TYPE ENCLOSURE TYPES

DEFINITIONS PERTAINING TO NONHAZARDOUS LOCATIONS

Type 1 Enclosures	Type 1 enclosures are intended for indoor use primarily to provide a degree of protection against limited amounts of falling dirt.
Type 2 Enclosures	Type 2 enclosures are intended for indoor use primarily to provide a degree of protection against limited amounts of falling water.
Type 3 Enclosures	Type 3 enclosures are intended for outdoor use primarily to provide a degree of protection against rain, sleet, windblown dust, and damage from external ice formation.
Type 3R Enclosures	Type 3R enclosures are intended for outdoor use primarily to provide a degree of protection against rain, sleet, damage from external ice formation, and must have a drain hole.
Type 3S Enclosures	Type 3S enclosures are intended for outdoor use primarily to provide a degree of protection against rain, sleet, windblown dust, and to provide for operation of external mechanisms when ice laden.
Type 4 Enclosures	Type 4 enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water, hose-directed water, and damage from external ice formation.
Type 4X Enclosures	Type 4X enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water, hose-directed water, and damage from external ice formation.
Type 5 Enclosures	Type 5 enclosures are intended for indoor use primarily to provide a degree of protection against airborne dust, falling dirt, and dripping noncorrosive liquids.
Type 6 Enclosures	Type 6 enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against hose-directed water, the entry of water during temporary submersion at a limited depth, and damage from external ice formation.
Type 6P Enclosures	Type 6P enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against hose-directed water, the entry of water during prolonged submersion at a limited depth, and damage from external ice formation.
Type 12 Enclosures	Type 12 enclosures are intended for indoor use primarily to provide a degree of protection against circulating dust, falling dirt, and dripping noncorrosive liquids.
Type 12K Enclosures	Type 12K enclosures with knockouts are intended for indoor use primarily to provide a degree of protection against circulating dust, falling dirt, and dripping noncorrosive liquids.
Type 13 Enclosures	Type 13 enclosures are intended for indoor use primarily to provide a degree of protection against dust, spraying of water, oil, and noncorrosive coolant.

DEFINITIONS PERTAINING TO HAZARDOUS (CLASSIFIED) LOCATIONS

Type 7 Enclosures

Type 7 enclosures are intended for indoor use in locations classified as Class I, Groups A, B, C, or D, as defined in the National Electrical Code.

Type 8 Enclosures

Type 8 enclosures are intended for indoor or outdoor use in locations classified as Class I, Groups A, B, C, or D, as defined in the National Electrical Code.

Type 9 Enclosures

Type 9 enclosures are intended for indoor use in locations classified as Class II, Groups E, F, and G, as defined in the National Electrical Code*.

Type 10 Enclosures

Type 10 enclosures are constructed to meet the applicable requirements of the Mine Safety and Health Administration.

* Refer to NEMA Standards Publication No. 250 Enclosures for Electrical equipment (1000 Volts Maximum) or other third party certification standards for specific requirements for product construction, testing and performance such as Underwriters Laboratories, Inc., Standard UL 50 "Standards for Enclosures for Electrical Equipment," and UL886 "Outlet Boxes and Fittings for use in Hazardous (Classified) Locations."

ENCLOSURE TYPES VS. IEC CLASSIFICATION DESIGNATION COMPARISON

Enclosure Type rating	IEC Enclosure (IP) Classification
1	IP 10
2	IP 11
3	IP 54
3R	IP 14
3S	IP 54
4 and 4X	IP 55
5	IP 52
6 and 6P	IP 67
12 and 12K	IP 52
13	IP 54
(one way conversion)	

Note: This table is for the reference only. (Direct conversion is not allowed) Both enclosure type rating test and IEC enclosure (IP) rating test have to be tested to achieve both rating.

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