



Signal Conditioner Surge Withstand Capability

Electrical surges due to lightning storms, brownouts, power interruptions, etc. often cause catastrophic failures in electronic equipment. These surges can occur between any two wires; supply lines and earth ground, supply lines and common return (the white wire) and between individual supply lines.

Protecting electric equipment from these type surges is a serious endeavor and is compounded by the uncertainty associated with the exact nature of these random surges. In an effort to identify the nature of catastrophic surges, standard specifications have been developed. The ANSI / IEEE C37.90.1-1989 Transient Specification has defined both an oscillatory waveform and a fast transient waveform that model "surges". These models incorporate 3000-5000 volt amplitudes with time bases in the nanosecond range.

Dataforth has incorporated surge withstand capability protection for their entire line of signal conditioning modules to comply with the ANSI / IEEE Specifications. The test waveforms are defined in the specification and the number of repetitions and duration for testing are also described. For more detail, see Dataforth Application Note AN506.