

Contents of the shipping box



Vangkroken 2
N-1351 RUD
Norway
Teli: +47 6717 4500
Fax: +47 6713 6770
Inquiry@nortek-as.com
www.nortek.no

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: 74.5217.2277-4/169

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:

- | | | Extra set: |
|---|--------------------|--------------------------|
| <input type="checkbox"/> Alkaline 50Wh | 13.5V | <input type="checkbox"/> |
| <input type="checkbox"/> Alkaline 100Wh | 13.5V | <input type="checkbox"/> |
| <input type="checkbox"/> Alkaline 540Wh | 13.5V | <input type="checkbox"/> |
| <input type="checkbox"/> Alkaline 540Wh | 18V | <input type="checkbox"/> |
| <input type="checkbox"/> Alkaline 90Wh | 15V(Signature1000) | <input type="checkbox"/> |
| <input type="checkbox"/> Alkaline 180Wh | 18V(Signature500) | <input type="checkbox"/> |

AC/DC Power supply

- ☐ 15V standard ☐ 48V Signature55 ☐ 24V Vectrino
- Online
- Plug
- ☒ 24V DC/DC & Signature ☐ EU ☐ UK ☒ US

Other:

Date: 13.09.2019.

Responsible: Tommy Johansen

Final test checklist AD2CP



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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 °

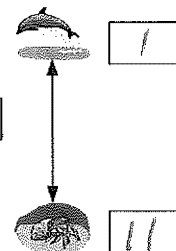
Pressure

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

XYZ coordinate system

ENU coordinate system

X ☒ OK
Y ☒ OK
Z ☒ OK
Z2 ☒ OK

E ☒ OK
N ☒ OK
U ☒ OK
U2 ☒ OK

To heavy to Verify.
Matrix correct

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

Static IP address:

Set host name: 101599

DHCP enabled ☒

FTP OK ☒

Licenses

Averaging mode ☒ Wave mode ☐ Vertical velocity ☐
Burst Five beams ☐ Echo Sounder ☒ Dual frequency low ☐
Bottom track ☐ Ice Measurement ☐ Dual frequency high ☐
High Resolution ☐ Altimeter ☐ 16GB recorder ☐

64GB recorder ☐
128GB recorder ☒
256GB recorder ☐

Calibration license erased ☒

Production license erased ☒

Default configuration set ☒

Cable/Harness

Communication ☒ Cable ☒ Communication ☒ Harness
Battery ☒ Battery ☒

Electrical isolation test

50V Ok ☒

External sensors

Power down

☒ OK

Date

Day 13 Month 09 Year 19

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