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Strength in numbers combined with sector expertise is NEMA’s hallmark.

NEMA unites America’s electroindustry. We play a vital role in the U.S. economy by promoting practices that accelerate innovation, eliminate business barriers, reduce manufacturing costs, and expand new markets.

We represent 52 product sectors, from power transmission and distribution equipment and lighting systems to factory automation and control systems and medical diagnostic imaging systems. NEMA provides advocacy, in-depth economic intelligence, technical standards, and vision to member companies serving all major end markets:

- Building systems
- Commercial products
- Connected systems
- Industrial products and systems
- Lighting systems
- Medical imaging
- Utility products

Expand Market Opportunities

NEMA’s methodology is threefold: facilitate production, promote product interoperability, and develop performance standards that increase market demand. We help members improve safety and mitigate risks.

Eliminate Business Barriers

As legislation and regulations are proposed, NEMA represents the collective interests of America’s electrical manufacturers at every level of government, including local building codes, infrastructure funding, national energy laws, and international trade.

Acquire Business Intelligence

Through NEMA, electroindustry manufacturers develop and implement tailored, industry-specific market and statistical programs that benefit participating companies. NEMA also conducts economic analyses on the impact of legislation and regulations on member products, and monitors and reports on key industry market indicators. All programs comply with NEMA statistical confidentiality policies.

Join NEMA

We give our members a competitive edge in today’s rapidly changing, global marketplace. Join us to expand market opportunities, acquire exclusive business intelligence, remove market barriers, build supply chain connections, and harness innovation. Membership in NEMA is open to any firm engaged in the manufacture of products within the NEMA scope and for sale in the open market. Our sustained vision will carry the electrical manufacturing and medical imaging industry into the future.
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Motors and Generators

Wire and Cable

Lighting

Industrial Controls
New Releases

- ANSI C78.81-2016 American National Standard for Electric Lamps—Double-Capped Fluorescent Lamps—Dimensional and Electrical Characteristics
- ANSI C84.1 American National Standard for Electric Power Systems and Equipment—Voltage Ratings (60Hz)
- ANSI C119.4-2016 American National Standard for Electric Connectors—Connectors for Use between Aluminum-to-Aluminum and Aluminum-to-Copper Conductors Designed for Normal Operation at or Below 93°C and Copper-to-Copper Conductors Designed for Normal Operation at or Below 100°C
- NEMA 107 Methods of Measurement of Radio Influence Voltage (RIV) of High-Voltage Apparatus
- NEMA SB 10-2016 Audio Standard for Nurse Call Systems
- NEMA SG-AMI 1 Requirements for Smart Meter Upgradeability
- NEMA WD 7-2011 (R2016) Occupancy Motion Sensors Standard
- NTCIP 1103 v03 Transportation Management Protocols

Quality

NEMA standards are often approved as American National Standards under the procedures of the American National Standards Institute (ANSI), usually under the canvass method.

Top 5 Standards

- ANSI Z535 series American National Standard for safety signs, symbols, labels, and colors
- ANSI/NEMA MW 1000 Magnet Wire
- NEMA 250 Enclosures for Electrical Equipment
- NEMA MG 1 Motors & Generators
- NEMA PB 1.1 General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 600 V or Less
The electrical and medical product industries are highly regulated, with thousands of standards affecting all aspects of operations.

To stay competitive, companies must:

- Quickly adapt to constantly changing regulations and customer requirements
- Efficiently maintain aging infrastructure and effectively deploy new technologies
- Identify new ways to reduce operational expense and risks
- Accelerate the transfer of knowledge to new technical employees in the face of an aging workforce

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AFCIs

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Arc Welding

ANSI/IEC 60974-1-2008
American National Standard for Arc-Welding Equipment—Part 1 Welding Power Sources

ANSI/IEC 60974-2-2009
American National Standard for Arc-Welding Equipment—Part 2 Liquid Cooling Systems
Specifies safety and construction requirements for industrial and professional liquid cooling systems used in arc welding and allied processes to cool torches. An adoption, with U.S. differences, of the second edition of IEC 60974-2 (2007).

ANSI/IEC 60974-3-2009
American National Standard for Arc-Welding Equipment—Part 3 Arc Striking and Stabilizing Devices

ANSI/IEC 60974-5-2009
American National Standard for Arc-Welding Equipment—Part 5 Wire Feeders
Details requirements for safety and performance for industrial and professional equipment used in arc welding and allied processes to feed filler wire. An adoption, with U.S. differences, of the second edition of IEC 60974-5 (2007).

ANSI/IEC 60974-7-2009
American National Standard for Arc-Welding Equipment—Part 7 Torches
Specifies safety and construction requirements for torches (consisting of torch bodies, cable-hose assemblies and other components) used in arc welding, plasma cutting and other allied processes. An adoption, with U.S. differences, of the second edition of IEC 60974-7 (2005).
ANSI/IEC 60974-8-2008
American National Standard for Arc-Welding Equipment—Part 8 Gas Consoles for Welding and Plasma Cutting Systems
Specifies requirements for safety and performance for gas consoles intended to be used with combustible gases or oxygen. An adoption, with U.S. differences, of the first edition of IEC 60974-8 (2004).

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ANSI/IEC 60974-11-2009
American National Standard for Arc-Welding Equipment—Part 11 Electrode Holders

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ANSI/IEC 60974-12-2009
American National Standard for Arc-Welding Equipment—Part 12 Coupling Devices for Welding Cables
Enumerates safety and performance requirements of coupling devices for cables used in welding (except underwater welding) and allied processes. The coupling devices covered are designed for connection and disconnection without the use of tools. An adoption, with U.S. differences, of the second edition of IEC 60974-12 (2005).

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Defines construction standards, performance characteristics and test procedures for wire-feed systems used in most types of arc-welding processes.

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NEMA EW 4-2009
Graphic Symbols for Arc-Welding and Cutting Apparatus
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NEMA EW 6-2006
Guidelines for Precautionary Labeling for Arc-Welding and Cutting Products
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NEMA EW 9-2012
Arc Welding Power Sources—Energy Consumption Testing and Labeling
Provides the necessary guidance for manufacturers and importers of arc welding power source equipment to uniform energy consumption reporting requirements of the Mexican Law for Sustainable Energy Use, published in the Official Gazette of Federation, on November 28, 2008, article 23.

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American National Standard for Portable Primary Cells and Batteries with Aqueous Electrolyte—General and Specifications
Applies to portable primary cells and batteries with aqueous electrolyte and a zinc anode.

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NEMA C18.1M, Part 2-2011
American National Standard for Portable Primary Cells and Batteries with Aqueous Electrolyte—Safety Standard
Specifies performance requirements for portable primary batteries with aqueous electrolyte and zinc anode (non-lithium) to ensure their safe operation under normal use and reasonably foreseeable misuse.

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NEMA C18.2M, Part 1-2013
American National Standard for Portable Rechargeable Cells and Batteries—General and Specifications
Applies to portable rechargeable or secondary cells and batteries based on the following electrotechnical systems nickel cadmium, nickel metal hydride and lithium ion.

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NEMA C18.2M, Part 2-2014
American National Standard for Portable Rechargeable Cells and Batteries—Safety Standard
Specifies performance requirements for standardized portable lithium ion, nickel cadmium and nickel metal hydride rechargeable cells and batteries to ensure their safe operation under normal use and reasonably foreseeable misuse.

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Batteries

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STANDARDS & OTHER PUBLICATIONS: Batteries

ANSI C18.3M, Part 1-2013
American National Standard for Portable Lithium Primary Cells and Batteries—General and Specifications
Applies to portable lithium primary cells and batteries, including the following electrochemical systems lithium carbon monofluoride, lithium manganese dioxide and lithium iron disulfide.
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ANSI C18.3M, Part 2-2011
American National Standard for Portable Lithium Primary Cells and Batteries—Safety Standard
Specifies tests and requirements for primary cells and batteries, including lithium carbon monofluoride, lithium manganese dioxide and lithium iron disulfide, to ensure their safe operation under normal use and reasonably foreseeable misuse.
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ANSI C18.4M-2015
American National Standard for Portable Cells and Batteries—Environmental
Sets forth some general considerations that should be taken into account when developing battery standards that balance the need to achieve the intended product performance while reducing adverse environmental effects, and outlines ways in which provisions in battery standards might affect the environment during the stages of its life cycle.
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NEMA BU 1.1-2005 (Spanish)
Instrucciones Generales para el Manejo, Instalacion, Operacion y Mantenimiento de Electroductos Hasta 600 V Nominales o Menos
Esta norma se aplica a productos para la distribución de energía eléctrica hasta 600 V o menores, compuestos de electroductos cerrados en secciones prefabricadas con una capacidad nominal de 100 A o más y estructuras y accesorios asociados, clasificados en la forma siguiente a) electroducto alimentador (interior o exterior), b) electroducto conectador (solamente interior), y c) accesorios necesarios para completar el sistema de electroducto. Esta norma no aplica a los electroductos metálicos cerrados como se describe en la Norma C37.23 de la ANSI/IEEE.
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Application Information for Busway Rated 600 V or Less
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NEMA CB 1-2000 (R2012)
Brushes for Electrical Machines
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Manufactured Graphite/Carbon Electrodes
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Communications & Signaling

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NEMA SB 2-2016
Training Manual on Fire Alarm Systems
Covers terminology, basic theory of operation, installation details, system start-up techniques and general maintenance of fire alarms, and is intended to be used as source material for the fire service, fire marshals and all fire alarm sales, design and installation organizations. It is ideal as a reference guide and can be used in a classroom setting for learning about fire alarm systems.
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Applications Guide for Carbon Monoxide Alarms and Detectors
Covers carbon monoxide (CO) detection devices, including single- and multiple-station CO alarms and system-connected CO detectors and sensors connected to a control unit.
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NEMA SB 10-2016
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Guide for Proper Use of System Smoke Detectors
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Multi-Criteria Detectors (MCD)
Provides an introduction to the next evolution in life saving early warning smoke and fire detection.
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The Changing Communications within Fire Alarm System Reporting
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**NEMA SBP 6-2008**

UL 1069 Standard for Hospital Signaling and Nurse Call Equipment White Paper

These requirements cover the individual units employed to form a hospital nurse call system (NCS) intended to provide audible and visual communication between patients and hospital personnel. They also cover miscellaneous signaling equipment employed in hospitals. Some examples include bedside tables, annunciators, power supplies for nurse call systems, and gas monitoring units.

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**Conduits**

**Annular Space Protection of Openings Created by Penetrations of Tubular Steel Conduit, A Review of UL Special Service Investigation, File NC 546, Project 90NK11650**

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Fiberglass Cable Tray Systems

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**ANSI/NEMA FB 1-2014**

Fittings, Cast Metal Boxes and Conduit Bodies for Conduit, Electrical Metallic Tubing (EMT) and Cable

Covers fittings that are a part of electrical raceway and cable systems designed for use as intended by the requirements of NFPA 70. Specifically covers fittings for use with non-flexible tubular raceways—rigid and intermediate metal conduit and EMT—and with flexible raceways and cable. Adopted by the U.S. Department of Defense.

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**NEMA FB 2.40-2016**

Installation Guidelines for Expansion and Expansion/Deflection Fittings

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**NEMA FB 2.10-2013**

Selection and Installation Guidelines for Fittings for Use with Non-Flexible Electrical Metal Conduit or Tubing (Rigid Metal Conduit, Intermediate Metal Conduit and Electrical Metallic Tubing)

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NEMA RN 2-1997 (R2009)
Packaging of Master Bundles for Electrical Rigid Metal Conduit (ERMC)—Steel, Electrical Intermediate Metal Conduit (EIMC)—Steel, and Electrical Metallic Tubing (EMT)—Steel
Covers recommendations for the size and banding of master bundles of electrical rigid metal conduit (ERMC)—steel, electrical intermediate metal conduit (EIMC)—steel, and electrical metallic tubing (EMT)—steel, in 10-foot (3.05 m) lengths and the size and banding of master bundles of ERMC—steel and EMT—steel, in 20-foot (6.10 m) lengths.  
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NEMA RN 3-1991 (R2002)
Product Identification Numbers for Metallic Tubular Conduit Products for Use with Bar Coding and Electric Data Interchange (EDI) Applications
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Electrical Polyvinyl Chloride (PVC) Tubing and Conduit
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NEMA TC 3-2015
Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing
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Defines general requirements, performance requirements, test methods and marking for the following types of PVC plastic utilities duct intended for underground installation for communications and electrical wire and cable EB-20 and EB-35, designed for burial encased in concrete; DB-60; and DB-100 and DB-120, designed for direct burial without encasement in concrete.  
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<th>Lists dimensions, sets forth properties, outlines performance requirements and test methods, and assists in selecting and obtaining the proper PVC and PE nonmetallic riser U-type guards intended to protect riser cables on utility poles.</th>
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<td>Testing Methods and Equipment Common to the ANSI C119 Family of Standards</td>
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<td>Covers connectors used to make electrical connections between aluminum-to-aluminum, aluminum-to-copper and copper-to-copper conductors on distribution and transmission lines. Establishes electrical and mechanical test requirements for electrical connectors.</td>
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<td>Establishes the electrical, mechanical and environmental test requirements for electrical insulation-piercing connectors. Covers insulation-piercing connectors used for making electrical connections between insulated, insulated-to-bare and bare-to-bare conductors rated 600 V or less and 90°C (low voltage aerial bundled cables and bare and insulated line wires) on overhead distribution lines for electric utilities.</td>
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<td>Encompasses all ratings for outdoor circuit breakers above 1,000 V for ac services. Applies to attachments, auxiliaries and spare parts for circuit breakers and attachments; and recommended installation, operation, and maintenance procedures.</td>
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<td>NEMA SG 10-2013</td>
<td>Enhances electrical safety awareness to mitigate electrical hazards for members of the workforce assigned to servicing and maintaining switchgear, owners and users of the equipment, and the public. The goal of this guide is to ensure the adoption of OSHA and NFPA 70E safety-related practices for electrical work and requirements of electrical safety.</td>
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<td>NEMA SG 11-2013</td>
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<td>NEMA EVSE 1.2-2015</td>
<td>Describes a protocol for authenticating electric vehicle (EV) charging service requests using contactless proximity radio frequency identification (RFID)-type credentials. Authentication provides assurance to the EV charging network that the EV driver is the correct authorized party incurring a financial or other obligation for the services to be rendered. The protocol also gives EV drivers confidence that transactions have not been authenticated using forged or fraudulent credentials.</td>
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<td>NEMA 250-2014</td>
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NEMA ICS 7-2014
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American National Standard for Electric Lamps—Assigned LED Lamp Codes
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American National Standard for Specification for Tubular Incandescent Infrared Lamps
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American National Standard for Incandescent Lamps—Tungsten Halogen Lamps (Non-Vehicle)
Specifies performance requirements for various single-ended, double-ended, integral reflector, and PAR tungsten halogen lamps, with rated voltages up to 277 V, and used for projection, photographic, (floodlight), special purpose, general lighting service (GLS), and stage-studio lighting applications.
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American National Standard for Electric Lamps—Methods of Measurement of Glow Lamps
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American National Standard for Electric Lamps—High-Intensity Discharge (HID)—Methods of Measuring Characteristics
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American National Standard for Electric Lamps—Dimensions for Projection Lamps—Double-Contact, Medium Ring (Special B), Base-up Type
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ANSI C78.1402-2004
American National Standard for Electric Lamps—Four-Pin, Prefocus, Base-Down Type
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ANSI C78.1403-1997
 Defines the dimensional limits and other physical characteristics required to ensure interchangeability and to assist in the proper application of a specific category of lamps. This category is TH lamps with G6.35, GX6.35 and GY6.35 two-pin bases and 27.0 to 40 mm nominal light center length.
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ANSI C78.1406-2004
American National Standard for Electric Lamps—P28 Single-Contact Medium Prefocus-Based Projection Lamps for Base-Down Operation—Dimensions
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American National Standard for Electric Lamps—CBA Projection Lamp
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ANSI C78.1413-2001
American National Standard for Dimensions and Centering Systems for Projection Lamps—51 mm (2 in.) Integral Reflector, Rim Reference Lamps with GX5.3, GY5.3 and GU5.3 Bases
Specifies detailed dimensions for 51 mm (2 in.) integral reflector rim reference projection lamps with GX5.3, GY5.3 or GU5.3 bases to ensure interchangeability within the appropriate holding systems. The lamps provide references for mounting at their reflector rims.
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<tr>
<td>ANSI C78.1420-2001</td>
<td>American National Standard for Microfilm Projection Lamps—2 in. (51 mm) Dichroic Coated Integral Reflector, Rim Reference Tungsten Halogen Lamps with GX5.3 Bases Consolidates the lamps commonly used for microfilm projectors into a single performance standard.</td>
<td>$101</td>
<td></td>
</tr>
<tr>
<td>ANSI C78.1421-2002</td>
<td>American National Standard for Dimensions and Centering Systems for Projection Lamps—35 mm Integral Reflector, Rim Reference Lamps with GZ4 Bases Specifies lamp dimensions of 35 mm (1.38 in.) diameter integral reflector rim reference projection lamps with GZ4 bases so that interchangeability with the appropriate holding systems will be ensured.</td>
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<tr>
<td>ANSI C78.1430-1997 (R2009, R2016)</td>
<td>American National Standard for Electric Lamps—Slide Projector Lamps, Condensing, Dichroic, 1.65-in. (42 mm), Integral Reflector, Rim Reference Tungsten-Halogen Lamps with GX5.3 Bases This standard consolidates the lamps commonly used for slide projectors into a single standard. The lamps contained in this standard are not to be considered as interchangeable, although physically they will all fit the common GX5.3 sockets. The photometry of each lamp is dependent upon the system for which it was designed and on the system in which it is used. A sample system and representative photometric values are found in the Annex.</td>
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<td></td>
</tr>
<tr>
<td>ANSI C78.1431-1997 (R2016)</td>
<td>American National Standard for Electric Lamps—Slide Projector Lamps, Condensing, Dichroic, Two-inch (51 mm), Integral Reflector, Rim Reference Tungsten-Halogen Lamps with GY 5.3 Bases Consolidates the lamps commonly used for slide projectors into a single standard. The lamps contained in this standard are not to be considered as interchangeable—they will all fit the common socket used for these lamps.</td>
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</tr>
<tr>
<td>ANSI C78.1432-1997</td>
<td>American National Standard for Tungsten Halogen (TH) Lamps with GZ9.5 Two-Pin, Prefocus Bases and 36.5 mm Nominal Light Center Length Defines the dimensional limits and other physical characteristics required to ensure commonality and interchangeability and to assist in the proper application of TH lamps.</td>
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<tr>
<td>ANSI C78.1433-2001</td>
<td>American National Standard for 2 in. (51 mm) Dichroic Coated Integral Reflector, Rim Reference Tungsten Halogen (TH) Large-Screen Projection Lamps with GX5.3 Bases Consolidates standards for low voltage 2 in. (51 mm) dichroic coated integral reflector, rim reference TH lamp types with GX5.3 bases designed for large-screen projection systems and used in 8 mm and 16 mm projection, slide projector, photo enlarger and printing applications.</td>
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<td></td>
</tr>
<tr>
<td>ANSI C78.1434-2001</td>
<td>American National Standard for Condensing Dichroic Coated Integral Reflector Side-Pin Tungsten Halogen (TH) Projection Lamps with GX7.9 Bases Consolidates previous standards for certain low voltage condensing dichroic coated integral reflector side-pin TH projection lamps with GX7.9 bases designed for large-screen projection systems and used in 8 mm and 16 mm projector applications.</td>
<td>$113</td>
<td></td>
</tr>
<tr>
<td>ANSI C78.1435-2002</td>
<td>American National Standard for Projection Lamps—Tungsten Halogen Lamps with G5.3 Bases Consolidates projection lamps with G5.3 bases into a single standard.</td>
<td>$55</td>
<td></td>
</tr>
<tr>
<td>ANSI C78.1450-1983 (R2002)</td>
<td>American National Standard for Projection Lamps, Incandescent—Method for Life Testing Defines the dimensional limits and other physical characteristics required to ensure commonality and interchangeability and to assist in the proper application of projection lamps.</td>
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ANSI C78.1452-2004 (R2008, R2015)
American National Standard for Electric Lamps—Projection Lamps—Vocabulary
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American National Standard for Electric Lamps—Single-Ended Tungsten-Halogen Lamps GZ9.5 Base, T6 Bulb, 36.5mm LCL, 76.2mm MOL with Proximity Reflector
This standard defines the dimensional, physical, and other characteristics to assist in the proper application of tungsten-halogen lamps with GZ9.5 bases, T6 (T19) bulbs at 36.5 mm LCL and 76.2 mm maximum overall length with internal proximity reflectors. Lamps of various wattage and voltage designs are included.
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American National Standard for Tungsten Halogen (TH) Lamps with G9.5 Bases and 60.5 mm Light Center Length (LCL)
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American National Standard for Roadway and Area Lighting Equipment—Locking-Type Photocontrol Devices and Mating Receptacles—Physical and Electrical Interchangeability and Testing
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ANSI C136.11-2011
American National Standard for Roadway and Area Lighting Equipment—Multiple Sockets
Discusses medium and mogul screw base sockets used in multiple fixture circuits or in luminaires designed and intended for parallel wired circuits. Provides interchangeability of lamps, minimum safety standards for operating personnel, and minimum performance criteria in lighting roadways and areas open to the public.
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ANSI C136.12-2014
Covers the selection of mercury vapor lamps recommended for use in roadway and area lighting equipment.
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ANSI C136.13-2014
American National Standard for Roadway and Area Lighting Equipment—Metal Brackets for Wood Poles
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ANSI C136.15-2015
American National Standard for Roadway and Area Lighting Equipment—Luminaire Field Identification
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ANSI C136.16-2014
American National Standard for Roadway and Area Lighting Equipment—Enclosed, Post Top–Mounted Luminaires
Covers dimensional, maintenance, and light distribution features that permit the interchange of enclosed, post top–mounted high-intensity discharge (HID), solid state light (SSL) source (also referred to as LED (Light Emitting Diode), compact fluorescent, and induction luminaires whose center of mass is approximately over the mounting tenon.
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<td>ANSI C136.20-2012</td>
<td>American National Standard for Roadway and Area Lighting Equipment—Fiber-Reinforced Composite (FRC) Lighting Poles</td>
<td>Applies to FRC lighting poles used for roadway and area lighting. Includes nomenclature, dimensional data, performance criteria and some interchangeability features for standard poles as well as those that must meet breakaway requirements for poles as described in AASHTO LTS Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.</td>
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<td>ANSI C136.21-2014</td>
<td>American National Standard for Roadway and Area Lighting Equipment—Vertical Tenons Used with Post Top–Mounted Luminaires</td>
<td>Covers the attachment features of vertical tenons on pole tops or brackets used in roadway and area lighting that permit the interchangeability of post top–mounted luminaires.</td>
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<td>ANSI C136.24-2004 (R2010)</td>
<td>American National Standard for Roadway and Area Lighting Equipment—Non-Locking (Button)–Type Photocontrols</td>
<td>Covers the electrical and mechanical interchangeability of non-locking–type photocontrols for mounting within a roadway or off-roadway luminaire.</td>
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<td>ANSI C136.25-2013</td>
<td>American National Standard for Roadway and Area Lighting Equipment—Ingress Protection (Resistance to Dust, Solid Objects and Moisture) for Luminaire Enclosures</td>
<td>Addresses the protection of luminaires from ingress based on the anticipated environment.</td>
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<td>ANSI C136.27-2012</td>
<td>American National Standard for Roadway and Area Lighting Equipment—Tunnel Lighting and Underpass Luminaires</td>
<td>Covers luminaires used for illuminating roadway tunnels and underpasses. The requirements in this standard are limited to general attributes of tunnel luminaires because of the wide variety of possible designs.</td>
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American National Standard for Roadway and Area Lighting Equipment—Glass Lenses Used in Luminaires
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ANSI C136.30-2015
American National Standard for Roadway and Area Lighting Equipment—Pole Vibration
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ANSI C136.31-2010
American National Standard for Roadway and Area Lighting Equipment—Luminaire Vibration
Covers the minimum vibration withstand capability and vibration test methods for roadway and area luminaires.
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ANSI C136.32-2012
American National Standard for Roadway and Area Lighting Equipment—Enclosed Setback Luminaires and Directional Floodlights for High-Intensity Discharge (HID) Lamps
Covers dimensional, maintenance and electrical features that permit the interchange of similar style enclosed luminaires having the same light distribution classification or type for HID lamps used in roadway and area lighting equipment. Luminaires covered by this standard are generally yoke-, trunnion- or tenon-mounted and are traditionally called floodlights or setback luminaires.
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ANSI C136.33-2014
American National Standard for Roadway and Area Lighting Equipment—Vandal Shields for Roadway and Area Lighting Luminaires
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ANSI C136.35-2009 (R2014)
American National Standard for Roadway and Area Lighting Equipment—Luminaire Electrical Ancillary Devices (LEAD)
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ANSI C136.36A-2010
American National Standard for Roadway and Area Lighting Equipment—Aluminum Lighting Poles
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ANSI C136.37-2011
American National Standard for Solid State Light Sources Used in Roadway and Area Lighting
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ANSI C136.38-2015
American National Standard for Roadway and Area Lighting Equipment—Induction Lighting
 Defines electrical and mechanical requirements of induction-type light sources for use in roadway and area lighting luminaires.
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ANSI C136.40-2014
American National Standard for Solid State Light Sources Used in Roadway and Area Lighting
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American National Standard for Roadway and Area Lighting Equipment—Dimming Control Between an External Locking Type Photocontrol and Ballast or Driver
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ANSI C136.46-2013
American National Standard For Roadway and Area Lighting Equipment—Concrete Lighting Poles
Applies to concrete lighting poles used in roadway and area lighting equipment and includes nomenclature, performance criteria, marking and record keeping requirements and certain minimal material needs. It does not cover concrete poles manufactured with any modified concrete mix incorporating the use of polymers or other modifiers.
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ANSI C136.47-2010 (R2015)
American National Standard for Roadway and Area Lighting Equipment—Steel Roadway and Area Lighting Poles
Provides construction and performance guidance for steel poles used in roadway and area lighting applications.
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ANSI C136.49-2016
American National Standard for Roadway and Area Lighting Equipment—Plasma Lighting
Defines the electrical and mechanical requirements of plasma type light sources for use in roadway and area lighting luminaires.
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ANSI/NEMA C78.LL 4-2003
American National Standard for Procedures for Incandescent Lamp Sample Preparation and the Toxicity Characteristic Leaching Procedure (TCLP)
Supplements the TCLP by supplying specific instructions for size reduction and other critical procedures specific to the testing of incandescent lamps.
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C78.379-2006 (R2015)
American National Standard for Electric Lamps—Classification of the Beam Patterns of Reflector Lamps
Describes a system for classification of beam patterns and beam angles of reflector lamps and defines a method of describing light output.
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C78.1407-2004 (R2008, R2015)
American National Standard for Electric Lamps—Condenser-Reflector, Four-Pin Prefocus-Base Projection Lamps—Dimensions
Specifies the dimensions essential to the interchangeability of condenser-reflector lamps having four-pin prefocus bases, T12 or T14 bulbs, and used in 8mm motion-picture projectors.
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NEMA BL 2-2009
Energy Efficiency for Electronic Ballasts for T8 Fluorescent Lamps
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Dimming Ballast Energy Performance
Provides a methodology for applying existing test methods for program start ballasts to fluorescent dimming ballasts and provides a way to calculate BLE for fluorescent dimming ballasts. This standard offers BLE limits for ballasts of common four-foot bipin lamps, such as T8 and T5 lamps, that are not covered by the most recent Federal Rulemaking.
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Provides a standardized test method for determining the luminaire efficacy rating of incandescent, compact fluorescent and low-wattage high-intensity discharge downlight luminaires. When rating a fixture in accordance with EPAct 1992, use this standard. For other purposes, see NEMA LE 6, a newer standard for luminaire efficacy that supersedes the LE 5 series.

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NEMA LC 1-2007 (R2013)

**Test Procedure for Compatibility of Hearing Aids and Ultrasonic Lighting Control Devices**

Sets forth test procedures for use with a small acoustic chamber to evaluate potential interactions between hearing aids and ultrasonic lighting control devices (occupancy sensors). Test procedures are designed to simulate and test occupancy sensors at three typical, specific frequencies (25 kHz, 32.7 kHz and 40 kHz) and one type of hearing aid.

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**Procedure for Determining Luminaires Efficacy Ratings for High-Intensity Discharge (HID) Industrial Luminaires**

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**Procedure for Determining Luminaires Efficacy Ratings for Fluorescent Luminaires**

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NEMA LE 6-2014
Procedure for Determining Target Efficacy Ratings for Commercial, Industrial, and Residential Luminaires
Provides a procedure for the determination of TER for luminaires under laboratory test conditions and describes categories or types of product used in common indoor and outdoor lighting applications. This standard does not apply to luminaires for specialized applications, including but not limited to products intended to be aimed, accent luminaires, rough or hazardous use luminaires or emergency lighting.

NEMA LE 7-2015
Recessed Luminaires Intended for Contact with Expanding Polyurethane Foam Insulation
Defines a subset of insulation contact (Type IC) luminaires that are appropriate for use with polyurethane spray foam. This standard also provides requirements and recommendations for Type IC recessed luminaires intended for installation in contact with low-density and medium-density polyurethane foam thermal insulation.

NEMA LL 8-2010
Limits on Mercury Content in Self-Ballasted Compact Fluorescent Lamps
Covers limited integral, self-ballasted compact fluorescent lamps of all base types. Applies to integral, self-ballasted compact fluorescent lamps manufactured or imported after September 2010.

NEMA LL 9-2011
Dimming of T8 Fluorescent Lighting Systems
Provides recommendations for dimmable T8 fluorescent lighting systems for the full range of light output.

NEMA LSCR-PP 1-2015
Light Source Color Rendition

NEMA LSD 1-2003 (R2011)
Tungsten Halogen (TH) Lamps (Bulbs)
Ultraviolet, Rupture and High Temperature Risks
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Wiring Requirements for T8 Lamps with Instant-Start Ballasts
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### NEMA LSD 3-2012
Interaction of Infrared Controls and Electronic Compact Fluorescent Lamps
Defines possible interactions between compact fluorescent lamps and remote controls typically used in home entertainment devices, such as TVs and VCRs.

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Glossary of Terms Pertaining to Remote Illumination Systems
Defines the more common terms associated with remote illumination systems intended to generate and/or conduct light from its source, an illuminator, through a light guide assembly to one or more remote locations, luminaires, for the purpose of illumination.

### NEMA LSD 7-1999 (R2012)
Ultraviolet Radiation (UV) from Fluorescent Lamps
Discusses various scientific studies on possible effects of exposure to light sources reported in the popular press. This interest has been stimulated by the fact that 1) most light sources emit some small amount of UV energy, and 2) extended exposure to the high UV levels in sunlight can cause adverse effects in the skin.

### NEMA LSD 8-2014
Power Quality Implications of Self-ballasted Lamps in Residences
This paper provides information about self-ballasted lamps and the implications these lamps present from a power quality perspective. It focuses on the use of self-ballasted lamps in residences and on residential power quality. Self-ballasted lamps have dedicated ballasts that are part of the lamp itself. This allows the lamp to be used in some sockets that were originally meant for incandescent lamps. The ballast intercepts the electrical current before it enters the bulb itself, and it cannot be removed from the base. CFLs and some LED lamps are examples of self-ballasted lamps.

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NEMA LSD 9-2000 (R2011)
Compatibility of Add-on Tube Guards with T8 Fluorescent Lamps Operating on High-Frequency Electronic Ballasts
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NEMA LSD 14-2012
Guidelines on the Application of Dimming to High-Intensity Discharge Lamps
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NEMA LSD 18-2003 (R2012)
Compatibility of Fluorescent Lamps and Electronic Ballasts in Frequently Switched Applications
Provides guidance in the selection of ballast type as a function of lamp switching rate to achieve the desired energy savings while maintaining acceptable lamp life.
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NEMA LSD 21-2012
End-of-life Operation of Small Diameter (5/8 in. Diameter or Less) Pin-Based Fluorescent Lamps
Addresses variations in electrical and thermal parameters of small-diameter fluorescent lamps.
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NEMA LSD 22-2001
Demand Reduction and Energy Savings Using Occupancy Sensors
Provides unique and valuable data about occupancy sensor demand reduction and energy savings potential.
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NEMA LSD 23-2016
Recommended Practice—Lamp Seasoning for Fluorescent Dimming Systems
This paper provides a recommended practice to season lamps for Fluorescent Dimming Systems.
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NEMA LSD 24-2012
Marking of Luminaire Codes on Metal Halide Lamps
Provides information on marking metal halide lamps with the manufacturer’s commercial designation, including lamp wattage, ANSI code, lamp type, electrical code, and luminaire code.
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NEMA LSD 27-2012
Best Practices for Operating Fluorescent Lighting Systems
Summarizes information and recommendations found in more detailed NEMA papers on individual topics, as well as additional information and recommendations. The information benefits customers seeking to ensure proper operation of fluorescent systems to maximize system reliability and operational economy.
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Minimizing the Potential of Base Arcing Between Certain Wattage HID Lamps and Lampholders
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NEMA LSD 29-2012
Incompatibility of T8 Ballasts (RS, PS, Dimming) and Shunted Bi-Pin Lampholders
Provides information on incorrect applications of bi-pin lampholders (tombstones) used with rapid-start (RS), programmed start (PS) and dimming ballasts. These incorrect applications have occurred in both new luminaires and field lamp and ballast retrofits.
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NEMA LSD 56-2011
Compatibility of Forward Phase Control Dimmers and Dimmable Self-Ballasted Compact Fluorescent Lamps and Frequently Asked Questions Regarding CFLs and Dimming
Provides design guidance in the area of lamp/dimmer compatibility to manufacturers of dimmable self-ballasted compact fluorescent lamps (CFLs) using forward phase control and manufacturers of forward phase control dimmers. The values provided assume operation under nominal line conditions, i.e. 120 V, 60 Hz.
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Provides information regarding practical aspects of applying spray foam insulation that may come into contact with luminaires in various building applications.
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Air Infiltration Ratings for Recessed Luminaires
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NEMA LSD 63-2012
Measurement Methods and Performance Variation for Verification Testing of General Purpose Lamps and Systems
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Lighting Controls Terminology
Defines terminology related to controls for lighting systems for non-residential and residential applications.
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NEMA LSD 65-2012
NEMA Guide to Emergency Lighting
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NEMA LSD 66-2012
Understanding the New Fluorescent Ballast Rule EPCA 10 CFR 430
Provides educational information about the Fluorescent Ballast Rule and the associated measurement methods.
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NEMA LSD 67-2013
Low Mercury Controllable Fluorescent Systems
Discusses technical tradeoffs associated with reduced mercury dosing in fluorescent lighting systems and their environmental impacts. NEMA members are committed to providing fluorescent lighting systems that allow lamps to be controlled to save energy, while reducing the mercury content in the lamps to the extent that it is technically possible without sacrificing functionality.
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NEMA LSD 68-2013
Remote Phosphor Devices Used in LED Lamps, Engines, and Luminaires
Facilitates development of testing and certification procedures that will allow the qualification of pump or source devices, pumped conversion materials/remote phosphors and reflective materials independently then qualification of the remote phosphor system (pump + conversion material + mixing chamber material, if applicable). This can simplify the testing required to qualify for ENERGY STAR®.
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NEMA LSD 70-2014
A Comparison of High Performance Luminaire Programs in the US Market
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**Best Practices for Metal Halide Lighting Systems Relative to Lamp Rupture Risks**

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**Energy Savings with Fluorescent and LED Dimming**

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## NEMA SSL 6-2010
**Solid State Lighting for Incandescent Replacement—Dimming**

Provides guidance for those seeking to design and build or work with solid state lighting products intended for retrofit into systems that previously used incandescent screw base lamps.

Addresses dimming of these products and the interaction between the dimmer (control) and the bulb (lamp).

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## NEMA SSL 8-2015
**American National Standard for Electric Lamps—Specifications for Performance of Self-ballasted Compact Fluorescent Lamps**

This standard specifies the performance requirements together with the test methods and conditions required to show compliance of self-ballasted compact fluorescent lamps up to 60 W which are intended for domestic and similar general lighting purposes. Globe and reflector types are excluded. Such lamps shall have a rated input voltage of 120 V or 127 V at 60 Hz and an Edison screw base.

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ANSI C12.4-1984 (R2002, R2011)
American National Standard for Registers—Mechanical Demand
Covers the voltage and frequency rating, full-scale values, scale classes, demand intervals, multiplying constants, timing mechanism and other general features of mechanical demand registers required for use on watt-hour meters.

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ANSI C12.5-1978 (R2002, R2012)
American National Standard for Thermal Demand Meters
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ANSI C12.6-1987 (R2002, R2012)
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American National Standard for Test Blocks and Cabinets for Installation of Self-Contained A-Base Watthour Meters
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ANSI C12.9-2014
American National Standard for Test Switches and Plugs for Transformer-Rated Meters
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ANSI C12.19-2012
American National Standard for Utility Industry End Device Data Tables
Defines a Table structure for utility application data to be passed between an End Device and any other device. It neither defines device design criteria nor specifies the language or protocol used to transport that data. The Tables defined in this Standard represent a data structure that shall be used to transport the data, not necessarily the data storage format used inside the End Device.

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American National Standard for Protocol Specification for ANSI Type 2 Optical Port
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ANSI C12.20-2010
American National Standard for Electricity Meters—0.2 and 0.5 Accuracy Classes
Establishes the physical aspects and acceptable performance criteria for 0.2 and 0.5 accuracy class electricity meters meeting Blondel's Theorem.
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ANSI C12.21-2006
American National Standard for Protocol Specification for Telephone Modem Communication
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ANSI C12.22-2012
American National Standard for Protocol Specification for Interfacing to Data Communication Networks
Describes the process of transporting C12.19 table data over a variety of networks, with the intention of advancing interoperability among communications modules and meters. Uses AES encryption to enable strong, secure Smart Grid communications, including confidentiality and data integrity, and is also fully extensible to support additional security mechanisms the industry may require in the future.
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ANSI/NEMA C93.1-1999
American National Standard for Requirements for Power-Line Carrier Coupling Capacitors and Coupling Capacitor Voltage Transformers (CCVTs)
Applies to capacitors for coupling power-line carriers and for reducing rate of rise of breaker transient recovery voltage, and to CCVTs for connection to a high voltage power circuit, between line and ground, to supply a low voltage for measurement, control and protective functions.
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ANSI/NEMA SG-IPRM 1-2016
Smart Grid Interoperability Process Reference Manual
Defines requirements and recommendations for general test policies, test suite specifications, test profiles, interoperability testing and certification authority technical programs, governance, laboratory qualifications, and (process) improvements. It also describes an implementation approach.
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NEMA C12.24 TR-2011
NEMA Technical Report Definitions for Calculations of VA, VAh, VAR, and VARh for Poly-Phase Electricity Meters
Establishes names and mathematical definitions for the volt-ampere (VA), volt-ampere hours (Vah), volt-ampere reactive (VAR) and volt-ampere reactive hours (VARh), formulae used by polyphase electricity meters. The mathematical definitions assume static waveforms.
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NEMA C12.30 TR-2013
Test Requirements for Metering Devices Equipped with Service Switches
Identifies test requirements for meters containing a service switch. Most of the tests included in this report are tailored to fit service switch type meters and originate from the ANSI C12.1-2008 standard. The intent is to use this technical report in conjunction with C12.1-2008. Other tests that are specific to the service switch have been added for completeness.
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Hyundai has very conservative engineering and design philosophies, they do not accept the ‘Nominal Approach’ of making motors. Every motor, not just the average of a group of motors, must meet or exceed the target requirements such as temperature rise, efficiency, noise and vibration.

The Nominal Approach: NEMA or other specifications may require that a motor have a max temperature rise of 80°C at the rated load. The Nominal Approach allows that the average of the entire lot not exceed 80°C, meaning that some motors may exceed the requirement. All that matters is that the average of all motors does not exceed the required value.

Summary - The Hyundai Approach: Hyundai requires that every single motor produced does not exceed 80°C so they set their internal target at 7-8% less. This assures that every motor produced meets the requirement. Hyundai uses this same philosophy for many other critical attributes such as efficiency, noise level, vibration, full load speed, locked rotor and breakdown torques.

Hyundai’s approach for a reliable insulation system is to use Class N varnish, which is rated for 200°C and limits the temperature rise to ~74°C. This results in a larger buffer between the actual temperature and what the insulation system can handle without breaking down. With a 40°C ambient and a motor running at the nameplate load this buffer for an HHI motor is a whopping 86°C (200-74-40 = 86). Compare this to a typical motor with an 80°C rise and Class F insulation, the buffer is only 35°C (155-80-40=35). Remember the old adage, for every 10°C cooler electrical products run, the life expectancy of the insulation system doubles. An 86°C buffer is a big deal if you want a motor that will last a long time.

Summary - Hyundai motors run cooler and provide a larger buffer of protection for the insulation system which results in long life. An additional benefit of this design allows you to apply a stock motor in higher ambient conditions and still provide a good buffer.

Vibration leads to premature bearing failure and can damage the coupled equipment.

Hyundai’s approach to a low vibration motor ... Shoot for less than half of the NEMA requirement, don’t cut cost with lighter weight end bells, machine all motors with a precise foot flatness and use only the best bearings.

NEMA requires a finished motor to have a vibration level that does not exceed .15 inch/second peak. Hyundai’s conservative approach sets the target at ~.07 inch/second peak. All motors are precision balanced, feet are machined to a flatness of ~0.005”, end bells are heavily ribbed and only premium bearings such as NSK, SKF or FAG are used.

Summary - heavy cast iron frames, precision balance rotors and precise foot flatness leads to lower vibration and thus longer bearing life and less damage to other equipment.

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NEMA SM SET
Smart Meter Package
Provides requirements and guidance on electricity metering, watthour meter sockets, device data tables, meter interfacing to data communication networks and type 2 optical ports. Also establishes performance criteria for thermal demand meters, mechanical demand registers and phase-shifting devices used in metering. Test methods for transformer-rated meters and self-contained “A” base watthour meters are included in this package, as is a watthour safety standard. The package contains all parts of ANSI C12, as well as NEMA SG-AMI 1.

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Medical

HIMSS/NEMA HN 1-2013
Manufacturer Disclosure Statement for Medical Device Security
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Determination of Signal-to-Noise Ratio (SNR) in Diagnostic Magnetic Resonance Imaging
Defines methods for measuring the signal-to-noise ratio of magnetic resonance images obtained under a specific set of conditions, and using single-channel volume receiver coils. This document does not address the use of special purpose coils (see MS 6) or coils that employ multiple receiver channels for operation (see MS 9).

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NEMA MS 2-2008 (R2014)
Determination of Two-Dimensional Geometric Distortion in Diagnostic Magnetic Resonance Images
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Acoustic Noise Measurement Procedure for Diagnostic Magnetic Resonance Imaging (MRI) Devices
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NEMA MS 5-2009
Determination of Slice Thickness in Diagnostic Magnetic Resonance Imaging
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NEMA MS 6-2008 (R2014)
Determination of Signal-to-Noise Ratio and Image Uniformity for Single-Channel, Non-Volume Coils in Diagnostic Magnetic Resonance Imaging (MRI)
Defines test methods for measuring the signal-to-noise ratio and image uniformity of MR images produced using special purpose single-channel non-volume coils or a single channel of an array coil.

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Characterization of the Specific Absorption Rate (SAR) for Magnetic Resonance Imaging Systems
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NEMA MS 9-2008 (R2014)
Characterization of Phased Array Coils for Diagnostic Magnetic Resonance Images (MRI)
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<td>NEMA MS 10-2010</td>
<td>Determination of Local Specific Absorption Rate (SAR) in Diagnostic Magnetic Resonance Imaging (MRI)</td>
<td>Defines methods for determining the local SAR of diagnostic MRI radio frequency coils under a specific set of conditions.</td>
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<td>NEMA MS 11-2010</td>
<td>Determination of Gradient-Induced Electric Fields in Diagnostic Magnetic Resonance Imaging</td>
<td>Defines methods for determining the gradient-induced electric fields of diagnostic magnetic resonance imaging gradient coils (head and body) under a specific set of conditions.</td>
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<td>NEMA MS 12-2010</td>
<td>Quantification and Mapping of Geometric Distortion for Special Applications</td>
<td>Defines test methods for measuring the absolute spatial variation of geometric accuracy within magnetic resonance images. This standard presents the absolute geometric accuracy as a map, graph or table throughout the imaging region rather than as simple figures of merit, such as average or worst-case error.</td>
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<td>Performance Measurements of Gamma Cameras</td>
<td>Provides a uniform criterion for the measurement and reporting of gamma camera performance parameters for single and multiple crystal cameras and tomographic devices that image a section or reconstruction image volume, or both.</td>
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<td>Performance Measurements and Quality Control Guidelines for Non-Imaging Intraoperative Gamma Probes</td>
<td>Establishes definitions and describes quantitative measurements of performance characteristics and quality control tests for non-imaging intraoperative gamma probes.</td>
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<td>Acoustic Output Measurement Standard for Diagnostic Ultrasound Equipment, Revision 3</td>
<td>Covers all active ultrasound apparatus designed for medical diagnostic use, including ultrasonic echo ranging devices (both manual and automatically scanned), through-transmission devices, Doppler echo equipment and combinations thereof.</td>
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<td>NEMA UD 3-2004</td>
<td>Standard for Real-Time Display of Thermal and Mechanical Acoustic Output Indices on Diagnostic Ultrasound Equipment, Revision 2</td>
<td>Applies to diagnostic ultrasound equipment intended for use on humans and capable of exceeding a thermal or mechanical index of 1.0.</td>
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<td>Test Standard for the Determination of the Visible Entrance Field Size of an X-Ray Image Intensifier (XRII) System</td>
<td>Defines the test standard method for the determination of the visible entrance field size of an XRII system. Includes direct-viewing, video, photofluorographic film recording, and cine film recording and projection systems.</td>
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Test Standard for the Determination of the System Contrast Ratio (SCR) and the System Veiling Glare Index (SVGI) of an X-Ray Image Intensifier (XRII) System
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Standard Attributes on CT Equipment Related to Dose Optimization and Management
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Raceways

ANSI C80.1-2015
American National Standard for Electric Rigid Steel Conduit
Establishes the requirements for electrical rigid steel conduit for use as a raceway for wires or cables of an electrical system. Raceway systems (conduit, fittings, and enclosures) are relied upon to provide mechanical protection for circuit conductors and to carry potentially dangerous fault currents.

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ANSI C80.3-2015
American National Standard for Electrical Metallic Tubing—Steel (EMT-S)
This standard covers the requirements for steel electrical metallic tubing, for use as a raceway for wires or cables of an electrical system. Finished tubing is typically furnished in nominal 10-ft (3.05-m) lengths. It is protected on the exterior surface with a metallic zinc coating or alternate corrosion protection coating (see UL 797 for alternate corrosion protection coating requirements) and on the interior surface with a zinc or organic coating.

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ANSI C80.5-2015
ANSI C80.5-2015 American National Standard for Electrical Rigid Metal Conduit—Aluminum (ERMC-A)
This standard covers the requirements for porthole-extruded aluminum-alloy conduit for use as a raceway for the wires or cables of an electrical system. The finished conduit is produced in nominal 10-ft. (3.05-m) lengths, threaded on each end with one coupling attached.

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ANSI C80.6-2005
American National Standard for Intermediate Metal Conduit (EIMC)
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Guidelines for Conduit-in-Casing Construction
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NEMA PRP 2-2014
Guidelines for Solvent-Cementing Joints for PVC Rigid Nonmetallic Conduit, Duct, and Fittings
Presents industry guidelines for solvent-cementing joints for PVC rigid nonmetallic conduit, duct, and fittings.
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NEMA PRP 3-2009
Expansion Epoxy-Based Fittings for RTRC Rigid Nonmetallic Conduit
Addresses the effect of thermal expansion and contraction on long, straight runs of conduit. For this application, O-ring expansion fittings are used to accommodate changes in length.
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NEMA PRP 4-2009
Expansion Fittings for Polyvinyl Chloride (PVC) Rigid Nonmetallic Conduit
Provides information about when and how expansion fittings are used. Discusses the effects of temperature fluctuations on PVC conduit.
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NEMA PRP 5-2015
Installation Guidelines for Surface Nonmetallic Raceway
Provides information on the proper application and installation of surface nonmetallic raceway permitted for use in dry locations, non-hazardous locations, and areas not subject to physical abuse, in accordance with the National Electrical Code® (NEC) and the Canadian Electrical Code (CE Code), Part I.
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NEMA TC 14.AG-2015
Aboveground Reinforced Thermosetting Resin Conduit and Fittings
Replaces the portions of TC 14-2002 relevant to aboveground RTRC and fittings and includes an annex on engineering data calculations not included in binational standard. The entire NEMA TC 14 Series can be purchased at a discount.
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NEMA TC 14.BG-2015
Belowground Reinforced Thermosetting Resin Conduit and Fittings
Replaces the portions of TC 14-2002 relevant to aboveground RTRC and fittings and includes an annex on engineering data calculations not included in binational standard. The entire NEMA TC 14 Series can be purchased at a discount.
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NEMA TC 14.XW-2015
Extra Heavy Wall Aboveground Reinforced Thermosetting Resin Conduit and Fittings
Replaces the portions of TC 14-2002 relevant to XW RTRC and fittings and includes an annex on engineering data calculations not included in binational standard. The entire NEMA TC 14 Series can be purchased at a discount.
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NEMA TTGR-N
The Grounding System That Works—Steel Conduit (Electrical Metallic Tubing, Intermediate Metal Conduit and Galvanized Rigid)
Describes new steel conduit analysis software for designing and analyzing distribution feeder and branch circuits, determining ground-fault design, calculating new runs and optimizing safe design, and analyzing existing circuits.
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NEMA DC 3-2013
Residential Controls—Electrical Wall-Mounted Room Thermostats
Covers self-contained, electrical and electronic, wall-mounted room thermostats.
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NEMA DC 3, Annex A-2013
Energy-Efficiency Requirements for Programmable Thermostats
Contains the performance requirements for programmable thermostats described as energy efficient.
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Applies to surface-type control thermostats and temperature limiting controls for electric storage water heaters.
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NEMA DC 10-2009 (R2014)
Residential Controls—Temperature Limit Controls for Electric Baseboard Heaters
Describes construction details, classifications, ratings and other characteristics of temperature limit controls and control systems of the linear-sensing or spot types, which are suitable for mounting inside electric baseboard heaters for the purpose of disconnecting the electrical load when the heater reaches abnormally high temperatures.
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Residential Controls—Hot Water Immersion Controls
Defines basic construction standards and performance characteristics of electric switch-type hot water immersion controls intended primarily for use with hot water boilers and heaters used in residential heating.
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Residential Controls—Line Voltage Integrally Mounted Thermostats for Electric Heaters
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Residential Controls—Class 2 Transformers
Covers Class 2 transformers intended primarily for use in 30 V rms maximum low-voltage residential control circuits. It includes definitions, electrical ratings, performance standards, mounting dimensions, and marking requirements.
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Residential Controls—Class 2 Transformers
Covers Class 2 transformers intended primarily for use in 30 V rms maximum low-voltage residential control circuits. It includes definitions, electrical ratings, performance standards, mounting dimensions, and marking requirements.
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Safety

ANSI Z535 SET
ANSI/NEMA Z535 Set
Contains all six Z535 standards and color chart.
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ANSI Z535-2011
ANSI Z535 Color Chart
Provides a 2011 designation with updated and corrected information concerning ink specifications for the Z535 safety colors.
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ANSI Z535.1-2006 (R2011)
American National Standard for Safety Colors
Sets forth the technical definitions, color standards, and color tolerances for safety colors.
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ANSI Z535.2-2011
American National Standard for Environmental and Facility Safety Signs
Regulates requirements for the design, application, and use of safety signs in facilities and in the environment through consistent visual layout. Reorganized to best describe the five types of safety signs used in facilities, the 2011 edition of this standard is revised to better harmonize with ANSI Z535.4, ANSI Z535.5, and ANSI Z535.6.
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ANSI Z535.3-2011
American National Standard for Criteria for Safety Symbols
Provides general criteria for the design, evaluation, and use of safety symbols to identify and warn against specific hazards and information to avoid personal injury.
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ANSI Z535.4-2011
American National Standard for Product Safety Signs and Labels
Delivers specifications for design, application, use, and placement of safety signs and labels on a wide variety of products. A new type of product safety sign, the “safety instruction sign,” was added to join the existing types of signs, hazard alerting signs, and safety notice signs, which were also more clearly defined and named in this edition. The definitions for “accident,” “harm,” and “incident” were refined to more clearly delineate a separation between physical injury and other safety-related issues (e.g., property damage). It was revised to correspond with ANSI Z535.2, ANSI Z535.5, ANSI Z535.6.
$127
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ANSI Z535.5-2011
American National Standard for Safety Tags and Barricade Tapes (for Temporary Hazards)
Discusses tag and tapes, which are used only until the identified hazard is eliminated or the hazardous operation is completed. The Z535.5-2011 edition was revised to link with ANSI Z535.2, ANSI Z535.4, and ANSI Z535.6. The Safety Instructions Tag was added in addition to the existing types of signs, hazard alerting tags, and barricade tapes, as well as safety notice tags and barricade tapes, which were more clearly defined and named in this edition. Industries (typically manufacturing and construction) that employ lockout/tagout procedures or have a need to mark an area affected by a temporary hazard will find this standard beneficial.
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ANSI Z535.6-2011
American National Standard for Product Safety Information in Product Manuals, Instructions and Other Collateral Materials
Sets forth requirements for the design and location of product safety messages in collateral materials for a variety of products.
$124
Buy Now

NEMA GD 1-2016
Evaluating Water-Damaged Electrical Equipment
Provides advice on the safe handling of electrical equipment that has been exposed to water. Outlines items that will require complete replacement or that can be reconditioned by a trained professional. Equipment covered includes electrical distribution equipment, motor circuits, power equipment, transformers, wire, cable and flexible cords, wiring devices, GFCIs and surge protectors, lighting fixtures and ballasts, motors and electronic products.
$0
Buy Now

NEMA GD 2-2016
Evaluating Fire- and Heat-Damaged Electrical Equipment
Provides information on how to evaluate electrical equipment that has been exposed to heat and fire residue through fire, firefighting activities, or close proximity to a fire. It is designed for use by suppliers, installers, inspectors, and users of electrical products.
$0
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Supply Chain Security

NEMA CPSP 1-2015
Supply Chain Best Practices
Identifies a recommended set of supply chain best practices and guidelines that electrical equipment and medical imaging manufacturers can implement during product development to minimize the possibility that bugs, malware, viruses, or other exploits can be used to negatively impact product operation. As opposed to being an all-inclusive document, it is a representation of identified best practices that vendors can implement as they develop, manufacture, and deliver products as part of the supply chain.
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Transportation Management

Traffic Control Systems (Not Recommended for New Designs)
Defines traffic-signaling equipment used to facilitate and expedite the safe movement of vehicular and pedestrian traffic. This standard has been reaffirmed to make it available for support of legacy traffic-control equipment. For new equipment installations, use TS 2.
$141
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NEMA TS 2-2003, Amendment 3
Contactor Amendment
Modifies Figure 5-4, and Section 5.4.2.3, and adds a new Section 5.4.3.2.1.
$0
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NEMA TS 2-2003, Amendment 4
Flashing Yellow Arrow (FYA) Amendment
Revises NEMA TS 2-2003 (R2008) in four places to address Flashing Yellow Arrow (FYA), specifically by assigning a bit as “Faya Flash Rate Failure; including language addressing FYA operation; and including language addressing FYA and MMUs.
$0
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NEMA TR 1-2013
Transformers, Regulators and Reactors
Includes certain NEMA standard test methods, test codes and properties of liquid-immersed transformers, regulators and reactors that are not ANSI standards. Provides a list of all ANSI C57 standards that have been approved by NEMA.
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NEMA ST 20-2014
Dry Type Transformers for General Applications
Applies to single-phase and polyphase dry type transformers (including both autotransformers and noncurrent limiting reactors) for supplying energy to power, heating, and lighting circuits.
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NEMA TR 2-2003
Traffic Control Systems
Includes transportation management standards that define traffic-signaling equipment used to facilitate and expedite the safe movement of vehicular and pedestrian traffic. This standard has been reaffirmed to make it available for support of legacy traffic-control equipment.

Own a complete set of all NEMA standards. $32,130

2017 ELECTRICAL STANDARDS & PRODUCTS GUIDE
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<td>NEMA TS 2-2016</td>
<td>Traffic Controller Assemblies with NTCIP Requirements—Version 03.07</td>
<td>Covers traffic signaling equipment used to facilitate and expedite the safe movement of pedestrians and vehicular traffic. Incorporates the “Flashing Yellow Arrow” feature, as well as associated configuration, pin assignment, and other related information. A list of revisions from NEMA TS 2-2003 (R2008) is included.</td>
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<tr>
<td>NEMA TS 4-2005</td>
<td>Hardware Standards for Dynamic Message Signs (DMS) with NTCIP Requirements</td>
<td>Provides the user with safe, dependable, functional and easily maintained DMS equipment. The requirements of this standard were developed by industry consensus, taking into account current user needs, available commercial technologies, engineering research, traffic engineering applications, human factors engineering and engineering judgment. The revisable Clause 11.5, Conformance Table Excerpt, is available to assist with developing procurement documents based on this standard.</td>
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<tr>
<td>NTCIP 1104 v01</td>
<td>Center-to-Center Naming Convention Specification</td>
<td>Defines the naming service for common object request broker architecture (CORBA) for use in center-to-center communications in the transportation domain, and lists the requirements for establishing names for management systems and for the objects managed by those systems. May also be referenced by non-CORBA standards to define how certain items should be named.</td>
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<tr>
<td>NTCIP 1201 v03</td>
<td>Global Object (GO) Definitions</td>
<td>Identifies and defines object definitions that may be supported by multiple device types (e.g., actuated signal controllers and variable message signs). The grouping of objects for a given device type is performed in the device type–specific object definition standard.</td>
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<tr>
<td>NTCIP 1202:2005</td>
<td>Object Definitions for Actuated Traffic Signal Controller (ASC) Units—Version 02</td>
<td>Defines communication protocol for ramp metering control (RMC) units. Communicating together, RMC units detect both traffic on the main roadway and queued traffic preparing to enter the main roadway, optimizing traffic flow for both. RMC units include a field controller, its suite of sensors, and its warning signs and signals, as well as main roadway and queue detection stations.</td>
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<tr>
<td>NTCIP 1203 v03</td>
<td>Object Definitions for Dynamic Message Signs (DMS)</td>
<td>Defines requirements, data elements and conformance requirements applicable to all NTCIP DMS. Data elements are defined using the Simple Network Management Protocol (SNMP) object-type format as defined in RFC1212 and would typically be exchanged using one of the NTCIP-recognized application layers (e.g., SNMP). Formerly TS 3.6. NTCIP 1203 v03 now includes Test Procedures (Annex C). This is a revision of NTCIP 12032011.</td>
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<tr>
<td>NTCIP 1204 v03</td>
<td>Environmental Sensor Station (ESS) Interface Protocol</td>
<td>Provides definitions of data elements for use with ESS. NTCIP 1204 v03 now includes Test Procedures in Annex C.</td>
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<tr>
<td>NTCIP 1205:2001</td>
<td>Object Definitions for Closed-Circuit Television (CCTV) Camera Control</td>
<td>Defines objects that are specific to CCTV and standardized object groups that can be used for conformance statements. Limited to the functionality related to CCTV camera control within a transportation environment.</td>
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<tr>
<td>NTCIP 1206:2005</td>
<td>Object Definitions for Data Collection and Monitoring (DCM) Devices</td>
<td>Defines data elements used for the configuration control and status monitoring of transportation data collection devices. The scope of this document is limited to the functionality related to DCMs used within a transportation environment.</td>
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<tr>
<td>NTCIP 1207 v02</td>
<td>Object Definitions for Ramp Meter Control (RMC) Units</td>
<td>Defines communication protocol for ramp metering control (RMC) units. Communicating together, RMC units detect both traffic on the main roadway and queued traffic preparing to enter the main roadway, optimizing traffic flow for both. RMC units include a field controller, its suite of sensors, and its warning signs and signals, as well as main roadway and queue detection stations.</td>
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Traffic Management in a Wider Geographic Area.

Traffic Management System, Specifically the Management Center, responsible for traffic indications at about two to ten local intersections; a signal system master (also called a “field master,” managing traffic indications at about two to ten nearby, local intersections); and a Traffic Management Center, responsible for traffic management in a wider geographic area.

Point to Multi-Point Protocol Using RS-232 Subnetwork Profile
Applies to transportation-related devices that operate in a typical primary/secondary configuration where one device is the designated primary while one or more other devices are connected to one channel acting as secondaries.

Ethernet Subnetwork Profile
Applies to transportation devices and management systems. Specifies a set of protocols and standards applicable to the data link and physical layers of the Open Systems Interconnection (OSI) Reference Model. Specifies a combination of ISO/IEC standards that collectively provides for connectionless and connection-oriented data link services on a common, shared media.

Transportation Transport Profile
Applies to transportation devices and management systems, and specifies a set of procedures applicable to the transport and network layers of the Open Systems Interconnection (OSI) Reference Model. Provides a linking mechanism between the application and subnetwork profiles in non-networked environments.

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NTCIP 2202:2001
Internet (TCP/IP and UDP/IP) Transport Profile
Applies to transportation-related devices that operate in a typical primary/secondary configuration where one device is the designated primary while one or more other devices are connected to one channel acting as secondaries. As a subnetwork profile, specifies a set of protocols and standards applicable to the data link and physical layers of the Open Systems Interconnection (OSI) Basic Reference Model.
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NTCIP 2301 v02
Simple Transportation Management Framework (STMF) Application Profile (AP) (AP-STMF)
Applies to transportation devices and management systems. Provides message authentication, information management and data representation services, as well as protocols specific to Open Systems Interconnection (OSI) Basic Reference Model layers.
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NTCIP 2302:2001
Trivial File Transfer Protocol Application Profile
Applies to traffic control and transportation-related devices that must operate in an Intelligent Transportation System.
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NTCIP 2303:2001
File Transfer Protocol Application Profile
Applies to traffic control and transportation-related devices. Specifies a set of protocols and standards for the application, presentation and session layers of the Open Systems Interconnection (OSI) Basic Reference Model, for block or file transfers to or from roadside devices.
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NTCIP 2304:2002
Application Profile for DATEX-ASN (AP-DATEX)
Applies to communications between any two management subsystems within a transportation environment. Lists the requirements for a traditional approach for data exchange.
$80
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NTCIP 2306 v01
Application Profile for XML Message Encoding and Transport in ITS Center-to-Center Communications
Defines an application profile for communications between transportation management systems, using internet standards based on the Extensible Markup Language (XML). Defines requirements and optional and conditional clauses applicable to the specific environments for which they are intended.
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NTCIP 8003:2001
Profile Framework
Applies to traffic control and transportation-related devices and provides the terminology, content, structure and organization of NTCIP-standardized profiles.
$47
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NTCIP 8004 v02
Structure and Identification of Management Information (SMI)
Defines the SMI used in transportation-related devices and contains mandatory requirements applicable to all devices claiming conformance, as well as options and conditional requirements that may be applicable to a specific environment.
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NTCIP 8005 v01
Procedures for Creating Management Information Base (MIB) Files
Defines processes to verify the correctness of a MIB in NTCIP data dictionary standards, and to prepare a stand-alone version of the MIB. Covers policies and procedures for MIB development and maintenance. Defines requirements for use by NTCIP data stewards in checking MIBs, coordinating all NTCIP device data dictionaries and working with other entities using NTCIP MIBs.
$66
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NTCIP 8007 v01
Testing and Conformity Assessment Documentation within NTCIP Standards Publications
Defines requirements to be used by NTCIP working groups in producing test documentation as part of the NTCIP standards process.
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Buy Now

NTCIP 9001 v04
The NTCIP Guide
Assists NTCIP implementers in understanding relationships among various standards publications within the NTCIP family, as well as how and when to use selected NTCIP standards publications.
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Wire & Cable

User Guide to Product Specifications for Electrical Building Wire and Cable
Lists commonly used electrical building wire and cable and the applicable U.S. standards recognized by the NEC®.
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STANDARDS & OTHER PUBLICATIONS: Wire & Cable

ANSI/NEMA HP 3-2012
Electrical and Electronic Polytetrafluoroethylene (PTFE) Insulated High-Temperature Hook-Up Wire, Types ET (250 V), E (600 V) and EE (1,000 V)
Covers specific requirements for PTFE insulated solid and stranded wire designed for the internal wiring of high-reliability electrical and electronic equipment.
$80

ANSI/NEMA HP 4-2012
Electrical and Electronic Fluorinated Ethylene Propylene (FEP) Insulated High-Temperature Hook-Up Wire, Types KT (250 V), K (600 V) and KK (1,000 V)
Covers specific requirements for FEP insulated solid and stranded wire designed for the internal wiring of high-reliability electrical and electronic equipment. The standard permits continuous conductor temperature ratings of -55°C to +150°C (tin-copper) or +200°C (silver-copper) with either tin-coated or silver-coated conductors. Replaces MIL-W-16878 silicone rubber-insulated wire slash sheets (/7, /8, /29 through /32).
$80

ANSI/NEMA HP 5-2013
Electrical and Electronic Crosslinked, Modified Polyethylene (XLPE) Insulated 125°C Hook-Up Wire, Types L (600 V), LL (1,000 V) and LX (3,000 V)
Covers specific requirements for crosslinked, modified polyethylene insulated solid and stranded wire, designed to the internal wiring of high-reliability electrical and electronic equipment.
$74

ANSI/NEMA HP 6-2013
Electrical and Electronic Silicone and Silicone-Braided Insulated Hook-Up Wire Types S (600 V), ZHS (600 V), SS (1,000 V), ZHSS (1,000 V) and SSB Braided (1,000 V)
Covers requirements for silicone rubber-insulated stranded wire used in the internal wiring of high-reliability electrical and electronic equipment. The standard permits continuous conductor temperature ratings of -55°C to +150°C (tin-copper) or +200°C (silver-copper) with either tin-coated or silver-coated conductors. Replaces MIL-W-16878 silicone rubber-insulated wire slash sheets (/7, /8, /29 through /32).
$80

ANSI/NEMA HP 8-2013
Electrical and Electronic Cross-Linked, Modified Low-Smoke Polyolefin (XLPO) Insulated Hook-Up Wire, Types LS (rated 105°C; 600 V), ZHDM (rated 90°C; 600 V), ZDH (rated 90°C; 600 V), ZH (rated 125°C; 600 V), and ZHX (rated 125°C; 1,000 V)
Covers specific requirements for crosslinked, modified, polyolefin insulated solid and stranded wire, designed to the internal wiring of high-reliability electrical and electronic equipment.
$74

ANSI/NEMA HP 9-2014
Electrical and Electronic Ethylene-Propylene Diene Elastomer (EPDM) Insulated Hook-Up Wire, Types EP (Rated 125°C; 600 V) and EPD (Rated 125°C; 5000 V)
Covers specific requirements for Ethylene-Propylene Diene Elastomer insulated solid and stranded wire, designed to the internal wiring of high-reliability electrical and electronic equipment.
$83

ANSI/NEMA MW 1000-2015
Supplement to ANSI/NEMA MW 1000 Reference Requirements for Round Film-insulated Magnet Wire
Provides users of MW 1000 with a convenient and concise reference to common performance requirements for film-insulated magnet wire constructions according to conductor material and insulation build. In the case of any discrepancies between this supplement and MW 1000, the requirements in MW 1000 prevail.
$41

ANSI/NEMA MW 1000-2016
Magnet Wire
Contains standards for round, rectangular, and square film-insulated and/or fibrous-covered copper and aluminum magnet wire for use in electrical apparatus. Included are the definitions, type designations, dimensions, constructions, performance, and test methods for magnet wire generally used in the winding of coils for electrical apparatus. Visit www.MW1000.com for additional information about NEMA MW 1000 and a summary of amendments to the standard.
$165

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ANSI/NEMA WC 51/ICEA P-54-440-2009 (R2014)
Ampacities of Cables Installed in Cable Trays
This Standards Publication covers the ampacity ratings for 600-15,000 volt solid dielectric cables installed in cable trays. Ampacity ratings are tabulated for single conductor cables, triplexed assemblies of single conductor cables, and three-conductor cables incorporating an overall jacket. Ampacities have been tabulated for the cable constructions and the operating conditions normally encountered for tray applications. Correction factors to adjust the tabulated values to better reflect specific conditions are provided. These include adjustments to account for ambient and operating temperatures, cable construction, tray covers, and diversification of the cable loading.
$121

Standard Test Methods for Extruded Dielectric Power, Control, Instrumentation, and Portable Cables for Test
Applies to the testing of extruded dielectric insulated power, control, instrumentation and portable cables.
$147

ANSI/NEMA WC 54/ICEA T-26-465-2013
Guide for Frequency of Sampling Extruded Dielectric Power, Control, Instrumentation and Portable Cables for Test
Provides a combination of plans for frequencies at which cable samples may be obtained for tests to determine conformance to appropriate requirements of ICEA standards publications.
$69

ANSI/NEMA WC 57-2014/ICEA S-73-532-2014
Standard for Control, Thermocouple Extension, and Instrumentation Cables
Applies to materials, construction and testing of multiconductor control, thermocouple extension and instrumentation cables rated up to and including 125°C.
$162

ANSI/NEMA WC 61-2005 (R2015)
American National Standard for Transfer Impedance Testing
This standard is intended to provide a reliable surface transfer impedance test method for coaxial cables and shielded multiconductor cables over the frequency range from DC to 100 MHz.
$66

ANSI/NEMA WC 63.2-1996 (R2003)
Performance Standard for Coaxial Premise Data Communications Cables
Defines minimum electrical performance characteristics, material and mechanical specifications of premise wiring cables for data applications. Includes definitions and applicable test methods.
$46

ANSI/NEMA WC 66/ICEA S-116-732-2013
Standard for Category 6 and 6A, 100 Ohm, Individually Unshielded Twisted Pairs, Indoor Cables (With or Without an Overall Shield) for Use in LAN Communication Wiring Systems
Defines minimum electrical performance and allowable conductor sizes, stranding and shielding for premise wiring cables for voice and data applications for 100 ohm shielded and unshielded twisted pair cables.
$87

ANSI/NEMA WC 67-2015
American National Standard for Uninsulated Conductors—Used in Electrical and Electronic Applications
Covers single-end (solid) and stranded, coated and uncoated copper, coated copper alloy, coated copper-clad steel, aluminum and thermocouple extension uninsulated conductors used primarily in insulated wires for aerospace, electrical, electronic and other high-performance applications.
$91

Power Cables Rated 2,000 V or Less for the Distribution of Electrical Energy
Applies to materials, construction and testing of 2,000 V and below thermoplastic and thermoset insulated wires and cables used for the transmission and distribution of electrical energy for normal conditions of installation and service, either indoors, outdoors, aerial, underground or submarine.
$216

ANSI/NEMA WC 71 ICEA S-96-659-2014
Standard for Non-Shielded Cables Rated 2,001-5,000 V for Use in the Distribution of Electric Energy
Applies to materials, construction and testing of 2001 through 5000 V nonshielded power cables having insulations of thermoplastic polyethylene, cross-linked polyethylene or cross-inked rubber.
$161

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**STANDARDS & OTHER PUBLICATIONS: Wire & Cable**

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<tr>
<td>ANSI/NEMA WC 74/ICEA S-93-639-2012</td>
<td>5-46 kV Shielded Power Cable for Use in the Transmission and Distribution of Electric Energy</td>
<td>Applies to materials, constructions and testing of 5,000 V to 46,000 V shielded crosslinked polyethylene, and ethylene propylene rubber insulated wires and cables used for the transmission and distribution of electrical energy for normal conditions of installation and service, either indoors, outdoors, aerial, underground or submarine.</td>
<td>$171</td>
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<tr>
<td>ANSI/NEMA WC 75-2015</td>
<td>Standard for Controlled Impedance in Internal Electrical Cable</td>
<td>Developed to cover specific requirements for finished cables with controlled impedance twisted pairs. Enables a user to specify various numbers of pairs (1–61) with a required impedance requirement, and tailor the materials to meet a specific end application.</td>
<td>$71</td>
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<tr>
<td>ANSI/NEMA WC 27500-2015</td>
<td>American National Standard for Aerospace and Industrial Electrical Cable</td>
<td>Contains requirements for finished aerospace and industrial electrical cables. The component wires are covered by other referenced standards. These cables are intended for signal and low-voltage power applications with defined environment or temperature conditions found in commercial aircraft, military aircraft, and high performance vehicles.</td>
<td>$117</td>
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<tr>
<td>ANSI/NEMA WC 55021-2013</td>
<td>Standard for Military Internal Electrical Cable</td>
<td>Covers specific requirements for finished cables. The cables are intended for internal wiring of electrical equipment for use in the hook-up of various electronic assemblies. The component wires are covered by other reference standards. Cables constructed with PVC insulated wires or jackets are not to be used for aerospace applications.</td>
<td>$71</td>
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<td>NEMA BWCP 1-2012</td>
<td>The Evolution of Aluminum Conductors Used for Building Wire and Cable</td>
<td>Describes the history of the discovery, application and acceptance of the AA-8000 series of aluminum conductors for building wire and cable applications. This series of alloys was discovered to have excellent characteristics with respect to strength, ductility, and thermal stability.</td>
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<td>NEMA HP 7-2011</td>
<td>Electrical and Electronic PVC, PVC/Nylon, and PE/Nylon 105ºC Hook-Up Wire, Types B, C, D, BN, CN, and DN (600, 1000, and 3000 V), and Types J and JN 75ºC (600V)</td>
<td>Covers specific requirements for PVC, PVC/polymide, PE, and PE/polymide insulated stranded wire designed to the internal wiring of high reliability electrical and electronic equipment.</td>
<td>$77</td>
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<tr>
<td>NEMA HP 100-1991 (R1999, R2005, R2010) Series (HP 100-100.4)</td>
<td>High-Temperature Instrumentation and Control Cables</td>
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www.simplexgrinnell.com

Space Age Electronics, Inc.  
www.1sae.com

Automatic Detectors (system, single and multiple station)

Apollo America, Inc.  
www.apollo-fire.com

Bosch Security Systems  
www.boschsecurity.us

BRK Brands, Inc.  
www.firstalert.com

Figaro USA, Inc.  
www.figaro.com

Fire-Lite Alarms by Honeywell International, Inc.  
www.firelite.com

Notification Devices

Bosch Security Systems  
www.boschsecurity.us

BRK Brands, Inc.  
www.firstalert.com
| Gamewell-FCI by Honeywell | www.gamewell-fci.com                                      | Legrand, North America    | www.legrand.us                                                | Thomas & Betts, a member of the ABB Group          | www.tnb.com                                |
|                            |                                                             | Western Automation R & D Corp. | www.mainsafe                                                  | Inovonics Wireless Corporation                  | www.inovonics.com                          |
|                            |                                                             |                            |                                                             | Silversphere Technologies, Inc.                 | www.silversphere.com                         |
|                            |                                                             | Ground Fault Personnel Protection |                                                             | SimplexGrinnell LP                              | www.simplexgrinnell.com                     |
|                            |                                                             |                            |                                                             | Tektone Sound & Signal Manufacturing, Inc.       | www.tektone.com                             |
|                            |                                                             | Grounding Products        |                                                             | Industrial Automation Control Products & Systems |                                                      |
|                            |                                                             |                            |                                                             | Control/Monitor Switches                        | ABB Inc.                                   | www.abb.com                                |
|                            |                                                             |                            |                                                             | Carlo Gavazzi Automation Components             | www.gavazzionline.com                        |
|                            |                                                             |                            |                                                             |                                                  | Eaton                                      | www.eaton.com/electricalusa                |

**Fuses**

- Eaton's Bussmann Division
  www.cooperbussmann.com
- Littelfuse, Inc.
  www.littelfuse.com
- Mersen Electrical Power
  ep-us.mersen.com

**Grounding Products**

- Burndy, LLC
  www.burndy.com
- Connector Manufacturing Company, a subsidiary of Burndy, LLC
  www.cmclugs.com
- Galvan Industries, Inc.
  www.galvanelectrical.com
- Harger Lightning & Grounding
  www.harger.com
- Hubbell Power Systems
  www.hubbellpowersystems.com
- ILSCO
  www.ilsco.com
- Panduit Corporation
  www.panduit.com
Electro Switch Corporation  
www.electroswitch.com

GE Industrial Solutions  
www.geindustrial.com

Hubbell Incorporated  
www.hubbell.com

Joslyn Clark Controls, Inc.  
www.joslynclark.com

Omron Corporation  
www.omron.com/oei

Reliance Controls Corporation  
www.reliancecontrols.com

Rockwell Automation, Inc.  
www.rockwellautomation.com

Schneider Electric  
www.schneider-electric.us

Motion Control  
Delta Electronics, Inc.  
www.delta-americas.com

GE Industrial Solutions  
www.geindustrial.com

Mitsubishi Electric Automation, Inc.  
www.meau.com

Omron Corporation  
www.omron.com/oei

Rockwell Automation, Inc.  
www.rockwellautomation.com

Schneider Electric  
www.schneider-electric.us

Power Electronics  
ABB Inc.  
www.abb.com

Ametek Solidstate Controls, Inc.  
www.solidstatecontrolsinc.com

APC by Schneider Electric  
www.apc.com

Delta Electronics, Inc.  
www.delta-americas.com

Eaton  
www.eaton.com/electricalusa

Emerson Automation Solutions  
www.egseg.com

GE Industrial Solutions  
www.geindustrial.com

Liebert  
www.liebert.com

Mitsubishi Electric Automation, Inc.  
www.meau.com

ONYX, a Smiths Power brand  
www.onyxpower.com

SolaHD  
www.sola-hevi-duty.com

Thomas & Betts, a member of the ABB Group  
www.tnb.com

Toshiba International Corporation  
www.toshiba.com/ind

System Elements  
ABB Inc.  
www.abb.com

Carlo Gavazzi Automation Components  
www.gavazzionline.com

Eaton  
www.eaton.com/electricalusa

GE Industrial Solutions  
www.geindustrial.com

Hubbell Industrial Controls, Inc.  
www.hubbell-icd.com

Mitsubishi Electric Automation, Inc.  
www.meau.com

Omron Corporation  
www.omron.com/oei

Rockwell Automation, Inc.  
www.rockwellautomation.com

Schneider Electric  
www.schneider-electric.us

Insulating Materials  
3M Electrical OEM Materials  
www.iptllc.net

ABB Inc.  
www.abb.com

Accurate Plastics, Inc.  
www.acculam.com

DuPont  
www.dupont.com

ELANTAS PDG, Inc.  
www.elantas.com/pdg

Iten Industries  
www.itenindustries.com

John C. Dolph Company, a Von Roll company  
www.dolphs.com

Mar-Bal, Inc.  
www.mar-bal.com

Raychem, a product group of TE Connectivity  
raychem.te.com

Röchling Glastic Composites  
www.glastic.com

Sumitomo Electric Interconnect Products, Inc.  
www.seipusa.com

Von Roll USA, Inc.  
www.vonroll.com

Lighting  
Area Lighting  
Acuity Brands, Inc.  
www.acuitybrandslighting.com

Emerson Automation Solutions  
www.egseg.com

Architectural Area Lighting  
www.aal.net

Atlas Lighting Products, Inc.  
www.atlaslightingproducts.com

Cree, Inc.  
www.cree.com/lighting
Eaton Lighting Solutions  
www.cooperlighting.com

Holophane Company an Acuity Brands Company  
www.holophane.com

Hubbell Lighting Inc.  
www.hubbelllighting.com

Juno Lighting Group an Acuity Brands Company  
www.junolightinggroup.com

KIM Lighting  
www.kimlighting.com

Lithonia Lighting, an Acuity Brands Company  
www.lithonia.com

Philips Lighting HADCO  
www.hadco.com

Prescolite  
www.prescolite.com

Progress Lighting  
progresslighting.com

RAB Lighting  
www.rabweb.com

Satco Products, Inc.  
www.satco.com

Spaulding Lighting  
www.spauldinglighting.com

TayMac by Hubbell, Inc.  
www.taymac.com

Thomas & Betts, a member of the ABB Group  
www.tnb.com

Ballast and Driver

Acuity Brands, Inc.  
www.acuitybrandslighting.com

Advanced Lighting Technologies, Inc.  
www.adlt.com

Atlas Lighting Products, Inc.  
www.atlaslightingproducts.com

Cooper Wiring Devices by Eaton  
www.cooperwiringdevices.com

Cree, Inc.  
www.cree.com/lighting

Dual-Lite  
www.dual-lite.com

Gilbert Industries, Inc.  
www.gilbertinc.com

Hubbell Lighting Company an Acuity Brands Company  
www.hubbelllighting.com

Juno Lighting Group an Acuity Brands Company  
www.junolightinggroup.com

KIM Lighting  
www.kimlighting.com

Lithonia Lighting, an Acuity Brands Company  
www.lithonia.com

Osram Sylvania, Inc.  
www.sylvania.com

Philips Lighting Day-Brite  
www.daybrite.com

Philips Emergency Lighting  
www.bodine.com

Philips Lighting  
www.lighting.philips.com

Philips Lightolier  
www.lightolier.com

TCP International Holdings Ltd.  
www.tcpi.com

Thomas & Betts, a member of the ABB Group  
www.tnb.com

Emergency Lighting

Acuity Brands, Inc.  
www.acuitybrandslighting.com

Atlas Lighting Products, Inc.  
www.atlaslightingproducts.com

Cooper Wiring Devices by Eaton  
www.cooperwiringdevices.com

Cree, Inc.  
www.cree.com/lighting

Dual-Lite  
www.dual-lite.com

Gilbert Industries, Inc.  
www.gilbertinc.com

Hubbell Lighting Company an Acuity Brands Company  
www.hubbelllighting.com

Juno Lighting Group an Acuity Brands Company  
www.junolightinggroup.com

KIM Lighting  
www.kimlighting.com

Lithonia Lighting, an Acuity Brands Company  
www.lithonia.com

Osram Sylvania, Inc.  
www.sylvania.com

Philips Lighting Day-Brite  
www.daybrite.com

Philips Emergency Lighting  
www.bodine.com

Philips Lighting  
www.lighting.philips.com

Philips Lightolier  
www.lightolier.com

TCP International Holdings Ltd.  
www.tcpi.com

Thomas & Betts, a member of the ABB Group  
www.tnb.com

Floodlighting

Acuity Brands, Inc.  
www.acuitybrandslighting.com

Architectural Area Lighting  
www.aal.net

Atlas Lighting Products, Inc.  
www.atlaslightingproducts.com

Cree, Inc.  
www.cree.com/lighting

Eaton Lighting Solutions  
www.cooperlighting.com

Emerson Automation Solutions  
www.egseg.com

Holophane Company an Acuity Brands Company  
www.holophane.com

Hubbell Lighting, Inc.  
www.hubbelllighting.com

Juno Lighting Group an Acuity Brands Company  
www.junolightinggroup.com

KIM Lighting  
www.kimlighting.com
### PRODUCTS & MANUFACTURERS: Lighting

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<td>Spaulding Lighting</td>
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<td>Columbia Lighting</td>
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<td>Cree, Inc.</td>
<td><a href="http://www.cree.com/lighting">www.cree.com/lighting</a></td>
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<td>Emerson Automation Solutions</td>
<td><a href="http://www.egseg.com">www.egseg.com</a></td>
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<td>Energy Focus, Inc.</td>
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<td>GE Lighting Systems</td>
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<td>LEDVANCE LLC</td>
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<td>Litetronics International, Inc.</td>
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<td>LumenOptix, LLC</td>
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<td><a href="http://www.tnb.com">www.tnb.com</a></td>
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<tr>
<td>Universal Lighting Technologies</td>
<td><a href="http://www.unvlt.com">www.unvlt.com</a></td>
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<td><strong>Lampholders</strong></td>
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<td>BJB Electric L.P.</td>
<td><a href="http://www.bjb.com">www.bjb.com</a></td>
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<td>Bryant Electric, a division of Hubbell, Inc.</td>
<td><a href="http://www.bryant-electric.com">www.bryant-electric.com</a></td>
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<td>Cooper Wiring Devices by Eaton</td>
<td><a href="http://www.cooperwiringdevices.com">www.cooperwiringdevices.com</a></td>
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<td>Ericson Manufacturing Company</td>
<td><a href="http://www.ericson.com">www.ericson.com</a></td>
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<td>Hubbell Incorporated Wiring Device-Kellems</td>
<td><a href="http://www.hubbell-wiring.com">www.hubbell-wiring.com</a></td>
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<td>Leviton Manufacturing Company, Inc.</td>
<td><a href="http://www.leviton.com">www.leviton.com</a></td>
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<td>Pass &amp; Seymour by Legrand</td>
<td><a href="http://www.passandseymour.com">www.passandseymour.com</a></td>
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<td>TayMac by Hubbell, Inc.</td>
<td><a href="http://www.taymac.com">www.taymac.com</a></td>
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<td>TE Connectivity</td>
<td><a href="http://www.te.com">www.te.com</a></td>
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<td><strong>Light Source</strong></td>
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<td>Advanced Lighting Technologies, Inc.</td>
<td><a href="http://www.adlt.com">www.adlt.com</a></td>
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<td>Atlas Lighting Products, Inc.</td>
<td><a href="http://www.atlaslightingproducts.com">www.atlaslightingproducts.com</a></td>
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<td>Cree, Inc.</td>
<td><a href="http://www.cree.com">www.cree.com</a></td>
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<td>Dialight</td>
<td><a href="http://www.dialight.com">www.dialight.com</a></td>
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<td>EiKO Global, LLC</td>
<td><a href="http://www.eiko.com">www.eiko.com</a></td>
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<td><strong>EYE Lighting International</strong></td>
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<td>EYE Lighting International of North America, Inc.</td>
<td><a href="http://www.eyeighting.com">www.eyeighting.com</a></td>
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<tr>
<td>Feit Electric Company, Inc.</td>
<td><a href="http://www.feit.com">www.feit.com</a></td>
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<tr>
<td>Finally Bulb Light Company, a part of Lucidity Lights, Inc.</td>
<td><a href="http://www.finallybulbs.com">www.finallybulbs.com</a></td>
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### Lighting Products & Manufacturers

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<th>Lighting Control Devices</th>
<th>Juno Lighting Group an Acuity Brands Company</th>
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<td>Bryant Electric, a division of Hubbell, Inc.</td>
<td><a href="http://www.junolightinggroup.com">www.junolightinggroup.com</a></td>
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<td>Cooper Wiring Devices by Eaton</td>
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<td>Enerlites Inc.</td>
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<td>Leviton Manufacturing Company, Inc.</td>
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<td>Lutron Electronics Company, Inc.</td>
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<td>Pass &amp; Seymour by Legrand</td>
<td><a href="http://www.passandseymour.com">www.passandseymour.com</a></td>
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<td>Schneider Electric</td>
<td><a href="http://www.schneider-electric.us">www.schneider-electric.us</a></td>
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<tr>
<td>WattStopper</td>
<td><a href="http://www.wattstopper.com">www.wattstopper.com</a></td>
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<th>Lighting Controls</th>
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<td>Acuity Brands, Inc.</td>
<td><a href="http://www.lighting.philips.com">www.lighting.philips.com</a></td>
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<td>Cooper Controls by Eaton</td>
<td><a href="http://www.coopercontrol.com">www.coopercontrol.com</a></td>
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<td>Holophane Company an Acuity Brands Company</td>
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<td>Hubbell Control Solutions</td>
<td><a href="http://www.hubbell-automation.com">www.hubbell-automation.com</a></td>
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<td>Hubbell Incorporated</td>
<td><a href="http://www.hubbell.com">www.hubbell.com</a></td>
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<td>Hubbell Lighting, Inc.</td>
<td><a href="http://www.hubbelllighting.com">www.hubbelllighting.com</a></td>
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<td>Outdoor Lighting</td>
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<td><a href="http://www.rabweb.com">www.rabweb.com</a></td>
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<td>Sensor Switch, an Acuity Brands Company</td>
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<td>Atlas Lighting Products, Inc.</td>
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<td>Cree, Inc.</td>
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<td>Eaton Lighting Solutions</td>
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<td>EYE Lighting International of North America, Inc.</td>
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<td>Lighting Products &amp; Manufacturers</td>
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<td>Roadway Lighting</td>
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<tr>
<td><a href="http://www.o-zgedney.com">www.o-zgedney.com</a></td>
<td>Acuity Brands, Inc.</td>
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<tr>
<td>Philips Lighting Day-Brite</td>
<td><a href="http://www.acuitybrandslighting.com">www.acuitybrandslighting.com</a></td>
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<tr>
<td><a href="http://www.daybrite.com">www.daybrite.com</a></td>
<td>Architectural Area Lighting</td>
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<tr>
<td>Philips Lighting HADCO</td>
<td>Atlas Lighting Products, Inc.</td>
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<td>Philips Lighting, North America</td>
<td>Cree, Inc.</td>
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<td>Prescolite</td>
<td>Eaton Lighting Solutions</td>
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<td>Progress Lighting</td>
<td>Roadway Lighting</td>
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<tr>
<td>progresslighting.com</td>
<td>Acuity Brands, Inc.</td>
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<td>RAB Lighting</td>
<td><a href="http://www.acuitybrandslighting.com">www.acuitybrandslighting.com</a></td>
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<td><a href="http://www.rabweb.com">www.rabweb.com</a></td>
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<tr>
<td>Satco Products, Inc.</td>
<td>Atlas Lighting Products, Inc.</td>
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<td>Spaulding Lighting</td>
<td>Cree, Inc.</td>
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<td>TayMac by Hubbell, Inc.</td>
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<td>Thomas &amp; Betts, a member of the ABB Group</td>
<td>Remote Illumination Lighting</td>
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## Products & Manufacturers: Lighting

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<td>Spaulding Lighting</td>
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<tr>
<td>Thomas &amp; Betts, a member of the ABB Group</td>
<td><a href="http://www.tnb.com">www.tnb.com</a></td>
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<tr>
<td>Schneider Electric</td>
<td><a href="http://www.schneider-electric.us">www.schneider-electric.us</a></td>
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<tr>
<td>Siemens Industry, Inc.</td>
<td><a href="http://www.usa">www.usa</a> siemens.com/industry</td>
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<tr>
<td>Universal Electric Corporation</td>
<td><a href="http://www.uecorp.com">www.uecorp.com</a></td>
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<tr>
<td>Z-Power &amp; Distribution</td>
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### Low Voltage Distribution Equipment

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<td>ABB Inc.</td>
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<td>Boltswitch, Inc.</td>
<td><a href="http://www.boltswitch.com">www.boltswitch.com</a></td>
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<td>Carling Technologies, Inc.</td>
<td><a href="http://www.carlingtech.com">www.carlingtech.com</a></td>
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<td>Durham Company</td>
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<td>E+I Engineering USA Corporation</td>
<td><a href="http://www.e-i-eng.com">www.e-i-eng.com</a></td>
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<td>Eaton</td>
<td><a href="http://www.eaton.com/electricalusa">www.eaton.com/electricalusa</a></td>
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<td>Eaton’s Bussmann Division</td>
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<td>GE Industrial Solutions</td>
<td><a href="http://www.geindustrial.com">www.geindustrial.com</a></td>
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<td>Hubbell Incorporated</td>
<td><a href="http://www.hubbell.com">www.hubbell.com</a></td>
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<td>Hubbell Power Systems</td>
<td><a href="http://www.hubbellpowersystems.com">www.hubbellpowersystems.com</a></td>
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<td>Hubbell Wiegmann, a subsidiary of Hubbell Incorporated</td>
<td><a href="http://www.hubbell-wiegmann.com">www.hubbell-wiegmann.com</a></td>
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<td>Hubbell Wiring Device-Kellem</td>
<td><a href="http://www.hubbell-wiring.com">www.hubbell-wiring.com</a></td>
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<td>Milbank Manufacturing Company</td>
<td><a href="http://www.milbankworks.com">www.milbankworks.com</a></td>
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<td>Post Glover Resistors, Inc.</td>
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<td>Reliance Controls Corporation</td>
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<td>Rockwell Automation, Inc.</td>
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<tr>
<td>CITEL Inc.</td>
<td><a href="http://www.citel.us">www.citel.us</a></td>
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<td>Cooper Power Systems by Eaton</td>
<td><a href="http://www.cooperpower.com">www.cooperpower.com</a></td>
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<td>Cooper Wiring Devices by Eaton</td>
<td><a href="http://www.cooperwiringdevices.com">www.cooperwiringdevices.com</a></td>
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<td>Eaton</td>
<td><a href="http://www.eaton.com/electricalusa">www.eaton.com/electricalusa</a></td>
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<td>Emerson Automation Solutions</td>
<td><a href="http://www.ege">www.ege</a> seg.com</td>
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<tr>
<td>GE Industrial Solutions</td>
<td><a href="http://www.geindustrial.com">www.geindustrial.com</a></td>
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<td>Hubbell Power Systems</td>
<td><a href="http://www.hubbellpowersystems.com">www.hubbellpowersystems.com</a></td>
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<td>Hubbell Wiring Device-Kellem</td>
<td><a href="http://www.hubbell-wiring.com">www.hubbell-wiring.com</a></td>
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<tr>
<td>Legrand, North America</td>
<td><a href="http://www.legrand.us">www.legrand.us</a></td>
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<td>Leviton Manufacturing Company, Inc.</td>
<td><a href="http://www.leviton.com">www.leviton.com</a></td>
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<td>Littelfuse, Inc.</td>
<td><a href="http://www.littelfuse.com">www.littelfuse.com</a></td>
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<td>Mersen Electrical Power</td>
<td>ep-us.mersen.com</td>
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<td>MVC-Maxivolt</td>
<td><a href="http://www.maxivolt.com">www.maxivolt.com</a></td>
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<td>Pass &amp; Seymour by Legrand</td>
<td><a href="http://www.passandseymour.com">www.passandseymour.com</a></td>
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<td>Schneider Electric</td>
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<td>SolaHD</td>
<td><a href="http://www.sola">www.sola</a> hevi-duty.com</td>
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<td>Surge Suppression, LLC</td>
<td><a href="http://www.surge">www.surge</a> suppression.com</td>
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<td>Technology Research, LLC, a Southwire Company</td>
<td><a href="http://www.trcl.net">www.trcl.net</a></td>
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<tr>
<td>Thomas &amp; Betts, a member of the ABB Group</td>
<td><a href="http://www.tnbpowersolutions.com">www.tnbpowersolutions.com</a></td>
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<td>Wiremold Cable Management Products by Legrand</td>
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### Medical Imaging & Technology

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<td>Advanced Accelerator Applications, USA</td>
<td><a href="http://www.adacap.com">www.adacap.com</a></td>
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<td>Agfa Healthcare</td>
<td><a href="http://www.agfahealthcare.com">www.agfahealthcare.com</a></td>
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<tr>
<td>Alltech Medical Systems America</td>
<td><a href="http://www.alltechmedusa.com">www.alltechmedusa.com</a></td>
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<tr>
<td>Bayer Healthcare, LLC.</td>
<td><a href="http://www.radiologysolutions.bayer.com">www.radiologysolutions.bayer.com</a></td>
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<td>Blue Earth Diagnostics</td>
<td><a href="http://www.blueearthdiagnostics.com">www.blueearthdiagnostics.com</a></td>
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<tr>
<td>Bracco Diagnostics, Inc.</td>
<td><a href="http://www.bracco.com">www.bracco.com</a></td>
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<td>Canon Healthcare Solutions</td>
<td><a href="http://www.usa.canon.com/cusa/healthcare">www.usa.canon.com/cusa/healthcare</a></td>
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<tr>
<td>Capintec, Inc.</td>
<td><a href="http://www.capintec.com">www.capintec.com</a></td>
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Cardinal Health  
www.cardinalhealth.com

CIRS  
www.cirsinc.com

Digirad  
www.digirad.com

Dilon Technologies, Inc.  
www.dilon.com

EIZO, Inc.  
www.eizo.com/global/solutions/medical

Eli Lilly & Company  
www.lilly.com

EOS Imaging  
www.eos-imaging.com

Esaote North America  
www.esaoteusa.com

Fluoropharma Medical, Inc.  
www.fluoropharma.com

FUJIFILM Medical Systems U.S.A., Inc.  
www.fujiﬁlm.com/products/medical/

FUJIFILM Sonosite, Inc.  
www.sonosite.com

Gamma Medica, Inc.  
www.gammamedica.com

GE Healthcare  
www3.gehealthcare.com

Hitachi Medical Systems America, Inc.  
www.hitachimed.com

Hologic, Inc.  
www.hologic.com

IBA  
www.iba-worldwide.com

Invivo Corporation  
www.invivocorp.com

Ionetix Corporation  
www.ionetix.com

Jubilant DraxImage, Inc.  
www.draximage.com

Konica Minolta Medical Imaging USA Inc.  
www.konicaminolta.com/medicalusa

Laitek Inc.  
www.laitek.com

Landauer, Inc.  
www.landauer.com

Lantheus Medical Imaging, Inc.  
www.lantheus.com

Liebel-Flarsheim a wholly owned subsidiary of Guerbet Group  
www.guerbet.com/en

McKesson Corporation  
www.mckesson.com

MEDIAN Technologies  
www.mediantechnologies.com

Medis Medical Imaging Systems BV  
www.medis.nl

Medtronic, Inc.  
www.medtronic.com

Mevion Medical Systems, Inc.  
mevion.com

Modus Medical Devices Inc.  
modusqa.com

Navidea Biopharmaceuticals, Inc.  
www.navidea.com

NeuroLogica, a subsidiary of Samsung Electronics  
www.neurologica.com

Neusoft Medical Systems, USA, Inc.  
www.neusoft.com

Numa, Inc.  
www.numa-inc.com

PACSHealth, LLC  
www.pacshorealth.com

Philips  
www.usa.philips.com/healthcare

Piramal Imaging Limited  
www.piramal.com/imaging

Planmed  
www.planmed.com

Samsung Medison  
www.samsungmedison.com

Shimadzu Medical Systems USA, a part of Shimadzu Corporation  
www.shimadzu.com/med

Siemens Healthineers usa.healthcare.siemens.com

Spectrum Dynamics Medical, Inc.  
www.spectrum-dynamics.com

Stratovan Corporation  
www.stratovan.com

Swissray Global  
www.swissray.com

Toshiba America Medical Systems  
medical.toshiba.com

Unisyn, a division of GE Healthcare  
www.unisynmedical.com

United Imaging Healthcare  
www.united-imaging.com

Vital Images, Inc.  
www.vitalimages.com

Zevacor Molecular  
www.zevacor.com

Ziehm Imaging, Inc.  
www.ziehm.com

Motor and Generator

Baldor a member of the ABB Group  
www.baldor.com

Bluffton Motor Works  
www.blufftonmotorworks.com

Brook Crompton Americas  
www.brookcromptonna.com

Cummins, Inc.  
www.cummins.com

GE Industrial Solutions  
www.geindustrial.com

Leeson Electric, a Regal brand  
www.leeson.com

Lincoln Motors, a company of Regal Beloit Corporation  
www.lincolnmotors.com

Marathon Electric  
www.marathonelectric.com

MTA Motors, LLC  
www.mtamotors.com

Nidec Motor Corporation  
www.nidec-motor.com

NORD Gear Corporation  
www.nord.com
## Products & Manufacturers: Motor and Generator

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<td><strong>Outlet &amp; Switch Boxes</strong></td>
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<td><strong>Metallic Boxes and Covers</strong></td>
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<td>Emerson Automation Solutions</td>
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<td>Hubbell Incorporated</td>
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<td><strong>Connector Manufacturing Company, a</strong></td>
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**Outlet & Switch Boxes**

**Metallic Boxes and Covers**
- Crouse-Hinds by Eaton: www.crouse-hinds.com
- Emerson Automation Solutions: www.egseg.com
- Hubbell Incorporated: www.hubbell.com
- Hubbell Wiring Device-Kellems: www.hubbell-wiring.com
- Pass & Seymour by Legrand: www.passandseymour.com
- TayMac by Hubbell, Inc.: www.taymac.com
- Thomas & Betts, a member of the ABB Group: www.tnb.com
- Wiremold Cable Management Products by Legrand: www.wiremold.com

**Pin & Sleeve**
- Bryant Electric, a division of Hubbell, Inc.: www.bryant-electric.com
- Cooper Wiring Devices by Eaton: www.cooperwiringdevices.com
- Crouse-Hinds by Eaton: www.crouse-hinds.com
- Emerson Automation Solutions: www.egseg.com
- Hubbell Wiring Device-Kellems: www.hubbell-wiring.com
- Interpower Corporation: www.interpower.com
- Killark, a division of Hubbell, Inc.: www.hubbell-killark.com
- Meltric Corporation: www.meltric.com
- Pass & Seymour by Legrand: www.passandseymour.com
- Thomas & Betts, a member of the ABB Group: www.tnb.com
- W.T. Storey, Inc.: www.wtstorey.com

**Nonmetallic Boxes and Covers**
- Allied Moulded Products, Inc.: www.alliedmoulded.com
- Arlington Industries, Inc.: www.aifittings.com
- Crouse-Hinds by Eaton: www.crouse-hinds.com
- Emerson Automation Solutions: www.egseg.com
- Hubbell Incorporated: www.hubbell.com
- Hubbell Wiring Device-Kellems: www.hubbell-wiring.com
- Interpower Corporation: www.interpower.com
- Killark, a division of Hubbell, Inc.: www.hubbell-killark.com
- Meltric Corporation: www.meltric.com
- Pass & Seymour by Legrand: www.passandseymour.com
- Thomas & Betts, a member of the ABB Group: www.tnb.com
- W.T. Storey, Inc.: www.wtstorey.com

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**Power Equipment**

**Electrical Connector**
- 3M: www.3m.com/electrical

**Electrical Measuring Equipment**
- Aclara Meters: www.aclara.com
- Brooks Utility Products: www.brooksutility.com

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**Outlet & Switch Boxes**

**Metallic Boxes and Covers**
- Crouse-Hinds by Eaton: www.crouse-hinds.com
- Emerson Automation Solutions: www.egseg.com
- Hubbell Incorporated: www.hubbell.com
- Hubbell Wiring Device-Kellems: www.hubbell-wiring.com
- Pass & Seymour by Legrand: www.passandseymour.com
- TayMac by Hubbell, Inc.: www.taymac.com
- Thomas & Betts, a member of the ABB Group: www.tnb.com
- Wiremold Cable Management Products by Legrand: www.wiremold.com

**Pin & Sleeve**
- Bryant Electric, a division of Hubbell, Inc.: www.bryant-electric.com
- Cooper Wiring Devices by Eaton: www.cooperwiringdevices.com
- Crouse-Hinds by Eaton: www.crouse-hinds.com
- Emerson Automation Solutions: www.egseg.com
- Hubbell Wiring Device-Kellems: www.hubbell-wiring.com
- Interpower Corporation: www.interpower.com
- Killark, a division of Hubbell, Inc.: www.hubbell-killark.com
- Meltric Corporation: www.meltric.com
- Pass & Seymour by Legrand: www.passandseymour.com
- Thomas & Betts, a member of the ABB Group: www.tnb.com
- W.T. Storey, Inc.: www.wtstorey.com

**Nonmetallic Boxes and Covers**
- Allied Moulded Products, Inc.: www.alliedmoulded.com
- Arlington Industries, Inc.: www.aifittings.com
- Crouse-Hinds by Eaton: www.crouse-hinds.com
- Emerson Automation Solutions: www.egseg.com
- Hubbell Incorporated: www.hubbell.com
- Hubbell Wiring Device-Kellems: www.hubbell-wiring.com
- Interpower Corporation: www.interpower.com
- Killark, a division of Hubbell, Inc.: www.hubbell-killark.com
- Meltric Corporation: www.meltric.com
- Pass & Seymour by Legrand: www.passandseymour.com
- Thomas & Betts, a member of the ABB Group: www.tnb.com
- W.T. Storey, Inc.: www.wtstorey.com

**Power Equipment**

**Electrical Connector**
- 3M: www.3m.com/electrical

**Electrical Measuring Equipment**
- Aclara Meters: www.aclara.com
- Brooks Utility Products: www.brooksutility.com
Raceways

Polymer Guards
Hubbell Incorporated
www.hubbell.com

IPEX USA, LLC
www.ipexamerica.com

Thomas & Betts, a member of the ABB Group
www.tnb.com

Polymer Raceway Products

AFC Cable Systems, Inc., a part of Atkore International
www.afcweb.com

Allied Tube & Conduit, a part of Atkore International
www.allieded.us

Anamet Electrical, Inc.
www.anamet.com

Cal Am Manufacturing
www.calammfg.com

Champion Fiberglass, Inc.
www.championfiberglass.com

Electri-Flex Company
www.electriflex.com

FRE Composites
www.frecomposites.com

Hubbell Incorporated
www.hubbell.com

IPEX USA, LLC
www.ipexamerica.com

Panduit Corporation
www.panduit.com

Royal Building Products
www.royalbuildingproducts.com

Southern Pipe, Inc.
www.southern-pipe.com

Thomas & Betts, a member of the ABB Group
www.tnb.com

Underground Devices, Inc.
www.udevices.com

Thermoplastic Raceway (PVC, Polyethylene, Polyolefin)

AFC Cable Systems, Inc., a part of Atkore International
www.afcweb.com

Cal Am Manufacturing
www.calammfg.com

Hubbell Incorporated
www.hubbell.com

IPEX USA, LLC
www.ipexamerica.com

Panduit Corporation
www.panduit.com

Royal Building Products
www.royalbuildingproducts.com

Southern Pipe, Inc.
www.southern-pipe.com

Thomas & Betts, a member of the ABB Group
www.tnb.com

Underground Devices, Inc.
www.udevices.com

Thermoset Raceway (Fiberglass)

Champion Fiberglass, Inc.
www.championfiberglass.com

FRE Composites
www.frecomposites.com

United Fiberglass of America, Inc.
www.unitedfiberglass.com

Wiremold Cable Management Products by Legrand
www.wiremold.com

Surge Arrester

ABB Inc.
www.abb.com

Cooper Power Systems by Eaton
www.cooperpower.com

Hubbell Power Systems
www.hubbellpowersystems.com

TE Connectivity
www.te.com

United Fiberglass of America, Inc.
www.unitedfiberglass.com

Wiremold Cable Management Products by Legrand
www.wiremold.com

Receptacles

Bryant Electric
www.bryant-electric.com

Cooper Wiring Devices by Eaton
www.cooperwiringdevices.com
PRODUCTS & MANUFACTURERS: Receptacles

Enerlites Inc.
www.enerlites.com

Ericson Manufacturing Company
www.ericson.com

Hubbell Wiring Device-Kellems
www.hubbell-wiring.com

Leviton Manufacturing Company, Inc.
www.leviton.com

Lutron Electronics Company, Inc.
www.lutron.com

Pass & Seymour by Legrand
www.passandseymour.com

Safety Quick Lighting and Fans, Corp.
www.safetyquicklight.com

Wiremold Cable Management Products by Legrand
www.wiremold.com

Steel Conduit and Electrical Metallic Tubing

Allied Tube & Conduit, a part of Atkore International
www.allieddeg.us

Calpipe Industries, Inc.
www.calpipe.com

Republic Conduit
www.republicconduit.com

Robroy Industries, Inc.
www.robroy.com

Thomas & Betts, a member of the ABB Group
www.tnb.com

Western Tube & Conduit Corporation
www.westerntube.com

Wheatland Tube Company
www.wheatland.com

Switchgear

ABB Inc.
www.abb.com

Cooper Power Systems by Eaton
www.cooperpower.com

Eaton
www.eaton.com/electricalusa

Federal Pacific
www.federalpacific.com

G&W Electric, Inc.
www.gwelec.com

GE Grid Solutions
www.gegridsolutions.com

GE Industrial Solutions
www.geindustrial.com

Hitachi T&D Solutions, Inc.
hvbi.hitachi.us

Hubbell Power Systems
www.hubbelpowersystems.com

Mersen Electrical Power
ep-us.mersen.com

Mitsubishi Electric Power Products, Inc.
www.meppi.com

S&C Electric Company
www.sandc.com

Schneider Electric
www.schneider-electric.us

Residential & Commercial Controls

2D2C, Inc.
www.2d2c.com

APCOM, Inc.
www.apcom-inc.com

Braeburn Systems, LLC
www.braeburnonline.com

Honeywell Automation and Control Solutions
acscorp.honeywell.com

Therm-O-Disc, a brand of Emerson
www.thermodisc.com

White-Rodgers, a brand of Emerson
www.white-rodgers.com

Security Imaging and Communications

AS&E
www.as-e.com

OSI Systems, Inc.
www.osi-systems.com

Rapiscan Systems
www.rapiscansystems.com

TeleSecurity Sciences, Inc.
www.telesecuritysciences.com

Switches

Allied Moulded Products, Inc.
www.alliedmoulded.com

Boltswitch, Inc.
www.boltswitch.com

Bryant Electric, a division of Hubbell, Inc.
www.bryant-electric.com

Cooper Wiring Devices by Eaton
www.cooperwiringdevices.com

Eaton
www.eaton.com/electricalusa

Ericson Manufacturing Company
www.ericson.com

Enerlites Inc.
www.enerlites.com

Hubbell Wiegmann, a subsidiary of Hubbell Incorporated
www.hubbell-wiegmann.com

Hubbell Wiring Device-Kellems
www.hubbell-wiring.com

Leviton Manufacturing Company, Inc.
www.leviton.com

Lutron Electronics Company, Inc.
www.lutron.com

Pass & Seymour by Legrand
www.passandseymour.com

Penn Panel & Box Company
www.pennpanel.com

Pentair Technical Solutions
www.pentair.com

Rittal Corporation
www.rittal.us

Thomas & Betts, a member of the ABB Group
www.tnb.com

WattStopper
www.wattstopper.com
PRODUCTS & MANUFACTURERS: Uninterruptible Power (UPS)

Siemens Energy, Inc.
www.usa.siemens.com/energy

Siemens Industry, Inc.
www.usa.siemens.com/industry

Thomas & Betts, a member of the ABB Group
www.tnb.com

Toshiba International Corporation
www.toshiba.com/ind

Z-Power & Distribution
zpoweranddistribution.com

Transformers

ABB Inc.
www.abb.com

CG, a part of the Avantha Group
www.cgglobal.us

Cooper Power Systems by Eaton
www.cooperpower.com

Eaton
www.eaton.com/electricalusa

Emerson Automation Solutions
www.egseg.com

Emerson
www.emersonelectric.com

Federal Pacific
www.federalpacific.com

GE Digital Energy
www.gedigitalenergy.com

GE Industrial Solutions
www.geindustrial.com

Hammond Power Solutions, Inc.
www.hammondpowersolutions.com

Hubbell Acme
www.acmetransformer.com/en

Jefferson Electric
jeffersonelectric.com

Jinpan International USA Ltd.
www.jstusa.net

MGM Transformer Company
www.mgm-transformer.com

Schneider Electric
www.schneider-electric.us

Uninterruptible Power (UPS)

SolaHD
www.sola-hevi-duty.com

SPX Transformer Solutions, Inc.
www.spxtransformersolutions.com

VanTran Industries
www.vantran.com

Transportation Management Systems & Associated Control Devices

Adaptive Micro Systems, LLC
www.adaptivedisplaysolutions.com

Applied Information, Inc.
www.appinfoinc.com

Daktronics
www.daktronics.com/transportation

Delcan Technologies, a Parsons company
delcantechnologies.com

Eberle Design, Inc.
www.editraffic.com

Horizon Signal Technologies
www.horizonsignal.com

Intelight, Inc.
www.intelight-its.com

John Thomas, Inc.
www.crashcushions.com

OMJCs Signal, Inc.
www.omjcsignal.com

Peek Traffic Corporation
www.peektraffic.com

SES America
www.sesamerica.com

Siemens Industry, Inc.
www.usa.siemens.com/industry

Skyline Products
www.skylineproducts.com

TransCore, LP
www.transcore.com

Ver-Mac
www.ver-mac.com

Three-Phase UPS

ABB Inc.
www.abb.com

Ametek Solidstate Controls, Inc.
www.solidstatecontrolsinc.com

APC by Schneider Electric
www.apc.com

Delta Products Corporation
www.delta-americas.com

Eaton
www.eaton.com/electricalusa

Emerson Automation Solutions
www.egseg.com

GE Industrial Solutions
www.geindustrial.com

Liebert
www.liebert.com

Mitsubishi Electric Automation, Inc.
www.meau.com

ONYX, a Smiths Power brand
www.onyxpower.com

SolaHD
www.sola-hevi-duty.com

Toshiba International Corporation
www.toshiba.com/ind

Uninterruptible Power (UPS)

Single-Phase UPS

ABB Inc.
www.abb.com

Ametek Solidstate Controls, Inc.
www.solidstatecontrolsinc.com

APC by Schneider Electric
www.apc.com

Delta Products Corporation
www.delta-americas.com

Eaton
www.eaton.com/electricalusa

Emerson Automation Solutions
www.egseg.com

GE Industrial Solutions
www.geindustrial.com

Liebert
www.liebert.com

Mitsubishi Electric Automation, Inc.
www.meau.com

ONYX, a Smiths Power brand
www.onyxpower.com

SolaHD
www.sola-hevi-duty.com

Toshiba International Corporation
www.toshiba.com/ind

Three-Phase UPS

ABB Inc.
www.abb.com

Ametek Solidstate Controls, Inc.
www.solidstatecontrolsinc.com

APC by Schneider Electric
www.apc.com

Delta Products Corporation
www.delta-americas.com

Eaton
www.eaton.com/electricalusa

Emerson Automation Solutions
www.egseg.com

GE Industrial Solutions
www.geindustrial.com

Liebert
www.liebert.com

Mitsubishi Electric Automation, Inc.
www.meau.com

ONYX, a Smiths Power brand
www.onyxpower.com

SolaHD
www.sola-hevi-duty.com

Toshiba International Corporation
www.toshiba.com/ind

Three-Phase UPS

ABB Inc.
www.abb.com

Ametek Solidstate Controls, Inc.
www.solidstatecontrolsinc.com

APC by Schneider Electric
www.apc.com

Delta Products Corporation
www.delta-americas.com

Eaton
www.eaton.com/electricalusa

Emerson Automation Solutions
www.egseg.com

GE Industrial Solutions
www.geindustrial.com

Liebert
www.liebert.com

Mitsubishi Electric Automation, Inc.
www.meau.com

ONYX, a Smiths Power brand
www.onyxpower.com

SolaHD
www.sola-hevi-duty.com

Toshiba International Corporation
www.toshiba.com/ind
## Wire & Cable

### Building Wire and Cable
- AFC Cable Systems, Inc., a part of Atkore International
  - www.afcweb.com
- Anamet Electrical, Inc.
  - www.anacondasealtite.com
- Cerro Wire, LLC
  - www.cerrowire.com
- Colonial Wire & Cable Co., Inc.
  - colonialwire.com
- Electri-Flex Company
  - www.electriflex.com
- Encore Wire Corporation
  - www.encorewire.com
- General Cable
  - www.generalcable.com
- International Metal Hose Company
  - www.metalhose.com
- Nexans
  - www.nexans.ca
- Nexans AmerCable, Inc.
  - www.amercable.com
- Okonite Company, The
  - www.okonite.com
- Prysmian Group
  - prismianguardgroup.com
- Service Wire Company
  - www.servicewire.com
- Southwire Company
  - www.southwire.com
- United Copper Industries
  - www.unitedcopper.com
- Viakable, S.A. de C.V.
  - www.viakable.com

### Flexible Cords
- Bryant Electric, a division of Hubbell, Inc.
  - www.bryant-electric.com
- Coleman Cable, LLC
  - www.coleman cable.com

### High Performance Wire and Cable
- AFC Cable Systems, Inc., a part of Atkore International
  - www.afcweb.com
- Apical Division, Kaneka North America
  - www.kanekatexas.com
- Belden
  - www.belden.com
- Cable USA, LLC
  - www.cableusa.cc
- Champlain Cable Corporation
  - www.champcable.com
- Coleman Cable, LLC
  - www.coleman cable.com
- Comtran Cable, LLC
  - comtrancorp.com
- Freeport-McMoRan
  - www.fcx.com
- General Cable
  - www.generalcable.com
- Harbour Industries, LLC
  - www.harbourind.com
- Marine Tech Wire and Cable, Inc.
  - www.marinetechwire.com
- Monroe Cable Company, Inc., The
  - www.monroecableusa.com
- Nexans
  - www.nexans.ca
- Nexans AmerCable, Inc.
  - www.amercable.com
- Okonite Company, The
  - www.okonite.com

### Power and Control Cable
- AFC Cable Systems, Inc., a part of Atkore International
  - www.afcweb.com
- Freeport-McMoRan
  - www.fcx.com
- General Cable
  - www.generalcable.com
- Rea Magnet Wire Company, Inc.
  - www.reawire.com
- Superior Essex, Inc.
  - www.superoressex.com
- Von Roll USA, Inc.
  - www.vonroll.com

### Magnet Wire
- CONDUMEX S.A. DE C.V.
  - www.condumex.com
- Elektrisola, Inc.
  - www.elektrisola-usa.com
- Magnekon S.A. de C.V., a Viakable company
  - www.magnekon.com
- MWS Wire Industries
  - www.mwswire.com
- Rea Magnet Wire Company, Inc.
  - www.reawire.com
- Superior Essex, Inc.
  - www.superoressex.com
- Von Roll USA, Inc.
  - www.vonroll.com

### Uninterruptible Power (UPS)
- Prestolite Wire, LLC
  - www.prestolitewire.com
- Quirk Wire Company, Inc.
  - www.quirkwire.com
- Radix Wire
  - www.radix-wire.com
- Raychem, a product group of TE Connectivity
  - raychem.te.com
- RSCC Wire and Cable
  - www.r-scc.com
- SEA Wire and Cable, Inc.
  - www.sea-wire.com
- WireMasters, Inc.
  - www.wiremasters.net
Nexans
www.nexans.ca

Nexans AmerCable, Inc.
www.amercable.com

Okonite Company, The
www.okonite.com

Prysmian Group
prysmiangroup.com

RS2C Wire and Cable
www.r-scc.com

Service Wire Company
www.servicewire.com

Southwire Company
www.southwire.com

Wiring Devices

2D2C, Inc.
www.2d2c.com

BJB Electric L.P.
www.bjb.com

Bryant Electric, a division of Hubbell, Inc.
www.bryant-electric.com

Cooper Wiring Devices by Eaton
www.cooperwiringdevices.com

Enerlites Inc.
www.enerlites.com

Ericson Manufacturing Company
www.chricson.com

GE Industrial Solutions
www.geindustrial.com

Hubbell Incorporated
www.hubbell.com

Hubbell Wiring Device-Kellems
www.hubbell-wiring.com

Interpower Corporation
www.interpower.com

Legrand, North America
www.legrand.us

Leviton Manufacturing Company, Inc.
www.leviton.com

Lutron Electronics Company, Inc.
www.lutron.com

Pass & Seymour by Legrand
www.passandseymour.com

Reliance Controls Corporation
www.reliancecontrols.com

Schneider Electric
www.schneider-electric.us

Safety Quick Lighting and Fans, Corp.
www.safetyquicklight.com

TayMac by Hubbell, Inc.
www.taymac.com

TE Connectivity
www.te.com

Technology Research, LLC, a Southwire company
www.trci.net

Thomas & Betts, a member of the ABB Group
www.tnb.com

WattStopper
www.wattstopper.com

Wiremold Cable Management Products by Legrand
www.wiremold.com
## ASSOCIATE MEMBERS

### Industrial Supplier

**Companies that supply raw, manufactured materials, components or products**

- Alpha Magnet, LLC
  - Yorba Linda CA
  - www.alphamagnet.com
- Apple Inc.
  - Cupertino CA
  - www.apple.com
- Arkema Inc.
  - King Prussia PA
  - www.arkema.com
- Budde Marketing Systems, Inc.
  - Homer Glen IL
  - www.buddemarketing.com
- CBS ArcSafe
  - Denton TX
  - cbsarcsafe.com
- ELTEK International Laboratories
  - Saint Charles MO
  - www.elteklabs.com
- EPLAN Software & Services LLC
  - Schaumburg IL
  - www.eplanusa.com
- Gendon Polymer Services Inc.
  - Bolton ON
  - www.gendon.com
- Greenlite Lighting Corporation
  - Pointe Claire QC
  - www.greenlite.ca
- Jor-Mac Company
  - Lomira WI
  - www.jor-mac.com
- Kirk Key Interlock Company
  - North Canton OH
  - www.kirkkey.com
- Meister International, LLC
  - Ross OH
  - www.meisterintl.com
- Newton-Evans Research Company, Inc.
  - Ellicott City MD
  - www.newton-evans.com
- Plusrite Electric (Jiangsu) Co., Ltd.
  - Jiangsu China
  - www.pluslight.com
- PPG Industrial Coatings
  - Pittsburgh PA
  - corporate.ppg.com
- Recargo Inc.
  - Venice CA
  - www.recargo.com
- Robertson Inc.
  - Burlington ON
  - www.robertsonscrew.com
- Synaptronics
  - Columbia MD
  - www.synaptronics.com

### Wholesale Trade

**Companies that are authorized to distribute NEMA Member products**

- Batteries Plus Bulbs
  - Hartland WI
  - www.batteriesplus.com
- Controls & Electric Motor Company Inc.
  - Joplin MO
  - www.cemcomo.com
- Dakota Supply Group
  - Fargo ND
  - www.dsginc.biz
- Graybar Electric Company, Inc.
  - Saint Louis MO
  - www.graybar.com
- Rexel Inc.
  - Dallas TX
  - www.rexelusa.com
- Salinger Electric Co, Inc.
  - Troy MI
  - www.salingerelectric.com
- Stober Drives Inc.
  - Maysville KY
  - www.stober.com
- Sy Kessler Sales Inc.
  - Dallas TX
  - www.sykessler.com
- VantagePQ Solutions, LLC
  - Wake Forest NC
  - www.vantagepq.com
- Worldwide Electric Corporation
  - Pittsford NY
  - www.worldwideelectric.net

### Association

**Organizations that have an interest in NEMA-related issues**

- IMSA
  - Rockledge FL
  - www.imsasafety.org
- The Vinyl Institute
  - Alexandria VA
  - www.vinylinfo.org
<table>
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<td>ANSI/NEMA SB 40-2015</td>
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<td>ANSI/NEMA SG-IC 1-2013</td>
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<td>ANSI/NEMA SG-IPRM 1-2016</td>
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<td>ANSI/NEMA WC 53/ICEA T-27-581-2016</td>
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<td>ANSI/NEMA WC 54/ICEA T-26-465-2013</td>
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<td>ANSI/NEMA WC 55021-2013</td>
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<td>ANSI/NEMA WC 57-2014/ICEA S-73-532-2014</td>
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<td>ANSI/NEMA WC 61-2005 (R2015)</td>
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<td>ANSI/NEMA WC 66/ICEA S-116-732-2013</td>
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<td>ANSI/NEMA WC 75-2015</td>
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