

Fitness check of a DL2 sensor

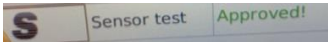
SENSOR Serial number: ZZZ-07007 serial number:

Vessel name: Type (DL2SG, DL2ST, DL2SW, DL2SE, DL2SDR):

Superoffice SKIPPER ID number: Rambase CDV number:

To check if the sensor is working there are 3 tests to perform.


1. Self test on the DL2 electronic unit.

In Config -> Diagnostics, press self test. Once the results are in place , press the Skipper icon next to the sensor test. 

Take a picture of the results.

	 <p>Fail</p> <p>Status: Sensor Failed!</p> <p>SENSOR: ERR: NO COM SENS CURR: OK: 0.0 mA OK Nmea count: 4118727 NOK Nmea count: 0 Serial number: 170363 Hardware revision: 82 Firmware revision: 3.04 SOG frequency: LOW STW frequency: HIGH High resonance 890: Default SOG pulse length: 8 ms</p> <p>Close Run</p> <p>Failed communication to or from sensor</p>
	 <p>Pass</p> <p>Status: Sensor test Passed!</p> <p>SENSOR: OK: COMM SENS CURR: OK: 126.3 mA OK Nmea count: 33 NOK Nmea count: 0 Serial number: 170363 Hardware revision: 82 Firmware revision: 3.04 SOG frequency: LOW STW frequency: HIGH High resonance 890: Default SOG pulse length: 8 ms</p> <p>Close Run</p> <p>Communication to and from sensor OK</p>

If not passed, press 'Hide Self-test' and check if there is any data on the live sensor left hand column.







	 <p>sensor live</p> <table border="1"> <thead> <tr> <th>STW freq. HIGH</th> <th>SOG freq. LOW</th> </tr> </thead> <tbody> <tr> <td>V2L 0.0</td> <td>STWL QF 4.0</td> </tr> <tr> <td>W2T 1.7</td> <td>STWT QF 2.0</td> </tr> <tr> <td>OG2L 0.0</td> <td>SOGL QF 3.0</td> </tr> <tr> <td>SOG2T 0.0</td> <td>SOGT QF 3.0</td> </tr> <tr> <td>STW2L H. -5.1</td> <td>STW2L H.Q 4.0</td> </tr> <tr> <td>STW2T H. -5.0</td> <td>STW2T H.Q 4.0</td> </tr> <tr> <td></td> <td>GPS SOG -.-</td> </tr> </tbody> </table> <p>Self-test</p> <p>If not working -.-</p>	STW freq. HIGH	SOG freq. LOW	V2L 0.0	STWL QF 4.0	W2T 1.7	STWT QF 2.0	OG2L 0.0	SOGL QF 3.0	SOG2T 0.0	SOGT QF 3.0	STW2L H. -5.1	STW2L H.Q 4.0	STW2T H. -5.0	STW2T H.Q 4.0		GPS SOG -.-
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move to test 2

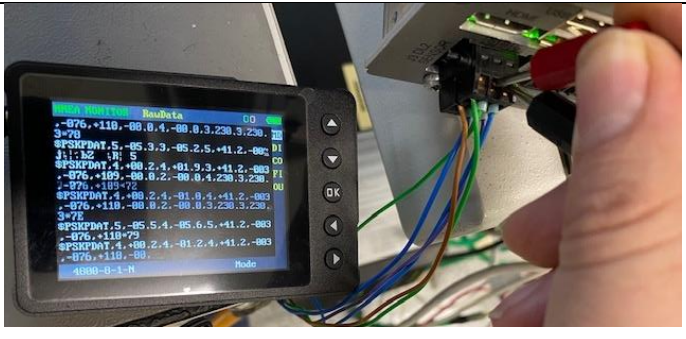
2. Live sensor test

Check if there are any messages being received from the sensor.

Using a volt meter check the voltages on the sensor connector J3 pin 5 and 6 ,








Pin numbers (expected result)	Result	
5,6 (21+V)		  <p>Sensor power measuring</p>
2,4 (1.6-2.5V pulsing only on startup)		  <p>1. OUTPUT TO SENSOR: measuring constant voltage around 2.6V. Voltage is positive if red probe is on right side. Voltage is not constant only when JB70 is sending msg. to sensor (e.g. on startup)</p>
1,3 2-3V (pulsing at 2 Hz)		  <p>INPUT FROM SENSOR (receiving messages from sensor)</p> <p>Note: note that voltage is positive if multimeters probes are like on the picture (red probe on right side)</p> <p>Note: you need to notice voltage switching aprox. from 1.6 to 2.5V. Please look at video</p>

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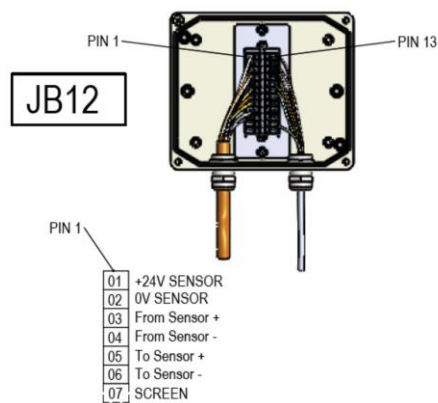
If you have an NMEA reader, try this on pins 1/3 look for PSKPDAT messages

3. Remove the plug from the JB unit and measure the resistance on the pairs (Measure Resistance)

Pin number	Cable colours old sensor	Cable colours New sensor (feb:22)	Expected result	Result
5,6 - Power to Sensor	Green, (brown/green) 	Red, Black 	Approx 14k - 15k	
2,4 - Rx from Sensor	Green, (Blue/green) 	Blue, White/blue 	>10Mohm	
1,3 – Tx to Sensor 	Violet, (Blue/violet) 	Brown, White/brown 	120-125 ohm	

4. Live sensor test at junction box (Measure Voltage) same as test 2

Cable colours old sensor	Cable colours New sensor (feb:22)	Expected	Result
Green, (brown/green) 	Red, Black 	20+ V	
Green, (Blue/green) 	Blue, White/blue 	2-3V pulsing	
Violet, (Blue/violet) 	Brown, White/brown 	3V (pulsing only on startup)	



5. Inspection of the sensor

If possible, lift the sensor from its valve and inspect the front face for growth, damage or deformity.

Take a picture of the front of the transducer.

When the sensor is working it may be possible to see a faint LED on the side at the bottom and top of the sensor.