



DLA2

USER & INSTALLATION MANUAL

Firmware Version 1.06
Manual Revision 1.00

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DLA2 Setup

The DLA2 can be set up either by using Bluetooth, or via switches. It is intended to use one or the other of these two methods, not both. You can however continue to calibrate the DLA2 using an MFD display, whichever channel setup method has been used.

Bluetooth Setup

SW1 must be in position '0' to switch on the Bluetooth interface. Pair your device to the A+T DLA2*serial number* and use:

Pass Key "1234"

Open a terminal program on the device and select the associated Bluetooth Serial port and press 'RETURN' on the device keyboard. The following menu should appear:

A+T DLA Configuration

Main Menu

- (B) Bootload
- (A) Analogue
- (L) Loadcell
- (S) Statistics
- (N) Fastnet Node Number
- (F) Factory Reset

(X) Return to Main menu

Loadcell Setup

Select (L) to display the following menu:

- (C) Set Fastnet Channel
- (N) Set Fastnet Channel Name
- (A) Set Calibration
- (Z) Set Zero Value
- (T) Set Trip Point
- (D) Set Decimal Places

Select (C) to choose the Fastnet channel from the following list. The default channel name can be overwritten after selecting the channel using (N). Selecting (0) from the following list will allow Switch 1 to set the channel.

- (0) Externally Set
- (1) Forestay (64)
- (2) Backstay (42)
- (3) Port Runner (43)
- (4) Stbd Runner (44)
- (5) Port V1 (45)
- (6) Stbd V1 (61)
- (7) Main Sht (62)

- (8) I/Forestay (63)
- (9) Loadcell 1 (03)
- (10) Loadcell 2 (04)
- (11) Loadcell 3 (05)
- (12) Loadcell 4 (06)
- (13) Loadcell 5 (07)
- (14) Loadcell 6 (08)
- (15) Loadcell 7 (09)
- (16) Loadcell 8 (10)

The Bluetooth setup gives you the option of fixing 1 or 2 decimal places for the load output. The automatic option sets the number of decimal places according to the calibration value entered. For example, if you enter '12.30', the displayed result will be to 2 decimal places and if you enter '12.3', the displayed result will be to 1 decimal place.

Linear Input Setup

Select (A) from the Main Menu to display the Linear menu:

- (C) Fastnet Channel
- (N) Fastnet Channel Name
- (T) Channel Type
- (M) Minimum Value
- (A) Maximum Value
- (V) Set Voltage Ref

Select (C) to choose the Fastnet channel from the following list. The default channel name can be overwritten after selecting the channel using (N). Selecting (0) from the following list will allow Switch 2 to set the channel.

Before calibrating linear input, select (T) to set Analogue Linear Type:

- (-2) Linear 0 -> 10.00
- (-1) Linear 0 -> 100.0
- (1) Linear 0 -> 1000
- (2) Linear 0 -> 1000
- (3) Rotating Mast Sensor
- (4) Heel Angle
- (5) Trim Angle
- (6) Barometric Pressure
- (7) Rudder Angle
- (8) Keel Angle
- (9) Canard Angle
- (10) Trim Tab Angle
- (11) Dagger Board Position
- (12) Boom Position

Before calibration, set up the input voltage range by selecting (V) and choosing 0-5V or 0-12V. This can only be set using Bluetooth.

The 0-5V setting is Ratiometric. That is, it uses the 5V output of the DLA2 as the reference. This is the most accurate method when setting up potentiometers or resistive sensors that use the 5V as a reference.

The 0-12V setting is absolute. That is, it uses an internal precision voltage reference that is unrelated to the unregulated 12V output. This is the most accurate method when using sensors with built in regulators or with an accurate defined output voltage. The actual Voltage input range on this setting is 0-12.7V.

Calculate the reading that would be expected at 0V and the selected Reference Voltage, 5 or 12V. Enter these two figures into (M) Minimum and (A) Maximum values.

Diagnostics

Select (S) Statistics from the main Bluetooth menu to display:

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Serial Number DLA2X000000  
Hardware V 02  
Software V 1.06  
Fastnet Node 112 (0x70)
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(X) Return to Main menu

See 'DLA2 Load Calibration' for calibration

Fastnet Node

The Fastnet node is displayed as a decimal and (Hexidecimal) number. The first amplifier on the system will normally be node 112 (0x70). Select (S) from main menu to set the node to a fixed node or back to automatic. You must not set two amplifiers to the same fixed node. A restart is required for the new node to take effect. The DLA2 is reset to automatic node after factory reset.

Setup using switches

If the switches are moved from the '0' position, then the Bluetooth settings are disabled, and the channels are set up as per the tables on following page:

SW1 Loadcell Channel Settings

Switch Position	Name	Fastnet Channel Number
0	Set by Bluetooth or Disabled. Switch on Bluetooth Interface	
1	Forestay	64
2	Backstay	42
3	Port Runner	43
4	Stbd Runner	44
5	Port V1	45
6	Stbd V1	61
7	Mainsheet	62
8	Inner Forestay	63
9	Calibration Resistor Enabled	

SW2 Linear Channel Settings

Switch Position	Name	Fastnet Channel Number
0	Set by Bluetooth or Disabled	
1	Linear 5	16
2	Linear 6	17
3	Linear 7	18
4	Linear 8	19
5	Linear 9	20
6	Linear 10	21
7	Linear 11	22
8	Linear 12	23
9	Linear 13	24

Note that changes to switches will not take effect for 4 seconds.

DLA2 Load Calibration

Calibration can be performed from the Bluetooth menus, or from a display connected to the Fastnet, such as an A+T MFD or a B&G FFD or GFD.

The following items can be adjusted:

SET ZERO (CAL VAL 1 on B&G FFD)
CAL VAL (CAL VAL 2 on B&G FFD)
TRIP PT (CAL VAL 3 on B&G FFD)

On a new or factory reset DLA2, entering the calibration value, (Cal. Equiv.), from the load pin certificate with no load on the system is all that is required. The DLA2 will automatically set the zero and then calibrate to the load pin.

Reset Zero

If you want to reset the zero position, enter '0.00' as the zero value after removing any load from the system. After a few seconds the actual zero calibration will be shown. This value should be noted for future reference. (Note that on a B&G FFD, you need to exit and return to CAL VAL 1 to see the updated value).

If you have a stored zero value from a previous calibration, then this value can be entered directly. You do not need to remove the load to do this. Make a note of the new zero value for future reference.

Calibration Value

If you are entering the calibration value, (Cal. Equiv.), for the first time, ensure that there is no load on the system, as the zero value will automatically be measured at the same time.

If you want to further adjust or change the calibration value after the initial setting, you can do so without removing the load.

Normally the number of decimal places in the output is displayed according to the calibration value entered. For example, if you enter '12.30', the displayed result will be to 2 decimal places and if you enter '12.3', the displayed result will be to 1 decimal place. You can fix the number of decimal places displayed when using Bluetooth setup.

Trip Value

The DLA2 will send an alarm message across the Fastnet whenever the Trip value is exceeded. Set trip value to 0 to switch off this feature.

DLA2 Linear Calibration

The following items can be adjusted:

TYPE	(CAL VAL 1 on B&G FFD)
MINIMUM	(CAL VAL 2 on B&G FFD)
MAXIMUM	(CAL VAL 3 on B&G FFD)

The input voltage range cannot be adjusted using this mode.

Choose the channel type and enter it into 'Type'. Calculate the reading that would be expected at 0V and 5V. Enter these two figures into Minimum and Maximum values. See example graph on following page:

