



CMGPS

Synchronization Unit CMGPS

When performing end-to-end tests of line protection schemes, it is necessary to start several test sets simultaneously. The CMGPS is a GPS-based synchronization unit which is used with the CMC test set.

The CMGPS receives signals from the satellites of the Global Positioning System (GPS) and provides an output at a time specified by the user. This clock output is then used as a trigger input to start the CMC test set. The CMGPS has been developed to fulfill the requirements of testing in the field, because normal GPS-receivers have drawbacks (size, weight, complicated operation, ...).

CMGPS is typically ready for operation just 5 minutes after start up and issues a factory pre-set one pulse per minute (1 PPM signal). This synchronizing pulse can be configured according to the application's needs. The software is both integrated in the testing modules (like the *State Sequencer*) and also provided as a stand-alone application. It allows setting of first output pulse, pulse rate, and polarity.

Two independent timing pulses are available via separate connectors, on a 16-pin plug (Pulse out 1) which is connected with the CMC test set (ext. interf.) and on two 4 mm banana plugs (Pulse out 2).



Specifications

Pulse Out 1

Type CMOS-output
Accuracy error $< \pm 1 \mu s$

Pulse Out 2

Type Open-collector output
Accuracy error $< \pm 5 \mu s$
Galvanic isolation Optocoupler, isolation according to IEC 1010
Test voltage 3 kV_{RMS}

GPS data

Time till ready for operation typ. 5 min
Pulse polarity positive or negative
Pulse rate 1 ... 65535 s (in steps of 1 s)
Pulse width 200 ms

Power supply

Input voltage 8 ... 30 V_{dc} (via plug-in power supply)
Power consumption 2.5 W
Plug-in power supply Input: 100 ... 240 V_{ac}, 47 ... 63 Hz
Output: 18 V_{dc}

Environmental conditions

Operating temperature 0 ... +50 °C (+32 ... +122 °F)
Humidity range Rel. humidity 5 ... 95%, non-condensing

EMC CE conform (89/336/EEC)
Emission EN 50081-1
Immunity EN 50082-2, IEC 61000-4-2/3/4

Safety EN 61010-1, IEC 61010-1, UL 3111-1

Certifications TÜV-GS; UL, CUL

Weight 440 g (0.97 lb.) (CMGPS only)

Dimensions 140 x 70 x 40 mm (5.5" x 2.8" x 1.6")
(W x H x D, CMGPS only)

Delivery Contents CMGPS, antenna, 15 m antenna cable, plug-in power supply, cable CMC-CMGPS, software, user's manual, carrying bag
OPTION: 2 x 20m antenna cable, to provide up to 40m, SMA adapters