

3B1E & 4B1E

5 PIN - Heavy Duty Gas Tube - Surge Protection Module



Product Specifications

UL 497 Primary Protector for Communication Circuits

The 3B1E is a premium 5 pin, 3-element gas tube protector module that is designed to provide excellent transient and power fault protection for most standard telephone line applications.

The 3-element gas tube provides superior balanced protection. An overvoltage condition on either side of the circuit will result in the triggering of the gas tube. The ionized gas in the common chamber provides a low impedance path to ground for both sides of the circuit.

The 4 - Series features PTC (positive temperature coefficient) technology. These optional self-resetting current limiters provide effective protection from 'sneak current' faults. The PTC is vastly superior to the heat coil solution, which requires that the module be replaced after each 'sneak current' event.

Heavy Duty Surge Handling Capability

Superior Common Chamber Design

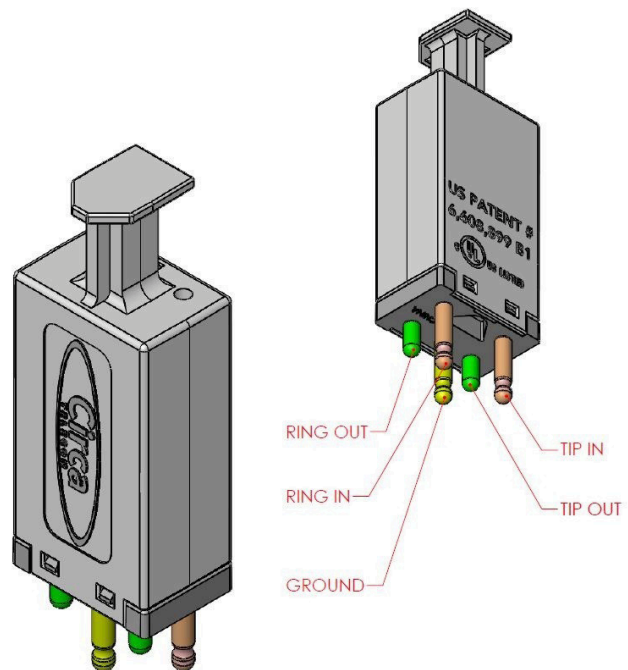
Balanced Operation

UL Listed and RUS Approved

Design to Exceed Telcordia Standards

Integrated Test Points

ISO 9001 Certified Manufacturer



Ordering Information

Model Number	Stock Code	Application	Color	Clamping Voltage
3B1E	770200	Life Safety and Central Office Environments	Black	350V
4B1E	770201	Life Safety and Central Office Environments w/PTC Current Limiter	Black	350V
3B3E	770202	Life Safety and Central Office Environments	Red	350V

RUS Approved Material - 2011 Edition RUS Publication 344-2 - Section 4.1.3 and 4.2.1

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Module

DC Break Over - @ 2kVps

Impulse Breakdown Voltage

@ 100V/μS

@ 1kV/μS

Response Time

DC Holdover Voltage

Surge Life ^(1, 2)

@ 10A @ 10 x 1000/μS

@ 100A @ 10 x 1000/μS

@ 10kA @ 10 x 1000/μS

@ 20kA @ 10 x 1000/μS

@ 65A rms, 11 cycles, 130A

@ 10A rms, 1 sec, 20A

Capacitance

1V rms @ 1Khz, 50V DC

Insulation Resistance

@ 50V DC

Fail-Safe Operation

@ 1.0A rms

@ 5.0A rms

@ 20A rms

@ 60A rms

Current Limiters (4 Series with PTC)

Hold Current @ 20° C

Line Series Resistance

3B1E

350V

750V

900V

4000 - 5000 nsec

135V < 150ms

> 3000 Operations

> 300 Operations

10 Operations

1 Operation

1 Operation

10 Operations

10 pF max

100M Ω

< 50 Seconds

< 15 Seconds

< 10 Seconds

< 3 Seconds

N/A

N/A

4B1E

350V

750V

900V

4000 - 5000 nsec

135V < 150ms

> 3000 Operations

> 300 Operations

10 Operations

1 Operation

1 Operation

10 Operations

10 pF max

100M Ω

< 50 Seconds

< 15 Seconds

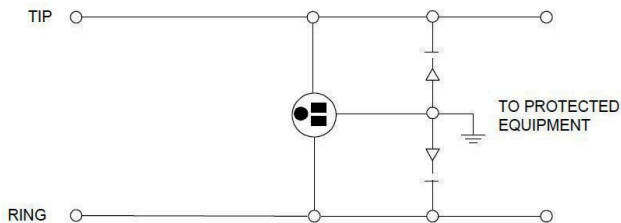
< 10 Seconds

< 3 Seconds

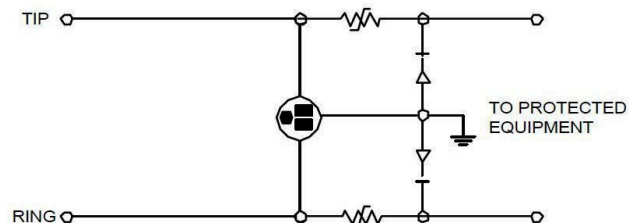
145 mA

4 - 6 Ω

3B1E - Symmetrical



4B1E - Symmetrical



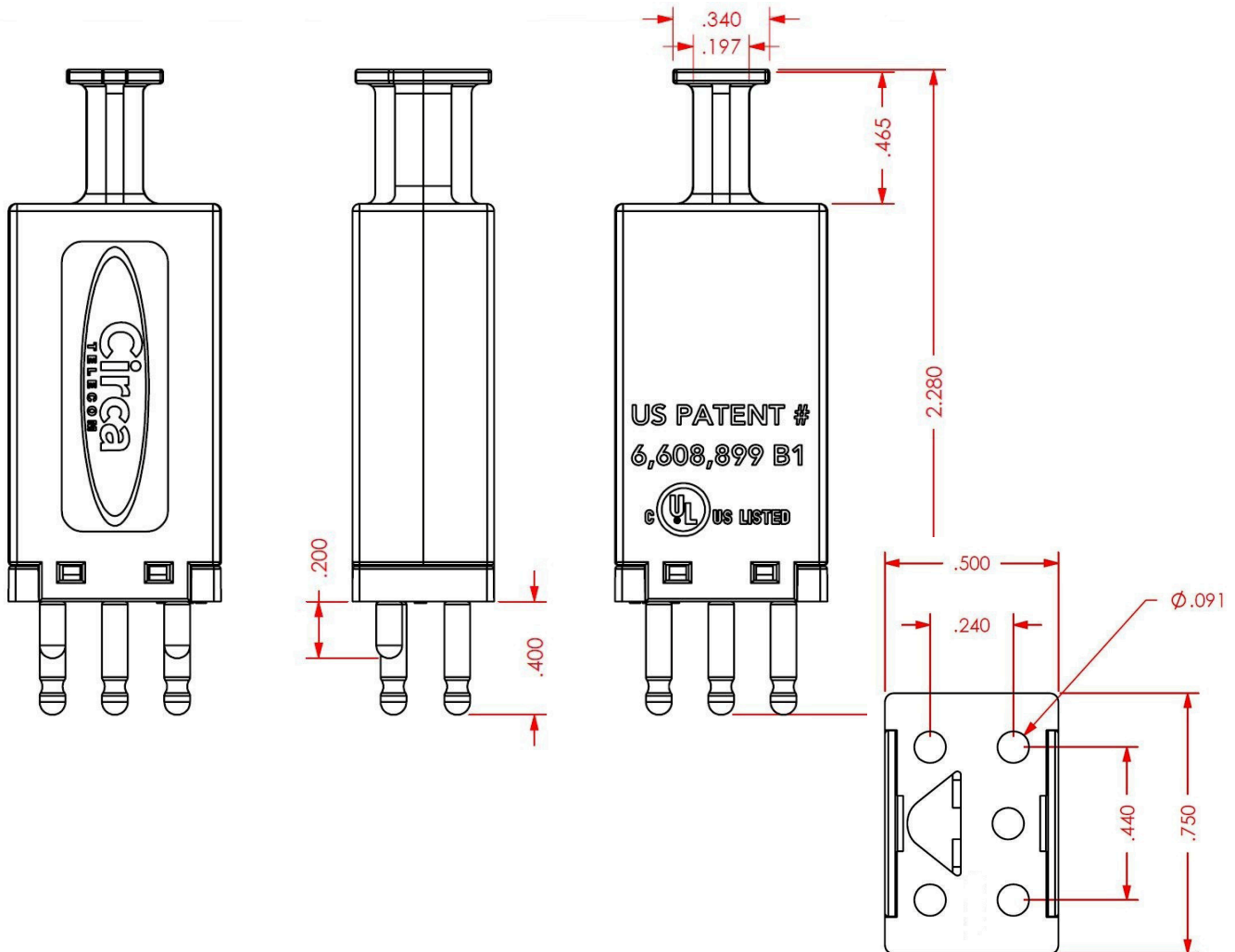
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Physical Dimensions

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Notes

⁽¹⁾ Total surge rating is 2x listed with respect to ground during simultaneous surge.

⁽²⁾ Meets Bellcore TR-NWT-000974 service life requirements.

Pin alloy refers to tip and ring pins. Unless otherwise noted, all ground pins are tin.

Previous Model Numbers: CT3B1E-BAL, C3B1E, C3B1EW, 3B1EW, 3C1E, 3C1EW

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