

GPS N2K

Version 1.00



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1 Important Notices

Information in this document is subject to change without notice. LXNAV reserves the right to change or improve their products and to make changes in the content of this material without obligation to notify any person or organization of such changes or improvements.



A Yellow triangle is shown for parts of the manual which should be read very carefully and are important when operating the E500/E700/E900.



Notes with a red triangle describe procedures which are critical and may result in loss of data or any other critical situation.



A bulb icon is shown when a useful hint is provided to the reader.

1.1 Limited Warranty

This GPS N2K product is warranted to be free from defects in materials or workmanship for two years from the date of purchase. Within this period, LXNAV will, at its sole option, repair or replace any components that fail in normal use. Such repairs or replacement will be made at no charge to the customer for parts and labour, provided that the customer pays for shipping costs. This warranty does not cover failures due to abuse, misuse, accident, or unauthorized alterations or repairs.

THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED OR STATUTORY, INCLUDING ANY LIABILITY ARISING UNDER ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, STATUTORY OR OTHERWISE. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, WHICH MAY VARY FROM STATE TO STATE.

IN NO EVENT SHALL LXNAV BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM THE USE, MISUSE, OR INABILITY TO USE THIS PRODUCT OR FROM DEFECTS IN THE PRODUCT.

Some states do not allow the exclusion of incidental or consequential damages, so the above limitations may not apply to you. LXNAV retains the exclusive right to repair or replace the unit or software, or to offer a full refund of the purchase price, at its sole discretion. SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.

To obtain warranty service, contact your local LXNAV dealer or contact LXNAV directly.

1.2 Packing Lists

- N2K GPS unit
- Quick reference manual

2 Technical Data

2.1 General information

LXNAV GPS N2K is a NMEA2000 GPS antenna with a compact diameter of 46mm. The GPS N2K provides current position, course over ground, speed over ground and time to your network. It connects to NMEA2000 backbone with standard M12 circular 5-pin connector.

2.2 General specifications

Parameter	Condition	Min	Typ	Max	Unit
Absolute maximum supply voltage ⁽¹⁾		-36		36	V
Operating supply voltage	Recommended	8	12	28	V
Current consumption	@8V	9	12	15	mA
	@12V	15	20	25	mA
	@24V	20	25	30	mA
Load equivalent number	@8V	1	1	1	LEN
	@12V	1	1	1	LEN
	@24V	1	1	1	LEN
Operating temperature		-20		+65	°C
Storage temperature		-40		+85	°C
Weight		100			g
Housing dimensions L x W x H	Without screw	Ø46x15			mm
	With mounting screw	Ø46x31			
Ingress protection		IP66			
Position accuracy				3	m
Positioning receiver		GPS			
Number of channels		66			
Cold start				35	s
Hot start				1	s

Note1: Voltages outside of this range may permanently damage the device

Table 1: General specifications

2.3 NMEA2000 compatible M12 connector

Unit has 5-pin M12 connector with standard pinout that is compatible with NMEA2000. It is positioned on 50 cm long cable that goes out from the GPS N2K. When installing, follow the recommendations of NMEA2000 network wiring. Always use free Tee connector on existing network. Make sure that connectors are tightened together properly to seal metal contacts inside and prevent oxidation.

Parameter	Description
Compatibility	NMEA2000 compatible
Bit rate	250 kbps
Connection	A coded M12 connector

Table 2: NMEA2000 specifications

3 Product specification



3.1 NMEA2000 M12 connector pinout

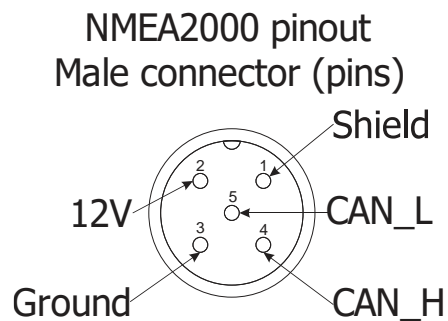
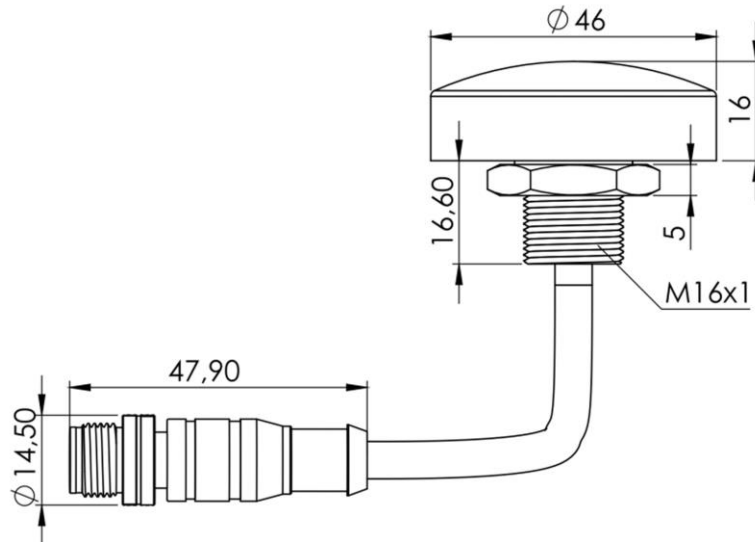


Figure 1: NMEA2000 M12 Male connector pinout (view from unit side)

4 Dimensions



Drawing is not to scale

4.1 Mounting recommendations

Housing has flat bottom with soft waterproof foam seal and should be mounted on solid surface with clear view to the sky. With that we achieve best possible accuracy in position sensing. Avoid any strong RF transmitting devices (antennas) to minimize interferences. Unit is fixed through mounting hole with diameter of 16 mm and M16 nut on opposite side of GPS N2K. Fasten the unit well to remove any air gaps between unit and mounting surface.



Avoid areas where the GPS N2K can be exposed to unintentional impact. To avoid possible personal injury, always wear safety equipment when installing, drilling or cutting.

5 Connecting the GPS N2K

5.1 Connecting to the NMEA2000 network

NMEA2000 Network installation on the boat is mandatory to use the GPSN2K.

Connect the GPS N2K Antenna to your existing NMEA2000 network.
If necessary, use a N2K drop cable to extend the length between the GPSN2K to your NMEA2000 backbone.

Connect the NMEA2000 cable to the backbone with T-type connectors.

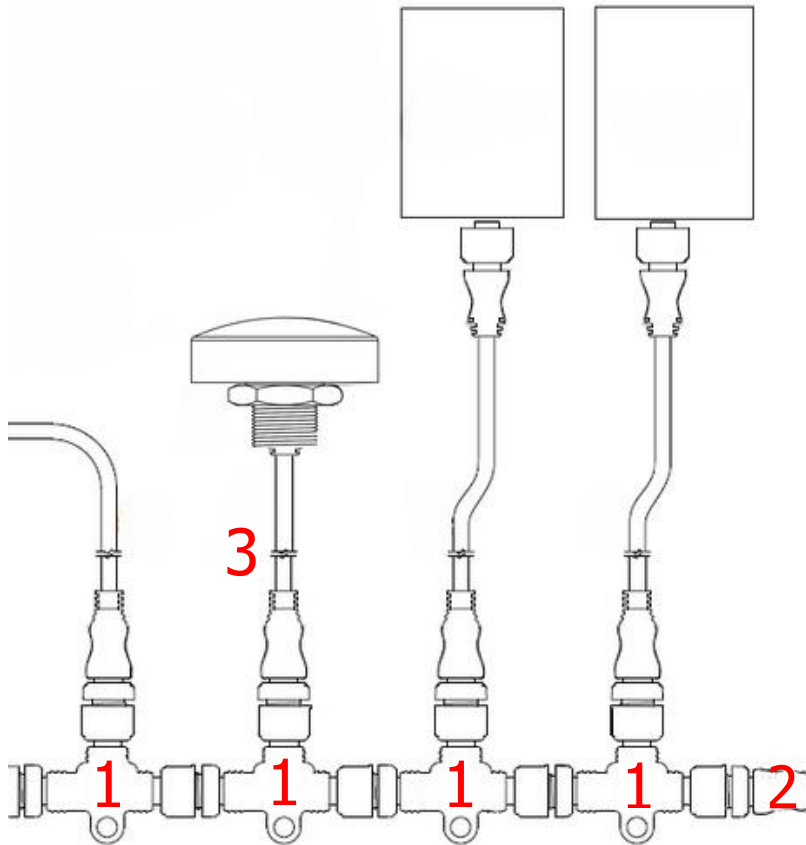
5.2 Connecting to the chartplotter

Set the GPS N2K as GPS Antenna in the settings of your compatible chartplotter.
Selecting the source under the listed available NMEA2000 devices.

E.g., LXNAV E-Series chartplotters: Settings > Network > Data sources > GPS Antenna

6 Wiring

Figure below shows example connection of LXNAV N2K GPS to NMEA2000 network.



1. Tee connector
2. Male terminator
3. 50cm cable GPSN2K

7 Supported data

NMEA 2000 compliant PGN

List NMEA 2000 PGN (transmit)

129029	GNSS Positional Data	1Hz
129539	GNSS Dilution of Precision	1Hz
129540	GNSS Satellites in View	1Hz
129026	GNSS COG & SOG	5Hz
129025	GNSS Position, Rapid	10Hz

8 Revision history

Date	Revision	Description
August 2020	1.0	Initial release of this manual
September 2023	2.0	Update general specifications & supported data
September 2024	3.0	Added details on positioning receiver and number of channels.