DAIRYLAND ELECTRICAL INDUSTRIES

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Over-Voltage Protector (OVP)

Data Sheet

The Dairyland Over-Voltage Protector line consists of OVP and OVP2 models. The OVP is certified for use in Class I, Division 1 and Division 2 and Zone 1 and 2 hazardous locations and has been fully tested and listed by Underwriter's Laboratory (UL) to the US and Canadian standards, as well as to International standards ATEX and IECEx. For Class I, Division 2 and Zone 2 locations, consider the OVP2.

These products are primarily used in cathodically protected systems to provide over-voltage protection of insulated joints from lightning and AC faults and to provide AC grounding and simultaneous DC isolation of electrical equipment integral to a cathodically protected system. Unlike "arrester" type products, the OVP is a solid-state device with full ratings for AC current as well as high levels of lightning surge current. As the device goes into conduction at low voltage, it provides much better protection than gapped devices or metal-oxide varistors.

Note: The OVP must not be used where steady-state AC voltage is present between the two connection points (or could be in the future). If AC voltage is present, use a decoupling device such as the SSD, PCR, or PCRH.

Features and Characteristics

- The only fail-safe "arrester" on the market
- Solid-state design eliminates arcing
- Conduction at lower voltages than gapped arresters
- Rated for AC fault current and lightning surge current
- Suitable for submersed or above-ground locations
- Corrosion resistant

Typical Applications

- Insulated joint protection
- Tank isolation/bonding
- AC grounding DC isolation of equipment

Why Conductor Length Is Important:

Over-voltage protection is greatly affected by the proximity of the device relative to an insulated joint or other structure being protected. This effect is independent of the protective device being used, as it is mainly due to the length of the conductor. When lightning current flows in a conductor, the inherent inductance of the conductor develops a large voltage, which appears between the two connection points. If this voltage is in excess of the insulation or coating strength, arcing will occur.

A suggested guideline for conductor length, due to these factors, is a total of 12" (300mm) including both conductors. This may not be possible in some cases, but the length should still be kept as short as possible. Low inductance bus bar mounting systems are available.

Ratings and Certifications

Threshold Voltage (absolute)
-3/+1V (standard)
-2/+2V (standard)
Up to -4/+4V (optional)

Lightning Surge Current

100kA crest (8 x 20 µs waveform)

AC Fault Current (amperes-rms, 30 cycles)

3,700 @ 50/60Hz

Environmental rating:

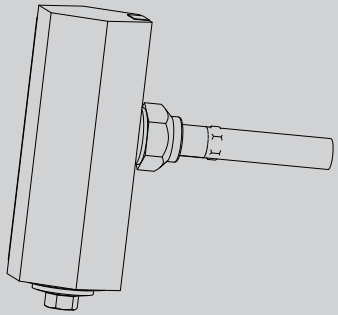
NEMA 6P, IP68 - submersible

Hazardous Location Certifications	
Rating	**Certification Agency**
Class I, Division 1 & 2, Groups B, C, D Temp Code T5	UL, C-UL
Class I, Zone 1 Group IIB + H2, Temp Code T5	UL/DEMKO

Example Model Number:

OVP-2/2-3.7-100

For all model numbers, options and accessories, see full technical literature at dairyland.com.



OVP
Over-Voltage Protector