

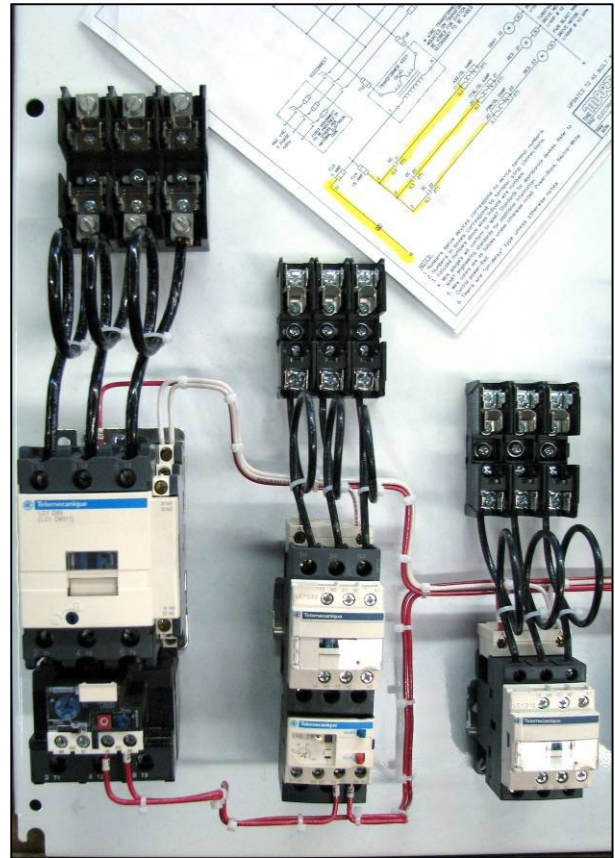
ELECTRICAL CONTROL SYSTEM

STINGRAY uses a state of the art electrical control system. The electrical control provides ease of use, reliability and ease of maintenance.

The panel meets all the current requirements of [ANSI/NFPA-79 Electrical Standards for Industrial Machinery](#).

The latest STINGRAY design logic and control for your washer features the following:

- **Dual Channel Programmable 7 day Clock:** separate programs for the heating and skimming times. The clock also provides independent programming for every day of the week.
- **Power disconnect interlocked with electrical control enclosure door:** Interlock safety device must be in "off" position to open Power Washer electrical panel door. This shuts down incoming power so the operator or maintenance person is not exposed to live electrical components or energized circuits.
- **Separate temperature compensated overload device for each motor load & separate fusing for every 3 phase motor:** STINGRAY provides safeguards for all motors against overloads and short-circuits, which increases life of motors by preventing motors from burning. Temperature compensated overloads provide near constant trip currents regardless of the ambient temperature of the electrical control enclosure.
- **Complete Electrical Documentation:** A specific custom electrical schematic and ladder diagram is provided with each new system. Also included is a complete Bill-of-Material for easy part identification and replacement. STINGRAY Tech Services maintains CAD data files of all new machine electrical systems should a new copy of the electrical schematic ever be required.
- **Panel labeling:** All devices inside the electrical control enclosure are plainly labeled and identified. The panel layout diagram provides a handy reference to the location and size of each item in the control panel. Wiring is 14 gage (minimum) THHN color coded and numbered throughout.
- **Door Safety Interlock Circuit:** Checks the door limit switch for proper operation each time the Washer door is opened. Locks out the next washer cycle in the event of a malfunction

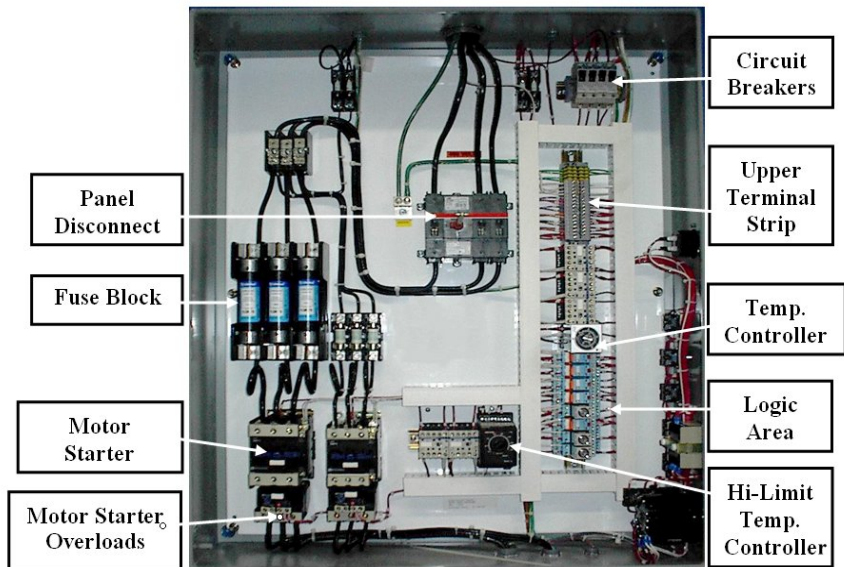


STINGRAY Manufacturing

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- **Grounding lug mounted in machine electrical control enclosure:** STINGRAY provides an attachment point for proper safety grounding of the Power Washer. Each motor has a separate ground wire pulled through conduit and attached to the electrical enclosure back panel to ensure a positive earth ground without relying on the machine structure to supply the grounding path.



Typical Electrical Panel Layout

- **Transformer control power and Secondary Branch Circuits:** Primary and secondary termination points for transformer are properly fused. Secondary circuits are independently fused and all single phase motors are overload protected with special Square-D motor protection devices.
- **All fusing rated at 200,000 amp interrupt capability:** STINGRAY protects conductors and components in the event of short circuit to ground. NOTE: Other fuses may not provide sufficient interrupt capability. If a short circuit maximum current is greater than the fuse interrupt capacity, the fuse may blow protecting against fire but still damage the components downstream from the fuse, such as the motor starter or the motor.
- **Oil tight-type selector switches, indicating lights, & pushbuttons:** Provides reliable operation under the harshest environment. All control station enclosures are dust tight, moisture tight, and oil tight, and all external wire runs are gasketed, sealed and encased in flexible oil-resistant conduit.
- **Mushroom Red Stop Button:** Prominently located on front face of electrical panel to provide quick access for shutdown of machine.
- **Simple relay logic:** Enables troubleshooting and maintenance by plant electrical maintenance personnel without the need for special programming equipment or proprietary software.
- **Intuitive operator interface:** Designed for ease of use with simple instructions eliminating the need for advanced operator training for proper use. Process settings are locked inside control panel for use only by authorized process control personnel.

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