SIMARINE Insight on seaside.

SIMARINE PICO⁺ / PICO Battery Monitoring System

Mount type: STANDALONE / PANEL-MOUNT

Congratulations on your purchase of the SIMARINE PICO Smart Battery Monitoring system. PICO is used to monitor DC power sources (e.g. batteries, solar panels, wind turbines), consumers (e.g. refrigerators, lights, equipment), tank levels and temperatures. The information is displayed on a high brightness, sunlight readable 3,5" IPS display with Gorilla® Glass protection and anti-reflective coating to ensure superb visibility.

1 What's in the box

1 x PICO
1 x WARRANTY
1 x QUICK GUIDE
1 x INSTALLATION TEMPLATE
1 x SPLITTER WITH CABLE
1 x DOUBLE SIDED TAPE (Standalone)
4 x M3 THREADED ROD
4 x M3 NUT
2 x BRACKET (Panel-mount)

2 Accessories

SC300 Digital Shunt – SIMARINE High Precision 300A Shunt
SC500 Digital Shunt – SIMARINE High Precision 500A Shunt
SCQ25 Quadro Digital Shunt Module – SIMARINE High Precision 4x25A Shunt
SCQ25T Quadro Digital Shunt and Tank Module – SIMARINE High Precision 4x25A Shunt and Tank Module with 7 inputs
ST107 Digital tank module with 7 Inputs

3 Safety

Installation of SIMARINE electronics should be made by electrical specialists with proper safety equipment. When working with batteries you should wear protective clothing and eye protection.
CAUTION: Batteries contain acid, a corrosive, colorless liquid that can harm your eyes, skin and damage clothing. Should the acid come in contact with eyes, skin or clothing, wash it immediately with soap under fresh water for at least 15 minutes, and seek medical support immediately.
CAUTION: Do NOT connect anything to a damaged battery. It could heat up, catch fire or explode.
CAUTION: Lead-acid Batteries can generate explosive gases during operation. Never smoke, allow flames or sparks near the battery. Make sure to keep sufficient ventilation around the battery.
CAUTION: When working with a battery remove all personal metal items like watches, rings, necklaces and bracelets. Metal items in contact with the battery terminals might cause a short circuit with a very high electric current, which may heat up and melt nearby objects and cause severe burns.

4 Declaration of conformity

CE

MANUFACTURER: SIMARINE d.o.o.
ADDRESS: Ulica skofa Maksimilijana Drzecnika 6, SI-2000 Maribor, Slovenia, EU
Declares that the following product:
PRODUCT TYPE: PICO
Conforms to the requirements of the following Directives of the European Union:
EMC Directive 2014/30EU, RoHS Directive 2002/95/EC
The above product is in conformity with the following harmonized standards:
EN61000-6-3: 2001 EMC - Generic Emissions Standard, EN61000-6-2: 2005 EMC - Generic Immunity Standard

5 Installation

5.1 PICO mounting

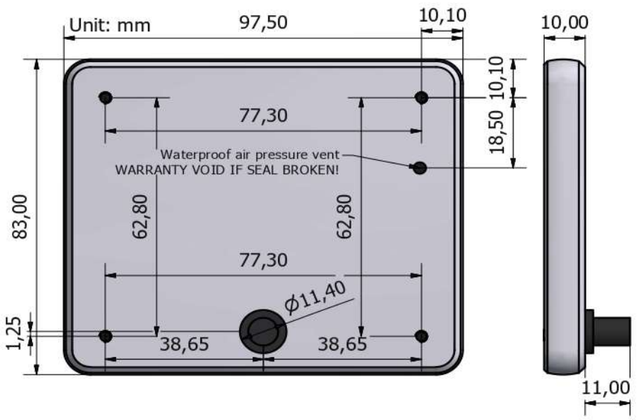
SIMARINE PICO should be installed in a visible place to provide good readability. **Please note that ONLY the PICO display unit is water and dust resistant!** Any other modules including splitter should not be exposed to humidity or liquids in any case. The mounting process and installation cutouts depend on the model, as described in following sections.

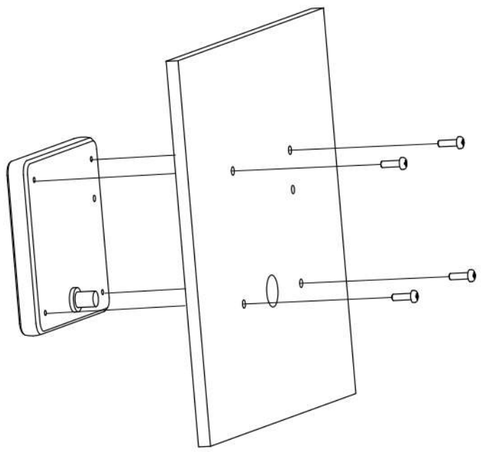
5.2 PICO STANDALONE

PICO Standalone version has dimensions of 98 x 84 x 10mm and needs NO installation cutout. The mounting process requires drilling of 5 (PICO) or 6 (PICO⁺) mounting holes and access to the rear of the mounting surface. In case you have NO rear access, you can bond it using supplied double sided tape.

Step to be taken for proper mounting:

1. Before the drilling, check if there is enough space to mount your PICO.
2. Mark mounting holes using the supplied installation template.
3. Drill all holes.
4. Connect the connector on the back side of PICO to the splitter cable (be sure to align the pins correctly) and fasten it by turning the safety ring clockwise.
5. Finish mounting PICO from the back side with the supplied threaded rod and nuts. **Screws, rods and nuts MUST be screwed by hand. Excessive force may damage the threads on PICO.**



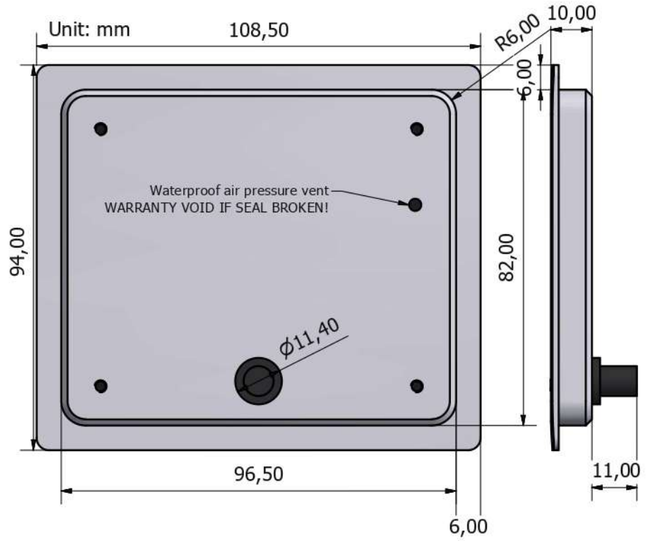


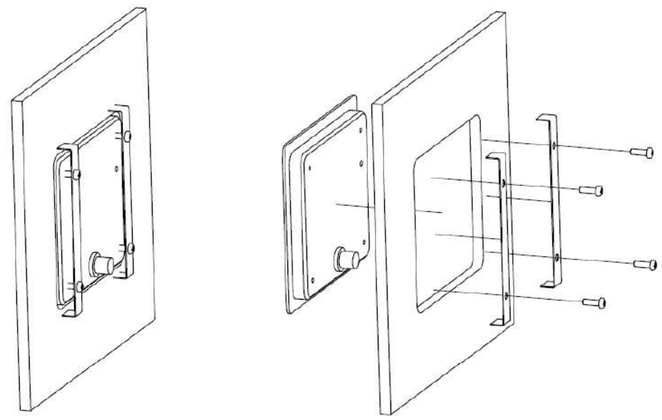
5.3 PICO PANEL-MOUNT

PICO Panel-mount version dimensions are 108.5 x 94 x 10mm. It needs an installation cutout of 98 x 83mm. It can be mounted with supplied threaded rods and brackets or bonded with adhesive if there is no rear access to the mounting surface.

Steps to be taken for proper mounting:

1. Before cutting out, check if there is enough space for your PICO.
2. Mark the cutout line with the supplied installation template.
3. Using a saw, carefully cut out the marked area.
4. Connect the connector on the back side of PICO to the splitter cable (be sure to align the pins correctly) and fasten it by turning the safety ring clockwise.
5. Finish mounting PICO from the back side with the supplied threaded rod and nuts. **Screws, rods and nuts MUST be screwed by hand. Excessive force may damage the threads on PICO.**

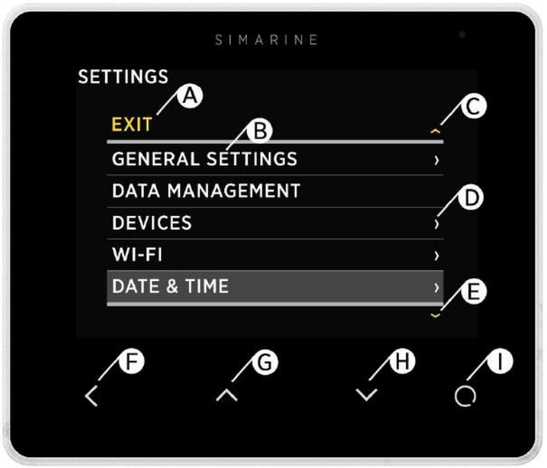




EN

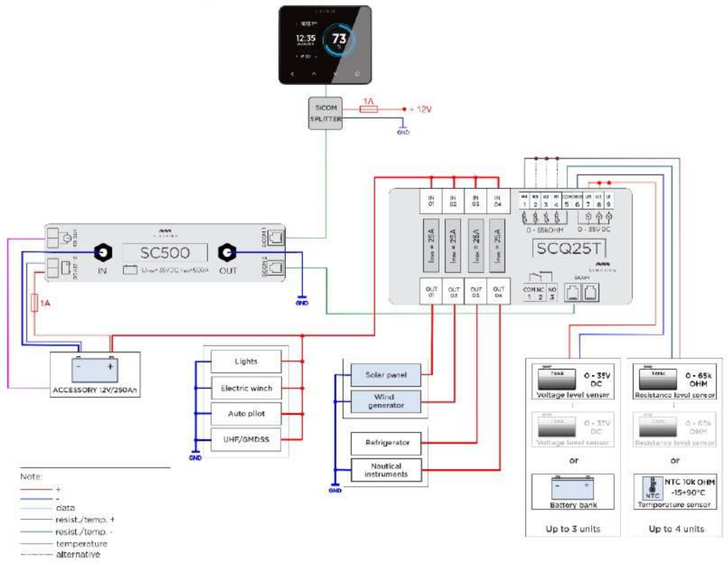
6 PICO display and control overview

Long press ◯ button to enter options menu.



A – Label indicates current position in menu
B – Current selected item
C – Arrow indicates there is at least one more menu item in arrow direction
D – Arrow indicates there is a sub menu
E – Arrow indicates there is at least one more menu item in arrow direction
F – **BACK BUTTON**, is used to navigate back in settings or leave the settings menu.
G – **UP BUTTON** is used to navigate up in menu, changing value or switching screens in live view.
H – **DOWN BUTTON** is used to navigate down in menu, changing value or switching screens in live view.
I – **ENTER BUTTON**, long press activates settings, short press commits changes or enters submenu

7 SC500 and SCQ25T installed on the minus terminal of the battery/battery bank



8 Basic configuration

PICO displays all properly configured batteries. Each correctly configured battery will show up on PICO. You can switch between the battery banks with ▲ or ▼ button. To properly configure a battery on PICO, you need to specify one voltmeter sensor, or one current sensor and other battery parameters which are explained below.
All below described configuration require properly installed appropriate SIMARINE shunt/module. The shunt/module installation is described in the corresponding shunt/module manual.

8.1 Configure a battery using a digital shunt

The following steps are equal for SC300 and SC500 digital shunt. You can configure the battery in following steps.
Long press ◯ button to enter options menu.
Navigate to DEVICES/BATTERIES.
Select “add new battery” and fill in the requested data.

- Name the battery/battery bank accordingly (STARTER, SERVICE, MAIN, etc.)
- Select the battery type (WET STD., WET FREE, AGM, DEEP CYCLE, GEL, ...)
- Fill in the battery capacity for the next C ratings: C/20, C/10 and C/5. If you don’t know all the ratings, fill in just a couple ratings that you know.
  A “C” rating is simply a battery’s capacity (or Ah/amp hour rating) when discharged over a specific period. The “C” rating is usually specified on the battery label.
- Select the voltmeter on the installed SC300/SC500 digital shunt. You can select only voltmeters that are not already used by an existing battery configuration.
- Select the current sensor on the installed SC300/SC500 digital shunt. You can select only current sensors that are not already used by an existing battery configuration.
- Select a temperature sensor if you have one installed.
- Confirm and save the battery configuration with ◯ button.

On PICO’s main screen should be now visible the newly added battery.

8.2 Configure a battery using SCQ25T or ST107 module

The following steps are equal for SCQ25T and ST107 module. It is required to properly install it. The installation is described in the corresponding module manual. After successfully installing the module, you can configure the battery in following steps.
Long press ◯ button to enter options menu.
Navigate to DEVICES/BATTERIES.
Select “add new battery” and fill in the requested data.

- Name the battery/battery bank accordingly (STARTER, SERVICE, MAIN, etc.)
- Select the battery type (WET STD., WET FREE, AGM, DEEP CYCLE, GEL, ...)
- Fill in the battery capacity for the next C ratings: C/20, C/10 and C/5. If you don’t know all the ratings, fill in just one or two ratings that you know.
  A “C” rating is simply a battery’s capacity (or Ah/amp hour rating) when discharged over a specific period. The “C” rating should be described on the battery label.
- Select the voltmeter on the installed module. You can select only voltmeters that are not already used by an existing battery configuration.
- Leave the current sensor empty.
- Select a temperature sensor if you have one installed.
- Confirm and save the battery configuration with ◯ button.

On PICO’s main screen should be now visible the newly added battery.

8.3 Configure a tank using SCQ25T or ST107 module

The following steps are equal for SCQ25T and ST107 module. It is required to properly install your module of choice. The installation is described in the corresponding module manual. After successfully installing the module, you can configure the tank in following steps.
Long press ◯ button to enter options menu.
Navigate to DEVICES/TANKS.
Select “add new tank” and fill in the requested data.

- NAME - Name the tank accordingly (FRESH WATER, WASTE WATER, FUEL 1 etc.)
- TYPE - Select the tank type (WATER, FUEL, WASTE)
- SENSOR TYPE - Select the used sensor type (RESISTANCE or VOLTAGE)
- DEVICE - Select the used sensor from the list.
- CAPACITY – Write the tank full capacity.
- CALIBRATION POINTS – Add calibration points for different tank level. More added calibration points will enable PICO to show a more accurate tank level.
- Confirm and save the tank configuration with ◯ button.

9 Mobile app

PICO can be remotely controlled by your smart phone via WiFi connection. Find your **PICO – Battery Monitor** app in your mobile store by scanning the QR code below or visiting below link for your app store.

GET IT ON Google Play
Download on the App Store

https://play.google.com/store/apps/details?id=net.simarine.pico
https://itunes.apple.com/us/app/pico-battery-monitor/id1217159039