

COAXIAL RF SURGE PROTECTION

SX Series

PolyPhaser's SX series of surge arrestors use a patented spiral inductor design. The almost instantaneous response to a lightning surge minimizes energy let-through and protects critical wireless equipment. Models available with ultra-low PIM and DC Pass (AISG) capability, used in 4G and 5G applications.



FEATURES

- Frequency Ranges from DC to 11GHz
- 4.3-10, 7/16" DIN, N-Type, TNC, and SMA
- Available with low PIM
- Repeatable RF performance after surge
- Weatherproof when installed

STANDARDS

- Weatherproof : IEC 60529 IP 67
- Bellcore TA-NWT-000487
- Procedure 4.11, Wind Driven (120 MPH)
- CE & RoHS Compliant

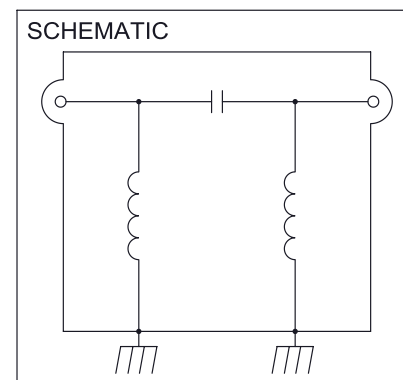
GENERAL SPECIFICATIONS*

Insertion Loss	Typically 0.1 dB
VSWR	Typically 1.1
Return Loss	Typically 26 dB
Typical Surge	40 kA 8 x 20 μ s Waveform

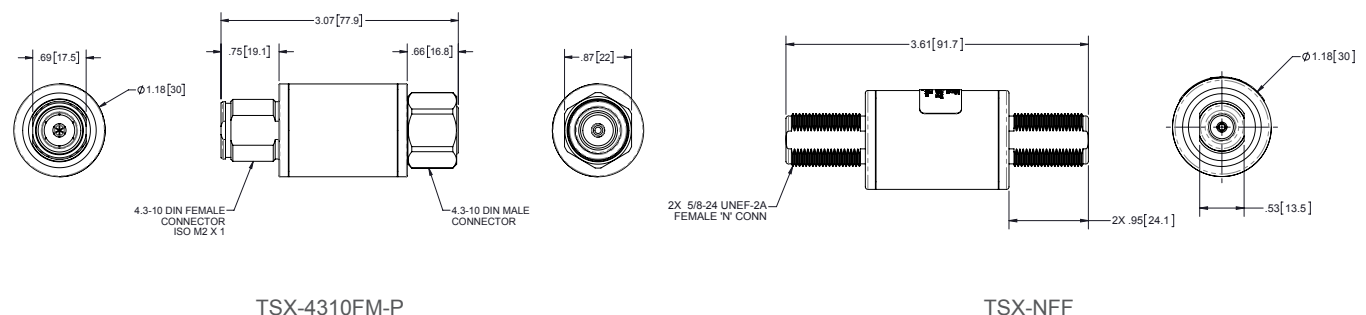
*Please review engineering specifications on PolyPhaser.com for specific dimensions of each product.

POLYPHASER'S LIGHTNING ARRESTOR TECHNOLOGY

The SX product family is based upon PolyPhaser's patented spiral inductor surge protection technology. This patented spiral inductor allows for an almost instantaneous response to a lightning surge while maintaining the RF performance. This field tested product family is used by major cellular carriers around the world, and in critical wireless communication systems used by fire, police and emergency responders.



DIMENSIONS



300 MHZ TO 1.2 GHZ

Part Number	Max Surge	Connector	PIM Rating	DC Block or DC Pass	RF Power
TUSX-DFF	40 kA, 8 x 20 μ s	7/16" DIN, Female to Female	-112 dBm Max @ 2 x 20 W	DC Block	1000 W
TUSX-DFM	40 kA, 8 x 20 μ s	7/16" DIN, Male to Female	-112 dBm Max @ 2 x 20 W	DC Block	1000 W
TUSX-NFF	40 kA, 8 x 20 μ s	N-Type, Female to Female	–	DC Block	1000 W
TUSX-NFM	40 kA, 8 x 20 μ s	N-Type, Male to Female	–	DC Block	1000 W

698 MHZ TO 2.7 GHZ

Part Number	Max Surge	Connector	PIM Rating	DC Block or DC Pass	RF Power
TSX-4310FF-P	40 kA, 8 x 20 μ s	4.3-10, Female to Female	Typ: -173 dBc @ 2 x 20 W	DC Block	500 W
TSX-4310FM-P	40 kA, 8 x 20 μ s	4.3-10, Male to Female	Typ: -173 dBc @ 2 x 20 W	DC Block	500 W
TSXDC-4310FF	20 kA, 8 x 20 μ s	4.3-10, Female to Female	Typ: -173 dBc @ 2 x 20 W	DC Pass (AISG)	500 W
TSXDC-4310FM	20 kA, 8 x 20 μ s	4.3-10, Male to Female	Typ: -173 dBc @ 2 x 20 W	DC Pass (AISG)	500 W
TSX-DFF	40 kA, 8 x 20 μ s	7/16" DIN, Female to Female	Max: -155 dBc @ 2 x 20 W	DC Block	500 W
TSX-DFM	40 kA, 8 x 20 μ s	7/16" DIN, Male to Female	Max: -155 dBc @ 2 x 20 W	DC Block	500 W
TSXDC-DFF	20 kA, 8 x 20 μ s	7/16" DIN, Female to Female	Max: -155 dBc @ 2 x 20 W	DC Pass (AISG)	1000 W
TSXDC-DFM	20 kA, 8 x 20 μ s	7/16" DIN, Male to Female	Max: -155 dBc @ 2 x 20 W	DC Pass (AISG)	1000 W
TSX-NFF	40 kA, 8 x 20 μ s	N-Type, Female to Female	–	DC Block	500 W
TSX-NFF-P	40 kA, 8 x 20 μ s	N-Type, Female to Female	Max: -155 dBc @ 2 x 20 W	DC Block	500 W
TSX-NFM	40 kA, 8 x 20 μ s	N-Type, Male to Female	–	DC Block	500 W
TSX-NFM-P	40 kA, 8 x 20 μ s	N-Type, Male to Female	Max: -155 dBc @ 2 x 20 W	DC Block	500 W

1.8 GHZ TO 3.8 GHZ AND 4.2 GHZ TO 6.0 GHZ

Part Number	Max Surge	Connector	PIM Rating	DC Block or DC Pass	RF Power
LSXL	18 kA, 8 x 20 μ s	N-Type, Female to Female	–	DC Block	10 W
LSXL-ME	18 kA, 8 x 20 μ s	N-Type, Male to Female	–	DC Block	10 W

2 GHZ TO 6 GHZ

Part Number	Max Surge	Connector	PIM Rating	DC Block or DC Pass	RF Power
AL-LSXM	10 kA, 8 x 20 μ s	N-Type, Female to Female	–	DC Block	10 W
AL-LSXM-MA	10 kA, 8 x 20 μ s	N-Type, Male to Female	–	DC Block	10 W
AL-LSXM-ME	10 kA, 8 x 20 μ s	N-Type, Male to Female	–	DC Block	10 W

6 GHZ TO 10 GHZ

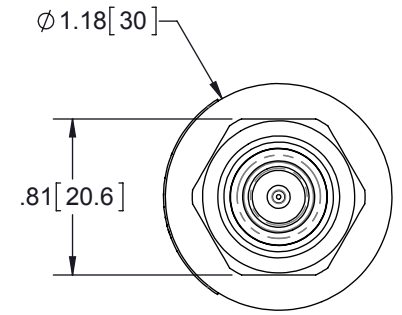
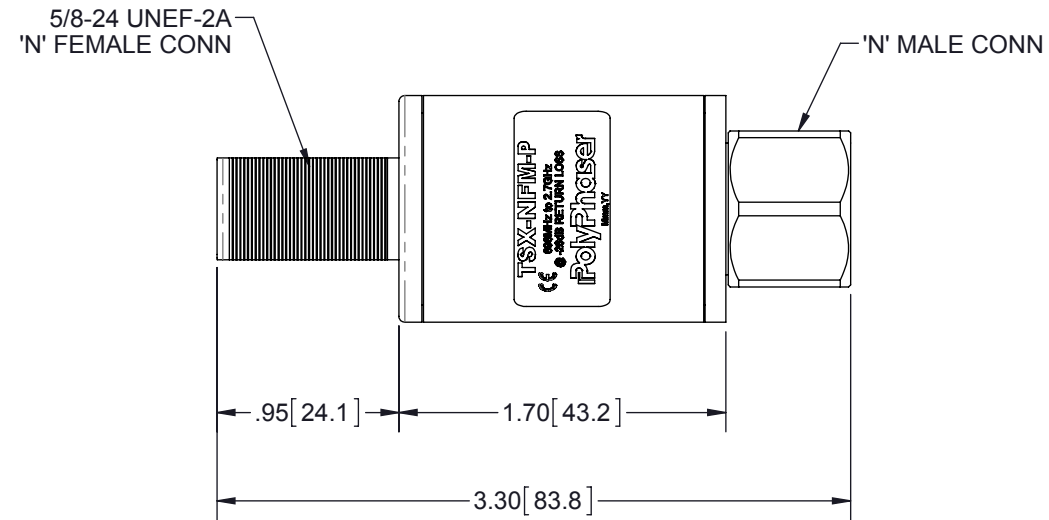
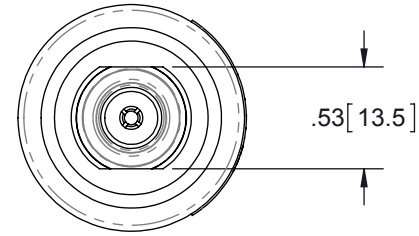
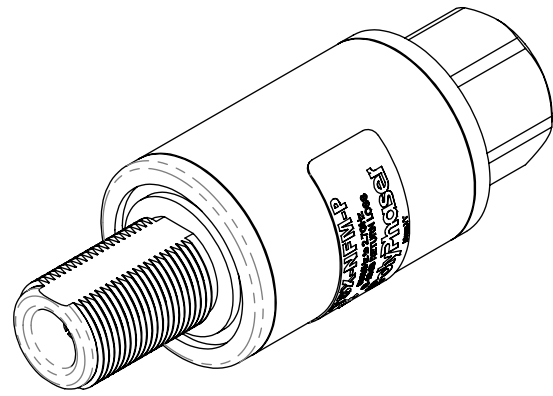
Part Number	Max Surge	Connector	PIM Rating	DC Block or DC Pass	RF Power
WSXM	10 kA, 8 x 20 μ s	N-Type, Female to Female	–	DC Block	10 W

10 GHZ TO 11 GHZ

Part Number	Max Surge	Connector	PIM Rating	DC Block or DC Pass	RF Power
AL-WSXM-CBB	10 kA, 8 x 20 μ s	N-Type, Female to Female	–	DC Block	10 W

For more information on PolyPhaser's SX Series or to request a quote contact us at +1 208 772 8515.

REVISIONS				
REV.	DESCRIPTION	ECN	DATE	APPROVED
H	REFER TO ECN	13298	6/4/2015	EJD



MAXIMUM CHARACTERISTICS

APPLICATION:
 DC BLOCK/RF ONLY (NO POWER SUPPLY PROVISIONS)
 BULKHEAD MOUNT BI-DIRECTIONAL
 WEATHERPROOF WHEN INSTALLED

FREQUENCY RANGE:
 698MHz TO 2.7GHz @ -26dB RETURN LOSS

MAX SURGE:
 IEC 61000-4-5 8/20µs WAVEFORM
 40kA MAX
 20kA MULTIPLE

INSERTION LOSS:
 ≤0.1dB

CONTINUOUS POWER:
 500W @ 920MHz
 (750W @ 50°C)

LET THROUGH VOLTAGE:
 ≤±200mV FOR 3kA @ 8/20µs WAVEFORM

THROUGHPUT ENERGY:
 ≤5nJ FOR 3kA @ 8/20µs WAVEFORM

PIM 3rd ORDER:
 -112dBm; 2 X 20W

TEMPERATURE:
 -50°C TO +85°C STORAGE/OPERATING

VIBRATION:
 1G @ 5Hz TO 100Hz

MATERIAL:
 BODY: TRI-PLATED BRASS
 PTFE: DIELECTRIC
 CENTER PINS: GOLD PLATED

ENVIRONMENTAL:
 MEETS IEC 60529 IP67
 MEETS BELLCORE #TA-NWT-000487
 PROCEDURE 4.11, 120MPH WIND DRIVEN
 RAIN INTRUSION TEST

CE COMPLIANT
RoHS COMPLIANT

HARDWARE KIT INCLUDES:

QTY	DESCRIPTION
1	NUT 5/8-24 303 HEX SS
1	WASHER 5/8 410 SS
1	SILICONE O-RING 019

CUSTOMER APPROVAL: _____ DATE: _____

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

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	ENG APPD	JJ	5/18/12	
	PRODUCT MGR	CP	5/18/12	
	MARKETING APPD	LJ	5/18/12	
MATERIAL	PROJECT NO.			
THIRD-ANGLE PROJECTION	NOTICE: THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF TRANSECTOR SYSTEMS. ALL RIGHTS RESERVED.			
BI-DIRECTIONAL BROADBAND DC BLOCK FILTER 'N' <small>CUSTOMER SPECIFICATION</small>				
SIZE	CAGE	PART NUMBER	REV	
B	30992	TSX-NFM-P	H	
SCALE	PROD CAT	DOCUMENT NAME	SHEET	OF
1:1	RFP	TSX-NFM-P-C	1	1