

STANDARD INFORMATION

Standard: UL 508A

Standard ID: Industrial Control Panels [UL 508A:2018 Ed.3+R:26Jun2025]

Previous Standard ID: Industrial Control Panels [UL 508A:2018 Ed.3+R:28Jul2022]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: June 26, 2027

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard. Reports not updated to this version by the effective date above will be withdrawn.

For panel shop reports: No action is required for currently certified products. If modifications to the product or list of trained personnel after the effective date require an evaluation, training and/or testing, then the product must undergo re-evaluation to the new requirements.

Overview of Changes:

- Limits to Control Circuit Voltages
- Terminals for Motors or Motors and Other Loads
- Addition of GPO-2 and GPO-3 as Insulating Materials
- Semiconductor Fuses and Fuseholder Markings
- Locked Rotor Current Ratings for Disconnected Switches
- Addition of Requirements for Voltage Detection Devices
- Panels Not Covered by the Scope of UL 508A
- Pipelines, Tubing or Devices for Handling Air, Gasses or Liquids
- Wiring Ferrules
- Field Provided Components
- Addition of Requirements for Instrument Transformers
- Power Supplies in a Power Circuit
- Optical Fiber Cables
- Special-purpose Solid-state Overcurrent Protectors
- Wiring of an Oversized Variable Speed Drive

Specific details of new/revised requirements are found in table below

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT								
Additions to existing requirements are <u>underlined</u> and deletions are shown lined-out below.										
1	Info	Scope <i>New clause added;</i>								
1.27		Equipment or assemblies intended solely for providing ground fault protection are covered by the Standard for Ground-Fault Circuit-Interruption, UL 943, or the Standard for Ground-Fault Sensing and Relaying Equipment, UL 1053.								
13	Info	Insulating Materials Generic materials for direct support of uninsulated live parts								
Table 13.1		<table><tr><th rowspan="2">Generic material</th><th colspan="2">Minimum thickness</th></tr><tr><th>inches</th><th>(mm)</th></tr><tr><td><u>GPO-2 and GPO-3 Glass reinforced thermoset polyester</u></td><td><u>0.055</u></td><td><u>(1.4)</u></td></tr></table>	Generic material	Minimum thickness		inches	(mm)	<u>GPO-2 and GPO-3 Glass reinforced thermoset polyester</u>	<u>0.055</u>	<u>(1.4)</u>
Generic material	Minimum thickness									
	inches	(mm)								
<u>GPO-2 and GPO-3 Glass reinforced thermoset polyester</u>	<u>0.055</u>	<u>(1.4)</u>								
18	Info	Enclosures <i>New clause added;</i> Pipelines, tubing or devices for handling air, or liquids, where pressures do not exceed 300psi, shall not be located in electrical enclosures containing uninsulated live parts, and shall be installed on the exterior of the panel, or in a compartment of the enclosure that is completely separated by a barrier from the electrical control equipment other than enclosed electrical components. Enclosure compartments containing pipelines or tubing carrying liquids shall be located so that any leakage will not enter the electrical equipment compartment and have a means for drainage. Exception: For components requiring air supply, liquid cooling or intended for air or liquid analyzing for other than life safety purposes, the pipeline or tubing supplying the component is not required to be separated.								
18.2A										
18.2B		<i>New clause added;</i> Where provided with a metal barrier inside the enclosure it shall be at least 0.053 inch (1.35 mm) thick uncoated steel, or 0.075 inch (1.91 mm) thick aluminum. Exception: A metal barrier may be of thinner metal provided its strength and rigidity are not less than that of a flat sheet of steel having the same dimensions as the barrier and of the specified thickness.								



CLAUSE	VERDICT	COMMENT
		<i>New clause added;</i>
18.2C		<p>Where provided with a nonmetallic barrier inside the enclosure it shall be at least 0.250 inch (6.35 mm) thick and shall be supported to provide mechanical strength and rigidity.</p> <p>Exception: A nonmetallic material less than 0.250 inch thick shall be located so that it is not subjected to mechanical damage during installation and supported to provide mechanical strength and rigidity.</p>
		<i>New clause added;</i>
18.2D		<p>The separated compartment, containing equipment for handling liquids, mentioned in 18.2A, shall be investigated to the performance requirements applicable to the enclosure environmental Type(s) in the Standard for Enclosures for Electrical Equipment, Environmental Considerations, UL 50E.</p>
		<i>New clause added;</i>
18.6		<p>Pipelines, tubing and/or devices for managing air or liquid media shall not be installed within an industrial control panel enclosure incorporating electrical control equipment, unless they are installed in a separate compartment segregated from electrical control equipment by a barrier that meets the requirements of 22.3 – 22.5.</p> <p>Exception: Components requiring air supply, liquid cooling, intended for air or liquid analyzing or equipment for fire suppression systems are not required to be separated.</p>
		<i>New clause added;</i>
18.7		<p>Enclosure compartments containing pipelines or tubing that contain a liquid media shall have provisions to prevent the potential leakage of liquid or condensation from coming into contact with electrical control equipment.</p>
		<i>New clause added;</i>
18.8		<p>In addition, compartments containing pipelines, tubing and/or devices for managing air or liquid media shall also comply with the requirements defined in 18.3 – 18.5.</p>
19	Info	Enclosure Openings
		<i>New table added;</i>
Table 19.2A		Enclosure Rating/Derating Table
		See standard for details.



CLAUSE	VERDICT	COMMENT
28	Info	Field Wiring
28.3	Info	Sizing
28.3.3		For terminals intended to carry current from a combination of one or more motors, or one motor and one or more other loads, the field wiring shall have an ampacity of <u>125 percent of the full load current of all heating loads</u> , 125 percent of the largest motor full-load current rating of the group plus 100 percent of all remaining loads <u>that may be in operation at the same time.</u>
28.3.5		For terminals that will carry the input current to power conversion equipment or a solid-state motor speed controller in which the input current is different from the motor full-load current, the field wiring shall have an ampacity of 125 percent of the input current rating of the device. <u>If the rated motor load is less than the output current rating of the variable speed drive or solid-state motor controller, the field wiring terminals shall have an ampacity not less than 125 percent of the reduced input current rating determined from the manufacturers' instructions.</u>
29	Info	Internal Wiring
29.3	Info	Wiring methods
29.3.6		A wiring ferrule <u>shall comply with the Standard for Bare and Covered Ferrules, UL 486F or the Standard for Large Ferrules, UL 486L, and shall be:</u> a) Used with stranded copper wire(s) only; b) Terminated in a connector rated for copper wire and rated for the number and size of wire(s) crimped to the ferrule; c) Crimped with an appropriate tool before terminating in a terminal of a component; d) Sized in diameter appropriate for the number of wires and wire size(s) as recommended by the ferrule manufacturer; and e) Crimped to the wires such that the length of the uninsulated portion of the wires does not result in the reduction of electrical spacings when the ferrule is installed.
29.6	Info	Sizing
29.6.3		<i>New clause added;</i> The size of internal wiring on the line side of a variable speed drive or solid-state motor controller shall be determined from Table 28.1, having an ampacity not less than the input current of the variable speed drive or solid-state motor controller, or the reduced input current rating specified in the manufacturer's derating information.
30	Info	Disconnect Switches
30.2	Info	Sizing of disconnect switch
		<i>New table added;</i>
Table 30.1		Locked Rotor Current Ratings for Disconnect Switches See standard for details.



CLAUSE	VERDICT	COMMENT
<i>New table added;</i>		
Table 30.2		Locked Rotor Current Ratings for Motors
		See standard for details.
31	Info	Branch Circuit Protection
31.3	Info	Sizing of branch circuit protection for single motor circuit
31.3.5		A fuseholder for a branch circuit fuse shall be sized to accept a fuse in accordance with 31.3.1. <u>A fuseholder for a semiconductor fuse shall be sized to accept a fuse in accordance with 31.3.2 and be provided with the replacement fuse marking of 56.2.</u> A fuseholder for a branch circuit fuse shall be provided with the replacement fuse marking of 56.1 when: a) The fuseholder accepts a fuse with an ampere rating greater than specified in 31.3.9; or b) The fuseholder accepts a fuse with an ampere rating that exceeds a component restriction as specified in 31.3.1(b).; or
34	Info	Overload Protection of Motor Loads
34.2	Info	Sizing of overload relay
<i>New clause added;</i>		
34.2.3		The solid state overload of a variable speed drive or solid state motor controller shall be capable of being set at an ampere rating of 115 percent of the rated motor FLA being controlled if the adjustable range of the solid state overload cannot be set to 115 percent of the rated motor FLA or if more than one motor is being supplied, a separate overload relay shall be provided.
35	Info	Power Transformers
Power supplies		
35.5		A power supply shall comply with: See standard for details.
36	Info	Other Circuit Components
<i>New section added;</i>		
Voltage detection devices		
36.6		An absence of voltage tester (AVT), an absence of voltage detection device or presence of voltage detection device shall comply with 36.6.2 – 36.6.4. See standard for details.



CLAUSE	VERDICT	COMMENT
38	Info	Internal Wiring
38.1	Info	Component requirements <i>New clause added;</i> Optical fiber cable of a control circuit shall comply with the following:
38.1.2		a) The Standard for Optical Fiber Cable, UL 1651, for cables containing noncurrent-carrying metal or other electrically conductive parts separated from internal wiring of other circuits as specified in 29.5; or b) The Standard for Electrical Power and Control Tray Cables with Optional Optical-Fiber Members, UL 1277.
40	Info	Overcurrent Protection
40.1	Info	Component requirements <i>New clause added;</i>
40.1.3A		A special-purpose solid-state overcurrent protector shall comply with the Standard for Solid State Overcurrent Protectors, UL 2367.
47	Info	Miscellaneous Devices
47.5	Info	Instrument transformers (current transformers and voltage transformers) <i>New clause added;</i> An instrument transformer shall comply with one of the following:
47.5.1		a) Requirements for Instrument Transformers, IEEE C57.13 and Conformance Test Procedure for Instrument Transformers, IEEE C57.13.2; b) The Standard for Industrial Control Equipment UL 508; or c) The Standard for Low Voltage Transformers – Part 1: General Requirements, UL 5085-1, and the Standard for Low Voltage Transformers – Part 2: General Purpose Transformers, UL 5085-2.
56	Info	Fuseholder Markings <i>New clause added;</i>
56.2		A fuseholder for a semiconductor fuse shall be marked with the manufacturer name and catalog number of the replacement fuse.
60	Info	Field Provided Components
60.3		An industrial control panel schematic wiring diagram that includes devices to be field installed into the industrial control panel, shall be marked to indicate that these devices shall be provided by the installer. <u>The marking shall include the device manufacturer's name and model number, and any instructions necessary for proper installation.</u>



CLAUSE	VERDICT	COMMENT
	Info	INDUSTRIAL MACHINERY
66	Info	Construction
66.12		<i>New section added;</i> Control circuit voltages
66.12.1		The nominal voltage of AC control circuits shall not exceed 120 volts; other voltages are permitted for the operation of electronic or similar devices used in the control circuit.
66.12.2		The nominal voltage of DC control circuits shall not exceed 250 volts.
	Info	SERVICE EQUIPMENT USE
75	Info	Construction
75.8	Info	Components on the supply side of the disconnecting means
75.8.5		<i>New clause added;</i> A voltage detection device shall be permitted to be connected to the line side of the service disconnecting means. A voltage detection device shall comply with 36.6.2 and 36.6.4.