

NMEA 2000® TANK SENDER ADAPTOR

Part Number: 3125

INSTALLATION AND OPERATING INSTRUCTIONS



Applicable to REV E and above.

INTRODUCTION

The NMEA2000® Tank Sender Adaptor allows a standard resistive tank level sender to connect to the NMEA2000® network.

It is configurable to either the European standard 0 - 180 (full) Ohm and the American standard 240 - 30 (full) Ohm tank level senders.

It is also easily configured to indicate levels from Fuel, Fresh Water, Waste Water, Live Well, Oil and Black Water (Sewage) tanks to the NMEA2000® network and configurable to identify up to 16 tanks of each type on a single network.

The Tank Sender Adaptor is robustly constructed to the IEC60945 Maritime Navigational and Radiocommunications Equipment Standard to ensure trouble free operation and high reliability. It is certified to the NMEA2000® network standard version 2 and attaches to the network by a single Micro-C plug. It draws less than 50mA from the network. No additional power cabling is required and the sender is simply connected to the T-adaptor.

SAFETY INSTRUCTIONS

This sender should only be installed by a person competent and experienced in working with electronic and electrical systems on boats.

Before beginning work the battery should be disconnected to avoid the risk of a short circuit, a fire or an explosion. Before drilling any holes to mount any unit or run any cabling always make sure it is safe to do so.

LOCATION AND INSTALLATION

The Tank Sender Adaptor is water resistant but NOT waterproof. It is designed to be located in a dry and protected location in the cable run between the NMEA2000® network and the tank level sender. It does not need to be attached to any surface but should be restrained from free movement by means of cable ties to the rest of the cable run or similar.

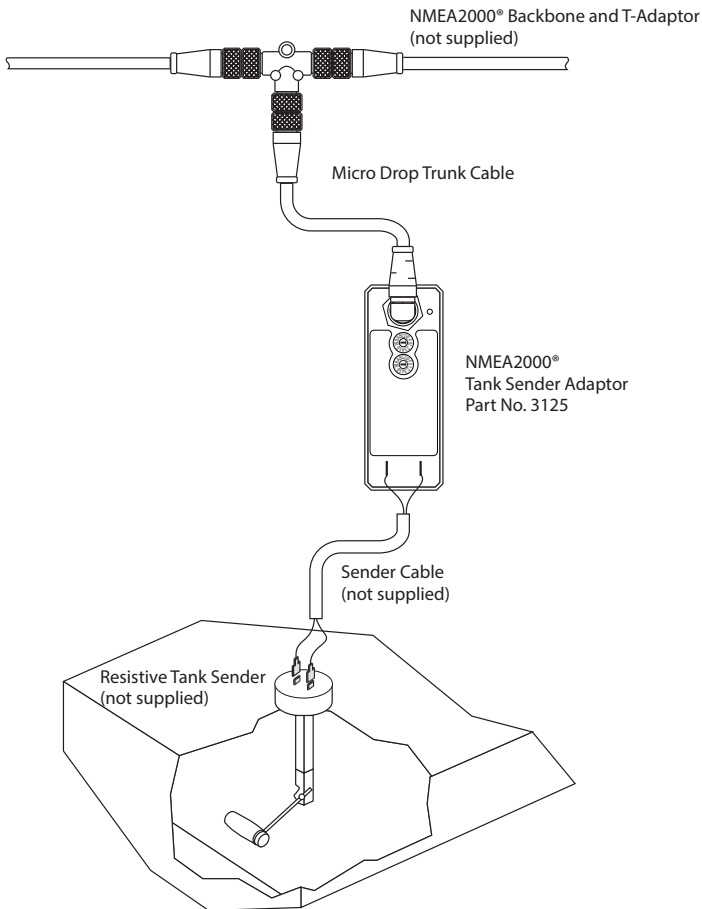
WIRING

Connect the device, using the Micro Drop Trunk Cable provided, to an available T-connector on the backbone. Ensure that both ends are mated securely and the retaining ring has been tightened correctly to ensure the junction is waterproof. Note that this cable length may be extended to a maximum of 6 metres by using micro drop cables.

The sender cable from the Tank Sender Adaptor (not supplied) should be connected to the two terminals on the sender. The connection polarity of the sender wires is unimportant. Either way round will work correctly.

ENSURE THAT NO OTHER CABLES ARE CONNECTED TO THE TANK LEVEL SENDER.

Installation Diagram



SENDER RESISTANCE AND TANK CONTENTS

This adaptor is configured to either the European standard 0-180 or the American standard 240 - 30 Ohm tank level senders and to the range of different tank contents by the sender type switch as per the following table.

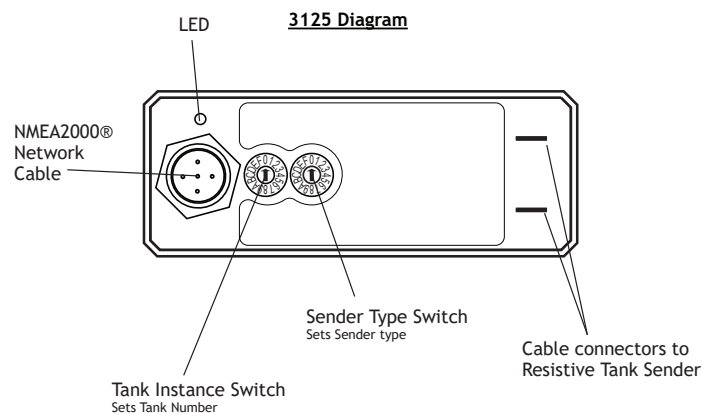
Sender Resistance	Tank Type	Switch Position
European 0-180	fuel	0
	fresh water	1
	waste water	2
	live well	3
	oil	4
	black water	5
	invalid	6
	invalid	7

American 240-30	fuel	8
	fresh water	9
	waste water	A
	live well	B
	oil	C
	black water	D
	invalid	E
	invalid	F

TANK NUMBER

The NMEA2000® network protocol supports up to 16 tanks of each contents type. The adaptor is configured to identify the tank number by means of the Tank Instance Switch as per the following table.

Tank Instance	Switch Position
1	0
2	1
3	2
4	3
5	4
6	5
7	6
8	7
9	8
10	9
11	A
12	B
13	C
14	D
15	E
16	F



OPERATION

Once the adaptor has been installed there is no normal operator intervention required.

The unit has a blue LED which flashes every time the sender transmits a signal.

CALIBRATION

The adaptor is already calibrated and requires no further calibration.

OUTPUT MODE CONFIGURATION

The 3125 Tank Sender Adaptor has two output modes to choose from. PERCENTAGE LEVEL MODE is the default setting and PERCENTAGE VOLUME MODE is the second option.

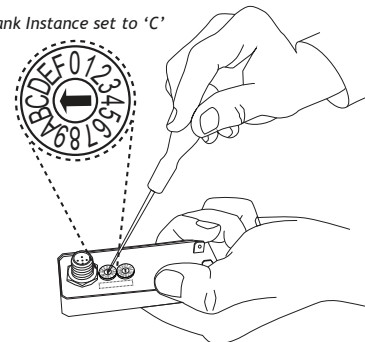
PERCENTAGE LEVEL MODE output from 0 - 100% indicates the percentage level of the fluid in the tank. When the unit is in 'Level Mode' the blue LED flashes ONCE every 2.5 seconds, when a level message has been sent.

PERCENTAGE VOLUME MODE output from 0-100% indicates the actual fluid volume within the tank taking allowance for the tanks internal shape. When the unit is in 'Volume Mode' the blue LED flashes TWICE rapidly every 2.5 seconds when a volume message has been sent.

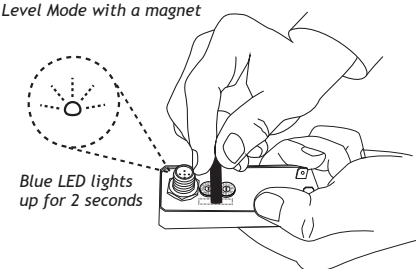
The Volume Mode PGN message is exactly the same as the Level Mode PGN message which means that the volume can easily be shown on any NMEA2000 display that accepts Fluid Level PGNs from tank senders. The Volume Mode tank data can be entered from any Oceanic Systems Display, that is equipped to set up this data. Please contact us for more information on these displays. It can also be set up at manufacture, if the information is made available at the time of ordering.

LEVEL MODE can be set with the Tank Instance Switch by setting the switch to 'C' and then placing a small magnet on the 'Magnet Calibration' position for 5 seconds. The blue LED will light up for 2 seconds to indicate that the unit registered the magnet. Then return the switch to it's original position and the sender will transmit level messages as indicated by the blue LED flashing ONCE briefly every 2.5 seconds.

Tank Instance set to 'C'

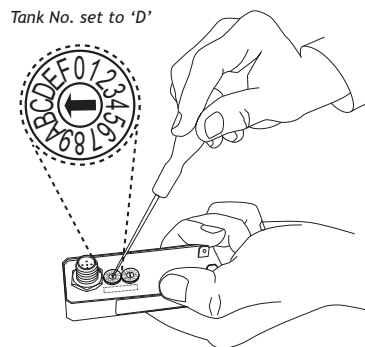


Set Level Mode with a magnet

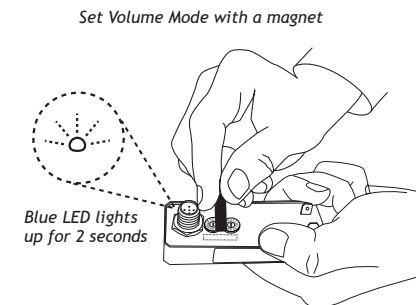


VOLUME MODE can be set with the Tank Instance Switch by setting the switch to 'D', then placing the magnet on the 'Magnet Calibration' position for 5 seconds. The blue LED will light up for 2 seconds to indicate that the unit registered the magnet. When the switch is returned to it's original positions the sender will transmit Volume messages as indicated by the blue LED flashing rapidly TWICE every 2.5 seconds.

Tank No. set to 'D'



Set Volume Mode with a magnet



If the Volume Mode Tank Data has NOT been set up and the unit is accidentally set to Volume Mode then the data transmitted will actually be the Level Data so the unit remains fully functional.

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