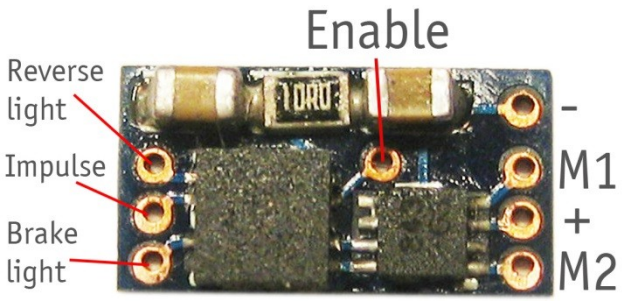
MotorTinyII

1. Functions:



- Automatic zero when starting
- Brake Light
- Reversing light
- Adjustable frequency: 70, 300, 2300 Hertz
- Enable input
- Undervoltage detection with safety shut-off
- correction of erroneous radio pulses
- Auto-off for massive radio interference or transmitter failure
- Linear characteristic, ie directly proportional to stick deflection

2. Clock frequencies:

The MotorTinyII is set on delivery at 70Hz. It can be set to three different clock frequencies. 70, 300 and 2300 Hz To set the frequency, the brake light output must be connected before switching on the controller with the negative terminal of the battery. It is immaterial whether a brake light is connected or not. Should one be connected, then of course it starts and remains lit, but this is not disturbing. After switching, the controller immediately detects that the brake light input is connected to the negative terminal and starts the motor at 70Hz at low speed. Shortly thereafter, he switches to 300 Hz at high rpm and then at 2300 Hz at high speed. Then it's at 70 Hz over again going. To save a clock frequency, the voltage is turned off while the motor with the appropriate speed running. The frequency is then stored permanently. The MotorTinyII is then connected as usual at the receiver and operates off the engine then the pulse frequency. The programming of the switching frequency can be repeated as often.

3. Brake light:

The MotorTinyII has an output for an automatic brake light. This will light up when the throttle stick is set to stop and goes out after about 2 seconds. If within this time, however, the gas again be given, then the brake light is switched off immediately. In addition, the brake light serves as a reminder during the zero point detection. It lights up until the zero recognition (1s) has been completed.

4. Reversing lamp:

On MotorTinyII a reversing lamp may be connected. This lights up when reversing, when driving forward and stopped model it is off.

5. Behavior in strong radio interference:

The software is to detect radio interference capable. Too long and short pulses are corrected and so individual incorrect pulses have no influence. The situation is different when from the receiver only comes nonsense, for example, if someone is transmitting on the same channel. Then there is the MotorTinyII after about 1 to 2 seconds too much and he switched off the engine. In order to inform the driver about why the car stops, the reversing light begin to shine. Turns the opponent its transmitter again, then the MotorTinyII working after about one second back to normal, and acts as if nothing had happened.

6. Action on transmitter failure:

What happens if you turn off the transmitter depends on what will come out of the receiver. If he remains silent, because he receives nothing, then there is in MotorTinyII a reset and the reversing light flashing at 2 Hz. If the receiver instead but a bunch of nonsense out, then considered the MotorTinyII the as radio interference and behaves as under point 5. In any case, the model remains rooted to the spot, and until such time as you turn on the transmitter again. Then everything goes back to normal.
Stupid it is, however, when the receiver receives signals of MotorTinyII considered valid. If one example the own transmitter off while another further transmitted to the channel. Then the model is doing that, of course, what the friendly neighbor would like to ...

7. Behaviour at undervoltage:

If the battery voltage drops below 2.7 volts, the motor and the MotorTinyII stops stopped working on. Often then the battery voltage will rise again, because the load is ceased by the motor current. At about 2.8 volts of MotorTinyII begins again with his work. As he does so, depends on how the joystick is at the moment. it is set at neutral, then everything is normal. When accelerating, the model takes off as if nothing has happened. But only until the battery voltage has dropped below 2.7 volts, then the motor stops again. The situation is different if the MotorTinyII with the work begins anew, while the stick is still deflected. Actually the model should now indeed ready to ride again, but that is suppressed, it will stop. In order to inform the driver about why the model does not run, the reversing lamps start slowly at 1 Hz flashing. So that the driver knows that the battery is empty, and the model has stopped therefore. But if he wants to continue anyway, then he can do that easily. He must bring only the joystick once to neutral. The flashing of the reversing light ceases, and the model continues as usual until the next drop in battery voltage.

8. Enable input:

Who builds as Construction knows the problem: you have to control more than four engines, but the two joysticks on the transmitter can not serve more than four engines. A simple solution to this problem is to use a two-channel switch with relays. So you can connect the motors to the speed controller or separate from him. Disadvantage of this method is the large installation space required for the relay, and space is already so scarce.
A new solution provides the enable input of MotorTinyII. Here a two-channel switch is connected directly to the MotorTinyII, each motor receives its own case MotorTinyII. If the enable input is pulled low, the motor is deactivated. If the input is pulled high or is open, then the MotorTinyII works like a normal cruise control. So you save the relay, but requires connection to a motor for each drive controller.

9. Technical Specifications:

Max. Motor current: 500mA
Max. Current reversing lamp: 30mA
Max. Current stoplight: 30mA
Dimensions: 10 x 5 x 1.4 mm

10. Contact

Klaus Wintermayr
Peter-Müller-Str. 47
80997 Munich

Email klaus@wintermayr.de