

Continental

When you need
more range



- ✓ Oceanographic studies
- ✓ Offshore monitoring
- ✓ Buoy mounted
- ✓ 2D Port and harbor monitoring

The Continental is a modern current profiler with the extra range required to measure the full current profile on the continental shelf. The two main models operate at 470kHz or 190kHz and have profiling ranges of about 100 and 200m. The instrument itself is small but sturdy, and it represents an excellent choice for organizations and companies who require operational reliability at an affordable price. The mechanical housing is made from high-quality plastic materials with titanium cups – thereby eliminating any corrosion problems. The internal recorder is based on the Nortek digital hardware platform found in our proven Aquadopp current profilers. This assures excellent data gathering reliability. Two external sensors can easily be interfaced with the Continental using the analog input channels integrated into the hardware.

All models come standard with compass, tilt, pressure, temperature sensor, and a small internal recorder. Optional equipment includes larger recorders for longer deployment and external battery.

The Continental software is used to plan a deployment, configure the instrument, start a deployment, retrieve the data, and convert the data to ASCII. On-line data display is included with the software. For the development of more sophisticated online presentations of data, an Active X[®] component library is available free of charge.

Applications

- ✓ The Continental is used both in online projects and in stand-alone mode. The most common use is in bottom or subsurface configurations where the instrument is mounted upward, profiling the current from the instrument to the surface. The Nortek power management is included in the Continental, allowing stand-alone deployments from 3–12 months depending on battery options and range requirements. The data collected during the deployment are retrieved at the end of the deployment and can be displayed in programs such as “ExploreP”.
- ✓ In buoy mounted applications, the data can be collected in real time and transmitted to a shore station using radio or satellite communication.
- ✓ In 2D applications, the Continental is equipped with 2 beams rather than the standard 3. The instrument is mounted horizontally on the channel or pier wall and profiles the 2D current along a horizontal segment. This application is common for navigation channels and at the entrance of ports. The most common 2D instrument is the 470kHz model, with extra large transducers to ensure maximum range, even in shallow water.



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Specifications

Water Velocity Measurement

Profiling range*	200m (190kHz), 100m (470kHz)
Cell size	2–20m (190kHz), 1–10m (470kHz)
Min. blanking	2m (190kHz), 1m (470kHz)
Max. # cells	128
Velocity range	±10m/s
Accuracy	1% of measured value
Velocity resolution	0.1cm/s

*) The Continental measures the current profile in a user specified number of cells from the instrument out to a maximum range which depends on the acoustic scattering conditions and the cell size. In areas with clear water the profiling range can be reduced.

Echo Intensity

Sampling	Same as velocity
Resolution	0.45dB
Dynamic range	90dB

Transducer

Acoustic frequency	193.5kHz or 470.5kHz
No. of beams	3 or 2, slanted at 25°
Beam width	3.0° (190kHz), 1.6° (470kHz)

Sensors

Temperature	Thermistor embedded in head
Range	-4°C to 40°C
Accuracy/Resolution	0.1°C/0.01°C
Time response	10 min
Compass	Flux-gate with liquid tilt
Maximum tilt	30°
Accuracy/Resolution	2°/0.1° for tilt < 20°
Tilt	Liquid level
Accuracy/Resolution	0.2°/0.1° for tilt < 20°
Up or down	Automatic detect
Pressure	Piezoresistive
Range	0–500m (standard)
Accuracy/Resolution	0.5% / Better than 0.005% of full scale per sample

Data Communication

I/O	RS-232 or RS-422. Software supports most commercially available USB–RS232 converters
Baud rate	300–115200

Internal Recording

Capacity (standard)	2 MB, expandable to 24, 82 or 154MB
Data record	120 bytes + 9×Ncells
Mode	Stop when full (default) or wrap mode

Software (“Continental”)

Operating system	Windows® 2000, XP
Functions	Deployment planning, start with alarm, data retrieval, ASCII conversion. Online data collection and graphical display. Test modes

Power

DC input	12–18VDC
Operating power	0.1–3W, see deployment planning program
Sleep	0.0013W
Transmit	2–120W, 4 adjustable levels

Materials

Standard model	Delrin® and polyurethane plastics with titanium screws. Titanium transducer cups
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Connectors

Bulkhead (Impulse)	LPMBH-8-FS (bronze) – comm LPMBH-2-FS (bronze) – power
Cable	PLPMIL-8-MP on 10 m polyurethane cable

Environmental

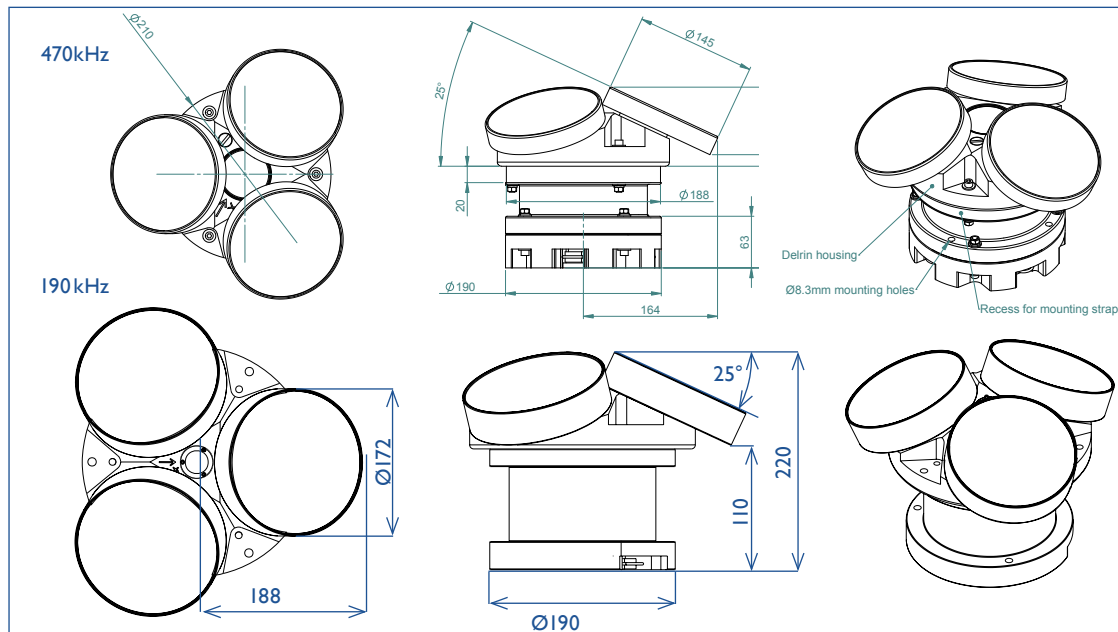
Operating temperature	-5°C to 45°C
Storage temperature	-20°C to 60°C
Shock and vibration	IEC 721-3-2
Pressure rating	500m

Dimensions

Dimensions are shown in the drawings below	
Weight in air	18.4kg
Weight in water	13.0kg

Options

External Batteries	The Continental has no internal batteries, but uses external canister with 36D-cell packs (single or double). The battery packs can be alkaline (540Wh) or Lithium (1200Wh)
Transducer configuration	2D for side-looking applications.



www.nortek.no

NORTEK AS
Vangkroken 2
NO-1351 Rud
Norway

Tel: +47/ 6717 4500
Fax: +47/ 6713 6770

E-mail: inquiry@nortek.no

青岛诺泰克测量设备有限公司
地址: 中国青岛香港西路65号

汇融广场1302

邮编: 266071

Tel: 0532-85017570, 85017270

Fax: 0532-85017570

E-mail: inquiry@nortek.com.cn

NortekUK

Mildmay House, High St.
Hartley Wintney
Hants. RG27 8NY

Tel: +44- 1428 751 953

Fax: +44- 1428 751 533

E-mail: inquiry@nortekuk.co.uk

NORTEKUSA

222 Severn Avenue
Suite 17, Building 7
Annapolis, MD 21403

Tel: +1 (410) 295-3733

Fax: +1 (410) 295-2918

E-mail: inquiry@nortekusa.com

www.nortekusa.com