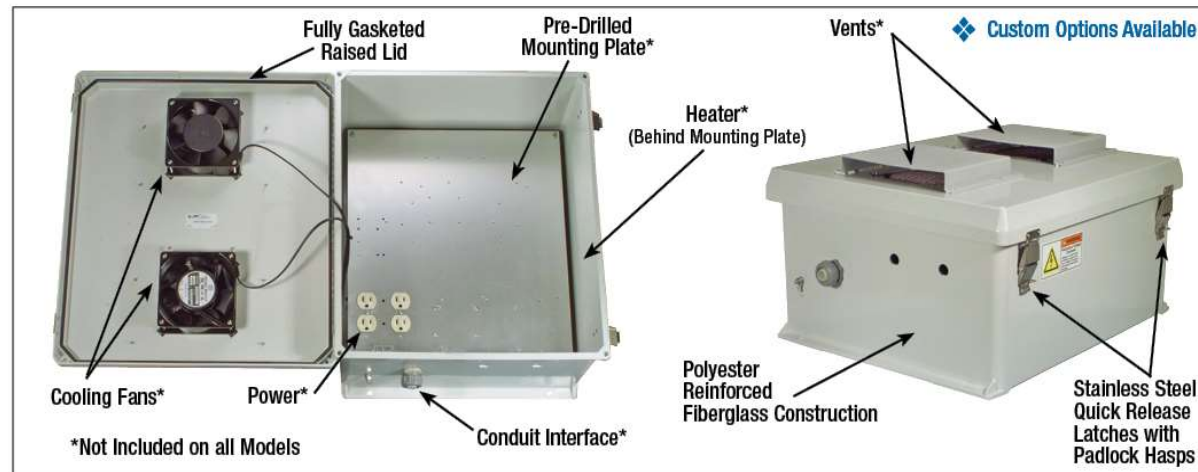


Enclosure Overview



Weatherproof Enclosures
are available in different
standard sizes

- Non-Powered enclosures
- 120 VAC and 240 VAC
- PoE ready enclosures
- 12 VDC enclosures
- Custom configurations

ABS - Acrylonitrile Butadiene Styrene (Plastic)

- Well suited for High Temperature and Harsh Environments
- Material is UV stabilized
- Indoor or Outdoor applications
- Light Weight Applications
- Temperature range -20° to 105°C
- Excellent electrical properties and non-conductive
- Cost competitive



FRP - Fiberglass Reinforced Polyester

- Well suited for High Temperature and Corrosive Environments
- Material is UV stabilized
- Indoor or Outdoor applications
- Flame retardant
- Does not absorb moisture
- Temperature range -40°C to 121°C
- Excellent electrical properties and non-conductive
- Cost competitive



Polycarbonate Enclosures

- Next phase of technology in NEMA enclosures
- **UV Protection** – no painting or treatment necessary for UV protection
- **Impact Resistance** – Impact resistance over 900 lb/in
- **Ease of Modification** – Easier and safer to machine, with none of the dust and splintering of other material
- **Durability**, tight seals and supports easy component installation
- **Non-corrosive**, non-conductive
- **Lighter weight**
- **Competitively priced**



Polycarbonate versus Fiberglass (FRP)

Feature	Polycarbonate	Fiberglass
Impact Resistance	900 in/lb	220 in/lb
Weight	40% lighter	Dense material heavier
UV Resistance	UV inhibitor in the formula	Needs coating
Ease of Modification	No Dust, clean edges	Can leave dust or rough edges
Eco-friendly	recyclable	Cannot be recycled
Damage from Handling	No risk highly durable	Risk of damage while handling



Stainless and Mild (Carbon) Steel Enclosures

Stainless Steel

- Highest Performance – High Temperature and Corrosive Environments
- Highest Price alternative
- 40 part numbers of Stainless Steel launched on L-com and Transtector

Mild (Carbon) Steel

- Contains higher Carbon content compared to Stainless Steel
- Less expensive than Stainless Steel
- 40 part numbers of Mild Steel to be launched on L-com and Transtector Q4 2020



NEMA/IEC Cross Reference

NEMA/IEC

NEMA (National Electrical Manufacturers Association) and the IEC (International Electrotechnical Commission) are two standards groups, which have devised two different rating systems for enclosures, which define the enclosures resistance to dust, moisture, water immersion and ice. The IEC rating is referred to as the IP or Ingress Protection rating. The table below outlines NEMA and IEC IP enclosure ratings. This chart only works in one direction from NEMA to IEC. An IP rating only considers protection against ingress of solid foreign objects and ingress of water.

NEMA enclosure type no.	ENCLOSURE CONSTRUCTION DEFINITIONS	IEC enclosure class
1	Enclosures constructed for indoor use to provide a degree of protection to personnel against access to hazardous parts and to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt).	IP20
2	Enclosures constructed for indoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt); and to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (dripping and light splashing).	IP22
3	Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and windblown dust); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow); and that will be undamaged by the external formation of ice on the enclosure.	IP55
3R	Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow); and that will be undamaged by the external formation of ice on the enclosure.	IP24
3S	Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and windblown dust); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow); and for which the external mechanism(s) remain operable when ice laden.	IP55
4	Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and windblown dust); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow, splashing water, and hose directed water); and that will be undamaged by the external formation of ice on the enclosure.	IP66
4X	Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (windblown dust); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow, splashing water, and hose directed water); that provides an additional level of protection against corrosion; and that will be undamaged by the external formation of ice on the enclosure.	IP66
5	Enclosures constructed for indoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and settling airborne dust, lint, fibers, and flyings); and to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (dripping and light splashing).	IP53
6	Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (hose directed water and the entry of water during occasional temporary submersion at a limited depth); and that will be undamaged by the external formation of ice on the enclosure.	IP67
6P	Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (hose directed water and the entry of water during prolonged submersion at a limited depth); that provides an additional level of protection against corrosion and that will be undamaged by the external formation of ice on the enclosure.	IP68
12	Enclosures constructed (without knockouts) for indoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and circulating dust, lint, fibers, and flyings); and to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (dripping and light splashing).	IP54
12K	Enclosures constructed (with knockouts) for indoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and circulating dust, lint, fibers, and flyings); and to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (dripping and light splashing).	IP54
13	Enclosures constructed for indoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and circulating dust, lint, fibers, and flyings); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (dripping and light splashing); and to provide a degree of protection against the spraying, splashing, and seepage of oil and non-corrosive coolants.	IP54