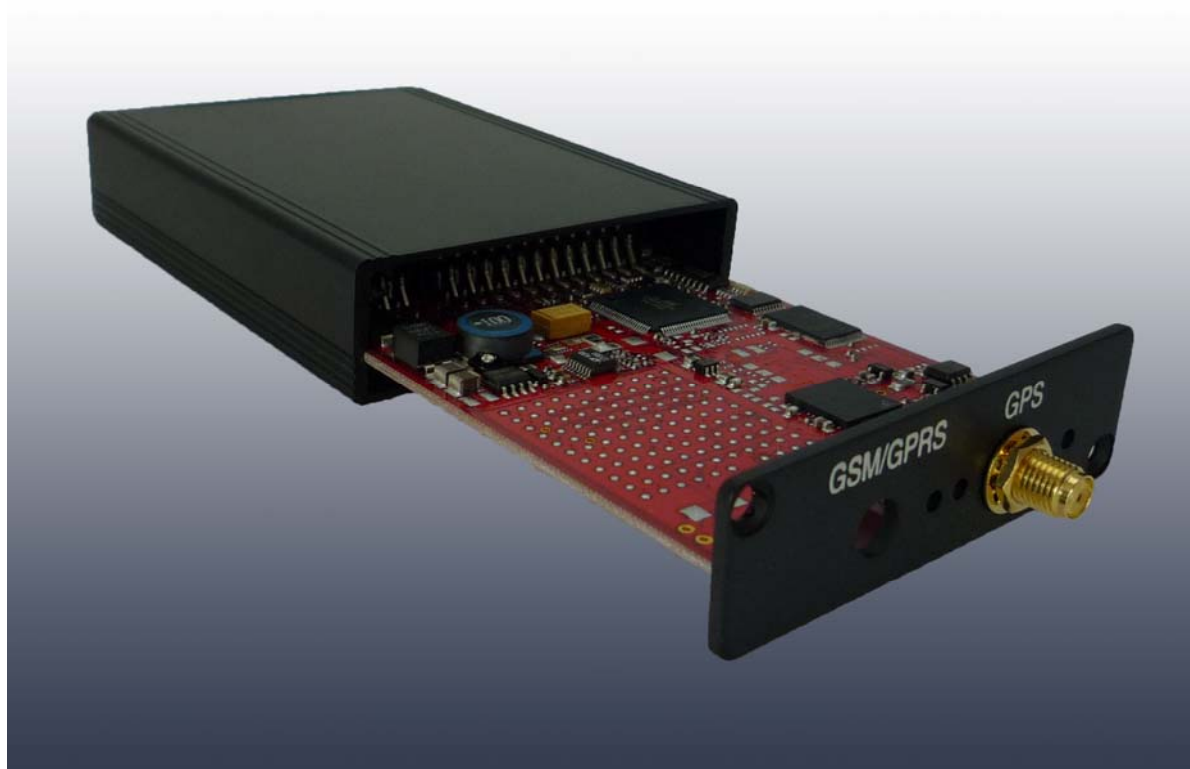


Speedo Installation



Version: 8.2
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1 Contents of the Speedo

1. Speedo Module



The Speedo module ships as single module.

This installation manual will discuss the installation of the Speedo module with a GPS antenna (4971) and StreamLine Power Fuse In5 Cable.

4971



4115



2 Introduction

The Speedo has a special easy to install design. These installation instructions should provide enough information for a professional automotive mechanic to quickly and successfully mount the equipment.

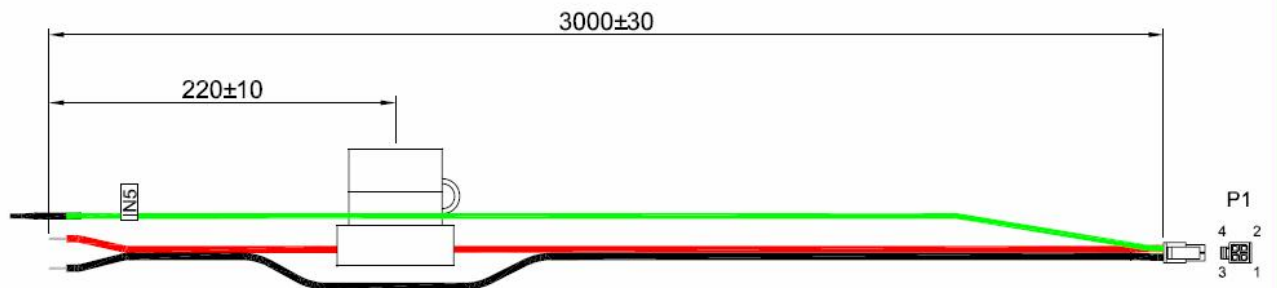
Installation by an authorized mechanic is recommended. As with any accessory the mechanic must make crucial choices, such as the location and installation method for the Speedo module, where to drill holes, and how to place cables, etc. Only experienced and professional mechanics are trained to make the right choices. Wrong choices may cause damage to your asset or injuries.

Note! It is recommended to take sufficient safety precautions. Improper installation of any accessory may damage your assets and/or cause injuries. Both the manufacturer and the importer specifically disclaim any liability for injury or loss resulting from the installation of the Speedo.

3 Speedo installation

With the **optional** StreamLine Power Fuse In5 cable, the connections can be made to the external devices. The wiring is numbered, so it will be easy to find the right cable to connect.

Use the 4115 StreamLine Power Fuse In5 Cable to connect the module to the power supply and the ignition of the vehicle.



3.1 General

With reference to your application, follow the next steps:

- Make sure there is no power during the installation.
- The Speedo must be installed inside. If installation outside is needed, use of a water proof housing (IP65) is needed.
- Mount the GPS antenna, so that it has a clear view of the sky. Any metal obstructions may interfere with satellite reception.
- The antenna must be at least three (3) feet away from any cellular or CB antenna. Close proximity to a transmitting antenna may degrade or disrupt GPS reception.
- Secure double-sided tape, velcro, or magnetic mounting.
- To use the GPS magnetic mount you must remove the aluminium base plate to expose the antenna's neodymium magnets.
- Route the GPS antenna cable to the Speedo Module.
- Connect the GPS Antenna to the Speedo Module.
- Connect 6-31 Volt to the red power wire and ground to the black wire.
- Connect a switched input (ignition) to Input 5 (green wire).

4 Programming the Speedo

To program the Speedo:

- Use of the Speedo Setup Cable

4.1 Setting up the Speedo using the Speedo Setup Cable

It is recommended to program the Speedo before installation. The programming is required, to be able to use the extra functions Speedo delivers. This can be an interval for live tracking, control of engine start or a camera. Please refer to the Speedo manual for detailed setup possibilities.

To be able to setup the Speedo, please download the latest version of the Speedo Settings Software from the website: <http://www.yourstreamline.com/>

After downloading the software, connect the Speedo Setup Cable and the other side to the USB port of the pc. Now, you are able to change the settings of the Speedo.

Note: In the settings program, it is recommended to keep serial port 4 set to : Command Mode Request Detection. The reason for this is that during the download of data from the Speedo to the PC, it is not needed to power down the module.

For downloading the data, the Speedo Setup Cable is required.

5 Testing proper functioning

When all connections are made, you are ready for testing. Login to your account on the Speedo Portal and check if data is received as expected. When this is not the case, this can be a settings problem, a SIM-Card problem, a connection problem or a installation problem.

The Speedo shows 3 leds, providing status information.

LED	FLASHING	CONTINUOUS
RED	<i>n/a.. this led is for the modules with gsm/gprs communications. The Speedo has no communications module</i>	
YELLOW	* 1 flash per second: No satellites found * 2 flashes per second: at least 1 satellite found, no fix * 5 flashes per second: fix achieved, but trying to get a better fix	GPS fix successful
GREEN	Follows output 2	N/A

5.1 Troubleshooting

For GPS problems, check if:

- the GPS antenna is connected to the correct connector
- Start by placing the GPS antenna at a location where it has an unobstructed view at the sky, preferably outdoors
- Observe the yellow LED: when it flashes once or two times per second, Speedo is scanning for satellites

When no GPS is received, it may be the case that the antenna is not installed correctly, or that it is the first time to get a fix. Note: The first time to fix for GPS will take some time (max. 10 minutes).

6 Specifications

6.1 Specifications Speedo

6.1.1 Navigation

GPS Receiver	12 channel parallel		
Frequency	L1 1574.42 MHz		
Acquisition Time	Autonomous	TTFF	< 6 sec (valid almanac, position, time and phemeris) < 30 sec (valid almanac, position, time) < 40 sec (no valid data)
	Assisted	TTFF	< 6 sec @ -137 dBm < 30 sec @ -150 dBm
Position Accuracy	Autonomous	5 meter (50% probable) 10 meter (95% probable)	
	Assisted	20 meter (50% probable) 50 meter (95% probable)	
Signal Detection	-152 dBm		
Acquisition And Tracking Sensitivity	-142 dBm		
Antenna	Passive or active with short-circuit detection		

6.1.2 Electrical

Operating Voltage	6-31V Power Supply. UPS function thru: Red/Black Wire = To emergency battery pack (optional)		
Power Consumption	<50 mW average, Approx. 9 W peak during data transmission Consumption depends on amount of GPRS traffic and navigation parameters		
External Connections	Serial Communication	3x RS232 in/out (full level RS232)	
	IO	4 x digital out, Open Collector, 500 mA Max. (O1,O2,O3,O4)	
		4 x digital in (I1,I2,I3 and I4)	
		<ul style="list-style-type: none"> • S1, serial port 1 • S2, serial port 2 • S3, serial port 3 • C1, mini din connector for camera • P1, power in • Power supply for UPS (A,B) 	

6.1.3 Physical

Outside Dimensions	Size	80.0 x 67 (3.15 x 2.64 inch)
	Height	20.0 mm (0.79 inch)
	Weight	
Connections	GPRS/GSM	SMA
	GPS	SMA
	Power/IO	Molex 43045-2412 , 43045-0412

6.1.4 Environmental

Enclosure	Aluminium with black anodised finish
Operating Temperature	-20 Celcius to +70 Celcius (-4F to + 158F) non-condensing
Storage Temperature	-40 Celcius to +80 Celcius (-40F to + 185F) non-condensing

7 Warranty and repair information

One year limited warranty.

We warrant our products to be free of defect in material and workmanship for the period of one year from the date of original purchase. While we make every effort to carefully manufacture our products to the highest standards of quality, occasionally parts may be found to be missing, defective or damaged.

If you have a defective part, return the product to us, shipping charges pre-paid. Include proof of purchase and a written explanation of the trouble. During the warranty period, we will, at our option, either repair or replace the product free of charge.

This warranty does not cover damage due to improper installation or use, negligence, accident, or unauthorized service, or to incidental or consequential damages beyond the products themselves. Implied warranties are limited in duration to the life of this limited warranty.

Changes or modification not expressly approved in writing by the producer may void the user's authority to operate this equipment.