



ProGRID Series

Surge and Lightning Counters
Surge Protection Device Monitoring







About Raycap

Raycap is a privately-held technology solutions provider offering products and services that support and protect the world's critical telecommunications, energy, transportation and other infrastructure. Since 1987 Raycap has built a worldwide organization with offices and production facilities throughout Europe and North America. The company combines advanced engineering, superior product design, systems integration and manufacturing capability with a deep understanding of the needs of the customer to create unique technological solutions for mission-critical applications. It also offers engineering services such as custom product design and site surveys, as well as warehousing, logistics, customer training, and much more.

The company's comprehensive understanding of customer needs and the industries in which they operate is crucial to its ability to develop effective products and

solutions that integrate the latest technology with the highest quality of service.

Raycap's purchase of surge protection technology manufacturer Iskra Zaščite, increases its related solution offerings for building infrastructure and general industrial applications. In addition, the recent acquisition of concealment company STEALTH®, enhances its small cell telecommunications infrastructure roll outs worldwide.

The Raycap team of talented, highly experienced staff works together with customers to find the best-fit solutions. As a result, more than half of the products delivered are custom-built for unique customer applications and to their specifications. From rigorous internal and independent testing to a consultative customer-focused approach, Raycap is determined to deliver the highest quality products with responsiveness, innovation and agility.





Surge and Lightning Counters

Electrical surges are high frequency current events that present potential danger to sophisticated electronic devices. Electrical surges can occur at almost any time, and the most common causes are lightning strikes, the switching of inductive loads, power grid disturbances, general fault or arcing conditions. In the case of a direct lightning strike the damage caused by surge current is clearly felt and often visible, however many other electrical surge events can go unnoticed. The consequences of such 'quiet' disturbances can be just as detrimental to the operation.

Surge currents can cause loss of data transmission, switch tripping, disturbance of machine control systems and a slow degradation of circuit elements. In addition, a surge can be an indicator of a short circuit which causes currents of power to travel along unintended paths with little or no electrical impedance, for example after a blackout or wiring insulation damage.

Raycap's ProGRID surge and lightning counter solutions have different capabilities that can sense, record and transmit the occurrence of otherwise undetectable surge currents, enabling users to take preventive measures and plan appropriate maintenance.



ProSEC II+



ProLEC Basic

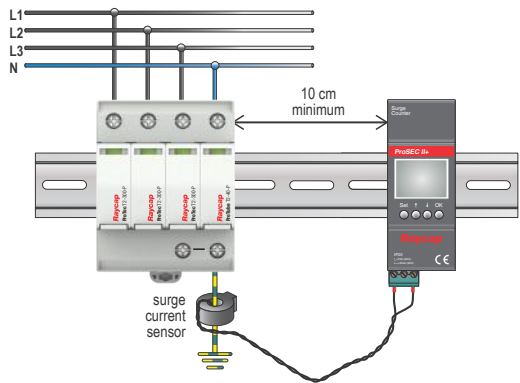
ProSEC II+



Features

- LCD screen displays number of surges, hour, minute and date of surge event
- Buttons for TIME/DATE setting and log viewing
- Replaceable battery, lifetime up to two years
- Easy to install, snap-on surge current sensor
- Complies with: IEC/EN 62561-6

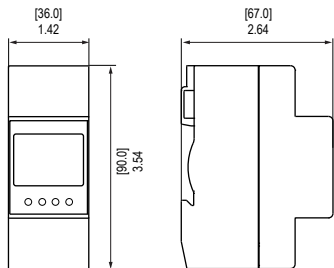
Typical Installation



The ProSEC II+ is a surge counter with additional functionality. Besides counting the number of surges, it also logs the hour and date of each surge counted. This additional time and date logging function makes it possible to pinpoint the exact time of every surge and correlate it with equipment and power supply problems inside of a facility or structure.

Technical Data

Electrical	
ProSEC II+ Order Code	130 100
Threshold Current (8/20µs) [I_{tc}]	50 A
Maximum Counting Discharge Current (8/20µs) [I_{mcw}]	50 kA
Power Supply	Replaceable CR17335 lithium battery Lifetime up to two years
Maximum Events Logged	999
Mechanical	
Mounting Method EN 60715	35 mm DIN rail
Maximum Wired Diameter through Current Sensor	0.55" [14 mm]
Sensor Cable	19.7" [0.5 m]
Temperature Range	-4 °F to +158 °F [-20 °C to +70 °C]
Environmental Ingress Protection (IP) Rating	IP 20
Enclosure Material	Thermoplastic; Extinguishing degree UL 94 V-0
Enclosure Dimension (L x W x D)	3.54" x 1.42" x 2.64" [90 x 36 x 67 mm]
Dimensions DIN 43880	2 TE
Packaging Dimensions (L x W x D)	4.33" x 1.65" x 3.27" [110 x 42 x 83 mm]
Weight	.33 lbs [150 g]
Standards Compliance & Certifications	
Standards	IEC 62561-6
Certification	RoHS, CE
Product Diagram	



[mm]
inches

ProLEC Basic



Features

- LCD screen shows the number of lightning strikes, hour, minute and date of lightning events
- Buttons enable TIME/DATE setting and log viewing
- Replaceable battery, lifetime up to four years
- Contact-less sensor is installed easily with no change to existing installation
- Complies with: IEC/EN 62561-6

Typical Installation

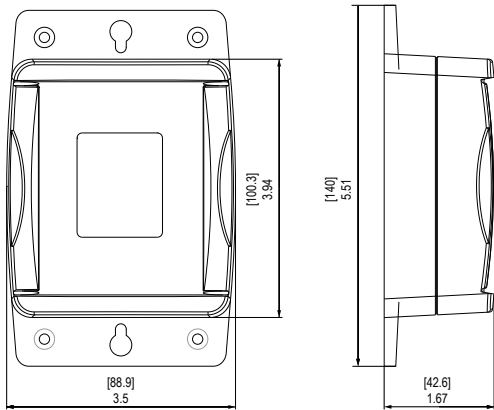


ProLEC Basic is a basic lightning current sensor. It senses and logs lightning discharges flowing through the down-conductor. The ProLEC Basic is capable of measuring and withstanding currents up to 100kA (10/350µs).

Installation of the ProLEC Basic on the exterior of a building or structure gives users vital information on the frequency, date, time and atmospheric discharges that affect the structure, enabling repairs or preventative measures.

Technical Data

Electrical	
ProLEC Basic Order Code	130 523
Threshold Current (10/350µs) [I_{tc}]	1 kA
Maximum Withstand Current (10/350µs) [I_{mcw}]	100 kA
Power Supply	2 Replaceable CR17335 lithium batteries Lifetime up to four years
Maximum Events Logged	999
Mechanical	
Mounting Method	Direct on down-conductor
Temperature Range	-4 °F to +140 °F [-20 °C to +60 °C]
Enclosure Material	Polycarbonate: UL 94 V-Z
Environmental Ingress Protection (IP) Rating	IP 65
Enclosure Dimension (L x W x D)	5.51" x 3.5" x 1.67" [140x88.9x42.6 mm]
Weight	.97 lbs [440g]
Standards Compliance & Certifications	
Standards	IEC 62561-6
Certification	RoHS, CE
Product Diagram	



[mm]
inches

Surge Protection Device Monitoring

Most Surge Protective Devices (SPDs) are designed to be self-sacrificial, often failing in order to protect more expensive equipment downstream. In essence, their life is based on the magnitude and frequency of surges they have diverted and absorbed. This means that at some point in time they will reach their end-of-life. This will be due to many small surges, or one large surge which exceeds the specified rating of the SPDs maximum discharge or impulse current. Upon reaching end-of-life, a correctly designed SPD will safely disconnect itself from the power supply. Such disconnection usually goes unnoticed since the indicator light is located directly on the SPD, which may not be frequently inspected due to remote location.

With Raycap's SPD life status indication devices it is easy for users to receive information about a failed SPD device immediately, or more importantly, to get a warning when a SPD is nearing its end-of-life. With these devices installed, power supply network operators know when to replace their SPD protection, which is just as important as having surge protection installed in the first place.



ProSLS



ProSCT



ProALARM

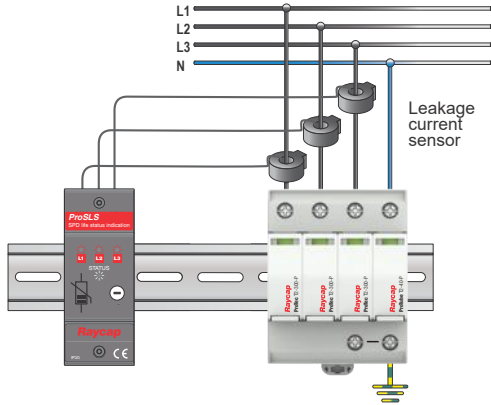
ProSLS



Features

- Automatic adjustment to all SPD sizes and models
- Replaceable battery, lifetime up to two years
- Continuously monitors leakage current of an SPD

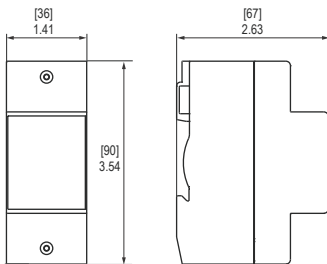
Typical Installation



ProSLS is a device that continuously monitors the leakage current of an SPD, which is the most accurate predictor of a SPD's life status. Using measured current, ProSLS is able to predict the advanced degradation of a SPD and convey this information to the user.

Technical Data

Electrical	
ProSLS Order Code	130 551
ProSLS Shielded Order Code	133 005
Lowest Measurable Current (SPD Leakage)	100 µA
Power Supply	Replaceable 3.6V(ER AA) battery Lifetime up to two years
Remote Contacts	1 A 45 VAC/30 VDC
Mechanical	
Mounting Method EN 60715	35 mm DIN rail
Maximum Wired Diameter through Current Sensor	0.47" [12 mm]
Sensor Cable	39.4" [1 m]
Temperature Range	-22 °F to +158 °F [-30 °C to +70 °C]
Enclosure Material	Thermoplastic; Extinguishing degree UL 94 V-0
Environmental Ingress Protection (IP) Rating	IP 20
Enclosure Dimension (L x W x D)	3.54" x 1.41" x 2.63" [90 x 36 x 67 mm]
Dimensions DIN 43880	2 TE
Packaging Dimensions (L x W x D)	4.17" x 2.28" x 2.89" [106 x 58 x 73.5 mm]
Weight	.88 lbs [440 g]
Standards Compliance & Certifications	
Standards	IEC 61643-331
Certification	RoHS, CE
Product Diagram	



[mm]
inches

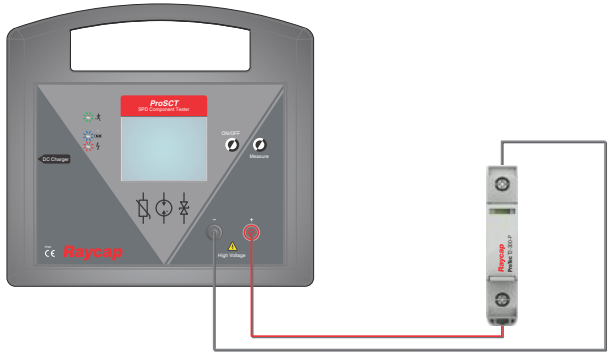
ProSCT



Features

- Measurement of MOVs, GDTs and TVSs
- Test GDTs and MOVs up to 1500VDC
- Auto-detects type of component connected
- Displays list of successive measurements using LOG Mode
- Color TFT display and touch screen interface
- Rechargeable battery included

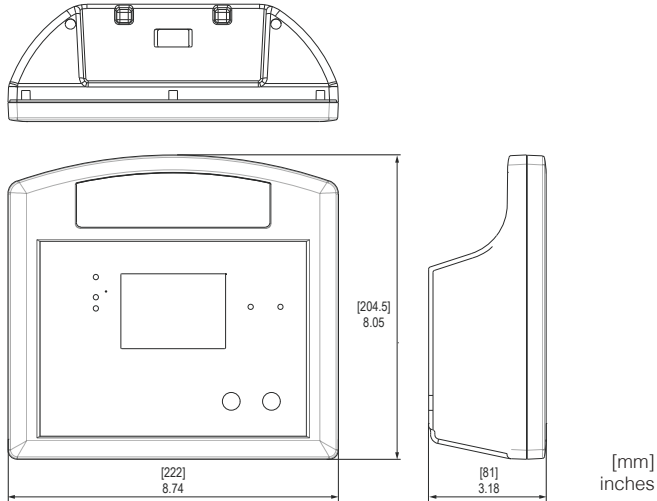
Typical Installation



The ProSCT (SPD Component Tester) tests the components commonly used in surge protective devices, such as Gas Discharge Tubes (GDT), Metal Oxide Varistors (MOV), and Transient Voltage Suppressors (TVS). It is a portable, battery operated instrument with an integrated battery charger housed in a robust enclosure. The instrument features a 320 × 240 pixel TFT color display with touch screen interface.

Technical Data

Electrical	
ProSCT Order Code	130 571
ProSCT in Suitcase Order Code	130 572
MOV & ABD Test Current	0.1 mA; 0.5 mA; 1 mA
GDT Voltage Ramp	100V/s; 1000V/s
Maximum Test Voltage	1500VDC
MOV Measurement Error	1.5% +/- 2 digit counts
GDT Measurement Error	3.5% +/- 2 digit counts (1 kV/s) 1.6% +/- 2 digit counts (100V/s)
Mechanical	
Operating Temperature (°C)	-10 °C to +50 °C
Enclosure Material	UL-94-HB ABS
Environmental Ingress Protection (IP) Rating	IP 20
Enclosure Dimension (L × W × D)	8.05" × 8.74" × 3.19" [204.5 × 222.0 × 81.0 mm]
Weight	2.43 lbs [1100g]
Standards Compliance & Certifications	
Standards	EN 61326-1 IEC 61010
Certification	RoHS, CE
Product Diagram	



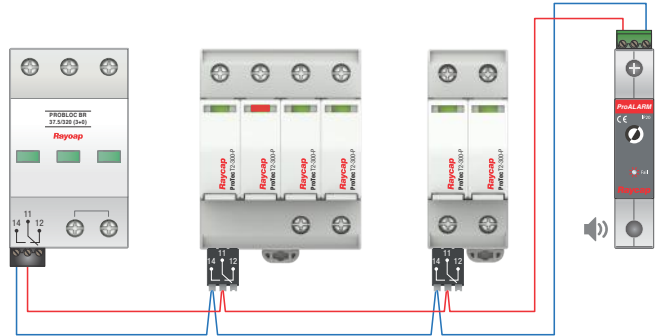
ProALARM



Features

- Audio alarm SPD failure indication
- Red LED visual SPD failure indication
- Button for acknowledging and silencing the alarm
- Multiple SPD connected to one ProALARM
- Power supply 110V-230V

Typical Installation



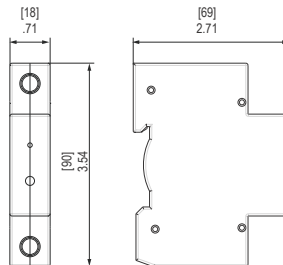
ProALARM is a failure indication device that informs a user of the need to replace a failed SPD. It can be quickly and easily installed next to the SPD on the same rail, and by making connection between the RC contacts of the SPD and the unit.

If failure of the SPD occurs, the user is informed by a loud audible beeping sound and the illumination of a red LED.

The user is able to acknowledge this event by the press of a button; this will silence the audible sound, but leave the LED illuminated until the SPD has been replaced.

Technical Data

Electrical	
ProALARM Order Code	130 511
Power Supply (AC/DC)	110-230V
Mechanical	
Mounting Method EN 60715	35 mm DIN Rail
Operating Temperature	-20 °C to +70 °C (-4 °F to + 158 °F)
Enclosure Material	Thermoplastic; Extinguishing Degree UL 94 V-0
Environmental Ingress Protection (IP) Rating	IP 20
Enclosure Dimension (L x W x D)	3.54" x .71" x 2.71" [90.0 x 18.0 x 69.0 mm]
Dimensions DIN 43880	1TE
Packaging Dimensions (L x W x D)	4.25" x .94" x 2.91" [108 x 24 x 74 mm]
Weight	.19 lbs [87 g]
Standards Compliance & Certifications	
Standards	IEC 61010-1
Certification	RoHS, CE
Product Diagram	



Notes

We reserve the right to introduce changes in performance, dimensions and materials in the course of technical progress. Copyright Raycap all rights reserved. No part of this work, nor of the information laid down herein and/or derivable here from and/or developed in connection with, may be reproduced or used in any form or by any means. Legal action will be taken against infringements. This publication replaces previous editions and the content herein is subject to change at any time without notice.

Raycap Worldwide Locations



Raycap Inc.
806 South Clearwater Loop
Post Falls, ID 83854
United States of America

STEALTH

Concealment Solutions, Inc.
a Raycap Group Company
3034-A Ashley Phosphate Road
North Charleston, SC 29418
United States of America

Raycap GmbH
Parking 11
85748 Garching Munich
Germany

Raycap S.A.
Telou & Petroutsou 14
15124 Maroussi Athens
Greece

Raycap S.A. Manufacturing
Industrial Area of Drama
66100 Drama
Greece

Iskra Zaščite d.o.o.
a Raycap Group Company
Pod hrasti 7
Poslovna cona Žeje pri Komendi
1218 Komenda
Slovenia

Raycap Cyprus Ltd.
46 Lefkosias Street
Industrial Area of Dali
2540 Nicosia
Cyprus

Raycap SAS
84 rue Charles Michel
93200 Saint-Denis
France

Raycap Corporation SRL
4A, Johann Strauss, 4 Floor,
Sector 2, 020312 Bucharest
Romania

Raycap (Suzhou) Co. Ltd.
Block B, Phase II
of New Sea Union
No. 58 Heshun Road
SIP, Suzhou 215122
Jiangsu Province
China



Raycap

raycap.com • info@raycap.com

©2018 Raycap All rights reserved.
G29-00-333 181206