



## 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™

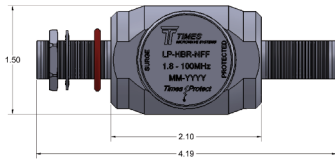
The **Times Protect®** LP-HBR-N series high performance surge arrester series addresses applications in the 1.8MHz-100MHz spectrum that includes the *160-6 Meter Amateur Radio Bands*. Our DC blocking technology employed in this gas tube design provides optimum isolation of the antenna port from the protected 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.

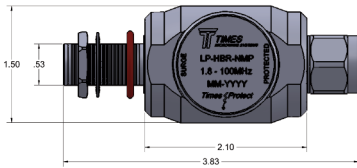
### LP-HBR-N Series:

- 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

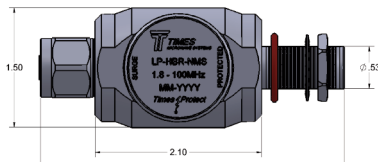
# Times-Protect<sup>®</sup>



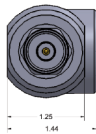
- LP-HBR-NFF  
1.8-100 MHz DC Blocked N Type F/F



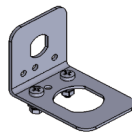
- LP-HBR-NMP  
1.8-100 MHz DC blocked N Male on Protected Side



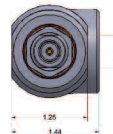
- LP-HBR-NMS  
1.8-100 MHz Blocked N Male on Surge Side



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

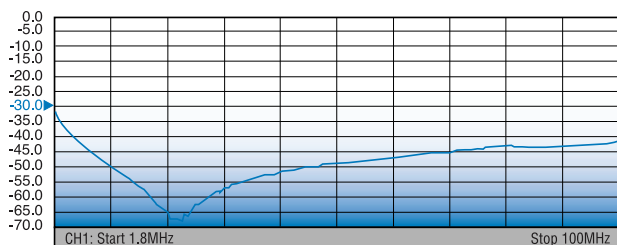
## Mechanical / Environmental Specifications

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

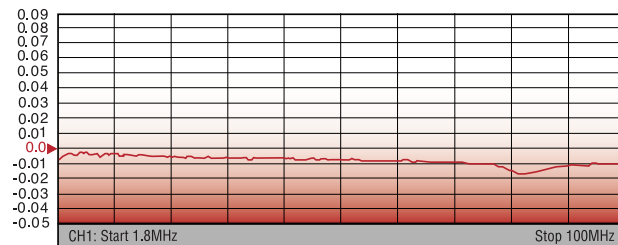
## Material Specifications

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



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