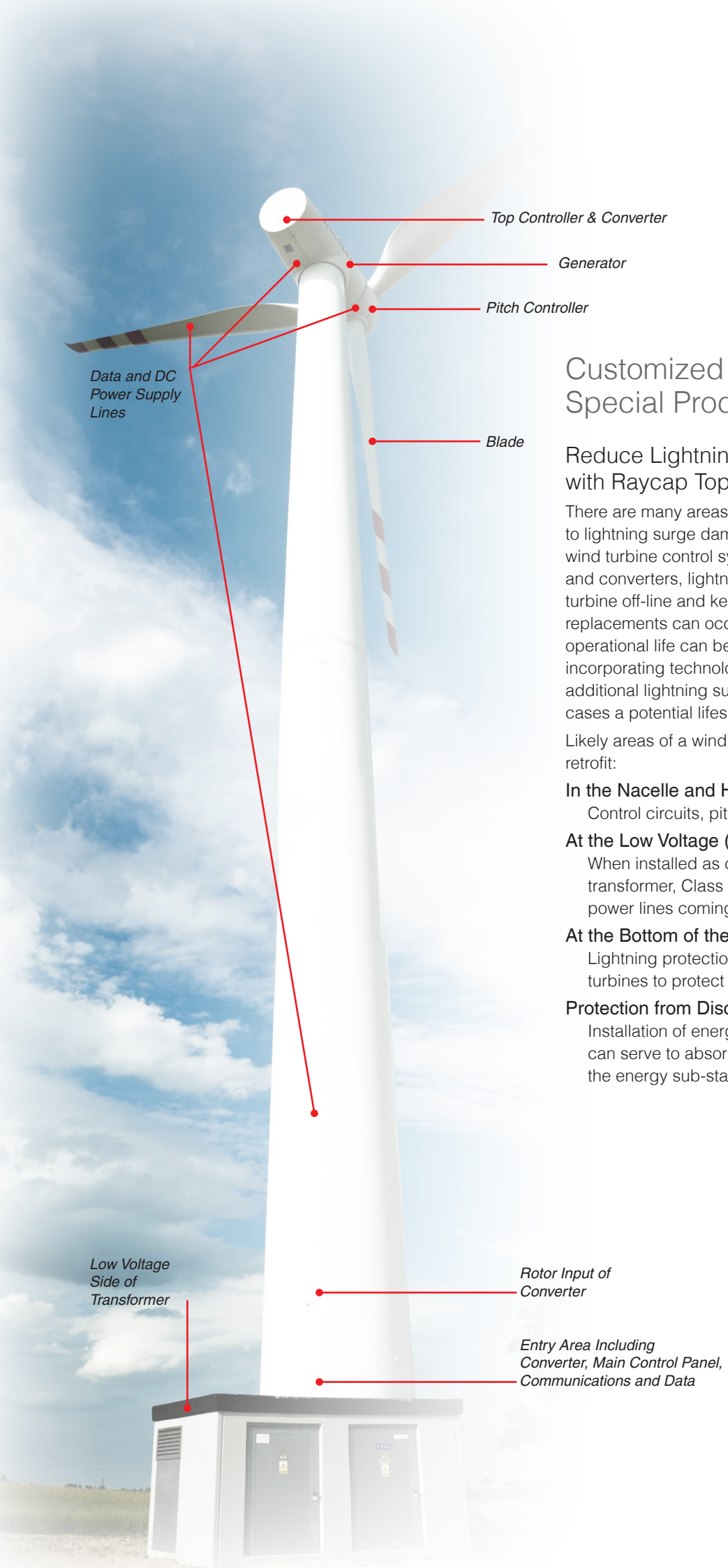

Top to Bottom
Protection
Solutions
Raycap
It's our business
to help yours
thrive.®



Customized Solutions & Special Products

Reduce Lightning & Surge Vulnerability with Raycap Top to Bottom Solutions

There are many areas of the wind turbine that are susceptible to lightning surge damage. For sensitive electronics in the wind turbine control systems, pitch controllers, generators and converters, lightning surges can and will take a wind turbine off-line and keep it off-line until costly repairs and replacements can occur. It is expected that a turbines' operational life can be extended by as much as 10 years by incorporating technologies such as monitoring systems or additional lightning surge protection, giving turbines in some cases a potential lifespan of 30 years.

Likely areas of a wind turbine needing surge protection retrofit:

In the Nacelle and Hub

Control circuits, pitch systems, generator

At the Low Voltage (LV) Side of the Transformer

When installed as close as possible to the LV side of the transformer, Class I surge protection can help protect the power lines coming into the transformer.

At the Bottom of the Tower

Lightning protection can be installed at the bottom of the turbines to protect converters and low voltage feeds.

Protection from Disconnect by the Sub-station

Installation of energy absorbers at the top of the turbine can serve to absorb energy during abnormal shutdowns at the energy sub-station.

Raycap Exclusive Protection Technologies for Wind Turbine System Retrofits

As the world continues to try to find better, less expensive ways to provide sustainable energy, wind turbines have become more and more commonplace in the landscape. Some of these early energy generators are approaching 20+ years of age. As wind turbines begin to age the number of out-of-warranty turbines in operation is rising steadily. Because of this, wind farm operators are becoming more interested in finding ways to stretch the lifetimes of their investments and reduce the costs of operation and maintenance (O&M) procedures. This is being done through closer monitoring of the environmental factors which can degrade and even stop a turbine completely. Of these, damage by lightning is by far the most destructive.

Reduce Operating & Maintenance Expense with Raycap Signature Products

Strikesorb®

The unique design of Strikesorb products provides uninterrupted protection from damage caused by electrical surges or direct lightning strikes. Strikesorb's maintenance-free design absorbs and dissipates the excess energy of lightning surges without performance deterioration, which is ideal for an advanced application like a wind turbine.

Strikesorb is rated for safe operation without the use of internal fuses. This unique feature combined with its capability to be directly connected to power lines or busbars (in-line connection), makes it the most reliable surge protection device known and insures that critical electronic equipment will remain protected at all times.

Upgrade kits can be custom designed to meet the specific requirements of a particular wind turbine type, and they are easy to install during planned periods of maintenance.

DIN Rail Solutions

ProTec

ProTec industrial SPD solutions from Raycap offer surge protection technologies including gas discharge tube (GDT) and metal oxide varistor (MOV). Available in a wide variety of operating voltages, the ProTec products feature a vibration and shock withstand capability, a new industrial DIN Rail housing design, module locking mechanism, and both VDE and UL safety certifications.

SafeTec

Protection against the indirect effects of lightning can be provided with surge protective devices (SPD) at zone boundaries.

The SafeTec technology operates in open circuit mode in combination with current-limiting technology. This current-limiting control prevents permanent disconnection during adverse temporary overvoltage (TOV) conditions.

RayDat

RayDat data and signal line surge protection provides unsurpassed electrical protection for signal power applications. These products meet the diverse requirements of industrial signal protection applications.

Custom Solutions

Raycap is known in the industry for working together with its customers to develop customized or fully-custom solutions specifically for wind energy applications. Our many years of expertise and technologically-advanced surge protection technologies have helped customers worldwide to compensate for the destructive nature of lightning and electrical surges which can disable a wind farm operation.

Raycap Worldwide Locations

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

7555-A Palmetto Commerce Pkwy
North Charleston, SC 29420
United States of America

46 Sellers Street
Kearny, NJ 07032
United States of America

Raycap GmbH
Parkring 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

Raycap d.o.o.
Poslovna cona Žeje pri Komendi
Pod hrasti 7
1218 Komenda
Slovenia

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

Raycap SAS
84 rue Charles Michels
Building B
93200 Saint-Denis
France

Raycap Corporation SRL
102, Barbu Vacarescu,
entrance D, 4th floor D22
020283 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

G02-00-974 240404