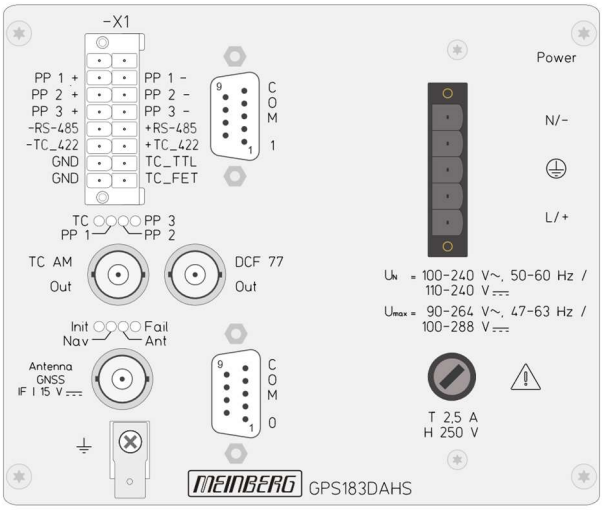
GPS183DAHS

Product Number : **000263140**

Product Highlights

- 16-pin terminal block for connecting pulse/switch outputs
- AC/DC Power Supply
  (110-240 V DC / 100-240 V AC [50-60 Hz])
- Two RS-232 interfaces, one RS-485 interface
- DCF77-Simulation
- Modulated and unmodulated IRIG-B or AFNOR outputs
- Meinberg GPSANTv2 high-performance antenna
- Remote control and monitoring via COM 0
- Aluminium profile case for 35 mm DIN mounting rail



Satellite Receiver with integrated Time Code Generator

The GPS183DHS 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 GPS antenna is connected to the receiver via a 50- Ω coaxial cable with a maximum length of 300 meters (when using standard RG58 cable).

The GPS183DHS is designed by Meinberg to generate high-accuracy Programmable Pulses, Amplitude Modulated Sine Wave Time Codes and DCF77-Simulation Signals - based on GPS signals received by the reliable and powerful “GPS”-type receiver.

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 GPS183DHS 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 GPS183DHS 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.

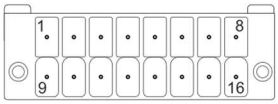
Accessories Included

- Two-part power cable (5-pin MSTB to IEC 60320 C14 cable, IEC 60320 C13 cable to local mains plug, or 5-pin MSTB connector for assembly of a suitable power cable for DC power sources.
- Meinberg GPSANTv2 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) RG 58 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.

GPS183DAHS Connectors

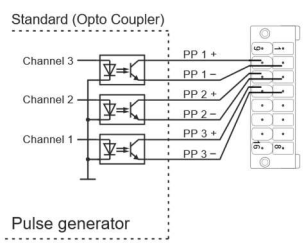
1 Terminal Block

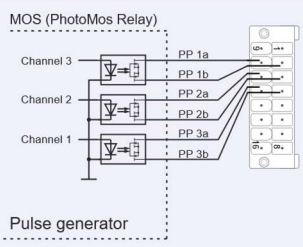


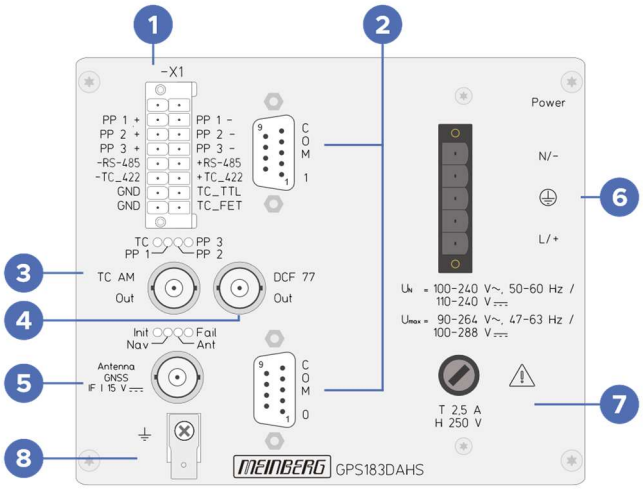
Connector Type	DMC 16pin male

Assignment of the Terminal Block

Pin	Label	Function
1	n.a.	not assigned
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	n.a.	not assigned
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 V, I_{Cmax} = 50 mA, P_{tot} = 150 mW, V_{iso} = 5000 V
Pulse delay: t_{on} e.g. 20 µsec (I_C = 10 mA)
t_{off} e.g. 3 µsec (I_C = 10 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 V AC/DC peak, I_{max} = 150 mA, P_{tot} = 360 mW, V_{iso} = 1500 V
Pulse delay: t_{on} e.g. 0.18 msec (I_{load} = 150 mA)
t_{off} e.g. 0.07 µsec (I_{load} = 150 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 *(Default)*, Meinberg Capture, Meinberg GPS, SAT, NMEA RMC, NMEA GGA, NMEA ZDA, NMEA RMC GGA *(RMC followed by GGA)*, NMEA GGA ZDA *(GGA followed by ZDA)*, Uni Erlangen, Computime, Sysplex 1, SPA, RACAL, ION, ION Blanked, IRIG-J-1, 6021, Freelance
Baud Rates	19200 *(Default)*, 9600, 4800, 2400, 1200, 600, 300
Framing Options	7N2, 7E1, 7E2, 8N1 *(Default)*, 8N2, 8E1, 8O1
Supported Cable Type	Standard RS-232 cable (female connector for GPS183DAHS)

3 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

4 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

5 GPS Antenna Input

Antenna	GPSANTv2*
Connector Type	Bayonet Neill-Concelman (BNC) connector for coaxial cable
Input Impedance	50 Ω
Input Signal	35.4 MHz intermediate frequency
Power Supply	15 V, 100 mA to antenna via antenna cable
Supported Cable Length	Max. 300 m (RG 58) Max. 700 m (RG 213) Max. 1100 m (H2010 Ultraflex)

* For more detailed information on the GPSANTv2 antenna, request a copy of the Meinberg GPSANTv2 data sheet from your Meinberg Sales Representative, or download it directly from the Meinberg website:

http://mbg.link/gpsant

6 Power Supply

Connector Type	5-pin MSTB female connector
Nominal Voltage Range (U_N)	100 V – 240 V AC / 110 V – 240 V DC
Rated Voltage Range (U_{max})	90 V – 264 V AC / 100 V – 288 V DC
Nominal Current (I_N)	0.15 A (AC)
Nominal Frequencies (f_N)	50 Hz – 60 Hz
Rated Frequency Range (f_{max})	47 Hz – 63 Hz
Maximum Power (P_{max})	15 W
Max. Thermal Output (E_{therm})	54.00 kJ/h (51.19 BTU/h)

7 Fuse

Fuse Type	IEC 60127 Cartridge Fuse
Rated Voltage	250 V
Trigger Delay	T (Timelag)
Rated Current	2.5 A (AC and DC)

8 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.