

xantrex

Smart choice for power™

Owner's Guide

Thank you for purchasing the LinkLITE [high precision battery monitor](#).

Important

Misusing or incorrectly connecting the LinkLITE may damage the equipment. Read and keep this Owner's Guide and the enclosed Installation Guide.

WARNING: Fire hazard

Do not operate this product unless it has been installed by a qualified installer, in accordance with applicable codes and the Installation Guide.

WARNING

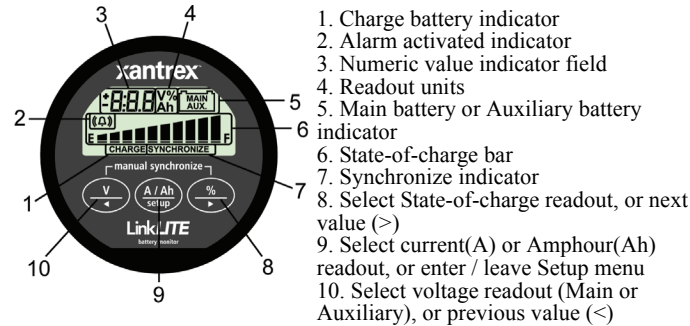
Do not use LinkLITE in connection with life support systems, medical equipment, or where human life or medical property may be at stake.

FCC Information

This Class B digital apparatus complies with Canadian ICES-003 and Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. NOTE: The Class B limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

LinkLITE Display and Control Overview

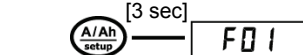


Synchronisation

In order to keep your LinkLITE battery monitor delivering accurate status information about your battery, it is important to regularly synchronize your battery monitor with your battery. As explained in the quick start guide, a synchronisation step is also needed before you can actually use your battery monitor. During operation, the battery monitor automatically indicates when a synchronisation is required, by displaying the message SYNCHRONIZE. A synchronisation step means nothing more than performing a complete charge cycle on your battery. A charge cycle will be considered complete when both Auto-sync parameters F02 and F03 are met during at least 4 minutes. This typically means : when the battery charger switches to float mode. By meeting these conditions, the battery is considered full, which will be indicated by a flashing FULL message on the display. Besides this, the State-of-charge readout will be set to 100% and the Amphour readout reset to 0Ah. The FULL message will disappear when a key is pressed, or automatically, when the battery starts discharging again. Performing synchronisations regularly is also important to keep your battery healthy and to increase it's lifetime. You will notice that if you are often performing full charge cycles yourselves, the battery monitor will most likely not display the SYNCHRONIZE message, since the battery is already kept in good sync with the battery monitor. Besides automatic synchronisations based on meeting the Auto-Sync Functions, you can also manually synchronize the battery monitor with your battery when you are sure your battery is fully charged. This can be accomplished by pressing both < and > keys simultaneously for three seconds. After these three seconds, the flashing FULL message appears on the the display just like when it is automatically synchronized.

Setup menu

Using the Setup menu, your battery monitor can be adjusted to fit into your system. A number of parameters, called Functions, can be set according to your needs. This menu can be accessed by the following sequence :



When the Setup menu is entered, you can use the < and > keys to browse through the different Functions. By pressing the SETUP key, the selected Function value can be viewed. The < and > keys can now be used to change this value. Pressing the SETUP key again, will then step back to the Setup menu. From any menu position, the Normal Operating Mode can be accessed again by pressing the SETUP key for 3 seconds. This will also save any Function value changes to internal memory. When no keys are pressed for 90 seconds while operating in the Setup menu, the battery monitor will automatically return to the Normal Operating Mode again without saving any Function value changes. The factory settings are based on a 12V battery system with a capacity of 200Ah. For 12V systems, generally only Function F01 has to be checked for correct operation of your battery monitor. When your battery capacity is other than 200Ah, Function F01 has to be changed to a value that is equal to your battery capacity. All other Functions can be left unchanged if you are uncertain about adjusting these values yourselves.

When your battery system is 24V, besides checking battery capacity Function F01 for the correct value, you should also change the values of F02 and F05. Default 24V system values for F02 and F05 are respectively 26.4V and 21.0V. The following Functions are available :

F01	Battery capacity. Your Main battery's capacity in Amphours (Ah). Default: 200Ah Range: 20 – 999Ah Step size: 1Ah
F02	Charger's float voltage (Auto-sync parameter). This value must be equal to your battery charger's float voltage. which is the last stage of the charging process. In this stage the battery is considered full. Default: 13.2V Range: 8.0V – 33.0V Step size: 0.1V
F03	Charger's float current (Auto-sync parameter). When the charge current is below this percentage of the battery capacity (see Function F01), the battery will be considered as fully charged. Make sure this Function value is always greater than the minimum current at which the charger maintains the battery or stops charging. Default: 2.0% Range: 0.5 – 10.0% Step size: 0.1%
F04	Low battery alarm On (% SOC). When the State-of-charge percentage has fallen below this value, the alarm relay will be activated, the Charge battery indicator starts flashing and the State-of-charge bar is empty. Default: 50% Range: 0 – 99% Step size: 1%
F05	Low battery alarm On (Volts). When the battery voltage has fallen below this value, the alarm relay will be activated. Default: 10.5V Range: 8.0 – 33.0V Step size: 0.1V
F06	Low battery alarm Off (% SOC). When the State-of-charge percentage has risen above this value and the alarm relay was activated, the alarm relay will deactivate again. When "FULL" is selected, the alarm relay is deactivated when the Auto-sync parameters are met. Default: 80% Range: 1 – 100% /FULL Step size: 1%
F07	Peukert's exponent. The Peukert's exponent represents the effect of reducing battery capacity at higher discharge rates. When the Peukert value of your battery is unknown, it is recommended to keep this value at 1.25. A value of 1.00 disables the Peukert compensation. Default: 1.25 Range: 1.00 – 1.50 Step size: 0.01
F08	Shunt Amp Rating. This Function represents the Amp rating of your shunt at 50mV. Included with your battery monitor is a 500Amp/50mV shunt, meaning that at 500A flowing through the shunt, a voltage of 50mV is generated across the small 'Kelvin' screw terminals of the shunt. This voltage will be used by the battery monitor to measure the amount of current. Default: 500A Range: 10 – 900A Step size: variable
F09	Backlight mode. Represents the duration of backlight activation in seconds after key-press. The backlight can also be set to be always "ON" or always "OFF". Function setting "AU", activates the backlight automatically when charge / discharge current exceeds 1Amp or when a key is pressed. Default: 30sec Range: OFF / 5 – 300sec Step size: variable / ON / AU
F10	Alarm contact polarity. Enables selection between a normally open (NO) or normally closed (NC) contact. Default: NO Range: NO / NC
F11	Reserved Default: x Range: x
F12	Firmware version. Displays the firmware version of the battery monitor (read only). Default: x.xx

The last two Functions are called Reset Functions. By pressing the SETUP key the selected Reset Function can be viewed. The default value for all Reset Functions is "OFF". To actually reset the selected Function, use the < and > keys to change the value from "OFF" to "ON". Pressing the SETUP key again, will step back to the Setup menu. All reset items set to "ON" will only be reset once

the Normal Operating Mode is accessed again by pressing the SETUP key for 3 seconds. The following Reset Functions are available :

r.b	Reset Battery status. Use this reset item to reset your current battery status, for example after you have installed a fresh battery of the same specifications as the previous one.
r.F	Reset Functions. This reset item can be used to reset all Function values to factory default values.

Specifications

Parameter	LinkLITE
Supply voltage range	9 – 35VDC
Supply current ^a @Vin=24VDC	7mA
@Vin=12VDC	9mA
Input voltage range (auxiliary battery)	2 – 35VDC
Input voltage range (main battery)	0 – 35VDC
Input current range ^b	-999 – +999A
Battery capacity range	20 – 999Ah
Operating temperature range	-20 – +50°C
Readout resolution:	voltage (0 – 35V) ±0.1V
current (0 – 99A)	±0.1A
current (100 – 999A)	±1A
amphours (0 – 99Ah)	±0.1Ah
amphours (100 – 999Ah)	±1Ah
state-of-charge (0 – 100%)	±1%
Voltage measurement accuracy	±0.3%
Current measurement accuracy	±0.4%
Dimensions:	frontpanel ø 64mm (2.54")
body diameter	ø 52mm (2.05")
total depth	ø 79mm (3.11")
weight	95grams (0.21 lbs")
Shunt dimensions:	footprint 45 x 87mm (1.77"x3.43")
(M8 screws)	height 17mm (0.67") (base) / 35mm (1.38")
weight	145grams (0.32lbs)
Protection class	IP20 (frontpanel only IP 65)
Connection Kit	# 854-2021-01 (15m, 50 ft)

a. Measured with backlight and alarm relay turned off

b. Depends on selected shunt. With standard delivered 500A/50mV shunt (350A continuous), the range is limited to -600 – +600A.

If only the finest quality will do, then look no further than Xantrex products.