



## IEC Enclosure Description

### Comparison of NEMA Enclosures

This table summarizes the information provided on the previous page.

Provides a Degree of Protection Against the Following Environmental Conditions	1	3R	4	4X	12	13
Incidental contact with the enclosed equipment	X	X	X	X	X	X
Rain, snow, and sleet	—	X	X	X	—	—
Windblown dust	—	—	X	X	—	—
Falling dirt	X	—	X	X	X	X
Falling liquids and light splashing	—	—	X	X	X	X
Circulating dust, lint, fibers, and flyings	—	—	X	X	X	X
Settling airborne dust, lint, fibers, and flyings	—	—	X	X	X	X
Hosedown and splashing water	—	—	X	X	—	—
Oil and coolant seepage	—	—	—	—	X	X
Oil or coolant spraying and splashing	—	—	—	—	—	X
Corrosive agents	—	—	—	X	—	—

### IEC Environmental Enclosure Ratings for Global Applications

IEC enclosures use a two digit numbering system to define the degree of protection they provide. The first digit specifies the degree of protection against incidental contact and penetration of solid objects. The second digit specifies the level of protection against the ingress of water.

**Example:** An IP 65 enclosure is dust tight and protected against water jets. An IP66 enclosure is dust tight and protected against powerful water jets.

First Numeral	Second Numeral
<b>Protection of persons against access to hazardous parts and protection against penetration of solid foreign objects.</b>	<b>Protection against ingress of water under test conditions specified in IEC 529.</b>
0 Non-protected	0 Non-protected
1 Back of hand; objects greater than 50 mm in diameter	1 Vertically falling drops of water
2 Finger; objects greater than 12.5 mm in diameter	2 Vertically falling drops of water with enclosure tilted 15 degrees
3 Tools or objects greater than 2.5 mm in diameter	3 Spraying water
4 Tools or objects greater than 1 mm in diameter	4 Splashing water
5 Dust-protected (Dust may enter but must not interfere with operation of the equipment or impair safety)	5 Water jets
6 Dust tight (No dust observable inside enclosure at end of test)	6 Powerful water jets
	7 Temporary submersion
	8 Continuous submersion

### Conversion of NEMA Type Numbers to IEC Classification Designations

This table shows the IP classification designation to which NEMA enclosures may be applied. The table cannot be used to convert IEC designations to NEMA type numbers.

NEMA Enclosure Type Number	IEC Enclosure Classification Designation
1	IP10
3	IP54
3R	IP14
4 and 4X	IP56
6 and 6P	IP67
12	IP52
13	IP54

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Application Data