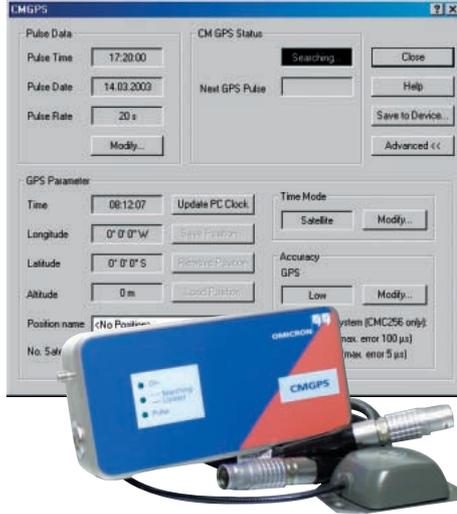


Synchronization Unit CMGPS

VEHZ3000



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/CMB 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 off the shelf GPS-receivers have many drawbacks (size, weight, complicated operation, etc.).

CMGPS is typically ready for operation just 5 minutes after start up. The synchronizing pulse can be configured according to the requirements of the application. The software is both integrated in the testing modules (like the *State Sequencer*) and also provided as a stand-alone application. It allows for the 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 to 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 $\leq \pm 1 \mu\text{s}$
Pulse Out 2	
Type	Open-collector output
Accuracy	error $< \pm 5 \mu\text{s}$
Galvanic isolation	Optocoupler, isolation according to IEC 1010, Test voltage 3 kVrms
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
Synchronization of test sets (CMB, CMC) ¹	error $< 100 \mu\text{s} / < 5 \mu\text{s}$
Power supply	
Input voltage	8 ... 30 Vdc (supplied via plug-in power supply or from test set CMC 256/CMB)
Power consumption	2.5 W
Plug-in power supply	Input: 100 ... 240 Vac, 47 ... 63 Hz; Output: 18 Vdc

Environmental conditions	
Operating temperature	0 ... +50 °C (+32 ... +122 °F)
Humidity range	Relative humidity 5 ... 95%, non-condensing
EMC Emission Immunity	CE conform (89/336/EEC) EN 50081-1 EN 50082-2, IEC 61000-4-2/3/4
General	
Certifications	TÜV-GS; UL, CUL
Weight	440 g (0.97 lb.) (CMGPS only)
Dimensions (W x H x D)	140 x 70 x 40 mm (5.5 x 2.8 x 1.6") (CMGPS only)
Delivery Contents	
CMGPS, antenna, 15 m antenna cable, plug-in power supply, cable CMC-CMGPS, user's manual, carrying bag OPTION: 2 x 20m antenna cable, to provide up to 40m, SMA adapters [VEHZ3003]	

¹ Error corresponds to amplifier output signals (voltage/current) of CMGPS synchronized test sets at configured GPS trigger event
5 μs : enhanced mode (CMC 256 only + State Sequencer)

Polarity Checker - CPOL

VEHZ0650



Polarity Checker checks a series of terminals for correct wiring (replacement for battery checking method).

A special continuous test signal (voltage or current) is injected at one point with the CMC. Then the polarity at all terminals can be checked with CPOL as shown below.

Following this procedure provides a clear indication as to whether the polarity is OK (green LED) or not (red LED). This procedure is much faster than the conventional method and can easily be performed by a single person.

The polarity checker utility comes with *Test Universe Software 2.0* and is enabled by the optional CPOL polarity checker hardware accessory.

