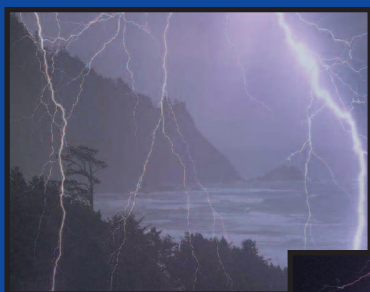




LP-GPX Series

L1, L2 & L3 GPS Protector

- *Bidirectional Filter Based Design*
 - *Outstanding IL/RL Characteristics*
 - *DC Blocked RF path for Superior Performance*
- *Solid State DC Path Protection Circuit*
- *Fully Weatherized Housing*



Lightning and Surge Protection for The 21st Century™

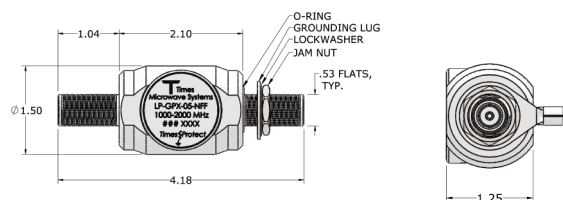
The LP-GPX-05-N high performance series is an exceptional DC pass design for protection of GPS receivers requiring up to 5Vdc power to be supplied on the center pin.

While the RF path is DC blocked, the biased DC voltage protection circuit uses Solid State protection technology to provide unsurpassed surge performance. The LP-GPX-05-N series offers outstanding Insertion Loss and Return Loss characteristics over the 1000-2000MHz band, making it suitable for protection of commercial and military GPS, as well as other applications in this band.

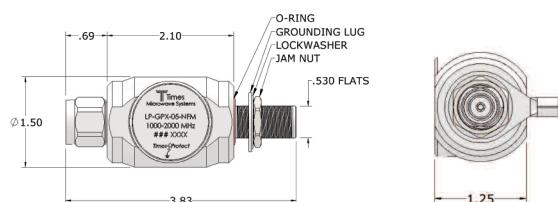
Unlike competitive protectors, the white bronze plated construction of the LP-GPX-05-N series eliminates potential galvanic corrosion issues and provides long life in hostile environments. The fully weatherized housing is sealed to IP65 allowing for outdoor as well as indoor installation.

LP-GPX-05-N Series:

- LP-GPX-05-NFF
N Female connectors on surge and protected sides - bidirectional
- LP-GPX-05-NFM
N Male connector on one side & N Female connector on the other side - bidirectional



- LP-GPX-05-NFF
1000 - 2000MHz N Type F/F



- LP-GPX-05-NFM
1000 - 2000MHz N Type F/M

Electrical Specifications

Impedance	50 Ω
Frequency Range	1000 - 2000 MHz
VSWR/ Return Loss	1.2:1 / <-20dB
Insertion Loss	< 0.1dB
Average Power	50W
Maximum Surge Current	10kA multiple (1.2x50/8x20 μ s wave-form)
Turn on-Voltage	6Vdc
Residual Pulse Voltage	< 12V (6kV/3kA 1.2x50/8x20 μ s wave-form)
Energy Throughput	< 110 μ J
Protection Circuit	DC Blocked RF Path/Solid State DC Pass

Mechanical / Environmental Specifications

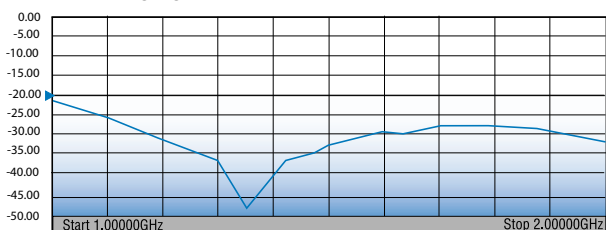
Temp Range Storage/Operating	-40°C - +85°C
Weatherization	IEC 60529 IP65
Thermal Shock	US MIL-STD 202, Meth.107, Cond.B
Vibration	US MIL-STD 202, Meth.204, Cond.B
Shock	US MIL-STD 202, Meth.213, Cond.I
RoHS Compliant	Yes
Mating Life Cycle	> 500
Recommended Coupling Nut Torque	7 - 10 in-lb

Material Specifications

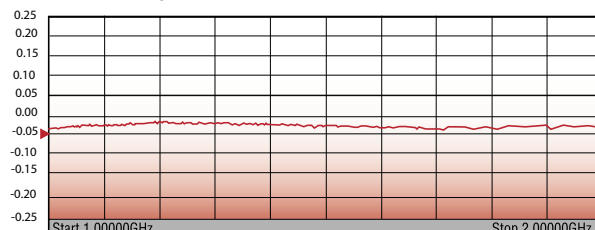
Component	Material	Plating
Body	Aluminum	White Bronze
Connector Housing	Brass	White Bronze
Inner Conductor Male	Brass	Silver
Inner Conductor Female	Phosphor Bronze	Silver
Coupling Nut	Brass	White Bronze
Insulator	PTFE	--
O-Ring	Silicone Rubber	--

*All dimensions shown in inches

S11/S22 TYPICAL RETURN LOSS



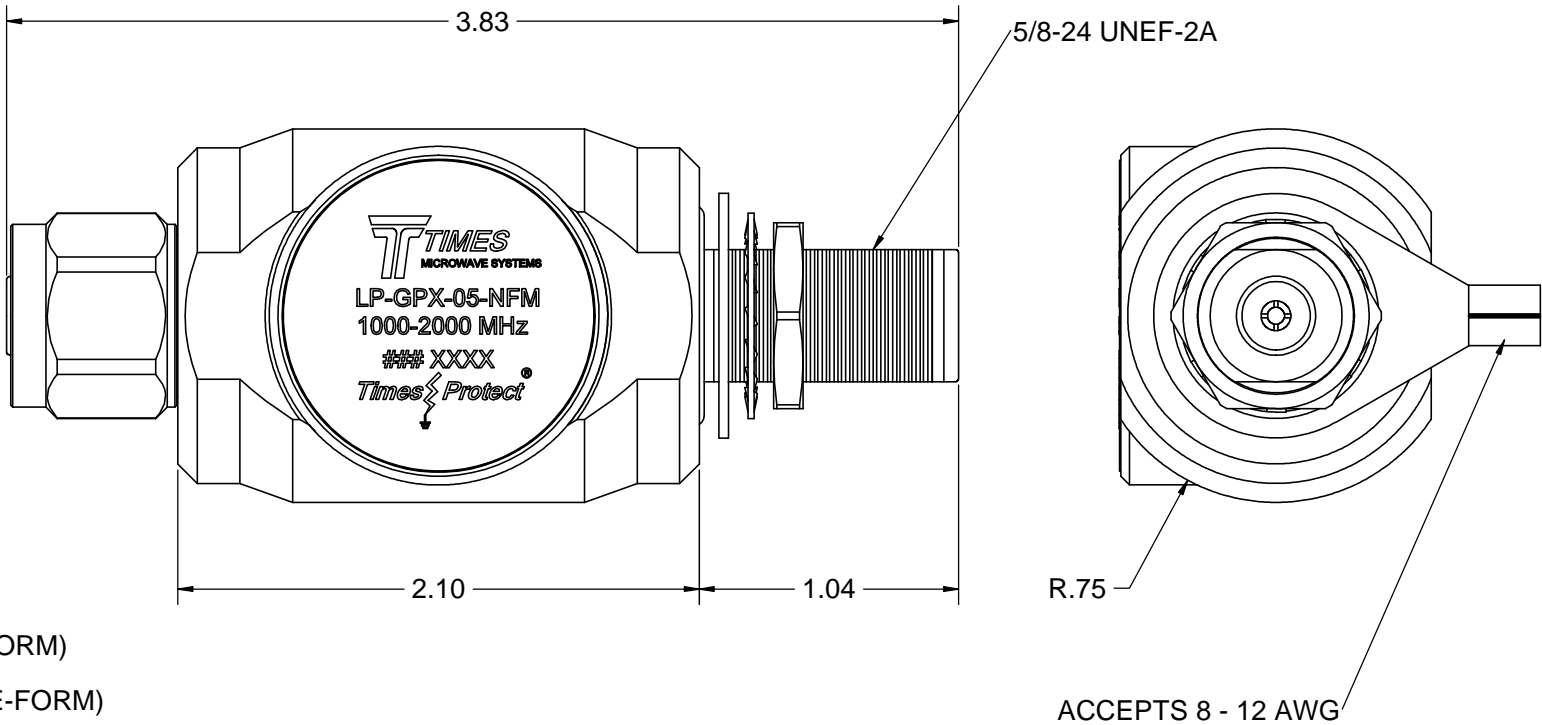
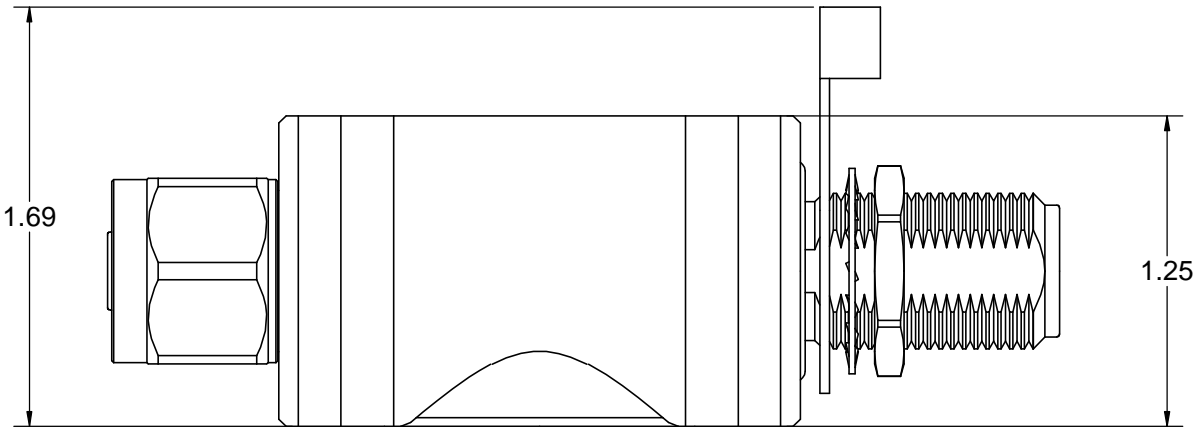
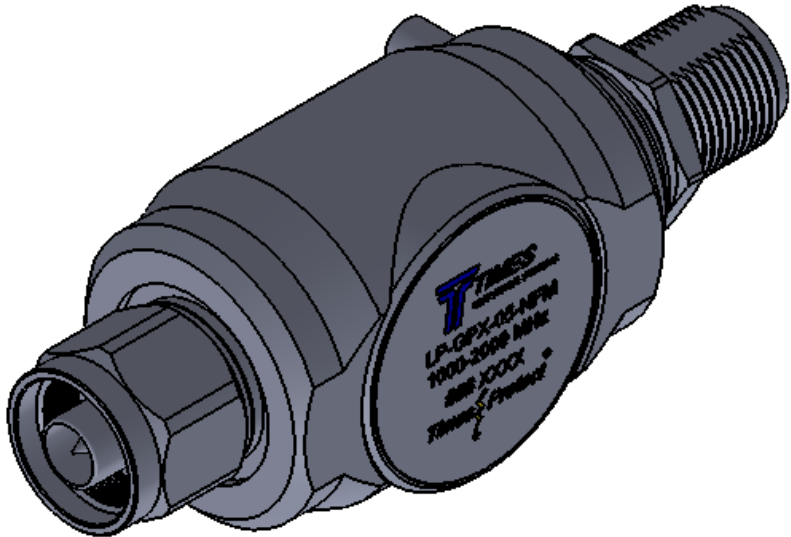
S21 TYPICAL INSERTION LOSS



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 International Sales: 4 School Brae, Dysart, Kirkcaldy, Fife, Scotland KY1 2XB UK • Tel: +44(0)1592655428
 China Sales: No. 318 Yuan Shan Road, Shanghai 201108 China • Tel: 86-21-51761234 • Fax: 86-21-64424098
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REV.	REVISION DESCRIPTION	DFM	DATE	APPD	DATE
A	RELEASED FOR PRODUCTION	M.E.	03/24/14	M.E.	03/24/14



NOTES:

1. ELECTRICAL PERFORMANCE

IMPEDANCE: 50 OHMS
OPERATING FREQUENCY: 1000-2000 MHz
VSWR/RETURN LOSS: < 1.2:1 / < -20 dB
INSERTION LOSS: < 0.1 dB
AVERAGE POWER: 50 W
MAX SURGE CURRENT: 10 kA MULTIPLE (1.2X50/8X20 us WAVE-FORM)
TURN ON VOLTAGE: 6 Vdc
RESIDUAL PULSE VOLATGE: < 12 V (6kV/3kA 1.2X50/8X20us WAVE-FORM)
ENERGY THROUGHPUT RATING: < 110 uJ
PROTECTION CIRCUIT: DC BLOCKED RF PATH/SOLID STATE DC PASS

2. ENVIRONMENTAL CHARACTERISTICS

STORAGE/OPERATING TEMPERATURE: -40C TO +85C
WEATHERIZATION: IP65
VIBRATION: MIL-STD 202, METHOD 204, CONDITION B
RoHS COMPLIANT

3. MATERIAL AND FINISH

INNER CONNECTOR FEMALE: PHOSPHOR BRONZE, SILVER PLATE
INNER CONNECTOR MALE: BRASS, SILVER PLATE
BODY: ALUMINUM, WHITE BRONZE PLATE
CONNECTOR HOUSING: BRASS, WHITE BRONZE PLATE
COUPLING NUT: BRASS, WHITE BRONZE PLATE
INSULATOR: PTFE
O-RING: SILICONE RUBBER

MATERIAL:



USED ON ASSY.

DRAFTSMAN	M. ELLIS	03/24/14
CHECKER	M. ELLIS	03/24/14
APPROVED	M. ELLIS	03/24/14

UNLESS OTHERWISE SPECIFIED	
ALL DIMENSIONS ARE IN INCHES	
MACHINED SURFACES FINISH 32 RMS MAX.	
REMOVE ALL BURRS .005 MAX. BREAK	
MACHINE CORNERS .005 MAX. FILLET R.	
TOLERANCES ON DECIMALS	
.XX ± .01	.XXX ± .005
ANGLES ± 1°	FRACTIONS ± 1/32
DO NOT SCALE DRAWING	

TIMES MICROWAVE SYSTEMS

TITLE:
SURGE PROTECTOR
N MALE TO N FEMALE
1000-2000 MHz

DWG. NO.	LP-GPX-05-NFM	REV.	A
CODE IDENT.	68999	SCALE:	2:1
		SHEET 1 OF 1	