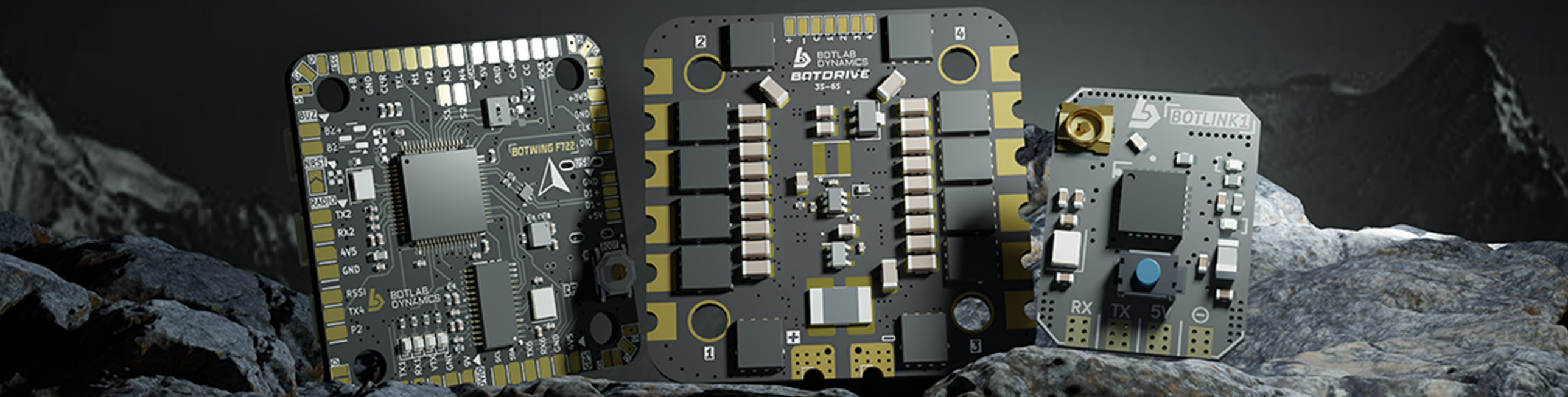
BOTLAB DYNAMICS

BOTLAB STORE



A BOTLAB DYNAMICS VERTICAL

CATALOGUE

About Botlab Dynamics

BotLab Dynamics is a drone technology startup founded at IIT Delhi in 2016. We are a pioneer in drone light shows, defence surveillance drones, and OEM electronic components.

We specialise in drone swarm technology, making spectacles in drone light shows. With a fleet size of more than 15000 drones, we have performed at some of the biggest events in India, like the Beating Retreat Ceremony, IPL, World Cups, Mysore Dasara, Maha Kumbh, and IIFA.

We are the proud holders of 5 Guinness World Records for a single 5,500 drone show at the Amaravati Drone Summit 2024 in Vijayawada. We also held a 3,000 drone show at Mysore Dasara 2025, setting the Guinness World Record for the largest aerial image of a mammal with a tiger formation.

What makes us special is that everything we build is proudly designed and made in India. We have indigenized both the drone hardware and software ourselves, reducing our nation’s dependency on other countries.

Our drones do more than dazzle skies; they map land, deliver supplies, support defense missions, and work together to avoid collisions. This is the future of intelligent flight.

Drone Light Show

Our drone light shows turn the night sky into a dynamic canvas of light and story. Each performance starts with a storyboard and 3D simulation, then unfolds as pixel-perfect formations choreographed to music and narration. From intimate 100-drone displays to 5,000+ drone spectacles, every show is custom-built for the venue and message. We have delivered over 200 shows across India and internationally, illuminating stadiums, city skylines, and heritage sites. Internationally, we have also executed major shows across Africa, including multi-city tours for diverse audiences.

Our work has also been featured at prominent events such as the Beating Retreat Ceremony at Rashtrapati Bhavan, India's Got Talent, the ICC Cricket World Cup, the National Games, and cultural events. We have received extensive media coverage, participated in government showcases, and built lasting partnerships with leading brands, including Tata Motors, Mahindra Lifespaces, Zomato, GE, and Jaquar. The result is clear messaging, memorable moments, and strong organic reach, delivered with high safety and a lighter environmental footprint. Each project reflects our commitment to reliability, creative precision, and cultural impact.

Vayudh

At BotLab Dynamics, innovation is at the heart of national security. We design and build tactical UAVs and nano-drones for defence and security forces. This helps in enhancing India's strength in modern warfare. Vayudh is our advanced nano-drone platform focused on real-time intelligence and surveillance. Compact yet powerful, each drone is equipped with high-resolution cameras, secure communication links, and AI-driven tracking systems. It can be launched in seconds, giving troops instant situational awareness in challenging environments.

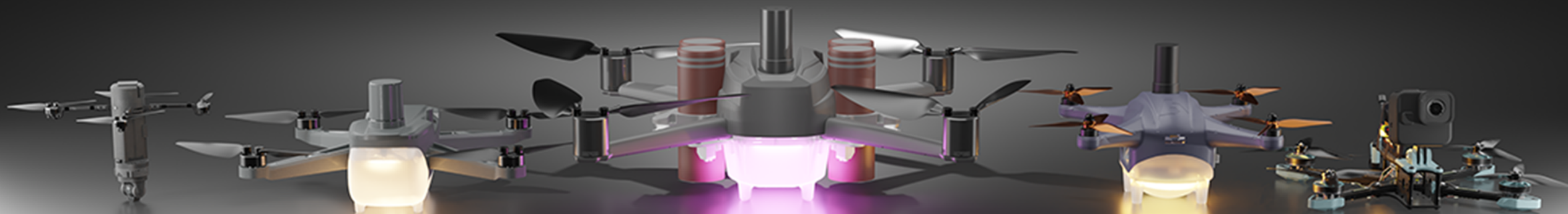
Vayudh drones have successfully mapped complex terrains, supported rescue operations, and provided live intelligence during field exercises. With over 9 years of R&D, we have developed advanced defence drones. Our small Atri drone won an award at IDEX. This success has made us one of India's top technology companies that creates modern security equipment. Tested under extreme conditions, our drones meet global defence standards for reliability and performance.

About BotLab Store

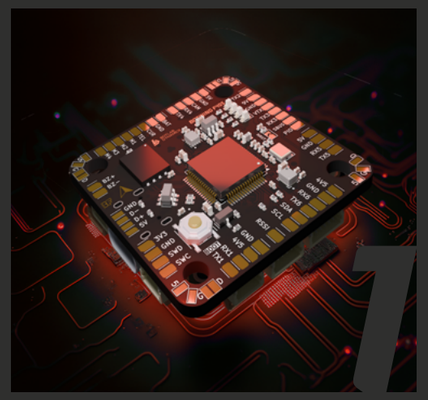
The BotLab Store is a vertical of BotLab Dynamics. We offer high-quality drone components and accessories for FPV racers, DIY drone makers, and research institutions. From flight controllers, ESCs, and ELRS to racewires and LED strips, every part is precision-engineered and Made in India.
The BotLab Store is easily available to hobbyists, students, researchers, and professionals alike. Our drone solutions are affordable and durable.

We also foster learning and innovation through DIY kits, educational tools, training workshops, and resources to help users understand, build, and customise drones. Combining BotLab's R&D with an easy buying experience and Made in India technology, we aim to strengthen India's drone ecosystem, empowering more people to explore unmanned aerial systems.

COMPONENTS INTEGRATION

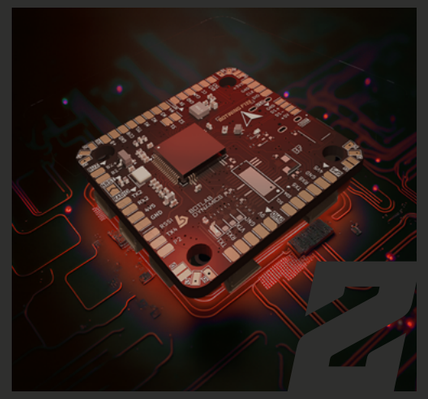


Product Catalogue



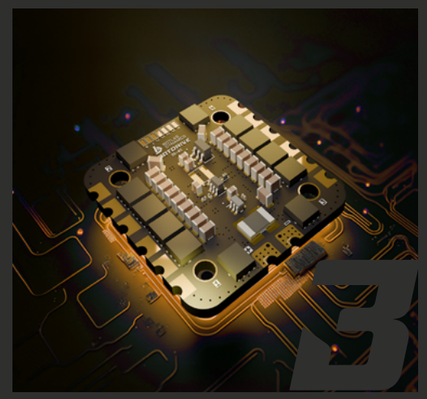
FLIGHT CONTROLLER - F405

Page 05



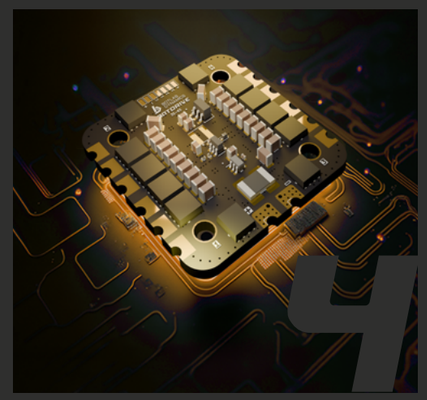
FLIGHT CONTROLLER - F722

Page 06



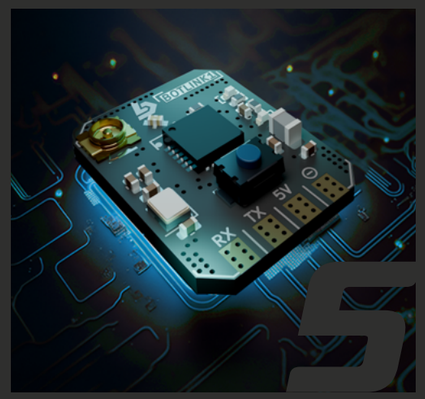
BOTDRIVE - 32 BIT ESC

Page 07



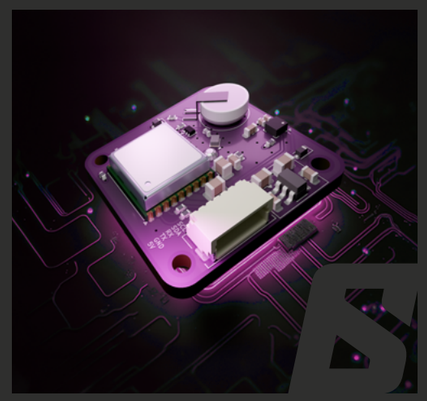
BOTDRIVE - 8 BIT ESC

Page 08



BOTLINK - ELRS

Page 09



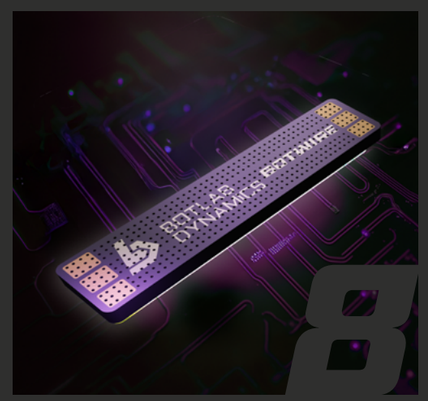
BOTNAVIGATOR - GPS

Page 10



BOTGLOW - LED

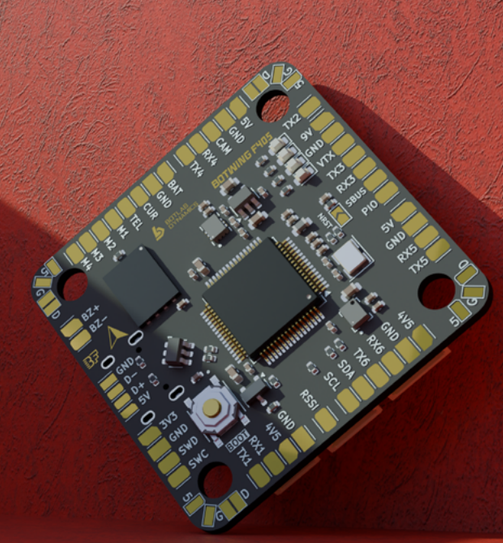
Page 11



BOTWIRE - RACEWIRE

Page 12

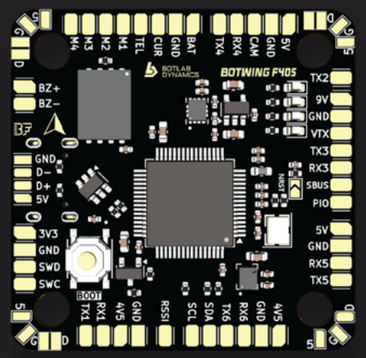
FLIGHT CONTROLLER - F405



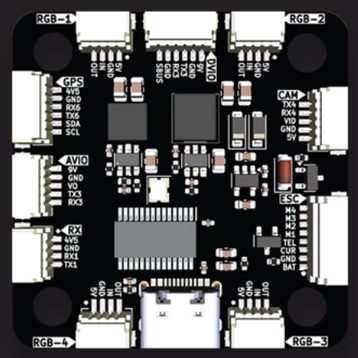
CATEGORY : Flight Controller

VARIANT : STM32F405

DESCRIPTION : The BotWingF405 is a versatile, performance-grade flight controller built for advanced multirotor setups. Featuring support for multiple firmware platforms (Mission Planner, iNav, BetaFlight), it offers seamless control, rich telemetry, and extensive connectivity - all in a compact 40x40mm layout.



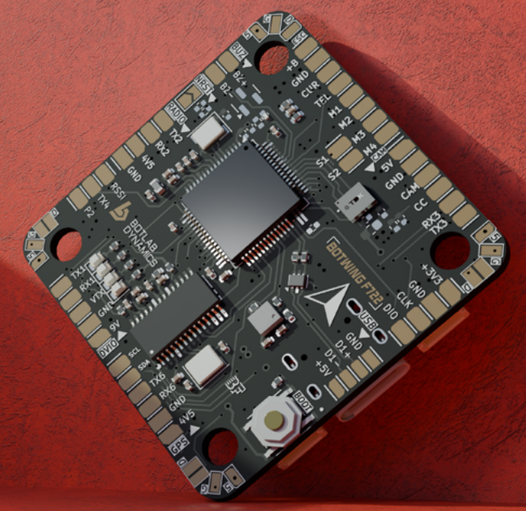
FRONT



BACK

PARAMETERS	DETAILS
Firmware	Mission Planner, iNav, BetaFlight
Firmware Target Name	BOTWINGF405
MicroController (MCU)	STM32F405
Gyro (IMU)	ICM42688P
Motor Outputs	4 Motors
Power Input	2S–6S LiPo
On-Screen Display (OSD)	AT7456E
BlackBox	32 MB Winbond
ESC Telemetry UART	UART2
RSSI Input	Dedicated pad
I2C Support	Yes (SDA & SCL pads)
UARTs	6 Sets (UART1 to UART6)
USB Port	Type-C
Boot Button	Supported (for DFU mode)
LED Strip Pads	5V, GND, DATA (on top side)
Mounting	30.5 × 30.5 mm (4 mm hole)
Dimensions	40 × 40 mm
DJI Plug & Play Support	6-pin port for DJI Air Unit
Power Pads	4x 4.5V, 6x 5V, 1x 9V, 1x 3.3V
Buzzer Pads	BZ+ and BZ– (5V compatible)

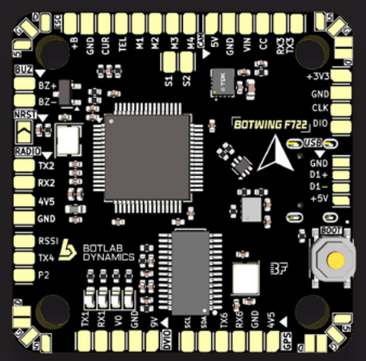
FLIGHT CONTROLLER - F722



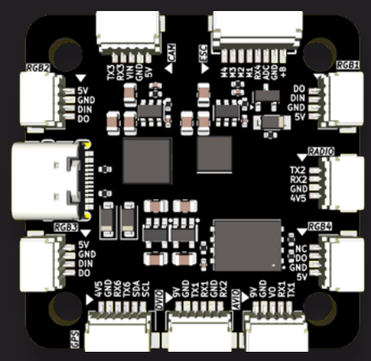
CATEGORY : Flight Controller

VARIANT : STM32F722

DESCRIPTION : With a powerful STM32F722 MCU, support for BetaFlight and iNav, and servo output capability, the BOTWINGF722 is a feature-rich flight controller that offers enhanced control, flexibility, and integration for complex drone builds.



FRONT



BACK

PARAMETERS	DETAILS
Firmware	BetaFlight, iNav
Firmware Target Name	BOTWINGF722
MCU	STM32F722RET6
Gyro (IMU)	ICM42688P
Motor Outputs	4 Motors + 2 Servos
Power Input	2S–6S LiPo
On-Screen Display (OSD)	AT7456E
BlackBox	32 MB Winbond
ESC Telemetry UART	UART4 RX
RSSI Input	Dedicated pad
I2C Support	Yes (SDA & SCL pads)
UARTs	5 Sets: UART1 (VTX), UART2 (Receiver), UART3 (Camera), UART4 RX (ESC Telemetry), UART6 (GPS)
USB Port	Type-C
Boot Button	Supported (for DFU mode)
LED Strip Pads	5V, GND, DATA (on top side)
Mounting	30.5 × 30.5 mm (4 mm hole)
Dimensions	40 × 40 mm
DJI Plug & Play Support	6-pin port for DJI Air Unit
Power Pads	3x 4.5V, 6x 5V, 1x 9V, 1x 3.3V
Buzzer Pads	BZ+ and BZ– (5V compatible)
Camera Control Pad	Present

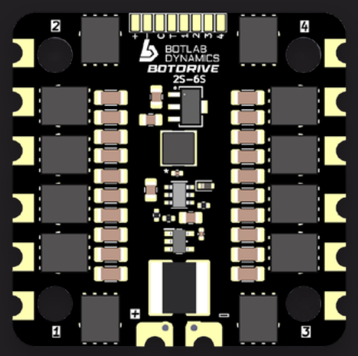


BOTDRIVE
4-IN-1 (32 Bit ESC)

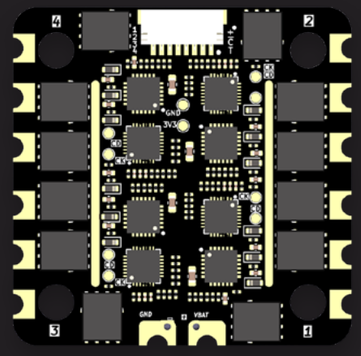
CATEGORY : ESC (Electronic Speed Controller)

VARIANT : 32-bit

DESCRIPTION : A high-performance 4-in-1 ESC for 2S–6S builds, offering 55A continuous output per channel and AM32 firmware support.



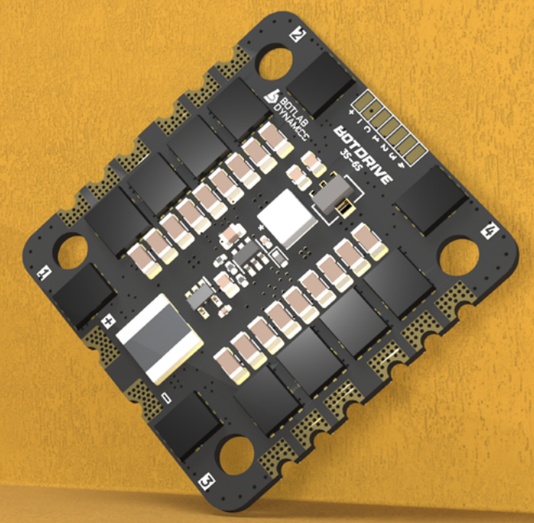
FRONT



BACK

PARAMETERS	DETAILS
MCU	AT32F421G8U7
Mosfet Driver	FD6288Q
Firmware	AM32_AT32PB4_540_F421
ESC_Configurator download link	https://am32.ca/downloads
Continuous Current	55A*4
Burst Current	60A*4
External Capacitor	47uF 35V Low ESR Capacitor
ESC Protocol	DSHOT 300/600,PWM
Telemetry	Supported
Power Input	2S-6S LiPo
Power Output	LiPo
Current Sensor	Supported
Mounting	30.5 x 30.5mm (Hole to Hole)
Dimension	41 x 41 mm (edge to edge)
Mounting hole	M4 (hole diameter- 4.2mm)

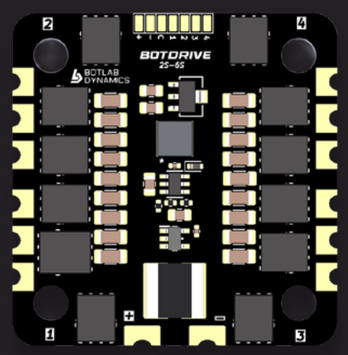
BOTDRIVE - 8 BIT ESC



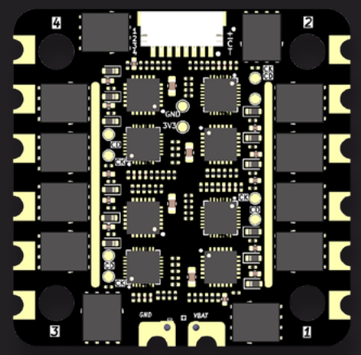
CATEGORY : ESC (Electronic Speed Controller)

VARIANT : 8-bit

DESCRIPTION : The BOTDRIVE 8-Bit 4-in-1 ESC is a compact, power-efficient electronic speed controller. With a 50A continuous and 60A burst current, it supports 2S–6S LiPo power for smooth, precise throttle control.



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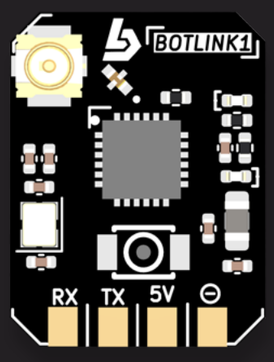
PARAMETERS	DETAILS
MCU	AT32F421G8U7
Mosfet Driver	FD6288Q
Firmware	BLHeli_S_JH50
BLHeli Suite Configurator download link	https://github.com/bitdump/BLHeli
BLHeli Configurator download link	https://github.com/blheli-configurator/blheli-configurator/releases
Continuous Current	50A*4
Burst Current	60A*4
External Capacitor	47uF 35V Low ESR Capacitor
ESC Protocol	DSHOT 300/600,PWM
Power Input	2S-6S LiPo
Power Output	LiPo
Current Sensor	Supported
Mounting	30.5 x 30.5mm(Hole to Hole)
Dimension	41 x 41 mm(edge to edge)
Mounting hole	M4 (hole diameter- 4.2mm)



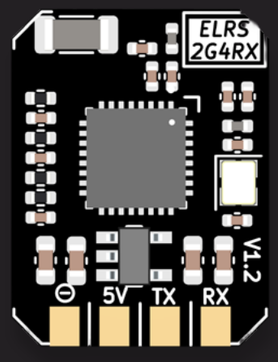
BOTLINK - ELRS 2.4GHz Receiver

CATEGORY : ELRS Receiver

DESCRIPTION : Experience ultra-fast, rock-solid signal locking with the ELRS 2.4GHz Receiver - engineered for pilots who demand reliability and performance at every flight. Built with a powerful ESP32C3 MCU and Semtech Sx1280 transceiver, this receiver ensures you stay connected even in the most challenging

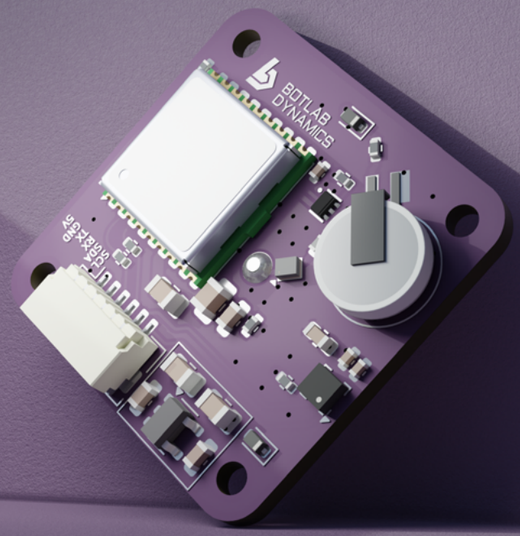


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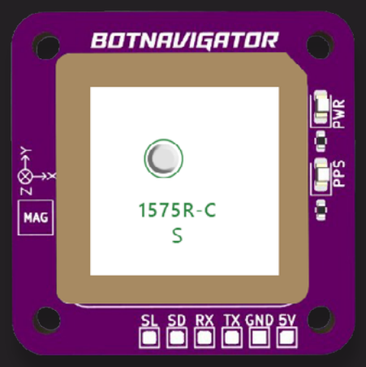
PARAMETERS	DETAILS
Item	BOTLINK1 2.4GHz ExpressLRS
Type	ISM2.4
MCU	ESP32C3
RF Chip	SX1280
Antenna	2.4GHz T Antenna
Frequency Range	2.400 - 2.479GHz
Telemetry Power	10mW
Maximum Packet rate	500Hz/F1000Hz
Minimum Packet refresh rate	25Hz
Working voltage	5V
Weight	1.18 gm (without Antenna)
Dimension	17mm x 13mm x 4mm
Firmware Version	ExpressLRS v3.5.1 pre-installed
FW Target	BOTLINK1 2.4 RX**
Bus interface	CRSF



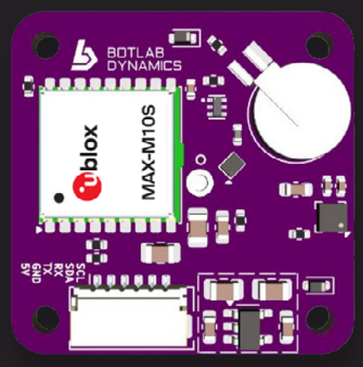
BOTNAVIGATOR - GPS

CATEGORY : GPS

DESCRIPTION : BotNavigator GPS V1 is a compact, high-precision GPS module powered by the u-blox M10 chip. With multi-constellation support, fast signal lock, and built-in compass, it ensures accurate, reliable navigation for drones in missions, mapping, and autonomous flights.



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PARAMETERS	DETAILS
Dimensions	25mm x 25mm
Item Type	GPS Module
Chipset	u-blox M10
Input Voltage	3.3V - 5V
Output Protocol	UART (ublox), I2C (compass)
Receiving Frequency	GPS L1, GLONASS L1, BDS B1, GALILEO E1, SBAS (enabled), QZSS L1
Baud rate	115200 bps
Compass	LIS3 MDLTR
Antenna	Ceramic antenna
Weight	8 gm

BOTGLOW - LED

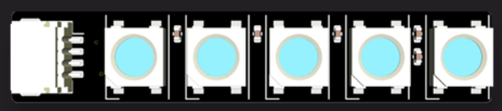


CATEGORY : LED Accessories

DESCRIPTION : BotGlow is a compact, lightweight LED strip designed for drones, featuring 5 high-intensity WS2812B LEDs. With seamless 5V integration, it enhances visibility and adds dynamic lighting to your build.



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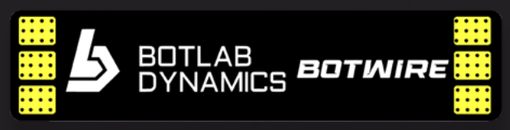
PARAMETERS	DETAILS
Product Name	BOTGLOW
Dimensions	42mm × 8mm × 4.15mm
LED Count	5
LED Type	WS2812B
Input Voltage	5V
Weight	1.13 gm

BOTWIRE - RACEWIRE



CATEGORY : Power Accessories

DESCRIPTION : BotWire is a durable and lightweight racewire that ensures clean, secure motor signal connections. Ideal for simplifying motor swaps and minimizing wire clutter on custom drone builds.



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PARAMETERS	DETAILS
Product Name	BOTWIRE
Dimensions	40mm × 9mm
Weight	1.26 gm

BOTLAB STORE

BUILT TO FLY HIGH

Contact Us

For bulk orders, customization, or support, reach out:

Email: support.store@botlabdynamics.com
Website: www.botlabdynamics.store
WhatsApp/Phone: +91 9560111561

To book a Drone Light Show

Email: business@botlabdynamics.com
Website: https://www.botlabdynamics.com
WhatsApp/Phone: +91 9205492800