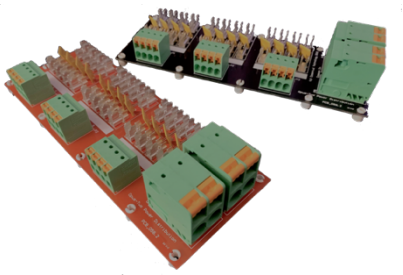
Opus-Two
INSTRUMENT CONTROL SYSTEMS

RapidFuse Board

Introduction



The RapidFuse Board is available in two colors, Red and Black. Much like our High Current Output I/O boards, the red cards indicate positive voltage, the black cards indicate negative (or common/ground). While they are electrically identical, we highly recommend following this color code to assist future technicians. If you have the wrong color board and it is in like-new condition, call us to arrange a swap with the correct part.

The RapidFuse Board is built from extremely high quality PCBs, heavy copper pours (to minimize voltage drop, heat, and resistance), and the best Phoenix connectors available for the application. These boards are not designed to be cheaper than an AGC fuse row, these are designed to be better and much faster to install.

Circuit Protection

The RapidFuse Board uses PTC thermistors to protect each circuit. A thermistor is a resistive device, the resistance of which increases with temperature. Because current flowing through a resistance generates heat, the device will respond very quickly to overloads and stop current flow. This is convenient because the device tends to reset itself when the overload condition is corrected. This also ensures that a one-time occurrence doesn't cause permanent disruptions.

In the event that a different circuit size is required or an electrical inspector has a strict interpretation of the NEC, optional fuse clips are provided. Simply use a pair of snips to cut the leads of the PTC at the circuit board and install the desired fuse.

Wiring Instructions (P4/P5 Power In)

Strip the wire to be inserted 3/4" (18mm). Press firmly on the orange tongue to depress it fully, continue to apply pressure. Please note that this can only be safely done if the PCB is screwed to a mounting surface. Gently insert the wire until a small amount of physical resistance is felt (the stripped copper should be completely out of view). Release the tongue. Gently tug on the wire to verify that it has been 'snagged' by the internal spring mechanism.

Wiring Instructions (P1/P2/P3 Power Out)

Strip the wire to be inserted 3/8" (10mm). Press firmly on the orange tongue to depress it fully, continue to apply pressure. Please note that this can only be safely done if the PCB is screwed to a mounting surface. Gently insert the wire until a small amount of physical resistance is felt (the stripped copper should be completely out of view). Release the tongue. Gently tug on the wire to verify that it has been 'snagged' by the internal spring mechanism.

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Specifications

Each Power Input Connection can accept wires between 16 and 6 AWG wire. Do not use wires that are outside this range as the connection will not be secure. The Phoenix Connector is rated for 76 amps per circuit to ensure longevity and reliability. Because of the high current capacity of these connections, it is acceptable to "daisy chain" them with heavy enough cable.

Each Power Output Connection can accept between 24 and 12 AWG wire. Do not use wires that are outside this range as the connection will not be secure. The Phoenix Connector is rated for 32 amps per circuit to ensure longevity and reliability.

The PTC that is shipped in the board will trip if long term current is sustained over 3 amps, and if short term current is over 6 amps. If different capacity is required, simply snip the PTC off the board and replace with glass fuses. The fuse clips are rated for 10 amps continuous current flow.

P1/P2/P3	Phoenix Contact	1017505
P4/P5	Phoenix Contact	1017531
Fuse Clips	Littelfuse	51800001009

Block Diagram