

## vehicle module


**Features:**

- Communication using GPRS connection, GSM data call and SMS
- 16-channel, high-sensitivity GPS receiver
- 3 digital inputs
- 2 analogue inputs
- At least 1 week's data is stored with **1-second resolution**
- Low power consumption
- Internal batteries with 24 hours of operational time
- Suitable for vehicles with either 12 or 24 V batteries
- Mechanically protected
- Optional RS-232 port
- Optional personal identification device (Dallas iButton)

**Mechanical**

Dimensions	
Height:	35 mm
Width:	110 mm
Length:	118 mm
Weight incl. batteries:	397 g

**Environmental**

Temperature Rating	
Operational:	-20 ... +70 °C
Storage:	-40 ... +85 °C
Protection (EN60529)	
aluminium case,	IP 65
optional:	IP 67

**Electrical**

Operating voltage:	9.5 ... 40 V
Current @ 12 V	
operational:	50 mA
data connection:	180 mA
idle:	35 mA
internal battery recharge:	+ 400 mA
Shock protection:	
	SELV (Safety Extra-Low Voltage)
Operational time by internal batteries, using new batteries:	24 hours
Overcurrent Protection:	
	internal regenerating fuses
	external fuses
Digital inputs	
input impedance:	10 kΩ
	protected from overvoltage
Analogue inputs	0 ... 30 V
input impedance:	100 kΩ

**GPS receiver**

16 channels, L1 frequency, C/A code	
update rate:	1 sample/s
Accuracy	
Position:	2.5 m CEP <sup>1</sup>
DGPS/SBAS (WAAS, EGNOS):	2.0 m CEP <sup>2</sup>
Start-up Times	
Cold start:	34 s
Hot start:	< 3.5 s <sup>1</sup>
Signal Reacquisition:	< 1 s <sup>1</sup>
Sensitivity:	
Tracking:	-158 dBm
Acquisition:	-148 dBm
Cold starts:	-142 dBm
Antenna:	10 mA @ 3V
	SMA connector

<sup>1</sup>Depends on signal strength

<sup>2</sup>Depends on accuracy of correction data of DGPS or SBAS service

<sup>3</sup>Also applicable for assisted GPS (A-GPS)

**GSM/GPRS modem**

EGSM 900/1800 MHz	
GSM 850/1900 MHz	
GPRS	
	Multi slot class 8
	Max. bit rate: 85.6 kbps
	Class B GSM 07.10 multiplexing
Data Call	
	Max. bit rate: 14.4 kbps
SMS	
	MO/MT PDU mode
	Cell broadcast
Antenna:	> 12 dBm
	SMA connector