Programming hardware and software options for flashing BLHeli Atmel ESCs

USBasp:

Arduinos and AVRs:

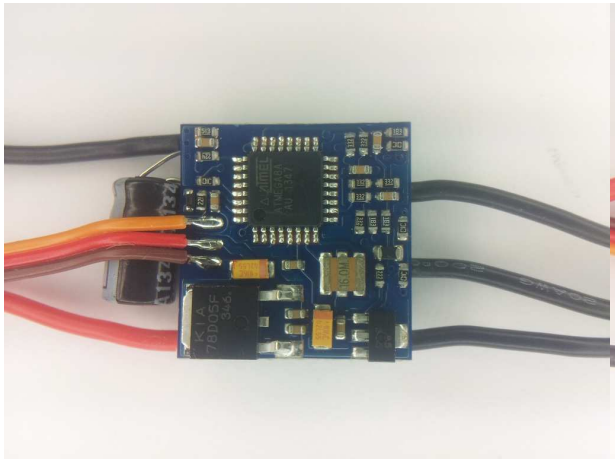
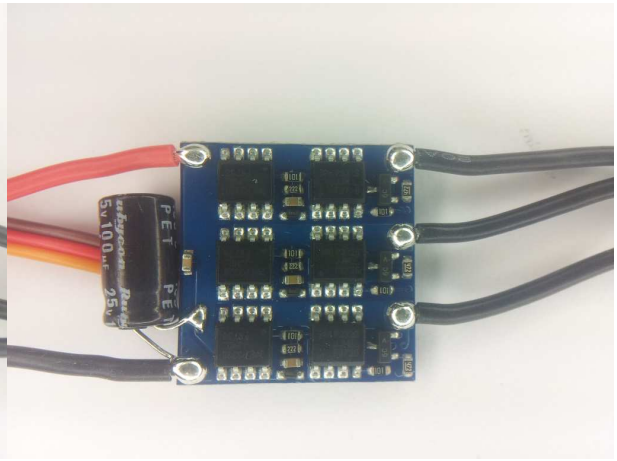
Links to further information on tools and software can be found here:
https://docs.google.com/spreadsheet/ccc?key=0AhR02IDNb7_MdEhfVjk3MkRHVzhKdjU1YzdBQkZZRlE#gid=0

Fuses:

Unless otherwise noted, the fuses shall be programmed to:
High fuse byte: 0xCC
Low fuse byte: 0x3F

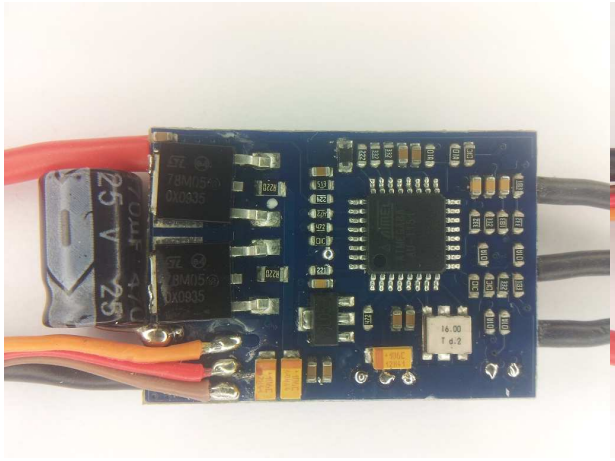
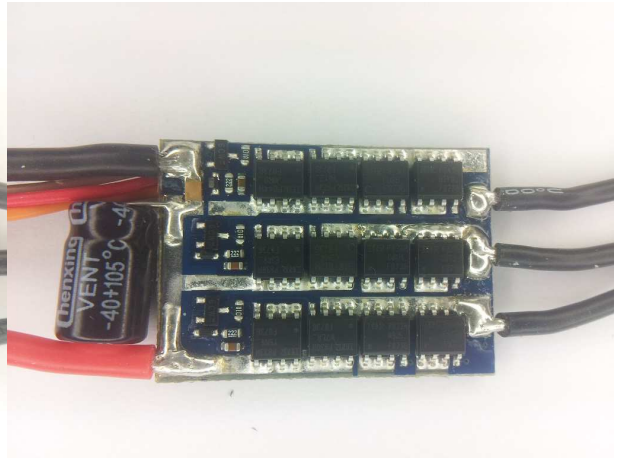
ESCs supported by BLHeli Atmel

BlueSeries 12A:

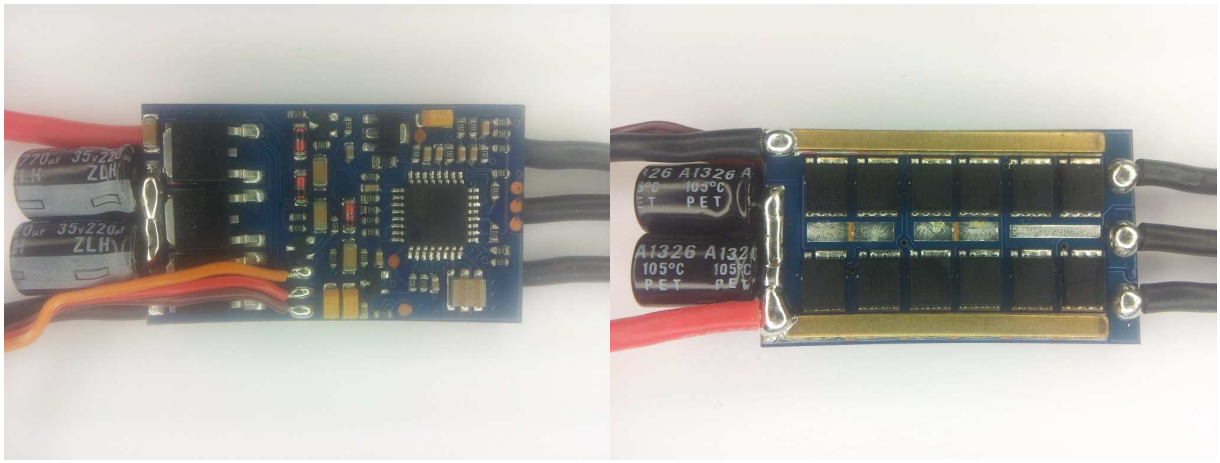
The ESC supports 2S to 4S operation.
It supports fully damped mode, overtemp protection and bootloader on input plug.
Switching speed is quite fast, although high side is slow to turn on.
Both high side and low side are Nfets.
At 2S, low voltage limiting does not work reliably.
It uses the "BlueSeries_12A_.." code.

BlueSeries 20A:

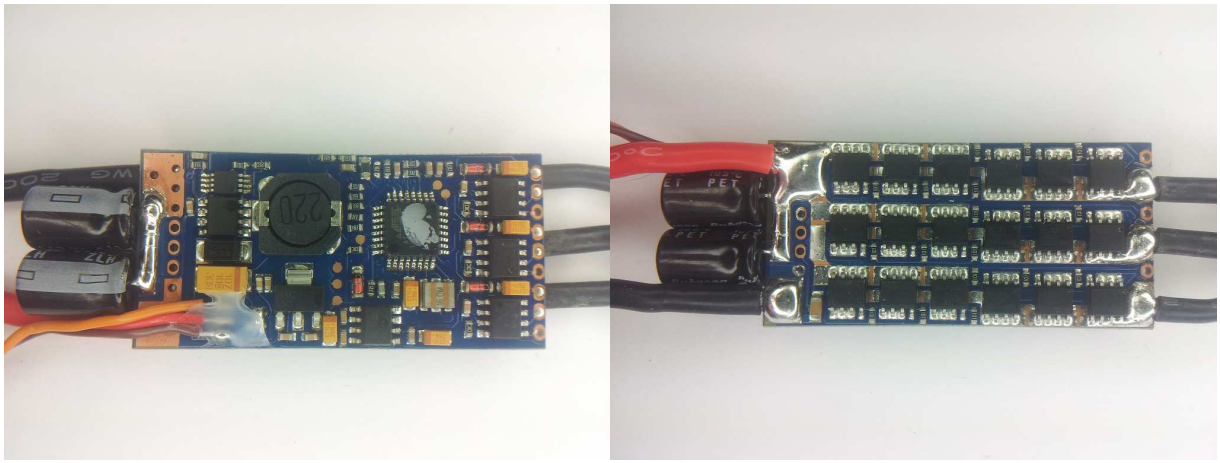
The ESC supports 2S to 4S operation.
It supports fully damped mode, overtemp protection and bootloader on input plug.
Switching speed is quite fast, although high side is slow to turn on.
Both high side and low side are Nfets.
At 2S, low voltage limiting does not work reliably.
It uses the "BlueSeries_20A_.." code.

BlueSeries 30A:



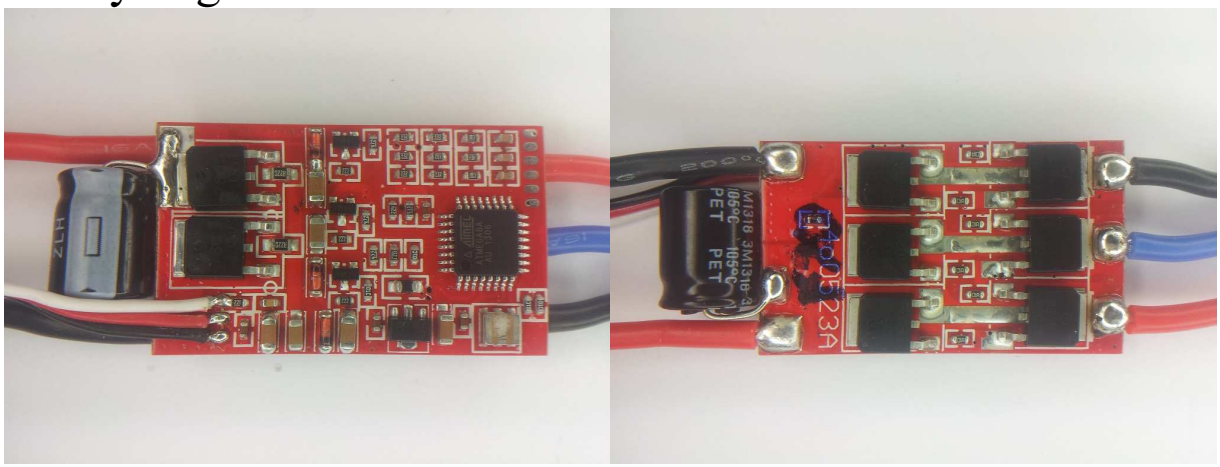
The ESC supports 2S to 4S operation.
It supports fully damped mode, overtemp protection and bootloader on input plug.
Switching speed is quite fast, although high side is slow to turn on.
Both high side and low side are Nfets.
At 2S, low voltage limiting does not work reliably.
It uses the "BlueSeries_30A_.." code.

BlueSeries 40A:



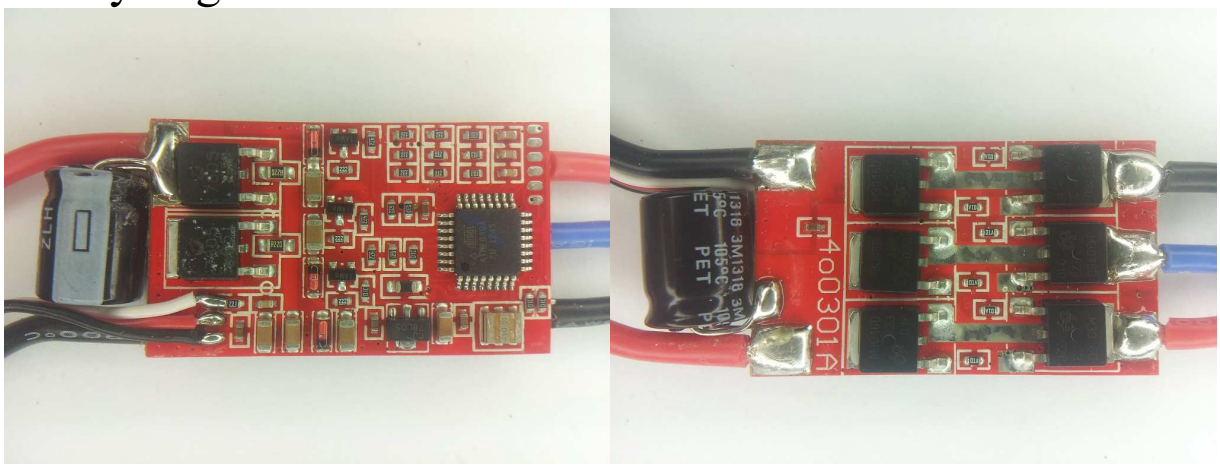
The ESC supports 2S to 6S operation.
It supports overtemp protection and bootloader on input plug.
Switching speed is quite fast.
Both high side and low side are Nfets.
It uses the "BlueSeries_40A_.." code.

Hobbyking UBEC 20A:



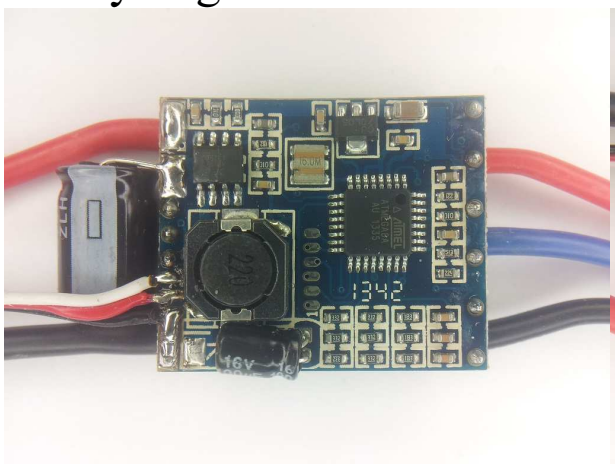
The ESC supports 2S to 4S operation.
It supports fully damped mode, overtemp protection and bootloader on input plug.
Switching speed is quite fast, although high side is slow to turn on.
Both high side and low side are Nfets.
At 2S, low voltage limiting does not work reliably.
The ESC is also known as "F-20A UBEC".
It uses the "HK_UBEC_20A_.." code.

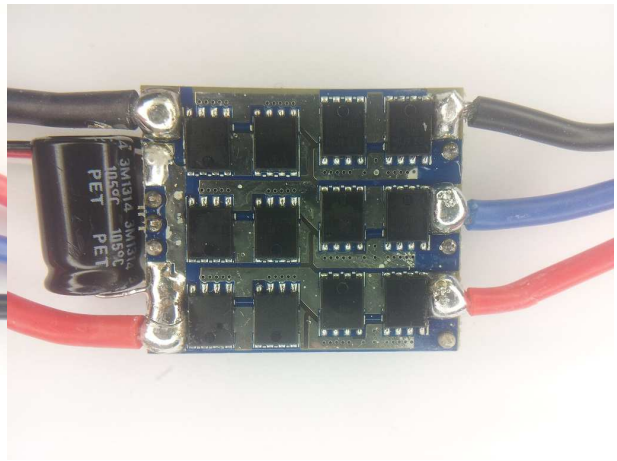
Hobbyking UBEC 30A:



The ESC supports 2S to 4S operation.
It supports fully damped mode, overtemp protection and bootloader on input plug.
Switching speed is quite fast, although high side is slow to turn on.
Both high side and low side are Nfets.
At 2S, low voltage limiting does not work reliably.
The ESC is also known as "F-30A UBEC".
It uses the "HK_UBEC_30A_.." code.

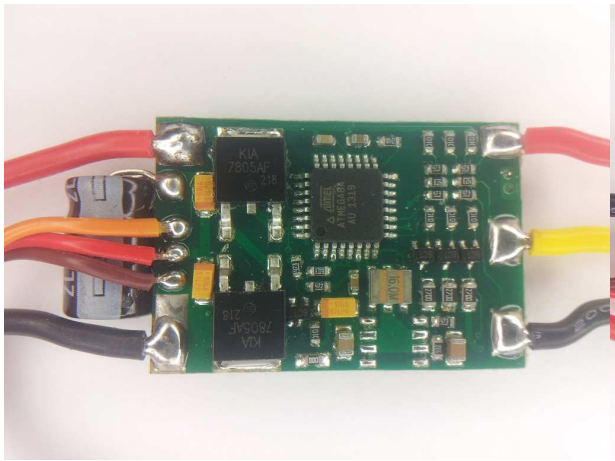
Hobbyking UBEC 40A:

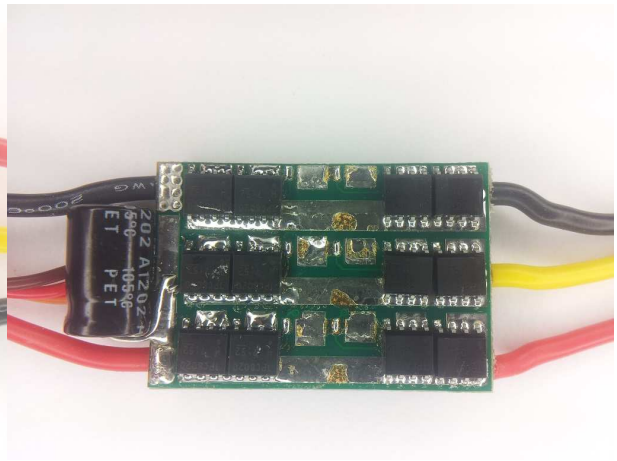




The ESC supports 2S to 6S operation.
It supports fully damped mode, overtemp protection and bootloader on input plug.
Switching speed is quite fast.
Both high side and low side are Nfets.
At 2S, low voltage limiting does not work reliably.
The ESC is also known as "F-40A UBEC".
It uses the "HK_UBEC_40A_.." code.

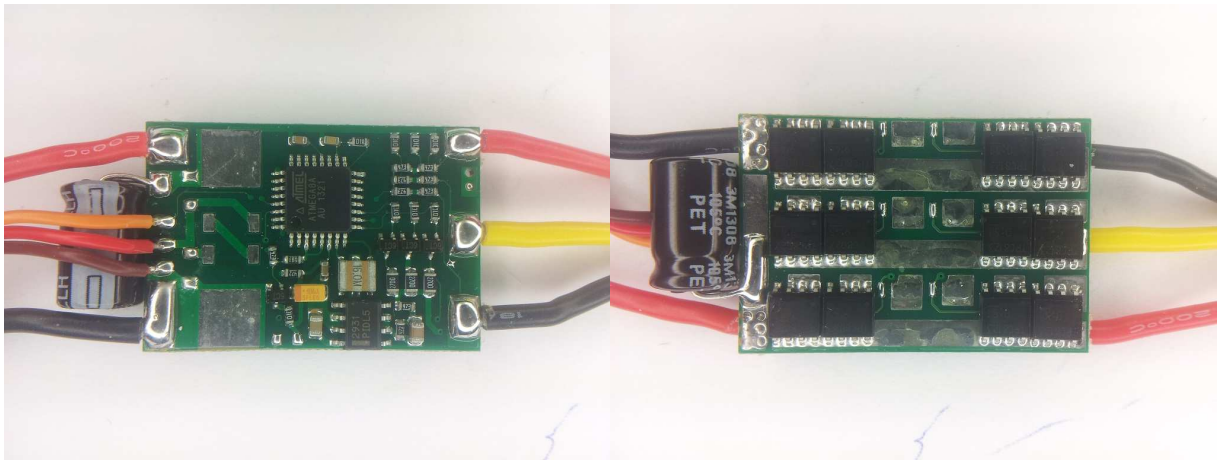
Multistar 15A:





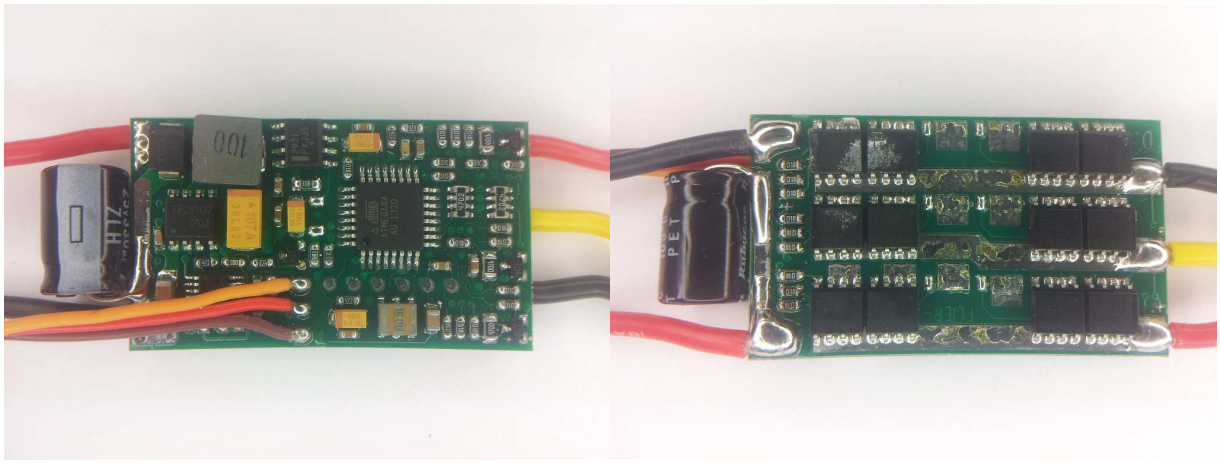
The ESC supports 2S to 3S operation.
It does not support bootloader on input plug.
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
It uses the "Multistar_15A_.." code.

Multistar 20A:



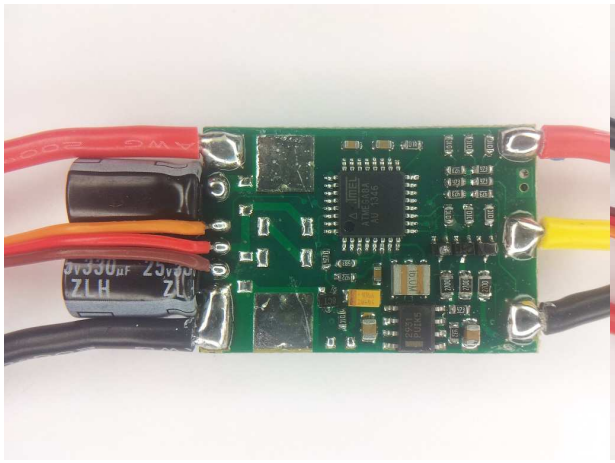
The ESC supports 2S to 4S operation.
It does not support bootloader on input plug.
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
It uses the "Multistar_20A_.." code.

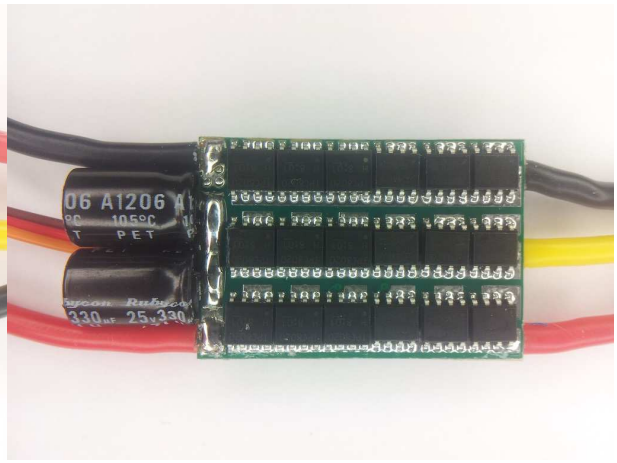
Multistar 20A SBEC:



The ESC supports 2S to 4S operation.
It does not support bootloader on input plug.
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
It uses the "Multistar_20A_.." code.

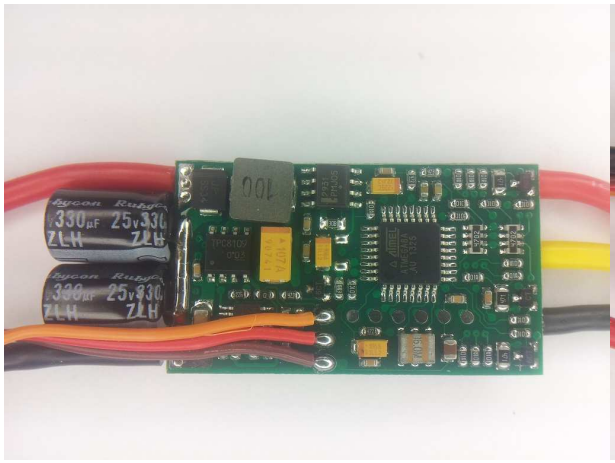
Multistar 30A:

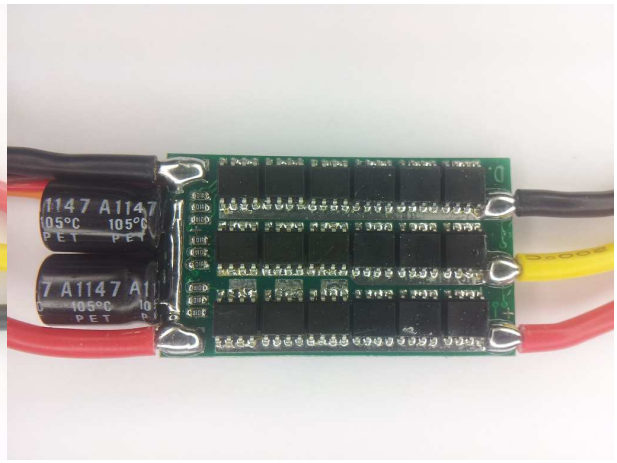




The ESC supports 2S to 4S operation.
It does not support bootloader on input plug
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
It uses the "Multistar_30A_.." code.

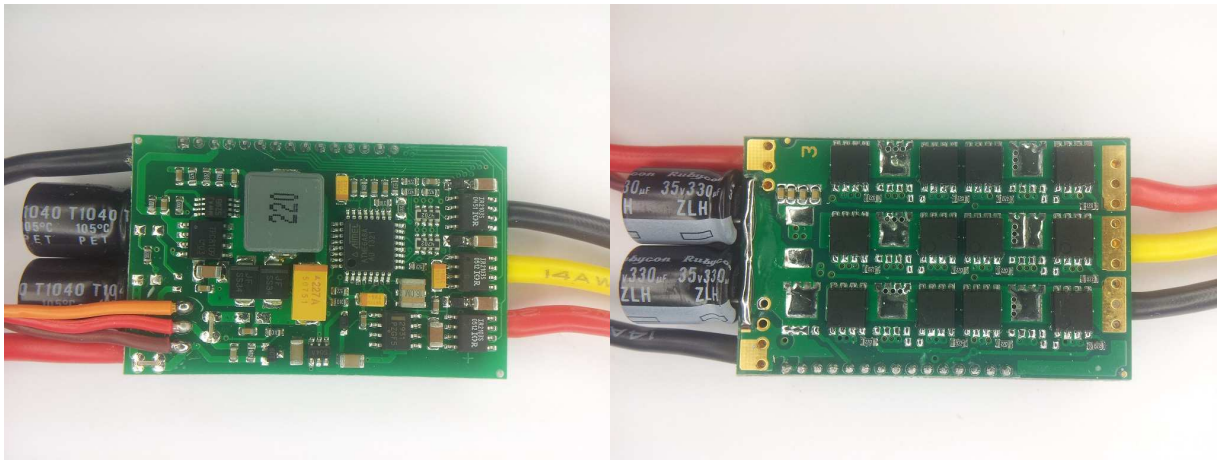
Multistar 30A SBEC:





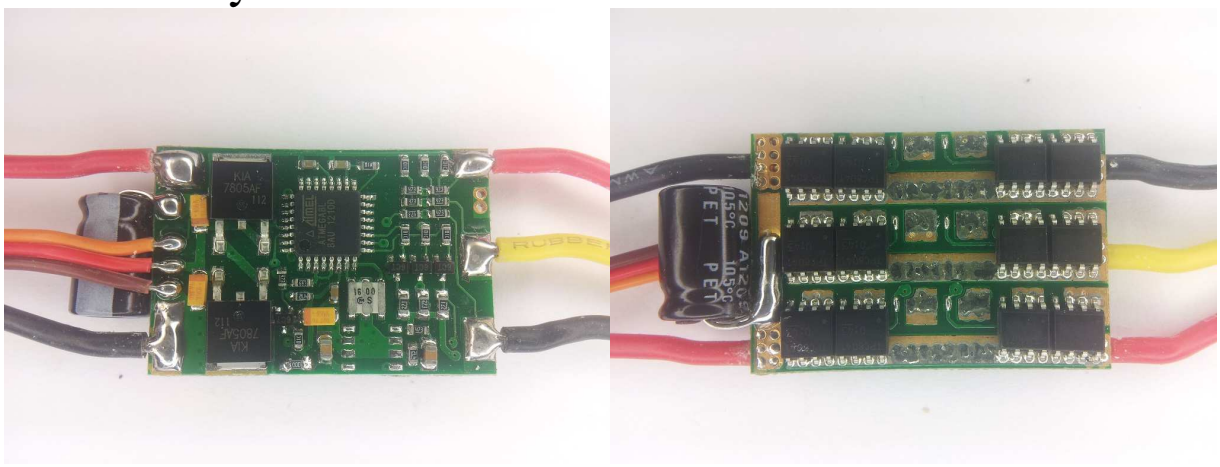
The ESC supports 2S to 4S operation.
It does not support bootloader on input plug.
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
It uses the "Multistar_30A_.." code.

Multistar 45A:



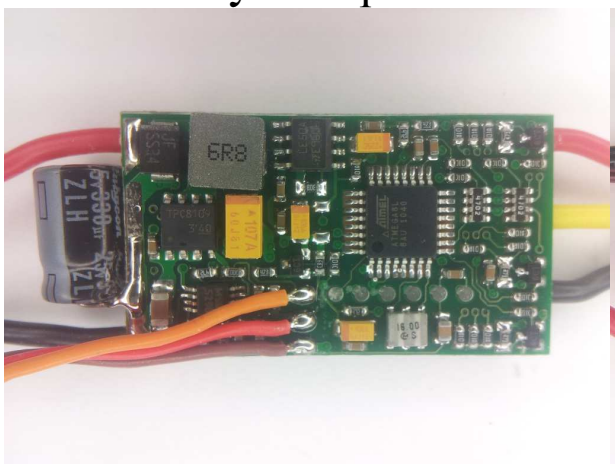
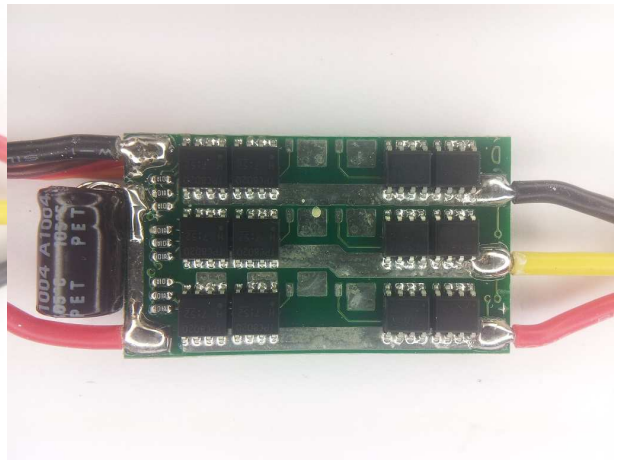
The ESC supports 2S to 6S operation.
It supports fully damped mode,
It does not support bootloader on input plug.
Switching speed is fast.
Both high side and low side are Nfets.
It uses the "Multistar_45A_.." code.

HiModel Fly 20A:



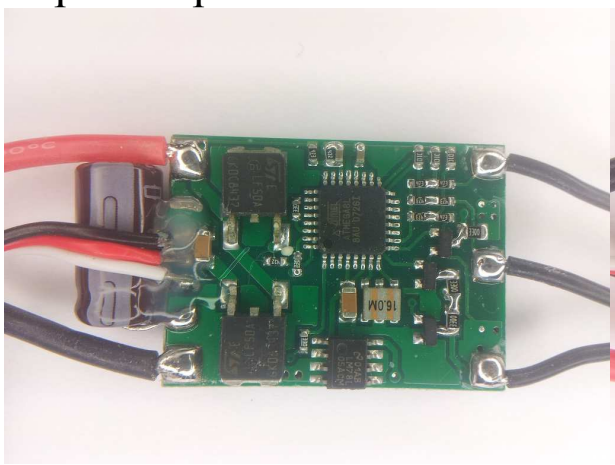
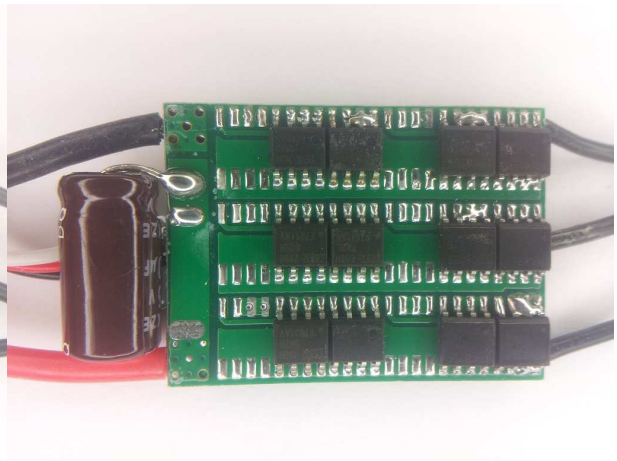
The ESC supports 2S to 3S operation.
It does not support bootloader on input plug.
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
It uses the "Multistar_20A_.." code.

HiModel Fly 20A pro SB:

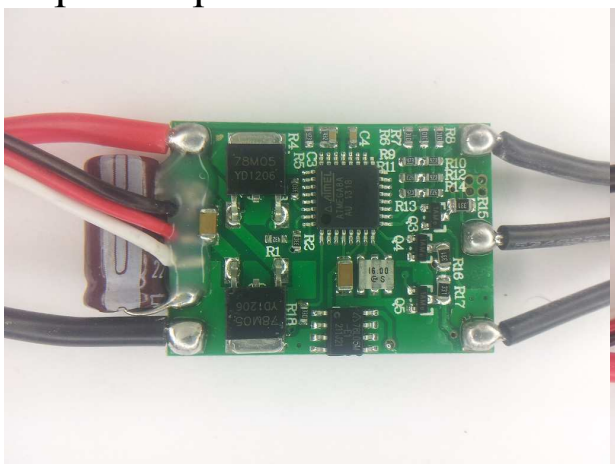
The ESC supports 2S to 4S operation.
It does not support bootloader on input plug.
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
It uses the "Multistar_20A_.." code.

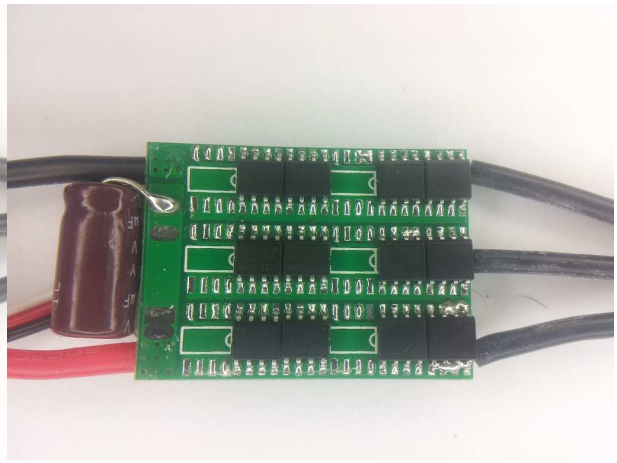
SuperSimple 18A:

The ESC supports 2S to 3S operation.
It supports bootloader on input plug.
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
It uses the "SuperSimple_18A_.." code.

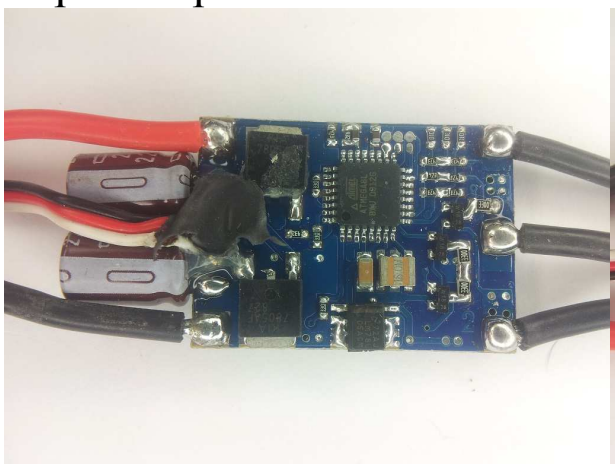
SuperSimple 20A:

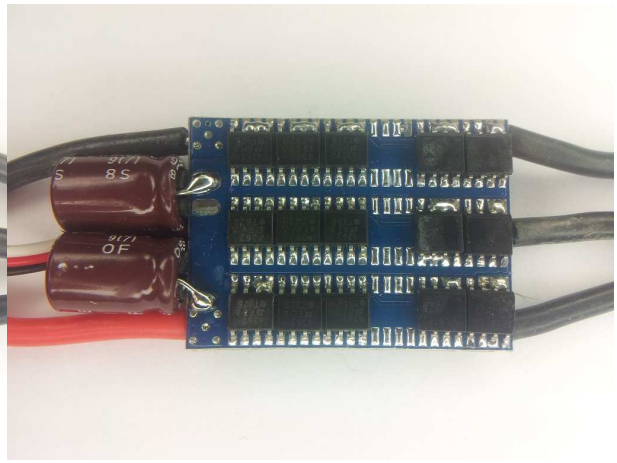




The ESC supports 2S to 3S operation.
It supports bootloader on input plug.
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
It uses the "SuperSimple_20A_.." code.

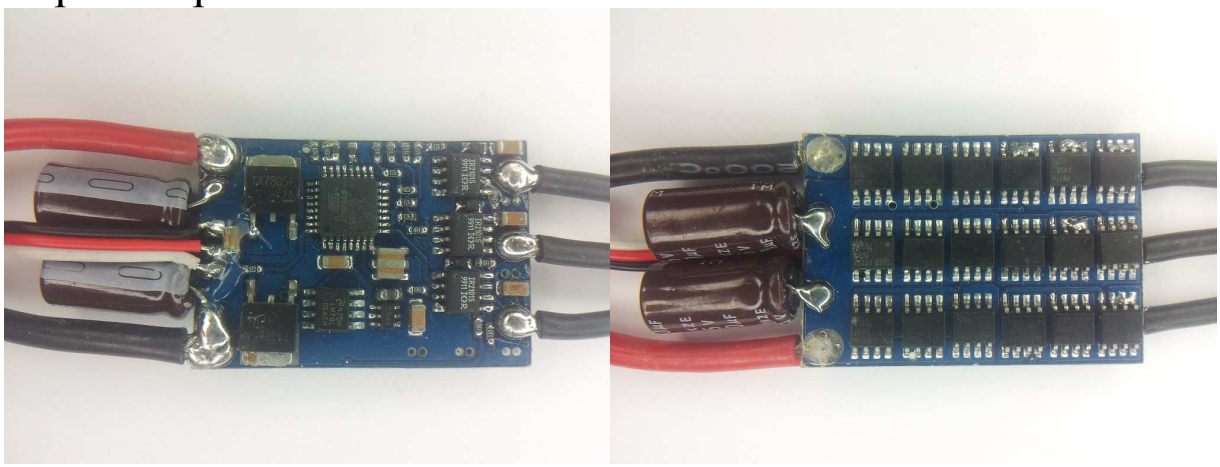
SuperSimple 30A:





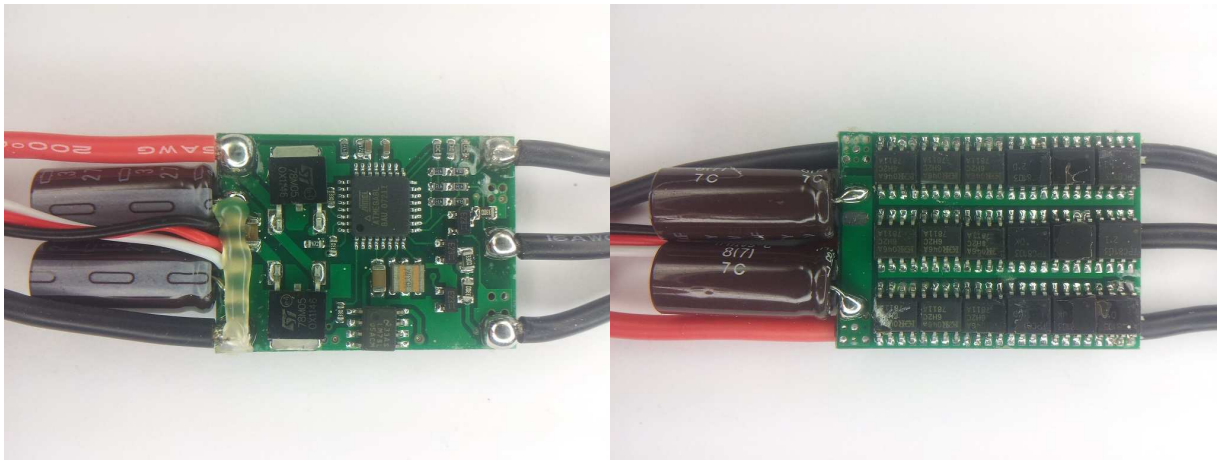
The ESC supports 2S to 3S operation.
It supports bootloader on input plug.
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
It uses the "SuperSimple_30A_.." code.

SuperSimple 40A:



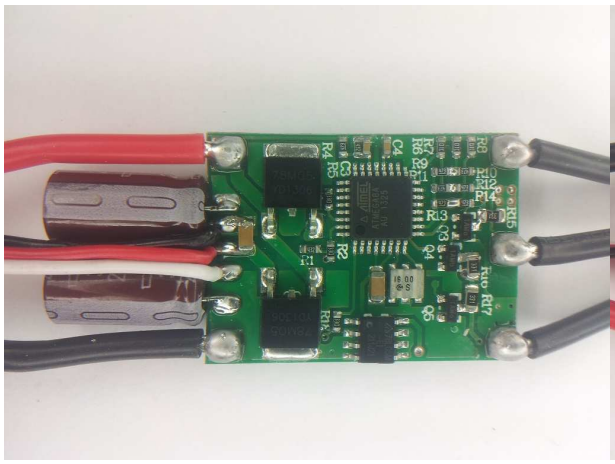
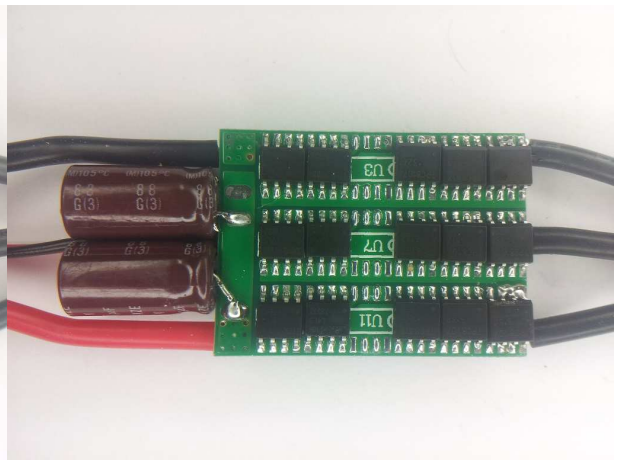
The ESC supports 2S to 3S operation.
It supports fully damped mode and bootloader on input plug.
Switching speed is quite fast.
Both high side and low side are Nfets.
It uses the "SuperSimple_40A_.." code.

Birdie 30A:



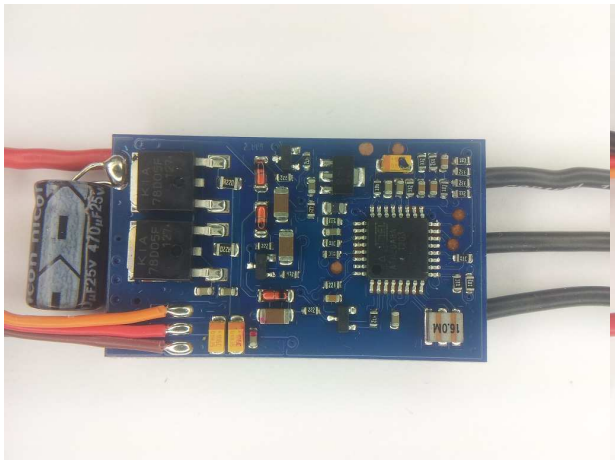
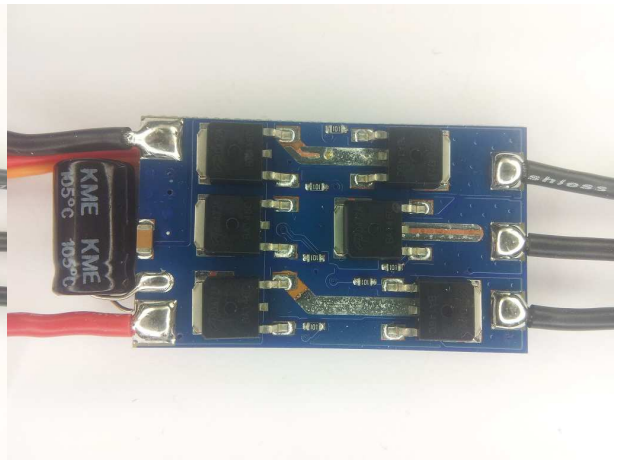
The ESC supports 2S to 3S operation.
It supports bootloader on input plug.
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
It uses the "SuperSimple_30A_.." code.

Red Brick 30A:

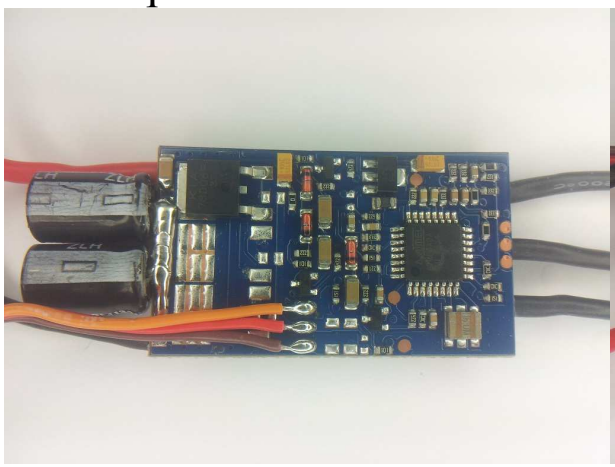
The ESC supports 2S to 3S operation.
It supports bootloader on input plug.
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
It uses the "SuperSimple_30A_.." code.

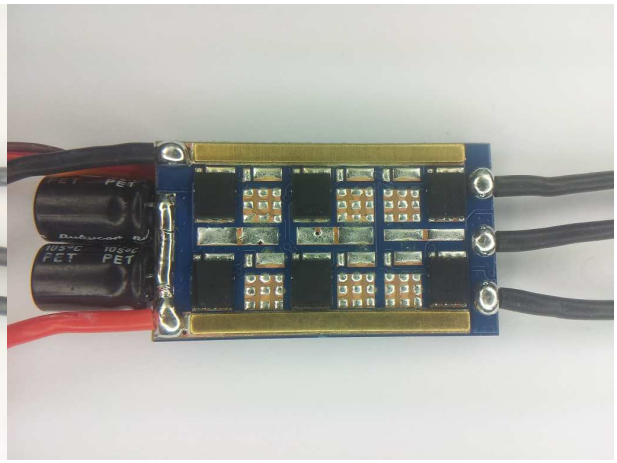
ZTW AL 20A:

The ESC supports 2S to 3S operation.
It supports fully damped mode, overtemp protection and bootloader on input plug.
Switching speed is quite fast, although high side is slow to turn on.
Both high side and low side are Nfets.
At 2S, low voltage limiting does not work reliably.
It uses the "BlueSeries_20A_.." code.

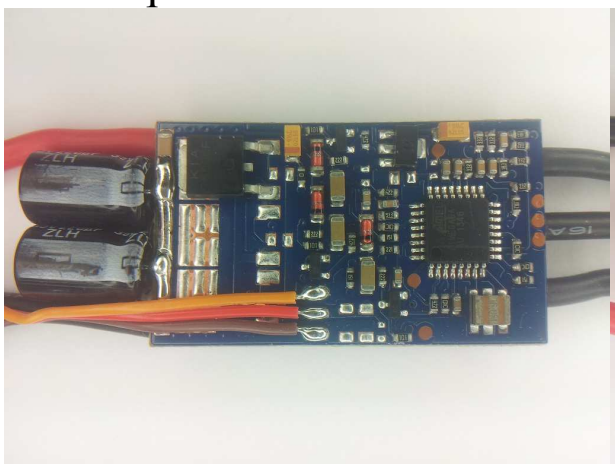
ZTW Spider 20A:

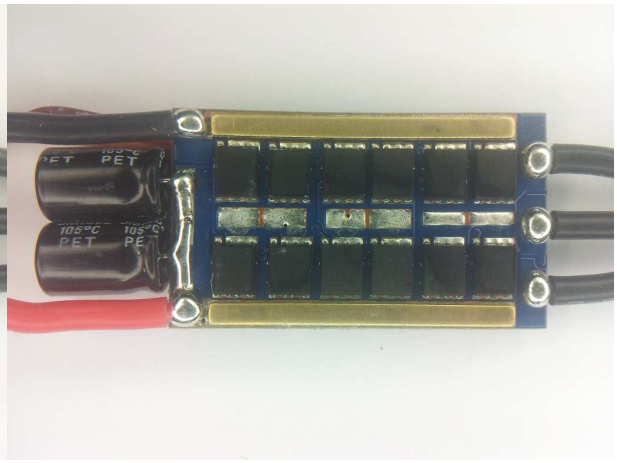




The ESC supports 2S to 6S operation.
It supports fully damped mode, overtemp protection and bootloader on input plug.
Switching speed is quite fast, although high side is slow to turn on.
Both high side and low side are Nfets.
At 2S, low voltage limiting does not work reliably.
It uses the "BlueSeries_20A_.." code.

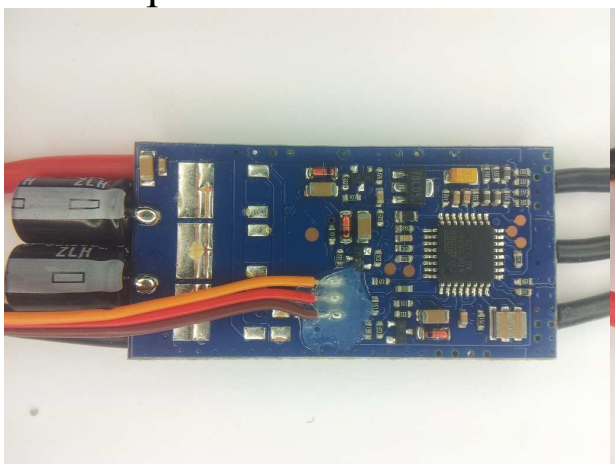
ZTW Spider 30A:

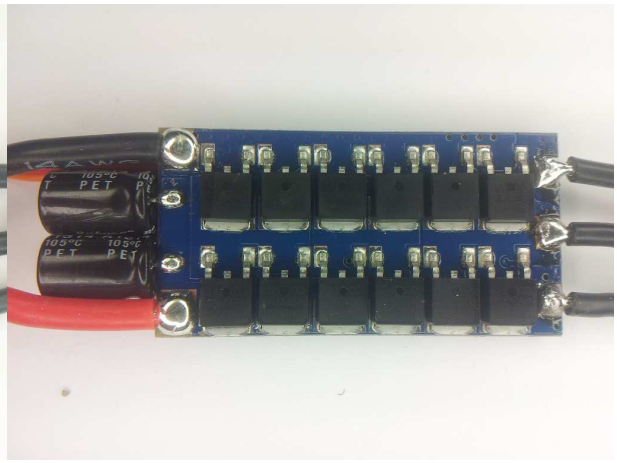




The ESC supports 2S to 6S operation.
It supports fully damped mode, overtemp protection and bootloader on input plug.
Switching speed is quite fast, although high side is slow to turn on.
Both high side and low side are Nfets.
At 2S, low voltage limiting does not work reliably.
It uses the "BlueSeries_30A_.." code.

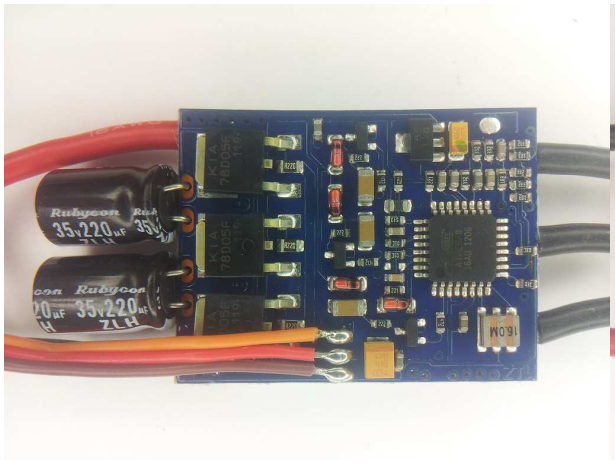
ZTW Spider 40A:

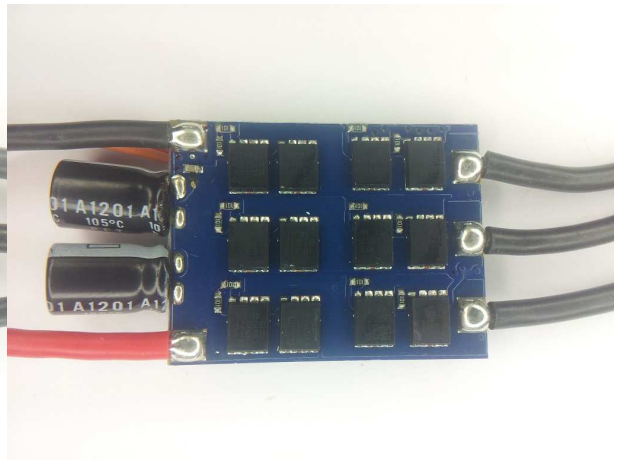




The ESC supports 2S to 6S operation.
It supports fully damped mode, overtemp protection and bootloader on input plug.
Switching speed is quite fast, although high side is slow to turn on.
Both high side and low side are Nfets.
At 2S, low voltage limiting does not work reliably.
It uses the "BlueSeries_30A_.." code.

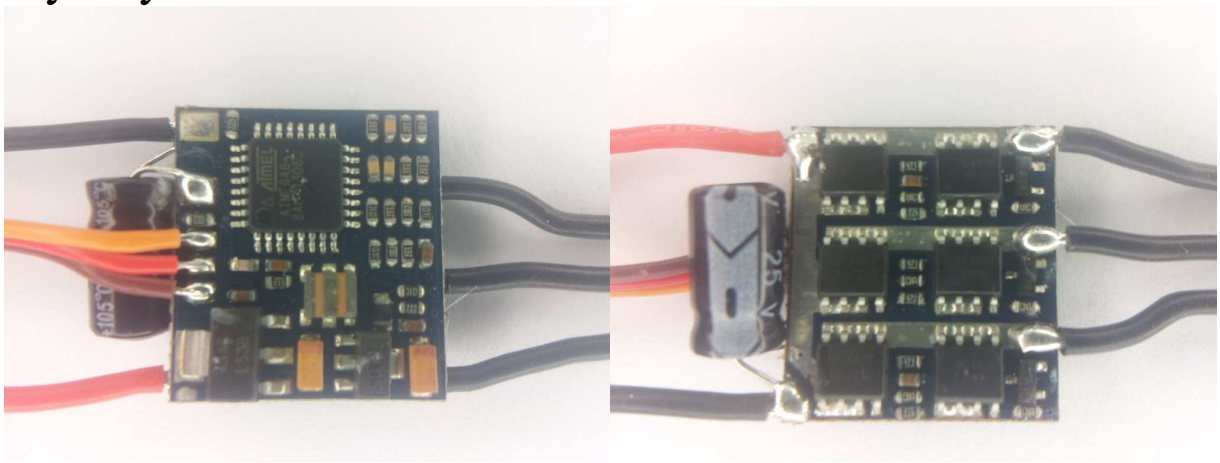
ZTW 30A:





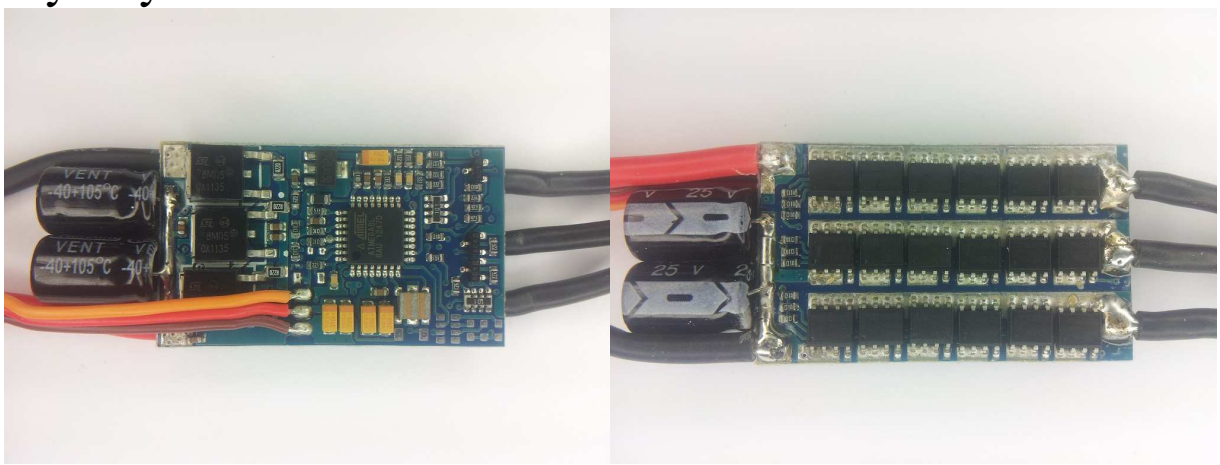
The ESC supports 2S to 4S operation.
It supports fully damped mode, overtemp protection and bootloader on input plug.
Switching speed is quite fast, although high side is slow to turn on.
Both high side and low side are Nfets.
At 2S, low voltage limiting does not work reliably.
It uses the "BlueSeries_30A_.." code.

Mystery 12A:



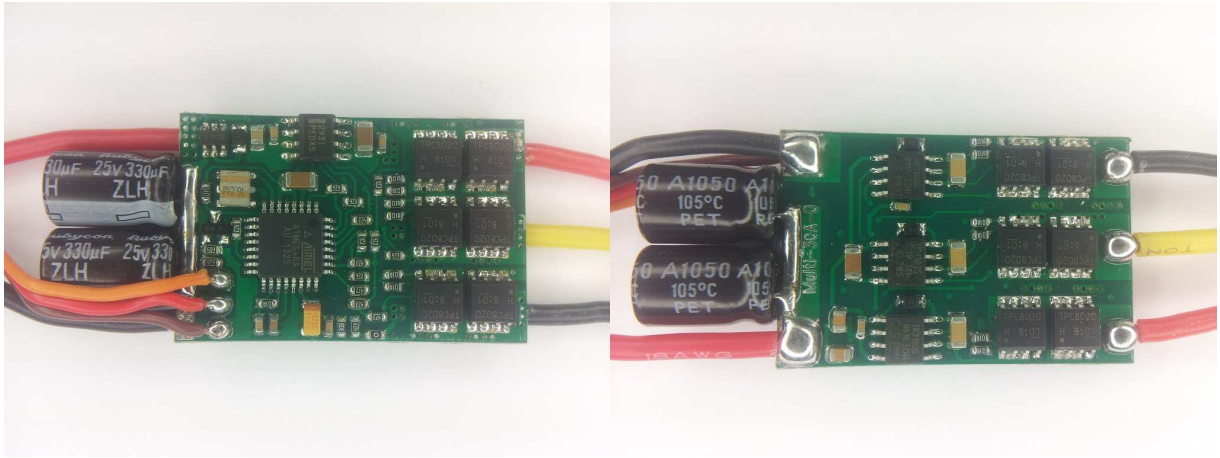
The ESC supports 2S to 3S operation.
It supports overtemp protection and bootloader on input plug.
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
At 2S, low voltage limiting does not work reliably.
It uses the "Mystery_12A_.." code.

Mystery 30A:



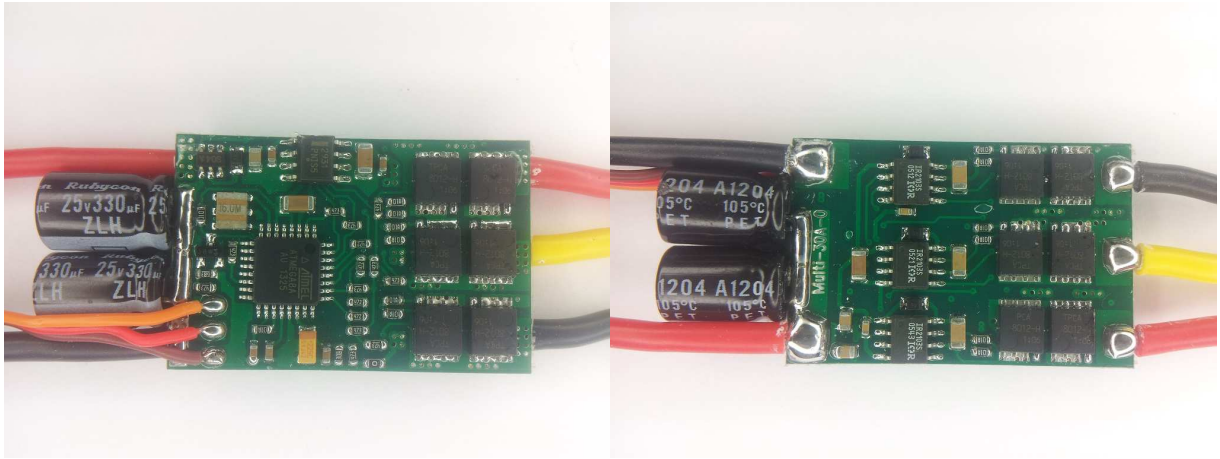
The ESC supports 2S to 3S operation.
It supports overtemp protection and bootloader on input plug.
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
At 2S, low voltage limiting does not work reliably.
It uses the "Mystery_30A_.." code.

Sunrise HiMulti 20A:



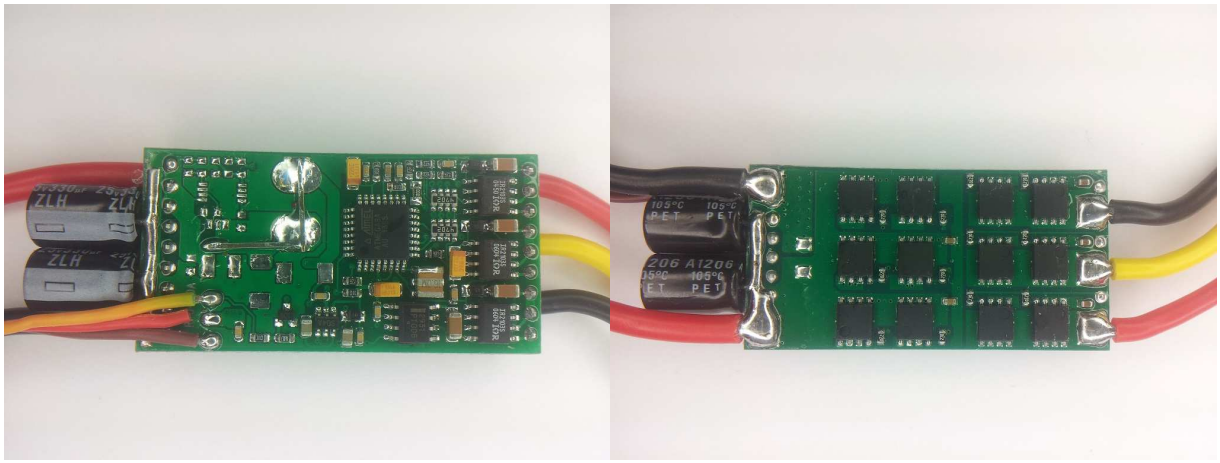
The ESC supports 2S to 6S operation.
It supports fully damped mode.
It does not support bootloader on input plug.
Switching speed is fast.
Both high side and low side are Nfets.
It uses the "Sunrise_HiMulti_20A_.." code.

Sunrise HiMulti 30A:



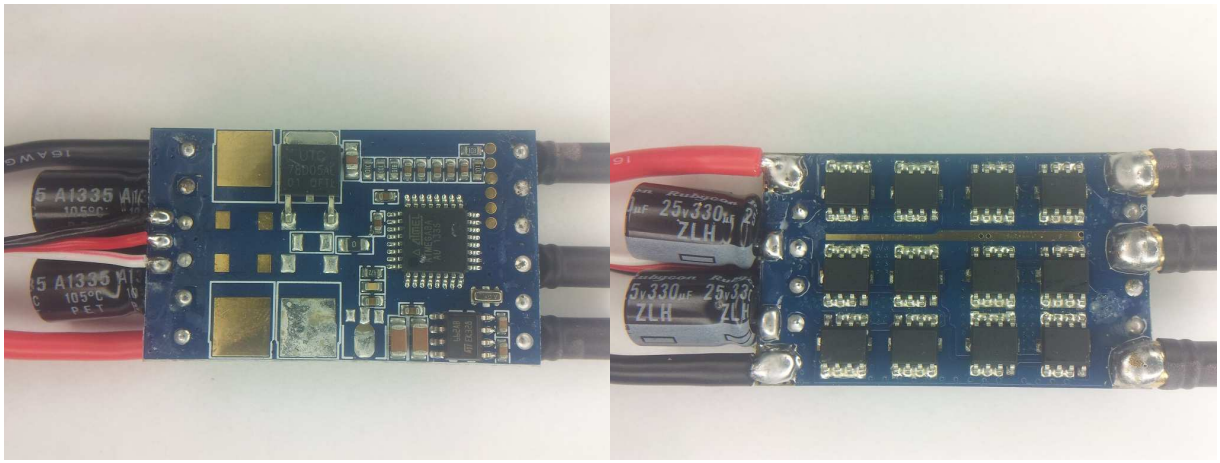
The ESC supports 2S to 6S operation.
It supports fully damped mode.
It does not support bootloader on input plug.
Switching speed is fast.
Both high side and low side are Nfets.
It uses the "Sunrise_HiMulti_30A_.." code.

Sunrise HiMulti 40A:



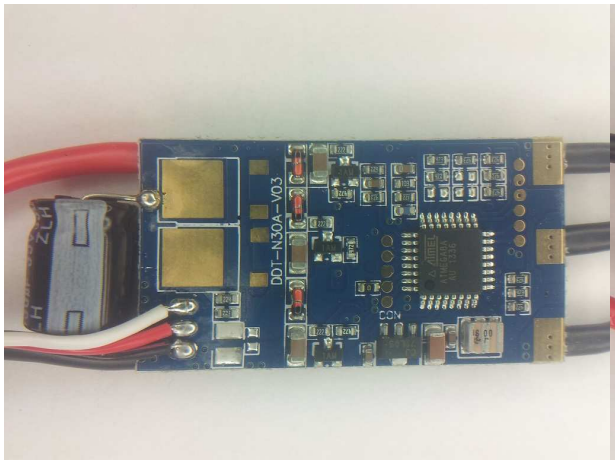
The ESC supports 2S to 6S operation.
It supports fully damped mode.
It does not support bootloader on input plug.
Switching speed is fast.
Both high side and low side are Nfets.
It uses the "Sunrise_HiMulti_40A_.." code.

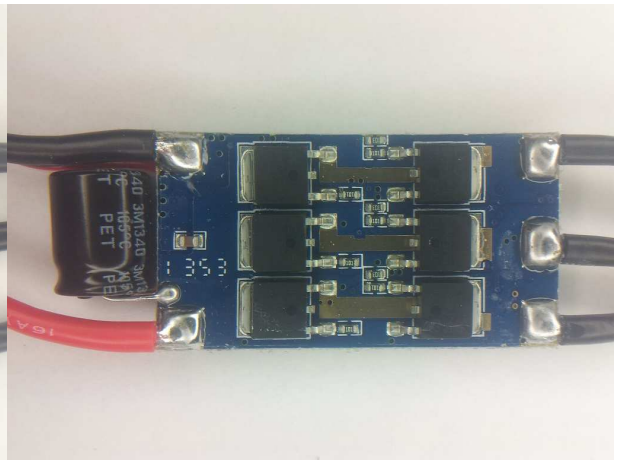
RCTimer HVSK 40A:



The ESC supports 2S to 6S operation.
It supports fully damped mode.
It supports bootloader on input plug.
Switching speed is fast.
Both high side and low side are Nfets.
It uses the "RCTimer_40A_.." code.

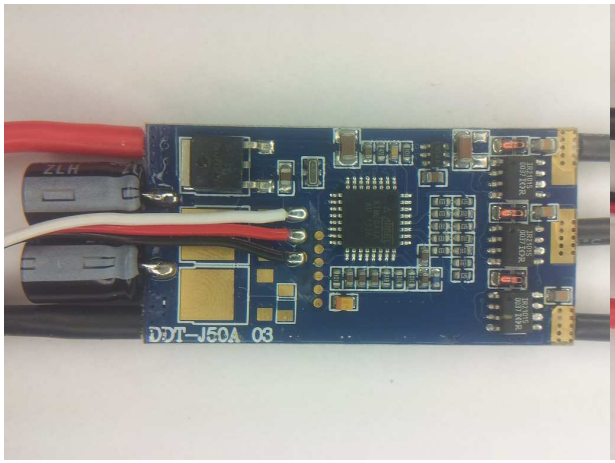
RCTimer NFS 30A:

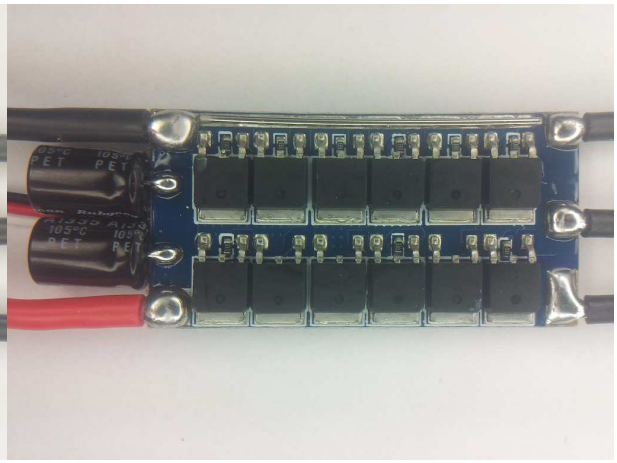




The ESC supports 2S to 4S operation.
It supports fully damped mode.
It supports overtemp protection and bootloader on input plug (ICP1).
Switching speed is fast.
Both high side and low side are Nfets.
At 2S, low voltage limiting does not work reliably.
It uses the "RCTimer_NFS_30A_.." code.

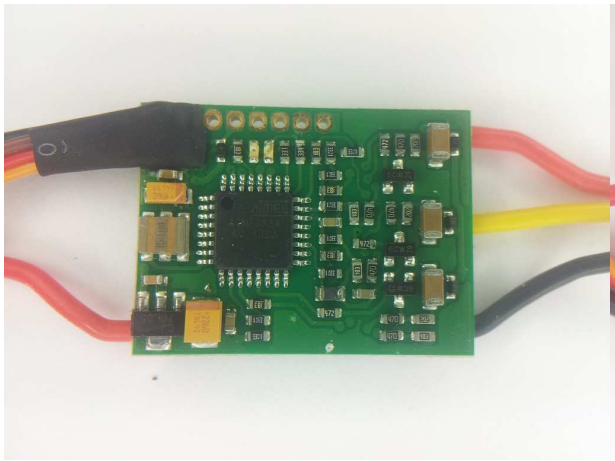
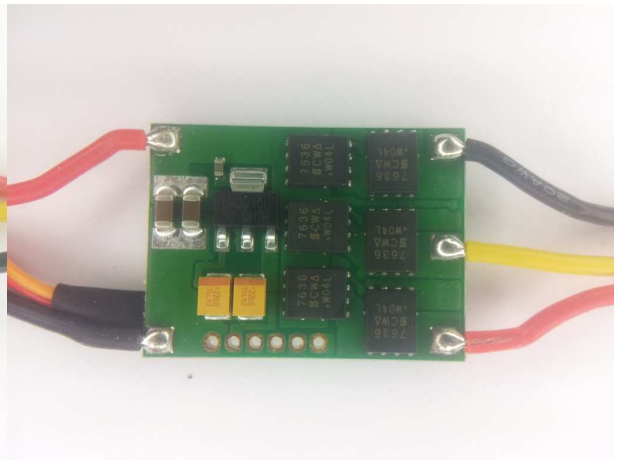
RCTimer NFS 45A:





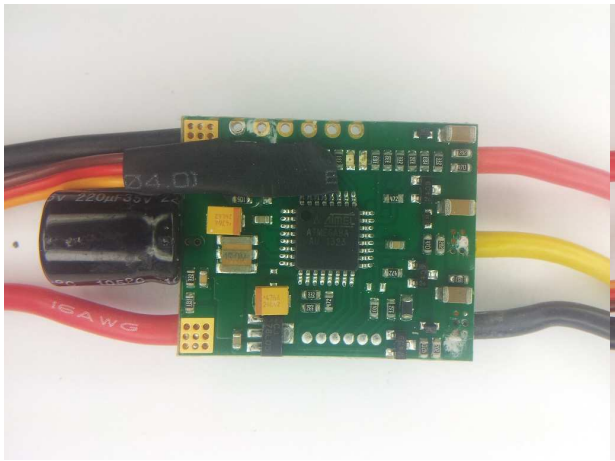
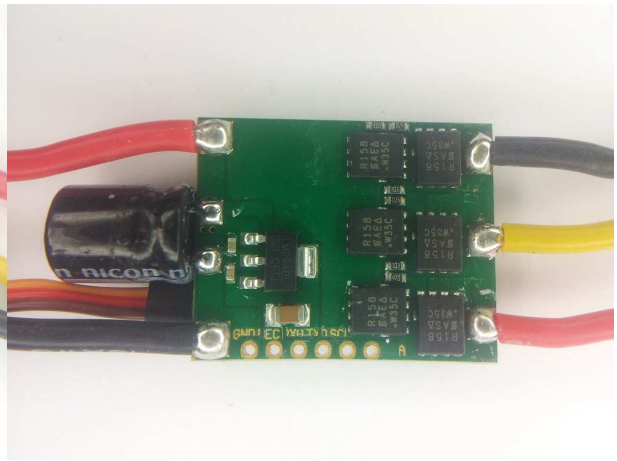
The ESC supports 2S to 6S operation.
It supports fully damped mode.
It supports overtemp protection and bootloader on input plug.
Switching speed is fast.
Both high side and low side are Nfets.
It uses the "RCTimer_40A_.." code.

Afro 12A:

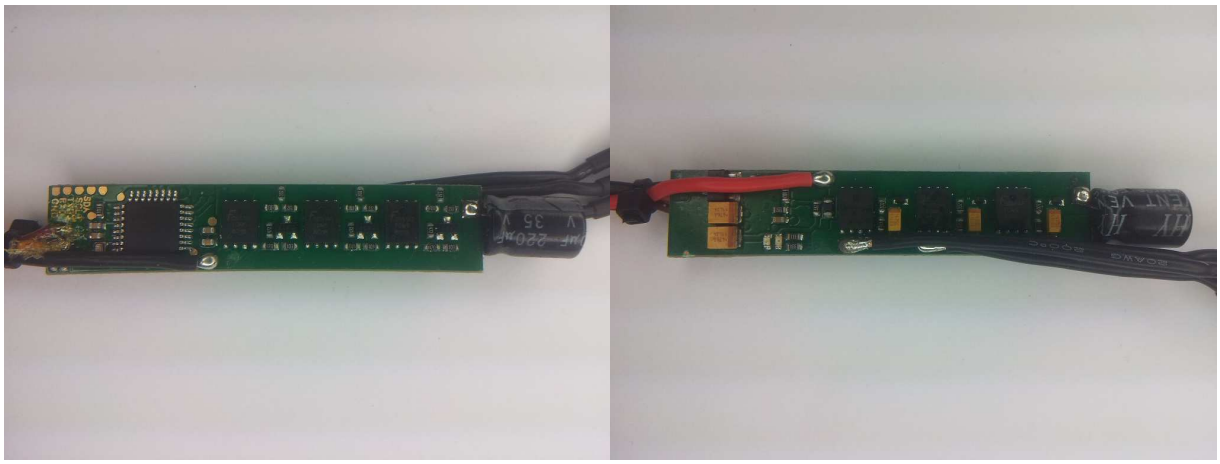
The ESC supports 2S to 3S operation.
It supports fully damped mode.
It supports overtemp protection and bootloader on input plug (ICP1).
Switching speed is quite fast, although high side is slow to turn on.
Both high side and low side are Nfets.
It uses the "Afro_12A_.." code.

Afro 20A:

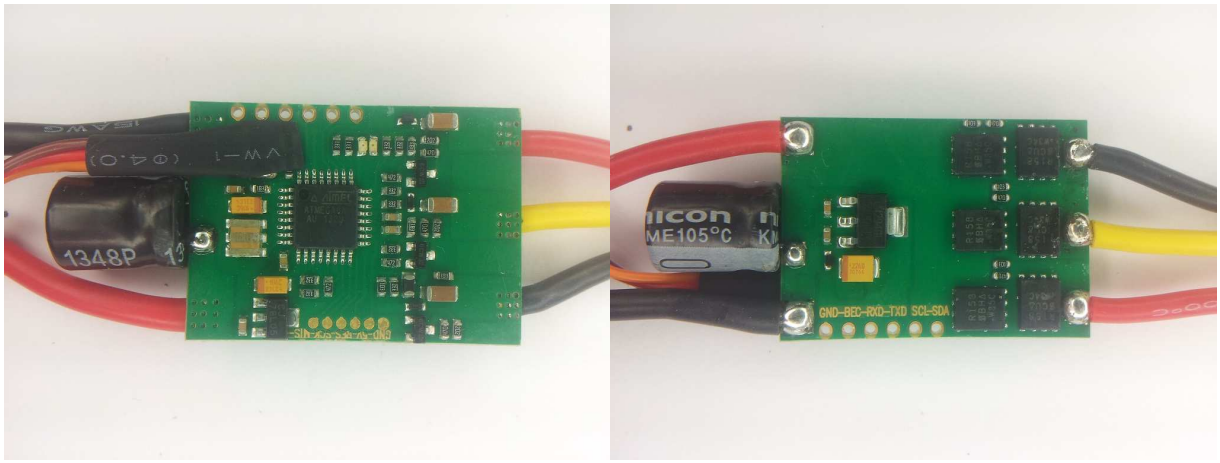
The ESC supports 2S to 4S operation.
It supports fully damped mode.
It supports overtemp protection and bootloader on input plug (ICP1).
Switching speed is quite fast, although high side is slow to turn on.
Both high side and low side are Nfets.
It uses the "Afro_20A_.." code.

Afro slim 20A:



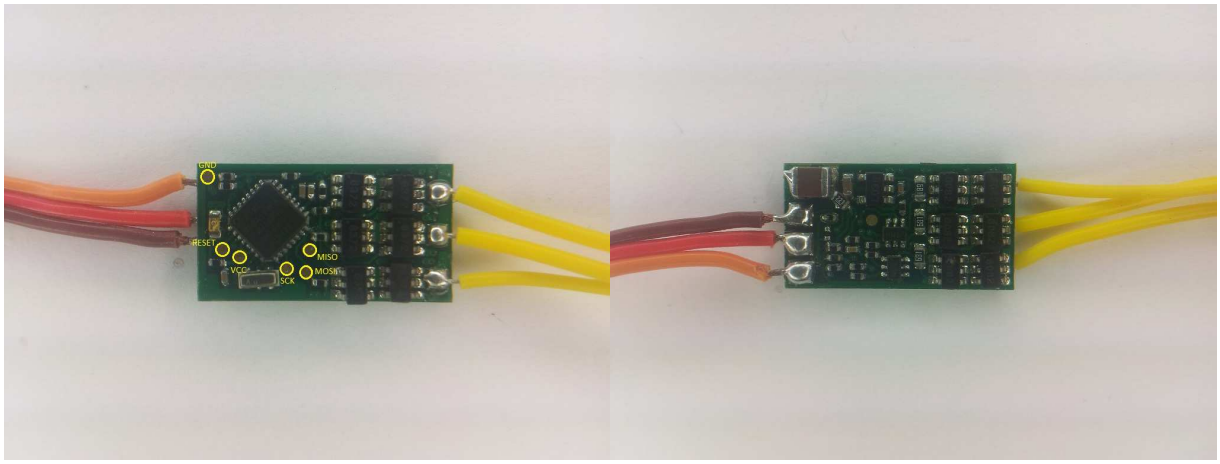
The ESC supports 2S to 4S operation.
It supports fully damped mode.
It supports overtemp protection and bootloader on input plug (ICP1).
Switching speed is quite fast, although high side is slow to turn on.
Both high side and low side are Nfets.
It uses the "Afro_20A_.." code.

Afro 30A:



The ESC supports 2S to 4S operation.
It supports fully damped mode.
It supports overtemp protection and bootloader on input plug (ICP1).
Switching speed is quite fast, although high side is slow to turn on.
Both high side and low side are Nfets.
It uses the "Afro_30A_.." code.

YEP 7A:



The ESC supports 1S to 2S operation.
It supports bootloader on input plug.
Switching speed for high side to turn off is slow.
Low side are Nfets and high side are Pfets.
Fuse bytes are (E/H/L): 0xFC/0xDD/0xFF
It uses the "YEP_7A_.." code.