

# EPIC® Pin & Sleeve Connectors

IEC & UL Standards

Founded in 1906, the International Electrotechnical Commission (IEC) is the global organization that prepares and publishes international standards for all electrical, electronic and related technologies. The IEC was founded as a result of a resolution passed at the International Electrical Congress held in St. Louis (USA) in 1904. The membership consists of more than 60 participating countries, including all the world's major trading nations and a growing number of industrialized countries.

The IEC's mission is to promote international cooperation on all electrotechnical standardization questions and related matters in the fields of electricity, electronics, and related technologies. IEC's international standards insure that a component or system manufactured to IEC standards and manufactured in country A can be sold and used in countries B through Z.

## **IEC 60309-1 (1999-02) Plugs, socket-outlets and couplers for industrial purposes- Part 1: General Requirements**

Applies to plugs and socket-outlets, cable couplers and appliance couplers, with a rated operating voltage not exceeding 690V D.C. or A.C., 500 Hz A.C. and a rated current not exceeding 250 A, primarily intended for industrial use, either indoors or outdoors when the ambient temperature does not normally exceed 40°C.

## **IEC 60309-2 (1999-04) Plugs, socket-outlets and couplers for industrial purposes- Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories.**

Applies to plugs and socket-outlets, cable couplers with a rated operating voltage not exceeding 690V, 500Hz and a rated current not exceeding 125A., primarily intended for industrial use, either indoors or outdoors. Together, the IEC 60309 standards provide industrial pin and sleeve connectors that are coded to provide positive voltage and frequency matching. Physical characteristics of these connectors make it virtually impossible to mis-match plugs and receptacles of different voltage and current ratings. The size of the device is determined by its amperage rating. Devices with different amperage ratings cannot be coupled due to the size variance used.

Pin & Sleeve devices conforming to IEC309-2 are single rated with their voltage determined by the location of the oversized female ground contact relative to a key way molded into the bottom of the housing. Twelve positions are possible (conforming to the positions on a clock face)

to represent the ground pin location for specific voltages. Mismatched voltage devices are impossible to couple. In addition, each device is clearly marked and color coded to indicate the voltage for which it is intended to be used.

As a result of this standardization, all manufacturers' devices which conform to these standards are intermateable and interchangeable.

All North American products in this catalog are designed, tested, and approved by Underwriters Labs in accordance with UL 1682 and UL 1686 standards.

## **UL 1682 Plugs, Receptacles and Cable Connectors of the Pin & Sleeve Type**

Describes the electrical and mechanical characteristics

## **UL 1686 Pin & Sleeve Configurations**

Describes contact location and other requirements relative to voltage rating for interchangeability.

The following charts show the ground pin location (referenced to the female connector) and color coding for both the North American and International product configurations.