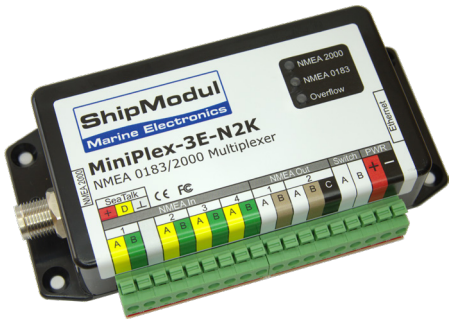
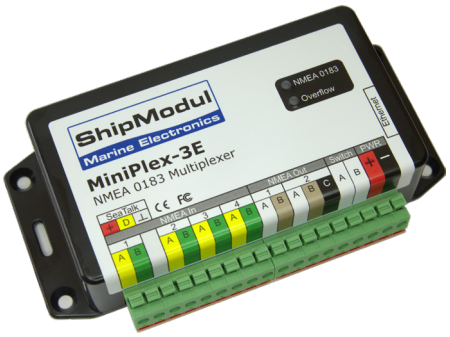
MiniPlex-3 SERIES

Advanced NMEA Multiplexers





The MiniPlex-3 Series NMEA multiplexers comprises a range of advanced NMEA multiplexers which combines data from multiple navigation instruments.

Through an advanced filtering and routing system, this data can be sent to other navigation instruments and to computers, tablets and smartphones.

A bi-directional SeaTalk1 interface enables conversion between SeaTalk1 data and NMEA 0183 sentences. This conversion works both ways, allowing the MiniPlex-3 to replace Raymarine's SeaTalk-NMEA bridge (E85001).

MiniPlex-3 models with an NMEA 2000 interface (-N2K suffix) connect directly to an NMEA 2000 backbone and convert between NMEA 2000 PGN's, NMEA 0183 sentences and SeaTalk1 datagrams in all directions.

All data is available on one or more computer interfaces in NMEA 0183 format. NMEA 2000 PGN's and SeaTalk datagrams for which no NMEA 0183 equivalent exists, can be converted to special NMEA 0183 sentences, allowing software developers to support processing of raw NMEA 2000 and SeaTalk data.

Each and every port on a MiniPlex-3 multiplexer is galvanically isolated from the internal electronics and from every other port. This guarantees that no ground loops will be created when adding a MiniPlex-3 to a navigation network. It also ensures a trouble free connection to any type of NMEA 0183 port of any device.

The MiniPlex-3 multiplexers are all functionally identical but differ in type and number of computer interfaces.

FEATURES

Model	NMEA0183	RS232	USB	NMEA2000	Ethernet	WiFi	SeaTalk
MiniPlex-Lite	3 in/1 out		Yes				Yes
MiniPlex-2S	4 in/ 2 out	Yes					Yes
MiniPlex-3USB	4 in/ 2 out		Yes				Yes
MiniPlex-3E	4 in/ 2 out				Yes		Yes
MiniPlex-3Wi	4 in/ 2 out		Yes			Yes	Yes
MiniPlex-3USB-N2K	4 in/ 2 out		Yes	Yes			Yes
MinPlex-3E-N2K	4 in/ 2 out			Yes	Yes		Yes
MiniPlex-3Wi-N2K	4 in/ 2 out		Yes	Yes		Yes	Yes

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FEATURES

The MiniPlex-3 Series has a rich set of features and configuration options, enabling the user to tackle almost any NMEA bottleneck or interface problem. The configuration tool MPX-Config3 allows full configuration of the multiplexer and monitoring of NMEA data passing through the multiplexer.

NMEA routing

NMEA data can be routed from any input to any output. A default route can be set as well as specific routing rules for individual NMEA sentences.
Computer data can be routed to any NMEA output, to be merged with other NMEA data or to override this data. This enables automatic switching between computer based navigation and GPS/ instrument based navigation.

NMEA filtering

A flexible NMEA filter can be configured to pass or block specific sentences from each input channel. This greatly reduces the chance of an overflow and the resulting loss of data. Many GPS receivers for instance, transmit an abundance of sentences every second, accounting for 85% of the available bandwidth of an NMEA 0183 port at 4800 Baud. By blocking unwanted or unnecessary sentences, bandwidth is preserved for other instruments. The filter can also be configured to reduce the rate of specific NMEA sentences.

NMEA 2000 (-N2K models only)

The MiniPlex-3-N2K models are equipped with an NMEA 2000 interface to connect to an NMEA 2000 backbone with other navigation instruments. The MiniPlex-3 will translate NMEA 2000 PGN's (messages) into NMEA 0183 sentences and vice versa. This feature enables a seamless integration between NMEA 0183 and NMEA 2000 navigation devices. It also allows navigation software, which usually only supports NMEA 0183, to receive data from NMEA 2000 devices and to control NMEA 2000 autopilots.
Flexible communication speed
The communication speed of all inputs and outputs can be set from 4800 to 57600 Baud to allow connection of devices that operate at non-standard (4800 Baud) communication speeds like integrated weather sensors, gyrocompasses or AIS receivers and transponders.

SeaTalk® conversion

When Input 1 is set to SeaTalk mode, this NMEA input becomes a bi-directional SeaTalk port, offering conversion between the most common SeaTalk datagrams on a Raymarine SeaTalk1® network and their NMEA 0183 counterparts.

These sentences are combined with NMEA sentences received on the other inputs. When Priority is enabled, SeaTalk data can be assigned highest or lowest priority.

Priority

With Priority enabled, similar NMEA sentences on different inputs are only passed from the input with the highest priority. When for instance two GPS receivers are connected to inputs 1 and 2, and both transmit the same type of NMEA sentences, only those received on input 1 are passed. An adjustable time-out ensures that similar sentences from the GPS at input 2 are passed when the GPS at input 1 stops sending these sentences. Optionally, GPS sentences are checked for a valid status field, causing automatic switchover when the primary GPS looses satellite signal.

An additional option to check the GPS status flags can be enabled to ensure that data received from a GPS which lost satellite reception is also blocked.

Channel information

This features adds an extra $MXSTN sentence or a TAG block to NMEA sentences to indicate on which NMEA input a sentence is received.

Talker ID substitution

Talker ID substitution changes the talker ID of incoming sentences. The talker ID can be specified for each input channel. This option is useful for software or instruments that expect a specific talker ID or to distinguish between sentences from two similar instruments.

NMEA conversions

The MiniPlex-3 offers several conversion options for NMEA sentences:

- Magnetic to True heading conversion and vice versa GPS speed to Log speed and vice versa
- Reverse True heading
- Old (VWR) to new (MWV) wind sentences and vice versa
- Relative/Apparent to Theoretical/True wind
- RMC to GGA

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