

# K8v7 GPS Dual GPRS/TETRA

- **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®.**
- **16 bits Microcontroller to 22MHz**
- **Communication system GSM/GPRS and TETRA.**



*Tracking unit K8 v7 GPS Dual GPRS/TETRA*

**U**nit K8v7 GPS Dual GPRS/TETRA® is the KNOSOS designed high performance GPS positioning unit designed in 2006. It allows GPS positioning of a vehicle and transmission to a control center optimizing the GPRS/GSM or TETRA communications channel, being customizable the use policies for each network.

## Versatile unit

K8 v7 GPS Dual GPRS/TETRA has been designed for use with MPS platform, or any other GIS based software

In GPRS mode, it uses standard TCP/IP protocol and, in TETRA mode, SDS messages to send required real-time information, and it optimizes the joint operation of both communications networks.

K8 v7 unit sends so much the GPS frame that will be represented on the cartography of the application of control center, as data frame generated by a connected external device to the equipment (DATA). K8 unit can be connected to external terminal or PDA by port series or Bluetooth connection.

K8 unit has certificate automotive “e”, 95/54CE for motor vehicles, and 89/366/EEC, 92/59/CEE of electromagnetic compatibility.

Thanks to its reduced size and its compact and solid structure, the K8 unit is the ideal equipment to be mounted in the most demanding applications. It combined last generation technology along with an enormous facility of installation. In addition it has been designed so that it diminishes its electrical consumption with dull switch-off elements.

## Maximum functionality

The R+D KNOSOS department can customize the software recorded in the K8 unit v7 GPS, obtaining the wished functionality and adapting the use policies of the communication channel.

- K8 unit can be configured to both send each one of defined services (GPS and DATA) by one of the communication systems, by both simultaneously, or the one by primary form and other of backup.
- K8 unit allows to be reprogrammed from the base, so that it is able to send GPS positions by whole range, passed time or a mixture of both.
- The unit NMEA serie port provides frames NMEA-0183 compatible with navigators GPS based on Mobile POCKET PC® platforms or similars.

Unit K8 v7 GPS Dual is also available for TETRAPOL networks.



# K8 GPS v7 Dual GPRS/TETRA

## CHARACTERISTICS

- Power supply between 9 and 30 V with temporizable disconnection and low consumption.
- Resistant and adaptable to any vehicle.
- Firmware adaptable to the connection of existing peripherals.
- Directly usable with MPS platform or opened to specific applications
- Excellent behavior in cities
- Ideal for high efficiency and secure systems.

## SPECIFICACIONES

<b>General</b>	GPS receiver in L1 frequency and C/A codes of 16 channels in continuous tracking. 1 Hz positioning.
<b>Frequency</b>	Max. 1 pos/s, depending on the Communication system.
<b>Accuracy</b>	Position: 10 m (90%) without S/A Speed: 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</b>	18.000 m
<b>Speed</b>	500m/s
<b>Acceleration</b>	4g
<b>Jerk</b>	20 m/s <sup>3</sup>
<b>DGPS</b>	RTCM SC104 accepted
<b>GPS connector</b>	Female SMA
<b>Modem GPRS</b>	Quadband: 850/900/1800/1900 MHz GSM release 99 GPRS Multislot class 12
<b>Power supply Consumption</b>	9 - 30 V DC 75 mA @ 12,4 V Low power: 40mA @ 12,4V Backup : 0,5 mA @ 12,4 V
<b>Back-up battery</b>	Supercap 1F
<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>Serial ports</b>	4 RS232 configurable ports (2 external 2 internal)
<b>Inputs/outputs</b>	5 input/ 3 output
<b>Power connector</b>	Minifit JR
<b>Serial connector</b>	1 DB9 and 2 DB15
<b>Processor</b>	16 bits H8/3029 22MHz
<b>Memory</b>	FLASH: 512Kb, RAM: 512Kb, EEPROM: 32Kb
<b>Programming</b>	By Flash memory using external connector Remote firmware reprogramming (by GPRS)
<b>State control</b>	4 LEDs for visual control. (Power, GPS, test and communication)
<b>Directives</b>	CE y automotive ("e" mark)

## 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 GPRS, TETRA, TETRAPOL, WIFI o Bluetooth.
<b>Input/Output</b>	External modules by bus: 71 /80 Digital and 81 Analogical
<b>Serial Ports</b>	Optional serial port configurable RS232, RS485 o 1 wire.

## PROGRAM OPTIONS

<b>Dual Bluetooth option</b>	K8 GPS dual unit allows the integration Bluetooth communication systems in order to facilitate integration with PDA devices.
<b>Software Platforms</b>	K8 GPS dual 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.

© 2008 KNOSOS, S. L.U. Characteristics subject to any change without previous notification. KNOSOS, MPS Platform and K8 GPS unit are registered trademarks. Windows and Pocket PC are registered trademarks of Microsoft corporation.

KNOSOS. GPS tracking systems, data transmission and Mobility.

Álaba, 140, Planta 7 – 08018 Barcelona (Spain)

Tel. (34) 933 208 305 Fax (34) 933 208 306

e-mail: [knosos@knosos.es](mailto:knosos@knosos.es) web: [www.knosos.com](http://www.knosos.com) / [www.amper.es](http://www.amper.es)

KNOSOS