



LP-BTRW Series

- *IP67 Weatherized for Outdoor Use*
- *DC Blocked for Maximum Surge Protection*
- *Multi-Strike Capability*
- *Broadband Performance From 20MHz up to 1000MHz*
- *Exceptional RF Characteristics*
- *Solid Brass White Bronze Plated Construction for Durability and Long Life*
- *Universal Grounding Bracket Supplied*



**IP67
Weatherized!**



ISO 9001 Certified

Lightning and Surge Protection for The 21st Century™

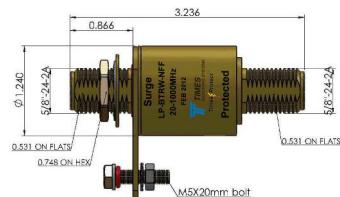
The **Times Protect™** LP-BTRW high performance surge arrestor series addresses applications in the 20MHz-1000MHz spectrum. Our unique DC blocking technology employed in this design provides optimum isolation of the antenna port from the protected equipment port for maximum surge protection.

LP-BTRW 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.

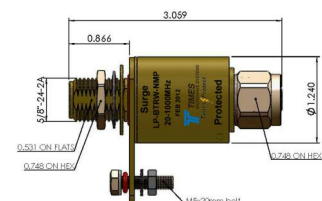
The LP-BTRW product family is available with N connector configurations and fully weatherized to the IP67 standard for outdoor use.

LP-BTRW Series:

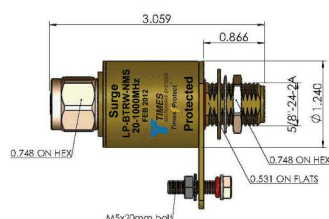
- LP-BTRW-NFF
N Female connectors on surge and protected sides
- LP-BTRW-NMP
N Male connector on protected side with N Female connector on surge side
- LP-BTRW-NMS
N Male connector on surge side with N Female connector on protected side



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



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



- LP-BTRW-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 (8x20μs wave-form)
Turn-on Voltage	600V ± 20%
Turn-on Time	2.5ns for 2kV/ns
Energy Throughput Rating	<200μJ (6kV/3kA 1.2x50/8x20μs 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	IEC 60068 55/155/56 & 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
Mating Life Cycle	> 500
Recommended Coupling Nut Torque	7 to 10 in-lb
Unit Weight	0.25kg/pc / 0.55lb

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)



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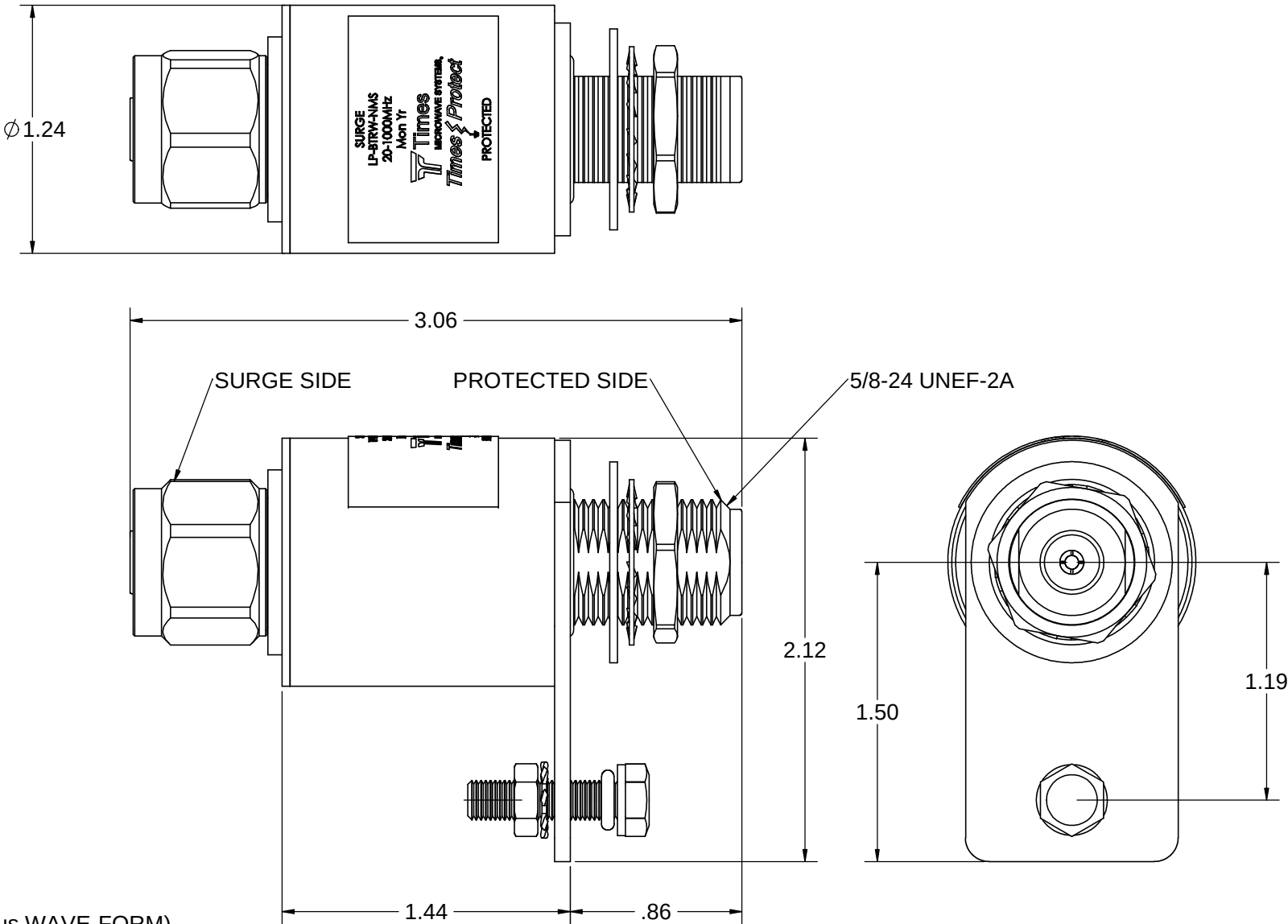
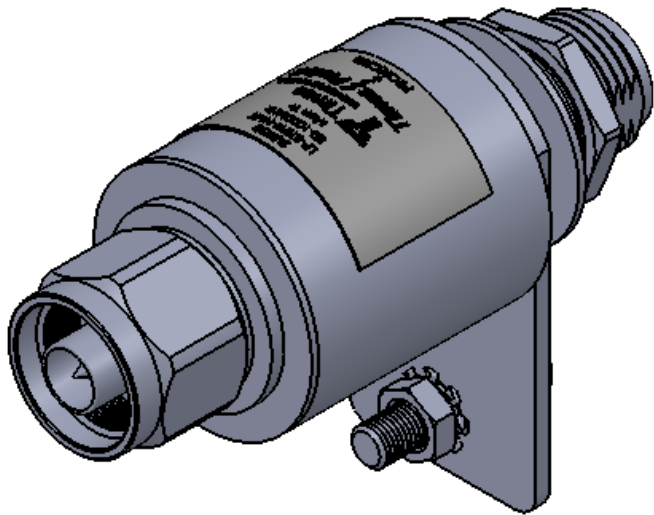
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LP-BTR-W 03/12

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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: 20-1000 MHz
VSWR/RETURN LOSS: < 1.1:1 / < -26 dB
INSERTION LOSS: < 0.1 dB
TURN ON VOLTAGE: 600 Vdc +/- 20%
TURN ON TIME: 2.5 ns for 2 kV/ns
MAX SURGE CURRENT: 10 kA MULTIPLE (8/20 us WAVE-FORM)
ENERGY THROUGHPUT RATING: < 200 uJ (6kV/3kA 1.2X50/8X20 us WAVE-FORM)
POWER HANDLING AT FREQUENCY: 375 W (20-220 MHz)
125 W (220-700 MHz)
50 W (700-1000 MHz)

PROTECTION CIRCUIT: DC BLOCKED

2. ENVIRONMENTAL CHARACTERISTICS

TEMPERATURE RANGE STORAGE/OPERATING: -40C TO +85C/-40C TO +50C
WEATHERIZATION: IP67
VIBRATION: MIL-STD 202, METHOD 204, CONDITION B
WEIGHT: 0.55 lb / 0.25 kg
RoHS COMPLIANT

3. MATERIAL AND FINISH

INNER CONNECTOR FEMALE: PHOSPHOR BRONZE, SILVER PLATE
INNER CONNECTOR MALE: BRASS, SILVER PLATE
BODY: BRASS, WHITE BRONZE PLATE
OUTER CONDUCTOR: BRASS, WHITE BRONZE PLATE
COUPLING NUT: BRASS, WHITE BRONZE PLATE
INSULATOR: PTFE

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
20-1000 MHz

DWG. SIZE	C	DRWG. NO.	LP-BTRW-NMS	REV.	A
CODE IDENT.	68999	SCALE:	2:1	SHEET 1 OF 1	