

PRODUCT BASIC INFORMATION

# LINKUP GATEWAYS

Marine Sensors for Today and Tomorrow



# THE LINKUP SERIES

## Single function gateways to integrate sensor readings to NMEA 2000®

The LinkUp gateways provide an easy method to convert vessel and engine information to NMEA 2000®. Available in 8 different variants: resistive, voltage, LIN and J1939, those can be easily configured through either the embedded NFC-based Airlink interface or NMEA 2000® by means of our Configuration Tool.

The ISO 8846:1990 compliance completes the devices by allowing their installation into engine compartments.

### GENERAL BENEFITS

- ▶ Save the money of an oversized NMEA 2000® converter
- ▶ Reduces the wiring, the gateway is installed where needed
- ▶ Contactless configuration with your smartphone, no expensive HW required!
- ▶ Powered by NMEA 2000® - no additional power supply
- ▶ Approved for engine compartment installation according to ISO 8846:1990



### » WIRELESS CONFIGURATION IN JUST 4 STEPS:

- 1 / Near your smartphone to the LinkUp area
- 2 / Select the sensor and type in its configurations
- 3 / Configure an alarm
- 4 / Tap again your smartphone onto the LinkUp to program it instantly!

### SIMPLE AND EFFECTIVE

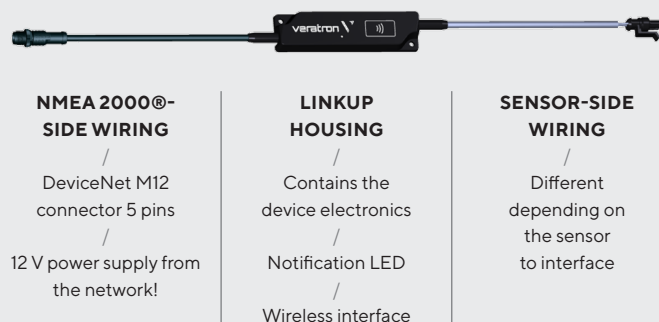
- ▶ **Fast:** no prior pairing is required
- ▶ **Powerless:** thanks to the passive RF tag you can configure the device without power!
- ▶ **Secure:** the configuration requires proximity to the device
- ▶ **Safe:** the passive receiver does not continuously emit RF frequencies in the engine room
- ▶ **Cost-effective:** no need for additional expensive HW



### » DOWNLOAD THE MOBILE APP



### DESIGN



### TECHNICAL DATA

Operating voltage	6 - 16.5 V
Protection class	IP X9/K
Power consumption	≤ 15 mA (normal mode) ≤ 120 µA (sleep mode)
Output signal	NMEA 2000®
Operating temperature	-40°C to 115°C
Flammability	UL94 compliant
Compliance	CE, Reach, RoHS
Housing Material	PC-FR



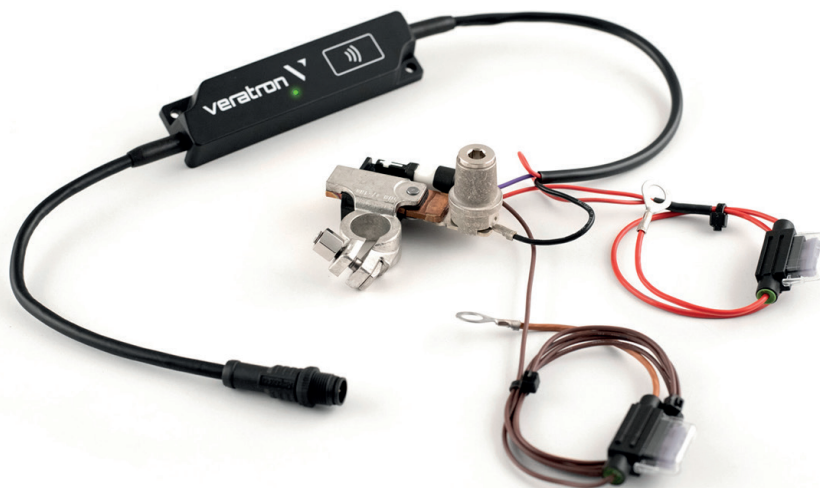
PART NO. 23411C - B00042501

PART NO. 24843P - B00042502

PART NO. 23854P - B00070401

# Intelligent Battery Sensor (IBS)

The Intelligent Battery Monitoring System informs you about the current energy status, allowing you to plan your energy supply making it the key element of the vessel's energy management. In order to carefully preserve the energy of the boat battery, it is necessary to know its State of Charge, the ageing status (State of Health) and any changes to the battery, as weak batteries are the main cause of trouble in the boat.



## FACTS AND BENEFITS

- ▶ **12V and 24V** Intelligent Battery Sensors (IBS)
- ▶ Determines the current status of your battery to support energy management planning
- ▶ Helps to preserve battery life by reporting its State of Health
- ▶ Delivers **real-time measurements** preventing over charging and over heating which can shorten battery life

12 V	12 V II	24 V
B00042501 p. no. 23411C	B00042502 p. no. 24843P	B00070401 p. no. 23854P

<b>Operating voltage</b>	6 - 16.5 V	6 - 18 V	7.5 - 32 V
<b>Permanent load current</b>	± 155 A	± 200 A	± 200 A
<b>Max current</b>	± 1500 A	± 1500 A	± 2000 A
<b>Threaded GND bolt (Battery pole adapted included)</b>	M8	M6	M8
<b>Max battery capacity</b>	249 Ah	500 Ah	255 Ah

## DESIGN AND FUNCTION

The IBS is attached directly to the negative pole of the battery via its pole terminal.

Alongside the terminal, the mechanical portion of the battery sensor consists of the shunt and grounding bolt.

## DELIVERED DATA

### Battery Voltage

### Battery Current

### Battery Temperature

**State of Charge (SOC):** Current charge status of the battery, defined in percentage

**State of Health (SOH):** Ageing status of the battery, loss of capacity over time

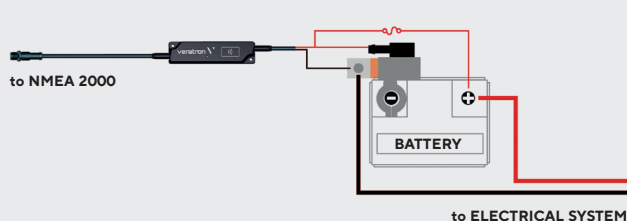
**Autonomy:** Estimated battery duration based on the instantaneous current consumption of the system

## NMEA PGNS

DC Detailed Status	127506
Battery Status	127508
Battery Configuration Status	127513

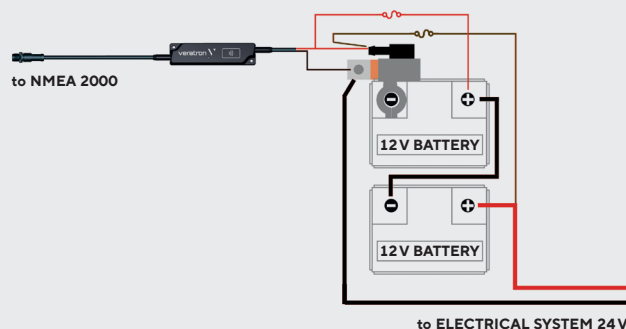
## 12 Volt Systems

- ▶ Two sensors available for 12V batteries
- ▶ IBS is connected to the battery negative pole
- ▶ Fused connection to the positive pole which powers the LinkUp



## 24 Volt Systems

- ▶ Series of two 12V batteries
- ▶ IBS is connected to the battery negative pole of one 12 V battery
- ▶ Fused connections to the 12V and 24V positive poles



PART NO. 21917B - B00070501

# Oil Temperature and Pressure

This Sensor measures simultaneously the engine oils temperature and pressure while providing the data to the LinkUp, which translates it to the NMEA 2000® standard.



## FACTS AND BENEFITS

- ▶ Interface to the new **electronic** 2-in-1 sensor
- ▶ Oil Temperature and Pressure **in a single sensor**
- ▶ Rugged and reliable design derived from the automotive field
- ▶ ASIC-controlled sensor
- ▶ PWM output to transmit both pressure and temperature



## NMEA PGNS

Engine Parameters, Dynamic	127489
Transmission Parameters, Dynamic	127493

## TECHNICAL DATA

M12 mounting thread
IP 69/K protection class
5V power feed provided by the LinkUp
Temperature accuracy $\pm 1^\circ\text{K}$ in the $135^\circ\text{C} - 160^\circ\text{C}$ range
Pressure accuracy $\pm 0.2$ bar (range 0.5 -3 bar), $\pm 0.1$ bar below and $\pm 0.3$ bar above
Temperature range: $-40^\circ\text{C} + 160^\circ\text{C}$
Pressure range: 0.5 to 10.5 bar
1 m cable length

PART NO. 23560W - B00042401

# J1939 Gateway

The LinkUp J1939 will bridge all your CAN engine data, transmitted on the CAN-J1939-Bus, to the NMEA2000® standard, making all the engine and diagnostic information available for any NMEA 2000-capable display.



## FACTS AND BENEFITS

- ▶ **J1939 TO NMEA 2000®** gateway to bring engine data to your boat network
- ▶ Delivers engine diagnostic to your MFD or to your smartphone in conjunction with a Veratron GO device
- ▶ Galvanic isolation between J1939 and NMEA 2000® networks
- ▶ Optional Y-shaped adapter cables to interface specific engines

## SUPPORTED DATA

Engine Speed	Exhaust Temp
Engine Hours	Fuel Level
Engine Load	Fuel Press
Engine Oil Temp	Fuel Rate
Engine Oil Press	Inst Fuel Economy
Coolant Temp	Alternator Current
Coolant Press	Alternator Potential
Boost Press	Battery Potential
Engine Rated Speed	Transmission Gear
VIN	
SW ID	
Percent Torque	
Transmission Oil Press	
Transmission Oil Temp	

## SUPPORTED ALARMS

Low Fuel Press
Water In Fuel
Low Engine Oil Level
Low Engine Oil Press
High Boost Press
High Coolant Temp
Low Coolant Level
Low Battery Voltage
Engine Overspeed
High Gear Oil Temp
Low Gear Oil Press
Low Oil Level
High Oil Temp
Lamps' Status

## ADAPTER CABLES

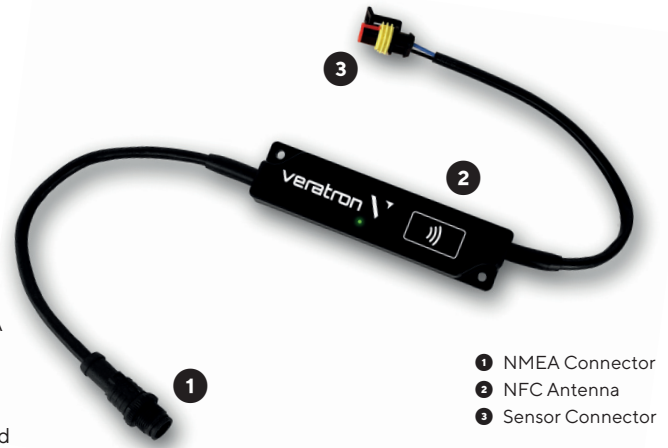
Volvo Penta- B00102701	24913J
Yanmar - B00102801	24914L

PART NO. 23410A - B00042201

# Resistive

The Resistive LinkUp gateway is designed to interface and convert resistive sensors measurements – such as Level, Temperature, or Pressure sensors – to the NMEA 2000® digital era.

Optimized for a 0–400 ohm range, it can be configured with predefined sensor curves as well as with a customized characteristic to ensure compatibility with most of the sensors in the field.



- 1 NMEA Connector
- 2 NFC Antenna
- 3 Sensor Connector

## FACTS AND BENEFITS

- ▶ Customizable sensor curves
- ▶ Approved for engine compartments
- ▶ Alarms setup and transmission on NMEA 2000®
- ▶ Plug-and-play installation with veratron Dip-pipe level sensors

## NMEA PGNS

Rudder	127245
Fluid Level	127505
Engine Parameters, Rapid Update	127488
Engine Parameters, Dynamic	127489
Transmission Parameters, Dynamic	127493
Trim Tab Status	130576

## SUPPORTED CONFIGURATIONS

Fuel Level	Coolant Temperature
Fresh Water Level	Boost Pressure
Waste Water Level	Oil Pressure
Trim Position	Oil Temperature
Trim Tabs	Gear Oil Pressure
Rudder Angle	Gear Oil Temperature

## SETUP

### SENSOR-SIDE CABLE

- /
- 25 cm cable pigtail
- /
- Water sealed AMP SuperSeal connector 2 pins

### PLUG-AND-PLAY CONNECTION TO VERATRON DIP-PIPE LEVEL SENSORS

### CONFIGURABLE PARAMETERS

- /
- Sensor type
- Sensor characteristic
- Sensor instance
- Alarm threshold

PART NO. 23559M - B00042301

# Pyrometer

Specific LinkUp variant designed to interface the Veratron Pyrometer thermocouple (N03-320-264)

- ▶ High precision probe for exhaust gas temperature (EGT) measurement
- ▶ Electrically compensated wires
- ▶ Extremely high temperature resistance
- ▶ Early warning of situations that are potentially dangerous for the engine!
- ▶ Helps preventing severe damages to the engine
- ▶ Can also be used as a guide for optimizing fuel economy



## THE KIT INCLUDES

- 1 Link-Up Pyrometer (B000423 p. no. 23559N)
- 2 6 m extension cable with high temperature resistance included (B000632 p. no. 23324K)
- 3 Pyrometer thermocouple (N03-320-264 p. no. 60473YA)

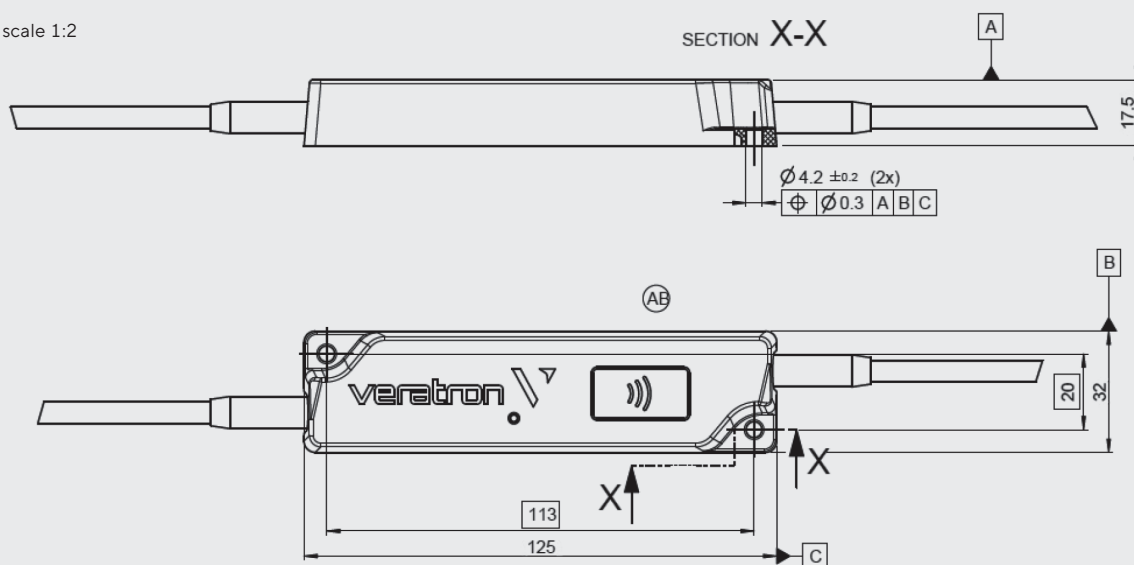
## NMEA PGNS

Exhaust Temperature	130316
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»  
**LinkUp reduces wiring, is fast, powerful and cost-effective**

## DIMENSIONS

Illustration in scale 1:2



## THE LINKUP SERIES

**LinkUp Resistivo** B00042201  
PART No. 23410A

**LinkUp 2-in-1** B00070501  
PART No. 21917B

**LinkUp Pirometro** B00042301  
PART No. 23559M

**LinkUp J1939** B00042401  
PART No. 23560W

**LinkUp IBS 12V** B0004250102  
PART No. 23411C

**LinkUp IBS 24V** B00070401  
PART No. 23854P



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