

# BP-721000

## HIGH PERFORMANCE MOTOR CONTROLLER

Precision engineering for next-generation electric  
mobility systems.



**45kw**

**1000A**

MOTOR CURRENT

**500A**

BATTERY CURRENT

**36-92V**

OPERATING VOLTAGE

## Detailed Technical Specifications

### ELECTRICAL

Operating Voltage	36–92V
Battery Current	500A
Motor Current	1000A
Burst	1600 A
Efficiency	96.71%

### COMMUNICATION

Primary Interface	UART/CAN
Max Encoder Resolution	8192

### INTERFACE

Analog Inputs	4
Digital Inputs	9
Digital Outputs	2
12V Supply	1 (300mA)
Power Terminals	M6

### ENVIRONMENTAL & MECHANICAL

Temperature Range	–10°C to 85°C
IP Rating	IP67
Dimensions	242 × 123 × 60 mm
Weight	3.1 kg
Cooling	Air Cooled

### FUNCTIONAL

Temp Sensors	NTC/PTC/KTY
Position Sensor	Hall Sensor, SIN-COS-ABI Encoder with PWM
Operation Modes	Sensored / Sensorless
Switching Freq	8–12.5 kHz

### COMMUNICATION

AIS 004	Compatible
ISO & CE	Approved

## Core Features Overview

 Four Quadrant Operation

 Multiple Speed Modes

 Variable Regen Braking

 Cruise Control

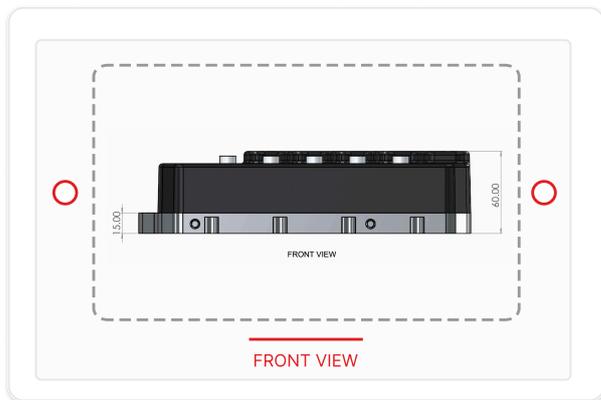
 Traction Control

 Hill Assist

 Overcurrent Protection

 Smart Thermal Management

## Technical Diagrams



# BP-721000

## Applications



### Electric Two-Wheeler

Smooth torque delivery & high efficiency for daily commuting.



### Full-size Dirt Bike

High-torque control for off-road riding and extreme terrain.



### ATV / Industrial

Robust design for extreme conditions and high-power applications.

## Detailed Features & Protection

### Four Quadrant Operation

Provides seamless forward/reverse control with precision dynamic braking, allowing for sophisticated motion profiles in complex applications.

### Multiple Speed Modes

Configurable performance modes for efficiency, sport, or utility use. Switch between profiles dynamically based on application state.

### Variable Regenerative Braking

Improves battery range and enhances braking stability by recovering energy during deceleration, fully adjustable via software.

### What's Included in the Box

Each smx drives motor controller package includes:

#### Pre-assembled Wiring Harness

- Plug-and-play wiring harness for quick and secure installation.

#### Controller Mounting Bracket (optional)

- Heavy-duty mounting bracket for stable and vibration-resistant fitment.

### Traction Control

Prevents wheel slip by monitoring RPM acceleration, ensuring safe operation on wet, loose, or uneven surfaces.

### Hill Assist

Supports vehicle stability on steep inclines by applying hold torque when stopped, preventing rollback.

### Cruise Control

Maintains constant speed with minimal driver input, ideal for long-distance transport and highway applications.

### Mobile App Support

Real-time monitoring and control through a dedicated mobile app, including parameter settings, mode switching.



ADVANCED MOTOR CONTROL SOLUTIONS

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