

Low-voltage products and systems

Transportation infrastructure global product offering

Understanding the importance and complexity of running and operating transportation infrastructure, ABB offers products and solutions to meet all your requirements. With a new range of power circuit breakers, switchboards, distribution cabinets and protection products, ABB ensures maximum safety and efficiency for your installations.

Low voltage

Product / Offering	Benefits and features
<p>The well-established ABB i-bus® KNX system is available today for the demands of tomorrow. It is based on the worldwide KNX standard and is open for ever increasing demands – for the utmost safety in planning.</p>	
<p>Lighting Control</p> 	<p>ABB i-bus® KNX ensures optimum lighting in industrial and office buildings as well as private dwellings by monitoring and controlling lighting requirements. In addition, subsystems, such as 1-10 V lighting control and DALI and their interfaces are supported.</p>
<p>Shading Control</p> 	<p>ABB i-bus® KNX controlled roller shutters, windows and blinds with sun position controlled louvers allow optimal lighting conditions and contribute to improved temperature and climate control in a room.</p>
<p>Heating, ventilation and air conditioning</p> 	<p>ABB i-bus® KNX integrates heating, air conditioning and ventilation for comfortable and efficient climate control. Measured temperature values in the rooms are recorded and supplied to the heating and cooling control system to generate the optimum temperature and air quality.</p>
<p>Security</p> 	<p>The combination of professional ABB security technology components and ABB i-bus® KNX devices provides optimum building monitoring and warning against unauthorized entry. Emergency call stations allow immediate notification if help is required. Technical detection alarms (water, smoke, gas) can also be integrated.</p>
<p>Presence Detection</p> 	<p>Knowing if people are in or moving around the building is a valuable asset for the efficient automation of any property. The ABB i-bus® KNX range of innovative motion and presence detectors helps to control and manage daily tasks in every sector of the building – indoors and outdoors. Whether lighting, heating, air-conditioning or security related functions, this portfolio of premium design, high quality detectors can significantly improve levels of safety, efficiency and comfort throughout the building.</p>
<p>Energy Management</p> 	<p>ABB i-bus® KNX is designed to reduce building operating costs and to employ the required energy consumption according to demand. Objectives are optimization of resources, climate protection, and cost saving while keeping the comfort level of users at its highest.</p>

Product / Offering**Benefits and features**

Visualization, display and signalling



Networked structures work much more efficiently than individual systems. In both residential and business facilities, energy consumption is reduced, thereby cutting operating costs. At the same time, networked structures provide added comfort and security. ABB KNX control elements form the interface between this state-of-the-art technology and the user.

User operation - Push buttons and sensors



The comprehensive ABB i-bus® KNX sensor ranges enable you to be creative and help you to fulfil the requirements. Increasing demands made on versatile functionality in the functional building sector require the total compatibility of all components. Either the functional building range or other ranges of ABB will support you on this.

Energy monitoring and asset management



ABB Ability™ Electrical Distribution Control System (EDCS) collects and processes data to provide energy consumption control in the building and passenger station, all in a single location. The ABB Ability™ EDCS predictive maintenance feature ensures high reliability with lower maintenance costs.

Switch disconnectors



The OT range of switch disconnectors from 16 to 4000A is suitable for diverse applications such as machinery, power distribution and motor control centers. Thanks to a modular design, OT switches are available in different pole configurations. Mounting is possible in any direction and a wide range of accessories is available.

Air circuit breakers



ABB SACE Emax 2 sets a new benchmark for air circuit breakers: it 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. ABB SACE Emax 2 is the only breaker that protects electrical circuits and optimizes energy consumption based on the user's needs.

Cable distribution cabinets and outdoor distribution boards.



Kabeldon cable distribution cabinets fit well in outdoor environments. They come in various designs and sizes, and perform well even under very tough conditions. The Kabeldon system provides a reliable solution that enables continuous operation over its entire life time. The products are designed and optimized to work together and tested and verified as a system.

Cable ties, tools and accessories



ABB offers one of the industry's broadest ranges of fastening solutions, including the trusted Ty-Rap® brand. With Ty-Rap rail, ABB offers specially developed cable ties for the rail industry (RW) that meet all requirements for modern rail vehicles. The type MX-RW cable ties offer UV protection according to ISO 4892-2 for outdoor use, and are also tested according to IEC / EN 62275 and UL 1565 and EN 45545 HL2 (R22 and R23) and I3/F2 in the French standard NF F 16-101 / -102 for use in areas with special fire protection requirements such as passenger carriages.

Product / Offering	Benefits and features
<p data-bbox="76 286 355 315">Cable trays and metal framing</p> 	<p data-bbox="451 286 1525 360">T&B® cable trays are a cost effective, reliable and adaptable alternative to conduit systems. Additionally, ABB offers a comprehensive line of metal framing and cable trays, including the industry's only 100% plated products, our 1" modular system, and hundreds of accessories to complete any job.</p>
<p data-bbox="76 548 209 577">Cam switches</p> 	<p data-bbox="451 548 1525 622">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.</p>
<p data-bbox="76 810 387 840">Compression cable lugs and tools</p> 	<p data-bbox="451 810 1525 884">AWG, IEC and DIN compression connectors, made of the highest-grade materials offering high conductivity/low resistance, meet or exceed all industry standards. The range includes straight and angled connectors and splices, plus a full selection of mechanical, pneumatic, and battery operated compression tools.</p>
<p data-bbox="76 1072 268 1102">Conduit and fittings</p> 	<p data-bbox="451 1072 1525 1198">ABB is a market leader in flexible conduit systems. With PMA and Adaptaflex, ABB offers one of the world's broadest ranges of cable protection products and solutions for the railway industry. The range covers non-metallic and metallic flexible conduit systems for the protection of critical power and data cables. Our special railway engineering product line provides protection and safety for signaling, high voltage, points heating, wheel sensor, breaking, rail crossing and tunnel installations, and other applications for railway infrastructure.</p>
<p data-bbox="76 1335 371 1413">Modular uninterruptible power supplies: DPA 250 S4 and PowerLine DPA</p> 	<p data-bbox="451 1335 1525 1460">The ABB uninterruptible power supplies (UPSs) provide power protection solutions for crucial rail applications. The modular UPSs are based on ABB's Decentralized Parallel Architecture (DPA) that ensures the very best UPS design in terms of availability, flexibility, and ease of use. The UPSs for railway applications have a high-efficiency architecture that offers best reliability for environmentally conscious organizations that also need zero downtime and low cost of ownership.</p>
<p data-bbox="76 1597 225 1626">Consumer units</p> 	<p data-bbox="451 1597 1525 1704">ABB's series of consumer units combines versatility and performance in an elegant design. Built to reduce cabling times, the consumer units allow the total integration of several kinds of DIN rail devices, installed either on a mounting plate or on blind front panels. With the wide range of sizes and models ABB's consumer units are one of the most comprehensive ranges on the market and complete ABB's offer for protection, control and monitoring.</p>
<p data-bbox="76 1859 300 1917">Control and automation boards</p> 	<p data-bbox="451 1859 1525 1989">ABB's range of metal enclosures for automation and control panels are perfectly suitable for installation in most industrial environments. They conform to the IEC 62208, IEC 60439-1 and IEC 61439-1-2 standards. Thanks to the high IP degrees of protection and IK resistance to mechanical impact, the enclosures offer high performance in demanding environments. The range includes enclosures in steel powder coated steel sheets and enclosures in stainless steel AISI 304, allowing for indoor and outdoor installations.</p>

Product / Offering**Benefits and features**

Earthing, grounding and lightning, and surge protection



With our Blackburn® and Furse brands, we offer a complete range of grounding and lightning protection systems, grounding connectors, and surge protection devices (SPD) to protect your building, processes and people

EasyLine XLP, fuse switch disconnectors



The 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.

E-Klips fasteners for rail heater fixings



E-Klips fasteners for rail applications offer a quick, easy and reliable method of fixing services to steelwork without the need for bracket making, drilling holes or the use of nuts and bolts. The fasteners are strong, easy to install and lightweight. The Z600+ anti-corrosion system (zinc based, chromium free coating) passed a 600 hour salt-spray test. A design with multiple points of contact prevents clips from moving or being pulled off even under extreme conditions. Carbon spring steel offers excellent shape retention for operating in extreme temperatures.

Electricity meters



Transparency of energy consumption allows precise planning. ABB's scalable energy meters for sub-metering enable the monitoring of energy usage, from incoming energy to the last branch, and comply with relevant international standards (IEC, MID annex B and annex D). All electricity meters allow measurement of active power, voltage, current and power factor.

Time relays



The time relays 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 time relays 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, all providing maximum value.

Measuring and monitoring relays



ABB offers all the important measuring and monitoring relays required for a wide range of applications, no matter for what environment. All electrical key parameters of single- and three-phase networks can be monitored. Further products offer reliable temperature measurement and help to protect motors and other equipment. Liquid level monitors ensure accuracy in filling and draining applications. Reliable protection of assets is ensured by choosing from this large range of high quality multi-function or single-function products.

Emergency lighting



ABB offers of a comprehensive portfolio of stylish and robust emergency and residential lighting, central battery supply, and monitoring systems. With our optimized lighting optics based on the latest LED technology, we are able to offer slim and stylish luminaries that lower energy and maintenance costs. (Note: Building and safety standards and brands vary by country.)

Product / Offering**Benefits and features**

Enclosed switches

Our range of enclosed switches is one of the most complete on the market. Whether you need a main disconnect or a safety switch, you can always find a high quality product that suits your application. ATEX and fire rated enclosed switches are also available. The enclosures are made of plastic, sheet steel, aluminum, or stainless steel.

Twister® S1

The Twister® S1 is a universal and central energy source for safety purposes. It remains dormant as long your energy provider's grid is supplying power. However, if the power cuts out just once, the Twister® S1 springs into action within one second to guarantee that the energy supply continues throughout the power outage.

Installation contactors

ESB installation contactors offer a complete portfolio (from 16 to 100 A) and are mainly used for switching and controlling lighting, heating, ventilation, motors and pumps. They are suitable for use in several different conditions and environments, designed to match ABB modular DIN-Rail components and can be easily integrated in dedicated panels. EN contactors also have a built-in toggle switch for automatic and manual application. Tool-free auxiliary contact blocks are available for the complete range.

Interface relays and optocouplers

ABB's interface relays and optocouplers can be used for switching both AC and/or DC loads. They ensure a reliable voltage conversion between process peripherals and higher level control systems. They provide electrical isolation for sensitive electronics such as PLCs and are also suitable for an assortment of machinery. Available in a range of different coil voltages, and compatible plug-in function modules, ABB's interface relay and optocoupler portfolio is suitable for many different applications and can even operate under extreme environmental conditions. This wide variety of pluggable interface relays can be equipped with standard or logical sockets.

Limit switches

Our limit switches product range combines different types of actuators, casings and contacts to covers most applications as they are IP67 designed to operate in the most difficult environments. They will secure installation and uptime.

**Main distribution boards
System pro E power**

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. The system meets all plant requirements depending on the type of installation, required degree of protection, and electrical and mechanical specifications. ABB provides complete solutions for main electric power distribution in infrastructure and industries in accordance with the regulatory frameworks. In addition, System pro E power guarantees full compatibility with all other ABB products.

Manual motor starters

Manual motor starters are electromechanical protection devices for the main circuit. They are mainly used to switch motors ON/OFF manually 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 the motor off within milliseconds. Starter combinations are setup together with contactors and are available with screw or push-in spring terminals.

Product / Offering**Benefits and features**

Circuit breaker for transformer protection



Circuit breakers for transformer protection are specially designed for fuse-less protection on the primary side of control transformers against overloads and short-circuits. It also allows the transformer to connect and disconnect manually from the mains. At start-up, transformers generate very high peak currents (inrush currents) so regular protection is often not enough. Where transformer must be appropriately protected, ABB's new MS132-T is the ideal solution.

3-pole contactors and overload relays for motor starting and power switching



ABB 3-pole contactors offer an exhaustive selection of products for simple and extreme applications. AF contactor technology revolutionizes how we use contactors and enables functionality 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. You can choose terminals between screw, push-in spring and ring tongue through our ranges. So whatever your need of a contactor might be, ABB will have a variant meeting just that.

4-Pole Contactors for power switching



ABB's AF 4-pole contactor range is a complement to the family of 3-pole AF contactors and motor protection equipment. Unmatched performance in a variety of applications and environments has made the AF contactors well appreciated by customers throughout the world. You can also benefit from the compactness of the 4-pole mini contactors available with 3 connection types.

Overload relays



Overload relays offer a reliable and affordable protection for motor starting solutions. It signals when an overload current or a phase failure unexpectedly occurs in an electrical circuit. There are two different technologies: the thermal version and the electronic version, which suits perfectly fine for standard applications. Both versions include reset (manual or automatically), test and stop functions. They are mounted directly to the correspondent contactors or they can be used for standalone applications (Single mounting kit needed).

Electronic compact starters



Transportation infrastructure demands products that are highly reliable, offer superior functionality and require little space in control cabinets. ABB's answer is the HF range- 30 million electrical switching cycles and a wide array of functions are combined in a compact housing only 22.5 mm wide. It includes direct-on-line and reversed starting as well as motor overload protection up to 3kW/400 V AC in just one device.

Universal motor controller



The intelligent ABB universal motor controller UMC100.3 combines motor protection and control functions, fieldbus and Ethernet communication, as well as fault diagnosis in just one device. It provides detailed operational, diagnostic and service data continuously, providing an effective data source for modern predictive maintenance systems in any plant. The device can be easily expanded when needed- for example with analog and temperature inputs, voltage measurement or digital inputs and outputs. Due to its flexible configuration options, the engineering effort can be significantly reduced and the number of modifications to a project limited to a minimum.

Arc Guard TVOC-2



The Arc Guard System™ increases safety to personnel and equipment and minimizes downtime after an arc accident has happened. The easy-to-read interface makes reading status information quick and easy. A simple start-up menu quickens installation and setup. SIL-2 approval ensure maximum reliability.

Product / Offering	Benefits and features
<p>Miniature circuit breakers (MCBs)</p> 	<p>Miniature circuit breakers protect electrical installations against overloads and short circuits, guaranteeing reliability and safety for operations. The System pro M compact S200 series are current limiting overcurrent protective devices. They have two different tripping mechanisms: a delayed thermal tripping mechanism for overload protection, and a magnetic tripping mechanism for short circuit protection. For rail applications the following MCB types are suitable: S 200 MT, S 200 MT UC, S 200 M UC, S 200 P</p>
<p>High-performance circuit breakers</p> 	<p>ABB's S800S high-performance circuit breakers are the best choice worldwide for industrial heavy duty applications. Thanks to an innovative short circuit extinguishing technology, S800S and S800S UC are the right solution when both size and performance matter. The compact and reliable solutions for line protection are available with a breaking capacity up to 50kA and rated current up to 125A.</p>
<p>Modular DIN rails components (MDRCs)</p> 	<p>Modular DIN rail Components, or MDRC, comprise a range of components that provide all functions related to measuring, controlling and commanding, to complete the offering of an electric switchboard. They can be plugged into a standard DIN-Rail in just one click.</p> <p>Protection devices and relays include fuse holders, load management devices and insulation monitors. Among the command and signalling devices there are switch disconnectors, latching relays, installation contactors, socket outlets and dimmers. Within the control and automation range you can find timers, twilight switches and temperature controllers.</p>
<p>Moulded case circuit breakers</p> 	<p>SACE Tmax XT moulded case circuit breakers guarantee extremely high performance while being progressively smaller in size, simple to install and able to provide absolute protection and full connectivity. Tmax XT range consists of seven frame sizes from 160A up to 1600A.</p>
<p>Pilot devices</p> 	<p>Our products are engineered for total reliability. Their innovative design simplify the entire process, from selection to installation.</p> <ul style="list-style-type: none"> • Modular range for flexible solutions with high electrical ratings • Compact range with all-in-on design reducing installation time and cost.
<p>Primary switch mode power supplies</p> 	<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 these areas' requirements. Innovation is the key to a substantial enlargement of our power supply product program.</p>
<p>Residual current devices (RCDs)</p> 	<p>Residual current devices protect people from life-threatening indirect contact with electricity. ABB's range of RCDs includes RCCBs, RCBOs, RCD blocks, earth leakage relays (DIN-Rail and front panels). Compliant with IEC/EN 61008 or IEC/EN 61009 they can be installed in all residential, commercial and industrial applications. For rail applications DS201 T is specifically suitable.</p>

Product / Offering**Benefits and features**

SlimLine XR, switch
disconnecter fuse



The SlimLine XR meets increasing industry demand for safe and reliable energy distribution. Thanks to its unique contact design and compact size, installation is safe, fast and easy. For remote operation and monitoring, SlimLine XR is available with an integrated motor, electronic fuse monitor (EFM), or the new integrated energy monitoring device ITS2.

Safety products



ABB offers a complete range of premium intelligent machine safety products and solutions, including safety PLCs, safety controllers, safety relays, safety sensors, switches and locks, optical safety devices, emergency stops, safety control devices, pressure sensitive devices and fencing systems.

Spring steel fasteners



Spring steel fasteners offer a quick, easy and reliable method of fixing services to steelwork without the need for making brackets, drilling holes, or using nuts and bolts. All products are manufactured to EN1449 — part 1.15 grade CS70, and are suitable for indoor or outdoor use, and for mildly corrosive environments.

Sub-distribution boards



With the TwinLine system, another benchmark in the field of modern power distribution is set. TwinLine has been tested according to IEC 61439 and DIN EN 61439 Parts 1, 2 and 3. Continuity is the guiding principle for these new wall-mounted and stand-alone cabinets for distribution board assembly, from their high degree of protection, to their ease of installation, to a portfolio that can meet all requirements in the field. System intelligence comes as standard with TwinLine because in combination with CombiLine - modules, TwinLine offers unlimited possibilities for internal configuration.

Surge protective
devices (SPDs)



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.

ABB's SPDs are available for all kinds of electrical networks (TT, TNC, TNS, IT) and can be installed in all applications, from low-voltage power to data and telecom lines, CCTV PV, WT, LED and self-protected. They are fully equipped with end of life indicator, safety reserve system and auxiliary contacts.

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 the easy and fast selection of motor control devices.

Transfer switches



ABB offers a wide variety of transfer switches from 16 to 3200A, including switches for the manual, remote, or automatic transfer of loads from one source to another. The switches are designed to be virtually maintenance free across their entire extended lifespan and offer safe and reliable change-over performance.

Product / Offering**Benefits and features**

Wire termination and tools

A full line that includes insulated and non-insulated terminals, wire joints, ferrules, heat-shrinkable terminals, splices and disconnects in imperial and true metric sizes. A complete set of tooling is included.



Wiring duct

Premium quality duct for point-to-point wiring is ideal for electrical enclosures, machine building and data/communications panels and cabinets. ABB's offering includes imperial, metric and DIN duct in standard materials and specialty materials that are halogen-free.



Service and support

With a global installed base and domain expertise, our service products and services improve the operational efficiency, reliability and performance of your systems and equipment across the complete lifecycle, thanks to replacement and retrofit solutions. ABB offers Support Centers providing 24/7 phone response and online support, asset management with remote monitoring and predictive maintenance, and the availability of spare parts for the latest or legacy low voltage equipments.



ABB Connect

Your Digital Assistant

Connect to your electrification solutions with your digital assistant, access the latest news and create your own digital workspace.

Available for use on iOS, Android and Windows 10.

new.abb.com/low-voltage/service/abb-connect

ABB

For more information and local contacts, please visit:

new.abb.com/low-voltage/industries/rail/power-to-the-line

new.abb.com/medium-voltage/by-customer-segment/railways-and-transportation

The information contained in this document is for general information purposes only. While ABB strives to keep the information up to date and correct, it makes no representations or warranties of any kind, express or implied, about the completeness, accuracy, reliability, suitability or availability with respect to the information, products, services, or related graphics contained in the document for any purpose. Any reliance placed on such information is therefore strictly at your own risk. ABB reserves the right to discontinue any product or service at any time.