

NTP slave clocks with NMI

NMI - Network MOBALine Interface

The latest product for the fusion of NTP and MOBALine technology is the Network MOBALine Interface (NMI). Its interface function helps to combine NTP and MOBALine installations, thus optimizing the advantages of both technologies.

What are the advantages of NMI for you?

- Simple expansion of an existing time system: an NMI allows up to 12 additional slave clocks in a small area to be connected
- Virtually unlimited expansion options
- No new master clock required, as an existing NTP server can be used
- Very simple configuration, operation and monitoring using MOBA-NMS software
- Less cabling used, as connection is by means of LAN and PoE
- Synchronization by multicast or unicast mode from a NTP server (IPv4 / IPv6)

NMI - Network MOBALine Interface

The NMI tremendously increases the flexibility and reduces the costs of a time system.

By installing one NMI e.g. in an office or hospital corridor, the costs for twelve Ethernet connectors and several dozen meters of Ethernet cabling can be saved.

Furthermore, the exact location of the clock can be determined after interior installations (e.g. furniture, pictures) have been put in place. The cabling can be implemented with simple two-wire cable.

Ethernet networks are usually installed at the end of the corridors but the clocks are suspended two or more meters above the floor. This distance can be overcome with a MOBALine cable.

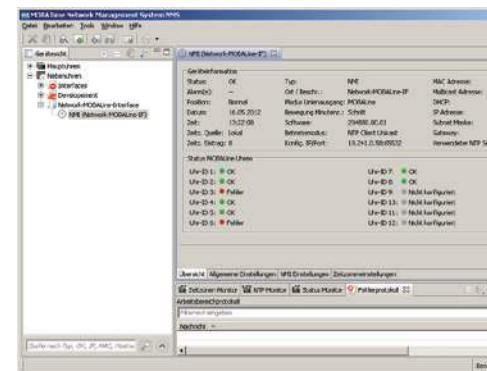
Finally, the NMI increases the functionality of MOBALine slave clocks. The disadvantage of limited supervision - only visual control is possible - is eliminated: MOBALine slave clocks (TREND series only) connected to an NMI will display their proper operation in the MOBA-NMS (Network Management System) and guarantee the monitoring of the entire time system from anywhere in the network.

The NMI offers the following functions:

- Synchronization of the NMI by means of NTP (IPv4 / IPv6)
- The NMI provides a MOBALine output* for up to twelve self-setting slave clocks
- The NMI is monitored by MOBA-NMS
- The enhanced functionality of the MOBALine output* allows the monitoring of the connected slave clocks by MOBA-NMS (TREND series only)
- The NMI is powered over the Ethernet (PoE)
- The slave clocks are powered through MOBALine and connected to the NMI using a simple 2-wire solution (SAM 00, SAM 40 / SEM 40, TREND series)

*Digital MOBALine

- simplified digital variant of MOBALine
- not expandable with boosters
- only designed for local indoor applications (typ. <100m cable length)
- works with all MOBALine clocks
- supervision of clocks (TREND series only)



NMI box

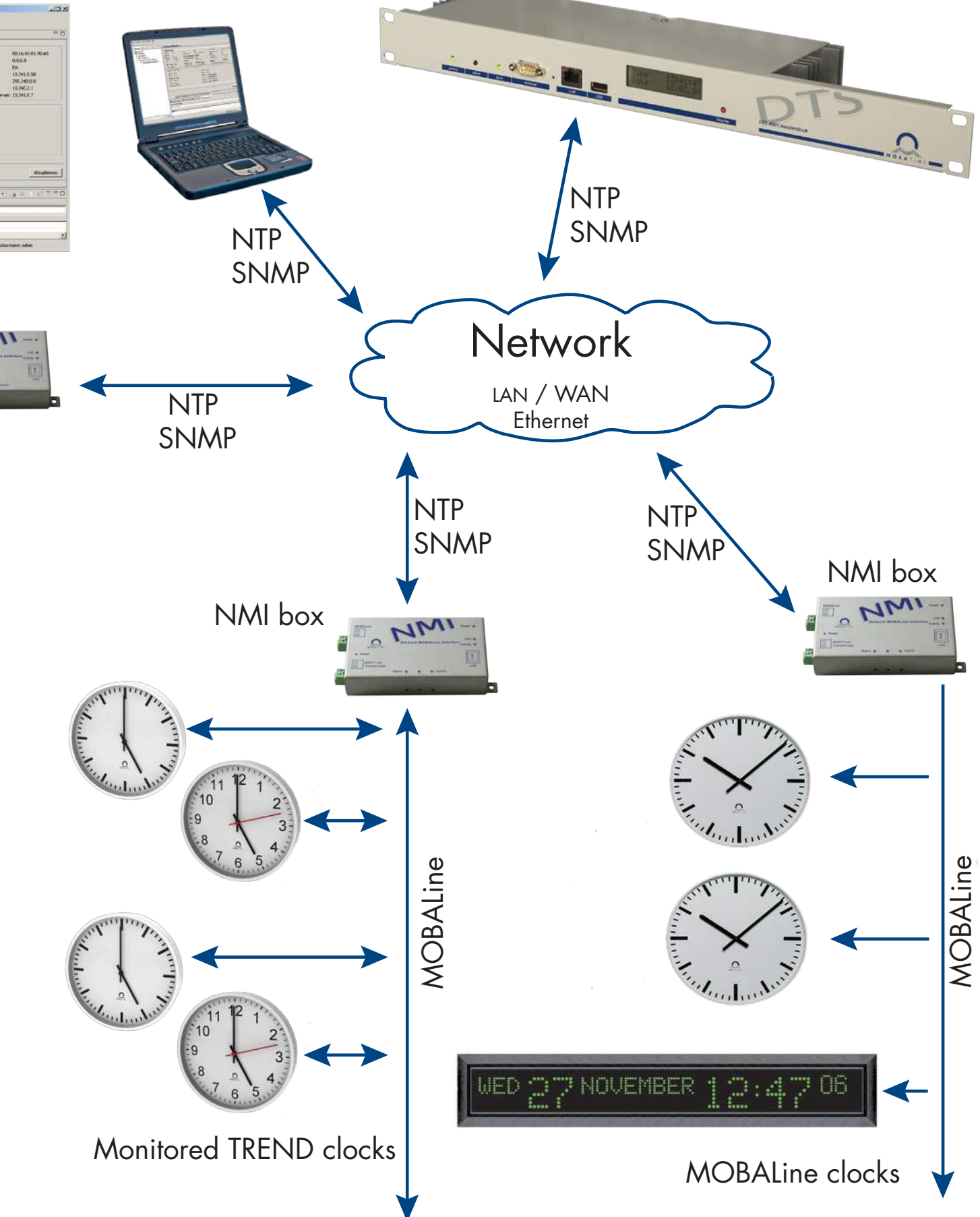
DCF 77
current loop



MOBALine or impulse line

Existing time system

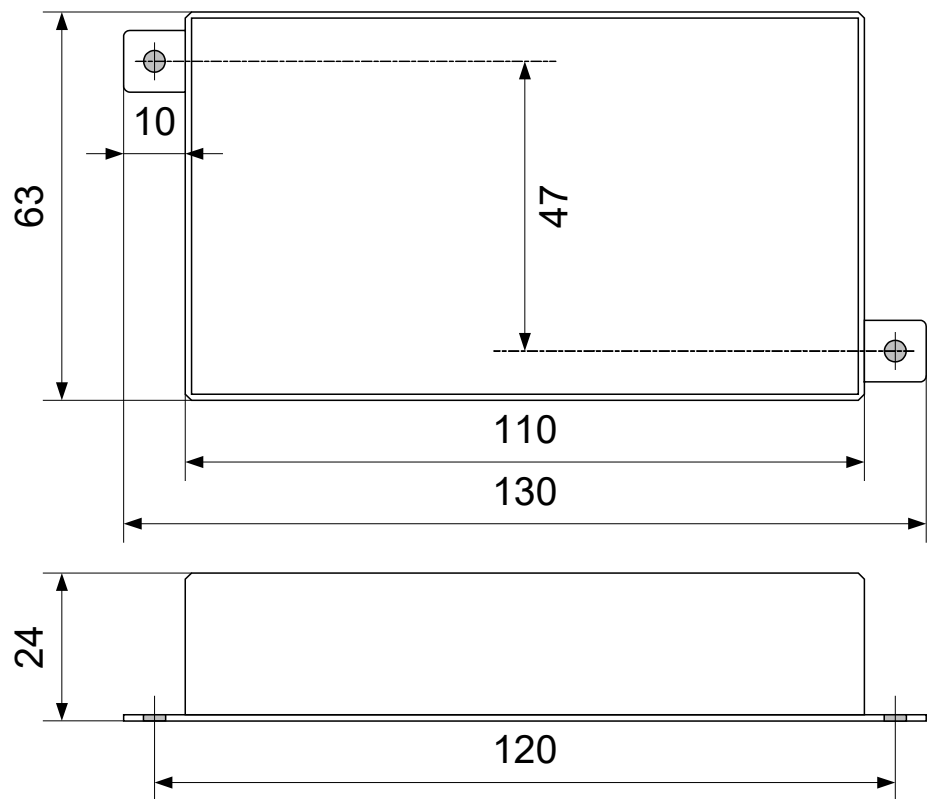
Controlled by MOBA-NMS



NMI - Technical details

Important facts

- Simple cabling of the last meters (MOBALine 2-wire, free topology)
- Up to 12 MOBAline movements
- MOBAline enhancement (bi-directional data transmission) for the monitoring of the connected movements (TREND series only)
- Direct replacement of NCI (MOBALine and DCF77 OUT series interface)
- NTP synchronization (unicast / multicast)
- PoE powered, class 2
- Configuration, administration and monitoring by MOBAline NMS



Technical data		NMI - Network MOBAline Interface (Art.Nr. 204757)
Ethernet connection		Ethernet controller 10/100 Mbit/s, RJ45, IPv4 / IPv6
Synchronization		Network Time Protocol (NTP), UTC
Time code output		MOBALine: simplified MOBAline output for up to 12 TREND clocks local time, 20V / 50Hz digital, max. 100mA, for local indoor applications (typ. <100m) OR DCF active: Output on MOBAline connector, No clock supervision, max. 100mA. DCF current loop: passive current loop output, opto-coupler: $U_{max}=30V$, $I_{on}=10..15mA$, $I_{off}=2mA @ 20V$
Control		Full control via MOBAline NMS
Displays (LEDs)		Power (green) LAN link LAN speed / net traffic Alarm / Synchronization
Power supply		Power over Ethernet, 802.3af, class 2 < 7 Watt
Housing		Stainless steel Measurement (l x b x h): 130 x 63 x 23 mm
Protection class		IP 30
Temperature range		-20 °C.. +60 °C
Accuracy		± 50 ms