



## Meinberg Radio Clocks

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## GPS-MP: The ready-to-operate GPS systems built up in rackmount slimline modular cases.

The ready-to-operate systems GPS-MQ/F4/MP (GPS-MQ/LCD/F4/MP) and GPS/MP (GPS/LCD/MP)

Our satellite receiver clock provides extremely precise time as well as pulses and frequency outputs. The clock has been developed for applications where conventional radio controlled clocks cannot meet the increasing requirements in precision and reliability.

High precision available 24/7 around the world is the main feature of this high-quality system which receives its information from the satellites of the Global Positioning System.

### Key Features

- 2 time trigger inputs
- Pulses per second and per minute
- LC-Display for configuration ( .../LCD/... types only)
- 2 RS-232 interfaces
- integrated power supply (85 ... 264VAC)
- Optional (only .../F4/... models): four frequency outputs 2.048MHz direct, 3.0Vpp into 50 Ohm 2.048MHz switched, 3.0Vpp into 25 Ohm 10MHz direct, 3.0Vpp into 50 Ohm 10MHz switched, 3.0Vpp into 25 Ohm
- alarm relay output, changeover contact
- Including GPS antenna, 20m standard cable and manual on USB key

## Description

The ready-to-operate systems GPS-MQ/F4/MP (GPS-MQ/LCD/F4/MP) and GPS//MP (GPS/LCD/MP) are built up in 19" slimline modular cases (1U).

The frequency locking of the master oscillator to the GPS system enables the module GPS170 to generate fixed and programmable standard frequencies with high accuracy and stability. Various oscillator options allow the cost efficient implementation of different requirements concerning the accuracy of the outputs. The pulse generator of GPS170 generates pulses per second and per minute. As an option three programmable outputs are available. The pulses are synchronized to UTC second.

Up to four serial interfaces are available for sending time strings. 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 are shown on the LC display (only LCD models) and can be read via a serial interface.

The front panel of LCD models integrates a LC display that shows information regarding the GPS receiver in different menus. In combination with four push buttons it is also used to setup all configurable parameters.

The ../F4/.. models come with E1/T1 frequency outputs and are widely used in the telecommunication sector.

A powerful and feature-rich software called GPSSMON is available for configuration and monitoring of your Meinberg GPS receivers.

## Characteristics

<b>Receiver Type</b>	12 channel GPS C/A-code receiver
<b>Status Indicators</b>	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
<b>Type of Antenna</b>	Included [1] <a href="#">GPSANTv2 antenna</a> 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
<b>Display</b>	Optional LC display, 2 x 40 characters, with backlight
<b>Control Elements</b>	Configuration occurs by using the enclosed monitoring software, connected to the system via the serial interface COM0 in the front panel. ../LCD/.. only Configuration occurs via the 2x40 character front panel LC display or by using a monitoring software, connected to the system via the serial interface COM0 in the rear panel.
<b>Synchronization Time</b>	Max. 1 minute in normal operating conditions Max. 25 minutes (average 12 minutes) upon first initialization or in the absence of saved satellite data
<b>Interface</b>	Two independent serial RS-232-interfaces, menu configurable
<b>Serial Time String Output</b>	Baud Rates: 300, 600, 1200, 2400, 4800, 9600, 19200 Baud Framing: 7E1, 7E2, 7N2, 7O1, 7O2, 8E1, 8N1, 8N2, 8O1 Time String Formats: [2] <a href="#">Meinberg Standard Time String</a> , SAT, Uni Erlangen (NTP), SPA, Sysplex, RACAL, NMEA0183 (RMC,GGA,ZDA), Meinberg GPS, COMPUTIME, ION, [3] <a href="#">Capture String</a>

<b>Time-Trigger inputs</b>	Resolution: 100 nsec, triggered by falling TTL slope Time of trigger event readable via RS232-interface
<b>Antenna Connector</b>	Type-N connector
<b>Backup Battery Type</b>	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
<b>Supported Time String Formats</b>	Meinberg Standard Timestring, Uni Erlangen Timestring, SYSPLEX Timer, NMEA, Computime, ABB-SPA, SAT, Arbiter
<b>Firmware</b>	Flash-EPROM, bootstrap loader
<b>Form Factor</b>	19" aluminium case (1U) Schroff Multipac
<b>Power Supply Unit</b>	Standard PSU: 85 ... 264VAC, 47 ... 63Hz Several other power supply units (even for DC power supply) are available upon request.
<b>Physical Dimensions</b>	485mm x 45mm x 305mm
<b>Protection</b>	IP20
<b>Supported Temperature</b>	Operational: 0 - 50 °C (32 - 122 °F) Storage: -20 - 70 °C (-4 - 158 °F)
<b>Supported Humidity</b>	Max. 85 % (non-condensing) at 40 °C
<b>Contents of Shipment</b>	Included in delivery is our [1] <a href="#">GPS antenna incl. converter unit</a> and 20 m GPS antenna cable (RG58).
<b>Warranty</b>	Three-year warranty
<b>WEEE Status of Product</b>	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: [4][Download \(PDF\)](#)

## Links:

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

[2] <https://www.meinbergglobal.com/english/specs/timestr.htm>

[3] <https://www.meinbergglobal.com/english/specs/capstr.htm>

[4] [https://www.meinbergglobal.com/download/docs/manuals/english/gps170\\_lcd-mp.pdf](https://www.meinbergglobal.com/download/docs/manuals/english/gps170_lcd-mp.pdf)