

MST Series

MST 80-240 K

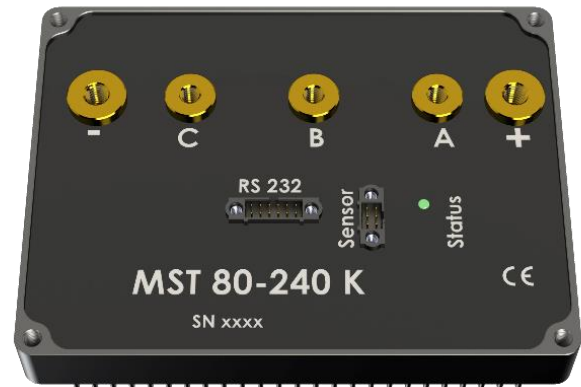
Electronic speed controller for BLDC motors

Overview

The MST 80-240 K is a compact and rugged ESC designed for up to 80 V and 240 A, ideal for demanding applications in aerospace, robotics, and racing. Optimized for our NOVA 4 and 15 motors. Developed and manufactured in Germany.

Features

- Super robust housing for applications in the harshest environments
- Available as integrated solution for our NOVA 15 motor
- Favorable power-to-weight ratio
- Specifically designed for our high pole motor design
- Combined with our motors, the highest system efficiency can be achieved



Specifications

Hardware P/N ⁽¹⁾	10-019-000-001-01
Peak output power	32 kW
Peak current (max. 2s)	400 A
Continuous output power ⁽²⁾	19.2 kW
Continuous output current ⁽²⁾	240 A
Power dissipation at 240 A	55 W
Electric RPM limit	240,000 rpm
Voltage range	10-80 V
Length	123 mm
Width	92 mm
Height	25 mm
Weight	525 g
Recommended Phase cable length	100 cm
Recommended conductor diameter (phase/battery)	10 mm ² 7 AWG
Protection class	IP40
Cooling	Air cooled
Recommended air flow	3 m/s
Heatsink	4.5 °C/W 1.3 °C/W (at 3 m/s air flow)
Ambient temperature range	-20 to +100 °C
Max. temperature of ESC (as measured by sensor)	+110 °C
Position sensor input	Hall effect sensor with UVW-commutation signals
Temperature sensor	Integrated NTC

Notes:

- (1) Please always provide the hardware and software part numbers (P/N) while ordering. This is required to uniquely identify the product.
- (2) Rated at 25 °C ambient temperature. Performance declines at elevated temperatures. A minimum airflow of 3 m/s is required.

Control Interfaces

RS232	115,200 Baud / 8N1
Analog (optional)	0 – 5 V
Software P/N ⁽¹⁾ : 59-10000038	
PWM (optional)	High level: 1.5 - 28V Low level : 0 - 0.5 V
Software P/N ⁽¹⁾ : 59-10000039	10 – 400 Hz
CAN (optional)	CAN2.0
Software P/N ⁽¹⁾ : 59-10000040	

Connection Interfaces

Motor phases (A, B and C)	screw terminal M5
Battery poles	screw terminal M6
RS 232 / analog / digital / CAN	Harwin 12-pole (M80-5101242)
Motor sensor	Harwin 6-pole (M80-5101242)
Compatible with 47 kΩ NTC motor temperature sensors	

Complementary Products

- Plettenberg COTS Motors:
 - NOVA 4-50-BXX P20 LW
 - NOVA 15-25-BXX P30 LW
 - NOVA 15-30-BXX P30 LW
 - NOVA 15-40-BXX P30 LW
 - NOVA 15-50-BXX P30 LW
 - NOVA 15-50-BXX P30 WK
 - NOVA 15-70-B6 P30 LW
 - NOVA 15-70-A2 P30 LW

Options & Customization

- Available as integrated solution for our NOVA 15 motor
- Tailored software features upon request
- MTBF/S report



Electronic Speed Controller for BLDC Motor	
Continuous power max.	19.2 kW (at 3 m/s air flow)
Electric RPM limit	240,000 1/min
Voltage range	10 - 80 V
Current max.	400 A (max 2 sec.)
Current cont.	240 A (at 25°C ambient temperature)
Interfaces	RS232 plus either CAN bus 2.0 or PWM or analog
Cooling	Air cooled
Protection class	IP40 (higher class possible)

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all dimensions are in mm	Weight approx. 525 g
MST 80-240 K	
Summary Datasheet	
A3	

