



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 now comes as standard with a 0.01% pressure sensor. Every detail from the sensor accuracy through the titanium construction to the large memory and choice of communications methods has been considered - we truly believe it to be the ultimate SVP.

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 temperature compensated piezo-resistive 0.01% 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: 300 or 600 Bar (others on request)

Resolution: 0.001% range

Accuracy: ±0.01% 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 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: >2,000,000 data points

Profile: >1,000,000 data points (>90 profiles to 6000m).

Physical

Materials: Titanium housing, polycarbonate & composite 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 Express Windows based PC software, for instrument setup, data extraction and display. DataLog Express is licence free.

Ordering

0650003 MIDAS SVP Sound Velocity Profiler, supplied with deployment cage, 3m communications lead, DataLog Express software, manual and transit case.

0400002 16 Mbyte memory upgrade (max 64 Mbyte)

0400005 FSK modem adaptor (and instrument pcb)

0400029 RS485 communications adaptor

0400030 RS422 communications adaptor

0400050 USB data upload lead