

Product Brief:

Hazardous Environment

EXPLOSION-PROOF ENCLOSURE

INDUSTRY: HAZARDOUS ENVIRONMENT — EXPLOSION AND FLAME

APPLICATION: EXPLOSION-PROOF ENCLOSURE

SUMMARY: There are many recognized types of protection for hazardous area electrical instruments, each type of protection achieving its safety from ignition in different ways. Virtually any industry processing or utilizing a flammable substances may be affected—mining, energy, chemical, materials storage, and the pharmaceutical industries all process flammable liquids and gases. Special consideration must be given to design and construction in hazardous areas as a precaution to eliminate sources of ignition.

Overview

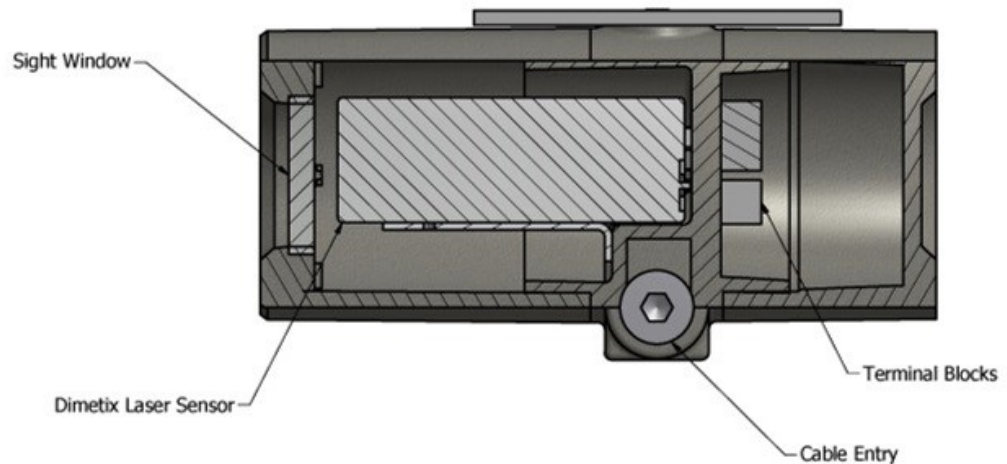
Challenge

Flammable gases, vapors and combustible dusts exist almost everywhere. As a rule, an explosion is possible whenever three factors are present:

- flammable substance in concentration sufficient to produce explosion or ignition
- oxygen (air)
- ignition source

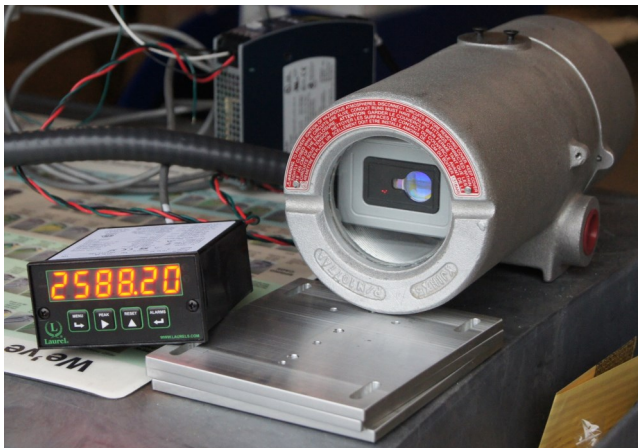
Virtually any industry processing or utilizing flammable liquids or gases is affected —mining, energy, chemical, materials storage, and the pharmaceutical industries, among others. Although there are many recognized types of protection for equipment in hazardous areas, explosion proof enclosures attempt to contain an internal explosion. Since flammable gases and vapors are expected inside an enclosure, the equipment must be capable of withstanding an explosion caused by sparking contacts of devices, high temperatures, or an electrical fault. Therefore, the enclosure is designed so hot gases generated during an internal explosion are cooled below the ignition temperature of the surrounding flammable atmosphere as they escape through the joints of the unit.





Cross section of DIMETIX USA explosion proof enclosure

Solution



DIMETIX USA explosion proof enclosures are custom designed for Dimetix laser distance sensors, but **it is important to note the approvals, compliances, and certifications discussed here apply to the enclosure itself, rather than the laser unit!** Constructed of lightweight, corrosion resistant copper-free aluminum, the DIMETIX USA enclosure features a 1/2-inch barrier wall and a neoprene gasket between compartments for watertight applications. The container is NEMA 4X rated and engineered as a two-chamber enclosure to segregate laser and power / control components.

KEY SOLUTION NOTES:

- NEMA 4X standard for outdoor / washdown applications
- Dual-sided instrument enclosure keeps power supply and laser in separate chambers
- Slotted groove for easy removal and tightening
- Two 3/4-inch National Pipe Thread conduit entries standard
- Attractive stainless steel sandblast finish
- **Approvals, Compliances, & Certifications**
 - **Approvals:** UL, CSA (Canada), and FM ATEX
 - **Compliances:** NEC Class 1, Div 1&2 (Groups B,C, &D), Class II, Div 1&2 (Groups E,F, &G); NEMA 7&9 (Optional 3, 4X), ATEX
 - **Certifications:** ATEX certificate number: FM09ATEX0073U

Please [contact](#) DIMETIX USA today to discuss your next application, and tune in to our YouTube channel to learn more about the DIMETIX USA [explosion proof enclosure](#).