



LIGHTNING PROTECTION INSTALLATION

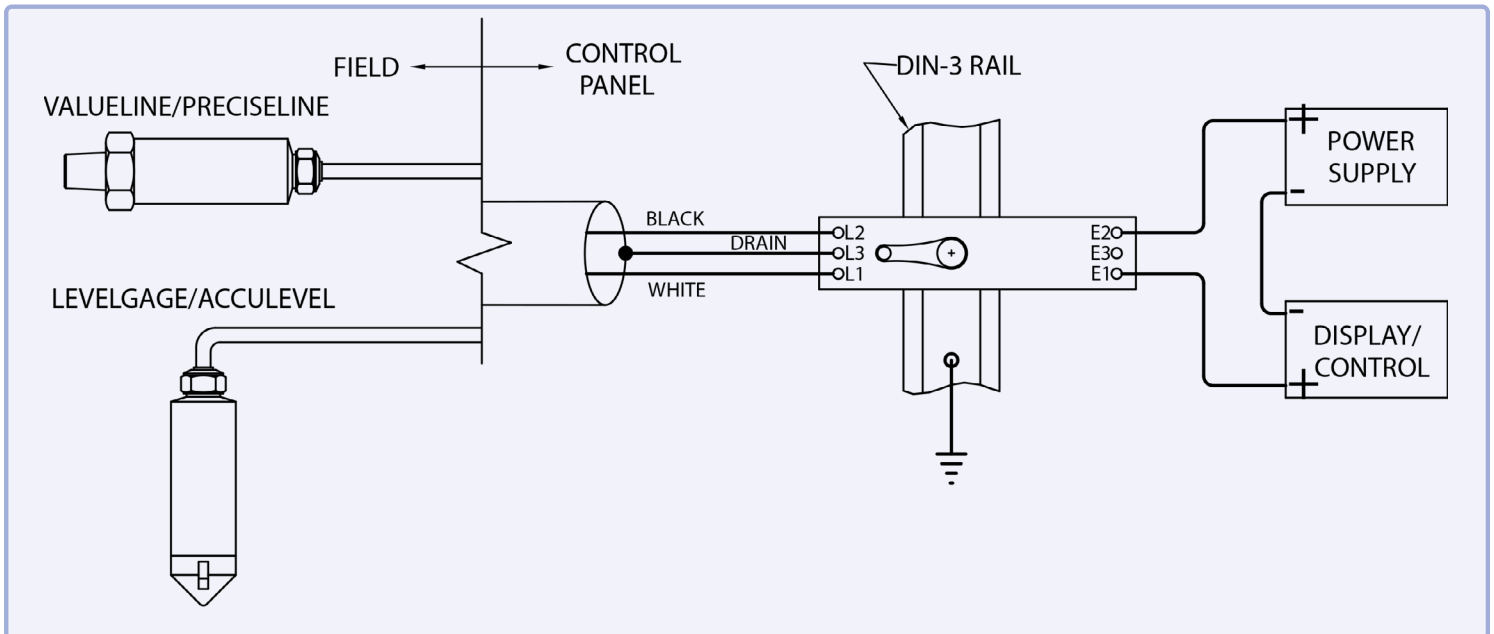
OPTION-009

EXTERNAL SURGE ARRESTOR FOR GREATER PROTECTION

Keller America's Option-009 lightning surge protection is an effective solution for level and pressure transmitter installations that are plagued with frequent damage due to electrical surge. Option 009 is comprised of two parts; the internal surge arrestor circuitry installed on several of Keller America's level and pressure transmitters and the external surge arrestor provided by Bourns.

The internal circuitry is included on several Keller America transmitters at no additional cost. This feature protects the transmitter from fast rising transients and carries a lifetime warranty against damage from electrical surge.

The second part is an optional accessory that may be purchased to help protect any equipment in-line with Keller instruments from electrical surges induced in the cable. For more information on the external surge protector, visit www.bourns.com.



Internal lightning protection increases the minimum-required supply voltage, due to internal resistance of the surge protectors. In addition, cable resistance (~70Ω / 1000ft) adds to the supply requirement. In order to insure proper system operation, calculate the minimum required supply voltage (at the source) as follows:

For two-part (internal+external) system (recommended):
 MINIMUM SUPPLY VOLTAGE = 11.6 + 0.022 (CABLE LENGTH x 0.07) VDC

For internal only protector (standard with 4-20mA output):
 MINIMUM SUPPLY VOLTAGE = 11 + 0.022 (CABLE LENGTH x 0.07) VDC