



Service data bulletin

Instrument: EML224

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TROUBLE SHOOTING GUIDE: WRONG SPEED INDICATION

Step 1 Check “screen calibration”

The screenshot shows the instrument's display with the following information:

- Time: 06:42, Temperature: T 23.0°C
- Status: Calibration disabled
- Calibration trip data:

	Leg 1	Leg 2	Average Leg 1+ Leg 2
Measured distance:	0.000km	0.000km	0.000km
Real speed:	??.	??.	??.
Measured speed WT:	??.	??.	??.
- Calibration settings table:

	1	2	3	4	5
Real speed WT:	empty	empty	empty	empty	empty
Measured speed WT:	empty	empty	empty	empty	empty
- Speed and drift data:

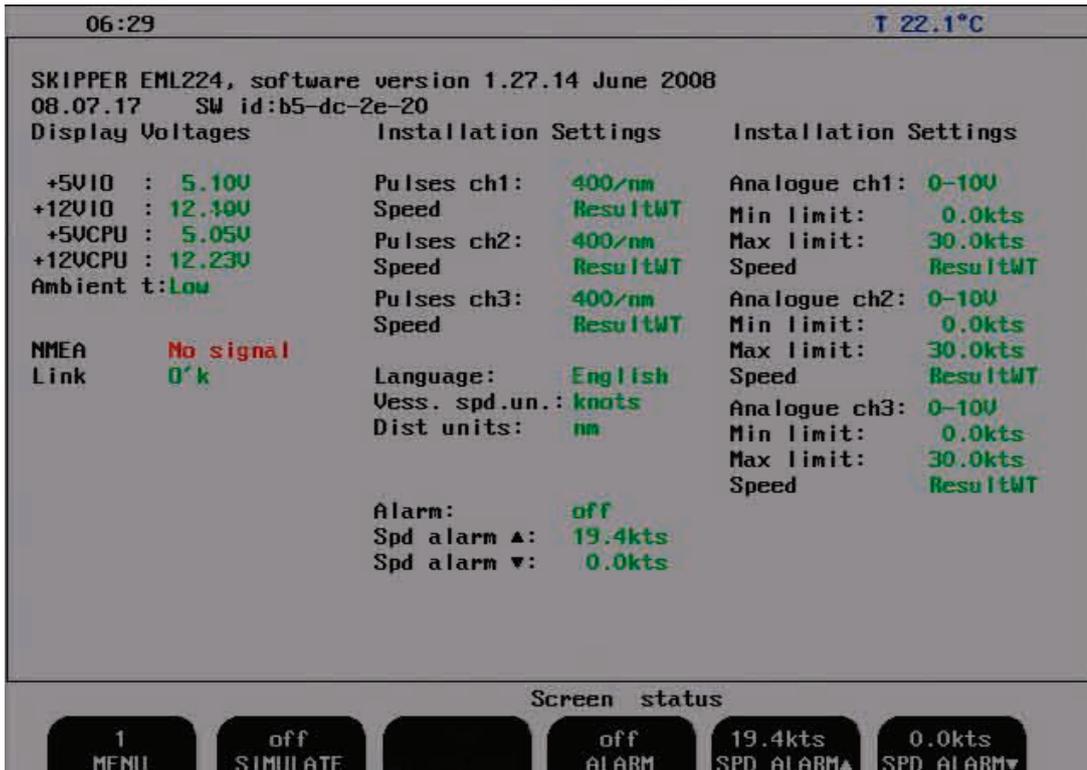
Measured speed			Calibrated speed			Averaged drift
0.1kts	0.0kts	0.0°	0.1kts	0.0kts	0.0°	0.0°
- Screen calibration buttons: 1 MENU, leg 1 START, activate CALIBR, 1 TRIPS LIST, 1853m CALIBR DIS

The calibration setting will show real speed and measured speed. The difference factor should be about similar on all speeds.

Some sensors may have up to 40% lower number on measured speed compared to real speed.

If “empty” then no calibration is performed.

Step 2 “Screen status”



Link OK indicates signal from junction box/Electronic unit.

Step 3 “Screen com”



Switch to “Com2”. Input display.

This picture is showing “off display” just for capturing the picture.

Com 1 is NMEA signal, Com 2 is sensor signal from junction box/Electronic unit.

VMVBW is showing uncalibrated speed input. In this case 0,18 knot longitude and 0,0 transversial.

VMMTW is showing water temp. In this case 22,8 C.

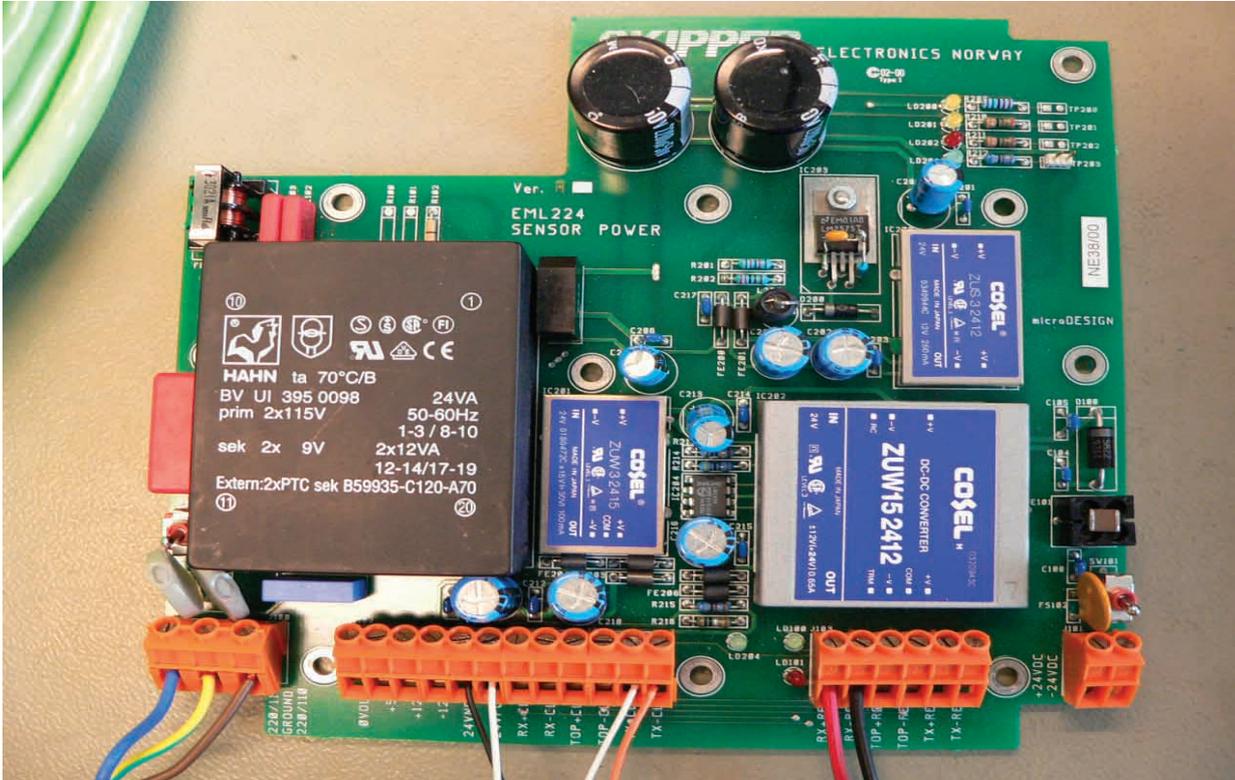
Step 4. Locate and inspect Junction box/Electronic unit.

There are 2 versions of this PCB.

“Sensor Power” is used in all SKIPPER “operator units” produced 1990 to 2007.

“Sensor power 2” is backward compatible with “sensor power”. This unit supports the “Compact operator unit”. (Introduced 2008). Also “SAM 4642 Operator unit” (Introduced 2007).

SENSOR POWER

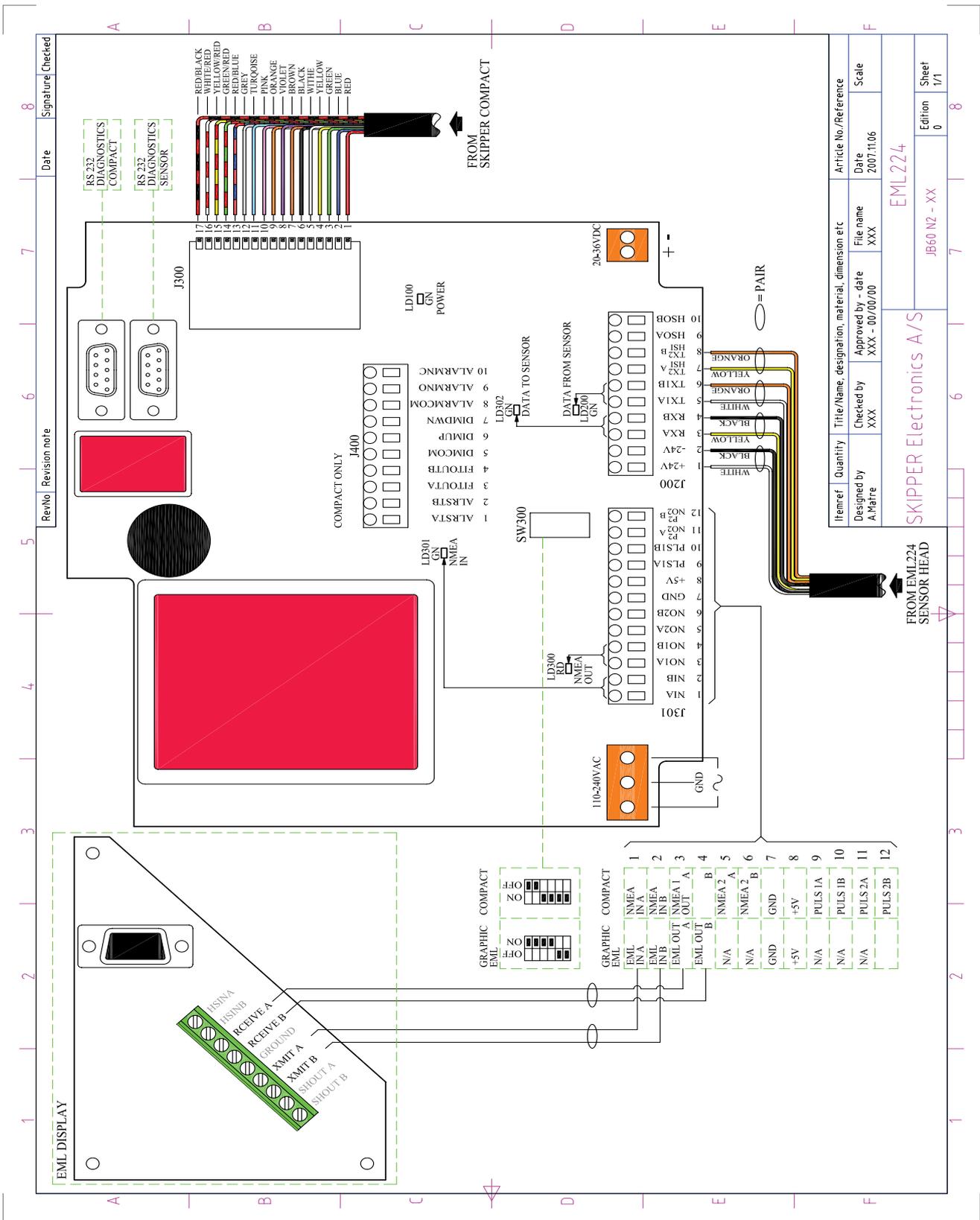


Green LED LD100 blinking is indicating transmit signal to coil in sensor.
If this is not blinking check input voltage 220V, 24V.

Green LED LD204 is indicating signal from sensor to “Operator unit”

Note! The signal from sensor is NMEA. This is only going through LD204 and then directly to operator unit. The signal will drop signal with about 1,1V. In case of long distance from sensor to operator unit (above 100m) the NMEA signal to operator unit may become low and noisy. It may help to directly connect the input signal to output. Then LD204 will not drop the signal.

SENSOR POWER 2



If no error is found in these steps then sensor is most probably causing the error.

No speed indicates defective sensor.

Low speed may indicate fouling of sensor.

Unstabil speed may indicate defective or fouling sensor.