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SIMARINE®



SN01 NMEA 2000 GATEWAY

USERS MANUAL

V1.3

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1. Introduction

NMEA 2000 or NMEA2k/N2K, standardized as IEC 61162-3, is a plug-and-play communications standard used for connecting marine sensors and display units within ships and boats.

Simarine's SN01 SiCOM NMEA 2000 Gateway module allows your PICO to transmit data of the devices connected to the PICO system. It allows transmitting battery status, tank levels and some environmental information.

2. Safety

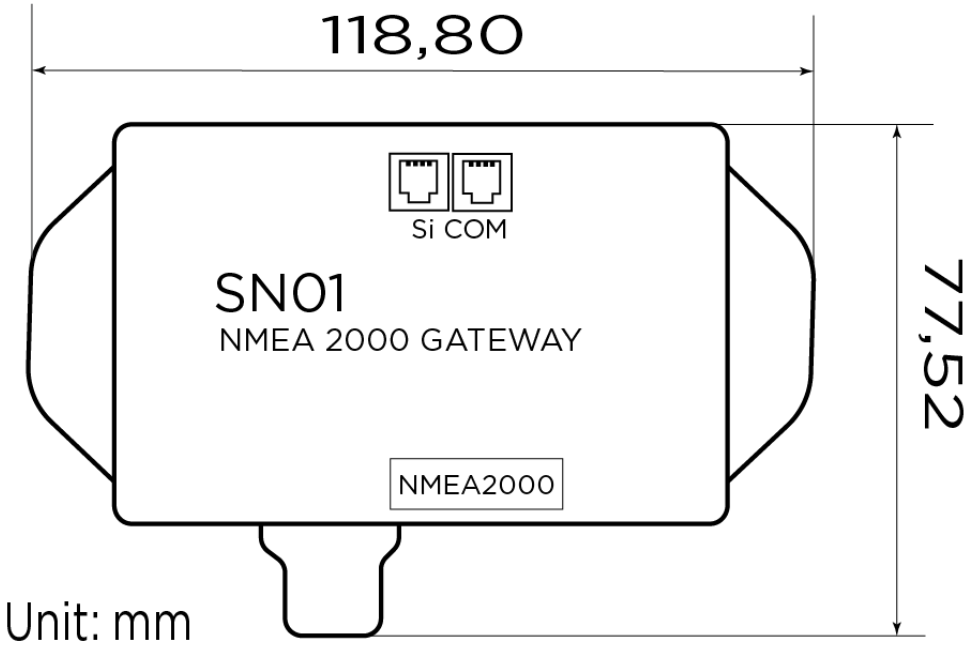
Electrical specialists with proper safety equipment should make installation of Simarine electronics. When working with batteries, you should wear protective clothing and eye protection.

CAUTION: Batteries contain acid, a corrosive, colorless liquid that will burn your eyes, skin, and clothing. Should the acid come in contact with eyes, skin or clothing, wash it immediately under fresh water for at least 15 minutes, and seek medical support immediately.

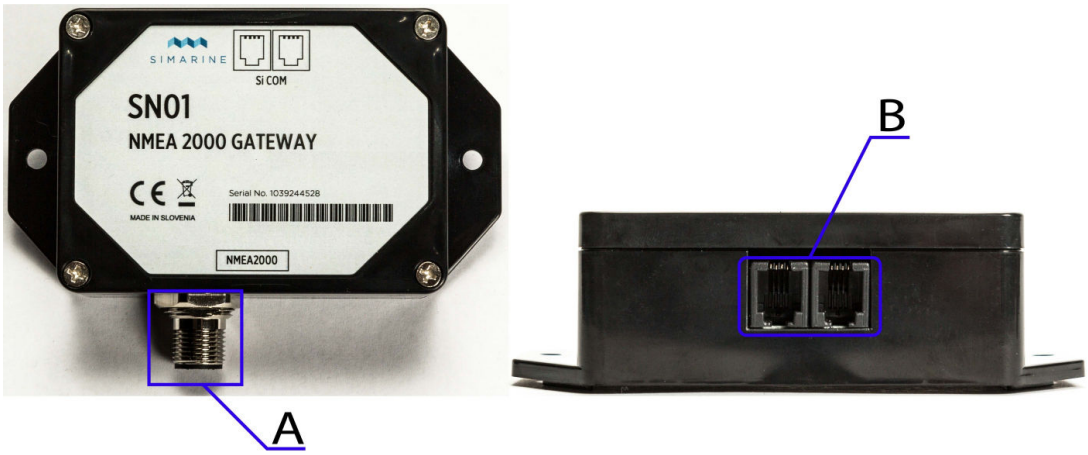
CAUTION: Do NOT connect anything to a damaged battery. It could heat up, catch fire or explode.

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.

3. Schematics



4. Overview



A - 1x NMEA 2000 port
B - 2x SiCOM port

5. List of supported NMEA 2000 PGN

Below is a list of supported NMEA 2000 PGN's. PICO allows transmitting or receiving of certain PGN's according to the table below.

PGN	PGN Name	receiving	transmitting
59904	ISO Request	Yes	No
60928	ISO Address Claim	Yes	Yes
126996	Product Information	No	Yes
127257	Attitude	No	Yes
127502	Switch Bank Control	No	Yes
127505	Fluid Level	No	Yes
127506	DC Detailed Status	No	Yes
127508	Battery Status	No	Yes
130310	Environmental Parameters	No	Yes
130314	Actual Pressure	No	Yes

6. Instalation

6.1 Mounting

CAUTION: install the shunt module in a clean dry place, protected from accidental spilling of liquids.

1. You can mount the module with the supplied screws using two holes on both sides of the module.
2. Connect all cables.

6.2 Cables

For the SiCOM connection use the supplied cable. If not possible, use the following table to determinate the right cable type.

Cable length	Cable type
< 5m	No limitations
>= 5m	2 x 2 x 0.25 mm2 Twister pair (recommended)

Note: Minimum power cable cross-section requirement at maximal temperature of insulation 70 °C (160 °F).

7. Connecting

For proper function of Simarine's SN01 NMEA 2000 gateway module **it is necessary to take the following steps**:

1. Connect SN01 to Simarine PICO via the SICOM port
2. Connect to NMEA 2000 backbone via the marked NMEA 2000 port connector

- PICO manual & other user manuals: https://simarine.net/manuals

8. Technical specifications

SN01 NMEA 2000 Gateway	
Operating	
Voltage range	6 – 35 V
Temperature range	-20 — 70°C (-4 — 158 °F)
Power consumption at 12V	
Operating	0.6 mA
Dimensions	
SN01 NMEA 2000 Gateway	111.80 x 77.52 x 32.11 mm 4.40 x 3.05 x 1.26 in
Connectivity	Up to
NMEA 2000 backbone	1
SICOM port	2