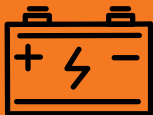


micro**DRIVE** | LPi



15 - 60V
4S - 14S



60A



Trapezoidal and FOCAL

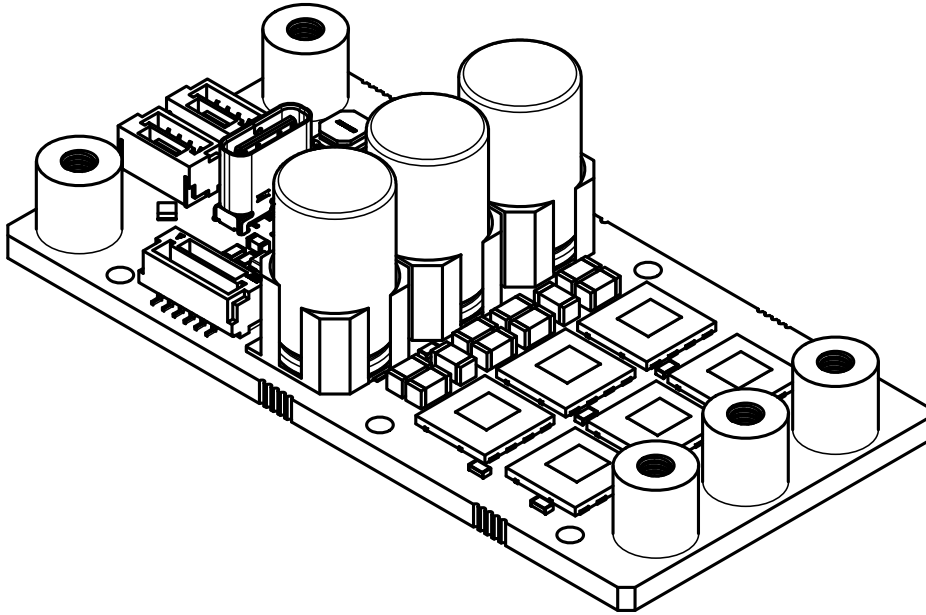


DroneCAN
DShot, PWM



45g

microDRIVE | LPi



Electrical

Parameter (Unit)	Value	Notes
Nominal Power Supply Voltage (V)	15 – 60 (4S – 14S)	The recommended operating range for the units.
Absolute Power Supply Voltage (V)	12 – 63	Breach will result in unexpected shutdowns or failures.
Rated Phase Current (A)	60	Indefinitely, appropriately cooled.
Peak Phase Current (A)	120	10-second burst.
Voltage Measurement Accuracy (%)	± 5	Input measurement accuracy across the full-scale range.
Current Measurement Accuracy (%)	± 5	Input measurement accuracy across the full-scale range.
Decoupling Capacitance (µF)	550	Integrated capacitor bank for up to 3m of input lead length.
Regenerative Braking	✓	Configurable operation.
Max Regenerative Current (A)	60	Indefinitely, appropriately cooled.
Motor Temperature Sensing	✓	NTC or PTC supported, software configurable.
Isolated Serial Input and Output	✓	DShot/PWM are isolated, including telemetry.
Data Logging	✓	Configurable rate, automatic circular logging.
Hardware Self Tests	✓	Unit will test bridge hardware on power up.
Bi-Directional Drive	✓	Throttle can be mapped to cover reverse and forward rotation.

Performance

Parameter (Unit)	Value	Notes
Min. Switching Frequency (kHz)	4	Automatic switching, configurable range.
Max. Switching Frequency (kHz)	64	Automatic switching, configurable range.
Commutation Types	Trapezoidal and FOCAL	Configurable motor control algorithm.
Efficiency	Up to 99%	Maximum achievable efficiency.
Maximum RPM Trapezoidal	500,000	2-pole motor speed.
Maximum RPM (FOCAL)	200,000	2-pole motor speed.
Self-Correcting Memory	✓	Use of onboard backups and ECC memory.
Protection Mechanisms	✓	Temperature (Bridge & Motor), Current, Voltage, Demagnetisation, RPM.
Propeller Parking	✓	Supports active parking with external hall sensor.

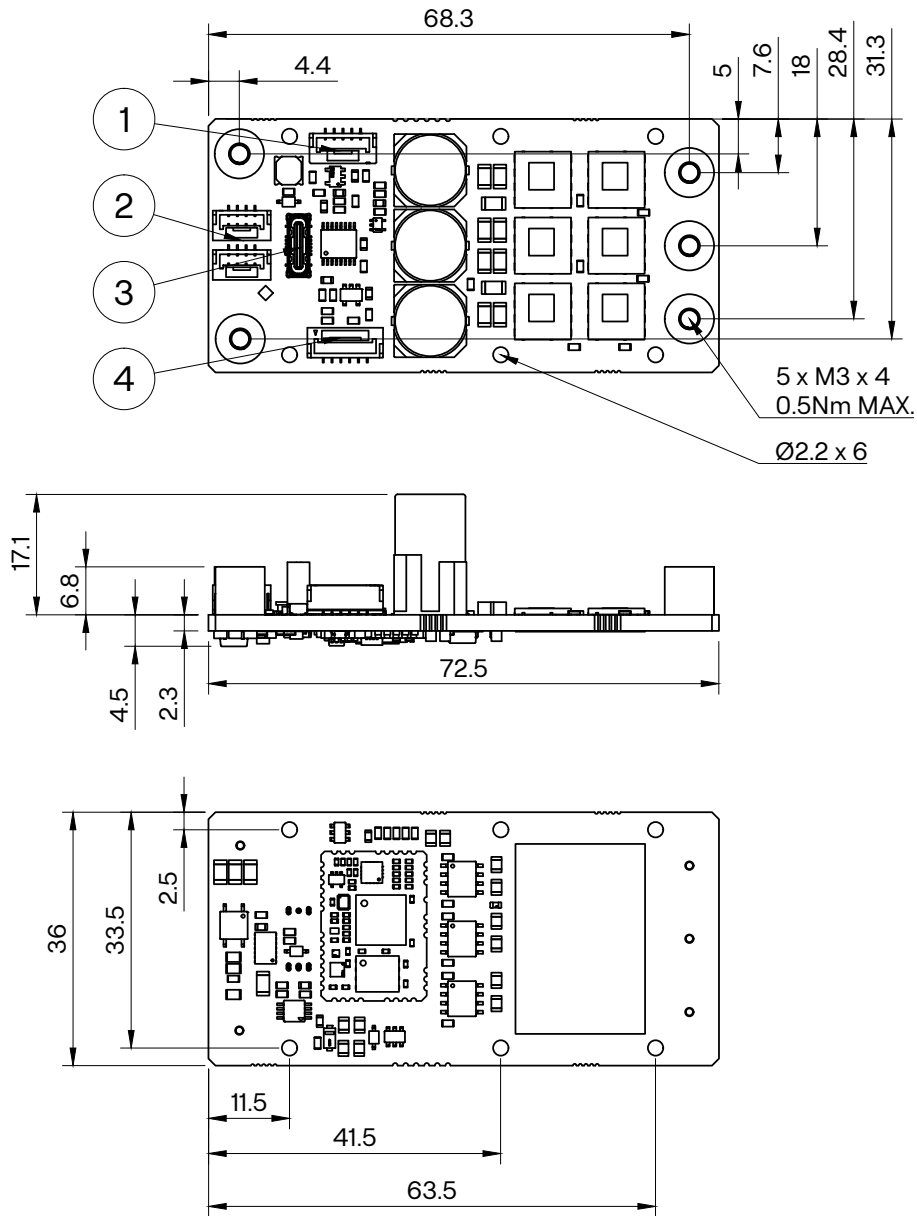
Communication

Parameter (Unit)	Value	Notes
CAN Bus Support	DroneCAN	-
CAN Bus Termination	✓	Software-controlled termination resistor.
Telemetry	✓	CAN, Serial and analog telemetry supported.
Firmware Updates	✓	USB and CAN interfaces are supported.
DShot Support	DShot150 – DShot600	Standard and Bi-Directional DShot supported.
Servo PWM Support	✓	50-499 Hz input frequencies supported.
Input Resolution	10-bit	Resolution on DShot and PWM input signals.

Physical

Parameter (Unit)	Value	Notes
Weight (g)	45	Including threaded terminals.
Operating Temperature (°C)	-20 – 110	Continuous operation above 85°C may reduce unit lifetime.
RGB Indication LED	✓	-
Configuration Tool	✓	USB or CAN accessible configuration.
NDAA Compliance	Optional	Options are available on short lead times.
Country of Origin	Australia	-

Drawing



Connectors

#	Connector	Function	Notes
1	JST BM05B-GHS-TBT(LF)(SN)	Serial	DShot + Telemetry
2	JST BM04B-GHS-TBT(LF)(SN) x 2	CAN	
3	USB Type-C®	PC Connection	For configuration and log access.
4	BM06B-GHS-TBT(LF)(SN)	Motor Signal	Motor Hall Effect Sensors and NTC.
	Würth Elektronik 7466103 x 5	Power Connectors	M3 Threads. Also available as solder pads.