

PRV Series Controllers PRV-016-100-VC, PRV-007-100-VC

Overview:

The PRV series motor 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 remove 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.
- Compact size with best-in-class power density
- Fast dynamic response to change in PWM input to maintain stable operation during sudden air-turbulence and gusts during flight operation
- Active regenerative braking during deceleration for quick stop
- Smart Limp-Home Temperature foldback scheme above 85degC Heat-sink temperature & Over-Temperature Protection above 100degC Heat-sink Temperature
- CAN 2.0 Compliant to communicate with flight controllers



Controller P/N	PRV-016-100-TC	PRV-007-100-VC
Control mechanism ¹	BLDC Trapezoidal control	Vector Sine control
Rotor position sensing	Sensor-less	Sensor-less
Input voltage range	36V ~ 90V (12S – 28S LFP)	36V ~ 90V (12S – 28S LFP)
Battery current - DC	50A	160A
PVM frequency	10-20KHz (configurable)	10-20KHz (configurable)
Fundamental Frequency range	0 – 2000Hz	0 – 2000Hz
Efficiency	>95%	>95%

Propelling up and ahead

Storage ambient temperature	-40°C to +75°C	-40°C to +75°C
Operating ambient temperature	-30°C to +60°C	-30°C to +60°C
Ingress protection	IP54	IP54
Weight	650gm	375gm
Thermal cutback	Controller linearly derate maximum current limit when baseplate temperature rises from 80 to 90°C. Thermal cutback occurs above 90°C and below -30°C	Controller linearly derate maximum current limit when baseplate temperature rises from 80 to 90°C. Thermal cutback occurs above 90°C and below -30°C
Dimension (W x L x H)	155mm x 70mm x 49mm	50mm x 107mm x 26mm

¹Optional BLDC Trapezoidal control version is also available. Contact us for more details.

Related products:

Our **PRV** series high-performance, compact sized, light-weight drone motors as below:

- 1 PRV-040-400
- 2 PRV-016-100LA (Low altitude)
- 3 PRV-016-100HA (High altitude)
- 4 PRV-007-100LA (Low altitude)
- 5 PRV-007-100HA (High altitude)
- 6 PRV-007-52
- 7 PRV-002-44



Other products:

Our **KSH** series high-performance, high torque, heavy duty EV motors as below:

- 1 KSH-012-060
- 2 KSH-012-072
- 3 KSH-012-096
- 4 KSH-012-384



Propelling up and ahead

Our **KSH** series energy efficient, compact form-factored, best in class EV controllers as below:

- 1 KSH-012-048-VC
- 2 KSH-012-072-VC
- 3 KSH-012-096-VC

