The simple art of time distribution

MOBALine

User benefits at a glance

MOBALine is simple and reliable

As a simple 2-wire transmission system designed for fail-safe data transfer while simultaneous powering the end devices connected.

MOBALine reduces costs

Thanks to simple demodulation optimized for microprocessors, the hardware costs can be reduced substantially.

MOBALine is safe

Say goodbye to transmission errors! Thanks to the fail-safe type of modulation, self-correcting code and ingenious decoding.

MOBALine switches devices

By means of central control and centralized programming, features such as light, heating or school bells are switched directly on site.

MOBALine automatically displays exact radio clock or GPS time

The self-setting slave clock movements are always precisely synchronized by MOBALine. This not only guarantees absolutely precise time at any given moment, but also a prompt summer time/winter time switchover.

MOBALine is compatible

As a simple 2-wire transmission system, the MOBALine/DCF interface creates connections to end devices such as analog and digital clocks, time recording and access control systems, etc.

MOBALine is installation- and maintenance friendly

Self-setting, so maintenance free! No more operating problems with difficult to access clocks! Changing batteries is not necessary as powered directly via MOBALine. Uses existing 2-wire lines (low voltage).

MOBALine - Technology and Products

Time code receivers

GPS
Radio satellite receivers for worldwide reception of absolutely precise time signals. Synchronizes time centers and controls devices.

DCF
Radio signal receiver for synchronization and automatic summer time/winter time switchover of clocks and microprocessor control units. Narrow band receivers with automatic volume control.

MOBALine master clocks

ETC Euro Time Center
Control of up to 110 slave clocks. Programmable output relays.
Two versions: for wall and DIN bar mounting or for 19" rack mounting (2 HU).

CTC Compu Time Center
Control of up to 350 slave clocks. Programmable output relays and RS 232 / RS 422 outputs. 19" rack version.

MTC Master Time Center
Designed to meet almost all requirements. Nearly unlimited extension. Control of up to 1000 slave clocks. Windows based easy to operate.

MOBALine slave clocks

Digital clocks
Digit height from 57 - 500 mm available. Optional calendar clock functions. For indoor and outdoor mounting. With stopwatch function counting up or down.

Analog clocks
Dial diameter from 25 to 100 cm. For indoor and outdoor mounting. With or without illumination. Second hand for almost all models.
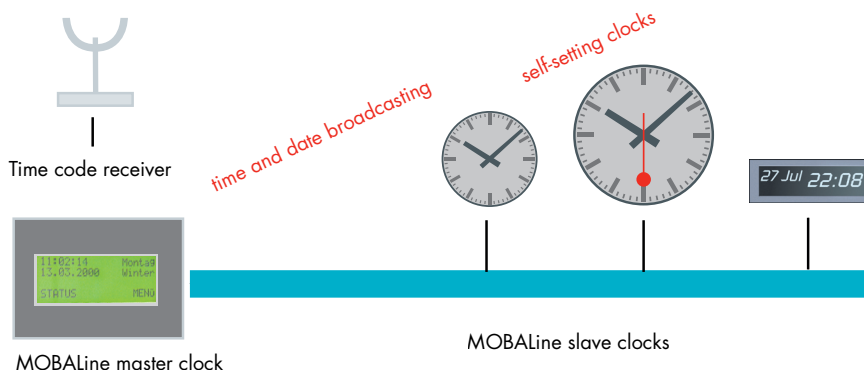

Facade clocks
Dial diameter from 25 to 350 cm. For indoor and outdoor mounting. With or without illumination.

Digital world time zone clocks
Digit height from 25 to 120 mm available. Viewing distance from 10 to 60 m. Free definable time zones.
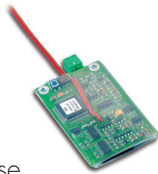

Time code receiver

time and date broadcasting

self-setting clocks

MOBALine master clock

MOBALine slave clocks

MOBALine interfaces

IF 480 WT
Input: MOBALine
Output: DCF-Code
up to 20 selectable time zones

IF 485
Input: MOBALine
Output: minute impulse

IF 488
Input: MOBALine
Output: IRIG-B, AFNOR,
            DCF-FSK

NMI
Input: LAN (Ethernet)
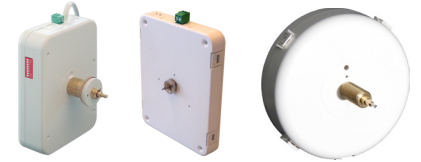Output: MOBALine, DCF-Code

MOBALine channel relays

Channel relays KR 461, KR 465
Switching relays controlled by MOBA-Line. Up to 64 channels, separately programmable.
Functions:
On/Off or signal 1 - 99 sec.
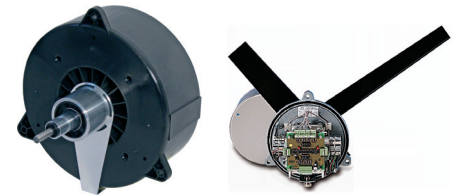Relay 240 VAC, 1250 VA.

MOBALine clock movements
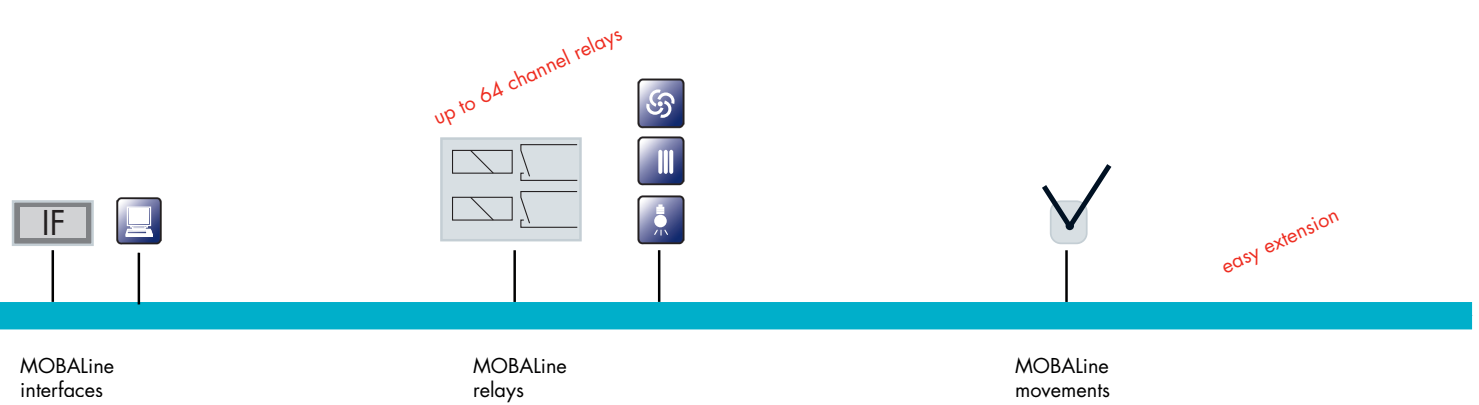

Slave clock movements
MOBALine self-setting clock movements with intelligent MOBALine decoding units.
For dial diameters of 25 up to 100 cm.

Motor movements
MOBALine self-setting motor clock movements, for dial diameters of 80 up to 350 cm.

up to 64 channel relays

easy extension

IF

MOBALine interfaces

MOBALine relays

MOBALine movements

MOBALine - Design and Technology

MOBALine is the tried-and-tested and reliable technology for time distribution

The concept
MOBALine is a 2-wire transmission system for maintenance-free self-setting slave clocks and remotely synchronized computer based systems.

MOBALine sets the time of
- self-setting digital and analog slave clocks
- synchronized electronic devices
- relays: switching of remotely located loads such as light, heat, bells, etc.
- any system designed to be synchronized by DCF antenna
- any system designed to be synchronized by IRIG-B, AFNOR or DCF-FSK code

MOBALine's advantages
- data transmission with self-correcting code
- 2-wire low voltage cable for data and power
- maintenance-free centralized time distribution
- new slave clocks may be installed under power

MOBALine is already well established
- in many different fields such as railways, subways, airports, industries, administration buildings, hospitals, schools, etc.

Electric definition
AC voltage 10 - 20 V, frequency 50 Hz, combined amplitude/frequency modulation, synchronous data transmission with self-correcting code, transmission rate 25 bit/s. Information transmission to end devices.

Information transmission
Telegrams for transmission of time and date to the end devices, control commands for switching the channel relays, configuration and programming of end devices, transmission of time off-sets to world time clocks, amongst other things.

NTP and MOBALine: Connected via 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.

The NMI offers the following functions:
- The enhanced functionality of the MOBALine output allows the monitoring of the connected slave clocks by MOBA-NMS (TREND series and SAM/SEM 100 only)
- Synchronization of the NMI by means of NTP
- The NMI provides a MOBALine output for up to twelve self-setting clocks
- The NMI is monitored by MOBA-NMS
- 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 (movements SAM/SEM 100, SAM 40 / SEM 40, TREND series)

Controlled by MOBA-NMS

DTS 4801.masterclock

NTP SNMP

NTP SNMP

Network
LAN / WAN
Ethernet

NTP SNMP

NTP SNMP

NMI box

NMI box

Slave clocks synchronized and powered via MOBALine

MOBALine

MOBALine

Monitored TREND clocks

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MOBALine clocks