Micro Invent MINOR Tiny

Miniature FM receiver with
bidirectional electronic speed controller

Small dimensions, low weight
Automatic configuration of outputs
Possibility to connect the coil actuators
Masking of a signal failure up to 0.5s
Programmable "Fail safe" mode
Acoustic indication of state of controller
Linear course of the electromotor capacity control
Reduce of power of motor if the voltage drops below 3.2V
Turning off of the controller if the voltage drops below 3.0V
Automatic brake function up to 0.2s (bidirectional mode)
Bidirectional LED mode (brake light, backup light functions)

Data

Number of channels	*4*
Frequency band	*35, 40, 72 MHz*
IF frequency / selectivity	*455 kHz / 10 kHz*
Modulation	*FM negative or positive shift*
Range (aerial 20 cm)	*min. 50 m*
Dimensions	*17 x 8 x 4 mm*
Weight	*0.6 g without crystal*
Power supply voltage	*2.7 to 5.5 V*
Current consumption	*5 mA*
Permanent current of motor	*1.0 A (1.3 A peak)*
PWM of ESC (uni / bidirect.)	*2 kHz / 250 Hz*
Resistance of coil actuator	*min. 70 ohm*
Operation temperature range	*0 to +40 °C*

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MINOR Tiny

Dear modellers, you have received the subminiature four channel receiver MINOR TINY with bidirectional speed controller. The receiver is designed with respect of achievement of very small dimensions and weight, it is intendend especially for micro RC cars and ships.

The receiver is equipped with miniature connectors for the connection of servos and motor and it has soldered aerial.. Ouputs of receiver are adapted for the control of standard servos or simple coil actuators. Output of electronic speed controller is connected to 5th connector of receiver.

The receiver must automatically configure its outputs and therefore it is necessary to switch on transmitter prior to the connection of a battery to receiver and to adjust the “throttle” lever to minimal position.

The receiver is equipped with programmable "Fail safe" mode that sets and maintanes programmed the position of servos at signal blackout longer than 0.5 s. "Fail safe" setting is to be achieved by setting the required position of servos for example by transmitter controllers so that it was not necessary to hold the levers with our hands. Set "throttle" lever to minimal position. Then disconnect and again connect receiver battery and do not move the levers for at least 1 minute. Then switch off the transmitter and check whether servos "hold" the set position. Deactivation of "Fail safe" mode is to be achieved by not moving the transmitter levers for at least 2 minutes after switching the receiver on.

Warnings:

Wrong polarity of battery or a short circuit of one of the outputs is likely to damage the receiver.

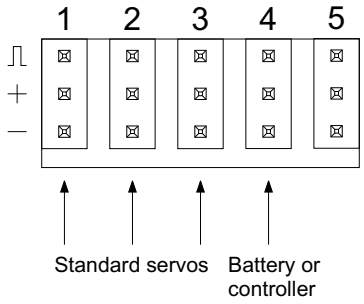
Keep the antenna away from the rest of the electrical instalation.

Before the first flight of model we recommend range test with and without motor running.

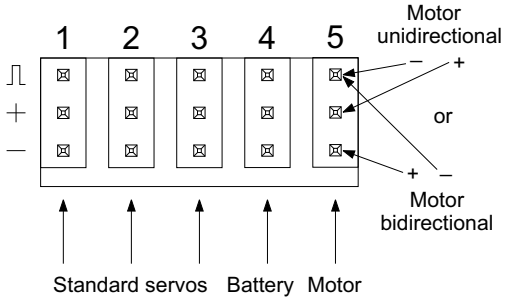
Connecting the outputs

MINOR Tiny-S

Standard mode

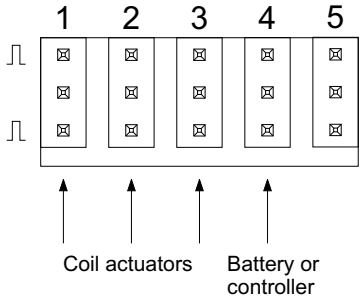


Standard ESC mode

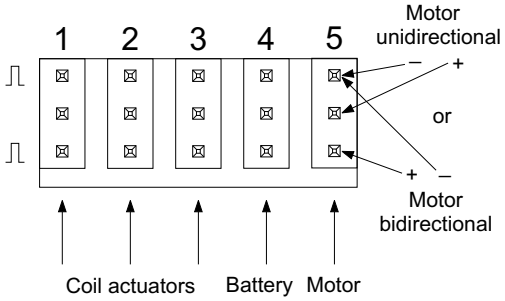


MINOR Tiny-A

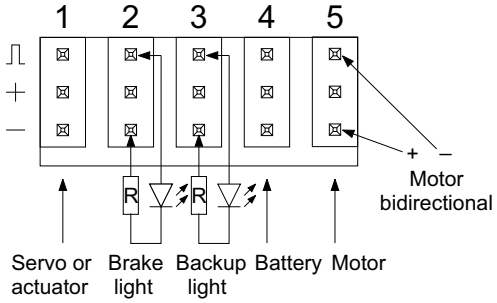
Actuator mode



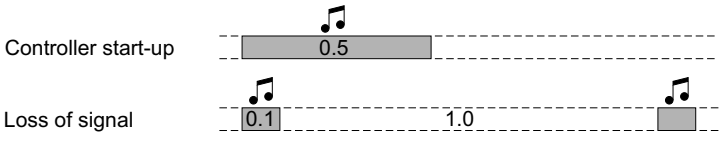
Actuator ESC mode



Bidirectional LED mode



Controller state acoustic indication



Note : Time in seconds.

Notes :
Actuator direction can be changed by reversing its connector.
Receiver may be powered only by a battery connector.
Battery minus is marked by the blue colour.
Motor output is marked by the yellow colour.
The frequency band assignment of the receiver is identified by the antenna colour. Red colour - 35MHz band, black colour - 40MHz band, white colour - 72MHz band.