



MIDAS SVX2



The MIDAS SVX2 is the latest version of Valeport's unique instrument. Recognising the conflict faced by users requiring the superior Sound Velocity data from an SVP, but still needing the Salinity and Density data from a CTD, the MIDAS SVX2 combines both technologies to give the best of both worlds. Now fitted with a 0.01% pressure sensor as standard, the SVX2 also uses synchronised sampling to ensure perfect profiles, and since the digital time of flight SV sensor is the most accurate in the world, it's also possible to compare the true sound velocity data with that generated by commonly used equations.

Sensors

The MIDAS SVX2 is fitted with Valeport's digital time of flight sound velocity sensor, high stability conductivity sensor, a fast response PRT temperature sensor, and a high accuracy temperature compensated piezo-resistive pressure transducer.

Sound Velocity

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

Conductivity

Range: 0 to 80 mS/cm
Resolution: 0.003mS/cm
Accuracy: ±0.01mS/cm

Temperature

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

Pressure

Range: 300 or 600 Bar (others available)
Resolution: 0.001% range
Accuracy: ±0.01% range

Data Acquisition

The MIDAS SVX2 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

Electrical

Internal: 8 x C cells, 1.5v alkaline or 3.6v lithium
External: 9 - 30vDC
Power: 0.7W (sampling), <1mW (sleeping)
Battery Life: >100 hours operation (alkaline)
 >250 hours operation (lithium)
Connector: Subconn Titanium MCBH10F

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

Memory

The MIDAS SVX2 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 data uses 10 bytes, and a time stamp uses 7 bytes.

Continuous: >1,600,000 data points
Profile: >980,000 data points (80 profiles to 6000m).

Physical

Materials: Titanium housing, polyurethane, polycarbonate & composite sensor parts, stainless steel cage
Depth Rating: 6000m max (dependent on pressure sensor)
Instrument Size: 88mmØ (90mm max) 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.

Ordering

0650010 MIDAS SVX2 Sound Velocity Profiler, supplied with deployment cage, 3m communications lead, DataLog 400 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

As part of our policy of continuing development, we reserve the right to alter at any time, without notice, all specifications, designs, prices and conditions of supply of all equipment.

Datasheet Reference Number: MIDAS SVX2 v1A