

ANSI C37.90.1 1989 Transient Specification

The present DM34 series are not approved to this standard.

From limited information found in the web, this standard calls for two types of transient test waveforms to be injected into the input lines.

The first waveform is oscillatory, a decaying high frequency sine wave with a initial crest of 2.5 to 3 KV (open circuit).

The second waveform is a 4 to 5 KV transient pulse for a period greater than 160nS.

The present DM3410/3420 hardware will not withstand transients at this potential.

The DM3430 should in theory be capable of withstanding the above transient, (Assuming the transient is injected line to earth and the above levels are correct), but the only way to prove this is to pay for a unit to be tested at a external test house.

The history of transient and surge tests for the DM34 series is as follows:-

All units were initially designed to meet the requirements of BS EN 50082-2. This specification calls for transient burst testing to IEC 61000-4-4 , but has no surge testing requirements.

As you are aware BS EN 50082-2 is no longer valid standard.

From April 2002 all our equipment is approved to **BS EN 61326:1998 “Electrical Equipment for measurement , control, and laboratory use”**

The transient and surge test for this standard are as follows:

Transient Bursts Tested to IEC 61000-4-4 (Refer to standard for further information)

All Input lines are tested together and individually
All input lines are tested as for I/O signal control lines with length greater than 3 metres
The transient is applied between the line and earth, capacitive coupling is used.
The test transient is a 1KV Pulse Tr/Th 5/50 nS @ 5 KHz for a duration of 1 minute.
Both positive and negative pulses are injected.

Test criteria - Criteria B (Some degradation in reading during test, unit will continue function correctly after the test)

Surge Tested to IEC 61000-4-5 (Refer to standard for further information)

All Input lines are tested at the same time.
All input lines are tested as for I/O signal control lines with length greater than 3 metres
The transient is applied between the line and earth, capacitive coupling is used.
The test transient is a 1KV Combined Wave 1.2/50uS open circuit, 8/20uS short circuit
Both positive and negative transient are injected.

Test criteria - Criteria B (Some degradation in reading during test, unit will continue function correctly after the test)

Installation Over voltage Category EN 61010 DM3430 Only

The DM3430 measuring input

Over voltage category I up to 550 V ac/dc
Over voltage category II up to 450 V ac/dc

Pollution Degree 2