

## STANDARD INFORMATION

**Standard Number:** UL 508A

**Standard Name:** Industrial Control Panels

**Standard Edition and Issue Date:** 3<sup>rd</sup> Edition Dated April 24, 2018

**Date of Revision:** 2<sup>nd</sup> Edition Dated December 20, 2013 Revised March 7, 2017;

2<sup>nd</sup> Edition Dated December 20, 2013 Revised March 31, 2017;

2<sup>nd</sup> Edition Dated December 20, 2013 Revised June 17, 2017;

2<sup>nd</sup> Edition Dated December 20, 2013 Revised July 31, 2017;

3<sup>rd</sup> Edition Dated April 24, 2018; and

3<sup>rd</sup> Edition Dated April 24, 2018, Revised July 3, 2018.

**Date of Previous Revision of Standard:** 2<sup>nd</sup> Edition Dated December 20, 2013 Revised August 3, 2016;

## EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

**Effective Date:** **July 1, 2020**

## IMPACT, OVERVIEW, AND ACTION REQUIRED

**Impact Statement:** A review of all Listing Reports is necessary to determine which products comply with new/revised requirements and which products will require re-evaluation. **NOTE:** Effective immediately, this revised standard will be exclusively used for evaluation of new products. Note: Although some products are not affected by these revisions, at minimum, all Listing Reports will need to be revised to show the correct standard, edition and revisions through date.

If upon review of Applicant's Listing Report it indicates the report has a Standard revision date earlier than April 24, 2018, there will be an administrative charge to update Applicant's Listing report to the latest revision date.

If upon review of Applicant's Listing Report it indicates the report has a Standard revision date of April 24, 2018 or later, then there will be no fee to update Applicant's Listing report to the latest revision date.

### **Overview of Changes for the revisions to the 2<sup>nd</sup> Edition Dated December 20, 2013 Revised March 7, 2017:**

- Enclosures intended for use with conduit hubs, closure plates and other equipment field installed in enclosures with factory provided openings
- Grounding and bonding braids shall be Listed and sized according to 15.1

### **Overview of Changes for the revisions to the 2<sup>nd</sup> Edition Dated December 20, 2013 Revised March 31, 2017:**

These revision pages of the Standard for Safety for Industrial Control Panels, UL 508A include editorial corrections. No technical changes made.



**Overview of Changes for the revisions to the 2<sup>nd</sup> Edition Dated December 20, 2013 Revised June 16, 2017:**

- Location for marking nameplate restricted to the exterior of the enclosure for enclosed panels
- New requirements for permanent warnings and markings

**Overview of Changes for the revisions to the 2<sup>nd</sup> Edition Dated December 20, 2013 Revised July 31, 2017:**

- New requirements for Cable Assemblies and Fittings for Power and Control Circuits
- New requirements for Circuit breakers with motor overload protection

**Overview of Changes for the release of the 3<sup>rd</sup> Edition Dated April 24, 2018:**

- Added requirements for molded case circuit breakers (MPCB)
- Added requirements for multiple disconnects
- Added requirements for when Surge Protective Devices are used in Industrial Control Panels
- Added requirements for when UPS equipment is used in Industrial Control Panels
- Added requirements for Electromagnetic Interference Filters when used with Variable-Speed Drives

**Overview of Changes for the revisions to the 3<sup>rd</sup> Edition Dated April 24, 2018, Revised July 3, 2018:**

- Moved Appendix C (Supplement SA in previous versions from standard to UL's Industrial Control panel website

Specific details of new/revised requirements are found in tables below.

**If the applicable requirements noted in the tables below are applicable to your product, then those requirements need to be confirmed as being met.**

**Client Action Required:**

Client must confirm in writing their understanding of the new requirements.

***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.***

If you need training on the new and revised requirements, please discuss with your designated Account Manager and training can be established.



## STANDARD INFORMATION

| CLAUSE | VERDICT | COMMENT |
|--------|---------|---------|
|--------|---------|---------|

Additions to existing requirements are underlined and deletions are shown ~~lined-out~~ below.

The following changes are for the 2<sup>nd</sup> Edition Dated December 20, 2013 Revised March 7, 2017.

|      |      |   |
|------|------|---|
| 14   | Info | <b>Grounding – General</b>  |
| 14.1 |      | An industrial control panel shall have provision for grounding all noncurrent carrying metal parts that are exposed or that are able to be contacted by persons during normal operation or adjustment of the equipment and that are able to become energized due to a breakdown of insulation, loose wiring connection, or electrical disturbance. <u>Grounding (bonding) braids shall be listed according to UL 467 and sized according to 15.1.</u>                               |
| 19   | Info | <b>Enclosure Openings</b>   |
|      |      | <b><i>New clause added;</i></b>   |
| 19.6 |      | Enclosures intended for use with conduit hubs, closure plates and other equipment intended to be field installed shall be marked or provided with instructions that identify the equipment necessary to maintain the environmental integrity of the enclosure. This may be accomplished by identifying the necessary environmental type designation or by identifying the specific manufacturer and models of the field installed equipment.  |
| 53   | Info | <b>Enclosure Markings</b>   |
|      |      | <b><i>New clause added;</i></b>   |
| 53.8 |      | Enclosures shipped with open holes, as specified in Section 19.6, are to be marked with the following or the equivalent: "To maintain the environmental rating of this enclosure, install in the openings only Listed or Recognized control devices with the same environmental rating as the enclosure in compliance with the installation instructions of the device." Alternately, the panel may identify the specific manufacturer and models of the field installed equipment. |

The following changes are for the 2<sup>nd</sup> Edition Dated December 20, 2013 Revised March 31, 2017 revision.

These revision pages of the Standard for Safety for Industrial Control Panels, UL 508A include editorial corrections.



| CLAUSE | VERDICT | COMMENT  |
|--------|---------|--|
|        |         | The following changes are for the 2 <sup>nd</sup> Edition Dated December 20, 2013 Revised June 16, 2017. |

|    |      |                         |
|----|------|-------------------------|
| 52 | Info | <b>General Markings</b> |
|----|------|-------------------------|

| Table 52.1 | Paragraph   | General description | Location categories (see notes) |      |
|------------|---|---------------------|---------------------------------|------|
|            |   |                     | Enclosed                        | Open |
| 52.1       | General markings<br>Nameplate stating: manufacturer, maximum voltage, total FLA, largest motor FLA, phase, frequency, field wiring diagram, <u>environmental type rating</u> , short circuit current rating | a-ø-þ               | f                               |      |

|    |      |                     |
|----|------|---------------------|
| 66 | Info | <b>Construction</b> |
|----|------|---------------------|

|      |      |                            |
|------|------|----------------------------|
| 66.6 | Info | <b>Disconnecting means</b> |
|------|------|----------------------------|

***New clause added;***

For such circuits all of the following requirements shall be met:

- |        |   |
|--------|---|
| 66.6.4 | <ul style="list-style-type: none"> <li>a) Permanent cautionary marking(s) as required by 55.4 shall be placed adjacent to the supply circuit disconnecting operating handle(s), indicating that it does not de-energize all exposed live parts when it is in the open (off) (isolated) position;</li> <li>b) A permanent cautionary warning such as Figure 67.1 shall be placed on a non-removable part inside the control enclosure in proximity to each excepted circuit or shall be identified by color as defined in 66.9.1.</li> </ul> |
|--------|---|

|  |  |  |
|--|--|--|
|  |  | The following changes are for the 2 <sup>nd</sup> Edition Dated December 20, 2013 Revised July 31, 2017. |
|--|--|--|

|    |      |                     |
|----|------|---------------------|
| 28 | Info | <b>Field Wiring</b> |
|----|------|---------------------|

***New section added;***

28.7

**Cable Assemblies and Fittings**

Cable assemblies, male and female cable fittings, panel-mounted fittings and fittings intended for use in power circuits shall comply with 28.5.6, 28.6.2, 28.6.3 and the requirements in one of the following:

28.7.1

- a) The Outline of Investigation for Multi-Point Interconnection Power Cable Assemblies for Industrial Machinery, UL 2237;
- b) The Standard for Cable Assemblies and Fittings for Industrial Control and Signal Distribution, UL 2238.



| CLAUSE  | VERDICT | COMMENT  |
|---|---------|--|
| <b>The following changes are for the release of the 3<sup>rd</sup> Edition Dated April 24, 2018</b> |         |  |
| 30  | Info    | <b>Disconnect Switches</b>   |
| 30.3  | Info    | <b>Location</b>  |
| 30.3.5  |         | <p>When two or more disconnects are provided for multiple supply circuits, they shall be grouped in one location on the industrial control panel. <u>Each disconnect shall be legibly marked to indicate the equipment it disconnects.</u></p> <p><u>Exception: Two or more disconnects provided for multiple supply circuits are not required to be grouped in one location on the industrial control panel provided a marking is installed at each supply circuit disconnect location denoting the location of all other supply circuit disconnects.</u></p> |
| 34  | Info    | <b>Overload Protection of Motor Loads</b>  |
| 34.1  | Info    | <b>Component requirements</b>  |
| 34.1.4  |         | <p><b><i>New clause added;</i></b></p> <p>A motor protection circuit breaker that includes motor overload protection function shall comply with the Standard for Molded-Case Circuit Breakers, Molded-Case Switches and Circuit-Breaker Enclosures, UL 489. Instructions provided with the motor protection circuit breaker shall indicate the adjustable range and means for adjustment.</p>  |
| 36  | Info    | <b>Other Circuit Components</b>  |
| 36.4  | Info    | <b>Surge protective devices (SPDs)</b>   |
| 36.4.1  |         | <p>An <del>metal oxide varistor (MOV)</del> SPD shall comply with the requirements in the Standard for Surge Protective Devices, UL 1449. <u>An electromagnetic interference filter, such as an EMI, RFI, or line filter, shall comply with the Standard for Electromagnetic Interference Filters, UL 1283.</u></p>  |
| 47  | Info    | <b>Miscellaneous Devices</b>   |
| 47.1  | Info    | Surge <del>control</del> protective devices <u>SPDs</u>  |
| 47.1.2  |         | <p><b><i>New clause added;</i></b></p> <p>The normal operating voltage rating and MCOV of the SPD shall not be less than the rated circuit Line-to-Line (full phase) voltage.</p>  |
| 47.1.3  |         | <p><b><i>New clause added;</i></b></p> <p>A protector for data communications and fire-alarm circuits shall comply with the Standard for Protectors for Data Communications and Fire-Alarm Circuits, UL 497B.</p>  |



| CLAUSE  | VERDICT  | COMMENT   |                                 |           |                     |                                 |  |          |      |      |   |          |          |
|---|--|---|---------------------------------|-----------|---------------------|---------------------------------|--|----------|------|------|---|----------|----------|
| 47.3  |  | <b><i>New section added;</i></b><br><br><b>UPS (Uninterruptible Power-Supply) Equipment</b>   |                                 |           |                     |                                 |  |          |      |      |   |          |          |
|   |  | UPS equipment shall comply with the requirements in:  |                                 |           |                     |                                 |  |          |      |      |   |          |          |
| 47.3.1  |  | a) The Standard for Uninterruptible Power Systems, UL 1778; and<br>b) 47.3.2 and 47.3.3.  |                                 |           |                     |                                 |  |          |      |      |   |          |          |
| 47.3.2  |  | The industrial panel enclosure shall be ventilated unless the UPS equipment batteries are of a sealed type construction.  |                                 |           |                     |                                 |  |          |      |      |   |          |          |
| 47.3.3  |  | The industrial control panel enclosure containing the UPS equipment shall be marked in accordance with 55.8.<br><br>Exception: This marking shall not be required for UPS equipment with outputs operating at 50 volts or less.     |                                 |           |                     |                                 |  |          |      |      |   |          |          |
|   | Info   | <b>MARKINGS</b>   |                                 |           |                     |                                 |  |          |      |      |   |          |          |
| 52  | Info   | <b>General Markings</b>   |                                 |           |                     |                                 |  |          |      |      |   |          |          |
| <b>Locations of required markings</b>   |  |   |                                 |           |                     |                                 |  |          |      |      |   |          |          |
| Table 52.1  | <table border="1"> <thead> <tr> <th rowspan="2">Paragraph</th> <th rowspan="2">General Description</th> <th colspan="2">Location categories (see notes)</th> </tr> <tr> <th>Enclosed</th> <th>Open</th> </tr> </thead> <tbody> <tr> <td>55.8</td> <td><u>UPS equipment outputs remain live with main disconnect in off position</u></td> <td style="text-align: center;"><u>a</u></td> <td style="text-align: center;"><u>d</u></td> </tr> </tbody> </table> |   |                                 | Paragraph | General Description | Location categories (see notes) |  | Enclosed | Open | 55.8 | <u>UPS equipment outputs remain live with main disconnect in off position</u> | <u>a</u> | <u>d</u> |
|   | Paragraph  | General Description   | Location categories (see notes) |           |                     |                                 |  |          |      |      |   |          |          |
| Enclosed  |  |   | Open                            |           |                     |                                 |  |          |      |      |   |          |          |
| 55.8  | <u>UPS equipment outputs remain live with main disconnect in off position</u>  | <u>a</u>  | <u>d</u>                        |           |                     |                                 |  |          |      |      |   |          |          |
| NOTES<br>a) Marking shall be visible without opening the door or cover of the enclosure.<br>b) This marking is able to be provided on the door or cover of the enclosure or on the inside walls of the enclosure.<br>c) Marking shall be on or adjacent to the component in question. Fuse replacement markings are able to be on a chart displayed as specified in (b) when each fuseholder is marked with a distinctive designation, such as F1. For open panels, the chart is able to be supplied as described in (d).<br>d) Marking shall be shipped separately on a self-adhesive label with the device (this is intended to be placed on or in the ultimate enclosure).<br>e) Marking shall be on the field wiring diagram, prints, or instructions that are referenced on the panel nameplate and is to be shipped with the panel (either loosely, in the "print pocket," or adhered to the inside of the enclosure).<br>f) Marking shall be on the subpanel component mounting plate. |  |   |                                 |           |                     |                                 |  |          |      |      |   |          |          |
| 55  | Info   | <b>Cautionary Markings</b><br><br><b><i>New clause added;</i></b>   |                                 |           |                     |                                 |  |          |      |      |   |          |          |
| 55.4  |  | An industrial control panel incorporating UPS equipment shall be marked with the word "CAUTION" and the following or equivalent: "Risk of Electric Shock – UPS equipment outputs remain live with main disconnect in off position." |                                 |           |                     |                                 |  |          |      |      |   |          |          |
| 75  | Info   | <b>Construction</b>   |                                 |           |                     |                                 |  |          |      |      |   |          |          |
| 75.8  | Info   | <b>Components on the supply side of the disconnecting means</b>   |                                 |           |                     |                                 |  |          |      |      |   |          |          |



| CLAUSE   | VERDICT | COMMENT  |
|--|---------|--|
| 75.8.4   |         | <p><del>A surge arrester of the metal oxide type shall comply with ANSI/IEEE C62.11-1993, Standard for Metal Oxide Surge Arresters for AC Power Circuits. All other types of surge arresters shall comply with IEEE C62.1-1994, Standard for Gapped Silicon-Carbide Surge Arresters for AC Power Circuits.</del></p> <p><u>A Type 1 SPD shall comply with the requirements in the Standard for Surge Protective Devices, UL 1449.</u></p>  |
| <p>The following changes are for 3<sup>rd</sup> Edition Dated April 24, 2018 Revised July 3, 2018</p>  |         |  |
| Supplement SA  | Info    | <p><b>Deleted and moved to online. As such: All components, including the enclosure, except for Type 1 enclosures constructed in accordance with Sections 62 through 64 of UL 508A, are Listed or Recognized and as permitted by the document titled: "Requirements For Components Used In Industrial Control Panels" which can be found at the following link:</b></p> <p style="text-align: center;"><a href="http://www.ul.com/UL508A-SupplementSA">http://www.ul.com/UL508A-SupplementSA</a></p> |
| Appendix C   | Info    | <b>Deleted</b>   |
| <p><b>CUSTOMERS PLEASE NOTE: This Table and column "Verdict" can be used in determining how your current or future production is or will be in compliance with new/revised requirements.</b></p> |         |  |