



ISO 9001 Certified

LP-BTR Series

- *DC Blocked for Maximum Surge Protection*
- *Multi-Strike Capability*
- *Broadband Performance from 20MHz up to 1000MHz*
- *Exceptional RF Characteristics*
- *Solid Brass Construction for Durability and Long Life*
- *Universal Grounding Bracket for Flange or Bulkhead Installations*



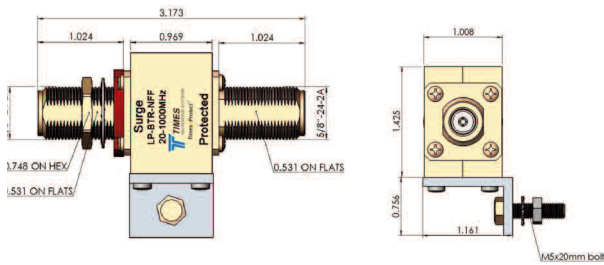
Lightning and Surge Protection for The 21st Century™

The **Times Protect™** LP-BTR high performance surge arrestor series addresses applications in the 20MHz-1000MHz spectrum. Our unique DC blocking technology employed in this design provides optimum isolation of the antenna port from the protected equipment port for maximum surge protection. LP-BTR surge protectors have exceptional RF performance and are constructed from the highest quality materials for unsurpassed durability and longevity. These units meet and surpass all applicable industry standards.

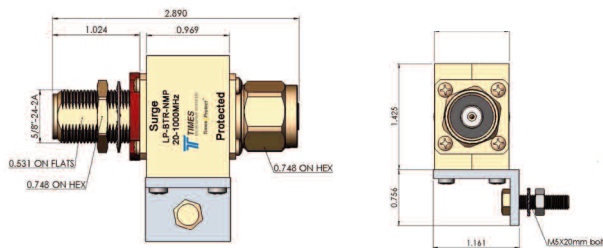
The LP-BTR product family is available with N connector configurations to satisfy various installation requirements.

LP-BTR Series:

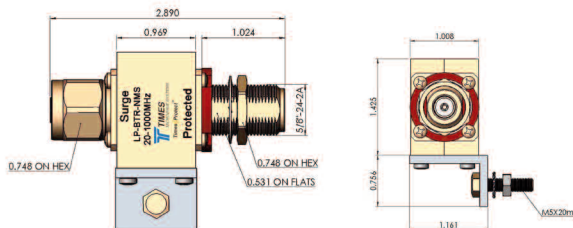
- LP-BTR-NFF
N Female connectors on surge and protected sides
- LP-BTR-NMP
N Male connector on protected side with N Female connector on surge side
- LP-BTR-NMS
N Male connector on surge side with N Female connector on protected side



- LP-BTR-NFF
20-1000MHz DC Blocked N Type F/F



- LP-BTR-NMP
20-1000MHz DC Blocked N Type M on Protected



- LP-BTR-NMS
20-1000MHz DC Blocked N Type M on Surge

*All dimensions shown in inches

Electrical Specifications

Impedance	50 Ω
Frequency Range	20-1000 MHz
VSWR/Return Loss	<1.1:1 / <-26dB
Insertion Loss	< 0.1dB
Impulse Discharge Current	10KA multiple (8x20 μ s wave-form)
Turn-on Voltage	600V \pm 20%
Turn-on Time	2.5ns for 2kV/ns
Energy Throughput Rating	<200 μ J (4kV/2kA 1.2x50/8x20 μ s wave-form)
Power Handling at Frequency	375W (20-220MHz) 125W (220-700MHz) 50W (700-1000MHz)
Protection Circuit	DC Blocked

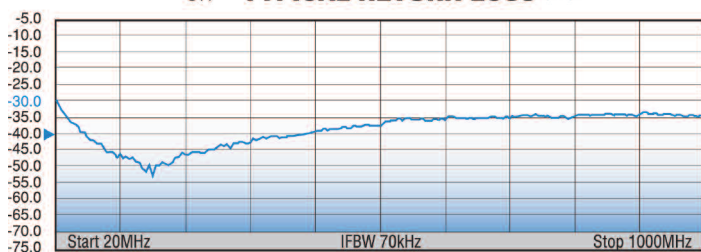
Mechanical / Environmental Specifications

Temp Range Storage/Operating	-40°C - +85°C / -40°C - +50°C
Weatherization	Required for external use
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 to 10 lb-in

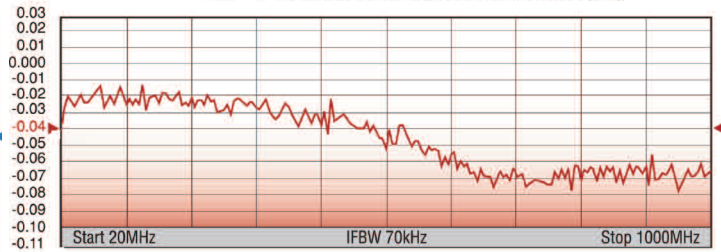
Material Specifications

Component	Material	Plating
Body	Brass	White Bronze
Inner Conductor Male	Brass	Silver
Inner Conductor Female	Phosphor Bronze	Silver
Outer Conductor	Brass	White Bronze
Coupling Nut	Brass	White Bronze
Insulator	PTFE	--

S11 TYPICAL RETURN LOSS (dB)



S21 TYPICAL INSERTION LOSS (dB)



World Headquarters: 358 Hall Avenue, Wallingford, CT 06492 • Tel: 203-949-8400, 1-800-867-2629 • Fax: 203-949-8423
 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
www.timesmicrowave.com



LP-GTRN Series

- *DC Pass Multi-Strike Design*
- *Replaceable Gas Tube*
- *Broadband Bidirectional Design*
- *Excellent IL/RL Performance Over the Entire Operating Frequency Band*
- *Fully Weatherized Housing*
- *Solid Brass Construction for Durability and Long Life*

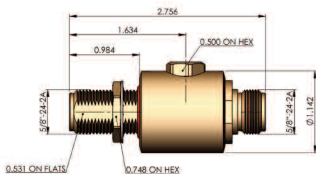


Lightning and Surge Protection for The 21st Century™

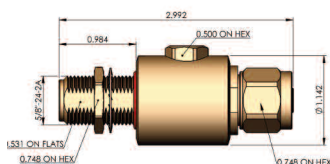
The **Times-Protect™** LP-GTRN series is an exceptional broadband DC pass design for lightning protection applications requiring DC power to be supplied to the electronics. Offering outstanding surge performance the LP-GTRN series is the perfect protection solution for distributed antenna systems, tower mounted amplifiers, GPS systems and other applications requiring DC pass circuitry. These devices exhibit outstanding RF performance with high surge current handling characteristics. Its fully weatherized housing meeting IP67 standard allows for outdoor as well as indoor installation. The LP-GTRN series also has excellent power handling capability. The N connector designs cover the entire frequency spectrum from DC through 3000MHz.

LP-GTRN Series:

- LP-GTR-NFF
N Female connectors on both sides - bidirectional
- LP-GTR-NFM
N Male connector on one side & N Female connector on the other side - bidirectional



- LP-GTR-NFF
DC Pass N Type F/F



- LP-GTR-NFM
DC Pass N Type F/M

* All Dimensions shown in inches

Electrical Specifications

Impedance	50 Ω
Frequency Range	DC-3000 MHz
VSWR/Return Loss	< 1.15 / < -26dB
Insertion Loss	< 0.25 dB
Impulse Spark Over	20KA multiple (8x20 μ s wave-form)
Turn-on Voltage	90Vdc
Impulse Sparkover	500V (1kV/ μ s)
Average Power	50 Watts
Protection Circuit	DC Pass

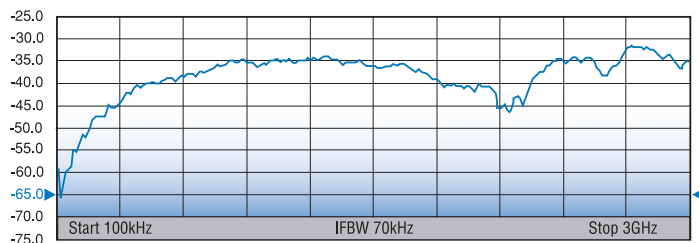
Mechanical / Environmental Specifications

Temp Range Storage/Operating	-40°C - +85°C
Weatherization	IEC 60068 40/085/21 & IP67
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
Wear/Mating Cycles	500 minimum
Recommended Coupling Nut Torque	7 to 10 lb-in

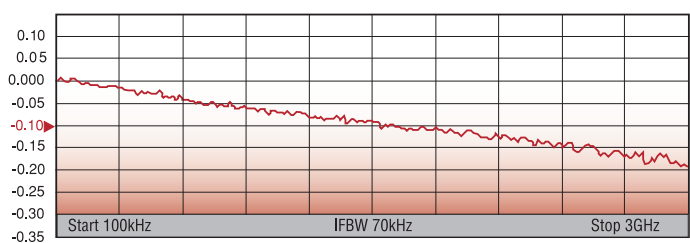
Material Specifications

Component	Material	Plating
Body	Brass	White Bronze
Inner Conductor Male	Brass	Silver
Inner Conductor Female	Phosphor Bronze	Silver
Washer	Brass	White Bronze
Coupling Nut	Brass	White Bronze
Insulator	TPX	--
O-Ring	Silicone Rubber	--

S11 TYPICAL RETURN LOSS (dB)



S21 TYPICAL INSERTION LOSS (dB)



World Headquarters: 358 Hall Avenue, Wallingford, CT 06492 • Tel: 203-949-8400, 1-800-867-2629 • Fax: 203-949-8423
 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
www.timesmicrowave.com