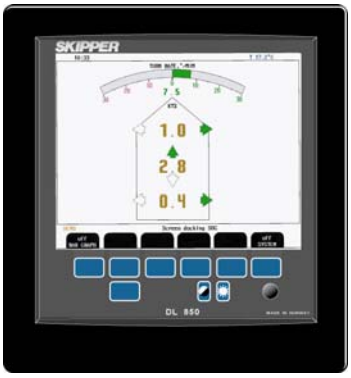
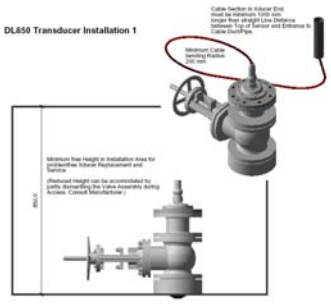
SKIPPER Electronics AS

# The DL850-540(D)
# SAM-4682/3 (RevA)

## Doppler Log

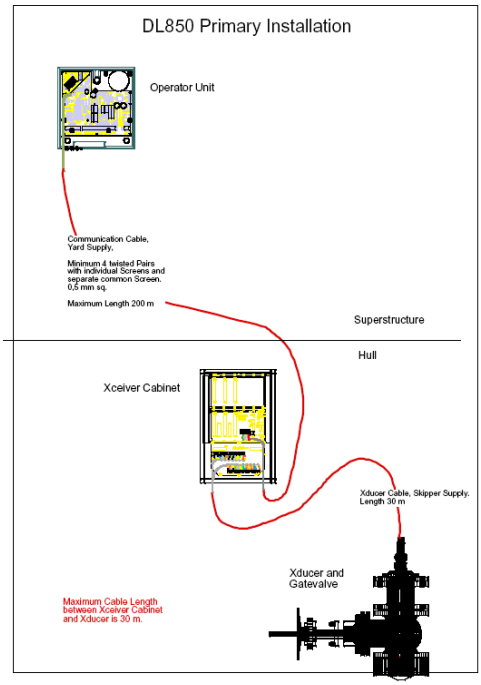
# Getting started



# Getting started with the DL850-540

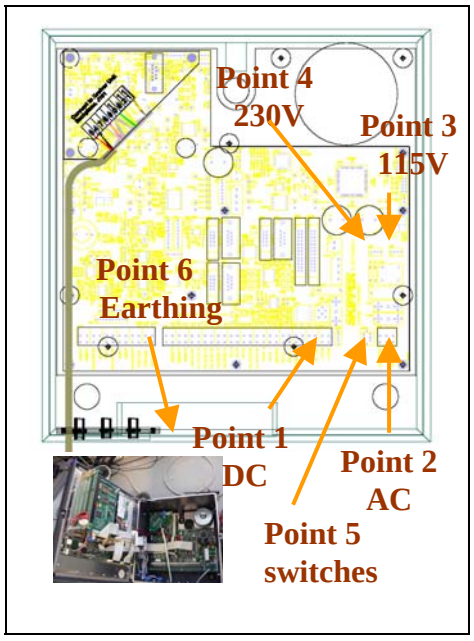
This guide is a compressed version of the information found in the manuals ‘DL850 Operation and Installation Manual’, and ‘100mm Gate Valve for DL850 Operation and installation manual’
The diagrams can be found in greater detail in these manuals.




The system comprises of 4 sections:

- The bridge unit
- The transceiver
- The transducer
- Cabling

The Unit is supplied with terminated cable for the transducer, and yard stock cable can be used for the longer transceiver – bridge section (individually screened twisted pair).
Alternatively, this cable can also be provided by Skipper part nr **ZZK-01011**.




## Mounting the bridge unit

1. The bridge unit is mounted in or near the bridge, allowing a space for the air to escape at the back of the cabinet (>10mm). The bridge unit will accept 24VDC or 115/230V AC. Power cables are not provided.

2. Mount the unit using the 3 screws on the rear (provided) or using the skipper bracket ordered separately part nr ZZA-01125 (photo), alternatively a flush mount bracket can be ordered ZOA01042. Open the cabinet, using a Phillips (cross) screwdriver. Screw the power lines to the appropriate terminals pt1 or pt 2 (or both). If AC is used, select the correct voltage using connecter pt 3 or pt 4 (unit supplied in 230V position)

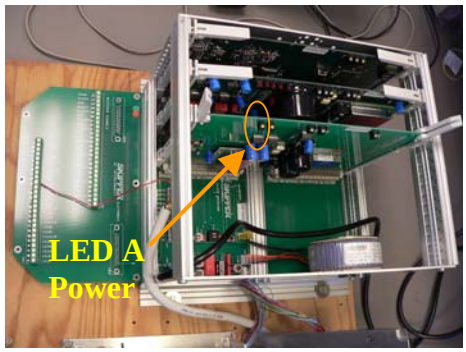
3. Ground the unit to ship ground using the grounding terminal (pt 6)

4. The unit is now ready to test. Turn on the appropriate power switch(es) pt 5. Press a button on the front panel. The unit will start and the display (with no data) will be displayed.

Note: The factory default has brightness low and night picture and may need adjusting to be seen in bright sunlight.

**Mounting the Transceiver.**

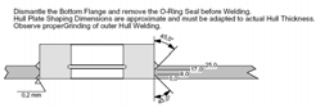
1. Mount the unit on a solid wall. (The unit weighs 17 kg). Ground the unit via the bolts or with a cable to the ships ground. Route power to the unit (mains/24DC or both, The unit needs at least 60W at peak.)
2. Turning on the power with no cabling will not damage the unit, LED A should light.

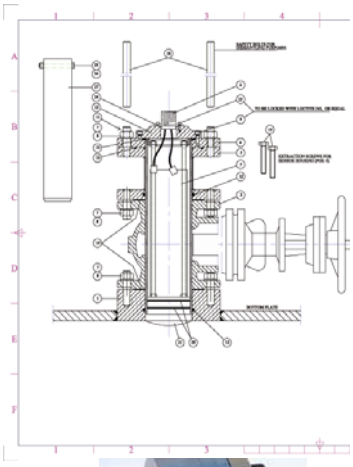


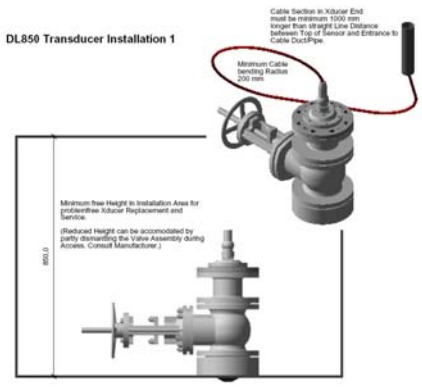

(8-10mm bolts are needed to mount the unit to the wall, not supplied)

**Installing the Gate valve (See separate manual for full details)**

1. Weld the bottom flange flush into the hull with the bow between two bolts.
2. When cool, grease and insert the 'O' ring into the bottom flange.
3. Attach the gate valve in any configuration (to enable easy access to the valve wheel/lever), remembering the **0.5mm** gasket between bottom flange and gate valve. Add the second stage with a **1.5mm** gasket. Grease the internal O ring with silicon grease and insert.
4. Add the guidance bolts and attach the nut underneath the flange.
5. Slide in the transducer with the arrow pointing ahead. Inspect the unit outside the ship, check the unit is not sticking out too far. See photo.
6. If the unit is out too far, add extra gaskets between the gate valve and the second stage.

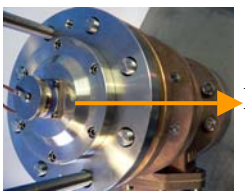




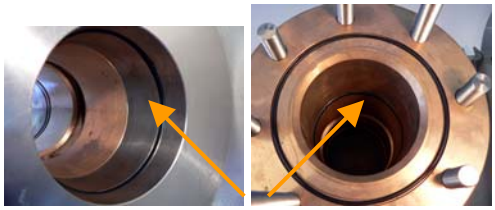



7. Add the rest of the bolts, screw tight (torque 182Nm)
8. Add the nuts to the guidance bolts, screw tight
9. The gate valve is now ready. If it is to be left for a long time, apply plenty of grease to the threaded areas (The valve and the guidance rods)

**Flush Mounted**

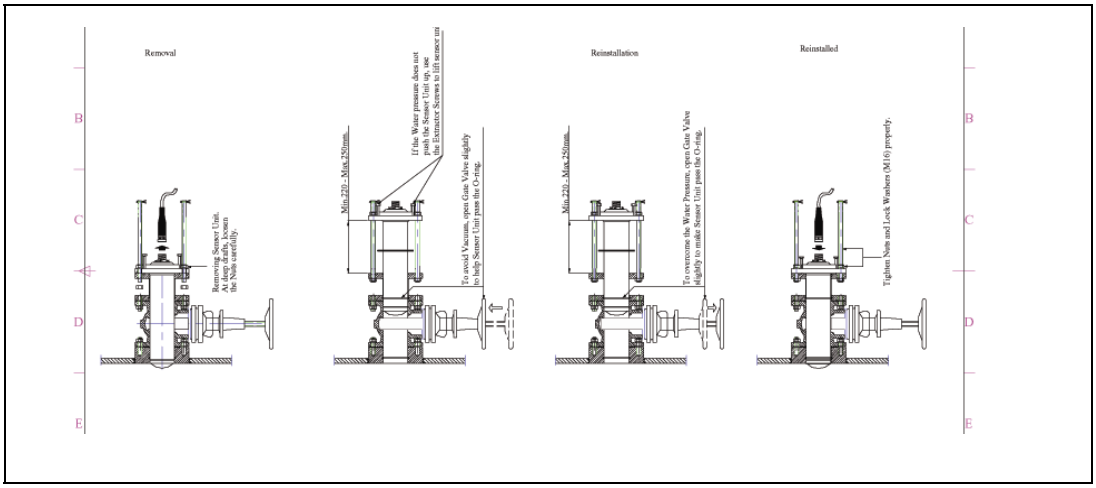



Alignment arrow on sensor flange and between two bolts



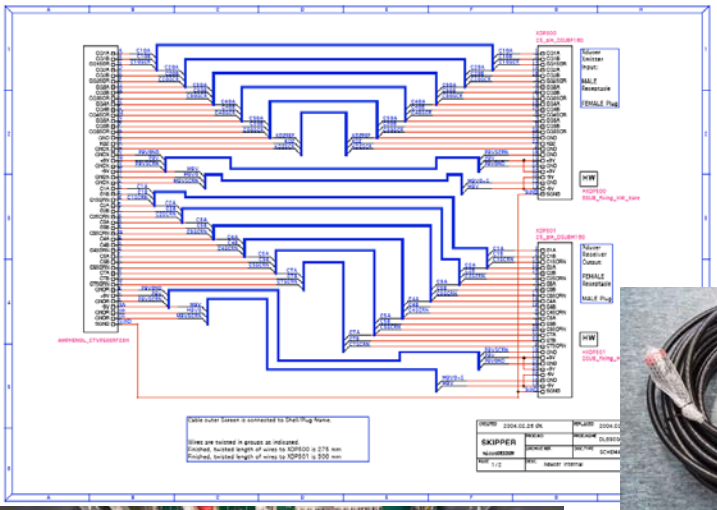
**Check internal O rings**

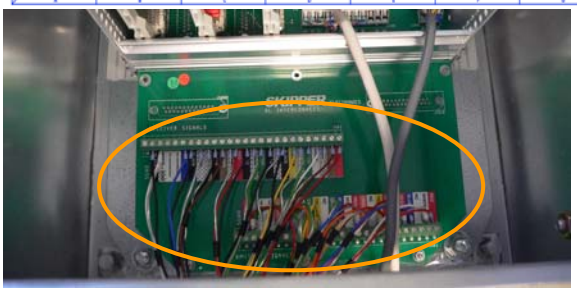
**Inserting the transducer (See gate valve manual)**
Insert silicone grease on the internal ‘O’ ring
Lower the transducer into the gate valve, with the arrow pointing forward, until it comes to a rest. Gently push through the internal ‘O’ ring. Once through add the bolts on the guidance rods and tighten to about 5mm over the transducer.
Open the gate valve.
Gently push the transducer down until the two plates meet. If the pressure is too great (vessels with >10m draught) the bolt can be used to push down the transducer.
Attach the bolts, tighten to torque 182Nm
Tighten the bolts on the guidance bolts.
Grease the guidance bolts
Seal the transducer connector with self-amalgamating tape. (the plug is only splash proof, not water proof)
Apply plenty of grease around the bolts and threads of the gate valve.




**Removing the transducer**
Loosen the nuts on the guidance rods screw them up to approx 2cm over the flange
Release all the bolts. If the system is not loosen, screw bolts (10mm) into the threaded holes and tighten evenly. The unit should lift.
The two nuts on guidance pins can then be loosened evenly, allowing the sensor to rise in a controlled manor.
When the nuts are all the way up, close the gate valve.
The unit can then be lifted out. If the unit does not lift due to the water/vacuum below the head, slightly open the gate valve.

**Cabling**
The transducer cable should be routed to the transceiver box. Any excess cable should be coiled in an area with little electrical noise (i.e. not next to a motor or generator).
Cables are 30m long as standard.

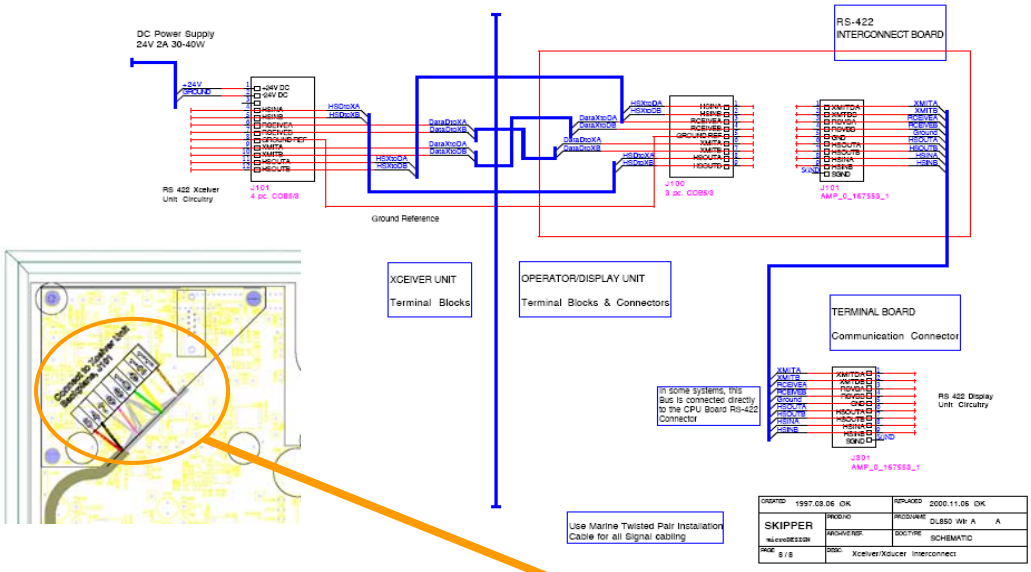




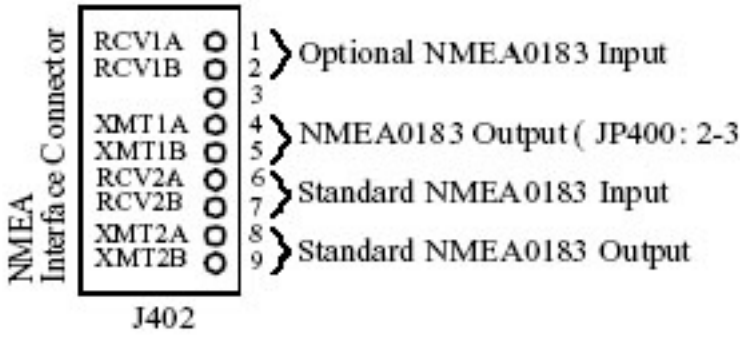
The transceiver end of the cable is colour coded, and the transceiver screw terminals J503 and J502 are also colour coded. Attach the cables as per diagram p 62 operator and installation manual

The cable from the transceiver box to the deck unit is connected as per diagram below. This cable transmits large quantities of data so should be routed away from potential noise sources. This cable is RS 422 with handshaking and should not be effected by anything but extreme noise.

(See page 61 of Operator and installation manual)




**Interfacing and connecting the NMEA outputs**
This is documented in the Operation and installation manual on page 43




**Operational Check**
CARE: The system should ideally **not** be powered in air, if however you wish to check the system, the transmit wires can be disconnected, and the unit will operate. See page 62, J503 pins 1-15 (1 on the right) The unit will operate for up to 10 minutes in air, but must then be allowed to cool for at least 30 minutes.

**Calibration of the system**

This is documented in the DL850 operation and installation manual page 50