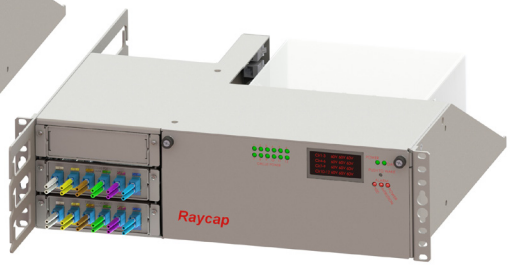
DATA SHEET

DC Surge Protection for RRHs
Rack Mount RM Series

RVZDC-4520-RM-48 • RVZDC-4520-RM-48-2M

The deployment of Remote Radio Head (RRH) architecture poses unique challenges to the mobile telecom industry. Raycap's innovative RRH protection solutions mitigate the risk of damage due to lightning and provide high levels of availability and reliability to radio equipment. The RVZDC-4520-RM-48 system installs at the DC power base station to protect DC power plants from voltage surges and lightning. This design allows optional fiber distribution and CPRI monitoring capabilities.

RVZDC-4520-RM-48



RVZDC-4520-RM-48-2M
2 modules installed

Features

- Dedicated protection for 12 RRH DC circuits
- Combined CPRI fiber optic splitter module(s) provides optional test capabilities for up to 12 RRH
- Digital LCD Voltmeter capable of monitoring (12) circuits at a time for both tower top and base
- Power alarms for wiring anomalies and power disruptions
- Relays alarm data from upstream connected devices for intrusion, water ingress, and OVP alarm
- Employs the Strikesorb® 30-V1-2CHV Surge Protective Device (SPD) specifically designed for the Remote Radio Head (RRH) installation environment and certified for use in DC applications and at low DC operating voltages (48V)
  - The Strikesorb 30-V1-2CHV is a Class I SPD certified by VDE per the IEC 61643-11 standard as suitable for installation in areas where direct lightning exposure is expected. Strikesorb 30-V1-2CHV is able to withstand direct lightning currents of up to 5kA (10/350) and induced surge currents of up to 60kA (8/20)
  - Provides very low let through / clamping voltage - unique for a Class I product - as it does not employ spark gaps or other switching elements. Strikesorb offers unique protection levels to the RRH equipment as well as the Base Band Units
- RS485 communication link uses two (2) twisted pair (+ground) wires per hybrid cable, and communicates all voltage, boost system and alarm data
- Patent pending design

Benefits

- Distributes DC up to 12 Remote Radio Heads and connects up to 24 LC fiber pairs
- Field-upgradable modules (RCPRI-1199-CMU) for fiber optic distribution and CPRI monitoring
- Enables communication to and operation of multi-vendor power boost system

Strikesorb 30-V1-2CHV

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SPECIFICATIONS

DC Surge Protection for RRHs
Rack Mount RM Series

RVZDC-4520-RM-48 • RVZDC-4520-RM-48-2M

Electrical

Model Number	RVZDC-4520-RM-48	RVZDC-4520-RM-48-2M
Number of Radio Heads Protected	up to 12	up to 12
Protection Class as per IEC 61643-11	Class I	Class I
Nominal Operating DC Voltage	48 VDC	48 VDC
Nominal Discharge Current [I_n]	20 kA 8/20 µs	20 kA 8/20 µs
Maximum Surge Current [I_{max}] per IEC 61643-11	60 kA 8/20 µs	60 kA 8/20 µs
Maximum Impulse (Lightning) Current [I_{imp}] per IEC 61643-11	5 kA 10/350 µs	5 kA 10/350 µs
Maximum Continuous Operating DC Voltage [U_c]	75 VDC	75 VDC
Voltage Protection Rating (VPR)	400 V	400 V
Strikesorb Module Type	30-V1-2CHV	30-V1-2CHV

Mechanical

Weight	22.10 lbs (10.02 kg)	25.10 lbs (11.39 kg)
Suppression Connection Method	Compression lug 2-hole, 1/4"-20, 5/8 pitch, 12-4 AWG (3.31 mm² - 21.14 mm²)	
Environmental Rating	Indoor use only	Indoor use only
Operating Temperature	-40° C to +85° C	-40° C to +85° C

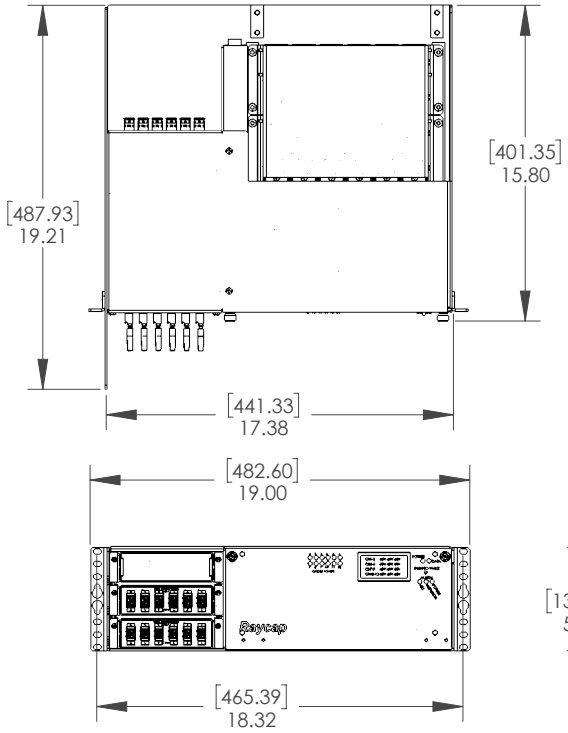
Standards Compliance & Certifications

Strikesorb modules are compliant to the following Surge Protection Device Standards:

UL 1449 4th Edition, IEEE C62.41, NEMA LS-1, IEC 61643-11:2011, IEC 61643-12, EN 61643-11:2002 (including A11:2007)

Product Diagram

[mm]
inches



Fiber Optic Specifications (RCPRI-1199-CMU)

Fiber connection method	Duplex LC/ Duplex LC
Number of fiber optic pairs	12 Duplex LC Connections In and Out 12 CPRI Test Ports
Capacity of fiber optic pairs	Up to 12 Duplex LC Connections In and Out Up to 12 CPRI Test Ports
FO Splitters	
Splitter Type	1x2, 50:50
Fiber Type	Corning G657A2, Low Waterpeak, suitable for CWDM applications
Tails	900um
Splitter Typical Insertion Loss	≤3.8dB
Splitter Max. Insertion Loss	4.05dB
FO connector Max Insertion Loss	0.5dB
Terminated Splitter Max Loss (Splitter + Connector)	4.6dB
Max. Channel Uniformity	0.6dB
Max. PDL Max. PDL	0.2dB
Min. return Loss	50dB
Directivity	55dB
Operating temperature	-40° C to +80° C

AWG=American Wire Gauge

Specifications are preliminary and subject to change at any time without notice.

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