

No. 2076

Remote display and remote control, suitable for VOTRONIC charging converters, chargers etc. with 6-pin push-in connector socket labelled '**Display**'.

These include charging converters, for example, **without** galvanic insulation VCC 1212–20 C/30/50/70/90 and others.

Note: For devices with the 'Remote Control' connector socket, the remote control will not function properly, but there will be no damage to the devices.



Please read these assembly and operating instructions in full, in particular page 3 'Safety guidelines and intended use', before you start with the connection and commissioning.

The remote control allows VOTRONIC devices to be conveniently controlled remotely, e.g. charging converters, if they are installed in a hard-to-reach location.

The dimensions of the device fit seamlessly into the VOTRONIC modular system. These include fuel gauge units (fresh and waste water and faecal matter), the LCD series (battery computer, voltmeter and thermometer) as well as switch and fuse panels.



Installation and connection:

The remote control should be installed so that it is as easy to operate as possible and also has a good view. The installation location should be selected in such a way that the contrast of the display is fully apparent (sunlight). The installation depth is max. 16 mm, so that the electronics are within the wall thickness of the furniture.

The cut-out opening on the back should be covered with an electrically non-conductive material in order to effectively protect the electronic components and keep any storage space behind it fully usable. The clearance width of the cut-out should be at least 65 x 35 mm to ensure secure alignment of the front of the device.

The supplied connection cable is plugged in before the remote control and device are finally installed.

After being installed, if any short-circuits of the electronics with other cables and vehicle ground are ruled out, the cable on the device can be plugged into the appropriate connection socket '**Display**'.

The cable can be extended by a further 5 m with the ready-to-plug control cable item no. 2005.

LED indicators and how the button works using a charging converter as an example:

Note: The list represents most functions, but there may be deviations for individual device types.

'Batt. Full' (battery(s) fully charged):

- Illuminated: Battery 100% charged, charge retention U2, ready.
- Flashing: Main charging process works in the U1 charging phase, 75% charge status display (lead), approx. 90% (LiFePO4) (flashing quickly) gradually increasing to 100% (flashing slowly).
- Off: Main charging process is still in I-phase.

'Main' (main charge of the battery):

- Illuminated: Main charging process works in the I or U1 charging phase.
- Off: Charge retention U2, ready.
- Flashing:
 1. Battery temperature sensor is not connected to the LiFePO4 charging program!
 2. External battery overvoltage, automatic reset when the voltage drops to normal.

'Current' (charging current):

- Lights **brighter or darker** according to the **output charging current**.

'Batt. I' (ON-BOARD battery):

- Illuminated: The on-board battery is monitored and charged during operation.
- Goes out briefly every 2 sec: Only with LiFePO4: Battery temperature below 0 °C, the charging current can be reduced in all charging modes to protect the battery, meaning longer charging time when the battery is depleted.
- Flashing: Battery protection: Battery over-temperature > 50°C (depending on type), switchover to low safety charging voltage and half max. charging current, automatic return 2 °C lower.

'Batt. II' (START battery):

- Illuminated: When in operation, display for the starter battery.
- Flashing: The voltage of the starter battery is too low or too high.
- Flashes briefly every 2 sec.: In standby mode and when the on-board battery is charged externally (e.g. mains charger), the auxiliary charging branch for the starter battery is active in order to keep it ready to be started.

'Power' (operation):

- Illuminated: The device has been activated and is ready for operation.
- Goes out briefly every 2 sec: Capacity control reduced output power by more than 30%.
- Flashing: Internal device error (overheating or similar), automatic reset after cooling.
- Off: Charging converter in idle mode.

'Limit' (power limitation):

- Illuminated: The device operates with reduced charging power.
- Off: The device operates at full charging power.

Button:

- Short press: Switches the remote control ON / OFF.
- Long press (3 sec): 'Limit' switches between reduced and full charging power.



Safety guidelines and intended use:

The remote display and operation were performed on the basis of the valid Safety Guidelines.

The device may only be used:

1. Together with a 6-pin VOTRONIC device. 'Display' connection socket.
2. In perfect technical condition.
3. In a well-ventilated area, protected from rain, moisture, dust and aggressive battery gases as well as in a non-condensing environment.
4. With an insulating back cover for the display unit.
5. If the driver and other road users are not distracted by this.
 - The device must never be used in places where there is a risk of a gas or dust explosion!
 - Do not operate the device in the open air.
 - Lay cables so as to prevent damage. Make sure they are well fastened.
 - Do not lay the 12 V (24 V) cable together with the 230 V mains cables in the same cable channel (empty pipe).
 - During electrical welding and work on the electrical system, the device must be disconnected from all connections.
 - If it is not clear for the user from this description which characteristic values apply to the device or which regulations must be observed, a specialist must be consulted.
 - The user/buyer is responsible for complying with all types of construction and safety regulations.
 - The device contains no parts that can be replaced by the user.
 - Non-observance may result in personal injury and material damage.
 - Do not use solvents or harsh household cleaners to clean the display!
 - The manufacturer's warranty is 60 months from the date of delivery.
 - If the device is not used for its intended purpose, if it is operated outside the technical specifications, if it is operated improperly or if it is operated by a third party, the warranty or manufacturer's warranty becomes void. No liability is assumed for damages resulting from this. The exclusion of liability extends to any services carried out by third parties that were not ordered by us in writing. Services provided exclusively by VOTRONIC Elektronik-Systeme GmbH, Lauterbach.

Technical Data:

Operating Voltage: 12 V DC (of the charging converter)
Dimensions: 85 x 47 mm
Assembly Dimension: 65 x 35 mm
Built-in Depth: max. 16 mm
Weight: 23 g



Declaration of Conformity:

In accordance with the provisions of the statutory requirements and the relevant directives, Electrical Equipment (Safety) Regulations 2016, Electromagnetic Compatibility Regulations 2016, The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 this product complies with the following standards or normative documents:
BS EN55014-1; BS EN61000-6-1; BS EN61000-4-2; BS EN61000-4-3; BS EN61000-4-4; BS EN62368-1; BS EN50498, BS EN IEC 63000.



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; EN61000-6-1; EN61000-4-2; EN61000-4-3; EN61000-4-4; EN62368-1; EN50498.



The product must not be disposed of in the household waste.



The product is RoHS compliant. It complies with the directive 2015/863/EU for Reduction of Hazardous Substances in electrical and electronic equipment.



Recycling:

At the end of its useful life, you can send us this device for professional disposal:
You can find more information about this on our website at www.votronic.de/recycling

Delivery Scope:

- 1 LED Remote Control S
- 1 Control Cable, Length: 5 m
- 4 Fastening Screws
- 1 Drilling Jig
- 1 Installation and operating instructions

Available Accessories:

- Extension Control Cable, Length: 5 m Order No. 2005

Subject to misprints, errors and technical modification without notice.

All rights reserved, particularly the right of reproduction. Copyright © VOTRONIC 09/2024

Made in Germany by VOTRONIC Elektronik-Systeme GmbH, Johann-Friedrich-Diehm-Str. 2, 36341 Lauterbach/GERMANY

Phone: +49 (0)6641/91173-0 Fax: +49 (0)6641/91173-10 E-mail: info@votronic.de Internet: www.votronic.de