CNM350
PC/104-Plus Communication and Navigation Module

Features

- PC/104-Plus Communication and Navigation Module
- PC/104-Plus compliance
- 4-band GSM 850/900/1800/1900 modem, GPRS/EDGE Class 10
- Two SIM card support
- GPS/GLONASS receiver, 16 channels
- QNX4.25/6.4, Linux, Microsoft XP Embedded/CE
- Operating temperature range: –40...+85°C

Overview

CNM350 is a PC/104-Plus navigation and communication expansion module. It includes a navigation module operating in L1 ranges of GPS/GLONASS systems allowing to determine position, speed and time.

Another subsystem of CNM350 is a GSM communication module capable to operate in 850/900/1800/1900 frequency ranges; it supports two SIM-cards, CSD and GPRS/EDGE technologies for data and voice transmission.

Technical Specifications

Interfaces

GPS/ GLONASS receiver:

- GPS / GLONASS receiver MNP-M3:
  - 16 universal channels for L1 ranges of GPS/GLONASS signals;
  - Dynamic range of antenna input: 130…-100 dBm;
  - Programmable navigation decisions rate: 1…10 Hz;
  - Coordinates measurement accuracy: not more than 20 m (3 m using differential corrections) at speeds up to 1200 km/h;
  - First navigation parameters measurement delay after cold restart: not more than 50 s;
  - Connection with CPU module through two UART channels at 115.2 Kb/s using software switchable protocols: Binary, IEC 61162-1 (NMEA-0183) or RTCM SC-104;
  - Software utility for obtaining the detailed information from the receiver and for its operating mode management
  - Power supply voltage for an external GPS/GLONASS antenna: 5 V, 3.3 V, or passive antenna; maximal consumption current: 75 mA
  - CR2032 lithium battery used as power backup for storage of almanac, satellite ephemerides, and internal clock data. Battery life is not less than 2.5 years
  - External antenna connection via MMCX\SMA adapter

GSM modem:

- GSM 850 / 900 / 1800 / 1900 MHz
- GPRS class 10
- EDGE class 1
- Audio interface:
  - Loudspeaker (R > 8 ohm)
  - Electret microphone
- Two SIM-cards capability
- Modem operation mode LED indicator
- Antenna connection via MMCX\SMA adapter

Internal TCP/IP stack usage possibility

PC/104-Plus interface:

- 32-bit / 33 MHz Bus Target;
- Universal interface 3.3 V / 5 V;
- 8 GPIO ports are used for module's units management;
- Compatibility with 16C550;
- Compliance to PCI Local Bus Specification, revision 2.3;
- Compliance to PC/104-Plus Specification version 2.2;
- ISA bus signals are not used in the module, the connector is installed for compatibility

Control and indication:

- Two position DIP-switch is used to set the module's PC/104-Plus stack position number;
- Green LED indicates the GSM modem operation mode;
- Red LED is controlled by user application;
- GSM and GPS modules can be enabled or disabled;
- Active SIM-card can be selected

Software support

- QNX® 6.3x, 4.25;
- Windows® XP, XPE;
- Linux® 2.6

Mechanical

- Dimensions: 93 × 96 × 23 mm (3.60"×3.72"×0.89")
- Weight: 0.05 kg

Power

- Power (VI/O and +5V) is supplied to the module via PC/104-Plus connectors;
- Universal PCI interface allows usage of two power voltages – +3.3V ±10% or +5V ±5% with not more than 100 mA consumption;
- Consumption current for a 5V ±5% power source does not exceed the following values:
  CNM35001 – 1.0A rms, 2.6A peak;
  CNM35002 – 0.5A rms, 2.1A peak;
  CNM35003 – 0.6A

Environmental conditions

- Operating temperature range: –40°C to +85°C
- Storage temperature range: –55°C to +90°C
- Humidity: 0% to 80%, non-condensing
- Single/multiple shock stability: up to 100G/50G
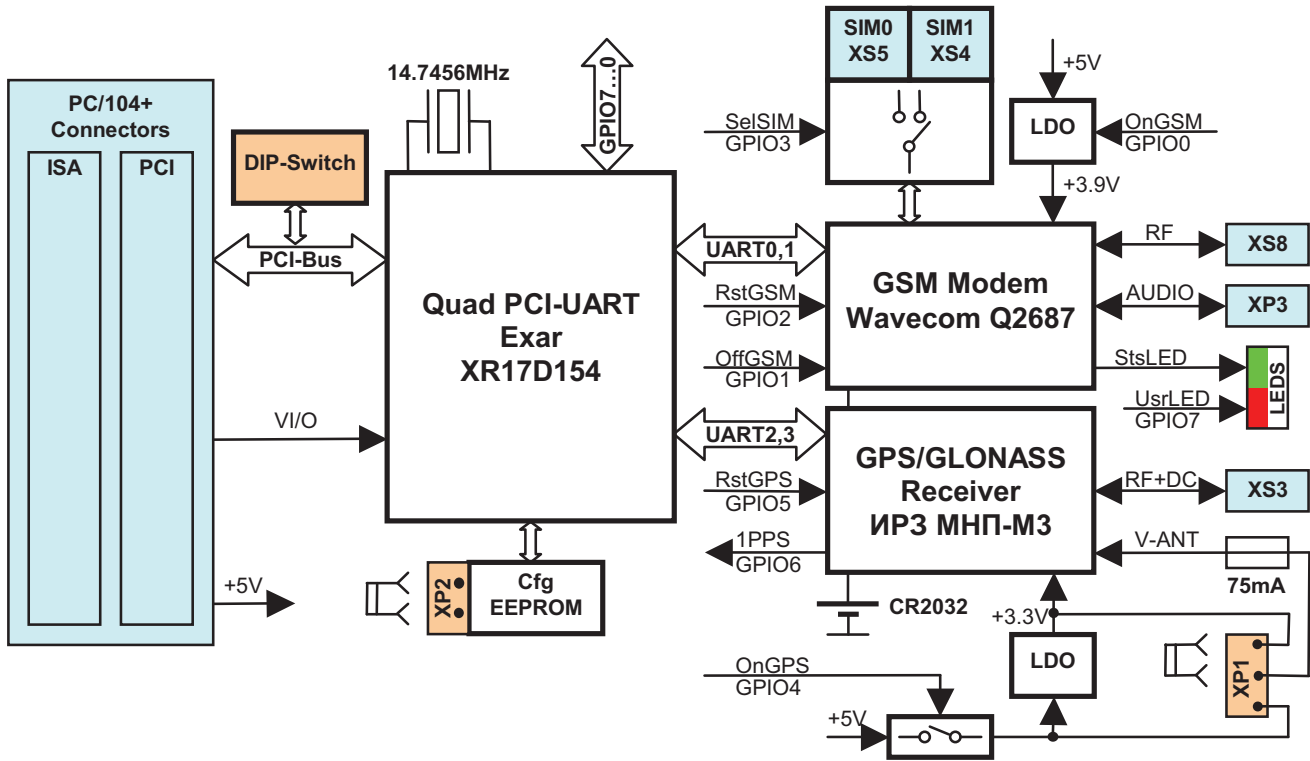- Vibration: up to 5G

List of deliverables

- CNM350 module
- CD with software and documentation
- Package

Warranty

- 3 years for parts and labor

Fastwel

CNM350
PC/104-Plus Communication and Navigation Module

Board Layout

Ordering Information

CNM350 Configuration

CNM350 - 01 \Options

Device Type

CNM350-01 | PC/104 module Quad-band GSM GPRS/EDGE-enabled module with GPS/GLONASS Receiver

Configurations

CNM350-01 | PC/104 module Quad-band GSM GPRS/EDGE-enabled module with GPS/GLONASS Receiver

CNM350-02 | PC/104 communication module GSM GPRS/EDGE

CNM350-03 | PC/104 navigation module GPS / GLONASS

Options

\xxx | Choose available options from the table

CNM350 Available Options

Coating	
\COATED	Protective Coating
Operating System Presetting	
\WXP	Windows XP
\XPE	Windows XP Embedded
\QNX	QNX 6.3
\LNX	Linux 2.6

Other configurations and options are available upon request.

Example

CNM350-01\COATED\XPE
PC/104 module Quad-band GSM GPRS/EDGE-enabled module with GPS/GLONASS Receiver
Protective coating
Windows XP Embedded

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Product specifications are subject to change without notice

Corporate Offices

FASTWEL GROUP Co. Ltd
108 Profsoyuznaya str.
Moscow, Russia 117437
Tel: +7 (495) 232-1681
Fax: +7 (495) 232-1654
E-mail: info@fastwel.com
Web: www.fastwel.com

FASTWEL Corporation US
55 Washington street, Suite 310
Brooklyn, NY 11201
Tel: 1.718.554.3686
Fax: 1.718.797.0600
Toll free: 1.877.787.8443
(1.877.RURUGGED)
E-mail: info@fastwel.com

FASTWEL Asia
6F., No. 118, Ln.235, Baoqiao
Rd., Xindian Dist,
New Taipei City, Taiwan, R.O.C.
Tel: +886-2-8912 1938
Fax: +886-2-8912 1939
E-mail: asia@fastwel.com