



DATA SHEET

DD6NE FAST ETHERNET DISTRIBUTION SWITCH MODULE

OPTICAL DIGITAL NETWORK DEVICE



| Product Features | |
|------------------|---|
| ▪ | Six Fast Ethernet ports |
| ▪ | Usable as virtual switch in combination with other Optocore devices |
| ▪ | 4 RS485 interfaces for the exchange of control data. (e.g. RS422, RS485, DMX, MIDI) |
| ▪ | Word clock in- and output |
| ▪ | 6 RJ45 interfaces for 10 Mbit or 100 Mbit Ethernet |
| ▪ | 2 optical 1 Gbps LINK interface with duplex SC-connectors |
| ▪ | Dual power supply with automatic switchover |
| ▪ | 1 USB and 1 RS232 port for configuration and control |
| ▪ | Full remote access with OPTOCORE CONTROL software |
| ▪ | Upgradeable internal logic |
| ▪ | Comprehensive status control via LED banks on the front |

The DIGITAL I/O UNIT DD6NE is a digital interface device of the OPTOCORE® OPTICAL DIGITAL NETWORK SYSTEM. The unit provides six Fast Ethernet Ports for the transport of Ethernet compatible data via the fiber optical connection. In combination with other Optocore devices such as the YG2 card or other DD6NE, a virtual switch is established. All Ethernet ports in a network behave like one 100 Mbps Fast Ethernet switch, no matter how far the devices are apart. Depending on the fiber optic transceivers, distances from 700 m up to 70 km can be covered. Due to the redundancy of the Optocore network, the Ethernet transport is redundant as well.

The importance of Ethernet for the transport of control data is steadily increasing in the event industry. All sorts of technical equipment incorporate an Ethernet interface to use the common, multifunctional Ethernet protocol for the transport of control data. This simplifies the configuration, operation and supervision of devices such as DSP-processors, loudspeaker management systems, etc. The DD6NE enables the transmission of Ethernet data via the fiber optical connection alongside with audio, video and other control data. No additional cables are necessary. There are no limitations in cable

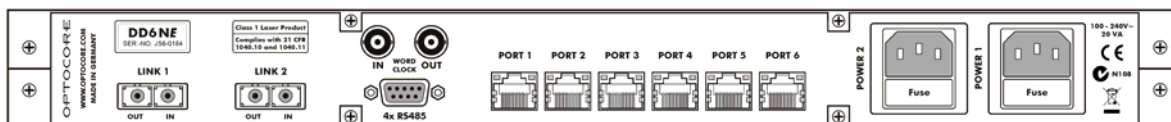
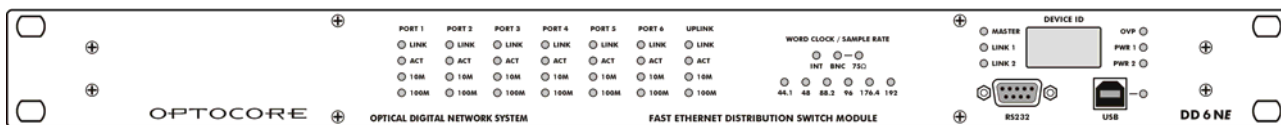
length. No repeaters complicate the installation of a network. Redundant fiber connections can be established using the two provided optical LINK-interfaces. The dual redundant ring structure provides maximum safety in a straightforward network with an outstanding low latency. It facilitates the use of the advantages of fiber optical transmission and Ethernet in all sorts of temporary and permanent applications, especially when long distance connections are required.

Additionally the DD6NE provides both word clock input and output. Four RS485 ports allow the transport of a wide range of standards such as RS422, DMX and MIDI. The dual power supply unit, with automatic switchover, permits a redundant power supply and safeguards against malfunctions of the unit if one power supply fails to run.

OPTOCORE CONTROL provides easy access to all configuration and control tools.

Due to SMD production, the DD6NE fulfills the demand of highest digital standards occupying only one rack unit of a 19" rack. The FPGA (field programmable gate array) based concept of the internal logic circuitry permits updating of the hardware by the use of the units remote ports, ensuring a continual state-of-the-art device.

Line Drawings



Technical Specifications

| | | |
|---|--|----------------------------|
| Ethernet Ports | Convention IEEE 802.3i, 802.3u, TIA 568A | |
| Data ports | Compatible to 10 MBit and 100 MBit-Ethernet | 6 RJ45 |
| Data rate | Fast Ethernet | 100 Mbps |
| Auxiliary Ports | Convention EIA / TIA-485 | |
| Data channels | Digital control data | 4 |
| Data rate | | Up to 10 Mbps |
| Impedance | Termination | 330 Ω |
| | Source | ≤ 10 Ω |
| Word clock | Hardware standard 75 Ω / BNC | |
| Data rate | Depending on used sample rate | Up to 192 kHz |
| Impedance | Output | 75 Ω |
| | Input | 1k / 75 Ω software switch |
| Link | Input, Output, Dual – Full bandwidth | |
| Connection | | Duplex SC |
| Protocol | | Optocore |
| Transmission | | Full duplex |
| Data rate | | 2 x 1 Gbps |
| Optical wave guide cable lengths | Multimode fiber 50 μm | ≤ 700 m |
| | Monomode fiber 9 μm | ≤ 70 km (on request) |
| Power supply | 2 independent power supplies with function check and automatic switch-over | |
| Type | Switch-mode, universal input | |
| Mains voltage | 100 ... 240 V, 400 V _{AC} tolerant | |
| Frequency | 50 ... 60 Hz | |
| Remote Control | | |
| RS232 | Convention EIA / TIA-232 | R x D, T x D / 57 600 Baud |
| USB Port | | Interface to PC |
| Dimensions | | 1 RU / 19" |
| W x H x D | 483 x 44 x 136 mm | 9 x 1.73 x 5.35 inch |
| Weight | 2.2 kg | 4.8 lbs |