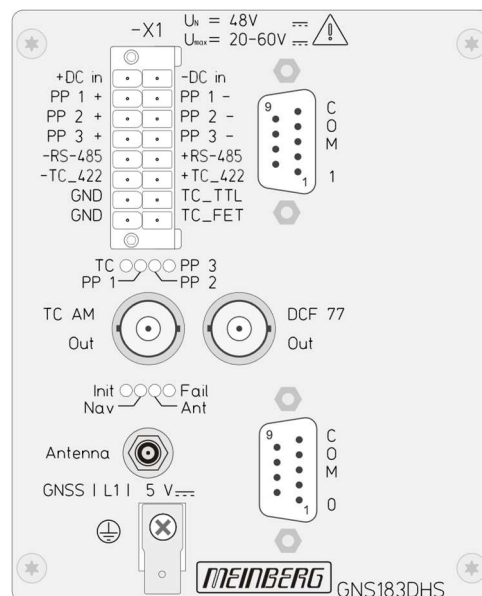


GNS183DHS

Product Number : **000263144**

Product Highlights

- | 16-pin terminal block for connecting pulse/switch outputs and power supply
- | Two RS-232 interfaces, one RS-485 interface
- | DCF77-Simulation
- | Modulated and unmodulated IRIG-B or AFNOR outputs
- | Engineered to order with a “GNS” type receiver clock for reception of GPS, Galileo, BeiDou, and GLONASS satellite signals Remote control and monitoring via COM 0
- | Aluminium profile case for 35 mm DIN mounting rail



Satellite Receiver with integrated Time Code Generator

The GNS183DHS satellite clock is designed in a chassis for DIN rail mounting. The front panel features eight control LEDs, a DMC terminal block, two D-Sub 9-pin connectors, and three BNC sockets as operating elements.

The GNS183DHS is a robust 72-channel clock module capable of acquiring the widely available GPS, Galileo, BeiDou, and GLONASS signals and using these to generate ultra-precise programmable pulses, modulated sine wave time codes, DCF77 simulation signals as well as various time-of-day string formats for high accuracy timekeeping.

The free Meinberg Device Manager software is used to configure and monitor the device via a serial connection.

Chassis Specifications

Form Factor	TS35/IEC 60715 rail-mounted compact chassis
Dimensions (Only Chassis) [W x H x D]	85 mm x 105 mm x 104 mm (3.35 in x 4.14 in x 4.09 in)
Material	Aluminum
IP Rating	IP20

Management Connectivity

Management Interface	Serial, COM Port (COM 0)
Management Software	Meinberg Device Manager, available for free download

Oscillator Options

The GNS183DHS is shipped as standard with a “**TCXO**” (temperature-controlled crystal oscillator), which provides excellent holdover performance if your server loses synchronization with its upstream reference for any reason. The GNS183DHS may also be shipped on request with a more powerful holdover solution; the options available and their performance metrics are listed below:

Type	Holdover Performance (1 Day)*	Holdover Performance (1 Year)*
TCXO	± 4.3 ms	± 16 s
OCXO SQ	± 65 µs	± 4.7 s
OCXO HQ	± 10 µs	± 788 ms

* Full holdover performance requires the system to have been synchronized for 24 hours previously.

Support & Compliance

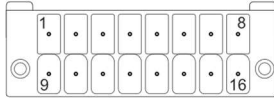
Technical Support	Free lifetime support via telephone and email, including firmware updates
Warranty	Three-year warranty, extendable upon request
Firmware Updates	Firmware is field-upgradable; updates can be installed from a connected PC via the Meinberg Device Manager Software.
Conformity Declarations	CE, UKCA
RoHS Compliance	The product is fully RoHS-compliant.
WEEE Status	The purchase of this product is considered to be a “B2B” transaction (non-household product) for the purposes of the EU Waste of Electrical and Electronic Equipment Directive; the product falls under Category 6, “Small IT and Telecommunications Equipment”. For disposal, it can be returned to the manufacturer to ensure WEEE compliance. Any transportation expenses for returning this product (at end-of-life) must be covered by the end user, while Meinberg will cover the costs for the waste disposal itself.

Accessories Included

- Meinberg GNMANTv2 antenna for outdoor installation, a mounting kit containing all the accessories required to mount the antenna on a pole or wall, and a 20 m (65.6 ft) Speedfoam 240HFJ coaxial cable with pre-fitted connectors as standard*.
- * Meinberg also offers customized antenna cables to accommodate your specific installation requirements. Please reach out to your Meinberg Sales Representative for more information.

GNS183DHS Connectors

1 Terminal Block

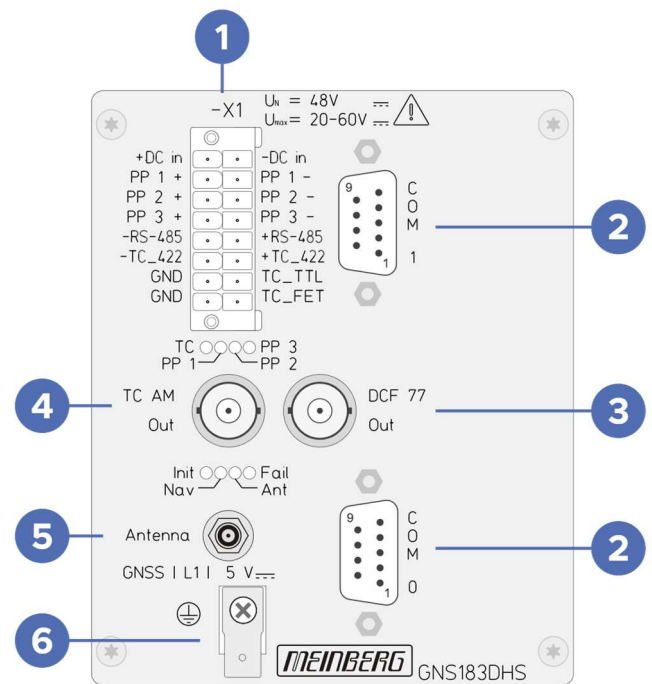


Connector Type

DMC 16pin male

Assignment of the Terminal Block

Pin	Label	Function
1	— DC In	reference potential of power supply
2	— PP 1	Programmable Pulse 1 (negativ)
3	— PP 2	Programmable Pulse 2 (negativ)
4	— PP 3	Programmable Pulse 3 (negativ)
5	+ RS-485	Serial Time string (positiv)
6	+ TC_422	Time Code (DCLS) with RS-422 level (positiv)
7	TC_TTL	Time Code (DCLS), TTL into 50 Ω
8	TC_FET	Time Code (DCLS), field-effect transistor (470 Ω to +5 V)
9	+ DC in	positive potential of power supply
10	+ PP 1	Programmable Pulse 1 (positiv)
11	+ PP 2	Programmable Pulse 2 (positiv)
12	+ PP 3	Programmable Pulse 3 (positiv)
13	— RS-485	Serial Time string (negativ)
14	— TC_422	Time Code (DCLS) with RS-422 level (negativ)
15	GND	Ground
16	GND	Ground



Optocoupler Outputs (PP 1, PP 2, PP 3)

Three Optocoupler Outputs:

 $U_{CEmax} = 55\text{ V}$, $I_{Cmax} = 50\text{ mA}$, $P_{tot} = 150\text{ mW}$, $V_{iso} = 5000\text{ V}$
Pulse delay: t_{on} e.g. 20 μsec ($I_c = 10\text{ mA}$) t_{off} e.g. 3 μsec ($I_c = 10\text{ mA}$)

The following operating modes are possible for each channel:

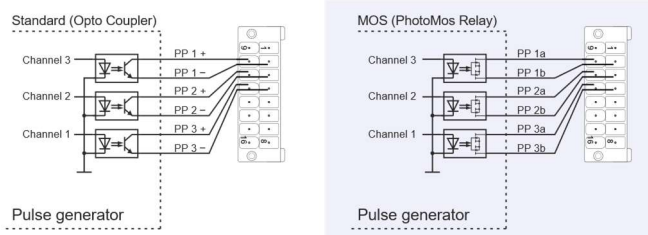
- Free programmable cyclic or fixed pulses
- Timer mode:
three 'ON'- and three 'OFF'-times programmable per day and channel
- Receiver State:
synchronous state of the GPS-receiver is indicated
- DCF77-emulation
- DCLS Time Code (IRIG/AFNOR)
- Time String (time telegram of COM 1)

The switching state of each channel can be inverted, the pulse duration is settable in steps of 10 msec: from 10 msec to 10 sec.

The outputs can be enabled either:

- always (immediately after reset)
- only if receiver is GPS-synchronized

Option DC-insulated by PhotoMOS relays:

 $U_{max} = 250\text{ V AC/DC peak}$, $I_{max} = 150\text{ mA}$, $P_{tot} = 360\text{ mW}$, $V_{iso} = 1500\text{ V}$
Pulse delay: t_{on} e.g. 0.18 msec ($I_{load} = 150\text{ mA}$) t_{off} e.g. 0.07 μsec ($I_{load} = 150\text{ mA}$)

2 RS-232 COM I/O

Pin	Function
2	RS-232 TxD (Transmit)
3	RS-232 RxD (Receive)
5	GND (Ground)

Functions	Time string output, communication for management and monitoring (COM 0)
Connector Type	D-Sub 9-pin, female
Supported Time Strings (Output)	Meinberg Standard (<i>Default</i>), Meinberg Capture, Meinberg GPS, SAT, NMEA RMC, NMEA GGA, NMEA ZDA, NMEA RMC GGA (<i>RMC followed by GGA</i>), NMEA GGA ZDA (<i>GGA followed by ZDA</i>), Uni Erlangen, Computime, Sysplex 1, SPA, RACAL, ION, ION Blanked, IRIG-J-1, 6021, Freelance
Baud Rates	19200 (<i>Default</i>), 9600, 4800, 2400, 1200, 600, 300
Framing Options	7N2, 7E1, 7E2, 8N1 (<i>Default</i>), 8N2, 8E1, 8O1
Supported Cable Type	Standard RS-232 cable (female connector for GNS183DHS)

3 DCF77 Simulation Output

Connector Type	BNC, female (for shielded coaxial cable)
Output Signal	77.5 kHz frequency
Signal Level	-62 dBm
Cable	shielded coax line

4 AM Time Code Output

Connector Type	BNC, female (for shielded coaxial cable)
Output Signal	Sine wave signal, unbalanced, amplitude modulated
Signal Level	3 V _{pp} / 1 V _{pp} (MARK/SPACE) with 50 Ω load
Carrier Frequency	1 kHz
Supported Time Code Formats	IRIG-B (B122, B123, B126, B127), AFNOR NF S87-500, IEEE1344, C37.118

5 GNSS Antenna Connector

Connector Type	SMA female
Impedance	50 Ω
Recommended Cable	Belden H155 (max. 70 m / 230 ft)
Output Voltage	5 V DC (used to power antenna),
Output Current	max. 120 mA

* For more detailed information on the recommended antenna, request a copy of the manufacturer data sheet from your Meinberg Sales Representative, or download it directly from the Meinberg website:

<http://www.mbg.link/gnssant>

6 Protective Earth Conductor

In order to ensure that the device can be operated safely and to meet the requirements of IEC 62368-1, the device must be correctly connected to the protective earth conductor via the protective earth terminal.