

Contents of the shipping box



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Nortek order no:

42965-1-109

Type of system:

SIGNATURE 100

Instrument type:

- | | | | | |
|--|---|--|--|--|
| <input type="checkbox"/> Aquadopp | <input type="checkbox"/> Aquadopp 6000m | <input type="checkbox"/> Vector | <input type="checkbox"/> Signature55 | <input type="checkbox"/> Signature500 |
| <input type="checkbox"/> Aquadopp profiler | <input type="checkbox"/> AWAC | <input type="checkbox"/> Vectrino | <input checked="" type="checkbox"/> Signature100 | <input type="checkbox"/> Signature1000 |
| <input type="checkbox"/> Aquadopp 3000m | <input type="checkbox"/> VM AWAC | <input type="checkbox"/> Vectrino profiler | <input type="checkbox"/> Signature250 | <input type="checkbox"/> NortekDVL |

Software version:

SIGNATURE
DEPLOYMENT

Firmware version:

74.5217.2217-4/169

Other:

Cable:

☒ 10m length

☐ Other:

Connector:

☐ 8-pin Inline

☐ 12-pin UW

☒ 6-pin Inline

☐ 7-pin Souriau

☐ Other:

Communication:

☐ RS232

☒ Ethernet

☐ RS422

☐ Other:

Options:

☐ Analog input

☐ Synch

☐ Analog output

☐ Other:

Battery cannister:

☐ Paradopp battery cannister

☐ Single battery aluminium cannister

☐ Double battery aluminium cannister

Battery cables:

☐ 2pin Inline-2pin

☐ 8pin Inline-2pin

☐ 8pin rectangular-2pin

Accessories:

☒ Toolkit

☒ Quick guide

☒ Final test checklist

☐ Seeding material

☐ USB to serial converter RS232

☐ Altronix AL310 USB driver

☐ Recorder kit/ProLog

☐ Battery harness for 2 batteries

Batteries:

☐ Alkaline 50Wh 13.5V

☐ Alkaline 100Wh 13.5V

☐ Alkaline 540Wh 13.5V

☐ Alkaline 540Wh 18V

☐ Alkaline 90Wh 15V(Signature1000)

☐ Alkaline 180Wh 18V(Signature500)

Extra set:

AC/DC Power supply

☐ 15V standard

☐ 48V Signature55

☐ 24V Vectrino

☒ 24V DC/DC & Signature

Plug

☐ EU

☐ UK

☒ US

Other:

Date:

13.09.2019.

Responsible:

Tommy Johansen

Final test checklist AD2CP



Order number:
42965-1-109

Name: **Signature 100**
Instrument serial number: **101599**
Frequency: **100 KHz** Main board: **AD2CP-1711**
Firmware versions: **1.4.5217.22114 / 169**

Label checked ☒ OK
Dock test ☒ OK
Baudrate 115200 ☒ OK

Comments:

Tilt check
☒ Pitch up
☒ Roll up
☒ Status bit
☒ Pitch down
☒ Roll down
pitch & roll within +/- 0.2 °

Clock
☒ Set clock
Heading
☒ Up
☒ Down
tolerance: +/- 2 °

Pressure
Psensortemp ☒ OK
tolerance: +/- 0.1 % of
500 m

Temperature
☒ OK
tolerance: +/- 0.1 °

Beam check

	Correct order	Beam Imp	Noise floor	Amplitude in tank	Range
Beam 1	<input checked="" type="checkbox"/> OK	78 Ω	25 dB	>80 dB	<input checked="" type="checkbox"/> OK
Beam 2	<input checked="" type="checkbox"/> OK	83 Ω	25 dB	>80 dB	<input checked="" type="checkbox"/> OK
Beam 3	<input checked="" type="checkbox"/> OK	76 Ω	25 dB	>80 dB	<input checked="" type="checkbox"/> OK
Beam 4	<input checked="" type="checkbox"/> OK	82 Ω	25 dB	>80 dB	<input checked="" type="checkbox"/> OK
Beam 5	<input checked="" type="checkbox"/> OK	489 Ω	25 dB	>80 dB	<input checked="" type="checkbox"/> OK

Velocity direction *To heavy to Verify.*
XYZ coordinate system *Matrix correct* ENU coordinate system
X ☐ OK E ☐ OK
Y ☐ OK N ☐ OK
Z ☐ OK U ☐ OK
Z₂ ☐ OK U₂ ☐ OK

Head file
☒ Headfile checked
☒ Saved as read only

Serial communication
☐ RS422
☐ RS232

Recorder erased
☒ OK
Rec size: **128GB**

Ethernet
MAC address: **8C:68:78:00:06:AF** DHCP enabled ☒
Static IP address: FTP OK ☒
Set host name: **101599**

Licenses

Averaging mode <input checked="" type="checkbox"/>	Wave mode <input type="checkbox"/>	Vertical velocity <input type="checkbox"/>	64GB recorder <input type="checkbox"/>	Calibration license erased <input checked="" type="checkbox"/>
Burst Five beams <input type="checkbox"/>	Echo Sounder <input checked="" type="checkbox"/>	Dual frequency low <input type="checkbox"/>	128GB recorder <input checked="" type="checkbox"/>	Production license erased <input checked="" type="checkbox"/>
Bottom track <input type="checkbox"/>	Ice Measurement <input type="checkbox"/>	Dual frequency high <input type="checkbox"/>	256GB recorder <input type="checkbox"/>	Default configuration set <input checked="" type="checkbox"/>
High Resolution <input type="checkbox"/>	Altimeter <input type="checkbox"/>	16GB recorder <input type="checkbox"/>		

Cable/Harness
Cable: Communication ☒ Battery ☒
Harness: Communication ☒ Battery ☒

Electrical isolation test
50V Ok ☒

External sensors

Power down
☒ OK

Date
Day **13** Month **09** Year **19**
Signature
Signature



Certificate of Calibrations and Tests

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Instrument Information

Customer Reference No.	42965-1-109
Instrument Type	Signature100
Instrument Frequency	100 kHz
Instrument S/N	101599
Head S/N	D-1599
Interface Board S/N	1711
Interface Board Mfr. S/N	4M00618740006
Digital Board Mfr. S/N	4M00619160080
Echo Sounder Board Mfr. S/N	4M00614620015
Analog Board Mfr. S/N	4M00614370012
Sensor Board Mfr. S/N	4M00555370049
Interface Board Rev.	H-1(High-Power)
Digital Board Rev.	I-3
Echo Sounder Board Rev.	B-1(High-Power Echo)
Analog Board Rev.	B-0(High-Power 100 kHz)
Sensor Board Rev.	I-0

Calibrations and tests performed

Pressure	Passed
Tilt and Compass	Passed

All the tested values are within Nortek AS specifications

September 13, 2019
Date


Reviewed and approved (sign.)



Pressure Report

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Details

Instrument Type	Signature100
Instrument S/N	101599
Pressure Range	500 dBar
Date	September 6, 2019
Operator	Daniel Sebastian Alicata
Location	Nortek Factory Norway
Result	Passed

Description

Verification is performed in an automated pressure chamber. Fixed-point measurements are collected to verify the sensor.

Criteria of acceptance is $\pm 0.1\%$ of full scale.

Reference: Paroscientific, Inc. - Digiquartz 9000-1K-242. Accuracy 0.01% of 689dBar.

Verification Results

Reference (dBar)	Pressure Diff. (dBar)	Pressure Diff. (% of FS)
10.56	-0.17	-0.01
100.57	-0.14	-0.01
200.32	-0.09	-0.01
300.97	0.00	0.00
400.57	0.08	0.01
498.41	0.17	0.01



Tilt and Compass Report

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Details

Instrument Type	Signature100
Instrument S/N	101599
Date	September 5, 2019
Operator	Asle Martinsen
Location	Nortek Factory Norway
Result	Passed

Description

Calibration and verification is performed in a two axis automated jig. Continuous and fixed-point measurements are collected to calibrate and verify the sensor.

Criteria of acceptance for tilt sensor is $\pm 0.2^\circ$.

Criteria of acceptance for compass sensor is $\pm 2^\circ$.

Reference: Digital Protractor Series 950 Pro 3600. Accuracy $\pm 0.05^\circ$.

Tilt Verification Results

Reference ($^\circ$)	Diff. Up		Diff. Down	
	Pitch ($^\circ$)	Roll ($^\circ$)	Pitch ($^\circ$)	Roll ($^\circ$)
-30.00	0.01	-0.06	0.00	0.09
-15.00	-0.06	-0.09	0.05	0.06
0.00	0.03	0.03	0.09	0.03
15.00	-0.03	0.07	-0.06	0.07
30.00	0.00	-0.11	0.03	0.09

Compass Verification Results

Reference ($^\circ$)	Heading Diff. Up ($^\circ$)	Heading Diff. Down ($^\circ$)
0.00	-0.57	0.40
45.00	-0.51	-0.04
90.00	-0.08	0.12
135.00	0.34	-0.08
180.00	0.24	-0.40
225.00	-0.44	-0.17
270.00	-0.57	0.08
315.00	-0.67	0.53