Meinberg Radio Clocks
Lange Wand 9
31812 Bad Pyrmont, Germany
Phone: +49 (5281) 9309-0
Fax: +49 (5281) 9309-30
https://www.meinbergglobal.com
info@meinberg.de

DCF600HS: DIN Rail-Mounted Radio-Controlled Clock with DCF77 Receiver

The DCF600HS is Meinberg's most compact DIN rail-mounted DCF77-synchronized radio-controlled clock. An RS-232 interface is used to configure the system via a PC or laptop and also allows easy serial transmission of date and time information to end receivers. The DCF600HS also features optocoupler-isolated programmable signal outputs.

Key Features

- Synchronization with DCF77 signal
- RS-232 interface (optional RS-485 interface)
- Two programmable signal outputs via optocouplers (optional PhotoMOS)
- Four LEDs for visual status indication

Description

The compact DCF600HS is integrated into a plastic housing designed to be mounted on a 35 mm DIN rail. Four LEDs provide status information such as the decoding of time signals and the synchronization status. The DCF600HS is powered via a DC voltage supplied via the screw terminals marked VDD and GNS.

Synchronization
The signal from the DCF77 antenna is passed through the antenna connector to a narrowband TRF receiver, which extracts the time pulses from the signal and forwards them to the microcontroller of the DCF600HS. The microcontroller in turn decodes the time pulses from the receiver circuit to generate accurate date and time information. Once a complete set of time information is received without any errors, two successive time strings undergo a plausibility test, and if this test is passed, the internal software clock is set in alignment with the decoded date and time.

RS-232 Interface
The DCF600HS is configured and serial communication is handled via an RS-232 interface. An RS-485 interface is optionally possible on request.

Signal Outputs
By default, the four signal outputs - in the form of screw terminals - are used to output pulse-per-minute and pulse-per-second signals with a pulse width of 200 ms. Optocouplers ensure that the outputs are galvanically isolated to protect the internal electronics, for example from high voltages and risks from external circuits.

Power Supply
The DCF600HS is designed to be operated with a DC voltage of 20-60 V and typically draws around 0.75 W of power. A DC-DC converter ensures that the receiver circuit is galvanically isolated with an isolation voltage of 1.5 kV DC.

Configuration
The free software "Meinberg Device Manager" can be used to configure the pulse outputs of the DCF600HS and monitor the device's status.

Characteristics

Receiver Type	Narrowband tuned radio frequency receiver with automatic gain control, reception frequency: 77.5 kHz, bandwidth approx. 40 Hz
Accuracy	< ±5 ms to UTC
Status Indicators	Four LEDs for visual indication of status messages (including initialisation and synchronization status)
Type of Antenna	Optional AW02 antenna (outdoor mounting) with 10 m RG58 cable or AI01 antenna (indoor mounting) with 5 m RG174 cable. Other cable lengths available on request.
Reception Monitoring	Incoming time string undergoes multiple checks Plausibility test using two full consecutive time strings
Pulse Outputs	Optocoupler-isolated (or optionally PhotoMOS-isolated) pulse-per-second and pulse-per-minute signals, pulse length: 200 ms
Interface	Serial RS-232 interface (optional RS-485), 9-pin D-SUB connector
Serial Time String Output	Baud Rate: 19200 Baud Framing: 8N1 Output String: ASCII, 32 characters, with date, time, and status information
Electrical Connectors	9-pin DSUB female connector BNC female connector (antenna) Screw terminals for power supply and signal outputs
Antenna Connector	BNC connector
Power Consumption	Approx. 0.75 W
Operating Voltage	20-60 V DC
Form Factor	Dold Enclosure type KO4762 for DIN rail mounting
Isolation Voltage	1.5 kV DC
Physical Dimensions	74 mm x 45 mm x 120 mm (W x H x D)
Protection	Housing IP40 / terminal IP20
Supported Temperature	Operational: 0 - 50 °C (32 - 122 °F) Storage: -20 - 70 °C (-4 - 158 °F)
Supported Humidity	Max. 85 % (non-condensing) at 40 °C
Warranty	Three-year warranty
Options	[1]**Driver software for Windows, Novell and UNIX (NTP Freeware)**
RoHS Status of Product	This product is fully RoHS-compliant.

WEEE Status of Product	This product is handled as a B2B (Business to Business) category product. To ensure that the product is disposed of in a WEEE-compliant fashion, it can be returned to the manufacturer. Any transportation expenses for returning this product (at end-of-life) must be covered by the end user, while Meinberg will bear the costs for the waste disposal itself.

Manual

The English manual is available as a PDF file: [2]**Download (PDF)**

Links:

[1] https://www.meinbergglobal.com/english/products/
[2] https://www.meinbergglobal.com/download/docs/manuals/english/dcf600hs.pdf