Sheet

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TelMod

Telediagnostic and satellite tracking system

TelMod is a telediagnostic and satellite tracking system, developed with the aim to provide a remote connection to the automation systems of installations equipped with CAN-Bus interface.
The system consists of a modem, which interfaces through CAN network the automation equipment on the machine. The system also has a GSM/GPRS module for the packet-switched data transfer over the Internet. The system moreover has a GPS module by which it is possible to perform the satellite tracking of the machine and of course synchronize with precision the RTC (Real Time Clock) of the various equipment placed on the CAN network. Through the GSM/GPRS network it is possible to make a connection to a server, in order to send real-time diagnostic information about the automation system inside which the modem is integrated. Always by means of the GSM/GPRS network it is possible to perform the file transfer in both directions and the firmware upgrade of the modem and equipment placed on the CAN network. All the file transfers and instructions can be carried out simply by means of the portal platform ESACONNECT (www.esaconnect.net).



- GSM/GPRS capability and external antenna available on FME connector.
- GPS on board and external antenna available on SMA connector.
- 2 indipendent CAN-Bus channels (the second one is an optional).
- Bootloader with the possibility of firmware upgrade through CAN-Bus or OTA.
- Power supply for automotive requirements (8-32V, polarity inversion protection and load-dump). Availability of a signal for the remote switch-on of the modem.
- Firmware prepared for file transfer from and toward a server or from and toward a server with proprietary protocol, through the portal platform ESACONNECT.
- Proprietary protocol for the firmware upgrade of the peripheral cards connected with CAN-Bus. On board availability of a capacious Flash EEprom memory for firmware and files storage.
- Avalability of energy saving mode and power supply through lithium rechargeable battery supply (the battery charger is an optional).
- Optional Bluetooth module for file transfer with Pc, smartphone, tablet and other.

Working conditions

Operational supply voltage:	**12 - 24V**
Operational absorption logic circuit:	**< 0,5A**
Working temperature:	**-20°C - +60°C**
Dimensions:	**148x87x30 mm**

CAN-Bus

CAN-Bus channel:	**FULL CAN 2.0 A e B**
Optional second CAN-Bus independent channel	
Protocol standard:	**SAE J1939**
Maximum speed:	**500 Kbit/sec.**

Processing

Microprocessor:	**16 bit**
Operational rate:	**56 MHz**
Flash memory program:	**288 Kbytes**
Flash memory data:	**8 Mbit**
PL (Performance Level) EN ISO 13849-1:	**A**
SIL (Safety Integrity Level) EN 62061:	**no**

Communication doors

Comunication door:	**USB**
Speed:	**115.2 Kbit/sec**.
Gps:	**Based on SiRF star IV™ core** **Frequency band: GPS L1,C/A Code** **Standard: NMEA and OSP** **GPS architecture with 48 channels** **Positional accuracy (CEP50): Autonomous** **Positional error < 2.5m** **Accuracy: Speed: < 0.01 m/s Heading:< 0.01 deg** **Time to first fix (90% @ -130dBm): Hot Start 1s** **Cold Start < 35s**
Bluetooth: (optional)	**Bluetooth v.2.1 + EDR** **Bluetooth radio class 2** **Transmission power: +3 dBm** **Receiver sensitivity: -86 dBm** **Range: 30 meters line-of-sight** **Integrated antenna chip**

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