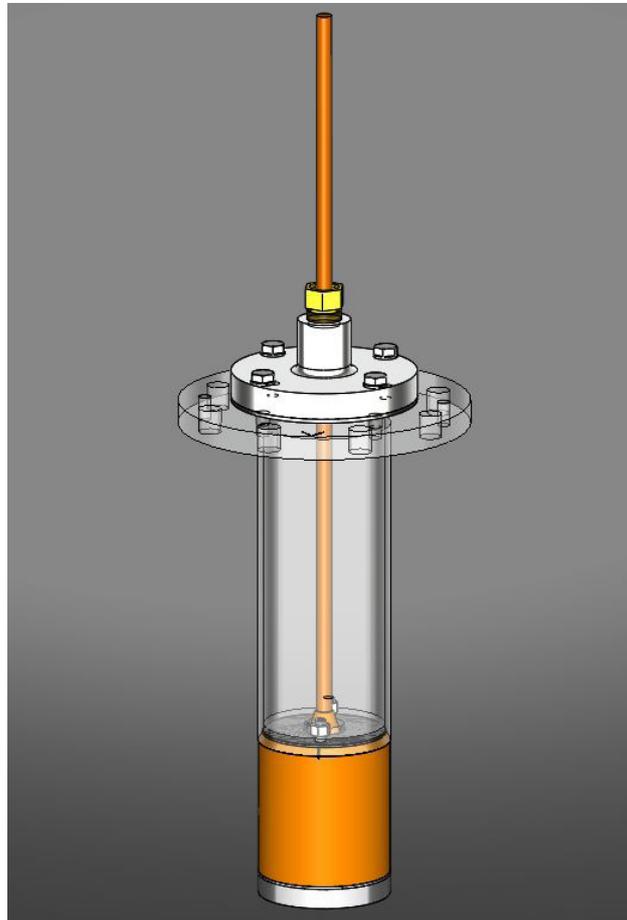


SKIPPER

Installation manual DL2 Doppler speed log retrofit for DL850 540kHz



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INTRODUCTION

This document describes how to retrofit a SKIPPER DL2 Doppler speed log from an existing DL850 540kHz .

The following existing DL850 parts is possible to be reused:

- Sea valve ETNSLB
- The cable between Display unit (on the bridge) and transceiver unit .

The sensor is possible to replace the with vessel afloat.

The replacement will require DL2 Display (CU-M001-SA), Electronic unit (JB70D2-SA), sensor for retrofit into existing ETNSLB 100mm sea valve (DL2SE-SA) and a terminal box to connect the sensor cable to the existing cable going from bow to bridge (JB12-SA).

This manual covers the special issues when retrofitting DL2 from DL850 540kHz.

For DL2 detailed installation instruction, please see DL2 installation manual.

For ETNSLB detailed intallation instructions, please see ETNSLB installation manual.



DL2SE-SA Sensor DL2 with adaptor to fit into ETNSLB Sea valve.

PREPARE SPEED LOG REPLACEMENT

The DL850 540kHz speed log to be replaced consist of the following main parts:

1: Operator Unit.

To be replaced by SKIPPER CU-M001-SA

2: Communication cable from operator unit to Transceiver unit.

May be reused for DL2

3: Transceiver unit

May be replaced by a terminal box JB12-SA.

4: Sensor cable 30 or 40m.

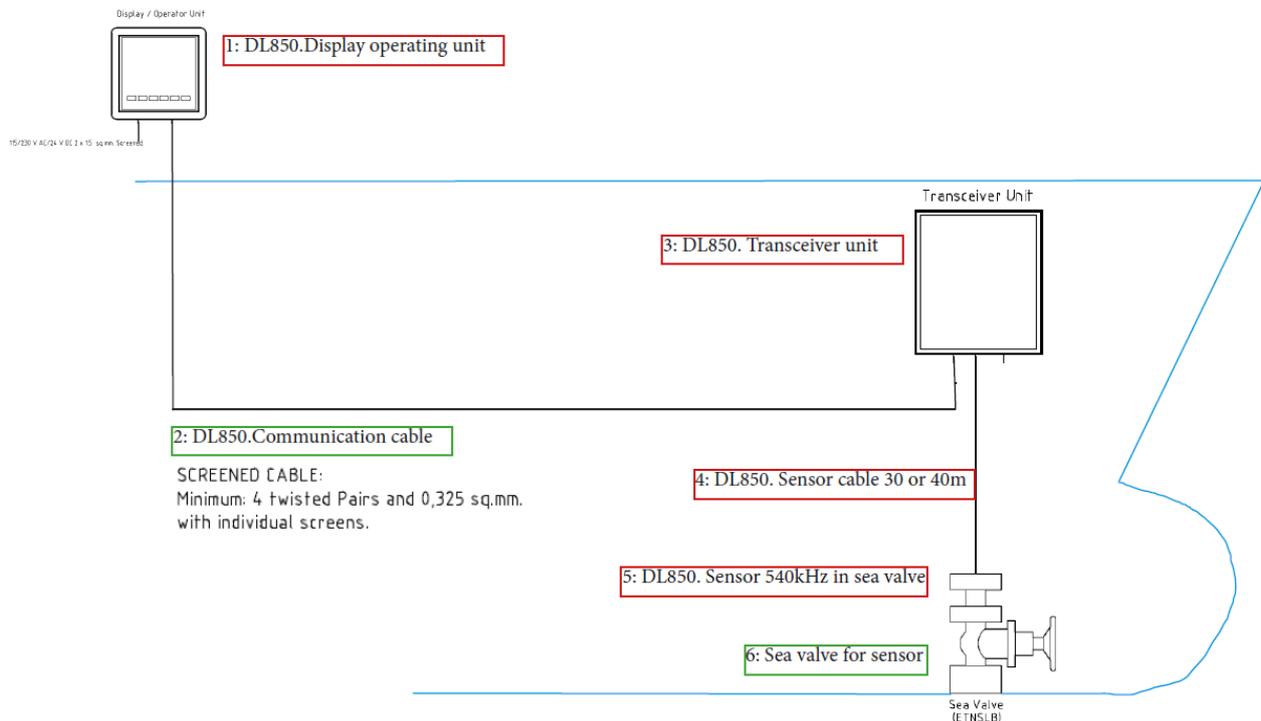
Replaced by integrated 40m cable in DL2 sensor. The new sensor cable is thinner than the old. 11mm diameter.

5: Sensor 540kHz

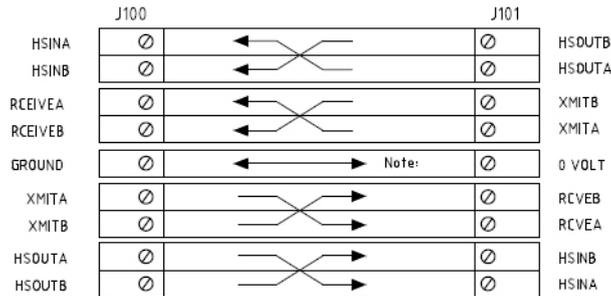
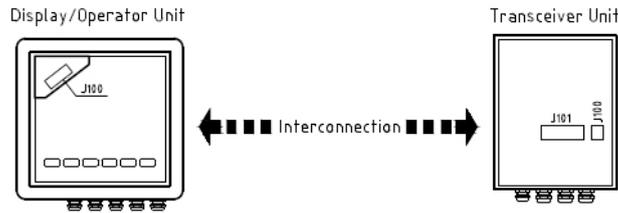
To be replaced by DL2SE-SA sensor with 40m cable

6: Sea valve ETNSLB

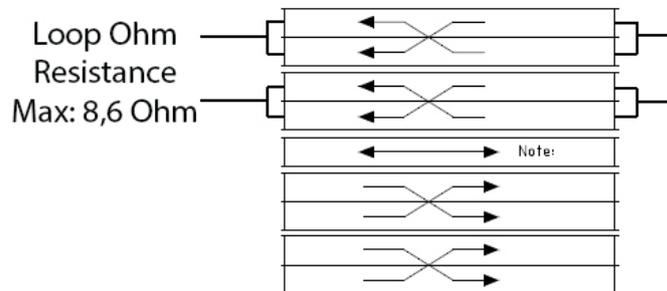
To be reused for installation of DL2SE-SA sensor.



- The cable between Display unit (on the bridge) and transceiver unit (within 40m distance from the DL850 sensor) is a 4 pair cable with individual screen and a minimum size of 0.325mm.



- This may be reused for communication between DL2 Electronic unit (JB70D2-SA) and the DL2 sensor (DL2SE-SA).
- There is a limitation in reusing this cable for the 24VDC supply to the sensor. 24VDC may drop if supplied by use of a very long and thin cable. The cable total inner resistance should not exceed 8,6 Ohm. See DL2 installation manual for details.
- The DL850 cable is a 4 pair cable so it is recommended two use two pair in double for the 24VDC.
- The loop resistance of the 24VDC pair should have max 8,6 Ohm



INSTALLING THE DL2

Please see the DL2 Installation manual for power requirement to CU-M001-SA and JB70D2-SA units.

The Junction box JB12-SA is only a terminal box with no requirement for power.

The CU-M001-SA Display operator unit may be positioned in the same area as the replaced DL850 Operator unit was. The CU-M001-SA is of less physical size than the replaced display unit.

The JB70D2-SA Electronic unit includes In/Outputs for external equipment. This require the JB70D2-SA to be positioned close to the wheel house area to route the external equipment cabling.

The communication cable requirement for DL2 is 3 twisted pair individually shielded. 1 pair used to supply 24VDC power from JB70D2-SA to Sensor DL2SE-SA. The dimmension of cable may limit the maximum length of cable.

The DL850 cable is a 4 pair cable so it is recommended two use two pair in double for the 24VDC.

Example: Minimum spec of DL850 cable is 0.325sq.mm. $2 \times 0.325 = 0.65\text{sq.mm}$.

The maximum length of cable 0.65 sq.mm is 180m.

An alternative may be to supply 24VDC at junction box by replacing JB12-SA with JB40POW-SA.

The DL2SE-SA sensor is included a moulded in 40m cable. This assures a completely water tight sensor and will not be destroyed by flooded sensor area such as the old DL850 sensor did.

