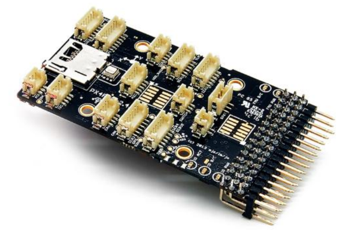
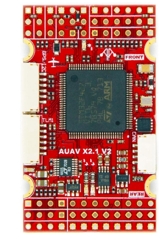
mRo Professional Autopilots Family

Specifications	mRo Control Zero F7	mRo PixRacer R15	mRo Pixhawk	mRo x2.1 Rev 2	mRo x2.1-777
Main Processor	32-bit STM32F777 Cortex M4 core with FPU Rev. 3 216 MHz	32-bit STM32F427 Cortex M4 core with FPU rev.3 168 MHz	32-bit STM32F427 Cortex M4 core with FPU rev.3 168 MHz	32-bit STM32F427 Cortex M4 core with FPU rev.3 168 MHz	32-bit STM32F777 Cortex M4 core with FPU 216 MHz
IO Processor			32-bit STM32F103 failsafe co-processor	32-bit STM32F103 failsafe co-processor	32-bit STM32F103 failsafe co-processor
RAM	512 KB RAM	256 KB RAM	256 KB RAM	256 KB RAM	512 KB RAM
Flash	2 MB FRAM	2 MB FRAM	2 MB FRAM	2 MB FRAM	2 MB FRAM
Crypto / Hash Processor	Yes	No	No	No	Yes
Accelerometers / Gyros / Mags	3 / 3 / 1	2 / 2 / 2	2 / 2 / 1	2 / 2 / 1	2 / 2 / 1
Sensors	Invensense/TDK ICM-20602 (6DOF) Invensense/TDK ICM-20948 (9DOF)	Invensense/TDK ICM-20602 (6DOF) Invensense/TDK MPU-9250 (9DOF)	STMicro L3GD20 3-axis 16-bit (gyro) STMicro LSM303D 3-axis 14-bit (accel & mag) Invensense/TDK MPU-6000 (6DOF)	Invensense/TDK ICM-20602 (6DOF) Invensense/TDK MPU-9250 (9DOF)	Invensense/TDK ICM-20602 (6DOF) Invensense/TDK MPU-9250 (9DOF)
Sensors - Dampened	Bosch BMI088 (6DOF) (internally vibration dampened)	None	None	None	None
Internal Magnetometer	AK09916 inside ICM-20948	AK8963 inside MPU-9250 and ST LIS3MDL	ST Micro LSM303D 3-axis 14-bit (accel & mag)	AK8963 inside MPU-9250	AK8963 inside MPU-9250
Barometer	Infineon DPS310 barometer (Very smooth and NO light sensitivity)	MEAS MS5611	MEAS MS5611	MEAS MS5611	MEAS MS5611
Interfaces and Protocols	6x UART (serial ports) [3x with HW flow control,1x FRSky Telemetry (D or X types), 1x Console & 1x GPS+I2C]. 1x PPM sum input signal 8x PWM outputs (all DShot capable) 1x RSSI (PWM or voltage) input 1x I2C 1x SPI 1x CAN 1x JTAG (TC2030 Connector) 3x Ultra low noise LDO voltage regulator Supported RC input protocols: Spektrum DSM / DSM2 / DSM-X® Satellite compatible input and binding. Futaba S.BUS® & S.BUS2® compatible input. FRSky Telemetry port output. Graupner SUMD. Yuneec ST24.	5x UART (serial ports)[one high-power capable, 2x with HW flow control and GPS+I2C®]. 1x PPM sum input signal 6x PWM outputs 1x RSSI (PWM or voltage) input 1x I2C 1x SPI 1x CAN 1x JTAG (Debuging & programming interface) 8x OneShot PWM output (Configurable) 1x External microUSB port Dronecode Debug connector. WiFi Telemetry & firmware update via ESP8266 (Included). JST-GH connectors using Dronecode connector standard. Supported RC input protocols: Spektrum DSM / DSM2 / DSM-X® Satellite compatible input up to DX9 and above. Futaba S.BUS® & S.BUS2® compatible input. FRSky Telemetry port output. Graupner SUMD. Yuneec ST24.	5x UART (serial ports)[one high-power capable, 2x with HW flow control, 2x CAN] 1x PPM sum signal 14x PWM/servo outputs (8 with failsafe and manual override, 6 auxiliary, high-power compatible) 1x RSSI (PWM or voltage) input 1x I2C 1x SPI 2x CAN 1x External microUSB port Supported RC input protocols: Spektrum DSM / DSM2 / DSM-X® Satellite compatible input up to DX8 (DX9 and above not supported). Futaba S.BUS® compatible input and output. 3.3 and 6.6V ADC inputs.	5x UART (serial ports)[2x with HW flow control, 1x CAN]. 1x PPM sum signal 14x PWM/servo outputs (8 with failsafe and manual override, 6 auxiliary, high-power compatible) 1x RSSI (PWM or voltage) input 1x I2C (Via GPS port) 1x SPI 2x ADC inputs Supported RC input protocols: Spektrum DSM / DSM2 / DSM-X® Satellite compatible input up to DX8 (DX9 and above not supported). Futaba S.BUS® compatible input and output.	5x UART (serial ports)[2x with HW flow control, 1x CAN]. 1x PPM sum signal 14x PWM/servo outputs (8 with failsafe and manual override, 6 auxiliary, high-power compatible) 1x RSSI (PWM or voltage) input 1x I2C (Via GPS port) 1x SPI 2x ADC inputs Supported RC input protocols: Spektrum DSM / DSM2 / DSM-X® Satellite compatible input up to DX8 (DX9 and above not supported). Futaba S.BUS® compatible input and output.
Connectors	-Molex PicoClasp -External MicroUSB	-JST GH series connectors -Servo Header -Onboard MicroUSB -2x5 header (Esp-01)	-DF13 -Servo Header -Onboard MicroUSB	-JST GH series connectors -Servo Header (optional) -External MicroUSB	-JST GH series connectors -Servo Header (optional) -External MicroUSB
Pin Headers	Yes	Yes	Optional	Optional	Optional
Conformal Coating	Yes	Available	Available	Available	Available
Extended Testing and Burn In	Yes	No	No	No	No
Custom Carrier Board Support	Yes (OEM version only)	No	No	Yes	Yes
LED	Yes (Tricolor)	Yes	Yes (Multicolor)	Yes	Yes
Dimensions	Width: 20mm (0.79") Length: 32mm (1.26")	Width: 36mm (1.42") Length: 36mm (1.42")	Width: 50mm (1.96") Length: 81.5mm (3.21")	Width: 30.7mm (1.21") Length: 51.2mm (2.02")	Width: 30.7mm (1.21") Length: 51.2mm (2.02")
Weight	5.3g (.19 oz)	10.54g (.37 oz)	38g (1.31 oz)	15.14g (0.53 oz)	15.14g (0.53 oz)
Mounting Holes	N/A	30mm x 30mm (1.18"x1.18")	30mm x 30mm (1.18"x1.18")	30mm x 30mm (1.18"x1.18")	30mm x 30mm (1.18"x1.18")
Protector Case	Included	Optional	Optional	Optional	Optional
[Quality] and Typical Platforms	**[High-End]** -Multirotor -Rover -Fixed-Wing -Boats -Submarines -VTOL -Automatic Tractors -Others	**[High]** -Multirotor -Rover -Fixed-Wing -Boats -Submarines -VTOL -Automatic Tractors -Others	**[High]** -Multirotor -Rover -Fixed-Wing -Boats -Submarines -VTOL -Automatic Tractors -Others	**[High]** -Multirotor -Rover -Fixed-Wing -Boats -Submarines -VTOL -Automatic Tractors -Others	**[High-Middle]** -Multirotor -Rover -Fixed-Wing -Boats -Submarines -VTOL -Automatic Tractors -Others

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