

Welcome to your new SKIPPER Product

Congratulations with your Jotron SKIPPER 10.1 inch Control Unit.

This Package is factory configured for the following product

Part Number	Product Name	This product (if checked)
EML1200-SA	EML1200 Control Unit for Dual Axis Electromagnetic STW Speedlog	
EML1100-SA	EML1100 Dual Axis Electromagnetic STW Speedlog	
CU-M101-SA	CU-M101-SA Dual Control Unit	

Your Package contains

Qty	Part	Description	Photo
1	CU-M101-SA	10.1" Control unit	
1	M-KIT-CU-M101	Mounting kit	
1	M-KIT-XBEEP	External beeper kit	
1	DM-I001	Getting started instruction	This document
1	DM-E004-SA or DM-D020	User manual for EML or DL 	

This getting started guide Follows:

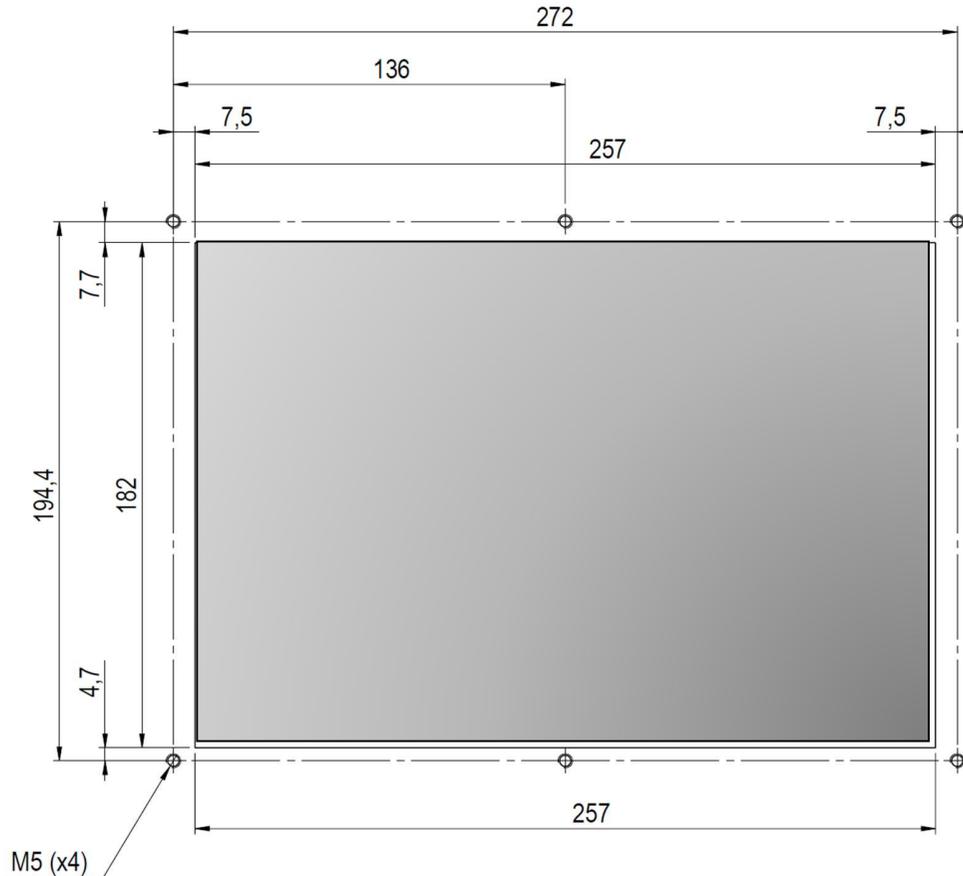
- 1 Install/Mount the system**
- 2 Define the System (CU-M101-SA only)**
- 3 Configure the system (All systems)**
- 4 Check your system**

These instructions are also available in mobile format by scanning here



1. Install/Mount the system

Make a cutout of size 257x 182 in an area of minimum 287x210mm



6 x M5 torx Pan head
Screws (ISO 14583)
Black

Length 21.8mm , Thread
into the back plate 16.5
mm

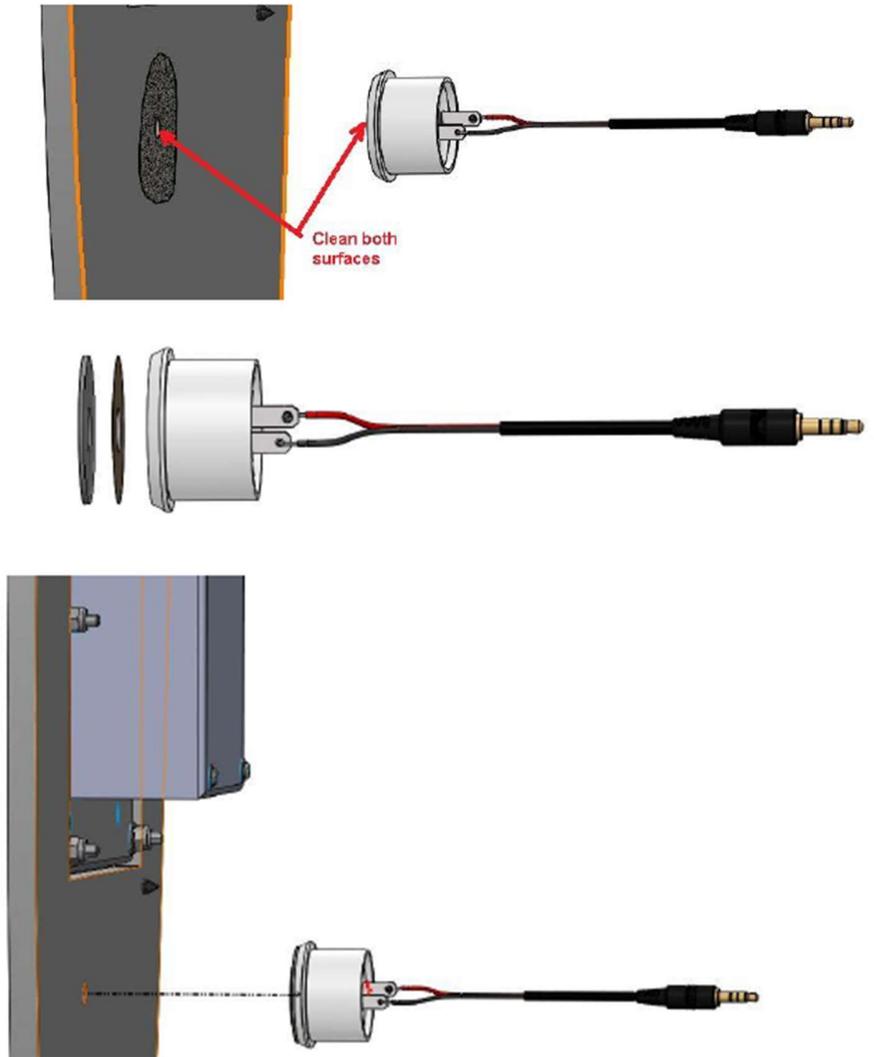


Alternative

6 x Self tapping screw
for wood, plastic & non-
ferrous Metal (Requires
Pilot Hole
Depending on the screw
type to be used Thread
the bench plate , Use
Nuts (M5) or drill a pilot
hole of 3mm



Mount the External beeper (if required)



Drill a hole diameter
6.5-7.0mm

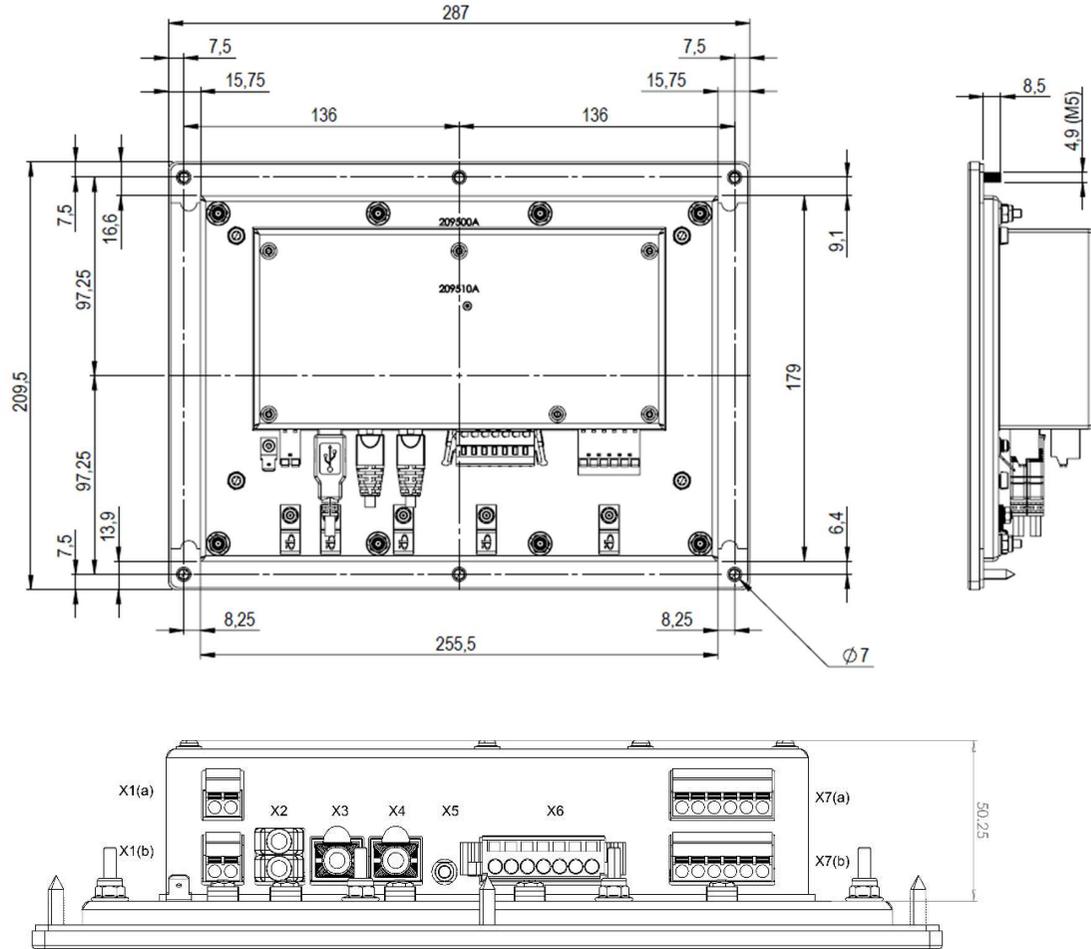
Clean both surfaces
with attached wipe

Attach the Sticker to the
Buzzer

Attah to the rear of the
plate , take care to align
the holes.

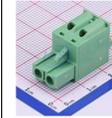
M-KIT-XBEEP-CU-
M101-SA

Attach the IO connectors as required (4.2 in manual)



see connection diagram on next page

X1a and X1b 24VDC Power connector
 (Degson 2EDGKD-5.08-02P-14-00A(H))



X2 USB Type A (Non isolated)
 Use Isolator GC-202-SA for long term USB installations



X3 & X4 RJ45 CAT 6 Cables
 Connect to a managed switch or CU-M101-SA unit



X5 M-KIT-CU-XBEEP-00 External Alarm Beeper
 3mm mono Jack



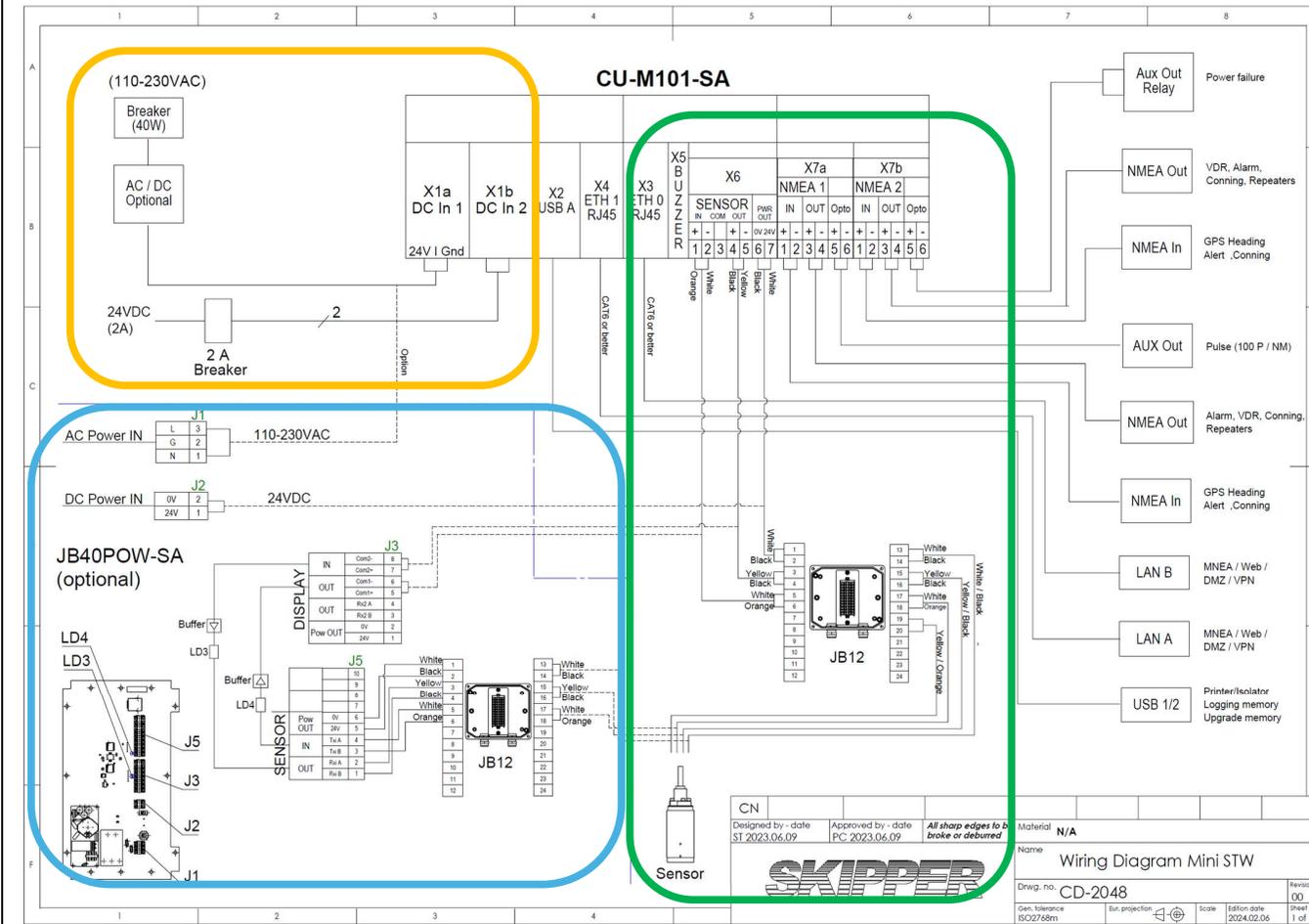
X6 Sensor Port
 Wago Connector 231-304/026-000 8 Pins



X7-X8 NMEA/ Aux Port
 Degson 2EDGRH-5.08-12P-14-00A(H)



Connection of the System (4.2 in manual)



Attach the power connector(s)
 Power stability is required.
 This is achieved using either

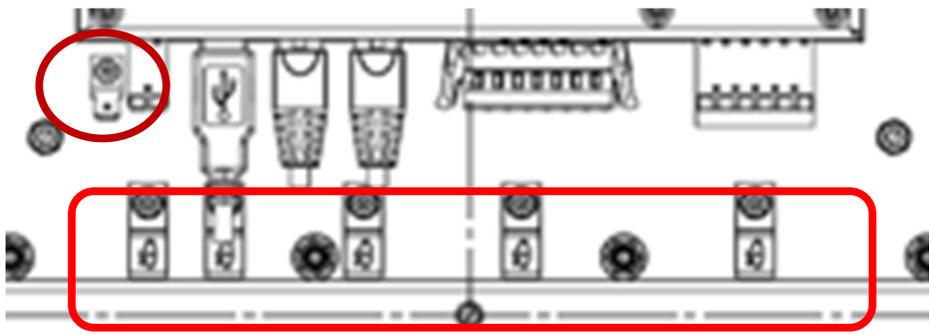
- A secondary power, either 2 24VDC connectors
- by using a UPS as a failsafe

The system requires <20W and Power to the system and the connected JB40 unit (if used should come from a 2A circuit breaker).

Attach the sensor directly
 or via a JB40POW unit

If the JB40POW-SA is used locally, AC input to this can generate 24VDC to power the display and the sensor.

In this case disable the Power output in the display System setup menus.

<p>Mount the unit (4.2 in manual)</p> 	<p>Anchor the cables, using the included cable ties</p> <p>Ground The Unit to ships Chassis using the Grounding spade.</p>	<p>M-KIT-</p>
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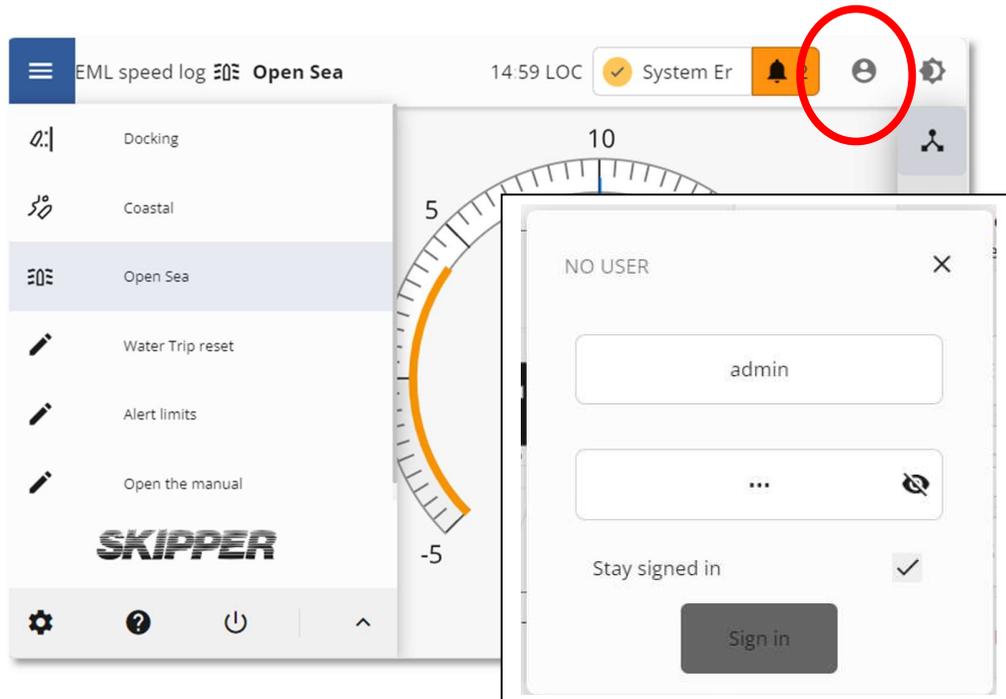
Note the serial number of the unit and mount the unit in place

Serial Number: _____ (6 digits)

<p>Power on and setup (CU-M101-SA, systems not set up at factory)</p>	
<p>Turn on the power(s)</p>	
<p>Select the Required Product</p>	<p>If the screen shown is not this, go to 3 Setup the System</p> <p>Enter the serial number (with all leading zeros, 6 digits '000234') go to the define system</p> <p>Click on the QR code, if a Product option is purchased, the code will be available here, If no code is available contact Jotron SKIPPER to purchase the required Product code.</p>
<p>Ensure Software is installed or download</p>	<p>If the product option is not shown on the product drop down, Download from the SKIPPER web, and place on a USB stick. Insert the stick. Select the USB media, and try again.</p>
<p>Assign a system with the option code</p>	<p>Enter the code, and press install. Installation takes about 3 minutes, and the system will boot into the desired software.</p>

Set up the system

Sign in



Click on the Users Button

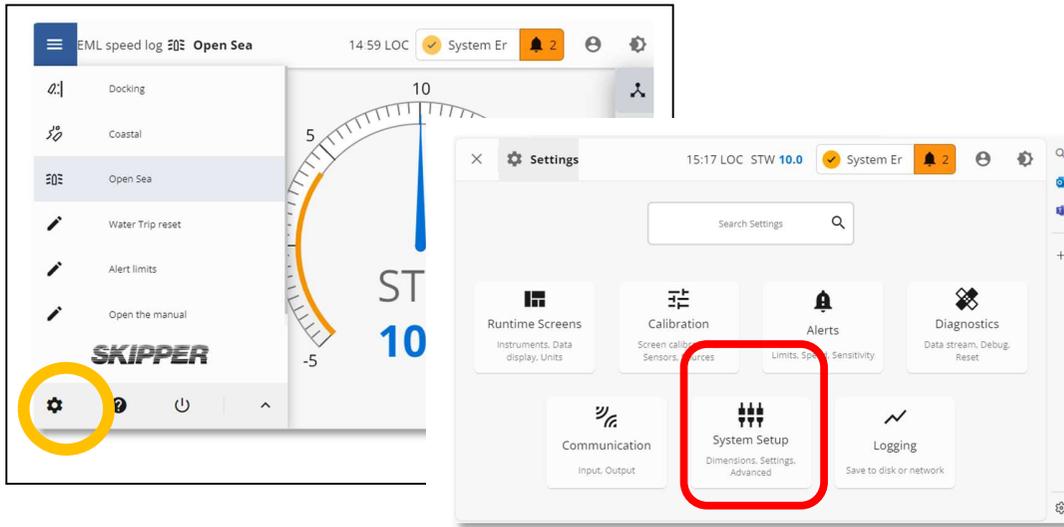
Enter User 'admin' and Password
<serial number> e.g 1234

Check 'Stay Signed in'
And Press sign in.

The system signs in with full access.

(Note, Passwords and users should be changed before HAT/SAT)

Configure the system

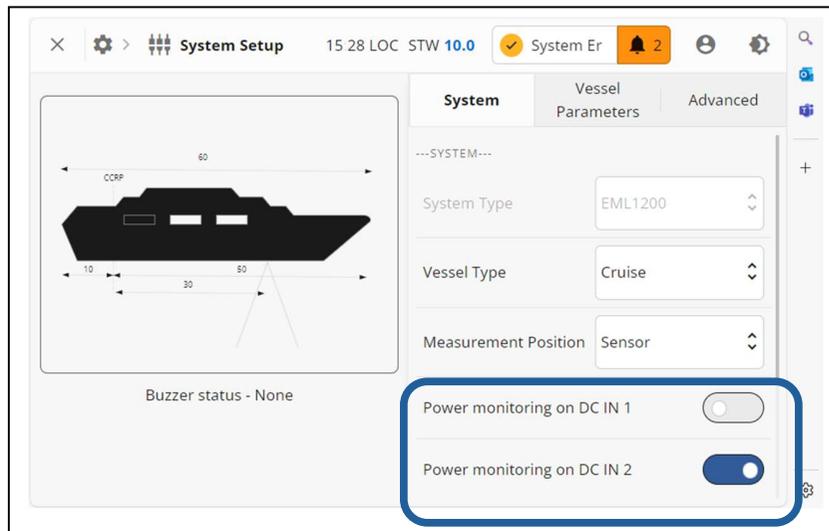


Using the Menu button (top left) select **settings setup** in the menu dropdown

Go to system and enter the vessels parameters.

If you use only one power input, disable the unused one.

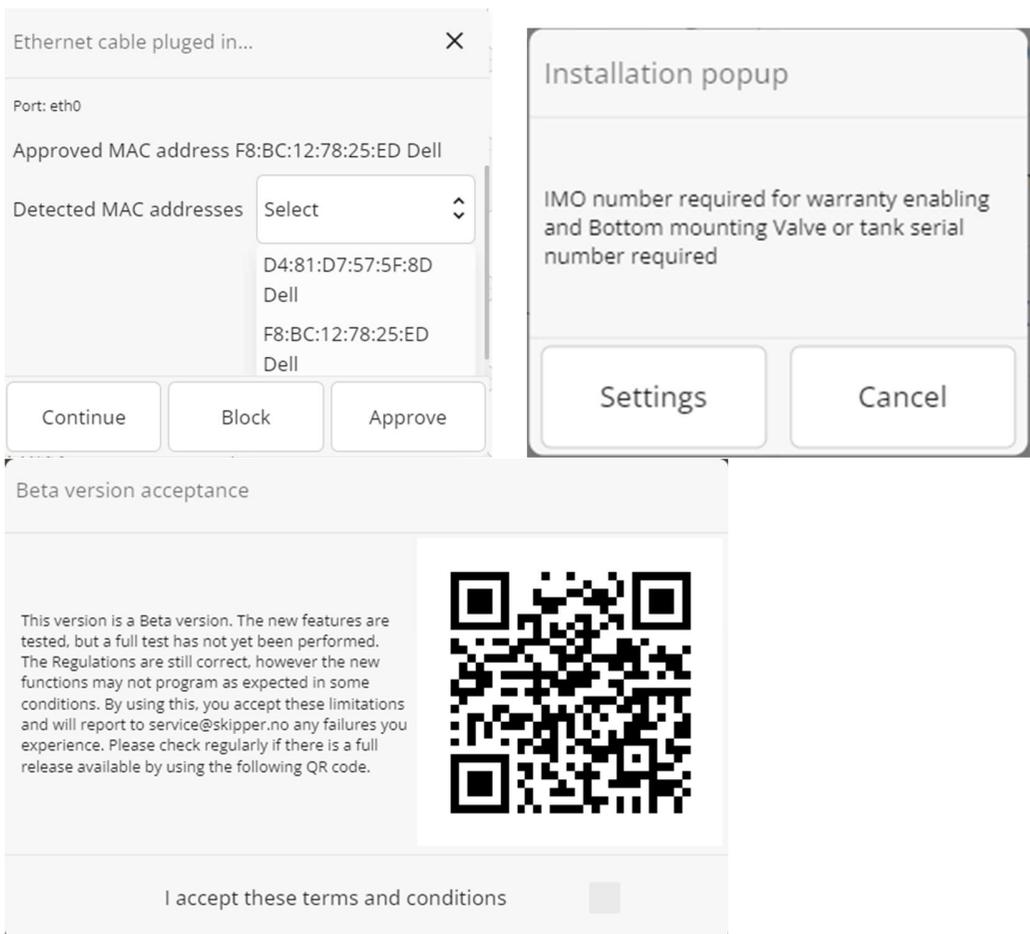
If you supply power to the sensor from another unit (JB40POW) disable the sensor Power. (Advanced tab)



System	Vessel Parameters	Advanced
---VESSEL PARAMETERS---		
Max Speed (kn)	- 25 kn +	
Sensor to CCRP (m)	30.0	
Bow to CCRP (m)	50.0	
Stern to CCRP (m)	10.0	
Vessel Tonnage (GRT)	50000.0	
---REGISTRATION---		
Vessel Identifier	IMO123456	
<small>IMO (required), New Build or Vessel name</small>		
Sensor Mounting	EML224SG-Valve	
<small>Enter the sensor type, and the tank/valve Serial number.</small>		
Bottom mounting serial number	123	
<small>The number stamped into the valve or tank</small>		

System	Vessel Parameters	Advanced
---ADVANCED---		
Filter Type	Normal	
Reverse <small>for 2 direction ferries</small>	<input type="checkbox"/>	
Activate option 2dp <small>option to use 2 decimal places</small>	<input type="checkbox"/>	
Disable sensor power output <small>Sensor is powered from another source (JB40POW)</small>	<input checked="" type="checkbox"/>	
Buzzer Option	Off	

In addition add vessel parameters, IMO number, Bottom sensor type and Bottom equipment Serial number (If these are not entered you will get reminders on startup or exit of the system setup screen)

<h3>Popups</h3>  <p>The screenshot displays three overlapping system popups. The top-left popup, titled "Ethernet cable plugged in...", shows network details for port eth0, including an approved MAC address (F8:BC:12:78:25:ED Dell) and a list of detected MAC addresses (D4:81:D7:57:5F:8D Dell and F8:BC:12:78:25:ED Dell) with "Continue", "Block", and "Approve" buttons. The top-right popup, titled "Installation popup", requests an "IMO number required for warranty enabling and Bottom mounting Valve or tank serial number required" and has "Settings" and "Cancel" buttons. The bottom popup, titled "Beta version acceptance", contains a disclaimer about the beta version, a QR code, and a checkbox for "I accept these terms and conditions".</p>	<p>Popups on startup. You may get the following: Beta Version approval – Accept terms and close the popup (Check for updates using QR code)</p> <p>Foreign network – Select a safe point in the network to allow the system to detect unauthorized cable being plugged into the system, Approve this. (one for each Network port)</p> <p>IMO number – This system registers the vessels IMO number or Vessel name, for service purposes.</p> <p>Bottom equipment – Follow the link to enter the Sensor type in use, and the bottom equipment (valve or Tank number serial number)</p>
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Input/output

Serial
In Communications setup, Configure the IO as required.
Select the outputs required, and the Baud rate for the 2 serial ports (NMEA/IEC61162-1)

Ethernet
2 Ethernet ports using IEC61162-450 and supporting IEC-61162-460

Network is Blocked on startup, Select a safe IP address on your networks (usually router or switch) and register this using the popup or **Approved Network MAC**
This is to ensure foreign networks are detected. Networks should have different subnets.
Select an IP is the networks subnet, different subnets for each port.

If both ports are to be used in the same subnet (switch) activate **Bridge Mode** (Admin only) In this case ETH0 Will define the IP/ Subnet

Aux output function (Connector X6) can be selected here

Alerts

✕ ⚙ > 🔔 Alerts
16 17 LOC STW 10.0
✓ System Er 🔔 2 ⚙

Alert History

Alert Level	Alert Type	Date/Time	Ack	End
✓	Speed Low	05.06.2024 01:57:42 (UTC)		
🔊	Speed Low	05.06.2024 01:57:32 (UTC)		
✓	Speed High	05.06.2024 01:57:29 (UTC)	05.06.2024 01:57:29 (UTC)	
!	Speed High	05.06.2024 01:57:19 (UTC)		
✓	Speed High	05.06.2024 00:00:02 (UTC)	05.06.2024 00:00:02 (UTC)	
✓	Speed High	05.06.2024 00:00:02 (UTC)	05.06.2024 00:00:02 (UTC)	
✓	Speed High	05.06.2024 02:44:09 (UTC)	05.06.2024 02:44:09 (UTC)	
✓	Speed High	05.06.2024 02:44:09 (UTC)	05.06.2024 02:44:09 (UTC)	
✓	Speed Low	05.06.2024 02:44:06 (UTC)		
🔊	Speed Low	05.06.2024 02:43:57 (UTC)		
✓	Speed High	05.06.2024 02:43:56 (UTC)	05.06.2024 02:43:56 (UTC)	

ALERT VALUES

Low Speed - 4 kn +

High Speed - 20 kn +

SETTINGS

Alert Group ETH0 SYSTEM ▾

Alert Group ETH1 SYSTEM ▾

BAM/CAM SFI CA1235

Escalation time 2min ▾

ALERTS (CAUTION C, WARNING W, ESCALATION E)

Low Speed W(3032) ▾

High Speed C(3033) ▾

System Error W+E(3015/4) ▾

Internal Error* C(3063) ▾

The system has alerts, these are not obligatory in most installations (check class regulations)

These can be disabled, or they can be given different categories. (Off, Caution, Warning, W+Escalation)

Connect the CAM/BAM system by defining the Alert group

Connect to the CAM/BAM SFI.

Alternatively connect to the NMEA input and output.

Activate the IO that will communicate with the Alarm system

Power failure can also be detected using one of the Aux output 2 (relay)

Test the alerts, using the Test Alerts button in Diagnostics page (See HAT, next section)

Harbour Acceptance Test (HAT)

The screenshot shows the HAT interface with several sections highlighted:

- Red box:** Encloses the 'ELECTRONIC UNIT DATA' table, the 'SENSOR DATA' table, and the 'SIMULATE SPEED' controls.
- Blue box:** Encloses the 'EXTERNAL' column in the 'SENSOR DATA' table.
- Yellow box:** Encloses the 'ELECTRONIC UNIT INFO' table and the 'FIRMWARE AND SOFTWARE VERSIONS' table.
- Purple box:** Encloses the 'Simulate alarms' button.
- Green box:** Encloses the 'Start self test' button.

PARAMETER	VALUE	STATUS
DC IN 1	-- V	NA
DC IN 2	24.3 V	GOOD
Sensor Voltage	23.9 V	GOOD
Sensor Current	0.0 mA	POOR

Sensor Data	UNCALIB.	CALIB.	EXTERNAL
Speed Long	10.0	10.0	1.4 (GPS)
Speed Trans	0.3	0.3	0.6 (GPS)
Water Temp	20.3	20.3	--

PARAMETER	VALUE
Serial Number	000258
Software Version	SW-M016_0_10_19
Sensor Mounting Type	EML2245G-Valve

FIRMWARE	FW NUMBER	CURRENT VERSION	AVAILABLE UPGRADE
ConfigApp	MB-I001	0_4_8	--
Upgrader	MB-I003	0_3_11	--
Safe point	MB-I005	0_3_0	--
Software	SW-I002	0_3_7	--
Software package	SW-I102	0_2_1	--
Web	MB-I201	0_10_19	--

To show or prove the system works you can do the following:

1. Test Sensor display
Set a speed and Run a fixed speed simulation 'Simulate speed'

2. Software
Check the system is updated to the latest software, if not, download from www.skipper.no to a USB, and perform upgrade.

3. Test IO
Look at Connected systems, Conning/BAM/VDR/Repeaters, and check the correct formats are coming, alternatively, check the communications terminal input and output.

Check the desired inputs are connected. Usually
- GPS (strongly recommended)
Heading (recommended)

4. Test Alerts
Use the Simulate alarms to trigger all the active alarms, use the BAM to remotely acknowledge.

5. Self test
Run the self test for an internal check of the system

Self Test

Self Test

SELF-TEST INFO				
TEST NUMBER	TEST PERFORMED	RESULTS	LIMIT	STATUS
1	CPU Load	9.55 %	70.00 %	PASS
2	RAM Usage	28.95 %	90.00 %	PASS
3	ETH0 Load	0.06 Mb/s	50.00 Mb/s	PASS
4	ETH1 Load	0.00 Mb/s	50.00 Mb/s	PASS
5	DCIN 1	0.00 V	18-31 V	FAIL
6	DCIN 2	24.26 V	18-31 V	PASS
7	Sensor Voltage	24.06 V	18-31 V	PASS
8	Sensor Current	0.00 mA	10-200 mA	FAIL
9	Calibration Stability	8.51 kn	3.00 kn	FAIL
10	Sensor Stability	0.00 kn	1.00 kn	PASS
11	Cleaning Status	6.97	0.50	GOOD

Self test will test the internal parameters and connections of the system

CPU load

How much the system is doing
RAM usage – How much memory is in use

Ethernet Load

If too high the system may slow down

Sensor output voltage/Current

The sensor is connected correctly* (if not, a system error will also show)

Calibration stability

After calibration and sailing, how much is the calibration wrong over time

Sensor stability,

How much the data jumps from the sensor

Cleaning status.

If the sensor measures much less than the GPS then the system probably needs cleaning