



# Innovative Wind Energy Solutions Blade to Grid

# We offer a wide range of solutions for:

- Nacelle
- Tower
- Base
- Collector Field
- Substation
- Network Grid Interconnection
- OEM & Panel Maker

## Your Choice:

Tyco Electronics Corporation offers a vast solution set of products for the wind turbine OEM, developer, contractor and engineering teams involved in the Wind segment. With Tyco Electronics Corporation's global manufacturing and broad engineering expertise located in 12 design centers, we are committed to bringing the promise of renewable energy to the world.

**Tyco Electronics** can assist you in making advancements in alternative wind energy with improved technical development and overall system solutions from the tip of the blade to the consumer. With an ever increasing pressure on quality and system availability, the alternative energy industry faces many opportunities. Whether system monitoring, motion and drive solutions, power and control interconnectivity, or any other related areas, such as modular turbine design, control systems, inverters or drives, these and many more challenges are being faced throughout this rapidly evolving market. For over 60 years, Tyco Electronics has worked with industry leaders to introduce more cost-effective solutions, to develop systems to increase reliability, and to devise new and innovative ways to implement technically advanced solutions for emerging markets.

**In this flyer we represent only a fraction of the entire product range at Tyco Electronics. Please contact us for our full range of products or if you have specific requirements.**



# NACELLE

We provide products for all components of the nacelle, which is the largest feature of the wind turbine that houses the main systems for power generation and control. The products listed here represent only a fraction of our entire line of products.

## Electronic Components



**HTS Heavy Duty Connectors**



**Passive Components**



**Relays**

- Circular Plastic Connectors (CPC)
- Industrial Ethernet Products
- Sensors
- IEC-Type Contactors
- Heat Shrink Tubings
- Identifications
- Elo Touch TouchSystems
- Flexible Bus Bars
- Fibre Optics
- Cable Assemblies

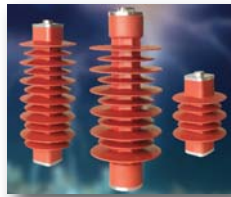
## Electrical Power Products



**Screened Power Cable Connecting Systems**



**Digital & Analogue Meters**



**Surge Arresters**

- Power Cable Terminations
- Insulators
- Connectors & Lugs
- Load Limiters
- AMPOWER Terminals, Lugs, Splices

# TOWER

We provide products for all components of the wind tower, which acts as a support to the nacelle and is the conduit for power and control to the ground systems. The products listed here represent only a fraction of our entire line of products.

## Electronic Components



**Shear Bolt Lugs and Sleeves**



**Sensors**



**Customised Cables & Cable Assemblies**

- HTS Heavy Duty Connectors
- Passive Components
- Circular Plastic Connectors (CPC)
- AMPOWER Terminals & Splices

## Electrical Power Products



**Dead Break Elbows and Arresters**



**Power Cable Terminations**



**Power Cable Risers**

- Power Cable Joints/Splices
- Earthing Connectors
- Heat Shrink Tubings
- AMPOWER Terminals, Lugs, Splices
- Surge Arresters

# BASE

Switchgear, Transformer, Converter... These systems prepare the power generated within the nacelle for transmission to grid. The products listed here represent only a fraction of our entire line of products.

## Electronic Components



**Fibre Management Joint Closures with Cold Gel Seal Technology**



**Circular Plastic Connectors (CPC)**



**Industrial Ethernet Products**

### Passive Components

Relays and Bus Bars

## Electrical Power Products



**Power Cable Connecting Systems**



**Insulation Components**



**Power Cable Feedthroughs**

### Insulators

AMPOWER Terminal, Lugs, Splices

Earthing Connectors

Insulation

Digital & Analogue Meters

Power Cable Joints/Splices

Cable Riser

Flexible Bus Bars

Power Cable Terminations

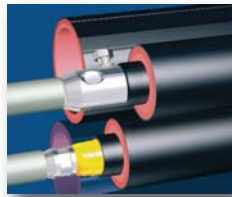
# COLLECTOR FIELD

A network of power and communications that interconnect the towers to the substation and the wind farm control station. The products listed here represent only a fraction of our entire line of products.

## Electrical Power Products



**Heatshrink Cable Joints/Splices**



**Power Cable Inline Joints/Splices**



**Power Cable Repair Joints/Splices**

### Power Cable Branch Joints

# SUBSTATION

We provide products for all components of the control station, including wind farm controls, power and communication interconnects. The products listed here represent only a fraction of our entire line of products.

## Electronic Components



**HTS Heavy Duty Connectors**



**Relays**



**IEC-Type Contactors**

- Switches
- Cable Assemblies
- Cable Ties
- Mounts & Accessories
- Fibre Optics
- Elo TouchSystems
- Netconnect
- Connectors
- Industrial Ethernet Products

## Electrical Power Products



**Substation Protection - Insulating Components**



**Terminations**



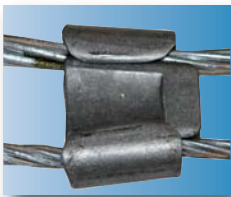
**Power Cable Feedthroughs**

- Insulators
- Earthing Connectors
- Insulation Systems
- Digital & Analogue Meters
- Joints /Splices
- Flexible Bus Bars
- Insulation Systems
- Power Cable Connecting Systems

# NETWORK GRID INTERCONNECTION

We provide products for public grid access, which transmits the power from the wind farm throughout the public grid to the end user. The products listed here represent only a fraction of our entire line of products.

## Electrical Power Products MV & HV Network



**Ampact Wedge Connectors**



**Wild Life Protection Products**



**Terminations**

- Surge Arresters
- Insulation Systems
- Power Cable Inline Joints/Splices
- Power Cable Branch Joints/Splices

## Electrical Power Products HV Substation



**HV Terminations**



**HV Surge Arresters**



**HV Bus Bar Connectors**

- HV Insulators
- HV Surge Counters
- Insulation Systems
- Power Cable Feedthroughs
- Digital & Analogue Meters

# OEM & PANEL MAKER

Tyco Electronics is a trusted supplier of products for designers and manufacturers of control systems and panels for the wind sector.

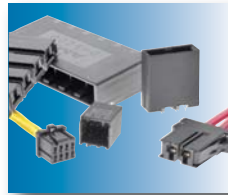
## Electronic Components



**Terminal Block Connectors**



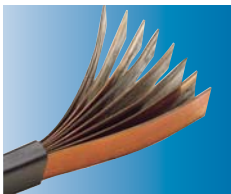
**Heat Shrink Tubings**



**Dynamic Series Connectors**

**Fibre Optic**  
**MB/M12 Connector & Cord Sets**  
**Industrial Ethernet Products**  
**Industrial Mini I/O Connectors**  
**Kliovac Contactors**  
**Elo TouchSystems**  
**HTS Heavy Duty Connectors**  
**IEC-Type Contactors**  
**Filters**  
**Passives**  
**Circular Plastic Connectors (CPC)**

## Electrical Power Products



**Flexible Bus Bars**



**Insulation Tubings**



**Digital & Analogue Meters**

**Load Limiters**  
**Circuit Breakers**  
**Identifications**

# Tyco Electronics Corporation's Alternative Energy Solar Solutions

SOLARLOK products deliver a flexible system solution for easy and dependable interconnections from photovoltaic modules to the DC/AC converter. The entire system concept is based on cost-effective and quality processing of individual interconnection system components. This significantly reduces installation costs of the solar energy system.



**Connectors**  
Designed with a wire crimp, these latching connectors accommodate 14-10AWG wire sizes for a low applied cost. Polarity keyed housing helps to prevent mismatching. UL and TÜV listed.



**Solar Wires**  
Tyco Electronics PV wire is designed to meet the harsh environment conditions typical in the wiring of photovoltaic installations. Listings include UL and TÜV listings, in addition to a USE-2 wire for the American market.



**Junction Boxes**  
The junction box concept is based on a flexible open system structure that allows serial as well as parallel interconnection via direct wire connect or separable connectors. Within the junction box, up to six termination rails are available for photovoltaic foil connection.



**Solar Identification Labels**  
National Electric Code (NEC) demands proper marking and labeling of solar systems. Tyco Electronics labels are designed to withstand harsh outdoor environments. The labels can be exposed to rain, intense sunlight, UV rays, snow, ice cold temperature, sand, salt spray and condensation from fog without degradation.



**Grounding Solutions**  
SolKlip 10-12AWG grounding connector provides four points of contact to the ground wire for high reliability. With a preassembled product that includes a #10-32 thread cutting screw, SolKlip grounding connector is easy to install to PV Modules. The 6-8AWG grounding connector contains scoring features to score the ground wire and frame for a longterm, reliable connection. UL listed.

Tyco Electronics Ltd. is a leading global provider of engineered electronic components, network solutions, specialty products and undersea telecommunication systems, with fiscal 2009 sales of US\$10.3 billion to customers in more than 150 countries. We design, manufacture and market products for customers in a broad array of industries including automotive; data communication systems and consumer electronics; telecommunications; aerospace, defense and marine; medical; energy; and lighting. With approximately 7,000 engineers and worldwide manufacturing, sales and customer service capabilities, Tyco Electronics' commitment is our customers' advantage. More information on Tyco Electronics can be found at <http://www.tycoelectronics.com/>

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