Versatile Master Clock - ideal for clock systems of small or medium size

EuroTime Center ETC

The EuroTime Center ETC operates as a conventional clock system with impulse controlled slave clocks as well as modern, self-setting MOBALine installations. Easy and intuitive operation control due to ETC's intelligible user interface. ETC's power relays control light, heating, signaling-bells and other devices by weekly periodic and/or date related programs.

Absolute precision of ETC's internal clocks can be achieved by synchronization to an external time reference such as DCF 77 or GPS.
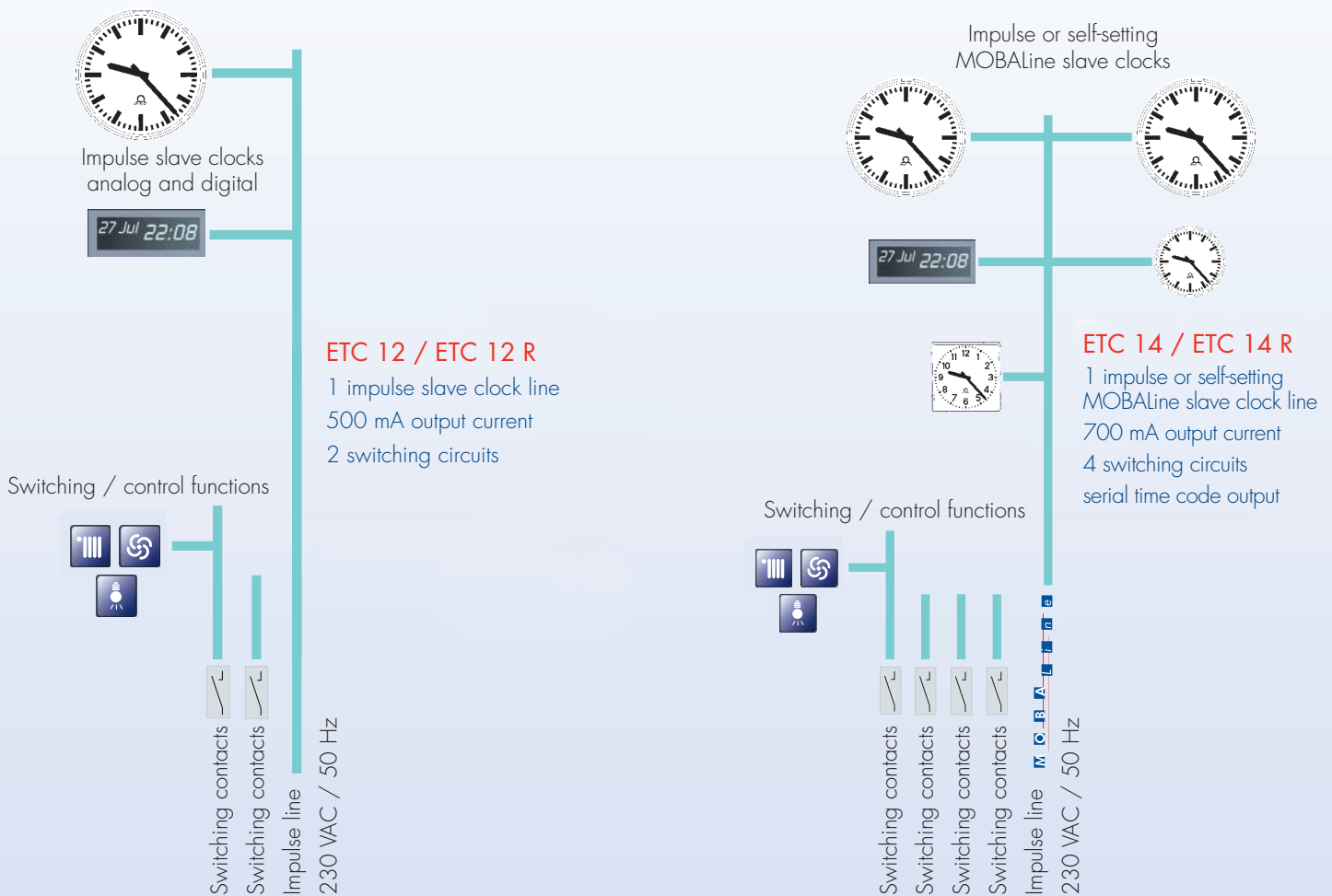
ETC – the modular concept for versatile economic time distribution systems with intelligible programming and system supervision

EuroTime Center ETC are master clocks for small to medium size clock systems for the control of conventional impulse slave clocks as well as self-setting MOBALine digital and analog clocks, interfaces and programmable switching and signaling circuits with relay switch-over contacts. The synchronization is carried out by means of DCF or GPS time code receivers. The conception of the model line EuroTime Center ETC includes three executions in two different designs: ETC 12/14/24 R for 19" rack mounting (2 HU) for direct installation in a 19" switching cupboard (without additional module support) and ETC 12/14/24 in a universal combined case for wall and DIN bar mounting.

The different executions can be seen at the following diagrams.

Impulse slave clocks analog and digital

ETC 12 / ETC 12 R

1 impulse slave clock line
500 mA output current
2 switching circuits

Switching / control functions

Switching contacts
Switching contacts
Impulse line
230 VAC / 50 Hz

Impulse or self-setting MOBALine slave clocks

ETC 14 / ETC 14 R

1 impulse or self-setting MOBALine slave clock line
700 mA output current
4 switching circuits
serial time code output

Switching / control functions

Switching contacts
Switching contacts
Switching contacts
Switching contacts
Impulse line MOBALine
230 VAC / 50 Hz

ETC 12/14/24 R

For 19" rack mounting (2 HU) for direct mounting in a 19" cabinet (without additional module support)
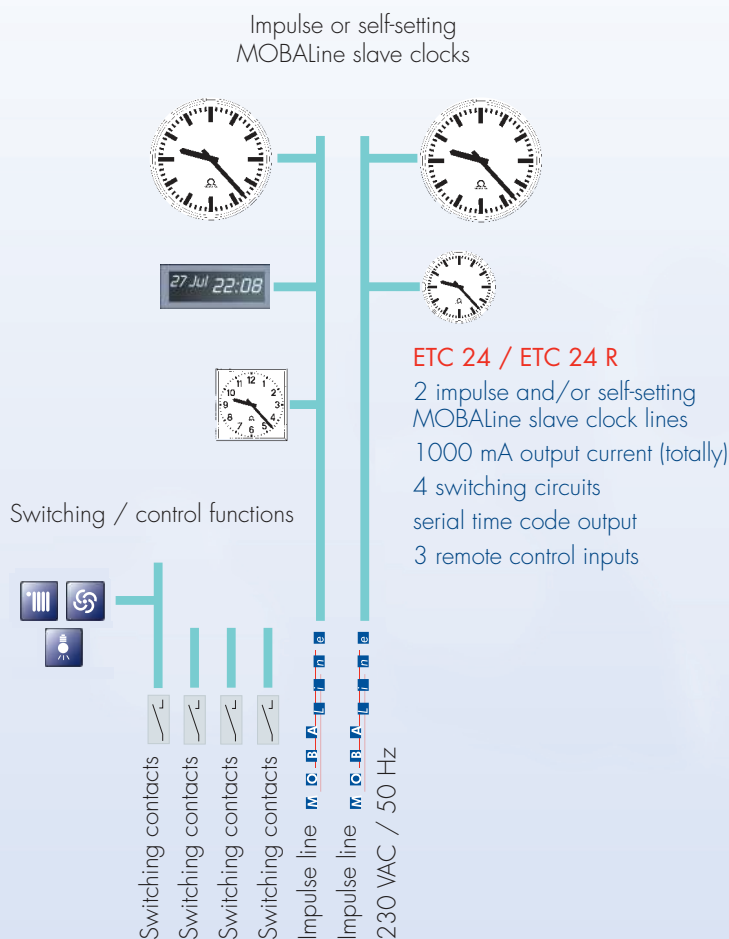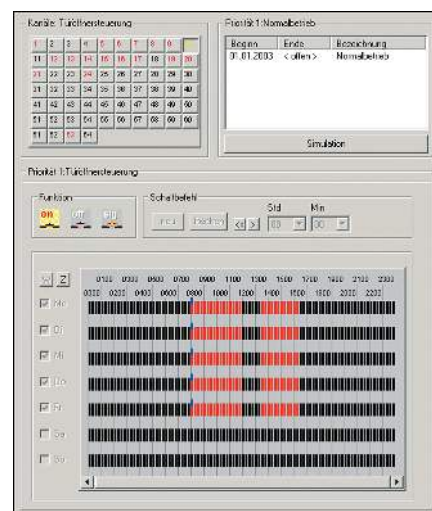
Programming by means of the keyboard

The master clocks of the model line ETC are equipped with versatile programming possibilities. The most frequent week programs (99 different programs are possible) can be combined with 64 different channel programs

and they are freely allocatable to the max. 64 channels (with MOBALine operation). Even the most complex systems and time sequences can thus be realized.
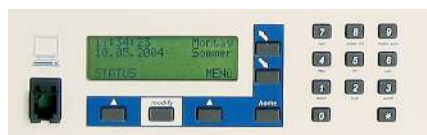
Programming with PC

As an option the program "Switch Editor" is available. With this program complicated switching and signaling programs can be realized in a clear way in the familiar Windows-surroundings and then downloaded in the master clock over the serial interface.

Relay switching unit

Control and operation module RSC for up to four switching circuits, with visual LED monitor display, manual switching ON, OFF or AUTO (controlled from ETC or channel relay) of the switching circuits.

RSC
Dimensions:
H 145 x W 202 x D 45 mm

RSC R
Dimensions:
H 44 x W 483 x D 80 mm
(1 HU, 84 WU)

Impulse or self-setting
MOBALine slave clocks

ETC 24 / ETC 24 R
2 impulse and/or self-setting
MOBALine slave clock lines
1000 mA output current (totally)
4 switching circuits
serial time code output
3 remote control inputs

Switching / control functions

Switching contacts / Impulse line / MOBALine / 230 VAC / 50 Hz

ETC 12/14/24
Universal combined case for wall and DIN bar mounting

Technical data	ETC 12/12 R	ETC 14/14 R	ETC 24/24 R
Slave clock lines	1	1	2
Slave clock lines, configurable as 1 minute-, 1/2 minute-, 1/5 minute-, 1/8 minute, 1 second-impulse, combined DCF impulse line and DCF active time code.	✔	✔	✔
Each slave clock line configurable separately as impulse- or MOBALine-output.		✔	✔
Impulse output voltage, alternating polarity MOBALine output voltage, approx.	24 V	24 V 17 V AC	24 V 17 V AC
Output current, impulse line, sum of all slave clock lines Maximal number of slave clocks (at 6 mA load per clock)	500 mA 80	700 mA 110	1000 mA 160
Output current, MOBALine, sum of all slave clock lines Maximal number of slave clocks (at 6 mA load per clock)		500 mA 80	700 mAeff 110
Adjustable minimal- and maximal-current-limit (Alarm, if current exceeds, respectively drops below the set limit)			✔
Line outputs overload and short-circuit protected. Automatic adjustment of the slave clocks after recovering from an overload, short-circuit or power failure	✔	✔	✔
Switching circuits	2	4	4
Switch-over contacts 230 VAC / 10 A	✔	✔	✔
64 external switching circuits on MOBALine Channel Relays (option)		✔	✔
Inputs with logical and/or combination for allocation to one channel per input (for example to connect twilight sensors)			3
Weekly periodic and/or date dependent switching programs	✔	✔	✔
Switching commands are activated on the minute Short-time activations (signaling functions) are adjustable within 1 to 99 sec.)	✔	✔	✔
Capacity: 1000 commands, consisting of time, function and day(s) of week	✔	✔	✔
Editing switching programs on the keyboard	✔	✔	✔
Editing switching programs on a PC software "Switch Editor" required (opt). Program download over serial interface (front panel connector)	✔	✔	✔
DCF 77 - time code output (current loop passive)	✔	✔	✔
Serial time code output (RS 232, RS 422, once a sec.) Telegram formats: IF 482, DIEM, SINEC, H7001, BUS 485 (only RS 422)		✔	✔
Operating control			
Alphanumeric display with 4 lines and backlight. Numeric keyboard. User friendly menu guidance. Language English, German, French, or Russian selectable	✔	✔	✔
Calculation of the local time according to the time zone			
Automatic, pre-programmed daylight saving time change	✔	✔	✔
80 pre-defined time zone entries 20 entries freely programmable on a PC for download into the master clock	✔	✔	✔
Any time zone entry can be allocated to each input and output separately. (For example local time and UTC on different slave clock lines)	✔	✔	✔
20 local times on MOBALine (according to allocatable time zone entries) with individually pre-programmed daylight saving time changes		✔	✔
Internal quartz time base			
Automatic calibration of the quartz time base to an external time reference	✔	✔	✔
Accuracy without external time reference: ± 0.1 sec./day	at 20...25°C	at 20...25°C	at 0...45°C
External time reference			
Input for DCF 77 and MSF 60 time code receivers (current loop, e.g. DCF 4500, MSF 4500)	✔	✔	✔
Input for GPS time code receiver (current loop, e.g. GPS 4500, GNSS 3000)	✔	✔	✔
RS 422 interface to connect a GPS 3048 time signal receiver (TSIP)		✔	✔
IF 482 serial time telegrams		✔	✔
Potential-free make-contact to signalize alarms			✔
Dimensions: 19", 2 height units, w x h x d mm	483 x 88 x 80	483 x 88 x 80	483 x 88 x 80
Dimensions: Case for wall and DIN bar mounting, w x h x d mm	202 x 145 x 64	202 x 145 x 64	202 x 145 x 64
Operating temperature, at max. 95% rel. humidity, non condensing	0...50°C	0...50°C	0...50°C
CE conformity: EN 60950, security, protection class I EN 61000-6-3, emissions (home) EN 50121-4, emissions (increased requirements for railways)	✔	✔	✔
Power supply / power consumption	230 VAC ± 10 % 50 Hz max. 20 VA	85....250 VAC 50/60 Hz max. 45 VA	85...230 VAC 50/60 Hz max. 60 VA
DC-power supply 22 … 30 V (instead of mains power)	< 600 mA	< 1,5 A	< 2 A
Battery pack (option) 2,3 Ah / 24 V	✔	✔	✔