


## NEMA and UL Ratings

NEMA and UL are standard writing organizations commonly recognized in North America. Their ratings are based on similar application descriptions and expected performance. UL requires enclosure testing by qualified evaluators. They also send site inspectors to make sure a manufacturer adheres to prescribed manufacturing methods and material specifications. NEMA, on the other hand, does not require independent testing and leaves compliance completely up to the manufacturer.

### Enclosure Types, Non-Hazardous Location

| Enclosure Rating | <b>NEMA</b> National Electrical Manufacturers Association (NEMA Standard 250) and Electrical and Electronic Mfg. Association of Canada (EEMAC).   |  Underwriters Laboratories Inc. (UL 50 and UL 508)   |
|------------------|---|---|
| <b>Type 1</b>    | Enclosures are intended for indoor use primarily to provide a degree of protection against contact with the enclosed equipment or locations where unusual service conditions do not exist.  | Indoor use primarily to provide protection against contact with the enclosed equipment and against a limited amount of falling dirt.  |
| <b>Type 3</b>    | Enclosures are intended for outdoor use primarily to provide a degree of protection against windblown dust, rain, and sleet; undamaged by the formation of ice on the enclosure.  | Outdoor use to provide a degree of protection against windblown dust and windblown rain; undamaged by the formation of ice on the enclosure.  |
| <b>Type 3R</b>   | Enclosures are intended for outdoor use primarily to provide a degree of protection against falling rain and sleet; undamaged by the formation of ice on the enclosure.   | Outdoor use to provide a degree of protection against falling rain; undamaged by the formation of ice on the enclosure.   |
| <b>Type 4</b>    | Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water, and hose directed water; undamaged by the formation of ice on the enclosure.            | Either indoor or outdoor use to provide a degree of protection against falling rain, splashing water, and hose-directed water; undamaged by the formation of ice on the enclosure.                    |
| <b>Type 4X</b>   | Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water, and hose-directed water; undamaged by the formation of ice on the enclosure. | Either indoor or outdoor use to provide a degree of protection against falling rain, splashing water, and hose-directed water; undamaged by the formation of ice on the enclosure; resists corrosion. |
| <b>Type 12</b>   | Enclosures are intended for indoor use primarily to provide a degree of protection against dust, falling dirt, and dripping noncorrosive liquids.   | Indoor use to provide a degree of protection against dust, dirt, fiber flyings, dripping water, and external condensation of noncorrosive liquids.  |

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