

## ETC12 master clock for MOBALINE

Hint: Refer to leaflet for more detailed information.

### Additional parts and options:

GPS 4500:	GPS receiver
SP 4500:	lightning protector
BP ETC:	battery pack power reserve
ECO ETC:	change over unit for redundant system
RSC:	relay switch control unit

The Master Clock **ETC12** is contained in housing ready for wall or rail mounting. It is operated by an alphanumeric keypad, information for configuration and menu options are displayed on a LCD display (4 lines of 20 characters).

The master clock provides the following outputs: 2x switching load programmable relay's contacts and 1x impulse slave clock synchronisation line with automatic shut down protection activated upon overload or short circuit detection.

The master clock handles active power reserve (battery) management with "end of charge" detection in order to provide continuous operation in case of mains power outage. In addition, the master clock performs automatic and autonomous slave clock management regarding daylight savings and power outage thanks to impulse's storage/counting capability.

The master clock can be synchronized by a GPS receiver or operate in stand alone mode thanks an embedded real time clock.

The master clock embeds 2 independent relays for load ON, OFF or changeover switching functions with respect to flexible multi-scheduling program capabilities ("weekly periodic" and/or "calendar date dependent" management upon exception/priority levels). The program edition can be done on master clock or by the "Switch Editor" software (windows) with file down and upload functionalities.

Outputs:       ⇒ 1 x slave clock polarized synchronisation: 24V impulse for up to 80 slave clocks.  
                    Configurable second hand modes: 1/8 minute-, 1/2 minute-, minute impulse  
                    ⇒ 2 x relays (each 3x dry contacts) max switch load 230VAC / 10A

Operation:       alphanumeric keypad

Monitoring:     LCD display for status and alarms: synchronization, clock lines, internal real time clock

Housing:        plastic housing for wall or rail mounting.

Dimensions:    L x W x H in mm: 200 x 145 x 64;

Power supply:   230 VAC, 50 Hz / max. 14 VA

## ETC12R master clock for MOBALINE

Hint: Refer to leaflet for more detailed information.

Additional parts and options:

GPS 4500: GPS receiver  
SP 4500: lightning protector  
BP ETC R: battery pack power reserve  
ECO ETC: change over unit for redundant system  
RSC R: relay switch control unit

The Master Clock **ETC12R** is contained in a 19 " housing for rack mounting (2U). It is operated by an alphanumeric keypad, information for configuration and menu options are displayed on a LCD display (4 lines of 20 characters).

The master clock provides the following outputs: 2x switching load programmable relay's contacts and 1x impulse slave clock synchronisation line with automatic shut down protection activated upon overload or short circuit detection.

The master clock handles active power reserve (battery) management with "end of charge" detection in order to provide continuous operation in case of mains power outage. In addition, the master clock performs automatic and autonomous slave clock management regarding daylight savings and power outage thanks to impulse's storage/counting capability.

The master clock can be synchronized by a GPS receiver or operate in stand alone mode thanks an embedded real time clock.

The master clock embeds 2 independent relays for load ON, OFF or changeover switching functions with respect to flexible multi-scheduling program capabilities ("weekly periodic" and/or "calendar date dependent" management upon exception/priority levels). The program edition can be done on master clock or by the "Switch Editor" software (windows) with file down and upload functionalities.

Outputs:       ⇒ 1 x slave clock polarized synchronisation: 24V impulse for up to 80 slave clocks.  
                  Configurable second hand modes: 1/8 minute-, 1/2 minute-, minute impulse  
                  ⇒ 2 x relays (each 3x dry contacts) max switch load 230VAC / 10A

Operation:       alphanumeric keypad

Monitoring:     LCD display for status and alarms: synchronization, clock lines, internal real time clock

Housing:         metal 19 "rack mounting, like IT equipment

Dimensions:     L x W x H in mm: 483 x 88 x 80;

Power supply:   230 VAC, 50 Hz / max. 14 VA

## ETC14 master clock for MOBALINE

Hint: Refer to leaflet for more detailed information.

### Additional parts and options:

GPS 4500: GPS receiver  
SP 4500: lightning protector  
BP ETC: battery pack power reserve  
ECO ETC: change over unit for redundant system  
RSC: relay switch control unit  
KR461 & KR465: load switching relay piloted by  
Mobaline

The master Clock **ETC14** contained in housing ready for wall or rail mounting. It is operated by an alphanumeric keypad, information for configuration and menu options are displayed on a LCD display (4 lines of 20 characters).

The master clock provides the following outputs: 4x switching load programmable relay's contacts and 1x selectable MOBAline or impuls slave clock synchronisation line with automatic shut down protection activated upon overload or short circuit detection.

The master clock handles active power reserve (battery) management with "end of charge" detection in order to provide continuous operation in case of mains power outage. In addition, the master clock performs automatic and autonomous slave clock management regarding daylight savings and power outage thanks to impulse's storage/counting capability.

The master clock can be synchronized by a GPS receiver or operate in stand alone mode thanks an embedded real time clock.

The master clock embeds 4 independent relays for load ON, OFF or changeover switching functions with respect to flexible multi-scheduling program capabilities ("weekly periodic" and/or "calendar date dependent" management upon exception/priority levels). The program edition can be done on master clock or by the "Switch Editor" software (windows) with file down and upload functionalities.

### Specific feature provided for Mobaline synchronisation output:

- 🔗 automatic and autonomous slave clock management regarding daylight savings, power outage thanks to Mobaline self setting protocol.
- 🔗 capability to act as time zone server (up to 15 time zone into encoded Mobaline-frame) for world time clock synchronisation.
- 🔗 Control of up to 63 settings-independents groups (channels) of "load switching" devices (KR relay series) with respect to flexible multi-scheduling program ("weekly periodic" and/or "calendar date dependent" management upon exception/priority levels). Program edition by "Switch Editor software" (windows).

### Specific feature provided for impulse operating mode:

- 🔗 Automatic and autonomous slave clock management regarding daylight savings, power outage or shut down thanks to electronic impulse storage management.

Outputs:      ⇒ 1 x selectable slave clock synchronisation: MOBAline (multi time-zone) or impulse line, for up to 110 slave clocks upon 400 meters over 1.5mm<sup>2</sup> 2-wires cable.  
                  ⇒ 1x synthetic DCF 77 time code  
                  ⇒ 1x serial interface RS 232 / 422 for configurable serial time telegram  
                  ⇒ 4 x relays (each 3x dry contacts) max switch load 230VAC / 10A

Operation:     alphanumeric keypad

Monitoring:   LCD display for status and alarms: synchronization, clock lines, internal real time clock

Housing:       plastic housing for wall or rail mounting.

Dimensions:   L x W x H in mm: 200 x 145 x 64;

Power supply:  85 ...250 VAC, 50/60 Hz / max. 45 VA

## ETC14R master clock for MOBALINE

Hint: Refer to leaflet for more detailed information.

### Additional parts and options:

GPS 4500: GPS receiver  
SP 4500: lightning protector  
BP ETC R: battery pack power reserve  
ECO ETC: change over unit for redundant system  
RSC R: relay switch control unit  
KR461 & KR465: load switching relay piloted by  
Mobaline

The master Clock **ETC14R** contained in a 19 " housing for rack mounting (2U). It is operated by an alphanumeric keypad, information for configuration and menu options are displayed on a LCD display (4 lines of 20 characters).

The master clock provides the following outputs: 4x switching load programmable relay's contacts and 1x selectable MOBAline or impuls slave clock synchronisation line with automatic shut down protection activated upon overload or short circuit detection.

The master clock handles active power reserve (battery) management with "end of charge" detection in order to provide continuous operation in case of mains power outage. In addition, the master clock performs automatic and autonomous slave clock management regarding daylight savings and power outage thanks to impulse's storage/counting capability.

The master clock can be synchronized by a GPS receiver or operate in stand alone mode thanks an embedded real time clock.

The master clock embeds 4 independent relays for load ON, OFF or changeover switching functions with respect to flexible multi-scheduling program capabilities ("weekly periodic" and/or "calendar date dependent" management upon exception/priority levels). The program edition can be done on master clock or by the "Switch Editor" software (windows) with file down and upload functionalities.

### Specific feature provided for Mobaline synchronisation output:

- 🔗 automatic and autonomous slave clock management regarding daylight savings, power outage thanks to Mobaline self setting protocol.
- 🔗 capability to act as time zone server (up to 15 time zone into encoded Mobaline-frame) for world time clock synchronisation.
- 🔗 Control of up to 63 settings-independents groups (channels) of "load switching" devices (KR relay series) with respect to flexible multi-scheduling program ("weekly periodic" and/or "calendar date dependent" management upon exception/priority levels). Program edition by "Switch Editor software" (windows).

### Specific feature provided for impulse operating mode:

- 🔗 Automatic and autonomous slave clock management regarding daylight savings, power outage or shut down thanks to electronic impulse storage management.

Outputs:       ⇒ 1 x selectable slave clock synchronisation: MOBAline (multi time-zone) or impulse line, for up to 110 slave clocks upon 400 meters over 1.5mm<sup>2</sup> 2-wires cable.  
                  ⇒ 1x synthetic DCF 77 time code  
                  ⇒ 1x serial interface RS 232 / 422 for configurable serial time telegram  
                  ⇒ 4 x relays (each 3x dry contacts) max switch load 230VAC / 10A

Operation:       alphanumeric keypad

Monitoring:     LCD display for status and alarms: synchronization, clock lines, internal real time clock

Housing:        metal 19 "rack mounting, like IT equipment

Dimensions:    L x W x H in mm: 483 x 88 x 80;

Power supply:   85 ...250 VAC, 50/60 Hz / max. 45 VA

## ETC24 master clock for MOBALINE

Hint: Refer to leaflet for more detailed information.

Additional parts and options:

GPS 4500: GPS receiver  
SP 4500: lightning protector  
BP ETC: battery pack power reserve  
ECO ETC: change over unit for redundant system  
RSC: relay switch control unit  
KR461 & KR465: load switching relay piloted by Mobaline

The master Clock **ETC24** contained in housing ready for wall or rail mounting. It is operated by an alphanumeric keypad, information for configuration and menu options are displayed on a LCD display (4 lines of 20 characters).

The master clock provides the following outputs: 4x switching load programmable relay's contacts and 2x selectable MOBAline or impuls slave clock synchronisation line with automatic shut down protection activated upon overload or short circuit detection and adjustable min-max current threshold alarm level.

The master clock handles active power reserve (battery) management with "end of charge" detection in order to provide continuous operation in case of mains power outage. In addition, the master clock performs automatic and autonomous slave clock management regarding daylight savings and power outage thanks to impulse's storage/counting capability.

The master clock can be synchronized by a GPS receiver or operate in stand alone mode thanks an embedded real time clock.

The master clock embeds 4 independent relays for load ON, OFF or changeover switching functions with respect to flexible multi-scheduling program capabilities ("weekly periodic" and/or "calendar date dependent" management upon exception/priority levels). The program edition can be done on master clock or by the "Switch Editor" software (windows) with file down and upload functionalities. In addition three general-purpose inputs contact's detection can be used for alarm triggering (fire, intrusion sensors ...).

Specific feature provided for Mobaline synchronisation output:

- 🔗 automatic and autonomous slave clock management regarding daylight savings, power outage thanks to Mobaline self setting protocol.
- 🔗 capability to act as time zone server (up to 15 time zone into encoded Mobaline-frame) for world time clock synchronisation.
- 🔗 Control of up to 63 settings-independents groups (channels) of "load switching" devices (KR relay series) with respect to flexible multi-scheduling program ("weekly periodic" and/or "calendar date dependent" management upon exception/priority levels). Program edition by "Switch Editor software" (windows).

Specific feature provided for impulse operating mode:

- 🔗 Automatic and autonomous slave clock management regarding daylight savings, power outage or shut down thanks to electronic impulse storage management.

Outputs:      ⇒ 2 x selectable slave clock synchronisation: MOBAline (multi time-zone) or impulse line, for up to 160 slave clocks upon 400 meters over 1.5mm<sup>2</sup> 2-wires cable.  
                  ⇒ 1x synthetic DCF 77 time code  
                  ⇒ 1x serial interface RS 232 / 422 for configurable serial time telegram  
                  ⇒ 4 x relays (each 3x dry contacts) max switch load 230VAC / 10A

Operation:     alphanumeric keypad  
Monitoring:    LCD display for status and alarms: synchronization, clock lines, internal real time clock  
Housing:       plastic housing for wall or rail mounting.  
Dimensions:    L x W x H in mm: 200 x 145 x 64;  
Power supply:  85 ...250 VAC, 50/60 Hz / max. 60 VA

## ETC24R master clock for MOBALINE

Hint: Refer to leaflet for more detailed information.

Additional parts and options:

GPS 4500: GPS receiver  
SP 4500: lightning protector  
BP ETC R: battery pack power reserve  
ECO ETC: change over unit for redundant system  
RSC R: relay switch control unit  
KR461 & KR465: load switching relay piloted by Mobaline

The master Clock **ETC24R** contained in a 19 " housing for rack mounting (2U). It is operated by an alphanumeric keypad, information for configuration and menu options are displayed on a LCD display (4 lines of 20 characters).

The master clock provides the following outputs: 4x switching load programmable relay's contacts and 2x selectable MOBALine or impuls slave clock synchronisation line with automatic shut down protection activated upon overload or short circuit detection and adjustable min-max current threshold alarm level.

The master clock handles active power reserve (battery) management with "end of charge" detection in order to provide continuous operation in case of mains power outage. In addition, the master clock performs automatic and autonomous slave clock management regarding daylight savings and power outage thanks to impulse's storage/counting capability.

The master clock can be synchronized by a GPS receiver or operate in stand alone mode thanks an embedded real time clock.

The master clock embeds 4 independent relays for load ON, OFF or changeover switching functions with respect to flexible multi-scheduling program capabilities ("weekly periodic" and/or "calendar date dependent" management upon exception/priority levels). The program edition can be done on master clock or by the "Switch Editor" software (windows) with file down and upload functionalities. In addition three general-purpose inputs contact's detection can be used for alarm triggering (fire, intrusion sensors ...).

Specific feature provided for Mobaline synchronisation output:

- 🔗 automatic and autonomous slave clock management regarding daylight savings, power outage thanks to Mobaline self setting protocol.
- 🔗 capability to act as time zone server (up to 15 time zone into encoded Mobaline-frame) for world time clock synchronisation.
- 🔗 Control of up to 63 settings-independents groups (channels) of "load switching" devices (KR relay series) with respect to flexible multi-scheduling program ("weekly periodic" and/or "calendar date dependent" management upon exception/priority levels). Program edition by "Switch Editor software" (windows).

Specific feature provided for impulse operating mode:

- 🔗 Automatic and autonomous slave clock management regarding daylight savings, power outage or shut down thanks to electronic impulse storage management.

Outputs:      ⇒ 2x selectable slave clock synchronisation: MOBALine (multi time-zone) or impulse line, for up to 160 slave clocks upon 400 meters over 1.5mm<sup>2</sup> 2-wires cable.  
                  ⇒ 1x synthetic DCF 77 time code  
                  ⇒ 1x serial interface RS 232 / 422 for configurable serial time telegram  
                  ⇒ 4 x relays (each 3x dry contacts) max switch load 230VAC / 10A

Operation:     alphanumeric keypad  
Monitoring:   LCD display for status and alarms: synchronization, clock lines, internal real time clock  
Housing:       metal 19 "rack mounting, like IT equipment  
Dimensions:   L x W x H in mm: 483 x 88 x 80;  
Power supply:  85 ...250 VAC, 50/60 Hz / max. 60 VA