

SATLOG SLS 4120

Speed Log System



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System Overview

The new Speed Log System **SATLOG SLS 4120** measures Speed Over Ground (SOG), referenced to the ship's axes, by using the input from a gyro compass. With a precision of greater than 0.2 knots or 2 % of speed. This accuracy is compliant with the IMO performance standard for Speed and Distance Measuring Devices (SDME) IEC 61023 and allows the **SATLOG SLS 4120** to be used as a speed log for ground stabilising applications or docking manoeuvres. Interfaces between the Display Unit, Electronic Unit and DGPS Sensor comply with IEC 61162.

Together with an EM-Log or other log sensor measuring the Speed Through Water (STW), the **SATLOG SLS 4120** becomes a central display for speed related information such as Speed Through Water and Speed Over Ground, as well as distances travelled.

Applications

- Worldwide precise speed determination without differential signals
- High adaptive double-end ferry mode
- Supporting of docking manoeuvres by calculating also the rate of turn and transversal speed at stern by interfacing a gyro compass
- Measurement of Speed Over Ground in the longitudinal and transversal ship direction

Standard Features

- Standard speed accuracy of 0.2 knots
- Speed accuracy of 0.1 knots in differential mode
- Multitrack Differential Beacon Receiver
- Comfortable configuration, maintenance and update of the SLS 4120 via the integrated web interface using a web browser
- Ready for remote maintenance due to the Ethernet interface
- Integrated 24V DC power supply for external components

The SLS 4120 is a system for the calculation and visualisation of longitudinal and transversal speed over ground, distance travelled relative to the ground and consists of four components: the Electronic Unit, the Display Unit, the DGPS sensor and the DGPS antenna.

Display Unit

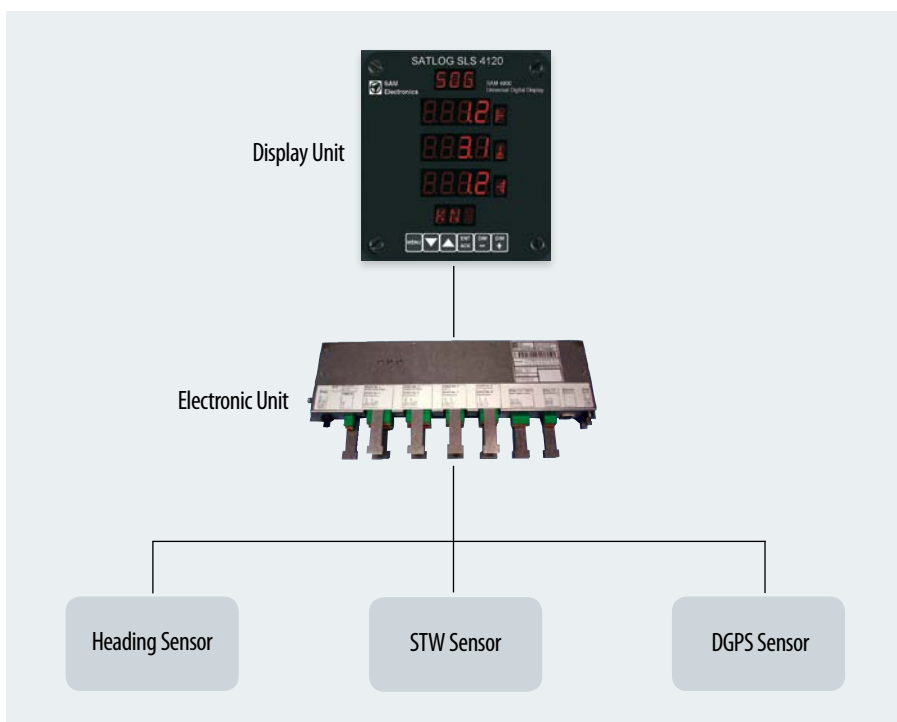
The Display Unit is optimised for the intended purpose and consists of several numerical and alphanumeric LED segment displays. 6 keys are available for user input as well as a buzzer for audible warnings. The communication between Display Unit and Electronic Unit is established via a serial interface compliant with IEC 61162-1. Normally optimised for console mounting, the Display Unit is sized to the international 144 mm x 144 mm standard. Furthermore a ruggedised housing is available. Display Unit power supply is 24 V DC.

Electronic Unit

The Electronic Unit offers 8 serial interfaces (compliant with IEC 61162-1 and 61162-2) providing information from the DGPS sensor and Gyro Compass as well as a Speed Through Water log to send the calculated speed information to the Display Unit. 4 digital relays and 1 digital input to handle different alarm types are available. Additionally the Electronic Unit is equipped with an Ethernet interface for configuration purposes. The Electronic Unit is supplied with power via its 24 V DC input which also distributes power to the connected components.

DGPS Sensor and Antenna

A common reception of satellite and differential signals are achieved via an all-weather DGPS antenna attached to the DGPS sensor via a single antenna cable using TNC connectors. The DGPS sensor is a high-precision GPS receiver with a dual channel beacon receiver for reception of IALA beacon DGPS corrections. The unit performs continuous RAIM calculations, thus enhancing the integrity of position data and attaches to the Electronic Unit for calculating the speed information.

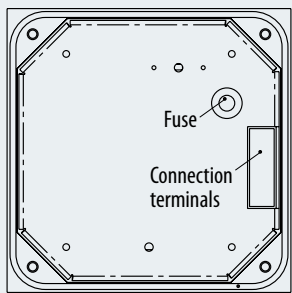


DGPS performance	
<u>GPS receiver</u>	12 channel L1, C/A code with carrier phase smoothing
Update rate	5 Hz
Position accuracy	GPS: 5 m; DGPS: 1m (2d RMS) typical
Cold start	1 min typical
<u>DGPS beacon receiver</u>	Dual receiver with automatic tuning
Frequency	283.5 to 325.0 kHz
MSK Bit Rates	50, 100 and 200 bps
Cold start	< 1 min typical
Reacquisition	< 2 seconds typical
Sensitivity	2.5 µV/m for 6 dB SNR at 200 bps
Speed accuracy	
GPS-only mode	Complies with IMO Res. A.824 and IEC 61023 / 0,2 kn or 2 % whichever is greater
DGPS mode	0,1 kn or 1% whichever is greater
Interfaces	
Serial ports	8 serial interfaces compliant with IEC 61162-1: <ul style="list-style-type: none"> - 1 port to be used as Display interface - 1 port to be used as DGPS sensor interface - 1 port to be used as Gyro interface - 1 port optionally to be used as STW-log interface
Power interface	4 24V DC power supply (max. 1 A) interface for connected equipment
Digital I/Os	4 alarm relays: <ul style="list-style-type: none"> - 2 programmable speed alarm (for rudder system, stabilizers or other applications) - 1 power failure alarm - 1 system failure alarm - 1 digital input
Ethernet	1 Ethernet 100 Mbit (RJ45)
Supply voltage, dimensions and weight	
<u>Display Unit</u>	
Supply voltage	24 V DC (supplied from Electronic Unit)
Dimensions	144 mm x 144 mm x 53 mm
Weight	590 g
<u>Electronic Unit</u>	
Supply voltage	24 V DC (+30% / -10%)
Dimensions	406,5 mm x 165,43 mm x 42,25 mm
Weight	1900 g
<u>DGPS Sensor</u>	
Supply voltage	24 V DC (supplied from Electronic Unit)
Dimensions	135 mm x 130 mm x 40 mm
Weight	490 g
<u>DGPS Antenna</u>	
Dimensions	130 mm x 130 mm x 80 mm
Weight	450 g
Compliance with the following standards	
IEC 60945 General requirements	
IMO Resolution A.694	
IEC 61162-1 Digital interfaces- Part 1	
IEC 61162-2 Digital interfaces- Part 2	
IMO Resolution MSC 96	
IEC 61023 Marine speed and distance measuring equipment (SDME)	
IMO Resolution A.824	
IEC 62288	
IMO Resolution MSC 191	
Type approvals	
Requirements according to Marine Equipment Directive (MED), USCG	

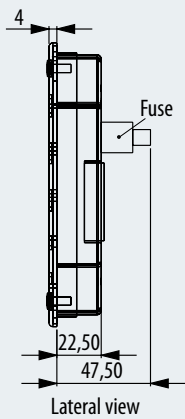
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Technical Data

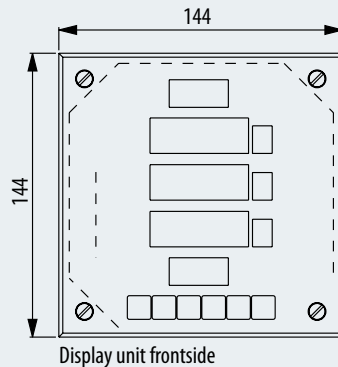
Display Unit



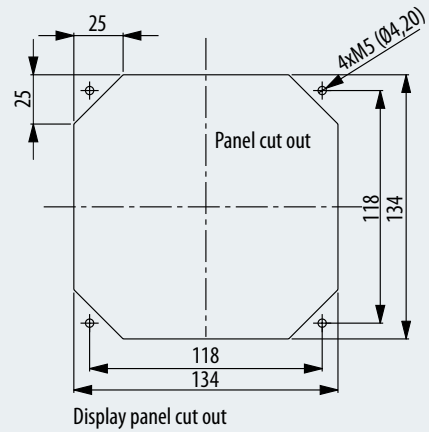
Display unit backside



Lateral view



Display unit frontside



Display panel cut out

Electronic Unit

