PENNAIR
Powered by The Conrad Company

580 Davies Drive,
York, PA 17402
O: 717-840-8100
pennair.com

Use this checklist before submitting an Original Equipment Manufacturer (OEM) control panel for UL 508A certification. Check each item, add notes, and retain this form for your quality records before submitting it to the PennAir's Application Engineering team at electricalpanels@pennair.com

If you're unsure whether your panel requires UL 508A certification, refer to pages 3–5 of the UL 508A Standard for Safety Industrial Control Panels, which are detailed at the end of this document.

Item	OK	Notes
GENERAL DOCUMENTATION		
Single line & wiring diagrams reviewed/approved to UL 508A standards	☐	
ENCLOSURE & ENVIRONMENT		
Enclosure Type rating matches installation environment	☐	
Ambient temp rating marked if outside 5-40 °C	☐	
External devices (HMI, e-stop, glands) share the same Type rating	☐	
COMPONENT SELECTION		
All components within the panel UL listed/recognized for intended use	☐	
SCCR calculated; nameplate marked ≥ available fault current	☐	
Overcurrent protection sized per UL 508A tables 31.1 & 44.2	☐	
Power supply, transformer & conductors rated ≥ load	☐	

WIRING & SPACING		
Wire types and cables meet UL specifications	☐	
Min. spacing/creepage distances maintained	☐	
No exposed uninsulated conductors; proper strain relief	☐	

GROUNDING & BONDING		
Equipment grounding conductor sized per NEC 250	☐	
Door bonding straps installed & verified	☐	

MARKING & LABELS		
Nameplate includes voltage, phase, FLA, SCCR, Type rating	☐	
UL label affixed, legible & unobstructed	☐	
Field wiring terminals labeled & torque values provided	☐	

DOCUMENTATION & SIGN-OFF		
As-built drawings/BOM archived	☐	
Note: Our MTR on staff will review all documentation for certification		

TESTING & INSPECTION		
Continuity test	☐	
If anything beyond point-point continuity testing is required, please inquire about our QC process.		

Prepared by: _____ Date: _____

GENERAL USE & GUIDELINES FOR INDUSTRIAL UL 508A CONTROL PANELS

INTRODUCTION

1 Scope

1.1 These requirements cover industrial control panels intended for general industrial use, operating from a voltage of 1000 volts or less. This equipment is intended for installation in ordinary locations, in accordance with the National Electrical Code, ANSI/NFPA 70, where the ambient temperature does not exceed 40°C (104°F) maximum.

1.2 These requirements also cover industrial control panel enclosures and industrial control panels primarily intended for flame safety supervision of combustible fuel type equipment, elevator control, crane or hoist control, service equipment use, marine use, air conditioning and refrigeration equipment, equipment for load management applications, fountain control, irrigation equipment control, and for control of industrial machinery including metalworking machine tools, power press controls, and plastic injection molding machinery. Also covered are industrial control panels intended for control of permanently installed electrical equipment for aquatic playgrounds, permanently installed electrical equipment associated with commercial water park rides, wave pools and similar installations, and permanently installed electrical equipment associated with commercial and large residential swimming pools and in-ground spas.

1.3 This equipment consists of assemblies of two or more power circuit components, such as motor controllers, overload relays, fused disconnect switches, and circuit breakers, or control circuit components, such as pushbuttons, pilot lights, selector switches, timers, and control relays, or a combination of power and control circuit components, with associated wiring, and terminals. These components are mounted on, or contained within, an enclosure, or are mounted on a sub-panel.

1.4 An industrial control panel does not include an evaluation of the controlled equipment such as motors, heaters, lighting, and other loads connected to power circuits. Unless specifically noted on the wiring diagram of the industrial control panel, an industrial control panel does not include equipment mounted remotely from the panel and connected via a wiring systems or equipment field installed on or within the industrial control panel.

1.5 An evaluation of the adequacy of the controls and protective devices contained in an industrial control panel for supervision and proper functioning of the controlled loads or equipment is not covered by the requirements in this standard. Such evaluations are covered by the standards applicable to the complete piece of utilization equipment.

1.6 The evaluation of a pre-fabricated building, structure, or platforms supplied with industrial control panels are not covered by the requirements in this standard.

1.7 Fire pump controllers are covered by the Standard for Fire Pump Controllers, UL 218.

1.8 Equipment intended for use in hazardous locations, as defined in the National Electrical Code, ANSI/NFPA 70, are covered by the Standard for Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations, UL 1203.

1.9 Industrial control panels incorporating intrinsic safety barriers and intended for connection to circuits residing in hazardous locations are covered by the Standard for Industrial Control Panels Relating to Hazardous (Classified) Locations, UL 698A.

1.10 Motor control centers, including motor control center sections and units, or equipment intended for field installation into a motor control center are covered by the Standard for Motor Control Centers, UL 845.

1.11 Assemblies of electrical control units or equipment containing electrical control units for fire-protective signaling systems are covered by the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864.

1.12 A freestanding assembly of circuit breakers and busses for control of electric light and power circuits or equipment intended for field installation in dead-front switchboards are covered by the Standard for Switchboards, UL 891.

1.13 Equipment intended to supply automatic illumination, power, or both, to critical areas and equipment essential to safety of human life is covered by the Standard for Emergency Lighting and Power Equipment, UL 924.

1.14 Control equipment for use with swimming pools and spas is covered by the Standard for Electric Spas, Equipment Assemblies, and Associated Equipment, UL 1563.

1.15 Portable control panels containing switches, overcurrent protection, and cord connected via attachment plugs and receptacles for use at carnivals, circuses, fairs, exhibition halls, motion picture and television studios, theaters, construction sites and similar locations are covered by the Standard for Portable Power-Distribution Equipment, UL 1640.

1.16 Equipment for the control of fuel cells, photovoltaic systems, or utility interactive systems are covered by the Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources, UL 1741.

1.17 Enclosures or pedestals containing terminals for connection of power circuit conductors are covered by the Standard for Termination Boxes, UL 1773.

1.18 Emergency alarm equipment or control panels containing emergency alarm equipment are covered by the Standard for General-Purpose Signaling Devices and Systems, UL 2017.

1.19 Equipment for gas or vapor detection or control panels containing gas or vapor detection equipment is covered by the Standard for Gas and Vapor Detectors and Sensors, UL 2075.

1.20 Control panels containing predominately communication equipment, such as telephone equipment and intended for installation in accordance with Chapter 8 of the NEC, is evaluated to the Standard for Information Technology Equipment – Safety – Part 1: General Requirements, UL 60950-1.

1.21 Control equipment intended for use in physical access control systems, which provide an attended or unattended means of monitoring or controlling traffic through portals of a protected area for security purposes; or in key management systems, which regulate or control access to the use of a device by electrical, electronic or mechanical means, are covered by the Standard for Access Control System Units, UL 294.

1.22 Electrically operated or mechanically operated control equipment or enclosures intended for theft deterrent or warning purposes, such as detectors, security containers or alarms for merchandise or property, are covered by the Standard for Antitheft Alarms and Devices, UL 1037.

1.23 Equipment primarily intended to energize or de-energize electrical loads to achieve the desired use of electrical power is covered by the Standard for Energy Management Equipment, UL 916. Such equipment is intended to control electrical loads by responding to sensors or transducers monitoring power consumption, by sequencing, by cycling the loads through the use of preprogrammed data logic circuits, or any combination thereof.

1.24 Control panels, control units, and other various electrical circuits employed within a control circuit device intended for support functions, maintain operation and limiting safety control features for use in a Stationary Engine Driven Assembly or similar power production equipment (generator) control applications are covered by the Standard for Controllers for Use in Power Production, UL/ULC 6200.