

193 Series

5-Pin Gas Tube/ Overcurrent Protector Modules with PTCs

CPE/Premise Wiring
Headend/CO
Utility/Municipality
Wireless



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193-6B3EM



193-6C3EM-L

Tii 5-pin Gas Tube with PTC modules are dependable plug-in devices that guard sensitive telecommunications systems from dangerous voltage surges. The three-element GDT with 4 Ohm (nominal resistance) PTCs provide both overvoltage and overcurrent protection. This prevents destructive line-to-line overvoltages and sneak currents from reaching valuable telecom equipment. The combination of GDT and PTCs provide excellent electrical protection while minimally affecting high frequency xDSL and ISDN signals.

Modules include a heat activated fail-safe mechanism that provide additional protection against power crosses. Test points allow easy test access to the outside plant. 193 Series modules utilize 4 Ohm (nominal resistance) PTCs with hold current of 120mA in excess of 3 hours. The PTCs are resettable and will automatically revert to low resistance when the cause of overcurrent is removed.

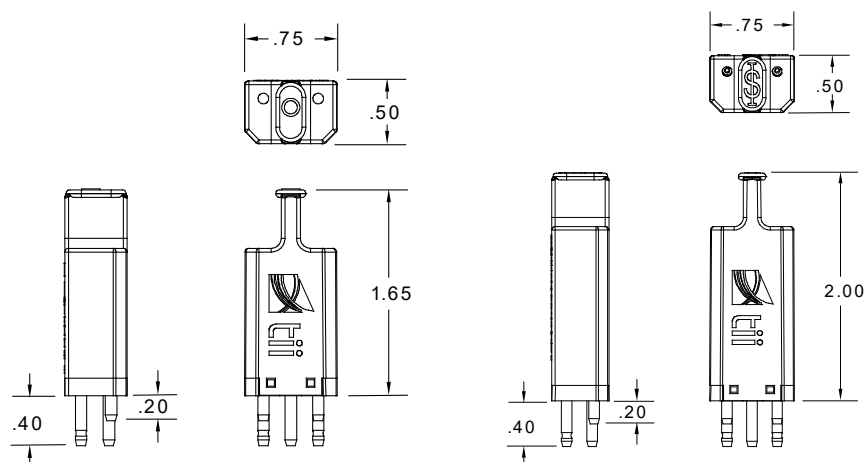
KEY PRODUCT BENEFITS

- ▶ Heat activated fail-safe mechanism provides additional protection
- ▶ Available with test points to access the outside plant
- ▶ Prevents costly damage to circuitry and extends equipment life
- ▶ Protects personnel from dangerous voltage surges

INDUSTRY STANDARDS

- ▶ Meets Telcordia GR-974 requirements (Telcordia Analysis DA-1940)

193 Series Gas Tube Overcurrent Protector with PTCs



Dimensions are in Inches

SPECIFICATIONS

Electrical Specifications	193-/93-	Test Parameters
DC Breakdown Voltage	280-420V	2000V/Sec. max.
Impulse Breakdown Voltage	<750	100V/ μ Sec. max.
Capacitance (Line to Line) (Line to Ground)	<1.0pF <3.0pF	1 MHz, 0 VDC 1 MHz, 0 VDC
Capacitance Balance (L1 - Ground : L2 - Ground)	< 1.0pF	
Fail-Safe Operation	<50 Sec @ 2A <15 Sec @ 10A <10 Sec @ 40A <3 Sec @ 120A	
Maximum Single Surge	24 kA	8/20 μ Sec max.
Insertion Loss	< 0.5 dB up to 30 MHz	
Return Loss	-20 dB up to 30 MHz	
Overcurrent Protection (PTC): Line in to Line Out Resistance Hold Current Trip Current Max Trip Current	4 Ohms nominal 0.15A 0.30A 1.0A within 5 secs	
Insulation Resistance	10G Ω	100VDC
DC Holdover (after activation) 52V 135V 150V	260MA 200MA 140MA	<150 mSec max. to reset to operating mode

ORDERING INFORMATION

Pin Type	Protector Type	Test Point Access	Application (Color)	Technology	Special Designation
193-	6 = Voltage + PTC Over Current Protection	B = No Test Points C = Test Points	Special Services	EM = 350V, 3 Element GDT w/ PTC	Blank = Gold Pin N = Tin Pins L = Gold Pins (2.00" Body)