



HASSEB MasterClock

hasseb MasterClock is an easy to use master clock to drive slave clocks used for example in institutions like factories, offices, and schools. The device sends 24 volts voltage pulses every minute or every 30 seconds to drive the clock. The device provides up to 500 mA driving current, so multiple slave clocks can be attached. The device utilizes simple Windows software to control the settings and fine tune the crystal.

INSTALLATION

The device has a two wire connector to attach the slave clock(s) to the device. Depending on the settings, unipolar or bipolar pulses are sent out every minute, every 30 seconds, or every second to drive the clock.

Many slave clocks have three wires instead of two, to drive the solenoid of the clock mechanism. Normally the third wire is used to synchronize the clock every hour, and can be joined with one or the other of the wires. In most cases *hasseb MasterClock* is capable to drive also three wire slave clocks. However, it is your responsibility to check the connection of your particular device!

ADJUSTING TIME

The time can be adjusted by pressing the push button. The device will send a single pulse every time you press the button. If you keep the button pressed, the device sends successive pulses at the interval of two pulse length times.

CONTROL PROGRAMS

By default the *MasterClock* will send a bipolar pulse every minute with a pulse length of 500 ms. If the default settings are not suitable for your slave clock, an easy to use Windows program can be used to configure the *MasterClock* device. The *Master Clock* is a stand-alone device, thus the USB cable needs to be connected only when configuring the device.

The *MasterClock* is visible to the host computer as a human interface device, such like mouse or keyboard, and requires no drivers. After starting the *MasterClock.exe* software "Device found." text should be visible on the bottom left corner of the software. If you see a text "Device not found. Please restart the program." check that the power is on (green LED on), recheck the device USB connection and restart the program.

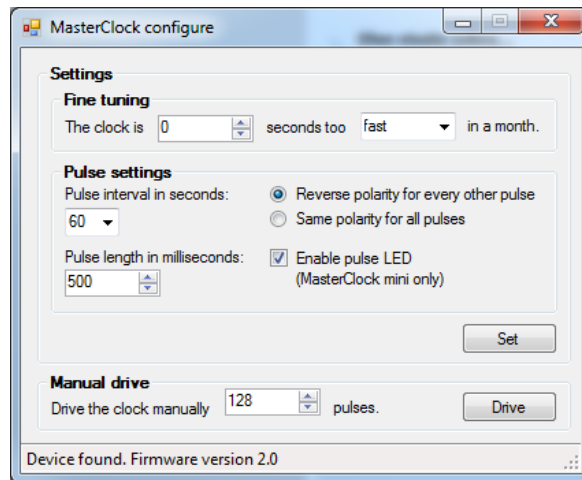


Figure 1. The *MasterClock* device is configured using a simple Windows program.

Due to the manufacturing process and environmental conditions, such as temperature and relative humidity, the frequency of the crystal of the *MasterClock* device may vary. The control software features a fine tuning function to calibrate the crystal. The calibration is carried out by setting the error in seconds within a month.

LEDS

There are two LEDs to indicate the status of the device. The LED burning continuously indicates that the device is powered and on. The other LED will toggle when 24 V pulse is sent to the slave clock line. The toggling LED will also blink fast, when settings are sent through the USB port.

Specifications	
Input voltage	24 ± 0.5 VDC
Maximum input current	0.5 A
Output voltage	± 24 V
Maximum output current	500 mA
Operating temperature	0 – 50 °C
IP class	21
Dimensions	65 mm x 65 mm x 30 mm
Weight	100 g
Supported operating systems	Windows 7 / 8 / 10