tbs electronics

Universal Remote Control (TBSLink) for

Powersine PS1000-3500W inverter series
Omnicharge OC20-90A charger series
Powersine Combi PSC1600-3500W combi series

EN

Owner's manual

Thank you for purchasing the TBS Electronics Universal Remote Control.
Please read this owner's manual for information about using the product correctly and safely.
Keep this owner's manual close to the device for future reference.

TBS ELECTRONICS BV
De Marowijne 3, 1689AR, Zwaag, The Netherlands

http://www.tbs-electronics.com

1. Introduction

Thank you for purchasing the TBS Electronics Universal Remote Control (URC) for controlling the following TBS devices :

- Powersine PS1000-1800 inverter series
- Omnicharge OC20-60 battery charger series
- Powersine Combi PSC1600-1800 inverter/charger combi series

The URC features an advanced graphical display and a smart user interface for easy operation. Using the URC you can readout all available parameters of the connected TBS device and remotely turn this product on and off. The communication between the URC and the TBS device is made using the rugged industrial TBSLink protocol which supports wirelengths of up to 50 meters. A TBSLink connection accepts simple CAT5 Ethernet patch cables (straight wired).

To get optimal performance and safe operation from your URC and TBS device, it must be installed and used properly. Please read this manual very carefully, especially the warning and caution statements, before installing and using the URC.

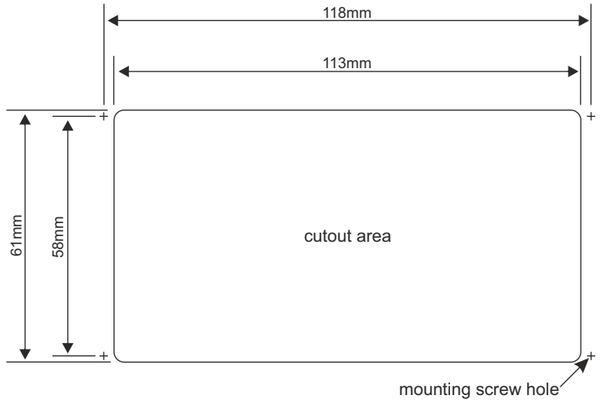
2. Installation

CAUTION Never connect a TBSLink connector to other network types like ethernet, or to the e-xpert series quick connection kit!

WARNING Before removing the connection compartment panel of your device, make sure to disconnect the battery and unplug all AC sources first. Then leave the power switch in position "I" for at least 10 seconds.

The URC must be mounted in a dry location where it is not exposed to direct sunlight. The ambient air temperature of this location should be between -10°C and +50°C (humidity < 95% non condensing).

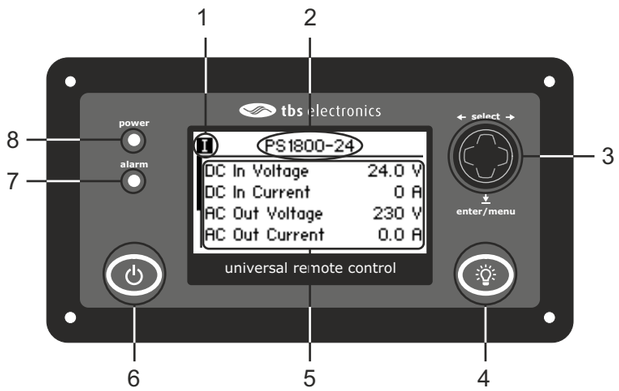
Never put excessive pressing force on the display window area, since this could permanently damage the display. For panel mounting the URC, the following measurements must be taken into account :



Please follow the installation instructions of your TBS device to connect the URC correctly. The URC must be connected inside the connection compartment of a TBS inverter or combi, while it can be connected externally (bottom panel) to a TBS battery charger.

3. URC Display and control overview

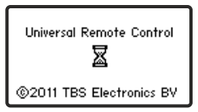
Now that the URC is connected to the TBS device, you can turn it on which will automatically activate the remote panel as well. Before going into specific details, the image below shows the display and control overview of the URC :



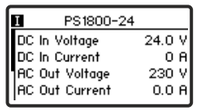
1. TBS device mode indicator. With an inverter connected, symbol I indicates inverter on in normal mode. Symbol II indicates inverter on in ASB mode. With a charger connected, symbol I indicates charger on in normal mode. Symbol II indicates charger on in forced float mode. With a combi connected, symbol I indicates combi on in normal mode. Symbol II indicates combi on in charger only mode.
2. TBS device type indicator. Automatically shows which inverter, charger or combi model is connected to the URC.
3. Intelligent rotary controller knob. Three way control knob which can be used to select values, browse through lists and change numeric values.
4. Backlight button. Activates or deactivates the backlight of the LCD
5. LCD parameter field. In normal operating conditions, this field indicates all available parameters and it's corresponding values. When this list has more than four rows, you can use the rotary controller to browse through this list.
6. Power button. This button activates the power options menu, or directly turns off the TBS device when pressed for 3 seconds.
7. Alarm indicator LED. Flashes red when a TBS device error has occurred. The corresponding error type will be showed on the display.
8. Power indicator LED. Lits green when the TBS device and remote panel are on.

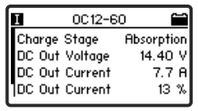
4. General URC functionality

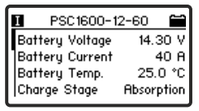
As explained above, when the TBS device is switched on using it's main power switch, the URC will start up as well showing a green power LED and the following startup screen for a few seconds :



This screen will be followed by the normal operating display mode where all available parameters of the inverter, charger or combi will be showed :



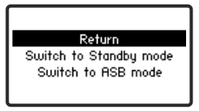


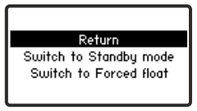


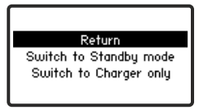
You can browse through the list of available parameters by turning the rotary controller knob (3) clockwise or counter clockwise. When the ambient light conditions are poor, the backlight button (4) can be pressed to activate the display backlight. Use the same button to deactivate the backlight again.

When the TBS device shuts down automatically caused by tripping an error mode, the alarm LED (7) starts flashing and the display will show the corresponding error type. This error message will automatically disappear again when the error has been solved.

To turn off the TBS device or to put it into a different operating mode, you can press the power button (6) once. This will show the inverter, charger or combi power options menu :







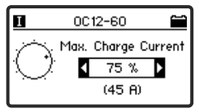
By turning the rotary controller knob you can choose your preferred option. This option can be executed by pushing the rotary controller knob, or pressing the power button. Option "Return" will escape from this screen and jumps to the normal operating screen again. Changing to a different TBS device operating mode, will also change the mode indicator (1) from I to II or vice versa. If an inverter was already running in ASB mode before entering the power options menu, the "Switch to ASB mode" option is replaced by "Switch to normal mode". If a charger was already running in Forced float mode before entering the power options menu, the "Switch to Forced float mode" option is replaced by "Switch to normal mode". If a combi was already running in Charger only mode before entering the power options menu, the "Switch to Charger only" option is replaced by "Switch to normal mode".

The choice of operating mode on the URC will always override the position of the main power switch on the inverter. You can also switch directly to TBS device standby mode in the normal operating screen by pressing the power button (6) for three seconds. The TBS device and URC can be activated again by pressing the power button (6) once.

Note : In standby or sleep mode, the device still draws a very small current from the battery in order to be able to detect a power button press on the remote panel. When you are leaving the device off for an extended amount of time, it is advised to turn off the device using the local main power switch. This way the device will draw zero current from the batteries.

5. Charger only URC functionality

When the URC is connected to a battery charger, it is possible to dynamically reduce the Maximum Charging Current (MCC). This feature is ideal in situations where the user wishes to temporarily reduce the chargers AC power consumption, for example when limited AC source power is available. To activate the MCC menu, press the rotary controller knob (3) once which will show the following screen :

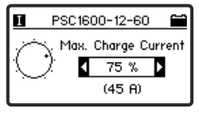


Now it's possible to turn the rotary controller knob (3) clockwise or counter clockwise to adjust to the preferred charge current level. The charge current level is represented as percentage of maximum rated charge current, and in actual Amps (between brackets). The minimum MCC level is 10%. When the desired MCC level is selected, press the rotary controller knob (3) once to jump back to the normal operating display mode. The MCC level will be stored in internal memory and remains the setpoint until it is changed again using the MCC menu.

In the top-right area of the display, you can see a small battery icon which represents the charging state of the battery. This state is directly linked to the charge status bar on the battery charger itself.

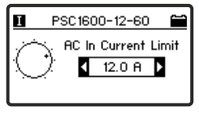
6. Combi only URC functionality

When the URC is connected to a combi device, it is possible to dynamically reduce the Maximum Charging Current (MCC) and set the AC input current limit level. Reducing the MCC is ideal in situations where the user wishes to temporarily reduce the chargers AC power consumption, for example when limited AC source power is available. To activate the MCC menu, press the rotary controller knob (3) once which will show the following screen :



By turning the rotary controller knob (3), the preferred charge current can be set in percentage of maximum rated charge current, or just in Amps.

When the rotary controller knob (3) is pressed once again, the AC In Current Limit level screen appears :



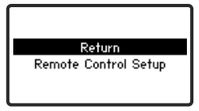
By turning the rotary controller knob (3), the preferred AC input current limit level can be set in Amps. When this input current level is exceeded, the combi immediately reduces the charge current automatically in order to keep the AC input current below this predefined level. When this input current level remains being exceeded, even when the charge current has been reduced to zero, the Power Boost feature will be activated (see Powersine Combi combi manual for further information).

When the desired AC In Current Limit level is selected, press the rotary controller knob (3) once to jump back to the normal operating display mode. The MCC and AC In Current Limit levels will be stored in internal memory and remains the setpoint until it is changed again using this menu.

In the top-right area of the display, you can see a small battery icon which represents the charging state of the battery. This state is directly linked to the charge status bar on the battery charger itself.

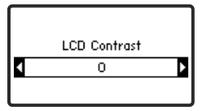
7. URC setup

When the rotary controller knob (3) is pressed for three seconds, the following screen will appear :



By turning the rotary controller you can select the "Remote Control Setup" option and press the rotary controller once. The following screen with URC properties will appear :

Now you can select the property that you wish to change, by turning and pressing the rotary controller accordingly. A screen will appear that allows you to change the property value by turning rotary controller again. The image below shows the display contrast property as an example :



The desired value can be stored by pressing the rotary controller for three seconds. This way of saving a property value change, would result in jumping back to the normal operating display mode again. When you wish to change more than one property, press the rotary controller once and you will jump back to the URC properties list again were you can select the next property to change. When all desired URC properties are changed, select and press "Return" in the URC property list screen which will save all changed values and jump back to the normal operating display mode. If no buttons are touched for 90 seconds when operating in a setup screen, the URC will automatically jump back to the normal operating display again without saving any changed property values.

8. Technical specifications

Parameter	Universal Remote Control (TBSLink)
Databus type	TBSLink point to point
Connection cable type	UTP straight wired patch cable RJ45(8)-RJ45(8)
Nominal operating voltages	12VDC or 24VDC
Power consumption [BL on]	12mA [47mA]
Operating temperature range	-10C to +50 C
Storage temperature range	-20C to +65 C
Enclosure body size (lxhxw)	130 x 70 x 36 mm
Needed panel cutout (lxh)	113 x 61mm
Maximum mounting depth	30 mm
Protection class	IP30
Total weight	140 grams
Housing material	ABS

Note: the given specifications are subject to change without notice.

URC Manual Rev4e / Printed in The Netherlands