



Waverider SG

Datawell - Oceanographic Instruments

Second generation non-directional wave height measuring buoy

The second generation Waverider SG (WR-SG) is a real-time non-directional wave height measuring buoy. Wave height is measured with a resolution of 1 cm using the well-proven Datawell stabilized platform sensor. The stabilized platform ensures that the buoy accurately tracks the vertical component of the orbital wave motion. In the WR-SG, the platform mounting of the sensor has been reinforced, significantly increasing the robustness of the buoy.

The WR-SG is the successor to the Waverider FI. Whereas the Waverider FI used analogue techniques to process the wave data, the Waverider SG digitizes the wave signal at an early stage. Combined with the same processing hardware as the directional DWR-MkIII and DWR-G buoys, many features and options are now standard which were not possible on the previous model:

- Standard integrated **datalogger**. Flash cards up to 2 GByte store all measured data.
- Standard **GPS position** monitoring. Position monitoring allows for drift alarm possibility and easy retrieval of a buoy adrift.
- A **LED flashlight** mounted at the top of the antenna. The high mounted flashing light increases visibility significantly.
- A **water temperature sensor** in the mooring eye providing sea surface temperature

The buoy can be equipped with the Datawell HF link. This link suffices for ranges up to 50 Km. If larger transmitting ranges are desired, the HF link can be combined or replaced with Iridium satellite communication.

To acquire, store and analyse the received data, Datawell offers the Waves4 software package, which

fully supports the WR-SG. See our brochures for more information.

The WR-SG is available in either a 0.7 m hull diameter (WR-SG7) or in a 0.9 m hull diameter (WR-SG9). An attractive yellow hull coating is available as an option.

Optional features:

- **HF link**: 25.5 MHz-35.5 MHz
- **Iridium**: global, two-way satellite link
- **Iridium SBD**: global, two-way satellite link
- **Power switch**: on/off
- **Hull painting**: yellow (no anti-fouling)
- **Radar reflectors** to increase visibility in busy waters



0.7 m (Hull painting is optional, not standard)



Waverider SG

Datawell - Oceanographic Instruments

Specifications

| | | |
|--------------------------|-----------------------------|---|
| Heave | Range | -20 m - +20 m |
| | Resolution | 1 cm |
| | Scale accuracy (gain error) | < 0.5% of measured value after calibration < 1.0% of measured value after 3 years |
| | Period time | 1 s - 30 s |
| Standard features | Datalogger | Compact Flash Module, size 1Gb |
| | LED Flashlight | 4 LEDs, colour yellow (590 nm), pattern 5 flashes every 20 s standard length 35 cm |
| | GPS position | New position every 30 min, precision 5 m |
| | Water temperature | Range -5 °C - +46 °C, resolution 0.05 °C, accuracy 0.2 °C |
| Options | HF Datawell HF link | Frequency range 25.5 - 35.5 MHz (35.5 - 45 MHz on request) Transmission range 50 Km over sea, user replaceable. For use with Datawell RX-C or RX-D receivers. |
| | Iridium | Satellite communication |
| | Power switch | Data files are closed and secured |
| | Hull painting | Brantho Korruux "3 in 1" paint system (no anti-fouling) |
| | Radar reflectors | Two reflectors mounted on hatchcover (retrofittable) |
| | Hull diameter | 0.7 m and 0.9 m (excluding fender) |
| General | Material | Stainless steel AISI316 or Cunifer10 |
| | Weight | Approx. 95 Kg (150 Kg) |
| | Batteries | 0.7 m diam. operational life 16.5 months, 1 section of 13 batteries 0.9 m diam. operational life 33 months, 2 sections of 13 batteries type Datacell RC25G (250 Wh green) |
| | Processing | 32 bits |
| | Temperature range | Operating -5 °C - +35 °C Storage -5 °C - +40 °C (+ 55 °C short term, weeks only) |
| | Receiver | RX-C, RX-D or Warec (older Warecs may need modification) |