



High Current Emergency Stop Switch

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Orion Robotics Presents

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OVERVIEW

ORION Robotics new product, the High Current Emergency Switch, is a critical component designed for modern technology systems. As an integral part of any robust and safe system, it serves as a protective device designed to handle high current applications, ensuring the safety and integrity of your projects.

1.1 Purpose

The primary purpose of this switch is to provide a means of rapidly disconnecting the power in emergency situations. It is designed to interrupt high currents without damage, protecting both the system and its operator.

1.2 Functionality

With its small size and high current capacity, the switch provides exceptional reliability in high-load situations, ensuring a rapid response for cutting off power during emergencies. The switch operates without causing voltage drops or overheating.

1.3 Benefits

- **Safety:** The switch enhances the safety of your system by providing a quick and reliable method of cutting off high currents during emergencies.
- **Durability:** Designed to handle high currents, the switch is robust and durable, capable of withstanding resistance of less than 5 milliohms.
- **Ease of Use:** The High Current Emergency Switch is designed with the user in mind. Its easy to mount, either by using M3 screws or by fitting into place, make it easy to integrate into various systems.
- **Reliability:** With its high-quality design and construction, this switch guarantees reliability and longevity, even in challenging conditions. It operates without causing voltage drops or overheating.

SPECIFICATIONS

Specification	Symbol	Conditions	Ratings/Unit
Operating Voltage	V _{op}	Ambient Temp 25°C	50V AC/DC
Maximum Current	I _{max}	Ambient Temp 25°C	150A
Insulation Resistance	R _{ins}	DC 500V	100MΩ min
Contact Resistance	R _{con}	DC 0.5-1V, 100A	5mΩ max
Electrical Life	t _{life}	Load: 50A, 250V AC	10,000 cycles
Mechanical Life	t _{mech}	No Load	100,000 cycles
Operating Force	F _{op}	•	8N~20N
Operating Temperature	T _{op}	•	-20°C~+85°C
Storage Temperature	T _{sto}	•	-30°C~+85°C
Relative Humidity	RH	•	5%-85%
Vibration Resistance	a _{vib}	10Hz~500Hz, 0.75mm amplitude	10G
Protection Rating	IP	•	IP44

DESIGN AND DIMENSIONS

3.1 Design

The High Current Emergency Stop Switch boasts a simple and compact design, making it suitable for a wide range of electronic applications. It has been designed to be robust, reliable, and capable of handling high current loads in a variety of conditions without loss of input voltage.

The switch features a linear rail system, ensuring durability and longevity.

3.2 Dimensions

The High Current Emergency Switch measures 43mm in length, 43mm in width, and 59mm in height. This compact size allows it to be easily incorporated into a variety of systems without taking up much space.

The switch weighs less than 50 grams, making it lightweight yet sturdy. The quick and easy connection facilitated by the M3 connectors, along with the ability to directly fit into the appropriate hole, further contribute to its versatility and ease of use.

3.3 Mounting

The switch can be mounted using the M3 connectors, providing a quick and easy installation process. This design allows for secure attachment to your robotic system. Furthermore, the switch can be directly fitted into the appropriate hole, enhancing its mounting flexibility and ensuring a sturdy connection.

3.4 Connections

The switch is designed to connect to your system via two XT60 outputs. These connections are designed to handle high currents, supporting continuous currents up to 120 amperes and burst currents up to 240 amperes without any heat or voltage loss. This ensures reliable, uninterrupted operation. Users can solder their own circuit to these outputs. In addition, the switch is equipped with a safety mechanism that prevents short-circuiting when the button is pressed.

This versatile and user-friendly design, combined with its robust construction, makes ORION Robotics new product, High Current Emergency Stop Switch a valuable addition to any electronics project, enhancing safety and performance.



Fig. 1: The High Current Emergency Stop Switch



Fig. 2: The High Current Emergency Stop Switch



Fig. 3: The High Current Emergency Stop Switch