

# PRV Electronic Speed Controller Series

The PRV series electronic speed controller for brushless DC motor (BLDC) or permanent-magnet synchronous motors (PMSM) offer best in class energy efficiency and fast control response in compact form-factor. These controllers utilize latest generation Top-side cooled MOSFET. The packaging efficiently removes heat from drain of MOSFET to heat-sink and keep them cool for long duration of flight operation thus significantly increasing efficiency and lifetime of controller.

## Key Features

- Optimized performance with Max torque per Amp.
- State-of-art 32-bit DSP chip, Option to choose lock-step architecture for added safety.
- Compact size with best-in-class power density & Power Efficiency >97%
- Dual channel CAN & PWM throttle support.
- Fast dynamic response to maintain stable operation during sudden air-turbulence and gusts.
- Compatible with various flight-control systems supporting maximum frequency till 600 Hz
- Option to choose Synchronous Rectification PWM for duty cycle linearity and regenerative braking during deceleration for quick stops
- Smart Temperature foldback scheme
- Ease of Tuning of Motor Parameter- Direction, Throttle Pulse-width setting, Over-Temperature Cut-off limits, Enable/Disable Sync-rect-PWM, Switching Frequency.
- Over-current, Stall-Detection, Open-wire faults, throttle failure Faults.



Controller P/N	PRV-016-100-TC	PRV-007-100-TC	PRV-021-030-TC
Control Mechanism	Sensor-less BLDC Trapezoidal control		
Input Voltage Range	36Vdc -100Vdc (12S – 24S NMC)		12Vdc-30Vdc (3S-6S NMC)
Battery current - DC	Peak: 300 A (10 s) Rated:240 A Continuous	Peak: 100 A (10 s) Rated: 40 A Continuous	Peak: 70 A (10 s) Rated:40 A Continuous
Working Pulse Width Range	900-2100µs		
CAN & PWM	Isolated	Non-Isolated	
PVM frequency	10-20KHz (configurable)		
Fundamental Electric Frequency range	0 – 2100 Hz		
Efficiency	>97%		
Storage Ambient Temperature	-40 °C to 125 °C		
Operating Ambient Temperature	-30 °C to +60 °C		
Weight	870g	360g	45g
Dimension (L x W x H) in mm	70 x 155 x 49	107 x 50 x 26	22 x 73 x 11
BEC	12 V/100 mA Isolated: 5Volt/20 mA	NA	NA
Ingress Protection	IP65	IP65	IP54

## Related Motors

### Key Features

- Compact size with industry-leading power density
- Delivers full rated power in extreme ambient conditions using high-grade materials
- High efficiency across the operating range

### Models

- PRV-040-400
- PRV-016-100LA (Low altitude)
- PRV-016-100HA (High altitude)
- PRV-007-100LA (Low altitude)
- PRV-007-100HA (High altitude)
- PRV-007-52
- PRV-002-44



*Note: The technical data present in this document is for information purpose only and is subject to change without prior notice. Should you require more information, please reach us at [info@zepcotek.com](mailto:info@zepcotek.com)*