



Bud Industries, Inc. Enclosure Nema and IP Rating Basics

NEMA Ratings:

Indoor Nonhazardous Locations	Enclosure Nema Ratings						
	1	2	4	4X	6	12	13
Incidental Contact w/ enclosed equipment	x	x	x	x	x	x	x
Falling Dirt	x	x	x	x	x	x	x
Falling Liquids/Light Splashing		x	x	x	x	x	x
Circulating Dust			x	x	x	x	x
Hosedown and splashing water			x	x	x		
Oil & Coolant Seepage						x	x
Oil or Coolant spraying							x
Corrosive Agents				x			
Occasional Temporary submersion					x		

Outdoor Nonhazardous Locations	Enclosure Nema Ratings			
	3R	4	4X	6
Incidental Contact w/ enclosed equipment	x	x	x	x
Rain, snow, and sleet	x	x	x	x
Windblown dust, lint, & Fibers		x	x	x
Hosedown		x	x	x
Corrosive Agents			x	
Occasional Temporary submersion				x

Nema 1 – Enclosed on all 6 sides to protect people from touching internal components or the internal components from falling out

Nema 3R - Outdoor use primarily to provide a degree of protection against rain, sleet, and damage from external ice formation.

Nema 4 – It is Nema 1 plus it will protect against falling or sprayed water or dirt. This can be used for outdoor applications or factory floor applications.

Nema 4X – Same as Nema 4 but is also corrosion resistant

Nema 12 – protects against oil seepage

Nema 13 – protects against oil being sprayed.



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IP Ratings:

- First Digit: level of protection against access to hazardous parts & the ingress of solid foreign objects

Level	Summary	Effective Against
5	dust protected	complete protection against contact but dust not 100% prevented
6	dust tight	No ingress of dust; complete protection against contact

- Second Digit: Protection of the equipment inside the enclosure against harmful ingress of water.

Level	Summary	Effective Against
5	water jets	Can protect against projected water from any direction
6	powerful water jets	Can protect against powerful projected water from any direction
7	immersion	Can be submerged in water up to 1 meter

WHAT YOU NEED TO KNOW: When your customer asks for IP65 and IP66, it is covered by Bud NEMA 4x products.

NEMA Rating	IP Equivalent
1	IP10
2	IP11
3R	IP14
4	IP66
4X	IP66
6	IP67
6P	IP67
12	IP52
13	IP54

Nema Bud Product Series Examples

1 & 2	JB, JBH, SN, SNB, SNC, SNB-SS, NB, AN, CN, PN, PNR, BT, NF, NFL, DCW, ANS, IPS, and other fully enclosed boxes like CU or HP
3R	N3R
4X	SN, SNB, SNC, SNB-SS, NB, AN, CN, PN, PNR, BT, NF, NFL, DCS, ANS, IPS
6	ANS, IPS
12 & 13	SN, SNB, SNC, SNB-SS, NB, AN, CN, PN, PNR, BT, NF, NFL, ANS, IPS, SPB,