

**GPSSR****VEHICLE ELECTRONICS**

# GPS SIGNAL RECEIVER

The GPS Signal Receiver, GPSSR, is an active GPS antenna with integrated receiver, designed for use in military vehicle applications with high demands on mobility, function and to withstand harsh environmental demands.

SAAB is able to meet specific customer needs for highly specialized products and services in a number of technical areas. Our rugged vehicle computer- and video- systems are designed to provide high levels of performance and reliability in the toughest environments. Whether your need is minimum space or maximum capability, we can provide a system to meet your specific application.

## Main design features

The GPSSR is a hermetically sealed, robust low-power consumption GPS antenna designed for use in harsh environment applications. The GPSSR is applicable for use in both static and highly mobile military applications in land, sea and air-based operations. The Unit is selectable powered via vehicle power or via the USB interface.

The GPSSR receive the GPS signal and translate to NMEA 0183 or UBX. All data are available via the UART or USB 2.0 interface. All electronics are protected in a rugged, sealed housing. No external cooling needed.

GPSSR is designed for severe environmental conditions including vibration, shock, moisture, UV exposure, temperature, EMI etc in accordance with MIL STD 810, DO-160D, DO-228, MIL-C-5541, MIL-E-5400, MIL-I-45208A etc.

## Dimensions

Height	44,1 mm
Width	60,0 mm
Length	100.0 mm
Weight	0,440 kg (approx.)

## Mechanical interface

The GPS is assumed to be fixed mounted on the vehicle.  
External damping devices are not required.

## Configuration

Antenna spec.

- Noise figure: maximum 3 dB
- Impedance: 50 ohms.
- Dual Polarization: RHCP/LHCP
- VSWR: Better than 1-5:1
- L1 frequency 1575.42 ± 12 MHz Receiver

Receiver spec.

- 50 channel GPS receiver
- Cold start: <30 s
- Hot start: <1 s
- Horizontal accuracy 2.5 m

- Navigation update rate: >2 Hz
- Velocity accuracy 0.1 m/s
- Heading accuracy <0.5 degrees
- Impedance: 50 ohms
- Supporting SBAS, WAAS, EGNOS, MSAS
- GPS L1 C/A code
- NMEA 0183 protocol, 2.3 (compatible with 3.0) available via UART or USB interface
- UBX protocol available via UART or USB interface
- Ready for Galileo L1 open service

## Environmental

- Operating temperature: - 40°C to + 85°C

## Aux

Power supply options:

+5 VDC (USB) +18 -36 VDC (Vehicle power)

Power consumption: nom. 1W

## Mechanical interface

The receiver is equipped with selectable configuration interface using UART (RS-232, RS-422) or USB 2.0 using NMEA protocol. As option the GPSSR can be configured with additional external connector for 1PPS pulse output. As option the GPSSR can be configured with other connector type and size, as to customer requirement.

Specifications subject to change without notice

