



# K8v7 GPS GPRS

- 16 channel GPS receiver
- Extra low power consumption
- Digital I/O integrated.
- Remote configuration of functionality and firmware code
- Communication with external data terminals based on Windows Mobile Pocket PC® .
- GPRS/SMS communication system
- Expand Option: Digital and Analogical Input / Output

K8 GPS/GPRS® is the KNOSOS designed high performance GPS positioning unit designed in 2006. It allows GPS positioning of a vehicle and transmission to a control centre by GPRS/GSM communication network, using SMS and/or GPRS, being programmable policy of networks use.

## Versatile unit

K8 v7 GPS GPRS® unit has been designed for use with MPS platform or any other GIS based software. K8 unit transmits by TCP/IP standard protocol in GPRS network and it uses datagram packets in SMS. Data transmission in real time is optimized to use minimum network resources by compressing protocols.

K8 has digital input/output contacts, and it can be expanded with external extra modules for telecontrol and monitoring applications.

K8 unit sends GPS frames (positioning, speed, heading, date/time) as data from peripheral terminals plugged (sensing modules, data terminal, PDA) to be represented on application of the control centre software.

K8 unit has internal GPRS modem that it can be used like external GPRS modem (transparent GPRS channel gateway) by peripheral terminals.

The K8 Unit has been certified with 95/54/CE for motor vehicles and 89/366/EEC, 92/59/CEE, according with the electromagnetic compatibility standards.

K8 v7 GPS GPRS unit supports peripheral devices plugging by serial port, like printers, data terminal, or specific PLC. And is programmable to dual communications mode with TETRA, TRAPOL, WIFI and Bluetooth option.



Tracking unit K8 v7 GPS  
GSM/GPRS

## Adaptable to any vehicle

Thanks to its small size and compact structure K8 GPS® unit is the ideal equipment for the most demanding conditions. It combines last generation technology and ease installation. Moreover, it has been designed for self-control of power consumption, achieving minimum levels.

## Highest functionality

R&D KNOSOS department can customize functionality load in unit, implementing necessary functionality and be adapted to communications channel. It also permits:

- K8 can be remotely programmed from control centre in order to send GPS data depending on covered distance, elapsed time or combination of both. Configuration personalization. Services of GPS and DATA can be configured to work: GPRS only, SMS only, GPRS main backup SMS.
- NMEA-0183 port connected to a Mobile POCKET PC® or similar. This option can be used by the car or truck driver to locate himself in a city or road (GPS Navigator).
- Allows saving until 10.000 positions, route backup, and control check points alarms. Saving in non volatile memory.

## CHARACTERISTICS

- Wide power supply range: 9 - 30 V. Extra low power consumption. Programmable switch off.
- Resistant and adaptable to any vehicle
- Connexion existing peripherals.
- For use with MPS platform , or any other software
- Excellent behaviour inside cities
- Ideal for high efficiency and secure systems

## SPECIFICATIONS

<b>GPS</b>	L1 band, C/A codes, 16 channel GPS receiver
<b>Frequency</b>	Max. Frequency generation 1 pos/s
<b>Accuracy</b>	Position: 10 m (90%) without S/A Velocity: 0.1 m/s without S/A Time: 1µs synchronized to GPS time
<b>Acquisition Rate</b>	Cold start: 46 s Warm start: 35 s Hot start: 8 s
<b>Reacquisition</b>	0,1 s
<b>Altitude (max)</b>	18.000 m
<b>Velocity (max)</b>	500 m/s (360 Km/h)
<b>Acceleration (max)</b>	4g
<b>Jerk (max)</b>	20 m/s <sup>3</sup>
<b>GPS connector</b>	Female SMA
<b>GPS Antenna</b>	Active 3V3 -5V 13 mA SC and OC protected
<b>DGPS</b>	RTCM SC104 accepted
<b>Modem GPRS</b>	Modem GSM/GPRS internal. Cert. CE Quad Band: 850/900/1800/1900 MHz
<b>POWER</b>	
<b>Main power</b>	9 - 30 V DC
<b>Consumption</b>	75 mA @ 12,4 V Low power : 0,5 mA @ 12,4 V Optional by external input.
<b>Power control</b>	Optional by external input.
<b>Power connector</b>	Minifit JR
<b>Back-up battery</b>	Supercap 1F
<b>Short circuit protection</b>	Resettable fuse
<b>INPUT/OUTPUT</b>	
<b>Serial ports</b>	4 RS232 configurable ports (2 external 2 internal)
<b>Serial connector</b>	1 DB9 and 2 DB15
<b>I/O Digital</b>	5 inputs and 3 outputs.
<b>State control</b>	4 LEDs for visual control. (Power, GPS, test and communication)
<b>PROCESSOR</b>	
<b>Capacity processor</b>	16 bit H8/3029 22 MHz
<b>Programming</b>	Remote access by GPRS and In-circuit serial programming flash memory
<b>RAM memory</b>	512 kbytes
<b>Non-Volatile memory</b>	512 kbytes

## PHYSICAL CHARACTERISTICS

<b>Size</b>	89 x 50 x 160 mm without connectors
<b>Weight</b>	470 g
<b>Box</b>	Aluminium
<b>Case</b>	Mat blue anodised
<b>Connectors</b>	GPS: female SMA. GPRS: FME. I/O: DB9 male/DB15 female /DB15 male
<b>Operating temp.</b>	-40°C a 85°C
<b>Storage</b>	-40°C a 85°C
<b>Humidity</b>	5% a 95% non-condensing at 60°C
<b>K8 GPS unit installation</b>	By using 4 metric screws and lock washers



## OPTIONAL HARDWARE

<b>Communications</b>	Communications TETRA, TETRAPOL, WIFI o Bluetooth.
<b>Input/Output</b>	External modules by bus: 7I /8O Digital and 8I Analogical
<b>Serial Ports</b>	Optional serial port configurable RS232, RS485 o 1 wire.

## PROGRAM CHARACTERISTICS

<b>Base Firmware</b>	Unit K8 GPS is supplied with high functional firmware, that allows customised configuration.
<b>Software Platforms</b>	K8 GPS/GPRS unit uses KNOSOS standard protocol, fully compatible with MPS platform or available to integrate into other control centre software systems.
<b>Protocols</b>	Three option protocol configuration: <ul style="list-style-type: none"> <li>o KNOSOS binary encrypted Protocol</li> <li>o ETSI Location Information Protocol</li> <li>o Specific customer protocol.</li> </ul>
<b>Personalized development</b>	KNOSOS offers its experience for integration of K8 GPS in external systems, as well as for connection of data terminals, hand-held terminals, PDA's, or printers.