DCPS User Manual

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Bergen, Norway

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Offshore Sensing AS
Fantoftvegen 38
5072 Bergen
Norway

www.sailbuoy.no
email: info@sailbuoy.no
Tel: +47 916 52 190
Org nr. 914 277 957 MVA

Contents

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DCPS configuration

```
------ Aanderaa DCPS ------
16: $DCPS.ON   On.....................: 1
17: $DCPS.RP   RunOrder (1-9).........: 5
18: $DCPS.RC   RunCounter.............: 1
19: $DCPS.GPS  GPSOn..................: 1
20: $DCPS.DEV  Deviation..............: 0
21: $DCPS.MIN  MeasurementTimeMin....: 2
22: $DCPS.AVG  Average................: 7
23: $DCPS.LOG  LogToDisk..............: 1
```

Command	No Parameters	Description	Min	Max
$DCPS.ON	1	On «$DCPS.ON 0» disables the DCPS «$DCPS.ON 1» enables the DCPS	0	1
$DCPS.RP	1	RunOrder (1-9)	1	9
$DCPS.RC	1	RunCounter	0	-
$DCPS.GPS	1	GPSOn To compensate for vehicle movement the GPS must be enabled.	0	1
$DCPS.DEV	1	Deviation The magnetic deviation used when transmitting surface currents.	0	360
$DCPS.MIN	1	MeasurementTimeMin The amount of minutes the DCPS is set to acquire data This setting should be set on 2 min intervals. 2,4,6,8 minutes etc.	0	30
$DCPS.AVG		Average The number of cells down from surface used to calculate the average current.	0	20
$DCPS.LOG	1	Log sensor output to disk	0	1

The DCPS must be correctly configured for the mission. To set bin size, and other DCPS parameters use Direct serial to communicate with the DCPS and consult the DCPS manuals.

Transmitted data

DCPSStatus – Status indicator

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0 – No errors
Bit 0 - DCPS_Status_Memory_error
Bit 1 - DCPS_Status_File_Open_error
Bit 2 - DCPS_Status_Timeout_error
Bit 3 - DCPS_Status_GPS_error

DCPSOnMin – Acquisition period in minutes
DCPSSpeed – Average current speed in m/s
DCPSDirection – Average current direction in degrees

Logged output from DCPS

The following output is saved to “DCPS.TXT” file on disk

Black text:
This text is generated by the datalogger and contains

- Date/time of the internal datalogger clock
- GPS position with the GPS Date/Time

Green text:
This is the direct raw output of the DSCP instrument. To process this data, see DCPS manuals.

Blue text:
This is the calculated current speed and direction calculated by the datalogger based on the raw DCPS output.

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```
Sensorlog opened 23.06.2020 09:02:35 GPS: 23.06.2020 09:02:35 60.17471 5.49304
%
StartupInfo   5400   460    Mode   AADI Smart Sensor Terminal Protocol     …….
Initializing...
Started...
MEASUREMENT 5400    460    Heading[Deg.M]      2.941192E-01 ……
*** Processed data: Deviation 0.00 deg
Cell    0  Speed 0.1154 Dir 337.8443   East -0.0435   North 0.1069
Cell    1  Speed 0.1163 Dir 359.2926   East -0.0014   North 0.1162
Cell    2  Speed 0.1133 Dir 356.9538   East -0.0060   North 0.1132
Cell    3  Speed 0.1026 Dir 353.6823   East -0.0113   North 0.1020
Cell    4  Speed 0.0764 Dir 65.6921   East 0.0696   North 0.0314
Cell    5  Speed 0.0497 Dir 11.6465   East 0.0100   North 0.0487
Cell    6  Speed 0.1176 Dir 44.9254   East 0.0830   North 0.0833
Cell    7  Speed 0.0853 Dir 85.0686   East 0.0850   North 0.0073
Cell    8  Speed 0.0995 Dir 52.6241   East 0.0791   North 0.0604
Cell    9  Speed 0.0868 Dir 23.9618   East 0.0352   North 0.0793
Cell   10  Speed 0.0099 Dir 190.0755   East -0.0017   North -0.0098
Cell   11  Speed 0.0513 Dir 155.8902   East 0.0210   North -0.0468
Cell   12  Speed 0.0483 Dir 48.0047   East 0.0359   North 0.0323
Cell   13  Speed 0.1084 Dir 119.6701   East 0.0942   North -0.0537
Cell   14  Speed 0.1123 Dir 341.4264   East -0.0358   North 0.1065
Cell   15  Speed 0.0820 Dir 346.4479   East -0.0192   North 0.0797
Cell   16  Speed 0.0823 Dir 253.6837   East -0.0790   North -0.0231
Cell   17  Speed 0.0325 Dir 344.7900   East -0.0085   North 0.0313
Cell   18  Speed 0.0920 Dir 284.2868   East -0.0892   North 0.0227
Cell   19  Speed 0.0503 Dir 57.5428   East 0.0424   North 0.0270
Cell   20  Speed 0.0202 Dir 60.2190   East 0.0175   North 0.0100
Cell   21  Speed 0.0272 Dir 9.0258   East 0.0043   North 0.0269
Cell   22  Speed 0.0369 Dir 270.0925   East -0.0369   North 0.0001
Cell   23  Speed 0.0120 Dir 242.4212   East -0.0106   North -0.0055
Cell   24  Speed 0.0338 Dir 286.1203   East -0.0325   North 0.0094
Cell   25  Speed 0.0667 Dir 6.7809   East 0.0079   North 0.0663
Cell   26  Speed 0.1510 Dir 0.7224   East 0.0019   North 0.1510
Cell   27  Speed 0.0851 Dir 53.7609   East 0.0686   North 0.0503
Cell   28  Speed 0.1105 Dir 32.3022   East 0.0590   North 0.0934
Cell   29  Speed 0.0532 Dir 345.3289   East -0.0135   North 0.0515
Sensorlog closed 23.06.2020 09:05:05 GPS: 23.06.2020 09:05:01 60.17569 5.49435
```


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