



TII 210 & 212 In-Line® Coaxial Lightning Surge Protectors

Unique Patented In-Line® Coaxial
Gas Tube Lightning Surge Protector

Designed For HFC Or FTTC
Broadband Network Application

Transparent To Analog/Digital
Bi-directional Signal Transmission

Essential For DSS Type Wireless
Applications

Provides Lightning Surge Protection
For Customer Premises And
Headend Equipment

Provides Powerline Fault Protection
For Customer Premises Equipment

Improves Broadband Network
Reliability And Reduces
Service Outages

Impedance Matched To 75 Ohms

Power Passing

Integral Failshort Mechanism

Return Loss 30 dB @ 1GHz (Typical)

Insertion Loss <0.1 dB

Frequency Range DC-1.5 GHz

Listed To UL 497 &
CSA Listed Certified

TII
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CUSTOMER SERVICE

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210FF75F22521



210MF75F22521



212FF75F22521

TII's cutting edge In-Line® Coaxial Lightning Surge Protectors protect personnel and customer premises equipment from lightning and power induced surges on coaxial drop cables. It is specifically designed for today's Broadband Hybrid Fiber-Coax (HFC) and Fiber-To-The-Curb (FTTC) distribution networks.

KEY PRODUCT BENEFITS

- Ideally suited to shield costly digital set-top boxes, expensive stereos and home equipment systems, sensitive internet cable modems, personal computers, digital satellite TV systems, big screen TVs and high-end HDTV sets from potentially damaging surges.
- Can also protect satellite receivers in the cable headend.
- Greatly increases drop system reliability and reduces service outages by protecting against induced high-voltage surges that may appear on the center conductor of a coaxial drop cable.
- Unique In-Line® design is impedance matched to 75 ohms and is virtually transparent to all analog or digital bi-directional signals transmitted from DC to 1.5 GHz.
- TII's patented proprietary coaxial gas tube surge protector is equipped with an integral failshort mechanism for a power-cross condition. The DC breakdown voltage of the protector is low enough to protect against even the smallest transient surges, yet is compatible with network powered applications.
- Metallic housing of the TII In-Line® Coaxial Lightning Surge Protector provides adequate EMI shielding.
- Protector is environmentally sealed to prevent ingress of moisture and humidity encountered in broadband pedestals, vaults, NIDs and stand alone applications.

INDUSTRY STANDARDS

- Listed to UL 497 & CSA Listed Certified
- Complies with 1999 National Electric Code

TII 210 & 212

MODEL NUMBER MATRIX

Model No.	Connector Configuration	Impedance	Connector Type	Voltage Breakdown	RF Performance			Failsafe	Grounding Option
					Frequency	Insertion Loss	Return Loss		
210	XX FF=Female/ Female MF=Male/Female RM=Rotating M/F	XX 75=75 ohms	X F="F"	XXX 225= 150-300	X			X 0=None 1=Failsafe	X 1=6" #12 Grd Wire 3=Ground Screw
					1=(5 MHz- 1 GHz)	< .2 dB	better than -20 dB		
					2=(5 MHz- 1 GHz)	< .1 dB	better than -30 dB		
Model No. w/Integral Ground Block	Connector Configuration	Impedance	Connector Type	Voltage Breakdown	RF Performance			Failsafe	Grounding Option
212	XX FF=Female/ Female	XX 75=75 ohms	X F="F"	XXX 225= 150-300	X			X 0=None 1=Failsafe	X 1=6" #12 Grd Wire 2=Add'l nut
					2=(5 MHz- 1 GHz)	< .1 dB	better than -30 dB better than -20 dB		

SPECIFICATIONS

R.F. Performance	DC – 1.0GHz	1.0GHz – 1.5GHz
Characteristic Impedance	75 Ohms	75 Ohms
Insertion Loss (includes Flatness)	<0.1dB	<0.1 dB
Return Loss	30 dB	20 dB

Protection:

1. DC Breakdown @ 2000V/sec 150 – 300 Volts
2. Impulse Breakdown @ 100V/μsec <450 Volts
3. Insulation Resistance >100 Megohms
- *4. Surge Life:
 - A. 10A, 10/1000 μsec >1500 Surges
 - B. 100A, 10/1000 μsec >100 Surges
 - C. 1000A, 10/250 μsec >10 Surges
 - D. 5000A, 8/20 μsec >10 Surges
5. AC Life:
 - A. 5A, 1000VAC, 1 Sec >5 Operations
 - B. 1A, 1000VAC, 1 Sec >60 Operations
6. Failshort: >15 Minutes
30A, 1000 VAC
7. Operating Temperature -40°C to +65°C
(-40°F to 149°F)

*Figures given above are for service life only.

Standard Package:	50 pieces
Weight:	210FF75F22521 0.077 lbs. each
	210MF75F22521 0.074 lbs. each
	212FF75F22521 0.132 lbs. each

Patent No. 4,616,155

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