GPS170SV: GPS Satellite Receiver (Eurocard)

The variety of inputs/outputs allows the use for various synchronisation tasks and the measurement of asynchronous time events

Important Note

This product is no longer available and may have been replaced by a newer product. We will, of course, continue to provide support for units that have already been purchased and are still in use. Please contact our [1]Sales Department for further details.

This product has been discontinued and has been replaced with: [2]

Key Features

-   Pulses per second and per minute
-   2 time trigger inputs
-   2 RS-232 interfaces
-   Alarm output
-   Optional DDS frequency synthesizer
-   DCF77-simulation
-   Included GPSANTv2 antenna uses downconverter technology to enable long transmission routes of up to 1100 m (1200 yards)
-   DC-insulated antenna circuit
-   Standard frequency outputs
-   Flash-EPROM with bootstrap loader
-   Optional up to 4 serial ports 3 programmable switching outputs timecode generator (IRIG-B, AFNOR)
-   Including GPS antenna, 20m standard cable and manual on USB key

Description

The frequency locking of the master oscillator to the GPS-system enables the module GPS170SV to generate fixed and optionally programmable standard frequencies with high accuracy and stability. Various oscillator options allow the cost efficient implementation of different requirements concerning the accurracy of the outputs.

The pulse generator of GPS170SV generates pulses per second and per minute. As an option three programmable outputs are available. The pulses are synchronised to UTC-second.

Up to four serial interfaces are available for sending timestrings. These ASCII-telegrams include information regarding time, date and status of the GPS-receiver.

The module provides two inputs for measurement of asynchronous time events. These capture events can be read via a serial interface.

The parameter setting of the module is done by a monitor software.

Characteristics

Receiver Type	6 channel GPS C/A-code receiver
Status Indicators	Fail-LED shows that the internal timing has not been synchronized or that a system error occurred Lock-LED shows that the calculation of the position has been achieved after reset
Type of Antenna	Included [3]GPSANTv2 antenna with innovative downconverter technology that allows transmission routes of up to 300 m using RG58 cable, 700 m using RG213 cable, and 1100 m using H2010 Ultraflex cable
Synchronization Time	Max. 1 minute in normal operating conditions Max. 25 minutes (average 12 minutes) upon first initialization or in the absence of saved satellite data
Frequency Outputs	10 MHz, 1 MHz, 100 kHz (TTL level) Accuracy: ±5·10E-9 (timebase TCXO), GPS-synchronous for more than 20 minutes Different oscillators available, look at [4]oscillator options
Pulse Outputs	Pulse per second (PPS) and pulse per minute (PPM). TTL level, pulse width: 200 msec
Accuracy of Pulse Outputs	Dependant on oscillator option: < ±100nsec (OCXO MQ, OCXO HQ, OCXO-DHQ, Rubidium)
Interface	Two independent serial RS-232-interfaces, menu configurable
Serial Time String Output	Baud rate: 300, 600, 1200, 2400, 4800, 9600, 19200 Baud Data format: 7N2, 7E1, 7E2, 8E1, 8N1, 8N2 Time telegram: [5]Meinberg Standard Time String , SAT, Uni Erlangen (NTP), SPA, Sysplex, RACAL, NMEA0183 (RMC,GGA,ZDA), Meinberg GPS, COMPUTIME, ION oder [6]Capture String

DCF77 emulation	DCF77-emulation, TTL-level
Switch outputs	**Optional:** 3 TTL outputs can configured independently for the following modes: - free programmable cyclic or fixed impulses - timer mode; three 'ON'- and three 'OFF'-states can be setup per day The switch states can be inverted for all three outputs, the impulse lengths are configurable in 10msec steps in a range from 10msec to 10sec. The impulse output can be configured for all channels together to 'always' or 'ifsync'.
Supported Timecode Formats	**Optional:** IRIG B002, B122, B003, B123, B006, B126, B007, B127, IEEE1344 or AFNOR: - AM-sinewave signal: 3Vpp (MARK), 1Vpp (SPACE) into 50 ohm - TTL-level
Time-Trigger inputs	Resolution: 100 nsec, triggered by falling TTL slope Time of trigger event readable via RS232-interface
Alarm output	Synchronous state of the module, TTL high level if synchronous
Dimensions of the front panel	8HP/3U (40mm x 128mm) Option: 4HP/3U (20mm x 128mm)
Electrical Connectors	64 pin rear VG edge connector DIN 41612
Antenna Connector	SMB-Subminiature-coaxial-connector Option: BNC-coaxial-connector
Backup Battery Type	When main power supply fails, hardware clock runs free on quartz basis, almanac data is stored in RAM Life time of lithium battery min. 10 years
Cable Type	Coaxial cable RG58 indoor or outdoor usage (SMB-, N-Norm-connector)
Operating Voltage	+5 V DC
Firmware	Flash-EPROM, bootstrap loader
Current Draw	+5V 1.1 A to 1.4 A (depending on oscillator type)
Board type	Eurocard
Supported Temperature	Operational: 0 - 50 °C (32 - 122 °F) Storage: -20 - 70 °C (-4 - 158 °F)
Supported Humidity	Max. 85 % (non-condensing) at 40 °C
Options	Synthesizer 1/8 Hz up to 10 MHz (TTL level, sine wave 1.5Veff, open drain) Optional up to 4 serial interfaces, 3 programmable TTL outputs and timecode generator (IRIG-B, AFNOR)

RoHS Status of Product	This product is fully RoHS-compliant.
WEEE Status of Product	This product is handled as a B2B (Business to Business) category product. To ensure that the product is disposed of in a WEEE-compliant fashion, it can be returned to the manufacturer. Any transportation expenses for returning this product (at end-of-life) must be covered by the end user, while Meinberg will bear the costs for the waste disposal itself.

Manual

The English manual is available as a PDF file: [7]Download (PDF)

Links:

[1] mailto:sales@meinberg.de

[2] https://www.meinbergglobal.com/english/products/gps180sv.htm

[3] https://www.meinbergglobal.com/english/products/gps-antenna-converter.htm

[4] https://www.meinbergglobal.com/english/products/specs/gpsopt.htm

[5] https://www.meinbergglobal.com/english/specs/timestr.htm

[6] https://www.meinbergglobal.com/english/specs/capstr.htm

[7] https://www.meinbergglobal.com/download/docs/manuals/english/gps170sv.pdf