MIDAS SVP

The MIDAS SVP (formerly known as the Model 650 Mk2) is the most accurate Sound Velocity Profiler in the world. As well as using Valeport's digital time of flight sound velocity sensor, it also features our unique synchronised sampling technique to ensure that all sensors are sampled at exactly the same time in exactly the same place. With titanium construction and a variety of communications methods, it can be used for autonomous or real-time profiling in virtually all conditions.

Sensors

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

Sound Velocity

Range:	1400 - 1600m/s (extended range on request)
Resolution:	0.001m/s
Accuracy:	±0.03m/s

Temperature

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

Pressure

Range:	Choose from 5, 10, 50, 100 or 600 Bar
Resolution:	0.005% range
Accuracy:	±0.04% range

Data Acquisition

The MIDAS 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.
RS485	Up to 1000m cable, addressable half duplex comms
RS422	Up to 1500m cable, addressable full duplex comms

Options

FSK	2 wire power & comms up to 6000m cable
USB	For rapid upload or laptops without serial port
Baud Rate:	2400 - 115200 (FSK fixed at 19200, USB 460800)
Protocol:	8 data bits, 1 stop bit, No parity, No flow control

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 Titanium MCBH10F

Memory

The MIDAS SVP is fitted with 8Mb 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 (46 profiles to 6000m).

Physical

Materials:	Titanium housing, polycarbonate & carbon fibre sensor components, stainless steel (316) cage
Depth Rating:	6000m
Instrument Size:	88mmØ x 665mm long
Cage Size:	750 x 140 x 120mm
Weight (in cage):	11.5kg (in air), 8.5kg (in water)
Shipping:	160 x 460 x 1020mm, 29kg

Software

System supplied with DataLog 400 Windows based PC software, for instrument setup, data extraction and display. DataLog 400 is licence free.

Ordering

0650003	MIDAS SVP Sound Velocity Profiler, supplied with deployment cage, 3m communications lead, DataLog 400 software, manual and transit case.
0400002	8 Mbyte memory upgrade (max 32 Mbyte)
0400005	FSK modem adaptor (and instrument pcb)
0400029	RS485 communications adaptor
0400030	RS422 communications adaptor
0400050	USB data upload lead

Datasheet Reference Number: MIDAS SVP v1A

Valeport Limited, St. Peter's Quay, Totnes, Devon TQ9 5EW UK
Tel: +44 (0)1803 869292 Fax: +44 (0)1803 869293 E-mail: sales@valeport.co.uk Web: www.valeport.co.uk