

New design

- 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 TETRAPOL

Unit K8v7 GPS-TETRAPOL SAIR 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 TETRAPOL communications channel, using the most suitable carrier service, including network polling.

Versatile unit

K8v7 GPS-TETRAPOL has been designed for use with the Spanish Home Affairs Ministry SAIR platform and MPS plataform software, or any other GIS based software. Data is transmitted on real time by use of short datagrams.

K8 unit sends GPS frames to be drawn on the map of the control centre software. The information transmitted is position, speed, heading and GPS time.

The unite integrates digital inputs/output that can be extended with additional digital/analogic inputs/outputs, with the purpose of making telemetering, sensorization and telecontrol in the vehicles.

K8v7 is connected to the TETRAPOL mobile terminal using a RS-232 port. K8v7 unit power supply can be controlled directly for the TETRAPOL terminal.



Tracking unit K8v7 GPS/TETRAPOL SAIR

K8 v7 GPS TETRAPOL unit supports periferical devices plugging by serial port, like printers, data terminal, or specific PLC. And is programable toin dual communications mode with GSM/GPRS, TETRA, WIFI and Bluetooth option.

Adaptable to any vehicle

Thanks to its small size and compact structure K8 v7 GPS TETRAPOL unit is the ideal equipment for the most demanding conditions. It combines last generation technology and ease installation.

KNOSOS can customize functionality load in unit K8 GPS-TETRAPOL SAIR, implementing necessary particularization and adapting to communications channel.

Highest functionality

K8 can be remotely programmed from control center in order to send GPS data depending on covered distance, elapsed time or combination of both. Configuration personalization. It also allows the memorization and overturned of routes over the communication channel and the generation of warnings towards the control center when the vehicle arrives at the predefined crossing sites.

It allows, as a standard option, the connection to the KNOSOS data Terminal **K10-NET®**.

CHARACTERISTICS

- Wide power supply range: 9 - 30 V controlled directly by the TETRAPOL terminal. Extra low power consumption.
- Resistant and adaptable to any vehicle.
- Firmware to choose based on the communication system.
- For use with SAIR, MPS plataforma or any other software.
- Excellent behaviour inside cities.
- Ideal for high efficiency and secure systems.

SPECIFICATIONS

General	GPS receiver in L1 frequency and C/A codes of 16 channels in continuous tracking. 1 Hz positioning.
Frequency	Max. 1 pos/s, depending on the Communication system.
Accuracy	Position: 10 m (90%) without S/A Speed: 0.1 m/s without S/A Time: 1 μ s synchronized to GPS time Velocidad: 0.05 m/s
Acquisition Rate	Cold Start: <46 s Warm start: <35 s Hot Start: <8 s
Reacquisition	0,1 s
Altitude	18.000 m
Speed	500m/s
Acceleration	4g
Jerk	20 m/s ³
DGPS	RTCM SC104 accepted
GPS Antenna	Active 3V3 -5V 13 mA SC and OC protected
GPS connector	Female SMA
Power supply	9 - 30 V
Consumption	75 mA @ 12,4 V Low power : 0,5 mA @ 12,4 V
Back-up battery	Supercap 1F
Operating temp.	-40°C a 85°C
Storage	-40°C a 85°C
Humidity	5% a 95% non-condensing at 60°C
Serial ports	4 RS232 configurable ports (2 external 2 internal)
Inputs/outputs	10 digital input/output
Power connector	Minifit JR
Serial connector	1 DB9 and 2 DB15
Processor	16 bits H8/3029 22MHz
Memory	FLASH: 512KB, RAM: 512KB, EEPROM: 32KB
Programming	Remote access by GPRS and In-circuit serial programming flash memory. (with option GPRS)
State control	4 LEDs for visual control. (Power, GPS, test and communication)
Directive	CE and automotive

PHYSICAL CHARACTERISTICS

Size	89 x 50 x 160 mm without connectors
Weight	470 g
Connectors	GPS: female SMA. GPRS: FME. I/O: DB9 male/DB15 female /DB15 male
Box	Aluminium
Case	Mat green anodised with Guardia Civil logo
Internal mechanics	2 layers: mother board + exchangeable extension board.
K8 GPS unit installation	By using 4 metric screws and lock washers



OPTIONAL HARDWARE

Communications	Communications GSM/GPRS, TETRA, WIFI or Bluetooth.
Inputs/outputs	External modules by bus: 71 /80 Digital and 8I Analogical
Serial Ports	Optional serial port configurable RS232, RS485 o 1 wire.

PROGRAM CHARACTERISTICS

Base programming	K8v7 GPS-TETRAPOL SAIR unit is directly compatible with the systems developed in SAIR and MPS plataforma environments, as much in simple as in client-server structure. However, it is 100% open to reprogramming to be used in external applications, or developed by third parts.
Protocols	K8 GPS/TETRAPOL unit uses KNOSOS standard protocol, fully compatible with MPS plataforma or available to integrate into other control centre software systems.
Personalized development	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.