PERMA-CAL® INDUSTRIES, INC.
DIRECT DRIVE PRESSURE GAUGES

NEMA AND IP ENCLOSURE RATINGS

NEMA (National Electrical Manufacturer's Association) and the IEC (International Electro-technical Commission) have created ratings schemes to designate the degree of protection of enclosures housing electronic equipment.

Although Perma-Cal's product lineup is currently mechanical in nature, questions still arise from time to time regarding the "NEMA Rating" or "IP Code" of various products.

It is best to contact the factory if questions arise concerning the ambient environment of Perma-Cal® products. However, some general information is provided below which may be of help.

Industrial Gauges

All of Perma-Cal's analog industrial gauge products (regardless of accuracy) are designed for outdoor use and will continue to operate when exposed to moderate rain, snow, blowing dust and temperature extremes.

In addition to stainless steel (typical fitting material) and depending on case material, in most cases, the materials exposed to the elements are ABS (acrylonitrile butadiene styrene), Aluminum and Glass-Filled Nylon. Additionally, oftentimes metal cases are powder coated.

The IP code is IP54 which generally equates to NEMA 4X.

Miniature Gauges

Since all Miniature Gauge products are designed for a specific application NEMA and IP do not apply.

However, ingress protection equivalent to IP68 is typical.

Digital Gauges and Transducers (no longer in production)

Digital Gauges and Transducers are designed for indoor environments such as design / test / research laboratories, classrooms, etc.

The IP code is IP42 which generally equates to NEMA 5.

Pneumatic Regulators (no longer in production)

Due to their nature, internal parts of pneumatic pressure regulators are at times exposed to the environment. Dust and small particles fouling seats and seals are the most common mode of failure. In general, exposure to the splashing of clean water or clean non-corrosive lubricants is not a cause for concern.

The IP code is IP4X (no equivalent NEMA rating).