The MIDAS WTR Wave Recorder uses the proven Linear Wave Theory wave analysis method of measurement for shallow water deployment (20m maximum water depth). The MIDAS WTR benefits from Valeport’s latest sensor measurement technology, together with 64 bit data processing, and an improved range of sampling options. Fast data upload, quick-change battery carousel and intuitive operating software make the MIDAS WTR one of the most versatile yet easy to use pressure based wave recorders available.

**Sensors**
The MIDAS WTR is fitted with a choice of strain gauge or high accuracy piezo-resistive pressure sensors, and a fast response PRT temperature sensor as standard. Note that whilst the piezo-resistive sensor offers a higher absolute accuracy, the quality of wave data owes more to deployment location and sampling pattern than to sensor performance. Optional additional sensors include Conductivity and Turbidity.

**Communications**
The instrument will operate autonomously, with setup and data extraction performed by direct communications with PC before and after deployment. It also operates in real time, with a choice of communication protocols for a variety of cable lengths, all fitted as standard and selected by pin choice on the output connector.

**Physical**
Materials: Acetal housing, optional stainless steel (316) seabed deployment frame

**Memory**
The MIDAS WTR is fitted with 64Mb solid-state non-volatile FLASH memory. Total capacity depends on setup. User may save any or all of the following:
- Raw sensor data from each burst
- Summary statistics of wave burst
- Tide & additional sensor data
- Spectral analysis of wave burst.

If all data is saved, memory will typically record over 4000 data bursts. Sampling once per hour, this is over 5 months of data.

**Data Acquisition**
In order to correctly measure wave activity, Linear Wave Theory requires a specific number of data points to be sampled over a period of time. These data points are then processed on board the instrument to generate an accurate summary of the wave activity during the measured period. The MIDAS WTR therefore operates in a strict pattern of “sample, process, sleep”, with the user controlling the number of samples and the sampling rate, together with the duration of the sleep period. This may be minimised for almost continuous sampling, but obviously at the expense of battery and memory usage.

**Electrical**
Internal: 32 x D cells, 1.5V alkaline or 3.6V lithium

**Software**
System is supplied with WaveLog Express Windows based PC software, for instrument setup, data extraction and display. WaveLog Express is license free.

**Ordering**
0730033 MIDAS WTR Wave Recorder, piezo-resistive type
0730034 MIDAS WTR Wave Recorder, strain gauge type
0730037 Stainless steel deployment cage
0400011 Optional Conductivity sensor
0400021B Optional Turbidity sensor
0400021B Turbidity sensor interface

Datasheet Reference: MIDAS WTR - May 2016