

# Times Protect<sup>®</sup>

## 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<sup>™</sup>

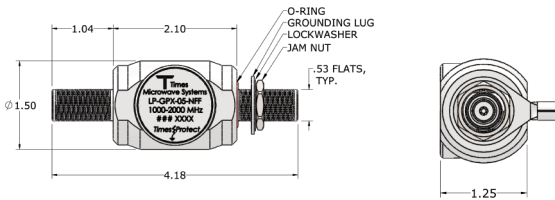
The LP-GPX-05-N high performance series is an exceptional DC pass design for protection of GPS receivers requiring up to 5Vdc power to be supplied on the center pin.

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.

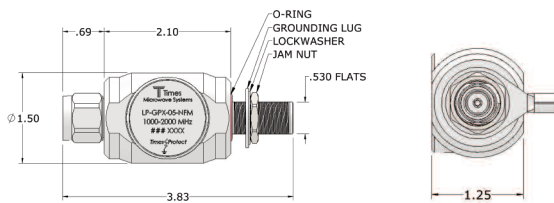
Unlike competitive protectors, the white bronze plated construction of the LP-GPX-05-N series eliminates potential galvanic corrosion issues and provides long life in hostile environments. The fully weatherized housing is sealed to IP65 allowing for outdoor as well as indoor installation.

### 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



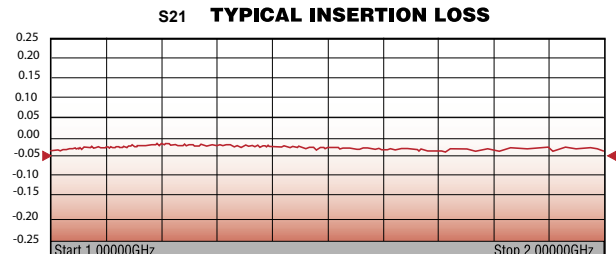
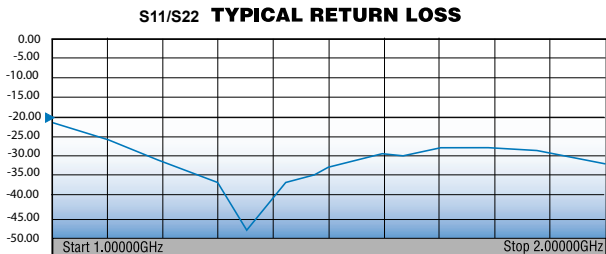
- LP-GPX-05-NFM  
1000 - 2000MHz N Type F/M

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 (1.2x50/8x20μs wave-form)
Turn on-Voltage	6Vdc
Residual Pulse Voltage	< 12V (6kV/3kA 1.2x50/8x20μs wave-form)
Energy Throughput	< 110μJ
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	--

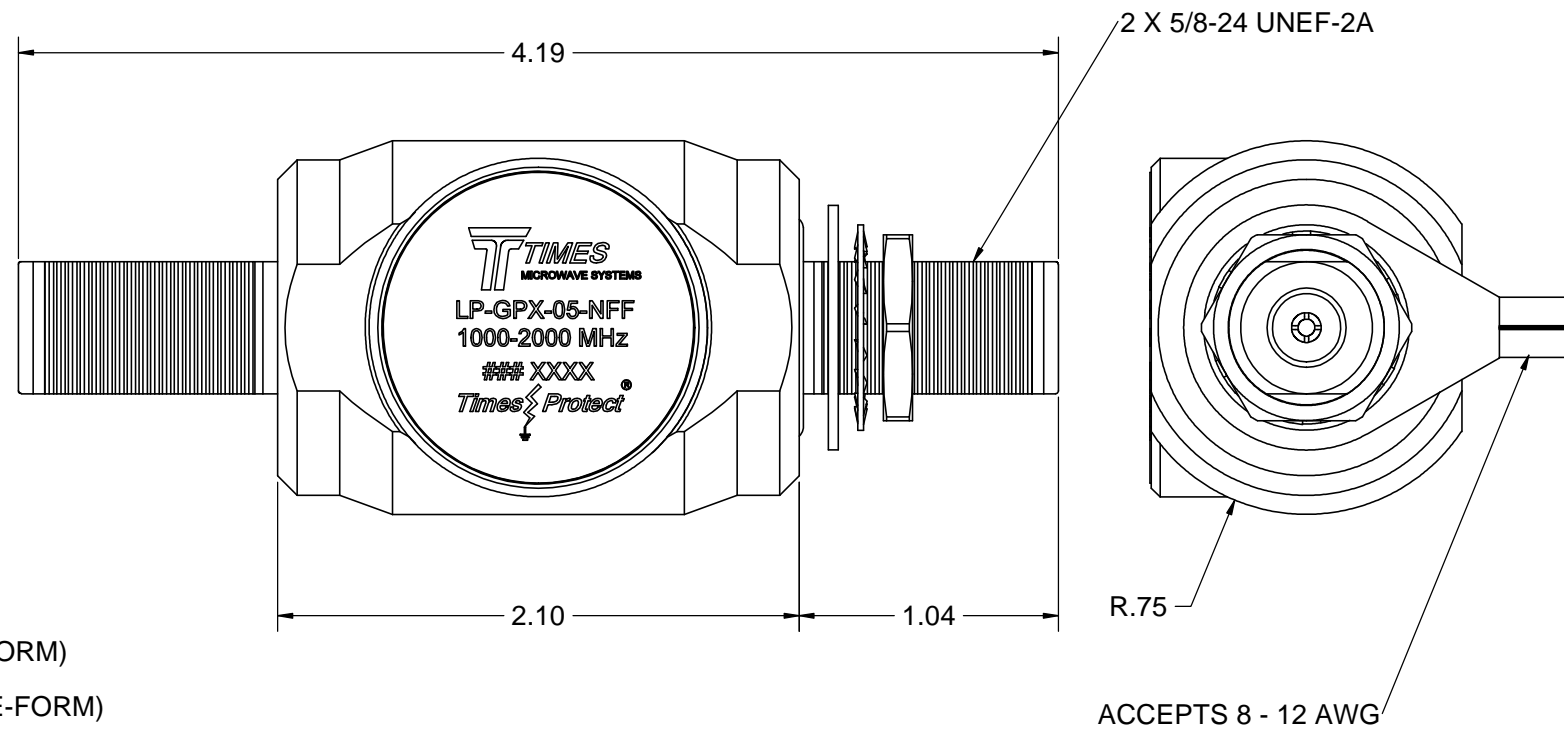
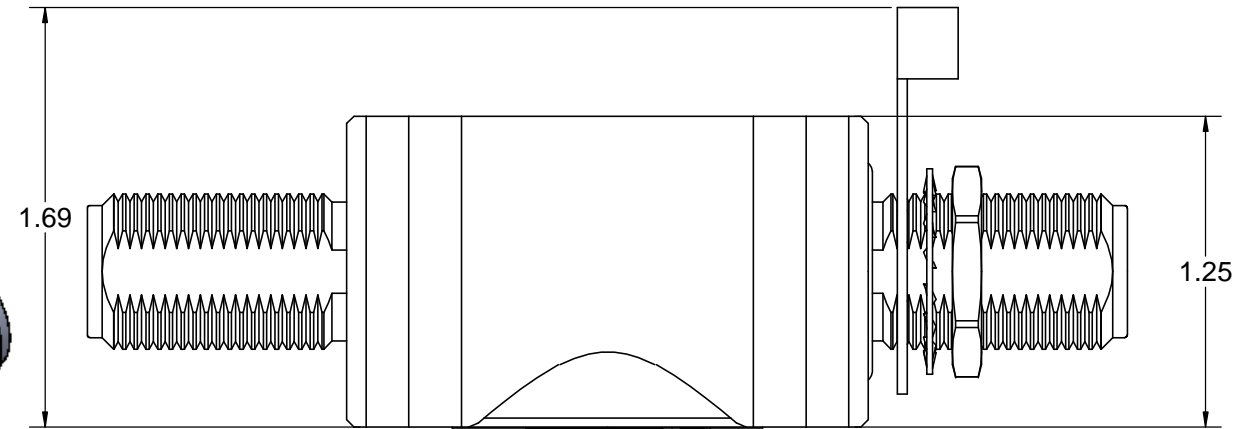
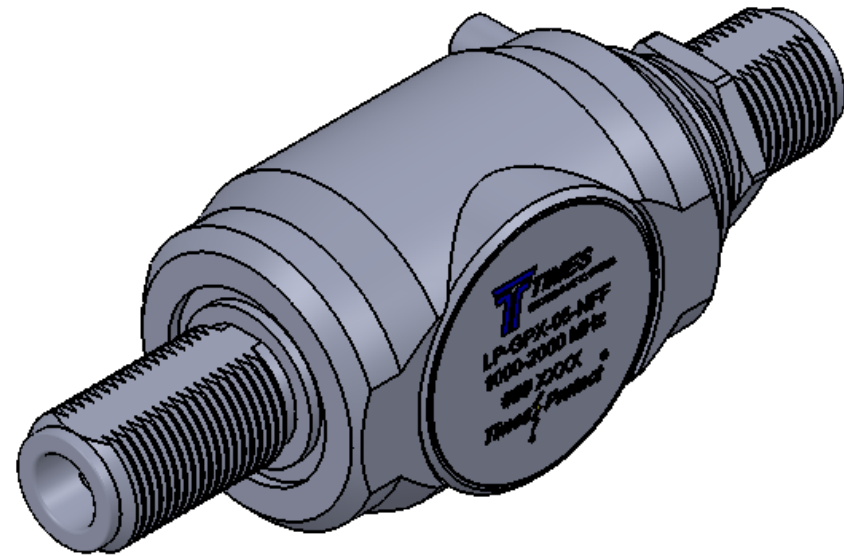
\*All dimensions shown in inches



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REV.	REVISION DESCRIPTION	DFTM	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  
 BODY: ALUMINUM, WHITE BRONZE PLATE  
 CONNECTOR HOUSING: BRASS, WHITE BRONZE PLATE  
 COUPLING NUT: BRASS, WHITE BRONZE PLATE  
 INSULATOR: PTFE  
 O-RING: SILICONE RUBBER

MATERIAL:  www.dmtonline.dk

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 FEMALE TO N FEMALE  
 1000-2000 MHz

DWG. SIZE	C	DRWG. NO.	LP-GPX-05-NFF	REV.	A
CODE IDENT.	68999	SCALE:	2:1	SHEET 1 OF 1	