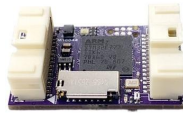




mRo Professional Autopilots Family



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: Spectrum 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 8x PWM outputs 1x RSSI (PWM or voltage) input 1x I2C 1x SPI 1x CAN 1x JTAG (Debugging & 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: Spectrum 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: Spectrum 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: Spectrum 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: Spectrum 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

mRo Professional GPS Family



Specifications	mRo GPS u-Blox Neo-M8N Dual Compass LIS3MDL+ IST8310	mRo GPS u-Blox Neo-M8N / 3DR SOLO (New)	mRo SAM GPS + IST8308 Mag (Full Size) MRO10037	mRo SAM GPS + IST8308 Mag (Medium Size) MRO10038	mRo Location ONE	mRo ZED F9
Ground Plane	40mm x 47mm	40mm x 47mm	40mm x 40mm	31mm x 31mm	50mm x 50mm	70mm x 70mm
Constellations	USA (GPS), Russia(GLONASS) and Europe (Galileo). China can be enable (BeiDou).	USA (GPS), Russia(GLONASS) and Europe (Galileo). China can be enable (BeiDou).	USA (GPS), Russia(GLONASS) and Europe (Galileo). China can be enable (BeiDou).	USA (GPS), Russia(GLONASS) and Europe (Galileo). China can be enable (BeiDou).	USA (GPS), Russia(GLONASS) and Europe (Galileo). China can be enable (BeiDou).	GPS (L1/L2) Glonass (L1/L2) Galileo BeiDou
Compatibility*	LIS3MDL support: both PX4 and Ardupilot IST8310 support: both PX4 and Ardupilot	Designed to for 3DR SOLO drone No compass	IST8308 support: Ardupilot	IST8308 support: Ardupilot	RM-3100 support: both PX4 and Ardupilot	No compass
*See full compatibility chart for supported flightstack versions						
RTK ready	No	No	No	No	No	Yes
USB Port	Yes	Yes	No	No	Yes (Type C)	Yes (Type C)
CAN ready	No	No	No	No	Yes	No
Minimum and Maximum Operating Temperature	-20~80 °C	-20~80 °C	-20~80 °C	-20~80 °C	-20~80 °C	-20~80 °C
LED	Yes	No	Yes	Yes	Yes	Yes
Dimensions	40mm x 47mm x 9.9mm	40mm x 47mm x 9.9mm	40mm x 40mm x 11.5mm	31mm x 31mm x 11.5mm	50mm x 50mm x 7mm	70mm x 70mm x 14mm
Weight	16.60 grams (.586 oz)	16.60 grams (.586 oz)	9 grams (.32 oz)	7.86 grams (.28 oz)	20.26 grams (.71 oz)	59.6 grams (2.1 oz)
Mounting Holes	2.5mm and 5.4mm	2.5mm and 5.4mm	3.2mm	No	3.2mm	3mm
Case	Optional	Not required	Optional	Optional	Optional	Optional
Connectors	-6-Pins JST-GH -Auxiliary Port I2c	-Molex Click-Mate	-6-Pins JST-GH -Auxiliary Port I2c	-6-Pins JST-GH -Auxiliary Port I2c	-2x, 4-Pins JST-GH (CAN) -1x, 4-Pins JST-GH (I2C) -1x, 6-Pins JST-GH (Ublox UART)	-6-Pins JST-GH (Ublox UART + I2C) -6-Pins JST-GH (Ublox UART2)
Includes	1x 6-Pins JST-GH cable		1x mRo uGPS ublox Sam M8Q. 1x 6-Pins JST-GH to 6-Pins JST-GH - MRC0206 1x 6-Pins JST-GH to 6 Separate 2.54mm Females - MRC0202 (For project versatility)	1x mRo uGPS ublox Sam M8Q. 1x 6-Pins JST-GH to 6-Pins JST-GH - MRC0206 1x 6-Pins JST-GH to 6 Separate 2.54mm Females - MRC0202 (For project versatility)	1x mRo Location One 3x 4-Pins JST-GH to 4-Pins JST-GH 1x 6-Pins JST-GH to 6	1x mRo ZED F9 2x 6-Pins JST-GH to 6
[Quality] and Typical Platforms	[High-Middle] -Multirotor -Rover -Fixed-Wing -Boats -VTOL -Automatic Tractors -Others	[High] Drone 3DR SOLO	[High] -Multirotor -Rover -Fixed-Wing -Boats -VTOL -Automatic Tractors -Others	[High] -Multirotor -Rover -Fixed-Wing -Boats -VTOL -Automatic Tractors -Others	[High-End] -Multirotor -Rover -Fixed-Wing -Boats -VTOL -Automatic Tractors -Others	[High-End] -Multirotor -Rover -Fixed-Wing -Boats -VTOL -Automatic Tractors -Others
			*PPS/GND signal pads *Rechargeable battery *Status LED *Standard JST-GH (GPS and I2C) *Standard 30.5mm x 30.5mm mounting holes (1.2" x 1.2")	*Lightest GPS version , 7.86 grams (.28 oz) *PPS/GND signal pads *Rechargeable battery *Status LED *Standard JST-GH (GPS and I2C)	*mRo GPS version that has the best compass system available at the moment for light weight platforms *RGB LED driver (NCP5623) *PPS pad for easy access *On-board safety switch	*Multi-Band: supporting both L1 and L2 bands *Improved frequency selectivity and signal conditioning provided by the on-board LNA's + SAW's for both bands *Onboard Multi-band antenna which makes the integration lightest and easy rather than using external long corded active antennas. *RTK capability for either Rover or Base configuration
Other Features	*RGB LED driver (NCP5623) integrated. *PPS pad for easy access. *On-board safety switch.					