

# ***APPLICATIONS BULLETIN***

## **IP RATINGS FOR TECHSYS CORPORATIONS PRODUCTS**

All Techsys Corporation switchboards are rated to the IP – Ingress Protection Standards set out by CENELEC.

Listed Below are the IP ratings for all of the Techsys Corporation range of products.

<b>Product</b>	<b>Standard IP Rating*</b>	<b>Upgrade to</b>	<b>Method</b>
<b>Swordfish</b>	IP54	IP65	Inner Door Construction
<b>MPCSV</b>	IP54	IP56 IP65	Fan Baffle Air-conditioner
<b>GWi</b>	IP54	IP56 IP65	Fan Baffle Air-conditioner
<b>Dolphin PLUS</b>	IP54	IP56 IP65	Fan Baffle Air-conditioner

\*These are not certified however all designs are based on this rating

The upgrade to information denotes the increased IP rating with non-standard modifications.

With products with Decal stickers on the exterior – All Decals are UV stabilized and rated to IP54 as a minimum.



## IP RATING DESCRIPTION

This standard describes a system for classifying the degrees of protection provided by the enclosures of electrical equipment. Developed by the European Committee for Electrotechnical Standardization (CENELEC), these standards are designed to numerically rate an electrical product on the level of protection its enclosure provides. By assigning different number codes, the product's degree of protection can be identified quickly and easily. In the code IP 54, for example, IP identifies this standard, the 5 describes the level of protection from solid objects, and 4 describes the level of protection from liquids.

First Characteristic Numeral	DEGREE OF PROTECTION (First Number in Code)	
	Brief Description	Definition
<b>0</b>	Not protected	—
<b>1</b>	Protected against solid foreign objects of 50mm diameter and greater.	The object probe, sphere of 50mm diameter, shall not fully penetrate. <sup>1</sup>
<b>2</b>	Protected against solid foreign objects of 12.5mm diameter and greater.	The object probe, sphere of 12.5mm diameter, shall not fully penetrate. <sup>1</sup>
<b>3</b>	Protected against solid foreign objects of 2.5mm diameter and greater.	The object probe, sphere of 2.5mm diameter, shall not penetrate at all. <sup>1</sup>
<b>4</b>	Protected against solid foreign objects of 1mm diameter and greater.	The object probe, sphere of 1mm diameter, shall not penetrate at all. <sup>1</sup>
<b>5</b>	Dust-protected	Ingress of dust is not totally prevented, but dust shall not penetrate in a quantity to interfere with satisfactory operation of the apparatus or to impair safety.
<b>6</b>	Dust-tight	No ingress of dust.

<sup>1</sup> The full diameter of the object shall not pass through an opening of the enclosure



Second Characteristic Numeral	DEGREE OF PROTECTION (Second Number in Code)	
	Brief Description	Definition
<b>0</b>	Not protected	—
<b>1</b>	Protected against vertically falling water drops.	Vertically falling drops shall have no harmful effects.
<b>2</b>	Protected against vertically falling water drops when enclosure is titled up to 15°.	Vertically falling drops have no harmful effects when the enclosure is tilted at any angle up to 15° on either side of the vertical.
<b>3</b>	Protected against spraying water.	Water sprayed at an angle up to 60° degrees on either side of the vertical shall have no harmful effects.
<b>4</b>	Protected against splashing water.	Water splashed against the enclosure from any direction shall have no harmful effects.
<b>5</b>	Protected against water jets.	Water projected in jets against the enclosure from any direction shall have no harmful effects.
<b>6</b>	Protected against powerful water jets.	Water projected in powerful jets against the enclosure from any direction shall have no harmful effects.
<b>7</b>	Protected against the effects of temporary immersion in water.	Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is temporarily immersed 1 meter in water under standardized conditions of pressure and time.
<b>8</b>	Protected against the effects of continuous immersion in water.	Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is continuously immersed in water under conditions which shall be agreed between manufacturer and the user, but are more severe than for number 7.



## COMPARISON OF WORLD ENCLOSURE PROTECTION RATINGS

<b>NEMA Type rating</b>	<b>UL Type rating</b>	<b>CSA Type rating</b>	<b>Apprx. IEC/IP classification</b>
1	1	1	IP23
2	2	2	IP30
3	3	3	IP64
3R	3R	3R	IP32
4	4	4	IP66
4X	4X	4X	IP66
6	6	6	IP67
12	12	12	IP55
13	13	13	IP65

