



Satellite Time Signal Receiver

GNSS 3000

The GNSS 3000 is a time signal receiver intended for receiving time signals from navigation satellites. It can receive and process GLONASS and GPS signals. With this high precise time source as reference, the GNSS 3000 is designed to be a synchronization source for master clocks and time servers. To this end, it generates a 1 PPS signal (one pulse per second) or a

DCF time code signal, which is following successful synchronization. In addition, the information from NMEA standards (GGA, ZDA) are available is serial telegrams. The dome-like form of the antenna sheds water and snow and prevents failures during winter. The GNSS 3000 has different operating modes which allow a diagnosis of the reception quality.

GNSS 3000 - Technical details

General description

The satellite time signal receiver GNSS 3000 receives 1,5 GHz signals from satellites orbiting approx. 20'000 m from the earth's surface. Each satellite is carrying high precise time references. The received time information is evaluated in our receiver and sent to any master clock or time base.

Consequently, all clocks and master clocks accepting DCF 77 (UTC) or NMEA code, capable to calculate local time, can be connected to a GNSS 3000.



Technical data	
Input voltage	12 - 60 VDC
Power consumption	< 1.2 W (< 100 mA @ 12V)
Operating temperature	Antenna: -40 ... +85° C Receiver box: -20 ... +60° C
Degree of protection	Antenna: IP 65 Receiver box: IP 40
Dimensions	Antenna: 81 x H 184 (without bracket) Receiver box: L 164 x W 110 x H 50 mm Bracket and antenna: L 110 x W 100 x H 248 mm
Weight	Antenna: 340 g Receiver box: 610 g
Cable	Antenna to receiver box: RG 58: max. 30 m Receiver box to master clock: Up to 200 m possible
Outputs	DCF 77: Time code (UTC, DCF 77 coded) Typical pulse duration: logical 0: 100 ms; logical 1: 200 ms - Current loop passive interface (open collector) - RS 422 1 PPS: Typical pulse duration: 100 ms - Current loop passive interface (open collector) - RS 422 NMEA: RS 422 - 4800 bit/s, 8 data bits, no parity, 1 stop bit
Satellites	32 channel satellite tracking, min. 3 satellites required
Accuracy of leading edge	better ± 5 µs
Synchronization time	Cold start < 15 min. / Warm start < 5 min.
Display elements (LEDs)	green LED on, power ok yellow LED, flashing once a second (DCF signal or 1 PPS pulse) green LED on, synchronization ok red LED on, alarm active