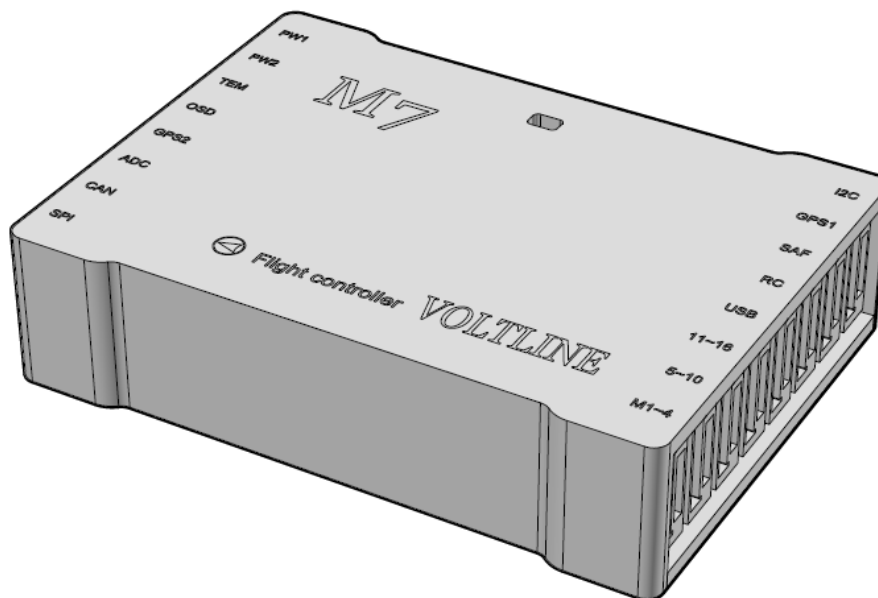


Flight controller Instruction Manual

M7



With better stability and anti-interference, FC is an upgraded version developed by VOLTLINE, the basic hardware is same with pixhawk. applicable with 3DR APM hardware and pixhawk hardware. The manufacturer upgraded the power chip, adding damping to IMU, masking technologies, Sensor, and adjusted the connect ports.

SPECIFICATIONS

MCU: STM32F765 microcontroller

F-RAM: FM25V02-G

Sensors: IST8310, ICM20689, BMI055, ICM-20602

USART1: (TxD, RxD, CTS, RTS) 5V Radio

USART2: (TxD, RxD, CTS, RTS) 5V OSD

USART3: (TxD, RxD) 5V GPS

USART4: (TxD, RxD) 5V GPS

USART5: (Debug Port) 5V

I2C_1, I2C_2

CAN two Port

SPI Port

Micro USB

Analog input(AD)

PWM Port01 ~ PWM Port16

Connector: Radio, GPS, RC-IN, PPM/SBus-IN, RSSI, Safety, SBus-OUT

Serial Wire (SWDIO, SWCLK)

POWER_BRICK1 (VDD, Voltage, Current, GND)

POWER_BRICK2 (VDD, Voltage, Current, GND)

BUZZER/LED Port

Built-in MicroSD card(Log file)

RGB LED: NCP5623BMUTBG

Power supply: 5.3V DC / USB 5V

PCB dimension: 43.5mm*60.8mm

Power

Ideal diode controller with automatic failover

Power1 / 2 efficient control system

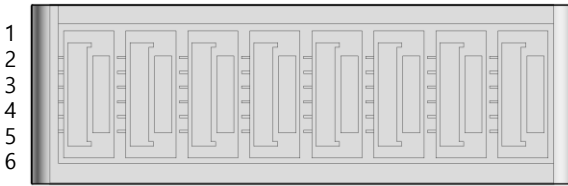
All peripheral outputs over-current protected, all inputs ESC protected.

Connector pin assignments

FRont:

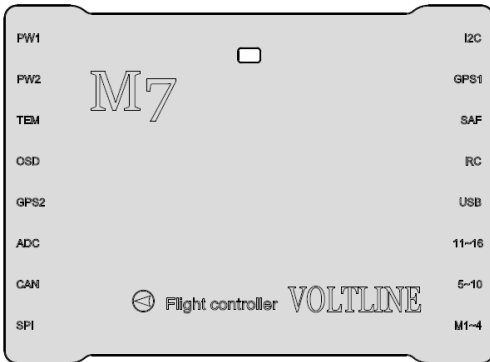
Front

PW1 PW2 TEM OSD GPS2 ADC CAN SPI



PW1(POWER1)	PW2(POWER2)	TEM(SERIAL1)	OSD(SERIAL2)
1) 5.3V (+IN)	1) 5.3V (+IN)	1) 5V (+OUT)	1) 5V (+OUT)
2) 5.3V (+IN)	2) 5.3V (+IN)	2) TX (OUT)	2) TX (OUT)
3) CURRENT_1	3) CURRENT_2	3) RX (IN)	3) RX (IN)
4) VOLTAGE_1	4) VOLTAGE_2	4) CTS (IN)	4) CTS (IN)
5) GND	5) GND	5) RTS (OUT)	5) RTS (OUT)
6) GND	6) GND	6) GND	6) GND

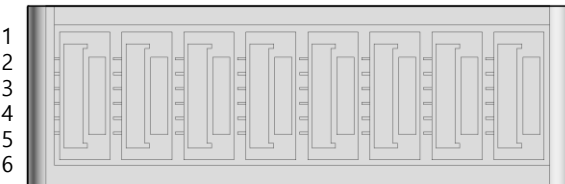
Top



GPS2(SERIAL4)	ADC/SBUS OUT	CAN	SPI
1) 5V (+OUT)	1) 5V (+OUT)	1) 5V (+OUT)	1) 5V (+OUT)
2) TX (OUT)	2) SBUS (OUT)	2) CAN1 (H)	2) SCK
3) RX (IN)	3) NC (ARM)	3) CAN1 (L)	3) MISO
4) I2C_2 (SCL)	4) ADC (3.3V)	4) CAN2 (H)	4) MOSI
5) I2C_2 (SDA)	5) ADC (6.6V)	5) CAN2 (L)	5) CS1
6) GND	6) GND	6) GND	6) GND

Rear

M1~4 5~10 11~16 USB RC SAF GPS1 I2C

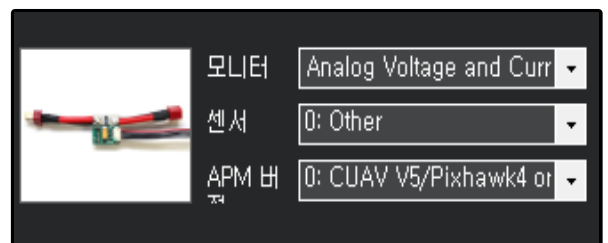
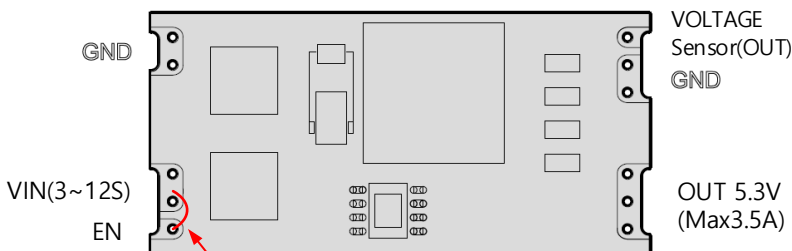


Rear:

CH1~4(ESC)	CH5~10(ESC)	CH11~16(AUX)	USB
1) SERVO (VIN)	1) CH5	1) AUX3	1) USB (+IN)
2) CH1	2) CH6	2) AUX4	2) DM
3) CH2	3) CH7	3) AUX5	3) DP
4) CH3	4) CH8	4) AUX6	4) NC (SWDIO)
5) CH4	5) AUX1	5) AUX7	5) NC (SWCLK)
6) GND	6) AUX2	6) AUX8	6) GND

RC(Radio)	SAF(Safety)	GPS1(SERIAL3)	I2C
1) RC 5V (+OUT)	1) ALARM (+)	1) 5V (+OUT)	1) 5V (+OUT)
2) SBUS_IN	2) 3.3V (OUT)	2) TX (OUT)	2) NC (DebugTX)
3) RC RSSI	3) SAF (LED)	3) RX (IN)	3) NC (DebugRX)
4) 3.3V (OUT)	4) SAF (SWitch)	4) I2C_1 (SCL)	4) I2C (SCL)
5) PPM_IN	5) ALARM (-)	5) I2C_1 (SDA)	5) I2C (SDA)
6) GND	6) GND	6) GND	6) GND

BEC(LDO) Power Block



EN핀을 VIN과 점퍼 연결후 사용하세요.