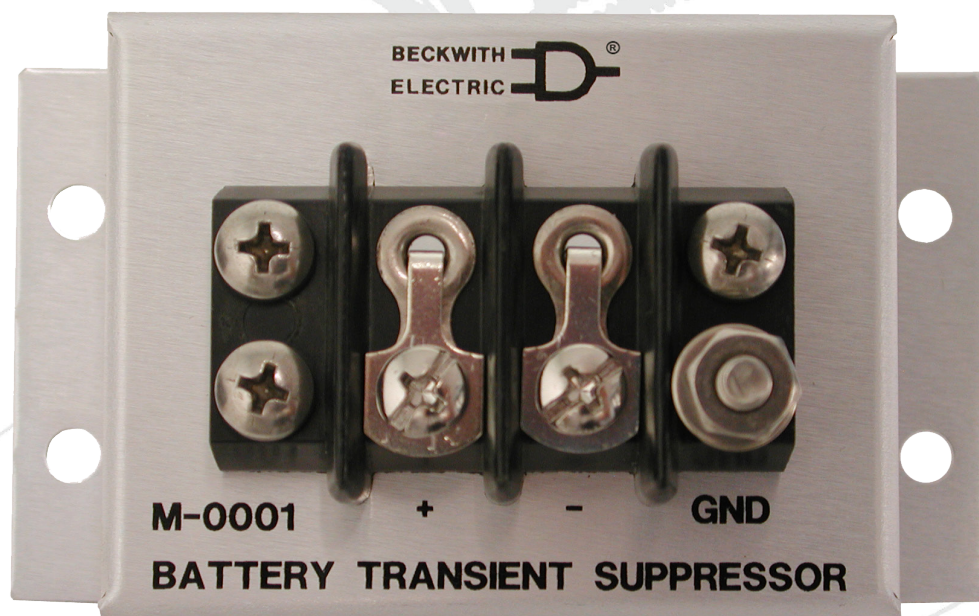


Battery Transient Suppressor M-0001



- **Will not induce accidental circuit breaker tripping**
- **Zener diodes precisely limit the voltage to prevent reverse flow of battery current as soon as the transient is over**
- **Can be used on 24, 48 or 125 V batteries**

Protect Against Lightning and Switching Transients and Avoid Costly Service Interruption and Equipment Damage.

Why Should You Use the M-0001 Battery Transient Suppressor?

Lightning strokes may flow through battery and control leads seeking a path to ground.

Ground faults from a power conductor can result in thousands of amperes flowing until circuit breakers operate.

Transients induced by opening air disconnects can create high frequency energy through the conductor from the switch to the first open breaker. The conductor will then act as an antenna when it is energized or de-energized, with the arc acting as a signal generator. The energy will be received by any nearby conductor.

Opening or closing a circuit breaker, especially when a power line is being switched, can cause the line to absorb the high frequency energy which can radiate to other conductors in a switchyard.

Where Should You Use the M-0001 Battery Transient Suppressor?

Use on the equipment side of battery fuses.

Why? A lightning stroke may last as long as a second. If the fuse blows early in the stroke, no suppressor will help if it is on the wrong side of the fuse.

Use one suppressor for each piece of equipment to be protected.

Why? A number of suppressors can drain off the transient energy into many paths, thereby reducing the possibility of a fuse blowing. Many suppressors cost far less than the damage that can be caused by a single lightning stroke.

Even so, a single suppressor was installed many years ago at a substation where a direct lightning stroke occurred. Although the suppressor was damaged, it protected a costly fault recorder.

Use within a few feet of the equipment to be protected.

Why? Lightning sets up high frequency resonant voltages in the battery leads. The suppressor will clamp the voltages near the equipment.

Use in place of a capacitor-type transient suppression from battery leads to ground.

Why? Control batteries are ungrounded to permit a single ground to be detected and an alarm given without causing a relay to trip. Capacitors connected to ground from the battery leads will discharge through auxiliary relays and can cause a breaker to trip on a single momentary ground.

Also use a suppressor to protect the battery charger.

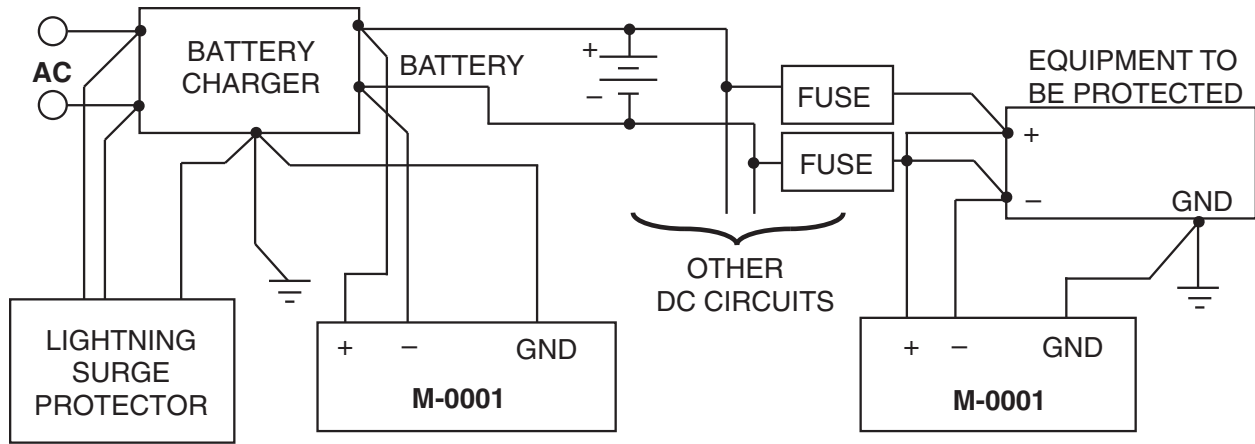


Figure 1 Battery Transient Suppressor Scheme

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