



## LP-HBR-N Series

- 1.8 MHz to 100 MHz
- Covers 160-6 Meter Bands
- 2 kW Average RF Path
- Multi-Strike Capability
- Less than 0.1dB Insertion Loss
- Type N Connectors
- White Bronze Plated Body
- IP 65 Rated for Outdoor Use
- Bulkhead or Flange Installation



## Lightning and Surge Protection for The 21st Century™

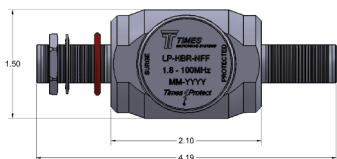
The **Times Protect**® LP-HBR-N series high performance surge arrester series addresses applications in the 1.8MHz-100MHz spectrum that includes the *160-6 Meter Amateur Radio Bands*. Our DC blocking technology employed in this gas tube design provides optimum isolation of the antenna port from the protected equipment port for maximum surge protection. LP-HBR-N series surge protectors have exceptional RF performance and are constructed from the highest quality materials for unsurpassed durability and longevity. They equal or surpass all applicable industry standards.

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

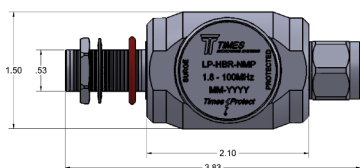
### LP-HBR-N Series:

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

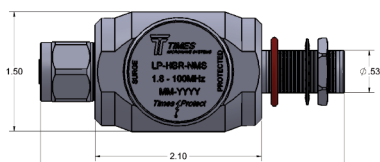




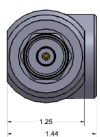
- LP-HBR-NFF  
1.8-100 MHz DC Blocked N Type F/F



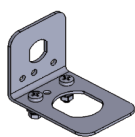
- LP-HBR-NMP  
1.8-100 MHz DC blocked N Male on Protected Side



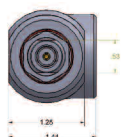
- LP-HBR-NMS  
1.8-100 MHz Blocked N Male on Surge Side



Male End



Included Mounting Bracket

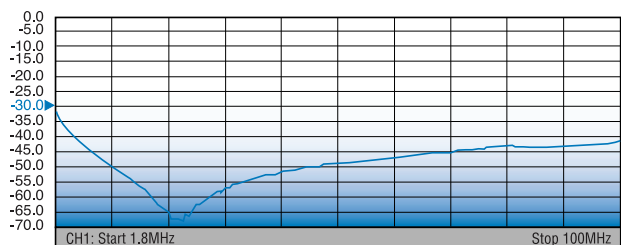


Female End

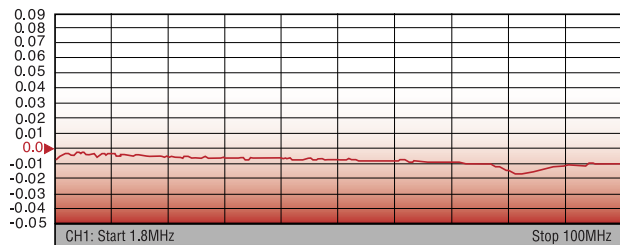
\*All dimensions shown in inches

Electrical Specifications		
Impedance	50 Ohm	
Frequency Range	1.8 MHz - 100 MHz	
Maximum VSWR/Return Loss	<1.06:1 / <-30dB	
Insertion Loss	< 0.1dB	
Power Handling - Average	2000 Watts	
Maximum Peak RF Voltage	4400 Volts	
Maximum Surge Current	20kA Single Strike	
Multiple Strikes	10kA (8x20µs wave-form)	
Energy Throughput Rating	<12 mJ	
Impulse Spark-Over Voltage	2000 Volts Nominal	
DC Turn On Voltage	1400 Volts Nominal	
Protection Circuit	DC Blocked, Uni-Directional	
Mechanical / Environmental Specifications		
Temp Range Storage/Operating	-40°C - +85°C / -40°C - +50°C	
Weatherization	IP 65	
Vibration	US MIL-STD 202, Method 204-B	
RoHS Compliant	Yes	
Mating Life Cycle	> 500	
Recommended Coupling Nut Torque	7 to 10 in-lb	
Unit Weight	8.0 oz / 227g	
Material Specifications		
Component	Material	Plating
Body	Aluminum	White Bronze
Inner Conductor Male	Brass	Silver
Inner Conductor Female	Phosphor Bronze	Silver
Coupling Nut	Brass	White Bronze
Insulator	PTFE	--
O-Ring	Silicone Rubber	--

S11 TYPICAL RETURN LOSS



S21 TYPICAL INSERTION LOSS



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

International Sales: +1(800) 867-2629 • 1+ (203)-949-8503

China Sales: TMC Building 4, No. 318 Yuanshan Road, Xinzhuang Industrial Park, Shanghai China 201108 • Tel: 86-21-5176-1209 • Fax: 86-21-64424098

www.timesmicrowave.com

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