

# Lightning and Line Surge Protection

**W**hen a twistlock photocontrol fails from surge, it presents a host of problems to the municipality or utility. Most notable is the labor cost of replacement, combined with safety issues (personnel exposed to freeway traffic). This is why all locking-type photocontrols used on overhead lighting networks should have some type of surge protection built-in between the line and neutral terminals.

The older designs (sliding A.C. relay, electro-mechanical type) incorporated gap type arrestors. These ranged from crude air gaps to enclosed air gaps, which quelled any spark over arch. Basically, they did a

minimum job, were inexpensive and at best, are a one shot device.

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## The MOV is Standard on all Precision's Utility-Grade Controls.

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Today the MOV (metal oxide varistor) is standard on any of our utility-grade controls. Their introduction many years ago substantially reduced surge related failures. The MOV Joule ratings are continually increasing. In

keeping with our commitment to reduce maintenance costs, Precision's standard MOV rating was increased from 160 Joule and is now 320 Joule at 10,000 amps. The 320 Joule units were only used in the high density lightning areas i.e., Florida and the Texas Gulf Coast. However, within a few years all top quality controls will use the 320 Joule rated surge protector for all areas.

It is strongly recommended that the gap type arrestor not be used, that a minimum 160 Joule MOV be specified, with optical preference to increase to a 320 Joule, 10,000 amp rated MOV if line performance of the 160 Joule yields surge damaged controls.