

Accurate Technology Services, Inc.

Product Catalog

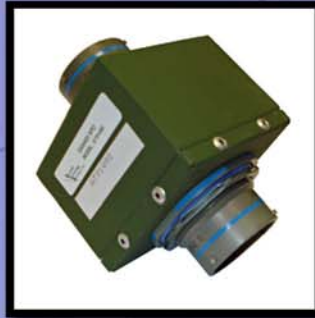


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A Woman-Owned Small Business

Contracts: GS-07F-0143V GS-07F-0142V(Set-Aside)

Junction Boxes

VIB - Voice Interface Box

Part #AT91405

NSN: 5998015628942



Military junction box with surge suppression technology for your communication lines and connected devices.

Application: The AT91405 protects communication lines from transients caused by direct or indirect lightning strikes and other electrical surges, while supplying connections for up to 24 phone lines and one intercom connection.

Installation: The VIB can be hung by attaching a strap to D-rings for field mounting, or it can be attached to any flat surface with optional wall mounting case.

Technology: High capacity, fail safe gas discharge tubes are combined with solid state sidactors and fast acting fuses and resistors to form three stages of protection. The VIB is a compact, powder coated stainless steel enclosure that uses 53 pin Mil-Circ (MIL-DTL-38999 series I) connectors for through-put communications. Each pair of telephone protectors is mounted on a field replaceable assembly for quick replacement in the unlikely event of a circuit failure.

Features:

- Erasable writing plate
- Butterfly latch that can be operated with one hand
- Brush assembly at cable entry to protect against elements (dirt, dust, sand)
- Mil-spec grounding stud
- Gasketed lid to protect against rain when suspended by D-rings

SPECIFICATIONS

Circuit Type: 3 Stage Hybrid

Lines Protected: 50 (24 pair dial-up lines & 1 pair intercom lines)

Connectors: 24 RJ11/RJ45 modular jacks & 2 compression terminals

Surge Capacity: 20kA 8/20 μ s impulse per wire

Clamp Voltage: 270V @ 3kA 8/20 μ s impulse

Rated Voltage: 200V peak

Max. Frequency: 10.0 MHz

Nominal Resistance: 10 Ohms

Case Dimensions: 9 1/8" x 7 1/4" x 4 7/16"

Weight: 6.3 lbs.



VIB - Voice Interface Box



UVIB - Universal Voice Interface Box

Part #AT91405-U



Application: The UVIB protects communication lines from transients caused by direct or indirect lightning strikes and other electrical surges, while supplying connections for up to 26 phone lines and two binding post connections. The UVIB was designed to bridge the gap between existing communications architectures and those of the future.

Installation: The UVIB can be hung by attaching a strap to D-rings for field mounting, or it can be attached to any flat surface with optional wall mounting case.

Technology: High capacity, fail safe gas discharge tubes are combined with solid state sidactors and fast acting fuses and resistors to form three stages of protection. The VIB is a compact, powder coated stainless steel enclosure that uses 53 pin Mil-Circ and HOK connectors for through-put communications. Each pair of telephone protectors is mounted on a field replaceable assembly for quick replacement in the unlikely event of a circuit failure.

- Features:**
- U187A/G and mil-circ connectors to interface with existing and future communication systems
 - Erasable writing plate
 - Spring loaded latch can be operated with one hand
 - Brush assembly at cable entry point to protect against elements (dirt, dust, sand)
 - Mil-spec grounding stud
 - Gasketed lid to protect against rain when suspended by D-rings

SPECIFICATIONS

Circuit Type: 3 Stage Hybrid
Lines Protected: 52 (24 pair dial-up lines & 2 pair intercom lines)
Connectors: 24 RJ11/RJ45 modular jacks & 4 compression terminals
Surge Capacity: 20kA 8/20 μ s impulse per wire
Clamp Voltage: 270V @ 3kA 8/20 μ s impulse
Rated Voltage: 200V peak
Max. Frequency: 10.0 MHz
Nominal Resistance: 10 Ohms
Case Dimensions: 13 3/8" x 11 3/4" x 4 7/16"
Weight: 6.3 lbs.



Available Accessories (found on page 30)



Bare Wire Adapter
AT91418



ISDN Adapter
AT32875



Mil-Circ Adapter
AT92353P

RVIB - Retro Voice Interface Box

Part #AT92645



Application: The AT92645 protects communication lines from transients caused by direct or indirect lightning strikes and other electrical surges, while supplying connections for up to 24 phone lines and one intercom connection.

Installation: The RVIB can be hung by attaching a strap to D-rings for field mounting, or it can be attached to any flat surface with optional wall mounting case.

Technology: High capacity, fail safe gas discharge tubes are combined with solid state sidactors and fast acting fuses and resistors to form three stages of protection. The RVIB is a compact, powder coated stainless steel enclosure that utilizes two U 187A/G connectors for through-put communication. Each pair of telephone protectors is mounted on a field replaceable assembly for quick replacement in the unlikely event of a circuit failure.

Features:

- Erasable writing plate
- Butterfly latch that can be operated with one hand
- Brush assembly at cable entry to protect against elements (dirt, dust, sand)
- Mil-spec grounding stud
- Gasketed lid to protect against rain when suspended by D-rings
- U187A/G HOK connectors to interface with existing communication systems

SPECIFICATIONS

Circuit Type: 3 Stage Hybrid

Lines Protected: 50 (24 pair dial-up lines & 1 pair intercom lines)

Connectors: 24 RJ11/RJ45 modular jacks & 2 compression terminals

Surge Capacity: 20kA 8/20 μ s impulse per wire

Clamp Voltage: 270V @ 3kA 8/20 μ s impulse

Rated Voltage: 200V peak

Max. Frequency: 10.0 MHz

Nominal Resistance: 10 Ohms

Case Dimensions: 13 3/8" x 7 1/4" x 4 7/16"

Weight: 9.0 lbs.



HVIB - Hybrid Voice Interface Box

Part #AT92710



Application: The AT92710 protects communication lines from transients caused by direct or indirect lightning strikes and other electrical surges, while supplying connections for up to 24 phone lines and one intercom connection.

Installation: The HVIB can be hung by attaching a strap to D-rings for field mounting, or it can be attached to any flat surface with optional wall mounting case.

Technology: High capacity, fail safe gas discharge tubes are combined with solid state sidactors and fast acting fuses and resistors to form three stages of protection. The HVIB is a compact, powder coated stainless steel enclosure that uses one 53 pin Mil-Circ (MIL-DTL-38999 series I) connector and one U 187A/G HOK connector for throughput communication. Each pair of telephone protectors is mounted on a field replaceable assembly for quick replacement in the unlikely event of a circuit failure.

- Features:**
- Erasable writing plate
 - Butterfly latch that can be operated with one hand
 - Brush assembly at cable entry to protect against elements (dirt, dust, sand)
 - Mil-spec grounding stud
 - Gasketed lid to protect against rain when suspended by D-rings
 - U187A/G connector for backwards compatibility with older communication systems
 - 53-pin Mil-Circ connector for compatibility with modern communication systems

SPECIFICATIONS

Circuit Type: 3 Stage Hybrid
Lines Protected: 50 (24 pair dial-up lines & 1 pair intercom lines)
Connectors: 24 RJ11/RJ45 modular jacks & 2 compression terminals
Surge Capacity: 20kA 8/20 μ s impulse per wire
Clamp Voltage: 270V @ 3kA 8/20 μ s impulse
Rated Voltage: 200V peak
Max. Frequency: 10.0 MHz
Nominal Resistance: 10 Ohms
Case Dimensions: 11 5/16" x 7 1/4" x 4 7/16"
Weight: 7.5 lbs.



DIB - Data Interface Box

Part #AT92383

Military junction box for your data lines and connected devices.



Application: The AT92383 junction box provides access points for four RS530 data connections.

Installation: The DIB can be hung by attaching a strap to D-rings for field mounting, or the DIB can be attached to any flat surface with optional wall mounting case.



- Features:**
- Erasable writing plate with RS530A diagram
 - Butterfly latch that can be operated with one hand
 - Brush assembly at cable entry to protect against elements (dirt, dust, sand)
 - Gasketed lid to protect against rain when suspended by D-rings

EIA-530 Interface Reference
1 1 2 3 4 5 6 7 8 9 10 11 12 13

Pin	Signal	Pin	Signal
1	Shield	14	Transmitted Data Return
2	Transmitted Data	15	Transmitted Signal Ground
3	Received Data	16	Received Data Return
4	Received to Send	17	Par. Sig. Element Upper Filter
5	Clear to Send	18	Local Loopback
6	DCE Ready	19	Received to Send
7	Signal Ground	20	OTE Ready
8	Received Line Signal Indicator	21	Remote Loopback
9	Transmit Signal Element Error	22	DCE Ready
10	Received Line Signal Indicator	23	OTE Ready
11	Transmit Signal Element Error	24	Trans. Sig. Element Lower Filter
12	Transmit Timing	25	Test Mode
13	Clear to Send		

SPECIFICATIONS

- Lines: 4 RS530A lines with option of male or female connection
- Connectors: 4 DB25 Male 4 DB25 Female
- Cable Connectors: 53-pin Mil-Circ (MIL-DTL-38999 series I)
- Weight: 6 lbs
- Case Dimensions: 9 1/8" x 7 1/4" x 4 7/16"

T1IB - T1 Interface Box

Part #AT92721



Application: The AT92721 protects T1 lines from transients caused by direct or indirect lightning strikes and other electrical surges, while supplying connections for up to 12 T1 lines.

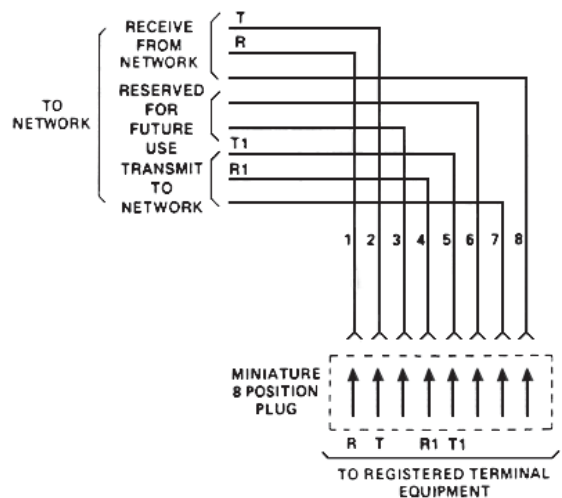
Installation: The T1IB can be hung by attaching a strap to D-rings for field mounting, or it can be attached to any flat surface with optional wall mounting case.

Technology: High capacity, fail safe gas discharge tubes are combined with solid state sidactors and fast acting fuses and resistors to form three stages of protection. The T1IB is a compact, powder coated stainless steel enclosure that uses 53 pin Mil-Circ (MIL-DTL-38999 series I) connectors for through-put communications. Each line protector is mounted on a field replaceable assembly for quick replacement in the unlikely event of a circuit failure.

- Features:**
- Erasable writing plate
 - Butterfly latch that can be operated with one hand
 - Brush assembly at cable entry to protect against elements (dirt, dust, sand)
 - Mil-spec grounding stud
 - Gasketed lid to protect against rain when suspended by D-rings

SPECIFICATIONS

Circuit Type: 3 Stage Hybrid
Lines Protected: 12 T1 lines and 1 pair intercom lines
Connectors: 12 RJ48C jacks
Surge Capacity: 20kA 8/20 μ s impulse per wire
Clamp Voltage: 270V @ 3kA 8/20 μ s impulse
Rated Voltage: 200V peak
Max. Frequency: 10.0 MHz
Nominal Resistance: 10 Ohms
Case Dimensions: 9 1/8" x 7 1/4" x 4 7/16"
Weight: 6.0 lbs.



RJ21VIB - RJ21 Voice Interface Box

Part #AT96504



Application: The AT96504 protects communication lines from transients caused by direct or indirect lightning strikes and other electrical surges, while supplying connections for up to 24 phone lines and one intercom connection.

Installation: The RJ21VIB can be attached to any flat surface.

Technology: High capacity, fail safe gas discharge tubes are combined with solid state sidactors and fast acting fuses and resistors to form three stages of protection. The RJ21VIB is a compact, powder coated stainless steel enclosure that uses RJ21 connectors for through-put communications. Each pair of telephone protectors is mounted on a field replaceable assembly for quick replacement in the unlikely event of a circuit failure.

Features:

- Erasable writing plate
- Butterfly latch that can be operated with one hand
- Brush assembly at cable entry to protect against elements (dirt, dust, sand)
- Mil-spec grounding stud
- Gasketed lid to protect against rain when suspended by D-rings

SPECIFICATIONS

Circuit Type: 3 Stage Hybrid
Lines Protected: 48 (24 pair dial-up lines)
Connectors: 24 RJ11/RJ45 modular jacks
Surge Capacity: 20kA 8/20 μ s impulse per wire
Clamp Voltage: 270V @ 3kA 8/20 μ s impulse
Rated Voltage: 200V peak
Max. Frequency: 10.0 MHz
Nominal Resistance: 10 Ohm
Case Dimensions: 9.0" x 7 1/4" x 4 7/16"
Weight: 6.2 lbs.



VIB-26 - Voice Interface Box(26 lines)

Part #AT91405-26



Application: The AT91405-26 protects communication lines from transients caused by direct or indirect lightning strikes and other electrical surges, while supplying connections for up to 24 phone lines and two intercom connection.

Installation: The VIB can be hung by attaching a strap to D-rings for field mounting, or it can be attached to any flat surface with optional wall mounting case.

Technology: High capacity, fail safe gas discharge tubes are combined with solid state sidactors and fast acting fuses and resisters to form three stages of protection. The VIB is a compact, powder coated stainless steel enclosure that uses 53 pin Mil-Circ (MIL-DTL-38999 series I) connectors for through put communications. Each pair of telephone protectors is mounted on a field replaceable assembly for quick replacement in the unlikely event of a circuit failure.

- Features:**
- Erasable writing plate
 - Butterfly latch that can be operated with one hand
 - Brush assembly at cable entry to protect against elements (dirt, dust, sand)
 - Mil-spec grounding stud
 - Gasketed lid to protect against rain when suspended I

SPECIFICATIONS

Circuit Type: 3 Stage Hybrid

Lines Protected: 52 (24 pair dial-up lines & 2 pair intercom line)

Connectors: 24 RJ11/RJ45 modular jacks & 2 compression terminals

Surge Capacity: 20kA 8/20 μ s impulse per wire

Clamp Voltage: 270V @ 3kA 8/20 μ s impulse

Rated Voltage: 200V peak

Max. Frequency: 10MHz

Nominal Resistance: 10 Ohm

Dimensions: 9 1/8" x 7 1/4" x 4 7/16"

Weight: 6.3 lbs.



Communication Surge Protection

ZONE BARRIER SERIES



Shown mounted on 35 mm DIN rail

Application: The Zone Barrier Series protects various circuit interfaces from transients caused by direct or indirect lightning strikes and other electrical surges.

Installation: The Zone Barrier series can be mounted on any standard 35mm DIN rail, or any flat surface. Ground wire is required for surface mounted applications and will be included with purchase.

Specifications:

Circuit Type: 3 Stage Series Hybrid
Surge Capacity: 1,000A 8/20 μ s impulse per line (minimum)
Rated Voltage: Application specific
Max. Frequency: up to 1,000MHz (application specific)
Max Load Current: 0.50 Amperes
Case Dimensions: 5.1" x 2.3" x 1.0" overall

Modular/Registered Jack

Part #	Connector	Line
AT24501	RJ11/RJ45	Dial-Up
AT24503	RJ11/RJ45	Lease Line
AT24505	RJ48S	DDS/DSU
AT24511	RJ45	RS232/NRZ
AT24525	RJ11/RJ45	Dial-Up
AT24540	RJ45	100BaseT, 10BaseT, Token Ring
AT24549	RJ11/RJ45	ISDN
AT24550	2 x RJ45	100BaseT, 10BaseT
AT24558	RJ48C	T-1 Data
AT24562	RJ11/RJ45	ADSL
AT24563	RJ45	1000BaseT, 100BaseT, 100BaseVG, 10BaseT, Token Ring
AT24563FF	RJ45 (female)	1000BaseT, 100BaseT, 100BaseVG, 10BaseT, Token Ring

Terminal Strip

Part #	Connector	Line / Lines Protected
AT24504	4 Position	Lease Line (4 lines)
AT24506	4 Position	Digital Data Service (4 lines)
AT24509	5 Position	RS232/NRZ (4 lines + shield)
AT24510	5 Position	RS232/NRZ (5 lines)
AT24513	5 Position	RS422 (4 lines + shield)
AT24518	5 Position	RS485 (2 lines)
AT24528	5 Position	RS485 (4 + shield)
AT90663	5 Position	T-1/E1 Data (4 lines + shield)

Other Connections

Part #	Connector	Line
AT24537	BNC	DS-3
AT24551	RJ45/110 Block	100BaseT
AT90977	DE-9M (male)	T-1, E-1, HDSL
AT91349	Twin-Ax UG-1837	CDI
AT91381	DE-9F (female)	RS422
AT91387	DB-25 CFP	RS232/NRZ
AT91425	DB-25 (male)	RS530

RackShield2

Part #AT25050

Surge suppression technology for your rack mounted lines and connected devices.



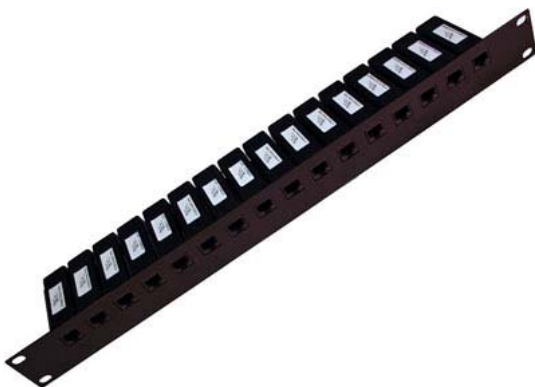
AT25001D shown mounted on 35 mm DIN rail

Installation: The RackShield 2 series can be mounted on any standard 35mm DIN rail, or in a 1U high module for rack mounted applications.

Application: The RackShield-2 protects assorted communication interfaces from transients caused by direct or indirect lightning strikes and other electrical surges. The RackShield-2 is a mix and match, modular, 1U high, 19" rack mounting surge protector with a flush face. Protection can be provided for up to 16 ports, with blanking plates available to cover any unused positions. Any mix of modules can be installed easily. Protection modules can be changed out or upgraded within seconds.



The RackShield II frame (AT25050) is completely customizable. The RackShield II frame can be populated with any combination of RackShield II modules, to completely protect multiple types of communication lines with one protective device. The faceplate is customizable for distinctive labeling to avoid confusion in implementation.



Part #	Type	Maximum surge current per line [A]	Working voltage [V]	Let-through voltage [V]	Bandwidth	Connectors
AT25001	10/100 BaseT	1,000	5	10	155MHz	RJ45
AT25002	T-1	1,000	12	27	55MHz	RJ48C
AT25003	Pass Thru	---	---	---	---	RJ45
AT25004	Twinax	10,000	15	30	5MHz	BJ157
AT25005	Cat5 PoE	1,000	48	60	155MHz	RJ45
AT25006	10/100/1000 BT	1,000	5	10	1,000MHz	RJ45
AT25007	Cover	---	---	---	---	---
AT25008	RS232	1,000	12	27	10MHz	RJ45
AT25009	RS422	1,000	5	10	15MHz	RJ45
AT25010	4 Wire Dial-up	1,000	170	240	---	RJ45
AT25012	Cat6 PoE	1,000	48	60	1,000MHz	RJ45
AT25015	2 Wire Dial-up	1,000	170	240	---	RJ45

Model #AT25050 is an empty rack; protection modules are not included.
Din-Rail mounted modules are indicated by adding a "D" to the end of the part number (i.e. AT25001-D).

SwitchGuard

Rack mounted surge suppression technology for your 24 and 48 port ethernet switches and connected devices.

Installation: The SwitchGuard is a standard 1U high module that can be used for rack mounted applications.

Technology: The SwitchGuard modules employ solid state protection technology enabling it to protect sensitive electronics against severe surges.

Application: The SwitchGuard is designed to protect 48 port ethernet switches. This unit protects 48 CAT6 PoE ports in a 1U enclosure. The modular design allows each individual module to be easily replaced. The SwitchGuard also comes in a 24-port version, in a standard 1U enclosure, with a blanking plate to cover unused ports.



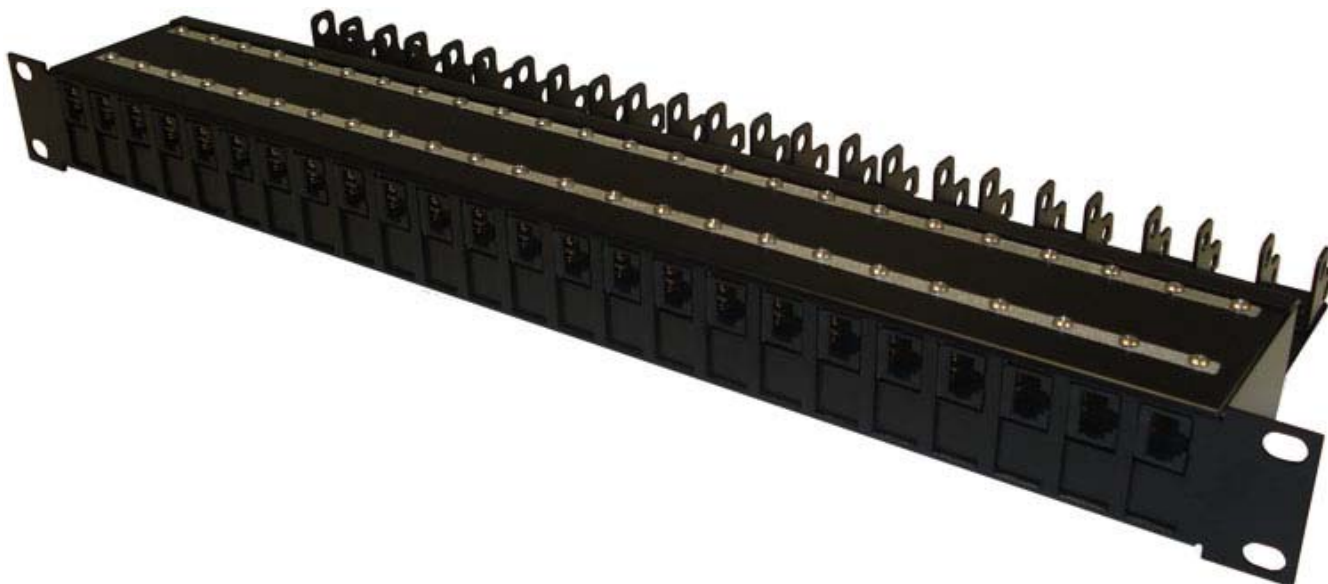
48 port Switchguard (AT25054)

Part #	Type	Maximum surge current per line [A]	Working voltage [V]	Let-through voltage [V]	Bandwidth	Connectors
AT25054*	10/100 BaseT	1,000	48	80	155MHz	RJ45
AT25001-SG	10/100 BaseT	1,000	5	10	155MHz	RJ45
AT25002-SG	T1	1,000	12	27	55MHz	RJ48C
AT25003-SG	Pass Thru	---	---	---	---	RJ45
AT25005-SG	Cat5 PoE	1,000	48	60	155MHz	RJ45
AT25006-SG	10/100/1000 BT	1,000	5	10	1000MHz	RJ45
AT25012-SG	Cat6 PoE	1,000	48	80	1,000MHz	RJ45

Model #AT25056 is an empty rack; protection modules are not included.

*Model #25054 is an AT25056 populated with 48 AT25012-SG modules.

Model #AT25055 is an AT25056 populated with 24 AT25012-SG modules and 24 AT25007-SG plates.



24 port Switchguard (AT25055)

Cable Protectors

DANA-53

Part # AT91490

Durable And Non-depleting Apparatus (53-pin)



In-line surge suppression for your communication cables and connected devices.

Application: The DANA-53 protects communication cables from transients caused by direct or indirect lightning strikes and other electrical surges.

Installation: The DANA-53 is connected between communication lines with 53-pin Mil-Circ (MIL-DTL-38999 series I) connectors.

Technology: The surge suppression circuit of the DANA-53 is created by using high capacity gas discharge tubes.

SPECIFICATIONS

Circuit Type: Single stage parallel

Lines Protected: 53

Connectors: 53 pin male MS connectors

DC Breakdown Voltage: 230V

Maximum Rated Surge Discharge Current (8/20 μ s): 5,000A per wire

Insulation Resistance: 10¹⁰ Ohms minimum

Capacitance between each Electrode & Ground Plane: <2pf

Max. Frequency: 100 MHz

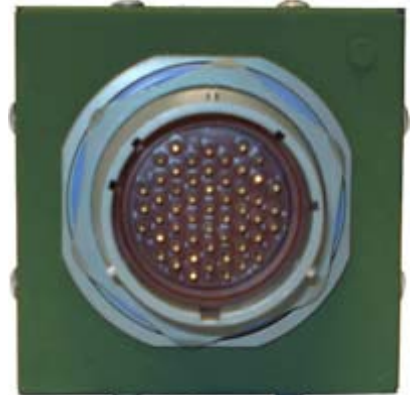
Nominal Resistance: 0.2 Ohm

Temperature Range: -40°F to 150°F (-40°C to 66°C)

Color: Olive Drab

Dimensions: 2.95" x 2.95" x 4.124"

Weight: 11.2 oz



DANA-53R

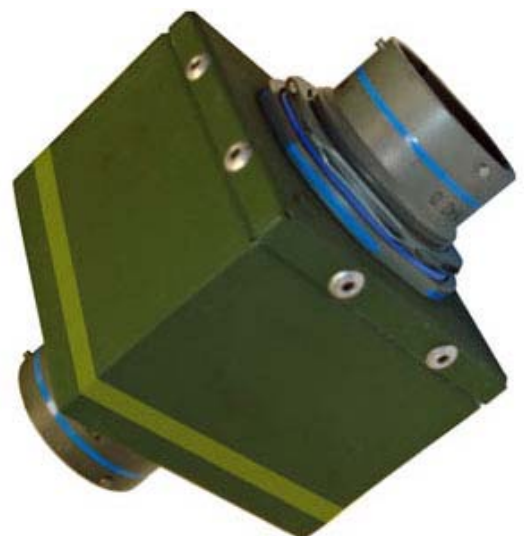
Part # AT91490R

Application: The DANA-53 protects communication cables from transients caused by direct or indirect lightning strikes and other electrical surges.

Sample of Pin to Pin Connection

DANA53 (in/out) DANA53R (in/out)

A-A	A-S
B-B	B-R
C-C	C-P
D-D	D-N
E-E	E-M



RJ21 Telco Protector

Part #AT22040

NSN: 5920015676264



In-line surge suppression for your communication cables and connected devices.

Application: Protects 25 pair telephone lines (PBX extensions, dial-up, POTS) from transients caused by direct or indirect lightning.

Installation: The AT22040 is connected between communication lines with RJ21 connectors, and can be mounted on any flat surface.

Approval: Tested to IEC801-5, CCITT K17

SPECIFICATIONS

Circuit Type: Three stage series hybrid
Lines Protected: 25 (50 wires)
Connectors: RJ21 F/F with 3' M/M patch cable
Surge Capacity: 3kA per wire(8/20 μ s)
Max. Leakage Current: 5 μ A per wire
Max. Frequency: 50MHz



Model	Clamp Voltage @1kA 8/20	Application	Rated Voltage	MCOV	Max. Load Current	Max. Inline Resistance
AT22040	270V	Dial-up	200Vdc	230Vdc	0.15A	10 Ohms
AT22041	36V	24V	24Vdc	27Vdc	0.5A	5 Ohms
AT22042	78V	48V	48Vdc	56Vdc	0.5A	5 Ohms

Power Protection

RackPro Series



Application: The RackPro is a twelve (12) outlet, rack mounted surge protector which provides superior surge protection in a compact enclosure. Constructed with an all steel case and designed with competitive specs, this product covers all your rack mount surge needs.

Model	Outlets	Max surge current (kA)	Max line current (A)	Working Voltage (V)	Let-through Voltage (V)	Connectors
AT35326	12 (6 front, 6 rear)	84	15	120	330	NEMA 5-15
AT35527	12 (2 front, 10 rear)	84	20	120	330	NEMA 5-20

Superior Indication

Power On Indicator

Red LED shows power is being distributed to all outlets.

Protection Status Indicator

When lit, this light assures that the suppressor is protecting the equipment. If the light goes out, the suppressor may be damaged and ATS will replace your RackPro as stated in the Warranty.



The RackPro comes with a protective bar over the power switch to help avoid accidental disconnection of power.

SPECIFICATIONS

Length 19"
 Depth 4.5"
 Height 1.625" (1U)
 Weight 5lbs.

Mounting brackets on the RackPro can be rotated to mount on a wall or any other flat surface.

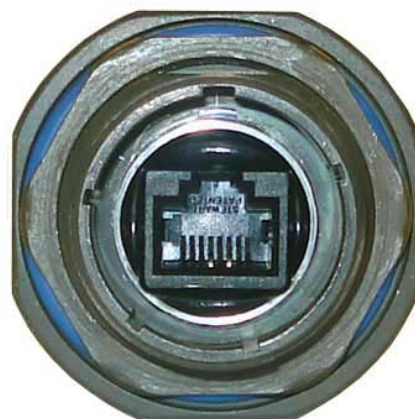


SEPGuard

Surge suppression technology that mounts directly at the Signal Entry Panel.

Installation: The SEPGuard series of surge protection devices can be mounted directly on your entry panel. The SEPGuard is a MIL-DTL-38999 Series III Coupling style, size 19

Application: The SEPGuard protects assorted communication interfaces from transients caused by direct or indirect lightning strikes and other electrical surges.



Technology: The SwitchGuard modules employ solid state protection technology enabling it to protect sensitive electronics against severe surges.

Part #	Type	Maximum surge current per line [A]	Working voltage [V]	Let-through voltage [V]	Bandwidth	Connectors
AT29001	10/100 BaseT	1,000	5	10	155MHz	RJ45
AT29002	T-1	1,000	12	27	55MHz	RJ48C
AT29004	Twinax	10,000	15	30	5MHz	BJ157
AT29005	Cat5 PoE	1,000	48	60	155MHz	RJ45
AT29006	10/100/1000 BT	1,000	5	10	1,000MHz	RJ45
AT29008	RS232	1,000	12	27	10MHz	RJ45
AT29009	RS422	1,000	5	10	15MHz	RJ45
AT29010	4 Wire Dial-up	1,000	170	240	---	RJ45
AT29012	Cat6 PoE	1,000	48	60	1,000MHz	RJ45
AT29015	2 Wire Dial-up	1,000	170	240	---	RJ45



DC-DC Converter

Part #AT70023

The AT70023 is a weather-proof DC-DC convertor meant for vehicular operation. It can operate on any DC voltage from 11-32 Vdc (7-32 after start-up) and offers 600 Watts for 12 V systems and up to 1200 Watts for 24 Vdc systems. Because of it's high efficiency (92-95%), it requires no fan and utilizes natural convection.

COMMON SPECIFICATIONS

Input Voltage	12 or 24 vdc, (11-32 Vdc)
Max. Input Current	50 Amps
Startup Time	500 mSec typical
Size	11.5" x 8.0" x 2.875"
Operating Temp.	neg 40 to +55 ° C
Storage Temp.	neg 40 to +100 ° C
Output ripple	0.2% RMS at 120 KHz
Environment	Water Tight enclosure,
Connections	Mil-circ connectors
Weight	8 lb.
Current limit	thermal protection @ 70 °C, auto reset
Cooling	Natural Convection

	12 Vdc Input	24 Vdc Input
Output Voltage	adjustable from 14-60 Vdc	adjustable from 26-60 Vdc
Max Output Power	600 Watts	1200 Watts
Efficiency	92.50%	95.10%

Adapters



AT32875
ISDN Adapter
RJ48C to 2 RJ11/RJ45



AT258M
CDI Adapter
For a USD card on a Promina multiplexer
RJ11/RJ45 to DB25M



AT92353P
53-pin Mil-Circ Adapter
Male to Male 53-Pin Mil-C



AT91418
Bare wire to RJ45 adapter with push
button access.

Cables



AT91151

15' Mil-Circ Female/Mil-Circ Female Cable

- Features:
- Qty. 2 female 53-pin Mil-Circ connectors
 - Protective caps for storage
 - M85049-3622W06 backshell
 - 15 feet long
 - Belden 8125 cable



AT98101

25' Mil-Circ Female/HOK Connectors

- Features:
- Qty. 1 female 53-pin Mil-Circ connector
 - Qty. 1 U185B/G "HOK" connector
 - Protective caps for storage
 - 25 feet long

ZONEGUARDIAN SERIES



The *ZoneGuardian Plus* Series provides superior protection for all connected equipment and suppresses surges down to a level 55% lower than the best conventional plug-in unit available. The *ZoneGuardian Plus* Series coupled with our Communication Port Protection (CPP) modules protect more than just hardware. These high performance units even protect against system degradation and data corruption.

ZoneGuardian Plus AC Specifications

UL 1449 Rating 330 Volts between all three lines (L-N, L-G, N-G)

Clamping Level 230 Volts

Line Voltage 120 VAC, 60Hz

Load Rating 15 Amps

Circuit Design 5 Stage Hybrid

Joule Rating 740 Joules

Thermal Fusing Yes (automatically shuts off power to connected equipment, preventing damage)

Peak Surge Current 64,000 Amps

Response Time Instantaneous

Wiring/Ground LED Yes

TVSS Status LED Yes

EMI/RFI Noise Reduction 99.8%

ANSI.C62.41 Let Through 270 Volts

CAT A Ringwave

6kV 200 Amp 100kHz 60V(above sine wave peak)

CAT B3 / C1 Impulse

6kV 3kA 8/20µs 270V (100V above sine wave peak)

Product Warranty Lifetime

Connected Equipment Warranty \$25,000

Order #	Description
AT42003	3 Outlet Plug-In
AT43005	3 Outlet Power Strip
AT43006	7 Outlet Power Strip

CPP Modules

LAN 100BT/10BT/Token Ring

Clamping Level 10V

Pins Protected Pins 1-8

Connectors RJ11/45

Max. Surge Current 1,000 Amps

Order #	Description
AT24040	8 Wire Cat 5 RJ45

RS232

Clamping Level 27V

Pins Protected Pins 1-8

Connectors RJ45

Max. Surge Current 3,000 Amps

Order #	Description
AT24011	8 Wire RS232 RJ45

FAX/Modem Specifications

Clamping Level 270V

Pins Protected 2 Wire / 1 line (pins 4, 5)

Connectors RJ11/45

Max. Surge Current 1,900 Amps

Order #	Description
AT24001	2 Wire RJ11 Telco

CATV

Clamping Level 20V

Pins Protected Center Pin & Ground Shield

Connectors Female "F"

Max. Surge Current 10,000 Amps

Order #	Description
AT24052	Coax

ZoneDefender Pro

The ZoneDefender PRO is a versatile, high performance surge protector designed for use in a wide variety of industrial, institutional and commercial applications. This is the most compact, powerful, feature-rich surge protector on the market today. State-of-the-art circuitry protects equipment from high frequency noise as well as from damaging electrical transient and high-energy disturbances.

SPECIFICATIONS

Max. surge current: 80kA/100kA/120kA, 160kA, 200kA, 240kA (8/20 μ s)

Max. continuous operating voltage: 120/240V versions 140Vac

120/208V versions 140Vac

277/480V versions 320Vac

220/380V versions 300Vac

240/415V versions 300Vac

Lines protected AC: L-N, L-G, L-L, N-G

Duty cycle performance (8/20 μ s):

10,000A - >6,500 impulses, 100A - infinite impulses

Long duration current pulse (1/1,000 μ s) capability: 3,600A (tested)

Humidity: 95% RH (non-condensing)

Enclosure: NEMA 1, 2, 12, and 13(IP60)

Terminals: #10AWG & #8 AWG

Remote Contacts: Form C (NC, NO, C) 125VAC, 3A rated

Audible alarm: 90dB

EMI/RFI attenuation: -75dB maximum 100kHz to 100MHz

Weight: from 5.2lbs

Dimensions: 9.30" x 3.00" x 4.93"

SCCR Rating: Suitable for use on a circuit capable of delivering not more than 100,000 rms symmetrical Amperes, 480V maximum.

EMC Compliance: BS EN 60950: 1992

BS EN 61000-6-2: 1999

Ratings in compliance with IEC 61643-1

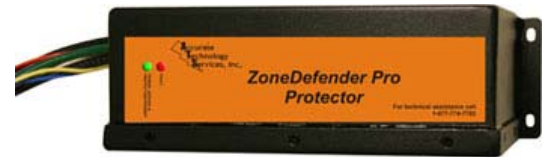
I_{max} = 80kA, 100kA, 120kA

I_{imp} = 6kA (10/350)*

I_{max} = 160kA, 200kA, 240kA

I_{imp} = 10kA (10/350)*

*All current results are per phase



Suitable for all AC power applications:

ZoneDefender PRO devices provide protection for AC power supplies with no restriction to the amount of load current.

ZoneDefender PRO offers:

LED Status indication allowing each varistor network to be continually monitored and indicated by LEDs on the front panel of the device.

Remote monitoring is enabled by the unit's remote indication contacts.

(ZoneDefender Pro continued on next page)

ZoneDefender Pro(cont.)

Model	Working Voltage	UL1449 Listing	Let-through Voltage		U_p	Ringwave @ 200A	Phase Types
			@3kA*	@10kA* I_n			
80kA versions							
AT16100	120V/240V	400V	470V	780V	0.8kV	60V	Split phase 3 wire
AT16101	120V/208V	400V	470V	780V	0.8kV	60V	Three phase 4 wire WYE
AT16104	277V/480V	800V	890V	1200V	1.2V	75V	Three phase 4 wire WYE
AT16107	220V/380V	800V	890V	1200V	1.2V	75V	Three phase 4 wire WYE
AT16108	240V/415V	800V	890V	1200V	1.2V	75V	Three phase 4 wire WYE
100kA versions							
AT16200	120V/240V	400V	470V	780V	0.8kV	60V	Split phase 3 wire
AT16201	120V/208V	400V	470V	780V	0.8kV	60V	Three phase 4 wire WYE
AT16202	120V/240V	400V/800V	470V/890V	780V/1200V	0.8kV/1.2kV	60V/75V	Three phase 4 wire Delta
AT16204	277V/480V	800V	890V	1200V	1.2V	75V	Three phase 4 wire WYE
AT16207	220V/380V	800V	890V	1200V	1.2V	75V	Three phase 4 wire WYE
AT16208	240V/415V	800V	890V	1200V	1.2V	75V	Three phase 4 wire WYE
120kA versions							
AT16300	120V/240V	400V	470V	780V	0.8kV	60V	Split phase 3 wire
AT16301	120V/208V	400V	470V	780V	0.8kV	60V	Three phase 4 wire WYE
AT16302	120V/240V	400V/800V	470V/890V	780V/1200V	0.8kV/1.2kV	60V/75V	Three phase 4 wire Delta
AT16304	277V/480V	800V	890V	1200V	1.2V	75V	Three phase 4 wire WYE
AT16307	220V/380V	800V	890V	1200V	1.2V	75V	Three phase 4 wire WYE
AT16308	240V/415V	800V	890V	1200V	1.2V	75V	Three phase 4 wire WYE
160kA versions							
AT16400	120V/240V	400V	430V	650V	0.7kV	50V	Split phase 3 wire
AT16401	120V/208V	400V	430V	650V	0.7kV	50V	Three phase 4 wire WYE
AT16402	120V/240V	400V/800V	430V/770V	650V/1180V	0.7kV/1.2kV	50V/68V	Three phase 4 wire Delta
AT16404	277V/480V	800V	770V	1180V	1.2V	68V	Three phase 4 wire WYE
AT16407	220V/380V	800V	770V	1180V	1.2V	68V	Three phase 4 wire WYE
AT16408	240V/415V	800V	770V	1180V	1.2V	68V	Three phase 4 wire WYE
200kA versions							
AT16500	120V/240V	400V	430V	650V	0.7kV	50V	Split phase 3 wire
AT16501	120V/208V	400V	430V	650V	0.7kV	50V	Three phase 4 wire WYE
AT16502	120V/240V	400V/800V	430V/770V	650V/1180V	0.7kV/1.2kV	50V/68V	Three phase 4 wire Delta
AT16504	277V/480V	800V	770V	1180V	1.2V	68V	Three phase 4 wire WYE
AT16507	220V/380V	800V	770V	1180V	1.2V	68V	Three phase 4 wire WYE
AT16508	240V/415V	800V	770V	1180V	1.2V	68V	Three phase 4 wire WYE
240kA versions							
AT16600	120V/240V	400V	430V	650V	0.7kV	50V	Split phase 3 wire
AT16601	120V/208V	400V	430V	650V	0.7kV	50V	Three phase 4 wire WYE
AT16602	120V/240V	400V/800V	430V/770V	650V/1180V	0.7kV/1.2kV	50V/68V	Three phase 4 wire Delta
AT16604	277V/480V	800V	770V	1180V	1.2V	68V	Three phase 4 wire WYE
AT16607	220V/380V	800V	770V	1180V	1.2V	68V	Three phase 4 wire WYE
AT16608	240V/415V	800V	770V	1180V	1.2V	68V	Three phase 4 wire WYE

ZoneDefender Pro B

Model No. AT16504-B

The ZoneDefender PRO-B is a versatile, high performance surge protector designed for use in a wide variety of applications. This is the most compact, powerful, feature-rich surge protector on the market today. State-of-the-art circuitry protects equipment from high frequency noise as well as from damaging electrical transient and high-energy disturbances. What makes the ZoneDefender PRO-B truly unique is it's ability to operate on a wide range of incoming voltages, making it possible for one device to protect any line you can throw at it.

Specifications

Maximum Surge Current (I_{max})
200kA (8/20 μ s)
Maximum continuous operating voltage
L-N, L-G, N-G 320Vac
L-L 600Vac
Lines protected AC
L-N, L-G, L-L, N-G
Duty cycle performance (8/20 μ s)
Rated 1 impulse
10,000A > 6,500 impulses
100A infinite
Long duration current pulse (10/1,000 μ s) capability
3,600A (tested)
Humidity
95% RH (non-condensing)
Enclosure
NEMA 1, 2, 12, and 13 (IP60)
Terminals
#8 AWG
Remote contacts
Form C (NC, NO, C) 60W DC OR 120VAC, 3A max
Let-through voltage
3kA 8/20 = 770V
10kA 8/20 = 1180V
Operating voltage
120/240, 120/208, 220/380, 240/415, 277/480

Indication

Green LED on Red LED off	}	Power and ground present, full protection in all modes, all phases
Green LED off Red LED off	}	Loss of power or loss of ground (remote indication warning, via contacts)
Green LED off Red LED on	}	Protection fault (remote indication alarm via contacts & audible alarm)

EMI/RFI attenuation

-75dB maximum 100kHz to 100MHz

Weight

From 5.2 lbs

Dimensions

9.30" x 3.00" x 4.93"

SCCR Rating

Suitable for use on a circuit capable of delivering not more than 100,000 rms symmetrical Amperes, 480V maximum

EMC compliance

BS EN 60950: 1992

BS EN 61000-6-2: 1999

Ratings in compliance with IEC 61643-1

I_{max} = 200kA

I_{imp} = 10kA (10/350)*

*All current results are per phase



ZoneDefender DC

Surge suppression technology for your DC power supplies and installed equipment.

- DC Applications
- Straightforward and simple installation
- LED status indication via solid state diagnostics plus
- Remote indication contacts
- Thermal and short circuit fusing
- 10 year product warranty



SPECIFICATIONS

Maximum surge current: see table

Lines Protected DC: V+, V

Ambient temp. limits: -40°F to +185°F

Humidity: 95% RH (non-condensing)

Enclosure: NEMA 1, 2, 3, 3R, 4, 4X, 12 and 13 (IP66)

Terminals: 12 AWG (3mm²)

Mounting: Surface mount by 0.21" (5mm) diameter holes or

Mounting: flush mount via mounting plate (Optional at time of order)

Indication: per individual model

Weight: per individual model

Dimensions: per individual model

Remote Contacts: 60W DC or 120 V AC, 3A max

EMC Compliance: BS EN 60950: 1992 BS EN 61000-6-2: 1999

Model	Working Voltage [V]	Let-through voltage (8/20 μ s impulse)		Max. continuous operating voltage [Vac]	Additional Features
		@3kA [V]	@10kA [V]		
AT14612	12V DC	120	292	15kA	---
AT14624	24V DC	140	340	36kA	---
AT14648	48V DC	280	504	53kA	---
AT14712	12V DC	120	292	15kA	EMI filter
AT14724	24V DC	140	340	36kA	EMI filter
AT14748	48V DC	280	504	53kA	EMI filter

NOTE: 14712, 14724, & 14748 have > -30dB attenuation @ 100kHz

ZoneMaster PRO

This top of the line product, with its standard and optional features, is specifically designed to fit the needs of all most any surge protection application where a rugged, feature rich product is required. The different size ranges are ideally suited for medium to large service entrance and distribution panels.

Features

- Enhanced redundancy built into each module
- Easy to read status indication
- Thermal and short circuit fusing
- Surge counter with fault monitor and audible alarm
- Low let-through performance with high current impulses
- 100k AIC short circuit current rating
- Replaceable bolt-in modules
- All-mode protection
- Large block MOV technology
- 15 year product warranty

Optional Features

- 200k AIC short circuit current rating fused disconnect
- High performance UL 1283 EMI/RFI filter
- NEMA 3S, 4, 12 & 13 (IP66) enclosure
- Flush mount capability
- Remote monitor unit



Specifications

Maximum continuous operating voltage

120V - 140Vac
240V - 280Vac
277V - 320Vac

Lines protected

ZoneMaster PRO 200

L-N 100kA, L-G 100kA, L-L 200kA, N-G 200kA
Delta - L-G 200kA, L-L 200kA

ZoneMaster PRO 240

L-N 120kA, L-G 120kA, L-L 240kA, N-G 240kA
Delta - L-G 240kA, L-L 240kA

ZoneMaster PRO 340

L-N 170kA, L-G 170kA, L-L 340kA, N-G 170kA
Delta - L-G 340kA, L-L 340kA

ZoneMaster PRO 400

L-N 200kA, L-G 200kA, L-L 400kA, N-G 200kA
Delta - L-G 400kA, L-L 400kA

Duty cycle performance (8/20µs)

100,000A >4 impulses
10,000A >8,000 impulses
200A infinite

Impulse current for class I (I_{imp})

50kA (10/350µs)

Long duration current pulse (10/1,000µs) capability

3,600A (tested)

Ambient temperature limits

-40°F to +185°F (working)
-40°C to +85°C (working)

Humidity

95% RH (non-condensing)

Enclosure

NEMA 1 (standard)

Terminals

2 AWG (32mm²)

Mounting

Surface mount via 0.31" (8mm) diameter holes or optional flush mount available

Indication

Continuous visual status monitoring
Green LED Lit = Full protection
Red LED Lit = Reduced (Standby) **OR**
No protection
Green LED out = No power to protector
Red & Green LED Lit = High N-G voltage

Remote contacts

NO/NC

Weight

25.4 lbs (11.2kg)

Dimensions

Enclosure — see figure 1

EMC compliance

BS EN 60950: 1992
BS EN 61000-6-2: 1999

Optional Power Filter

Limiting voltage

200V (@3kA 8.20µs)

Maximum attenuation (typical)

-75dB (100kHz to 100MHz)

To order specify -

Model number as per specification table

Add suffix X for EMI/RFI filter

Add suffix F for flush mount options

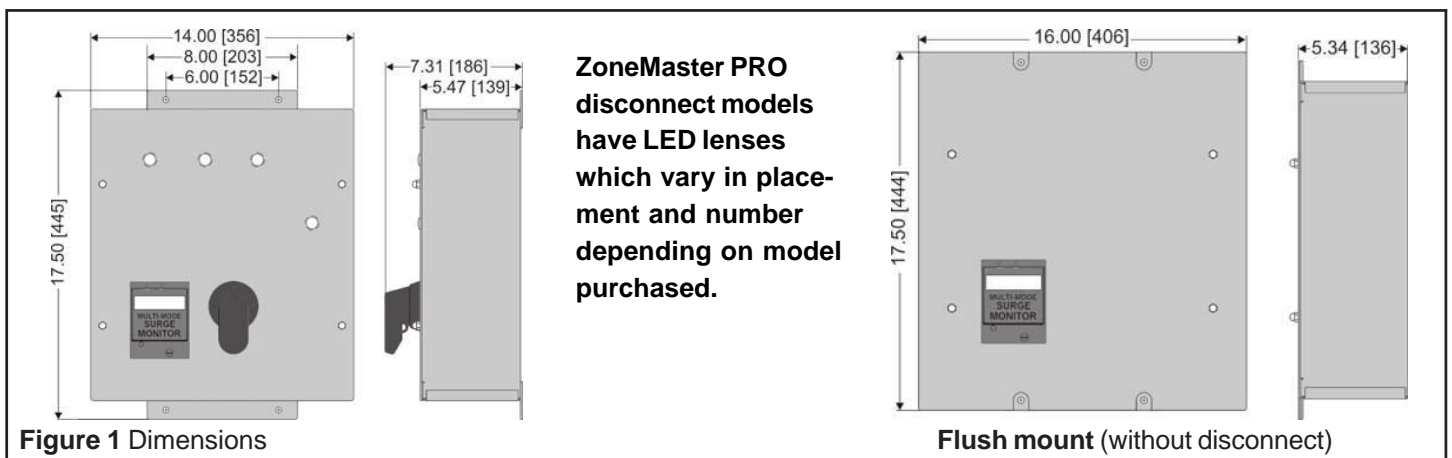
Add suffix D for disconnect

Add suffix O for NEMA 4 enclosure

Add suffix R for battery powered remote monitor unit



Model	Maximum surge current I _{max} (kA)	Working voltage (V)	UL SVR 2 nd Edition (V)	UL VPR 3 rd Edition (V)	Limiting Voltage		Phase types
					@3kA (V)	@3kA (V)	
AT15100	200	120/240 split	400	900	416	528	Split phase 3 wire
AT15101	200	120/208	400	900	416	528	Three phase 4 wire WYE
AT15102	200	120/240	400/800	900/1200	416	528	Three phase 4 wire Delta
AT15103	200	240	---	1200	832	1056	Three phase 3 wire Delta
AT15104	200	277/480	800	1200	776	904	Three phase 4 wire WYE
AT15106	200	480	---	2000	1552	1800	Three phase 3 wire Delta
AT15107	200	220/380	800	1200	776	904	Three phase 4 wire WYE
AT15108	200	240/415	800	1200	776	904	Three phase 4 wire WYE
AT15000	240	120/240 split	---	900	416	528	Split phase 3 wire
AT15001	240	120/208	---	900	416	528	Three phase 4 wire WYE
AT15002	240	120/240	---	900/1200	416	528	Three phase 4 wire Delta
AT15003	240	240	---	1200	832	1056	Three phase 3 wire Delta
AT15004	240	277/480	---	1200	776	904	Three phase 4 wire WYE
AT15006	240	480	---	2000	1552	1800	Three phase 3 wire Delta
AT15007	240	220/380	---	1200	776	904	Three phase 4 wire WYE
AT15008	240	240/415	---	1200	776	904	Three phase 4 wire WYE
AT15200	340	120/240 split	400	800	416	528	Split phase 3 wire
AT15201	340	120/208	400	8900	416	528	Three phase 4 wire WYE
AT15202	340	120/240	400/800	800/1200	416	528	Three phase 4 wire Delta
AT15203	340	240	---	1200	832	1056	Three phase 3 wire Delta
AT15204	340	277/480	800	1200	776	904	Three phase 4 wire WYE
AT15206	340	480	---	2000	1552	1800	Three phase 3 wire Delta
AT15207	340	220/380	---	1200	776	904	Three phase 4 wire WYE
AT15208	340	240/415	---	1200	776	904	Three phase 4 wire WYE
AT15300	400	120/240 split	---	800	416	528	Split phase 3 wire
AT15301	400	120/208	---	800	416	528	Three phase 4 wire WYE
AT15302	400	120/240	---	800/1200	416	528	Three phase 4 wire Delta
AT15303	400	240	---	1200	832	1056	Three phase 3 wire Delta
AT15304	400	277/480	---	1200	776	904	Three phase 4 wire WYE
AT15306	400	480	---	2000	1552	1800	Three phase 3 wire Delta
AT15307	400	220/380	---	1200	776	904	Three phase 4 wire WYE
AT15308	400	240/415	---	1200	776	904	Three phase 4 wire WYE



Country	Standard/Authority	Approved for	Approved for Product
United States Canada	UL 1449 3rd Edition Listed	AC power product	ZoneMaster PRO

MA15

Application: The MA15 protects 120Vac or 240Vac from transients caused by direct or indirect lightning strikes and other electrical surges.

Installation: The MA15 can be mounted on a standard 35mm or Top-hat DIN rail. Ground wire is required for surface mounted applications and will be included with purchase.

Technology: The suppressor is a hybrid type employing high energy metal oxide varistors (MOVs) and RFI filtering components. The MOVs are monitored with both thermal and short circuit fusing that disconnects the MOVs if a failure occurs.



Status Indication

Specifications:

Circuit Type: Hybrid

Lines Protected: 3(L,N,G)

Connectors: Screw Clamp Terminal Strip

Surge Capacity: 18kA 8/20µs impulse

Clamp Voltage: 120Vac - 330V

Clamp Voltage: 240Vac - 800V

Rated Voltage: 125Vac (AT22035)

Rated Voltage: 240Vac (AT22036)

Attenuation: -55dB Max @ 100MHz

Max Load Current: 15 Amperes

Case: Polymide

Case Dimensions: 3.1" x 3.5" x 1.0" (70mm x 90mm x 25mm)

Weight: 3.5oz (100g)

Safety: UL 1449 Recognized Component

CE Approved

UL Approved for Class I, Division 2,

Groups A, B, C and D hazardous locations

Part #	UL 1449	500A Ring	500A 8/20	3kA 8/20	10kA 8/20
AT22035	330V	295V	320V	396V	585V
AT22036	800V	356V	800V	975V	1210V

AirGuard RGT

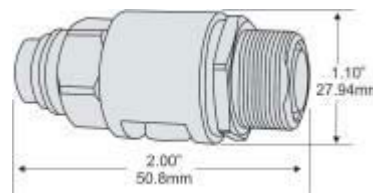
The AirGuard RGT Series of surge protection devices prevents surges and transient over-voltages conducted through coax cables. These surge protectors employ gas tube capsules that are easily replaceable ensuring a lifetime of protection. When replacing the gas tube, simply unscrew the capsule holder while installed. It is recommended that the capsules be replaced during routine maintenance, assuring uninterrupted protection.

Features

- Replaceable GDT cartridges
- Bi-direction protection
- Low intermodulation
- DC to 4.0GHz
- Weatherproof
- Multiple strike capability

Specifications

Max. discharge current: 20kA (8/20 μ s)
 Max. power rating (VSWR): 1.25:1
 Frequency range: DC to 4.0GHz
 Peak pulse current (8/20 μ s): 40kA
 (depending on connector type)



Dimensions vary depending on type of connector

Model	Mounting Connector	Frequency Range(GHz)	VSWR	Insertion Loss (dB)	Peak Pulse Current (8/20 μ s)	Impedance (Ohms)
AT51062*	7/16 Bulkhead (f) to 7/16 (m)	DC - 4.0	1.25:1	.1	40kA	50
AT51063*	7/16 Bulkhead (f) to 7/16 (f)	DC - 2.5	1.25:1	.1	40kA	50
AT51064*	N Bulkhead (f) to N (f)	DC - 2.5	1.25:1	.1	40kA	50
AT51065*†	BNC Bulkhead (f) to BNC (f)	DC - 2.5	1.25:1	.1	40kA	50
AT51066*	TNC Bulkhead (f) to TNC (f)	DC - 2.5	1.25:1	.2	40kA	50
AT51067*	TNC (m) to TNC (f)	DC - 2.5	1.25:1	.2	40kA	50

* Add alpha suffix to identify gas-tube voltage: A = 90V, B = 145V, C = 230V, D = 350V E = 470V, F = 600V, G = 800V, H = 1,000V

† NSN for AT51065C: 5935015608163

Parameter	Gas-Tube Voltage							
	A	B	C	D	E	F	G	H
Voltage Code								
Gas-Tube Voltage Rating	90	145	230	350	470	600	800	1000
Maximum RF Watts See notes 1, 2, & 3	37	96	241	558	1006	1640	2915	4555
kA Transient Current for 8/20 μ s pulse	40	40	40	40	40	40	30	20
V Dynamic @ 5k V/ μ s	600	600	650	800	1200	1500	1900	2200
Let-through Energy in mJ See notes 1 & 4	0.3	0.3	0.35	0.7	2.2	4.4	9.0	14



AirGuard WQWS

The WQWS Series (Wideband Quarter-Wave Tubeless Stub) of surge protectors prevent surges and transient overvoltages. The WQWS uses an innovative “tubeless” design to achieve W-I-D-E-B-A-N-D performance. This compact unit has a high transient current capability with extremely low Passive Intermodulation (PIM). Typical applications for the WQWS include the protection of cellular, PCS and even 3G frequencies. It is also ideal as a single stock item device that can be used in any system up to 2,200MHz with outstanding performance.

Features

- Multi-application
- Low passive intermodulation (PIM)
- Weatherproof
- 60kA - 100kA surge current rated
- No discrete components to fail
- .82 to .97GHz and 1.7 to 2.2GHz
- Nickel plated for corrosion resistance

Specifications

Max. discharge current: 60kA – 100kA (8/20µs)
 Max. power rating (VSWR): 1.15:1
 Frequency range: .82 to .97GHz & 1.7 to 2.2GHz
 Peak pulse current (8/20µs): N type – 60kA
 7/16 type – 100kA

Impedance: 50 Ohms

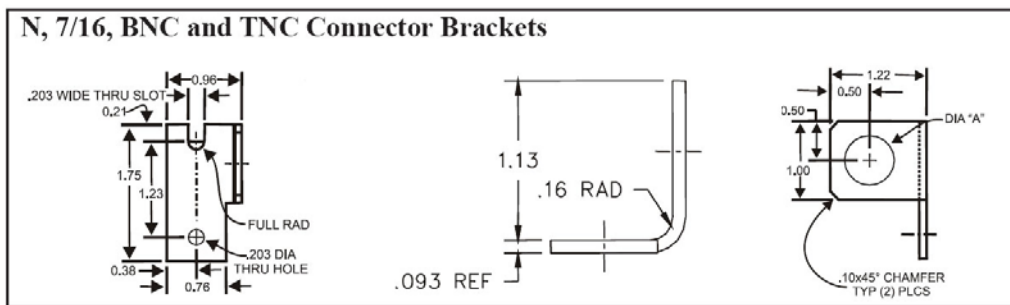
Brackets

Model	Connectors	Diameter
AT51074	7/16 DIN	1.146”
AT51075	N	0.630”

Optimum Performance Frequencies

Frequency(GHz)	VSWR	Insertion Loss(dB)
0.82 - 2.2	1.01:1 - 1.15:1	0.05 - 1.10

Model	Mounting Connector	Second Connector	Impedance
AT51037	7/16 Female Bulkhead	7/16 Male	50 Ohms
AT51038	7/16 Female Bulkhead	7/16 Female	50 Ohms
AT51039	N Female	N Female	50 Ohms
AT51040	N Female	N Male	50 Ohms



AirGuard NQWS

The NQWS Series (Narrowband Quarterwave Tubeless Stub) of surge protectors prevent surges and transient overvoltages. The NQWS uses an innovative “tubeless” design to achieve the superior performance characteristics of a conventional quarterwave stub. This compact unit has a high transient current capability with extremely low Passive Intermodulation (PIM). Typical applications for the NQWS include the protection of radio telemetry systems, mobile communications base stations and where high induced voltages may be present

Model	Mounting Connector	Second Connector	VSWR	Insertion Loss (dB)	Impedance (Ohms)	Surge Current
AT51033	N Bulkhead Female	N Female	1.1:1 to 1.15:1	0.1 to 0.15	50	60kA
AT51034	N Bulkhead Female	N Male	1.1:1 to 1.15:1	0.1 to 0.15	50	60kA
AT51035	7/16 Bulkhead Female	7/16 Female	1.1:1 to 1.15:1	0.1 to 0.15	50	100kA
AT51036	7/16 Bulkhead Female	7/16 Female	1.1:1 to 1.15:1	0.1 to 0.15	50	100kA

Note: Select frequency code from table below. The AT51035 & AT51036 are available only in frequency codes A, B, C, F & I

Bandwidth Frequency

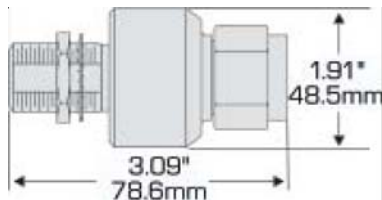
Code	A	B	C	E	F	G	I	H
Frequency	.411 - .194	.82 - .96	1.7 - 2.0	2.2 - 2.6	3.0 - 3.6	5.15 - 5.88	.82 - 2.2	2.4 - 6.0
Loss	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
VSWR	1.1	1.1	1.1	1.1	1.1	1.1	1.15	1.15

AirGuard QWS/GT Hybrid Series

The QWS/GT Series (Wideband Quarterwave Tubeless Stub) of surge protectors prevent surges and transient overvoltages. Utilizing an innovative “tubeless” design, these surge protectors deliver true W-I-D-E-B-A-N-D performance. These compact units have a high transient current capability with extremely low Passive Intermodulation (PIM). Typical applications for the QWS/GT includes the protection of cellular, PCS and even 3G frequencies. It is also ideal as a single stock item device that can be used in any system up to 2,200MHz with outstanding performance.

Features

- Multi-application
- Low passive intermodulation (PIM)
- Weatherproof
- 120kA surge current rated
- .82 to 2.2GHz
- No discrete components to fail
- Nickel plated for corrosion resistance



SPECIFICATIONS

Max. discharge current: 60kA (8/20 μ s)
Max. power rating (VSWR): 1.15:1
Frequency range: .82 to 2.2GHz
Peak pulse current (8.20 μ s): 120kA
Impedance: 50 Ohms
RF power handling: To 3kW
Passes DC: 15Adc up to 48Vdc
Low passive Intermod: -150 dBc Pim
 (3rd order at 2x43 dBm tones)



Model	Mounting Connector	Second Connector	Impedance
AT51041	7/16 Female Bulkhead	7/16 Male	50 Ohms
AT51042	7/16 Female Bulkhead	7/16 Female	50 Ohms

Optimum Performance Frequencies

Frequency (GHz)	VSWR	Insertion Loss (dB)	Protection Level Current
0.82 to 2.2	1.05:1 to 1.15:1	0.05 to 1.10	120kA

Brackets

Model	Connectors	Diameter
AT51074	7/16 DIN	1.146"
AT51075	N	0.630"

AirGuard FGT

The FGT Series of surge protection devices prevents surges and transient overvoltages conducted through coax cables used for wireless Local Multipoint Distribution System (LMDS), Wireless Local Loop (WLL), and Multichannel Multipoint Distribution Service (MMDS). These versatile products can be used in any "F" connector application from DC - 2.5GHz frequencies to 75 ohm impedance.

Typical applications for the FGT Series include the protection of radio telemetry systems, mobile communications base stations and where high induced voltages may be present.

Features

- Rugged Construction
- Economic protection
- Versatile up to DC - 2.5GHz
- Allows DC/LF injection
- Weatherproof
- Multiple strike capability



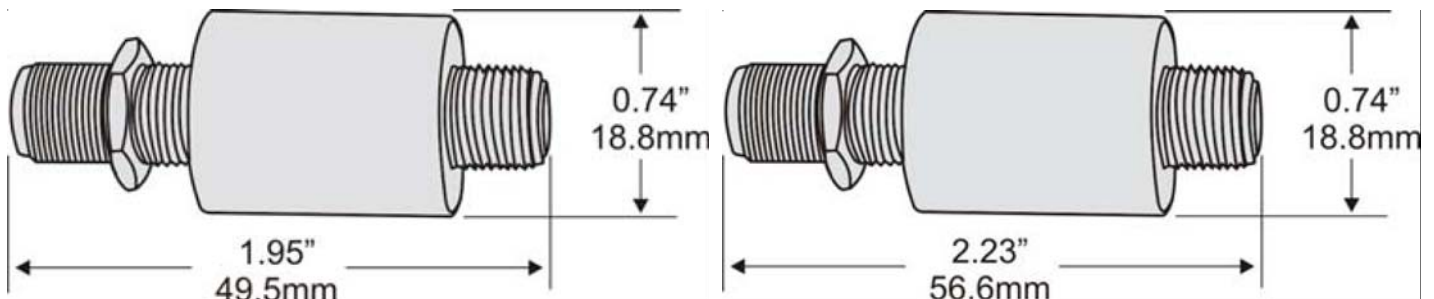
Specifications

Max. discharge current: 20kA (8/20 μ s)
 Max. power rating (VSWR): 1.5:1 @ 1.5GHz
 Frequency range: DC to 2.5GHz
 Peak pulse current (8/20 μ s): 15kA - 20kA
 Impedance: 75 Ohms

Model	Connectors	Diameter
AT51076	F	0.385"

Model	Connectors	Frequency Range (GHz)	VSWR	Insertion Loss (dB)	Peak Pulse Current (8/20 μ s)	Impedance (Ohms)
AT51069	F(f) Bulkhead to F(f) for LMDS/RG 6 cable	DC - 2.5	1.5:1 @ 1.5GHz	.4	20kA	75
AT51070	F(f) Bulkhead to F(f) for LMDS/RG 59 cable	DC - 2.5	1.5:1 @ 1.5GHz	.4	20kA	75

Model	Connectors	Frequency Range (GHz)	Return Loss (dB)	Insertion Loss (dB)	Peak Pulse Current (8/20 μ s)	Impedance (Ohms)
AT51072	F(f) Bulkhead to F(f)	DC - 2.5	-18	.03	20kA	75
AT51073	F(f) Bulkhead to F(f)	DC - 1.0	-20	.1	15kA	75



Model #AT51073

Model #AT51069, AT51070, AT51072

Security

VSP - Video Surveillance Protection



Application: Protection for today's state of the art video surveillance systems. We provide protection for both the surveillance camera end and the controller end. Our packages include coaxial interface protection, PoE interface protection, PTZ (pan, tilt, and zoom) interface protection, camera power and controller power protection. We also provide NEMA 4X weatherproof enclosures for mounting at outdoor camera locations.

Technology: Our video surveillance products incorporate hybrid protection circuits for high surge current capacity and precise voltage control. Our modular design makes installation a simple process.



Part Number	Application	Connector	Description
AT24521	Video/Controller Out 50Ω	BNC F/F	ZoneBarrier
AT24584	Video/Controller Out 75Ω	BNC F/F	ZoneBarrier
AT24510	PTZ	Terminal Strip	RS232 ZoneBarrier
AT24518	PTZ 2-Wire	Terminal Strip	RS485 ZoneBarrier
AT24587	PTZ 4-Wire	Terminal Strip	RS485 ZoneBarrier
AT24528	PTZ	Terminal Strip	RS422 ZoneBarrier
AT24575	Camera Power	Terminal Strip	12VDC ZoneBarrier
AT24580	Camera Power	Terminal Strip	24VDC/AC ZoneBarrier
AT90957	Camera Power	Terminal Strip	48VDC ZoneBarrier
AT22035	Camera/Controller Power	Terminal Strip	120VAC MA15
AT22036	Camera/Controller Power	Terminal Strip	240VAC MA15
AT43005	Camera Power	3 Outlet 5-15R	120VAC ZoneGuardian
AT24540	Controller Out Ethernet	RJ45 Cat5	LAN ZoneBarrier
AT24585	PoE (Power Over Ethernet)	RJ45 Cat5	POE ZoneBarrier
AT24281	Outdoor Enclosure	N/A	NEMA 4X
AT21605	5" DIN Rail	N/A	Mounts 4 Modules
AT21649	17" DIN Rail	N/A	Mounts 16 Modules
AT24500	19" DIN Rail (Rack Mount)	N/A	Mounts 32 Modules

Warranty Statement

At ATS, Accurate Technology Services, Inc., we believe that the future of our company relies on the satisfaction of our customers and their trust in our products so we aim to provide our customers with the best products and service available. When you install ATS products, we know that you expect years of maintenance free and reliable surge protection for your equipment, and we are confident that our products will provide the performance that you rely on. That is why we offer a 10 Year hassle free warranty on all our surge protection devices regardless of application, so in the unlikely event of a failure you can easily exchange the faulty device for a new one.

1. What is covered.

Accurate Technology Services, Inc. (ATS) warrants, only to the original purchaser of new ATS products that are purchased directly from ATS's authorized distributors, for its own use and not for resale, that the ATS products shall be free from defects in materials and workmanship and shall conform to specifications set in the ATS Product Catalog, for the extent of the Warranty Period

2. What is not covered.

This warranty does not cover any ATS product which has been: (a) modified, altered or subjected to abuse, misuse, negligence or accident; (b) improperly installed or installed in conjunction with equipment for which it was not designed; (c) damaged or destroyed by natural disasters.

3. Remedy

If a defective product is returned to ATS in accordance with the ATS warranty procedure, ATS will, at its sole option and expense, either: (a) replace the defective product or (b) repair the defective product. Except as otherwise provided by applicable state law, these remedies constitute the purchaser's sole and exclusive remedies and ATS's sole and exclusive obligation under this warranty.

4. Warranty Procedure

If purchaser discovers a failure of the ATS product that conforms to the terms with this warranty within the warranty period, the purchaser should promptly notify the relevant party as indicated below by either phone, email, or in writing to obtain a Return Authorization (RA) number and return the defective product to the relevant party. The designated RA number shall be marked on the outside of the return package and all subsequent correspondence pertaining to the defective product.

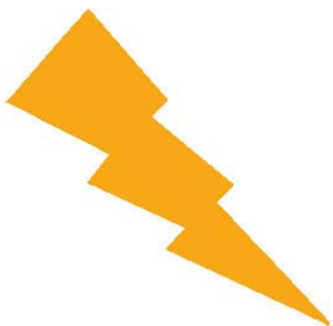
5. Warranty Period

10 years

Accurate Technology Services, Inc.
829 Gretel Ave. Concord, NC 28027
phone: 1-877-774-7782
fax: 1-704-784-8290
email: sales@atssurge.com

Lightning Facts

- Lightning can reach over 5 miles (eight kilometers) in length, raise the temperature of the air by as much as 50,000 degrees Fahrenheit (27,700 degrees Celsius) and contain a hundred million electrical volts.
- Lightning is not confined to thunderstorms. It has been seen in volcanic eruptions, extremely intense forest fires, surface nuclear detonations, heavy snowstorms and in large hurricanes.
- Lightning strikes create powerful radio waves in the frequency range of 3 KHz through 10 MHz.
- Most lightning strikes average 2-3 miles long and carry a current of 10,000 Amps at 100 million volts.
- It is estimated that the Earth, as a whole, is struck by an average of more than a hundred lightning bolts every second; more than eight million a year.
- A "Positive Giant" is a lightning strike that hits the ground up to 20 miles away from the storm. Because it seems to strike from a clear sky it is known as "A Bolt from the Blue". These "Positive Giant" flashes strike between the storm top "anvil" and the Earth and carry several times the destructive energy of a "regular" lightning strike.
- Lightning is approximately between the size of a quarter and half dollar.
- Lightning can regularly strike up to 10 miles from the center of a thunderstorm.
- Talking on the phone is the leading cause of lightning related injuries inside structures.
- In addition to the visible flash that travels through the air, the current associated with the lightning discharge travels along the ground. Although some surges are caused by the main lightning strike, many electrical surges are from the resulting current moving in and along the ground.
- There are three main ways lightning enters structures: a direct strike, through wires or pipes that extend outside the structure and into the ground. Regardless of the method of entrance, once in a structure, the lightning can travel through the electrical, phone, plumbing, and radio or television reception systems. Lightning can also travel through any metal wires or bars in concrete walls or flooring.
- Lightning can - and often does - strike in the same place twice. Tall structures and communications towers/antennas are frequently hit by lightning. Objects have an 'area of influence' with a radius equal to the objects height squared. A 100 ft. tower would have an 'area of influence' with a radius of 10,000 ft. Lightning strikes within that area will be drawn towards the object.



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