ClockDrive v7 Basic
User Manual
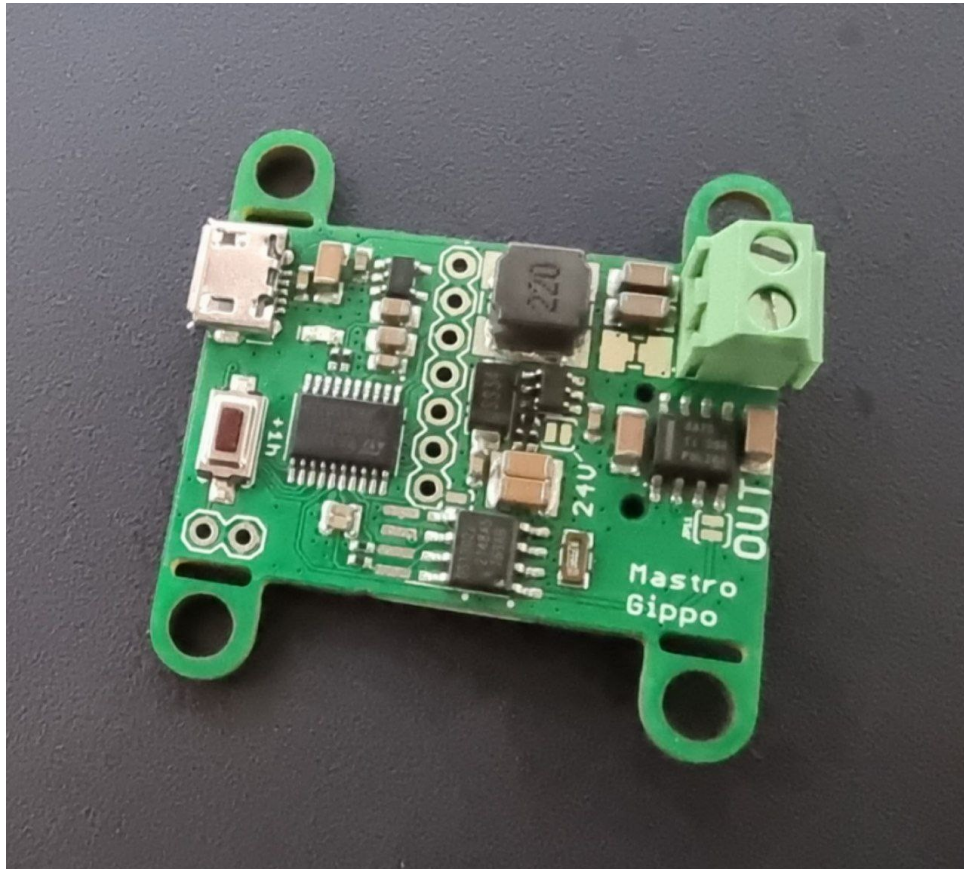
1. Introduction

ClockDrive is an electronic circuit that replaces master clocks to control secondary mechanical clocks. This type of secondary clock does not have an internal timekeeping system but relies on an external pulse, which is typically sent by a master clock.

Secondary clock Solari Udine Cifra 6

The most common flip clocks, like the one shown in the figure above, require a polarized 24V pulse lasting 1 second every minute.

Secondary clock Synchronome type 6

Many analog clocks, on the other hand, require pulses every 30 seconds, while those with a second hand typically operate with a pulse every second.

2. Technical data

Supply

The **ClockDrive board** can be powered by any USB power supply capable of providing 5V and at least 500mA to the microUSB connector (1). Use only high-quality power supplies and cables.
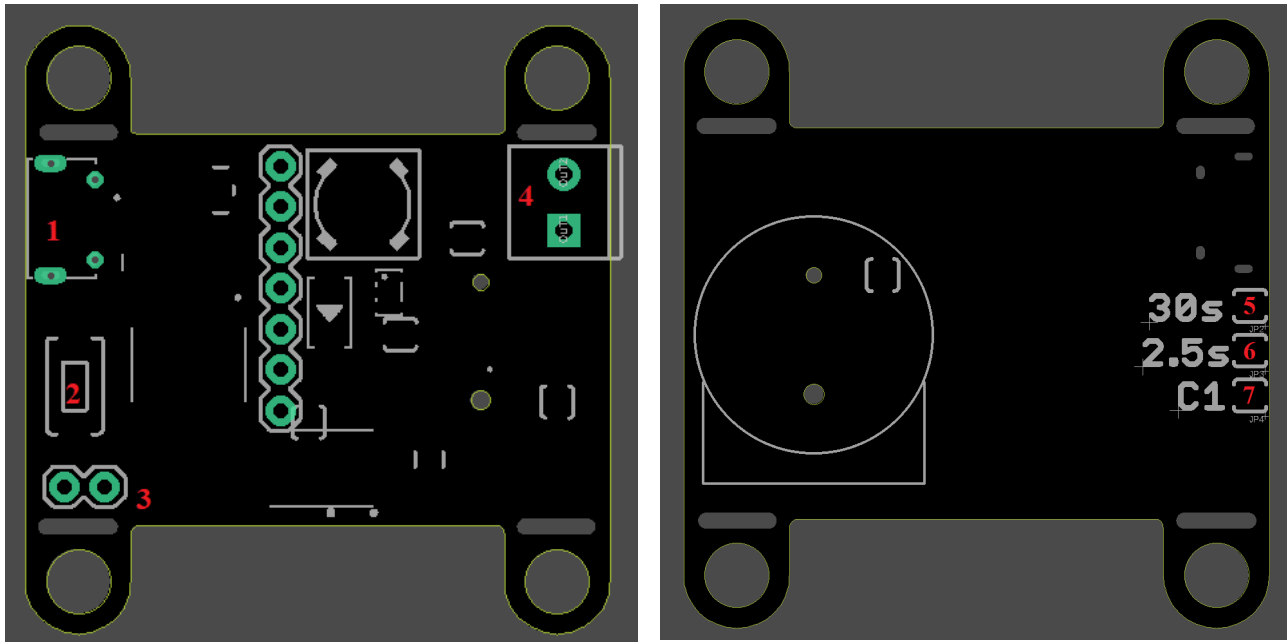The output voltage is 24V.

To determine the maximum current supplied to the clock when using USB power, use this formula:

Iout = ((Iin * Vin) / Vout) * 0.8

For example, with a 5V 1A USB power supply and choosing to power the clock at 24V, the maximum output current will be:

Iout = ((1 * 5) / 24) * 0.8 = 0.16A

3. Board layout

1. Micro USB connector

2. Manual advancement button

3. Connections for external manual advancement button

4. Clock terminals

5. Pulse interval configuration (default: 60 seconds, soldered: 30 seconds)

6. Pulse duration configuration (default: 1 second, soldered: 2.5 seconds)

7. Pulse inversion configuration (default: bipolar, soldered: unipolar)

4. Installation

1. Adjust the clock and verify its correct operation
2. Connect the two clock wires to the screw terminals

The figure below shows an example of how to connect the wiring for installation outside the clock.
IMPORTANT: Cut, remove, or insulate any unused wires! A short circuit could damage both the board and the clock.

3. Adjust the clock and verify its correct operation

Power the board via the USB port (1).
To quickly test the clock, press and hold the button (2) "+1h." Pulses will be sent continuously until the button is released. You can also connect an external button to the terminals (3).

4. Secure the board firmly

If the board is installed inside the clock, make sure that the wiring and the board do not interfere with the clock's mechanism. If necessary, you can break the screw supports at the corners of the board using pliers.

5. Contatti

Tutte le informazioni più aggiornate possono essere trovate all'indirizzo [www.mastrogippo.it/orologio-pilota]. Per programmazioni personalizzate, rivendita e supporto tecnico, l'indirizzo email di riferimento è [mastrogippo@mastrogippo.it].