MONITOR SVP

The MONITOR SVP has been developed from Valeport's world leading MIDAS SVP, utilising the exceptional digital time of flight sound velocity sensor and synchronised sampling technique, but packaged as a smaller, lightweight unit to suit small boat or shallow water applications.

Sensors

The MONITOR SVP is fitted with Valeport's digital time of flight sound velocity sensor, a fast response PRT temperature sensor, and strain gauge pressure transducer.

Sound Velocity

Range:	1375 – 1900 m/s
Resolution:	0.001 m/s
Accuracy:	±0.02 m/s

Temperature

Range:	-5°C to +35°C
Resolution:	0.005°C
Accuracy:	±0.01°C

Pressure

Range:	50 Bar standard, others available
Resolution:	0.005% range
Accuracy:	±0.1% range

Data Acquisition

The MONITOR SVP uses the concept of distributed processing, where each sensor has its own microprocessor controlling sampling and calibration of readings. Each of these is then controlled by a central processor, which issues global commands and handles all the data. This means that all data is sampled at precisely the same instant, giving superior quality profile data.

Sampling Modes

Continuous:	Regular output from all sensors at 1, 2, 4 or 8Hz.
Burst:	Regular sampling pattern, where instrument takes a number of readings, then sleeps for a defined time.
Trip/Profile:	Data is output as a chosen parameter changes by a set value, usually Pressure for profiling.
Conditional:	Instrument sleeps until a selected parameter reaches a set value.
Delay:	Instrument sleeps until predefined start time

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:

Standard

RS232	Up to 200m cable, direct to serial port via USB adaptor
RS485	Up to 1000m cable, addressable half duplex comms
Baud Rate:	2400 - 115200 (FSK fixed at 19200, USB 460800)
Protocol:	8 data bits, 1 stop bit, No parity, No flow control

Memory

The MONITOR SVP is fitted with 16Mb solid state non-volatile FLASH memory. Total capacity depends on sampling mode; continuous & burst modes have a single time stamp at the start of the file, trip mode (profiling) stores a time stamp with each reading. A single line of SVP data uses 8 bytes, and a time stamp uses 7 bytes.

Continuous:	>1,000,000 data points
Profile:	>500,000 data points (>500 profiles to 500m).

Electrical

Internal:	8 x C cells, 1.5v alkaline or 3.6v lithium
External:	9 - 30vDC
Power:	0.6W (sampling), <1mW (sleeping)
Battery Life:	<100 hours operation (alkaline) <250 hours operation (lithium)
Connector:	Subconn MCBH10F

Physical

Materials:	Acetal housing, polycarbonate and composite sensor components, stainless steel (316) cage
Depth Rating:	500m
Instrument Size:	88mmØ x 540mm long
Cage Size:	640 x 140 x 120mm
Weight (in cage):	7.5kg (in air), 4.5kg (in water)
Shipping:	74 x 35 x 27cm, 17kg

Software

System is supplied with DataLog Express Windows based PC software, for instrument setup, data extraction and display. DataLog Express is licence free.

Ordering

0650008	MONITOR SVP Profiler, supplied with deployment cage, Subcon switch plug, 3m communications lead, USB adaptor, DataLog Express software, manual , tool kit and transit case.
0400002	16 Mbyte memory upgrade (max 64 Mbyte)
0400EA9	RS485 communications adaptor
0400EA6	Advanced Y lead for RS485 operation

Datasheet Reference: MONITOR SVP version 2B, Oct 2011

Valeport Limited, St. Peter's Quay Totnes, Devon, TQ9 5EW UK
t. +44 (0)1803 869292 f. +44 (0)1803 869293 e. sales@valeport.co.uk w. www.valeport.co.uk