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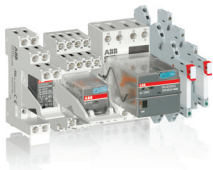







Wind global product offering


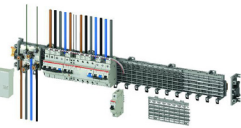
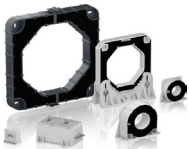




ABB is key-enabler for the wind-industry helping customers along the complete value-chain to generate, connect, monitor and control power from wind farms as well as to maintain and optimize their systems.

Product / Offering	Benefits and features
Compression Cable Lugs and Tools 	<p>AWG, IEC and DIN compression connectors, made of the highest-grade materials offering high conductivity/low resistance, meet or exceed all industry standards. Range includes straight and angled connectors and splices, plus a full range of mechanical, pneumatic, and battery operated compression tools.</p>
Cable Ties, Tools and Accessories 	<p>ABB offers one of the industry's broadest ranges of innovative solutions for fastening, bundling and securing wire and cable, including the trusted Ty-Rap®, Ty-Fast® and Spec-Kon® cable tie brands in multiple sizes, colors and specialty materials for demanding applications. Our range also covers many mounting bases and easy-to-use tools.</p> <p>Our Deltec lashing fasteners offer long life (over 20 years), easier installation for demanding outdoor applications.</p>
Lashing fastening system 	<p>A three-piece, three-material engineered design provides the ideal solution for bundling in harsh outdoor environments. The Deltec® system combines the strength and rigidity of an injection-molded head with marine-grade copper barbs and a soft and pliable, stress-resistant, extruded body. The unique multi-piece design with separate head and strapping also allows installers to select and customize the strap length for any application.</p>
Cable tray & strut / metal framing systems 	<p>T&B® cable tray is a cost effective, reliable and adaptable alternative to conduit systems. Additionally, ABB offers a comprehensive line of metal framing, including the industry's only 100% plated products, our 1½" modular system, and hundreds of accessories to complete any job.</p>
Earthing, grounding & lightning & Surge Protection 	<p>With our ABB, Furse and Blackburn brands we offer a complete range of grounding & lightning protection systems, grounding connectors and surge protection devices (SPD) to protect your building, processes and people.</p> <p>The OVR range is designed to protect electrical systems and equipment against transitory surges and impulses caused by lightning and operations on the electrical grid.</p>
Joslyn low voltage surge protection 	<p>Joslyn® offers more than 1,300 standard surge protection products in its top-class AC line, including units for full facility installation, equipment-level protection and custom-tailored solutions for OEMs.</p>
EZGround™ grounding system 	<p>EZGround™ connectors are designed for direct burial and offer a low-cost, safe and efficient alternative to exothermic welding products. Connectors are prefilled with oxide inhibitor and sealed. It's a complete line of grid-ground compression connectors.</p>

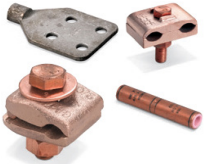




Product / Offering	Benefits and features
Flexible Conduit and Fittings 	<p>ABB is the global leader in cable protection systems led by the PMA & Adaptaflex brand of highly engineered conduits and fittings. In addition, the ABB offer includes metallic and ATEX/IECex/UL/CSA systems for demanding applications. Our cable protection systems are designed to offer protection in extreme temperatures, demanding outdoor applications and offer excellent liquid ingress protection to secure continuous operation.</p>
Liquidtight fittings 	<p>T&B Fittings, Type A Liquidtight Flexible Non-Metallic Conduit and Fittings.</p> <ul style="list-style-type: none"> – Non-metallic, steel and stainless steel fittings – Ideal for continuous flexing or vibration applications – Create a liquid-, dust- and oil-tight seal – Suitable for operating temperatures from -20° to 60° C
Heat Shrink Solutions 	<p>A broad range of heat shrink products with different wall thicknesses (thin, medium, thick), packaging (reels, cut lengths, dispenser boxes, pre-cut bags), shrink ratios (2:1, 3:1, 4:1), different colors, pre-moulded parts, with or without glue can be offered (dual).</p>
Wire termination & tools 	<p>A full line that includes insulated and non-insulated terminals, splices, wire joints, disconnects, ferrules, heat-shrinkable terminals, splices and disconnects in imperial and true metric sizes. Including at complete set of tooling.</p>
Industrial Plugs and Sockets 	<p>Easy to use, tough and supporting critical power, with safety as the highest priority for a wide range of applications. ABB has the full range of plugs and sockets for use in the harshest environments.</p>
Miniature Circuit Breakers (MCBs) 	<p>Miniature Circuit Breakers protect installations against overload and short-circuit, guaranteeing reliability and safety for operations. The System pro M compact S200 and S800 series are current limiting overcurrent protective devices. They have two different tripping mechanisms, the delayed thermal tripping mechanism for overload protection and the magnetic tripping mechanism for short circuit protection.</p>
Residual Current Devices (RCDs) 	<p>Residual Current Devices protect people and equipment from the risk of fire. We offer a comprehensive range to cover all the applications in residential, commercial and industrial segments. ABB can offer all the RCD types according to IEC international standards like RCCBs, RCBOs, RCD-blocks, Earth Leakage Relays DIN-Rail and front panels.</p>
Modular DIN-Rail Components (MDRCs) 	<p>Modular DIN-Rail Components, or MDRC, is a range of components that provide all functions to complete the offering of an electric switchboard (other than line protection and residual current protection) such as measuring, controlling and commanding. They are plugged on a standard DIN-Rail in just one click.</p>
Electricity Meters 	<p>Managing electrical supply is a priority. Without measuring usage, it is hard to determine efficiency. Measuring an electrical installation can save effort and money. The addition of energy meters for sub-metering and a current measurement system for branch supervision enables the monitoring of energy usage, from the incoming energy all the way down to the last branch.</p>
Enclosures 	<p>ABB enclosures are ideal for buildings, infrastructures and industrial applications in compliance with international standards and community norms.</p>

Product / Offering	Benefits and features
Main Distribution Boards 	System pro E power is ABB's solution for main distribution switchgears with rated current up to 6300A and short-circuit current up to 120kV. Meets all plant requirements depending on the type of installation, required degree of protection, and the electrical and mechanical specifications. ABB provides complete solutions for main electric power distribution in infrastructure and industries in accordance with the regulatory framework. In addition, System pro E power guarantees full compatibility with all other ABB products.
Molded Case Circuit Breakers (MCCBs) 	ABB's moulded case circuit breakers guarantee an extremely high performance level while being progressively smaller in size, simple to install and able to provide increasingly better safety. Our Tmax XT range is complete with four frame sizes: XT1, XT2 up to 160A. and XT3, XT4 up to 250A. And our Tmax T range up to 3200A.
Air Circuit Breakers (ACBs) 	ABB Emax2 is the new benchmark of air circuit-breakers that not only monitors power, but has evolved into a true power manager. It is offered in frame sizes up to 6300A with exclusive integrated functions such as the Ekip power controller, generator protection and network analyzer functions. Emax2 is the only breaker that protects electrical circuits and also reduces energy consumption based on the user's needs, thereby leading to massive reductions in energy waste. Emax2 contains the perfect blend of control, connectivity, safety and performance.
Switch Disconnectors 	The OT range from 16 to 4000A of switch-disconnectors are suitable for diverse applications such as machinery, power distribution, motor control centers. The DC range of switch-disconnectors from 16 to 800 Amperes is specially designed for DC applications. Thanks to a compact design, efficiency and reliability our switches bring PV installations to the next level.
Cam Switches 	OC and OL cam switches are suitable for even the most demanding applications. A versatile selection of handles, mounting options, and accessories make it easy to create the perfect solution. With the online configurators, Camweb and Camweb2, users can design their own cam switch with confidence.
Switch Fuses 	OS switch fuses range from 20 to 1250A and are suitable for different types of fuses: DIN, BS, NFC, J and L. OS switch fuses have a modular design and are available in different pole configurations. ABB offers ready and tested type 2 coordination tables for easy and fast selection of motor control devices.
EasyLine XLP, Fuse Switch Disconnectors 	EasyLine range of fuse disconnectors ensures high protection and reliable operation in critical power applications, distribution boards, switchboards, and capacitor banks. A wide range of cable terminals and snap-on accessories make the installation easy and fast. EasyLine can be fitted into different distribution systems by means of busbar adapters.
Signal Converters 	ABB's universal signal converters of the CC-range amplify, convert, isolate and measure any type of analog signal to ensure safe and reliable plant processes. Whenever you need 3-way electrical isolation, select an ABB signal converter to protect your process and automation applications from overvoltage.
Measuring and monitoring relays 	ABB's measuring and monitoring relays are designed to not only detect overloads, but also temperature, liquid and other potentially damaging fluctuations. Choose among a large range of high quality products to ensure reliable protection, save cost and avoid unplanned downtime of your processes and equipment by uninterrupted monitoring no matter what environment you operate in.

Product / Offering	Benefits and features
Interface Relays and Optocouplers 	<p>ABB's interface relays and optocouplers ensure a reliable voltage conversion between process peripherals and higher level control systems. For all sorts of machinery, our relays ensure reliable signal switching and provide electrical isolation for your sensitive electronics such as PLCs. The wide variety of pluggable interface relays with standard or logic sockets can be used for switching AC or DC loads. Suitable for extreme environments, ABB's interface relays offers a range of different coil voltages and plug-in functional modules.</p>
Timers 	<p>The electronic timers of the CT range have been used in applications worldwide and have proven their excellent functionality in daily use, even under the toughest conditions. Three ranges of electronic timers provide timing functions for all applications. ABB ensures all low voltage timing control needs are met with our wide variety of product options—from economic to highly sophisticated, providing maximum value.</p>
Power Supplies 	<p>The CP range offers the latest technology in a compact construction of power supplies. Modern power supply units are a vital component in most areas of energy management and automation technology. ABB pays the utmost attention to the resulting requirements. Innovation is the key to a substantial enlargement of our power supply product program.</p>
Manual Motor Starters (MMSs) 	<p>Manual motor starters are electromechanical protection devices for the main circuit. They are used mainly to switch motors manually ON/OFF and to provide fuseless protection against short-circuit, overload and phase failures. Fuseless protection saves costs, space and ensures a quick reaction under short-circuit condition by switching off the motor within milliseconds. Starter combinations are set up together with contactors.</p>
Contactors 	<p>ABB contactors offer an exhaustive selection of products for simple and extreme applications as well as products with specific purposes. ABB's contactor technology revolutionizes how we use contactors and allows use in all parts of the world and in a variety of network conditions. Furthermore, the mini-contactor range offers compact dimensions and specific connection possibilities.</p>
Terminal blocks 	<p>ABB proposes one of the largest connection offering on the market with various technologies: including screw, PI-Spring, (Push-In and Spring), spring, IDC, plug-gable, stud, etc. These are found in over 8,000 products.</p>
Limit Switches 	<p>Limit switches are electromechanical devices. The contacts are mechanically linked to an actuator. By combining different types of actuators, casings and contacts, our limit switches are perfectly suited to a large variety of applications, whatever the environment.</p>
Soft Starters 	<p>ABB's soft starters increase a motor's lifetime by protecting it from electrical stresses. They do so by letting you optimize starting currents that with conventional starting methods put lots of stress on the motor. With many built-in motor protection features, your motor is safe in its hands. ABB's soft starters are also installation-friendly and can cut your assembly and startup time by being easy to use and easy to learn. With everything that you need in one unit, from bypass contactor to overload protection, a single soft starter makes for a compact and complete starting solution. Furthermore, with many application specific features, ABB's soft starters can ultimately help you increase productivity. Torque control, pump cleaning and many more features let you do more than simply softstarting.</p>

Product / Offering	Benefits and features
Arc Guard 	<p>The Arc Guard builds on the well-appreciated TVOC design and offers unmatched arc monitoring. With over 35 years of experience, The Arc Guard System™ helps to protect personnel and businesses around the world. It is an optical detection system that together with an external breaker can limit the damage done to personnel and equipment in case of an arc accident happening.</p>
SMISSLINE TP 	<p>SMISSLINE TP is the complete line protection solution for applications with high availability, easy and fast installation and maintenance requirements. Small cause, large effect: as the world's first plug-gable socket system, SMISSLINE TP ensures that load-free devices and components can be snapped on and off under voltage without the need for additional personal protective equipment to guard against electrical hazards. That opens up completely new prospects for you when it comes to installation, operation and flexibility.</p>
Current & Voltage Sensors 	<p>The current and voltage sensors enable to measure DC, AC or pulsating currents with a galvanic insulation between primary and secondary circuits.</p>
Pilot Devices 	<p>From the smallest inside component to the outer tough shell, ABB's pilot devices are pieces of engineering ingenuity. They are reliable, flexible, and available worldwide. cleaning and many more features let you do more than simply softstarting. An emergency stop device is used to permit anyone to stop machinery if it breaks down or if someone is in danger. We offer different types of traditional mushroom head type emergency stops for different types of mounting and environments.</p>
PVC-coated conduit & fittings system 	<p>PVC-coated, hot-dipped galvanised conduit and threads. Superior corrosion protection against harsh elements. Interior blue polyurethane provides corrosion protection around copper wire or fiber optics. With outstanding performance in corrosive environments, Ocal® PVC-coated conduit and fittings extend the life of your electrical system for many years beyond the lifespan of standard rigid conduit systems.</p>
Molded vacuum interrupters (MVI) 38kV/25kA Molded Current-Limiting Dimensional Information Vacuum Interrupter (MCLVI) 38kV/50kA 	<p>Elastimold Molded Vacuum Interrupters / MVI Switchgear.</p> <ul style="list-style-type: none"> – Components are fully sealed and submersible – Compact and lightweight with full overcurrent protection Deadfront construction: insulates, shields and eliminates exposed live parts – Small footprint: components fit in tight padmount, subsurface, vault, riser-pole or tower installations – Can be installed many positions: ceiling, wall, mounted at angle or riser-pole mounted – Entirely solid-dielectric, deadfront design requires no maintenance and is 100% environmentally friendly – No greenhouse gases are used, and no byproducts are produced during interruption – Magnetic Actuator or Motor Operated Units: operate manually or via SCADA
Transmission cable termination and joints 	<p>The transmission cable joints and terminators are factory molded and fully tested to provide highest quality and maximum reliability. Designed with optimized pre-molded stress control and heat transfer capability. Easy installation eliminated need for labor-intensive field molds, tape wrapping machines or field expansion.</p>

Product / Offering	Benefits and features
Molded Vacuum Interrupters 	<ul style="list-style-type: none"> – Compact, lightweight, submersible protection – Predictable tripping for ease of coordination with upstream and/or downstream protection Distribution Switchgear – Solid EPDM insulating media makes it maintenancefree and environmentally friendly – no oil, no gas – Compact and modular designs allow for smaller footprint and field assembly inside tight vaults
Medium voltage cable joints 	<p>A deadfront design and modular construction enables maximum reliability, performance and versatility. With 200A bushing wells, bushing inserts and 600A bushings available for use on air, oil or SF6 insulated transformer, switchgear and other equipment. All products complies with IEEE Standard to ensure interchangeability.</p>
Medium voltage moulded vacuum recloser 	<p>ABB reclosers have over 15 years of proven field performance incorporating innovative technology and unique ABB expertise, including embedded sensors with the highest accuracy and least environmental sensitivity in the market. And with multiple controller options, ABB reclosers are designed to continually meet and exceed the growing demands of power distribution.</p>
Underground switchgear 	<p>ABB offers a comprehensive range of padmount switchgear solutions for underground distribution networks. With an industry-standard footprint solution in the VersaPad™ to an innovative design with the ReliaPad™ with recloser for smart grid applications, ABB sets safety as a top priority to take users to a new level of quality and reliability.</p>
Joslyn Capacitor Switches 	<ul style="list-style-type: none"> – Vacuum interruption and solid-dielectric insulation translate into maintenance-free and environmentally friendly designs — no oil, no gas – Exclusive VacstatR vacuum interrupter monitoring – Long-life operating mechanisms – Available for applications in 15 to 230kV systems
Current-limiting fuse 	<p>The current limiting fuses greatly reduce energy let-through, minimizing the risk of catastrophic failures. No external arcs or by products. Durable design with hermetically sealed construction. They provide superior protection for transformer capacitor banks, switchgears and wind farms.</p>
Current-Limiting Fuses 	<ul style="list-style-type: none"> – Greatly reduce energy let-through, minimizing the risk of catastrophic failures – Interrupting capabilities up to 50,000A – Used in molded fuses for underground junction boxes and switchgear for full-range load overcurrent protection – Address arc flash concerns
AutoCap® capacitor controls 	<p>The capacitor controls has a wide range of analog and digital options. Variety of control parameters VAr, voltage, current, temperature and time. it also has multi-step controls for use with multiple capacitor banks in substation applications. Microprocess-based, SCADA capability, allowing the unit to program itself.</p>

Product / Offering	Benefits and features
Substation and underground connectors 	Substation connectors and products up to 500kV applications. Flood-seal® underground distribution connectors. For single-phase or three-phase underground or overhead applications. Transformer connectors for stud-mount and pad-mount.
Overhead distribution connectors 	A complete and reliable range of overhead, grounding, mechanical and compression connectors. Medium voltage splices, taps, wedges and terminals or connectors are available for all overhead distribution applications.
Secondary gas-insulated switchgear SafeRing/SafePlus 	The SafeRing/SafePlus portfolio meets the switchgear requirements of wind turbine manufacturers for compactness, safety and flexibility, and is a complete range of secondary distribution gas-insulated switchgear for onshore and offshore applications in the global wind power market. All live parts and switching components are protected in a stainless steel tank to ensure the highest levels of reliability and safety, as well as a long and trouble-free service life in the harsh and often inaccessible environments that are typical of wind farms.
Safety control modules and devices 	ABB offers safety relays for all kinds of safety devices. The safety relays have great flexibility and a wide range of input options. They are small and compact with an excellent reliability and safety level.
Safety Sensors 	ABB offers highest safety level for harsh environments. The safety sensor is used to assure that a machine stops when a door or hatch is opened. It can also be used to monitor if a robot is in a fixed position when someone enters the working area of the robot. A non-contact safety sensor consists of two complementary parts that can sense each others presence without mechanical contact. This enables more flexible mounting compared to traditional mechanical switches.

Please note: This is ABB's global offering and some products might not be available in your country. Refer to abb.com for your location.

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