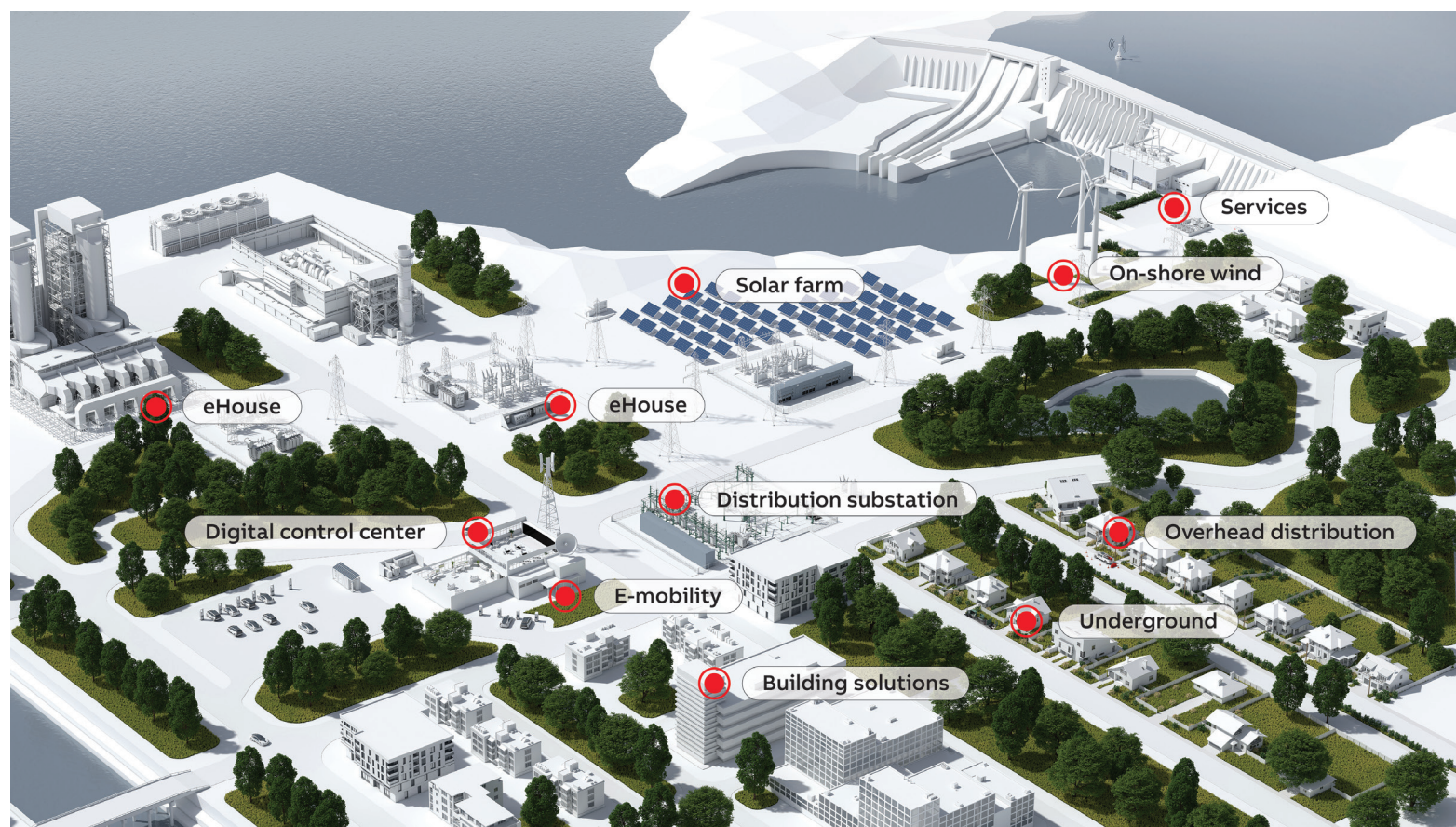





# Utility solutions









Safe, smart and sustainable solutions for the North American market










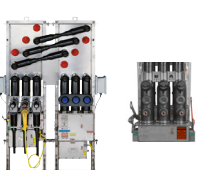



# Utility solutions














Safe, smart and sustainable solutions  
for the North American market

















Product	Picture	Offering	Benefits
Distribution automation, protection and control solutions		Arc protection: REA series relays	With safety a top priority, the REA family of relays is designed to protect medium and low voltage air-insulated switchgear against arc incidents.
		Automation accessories	RIO600, a touch-screen interface, and cables. Modular discrete input and output modules allow remote status and control of devices not currently controlled by IEDs. Contact your ABB sales representative for custom communication cable requirements.
		Test switches and accessories	Test switches are designed and manufactured to allow quick and easy multi-circuit testing of switchboard relays, meters and instruments by any conventional system.
		ZEE600 for unlocking digitalization and integration in the electrification process	ABB zenon Electrification Edition ZEE600 fulfils the role of a seamless integrator of diverse devices such as ABB and 3rd party protection relays, meters, substation equipment condition monitoring units, programmable logic controllers (PLCs) and remote terminal units (RTUs) deployed in digital electrification solutions. A flexible substation automation device that provides localized automation. This unit enables local HMI, data concentrator and advanced smart grid automation such as FDIR and automation.
		Electromechanical relays	Electromechanical relays are key components in new applications where reliable operation is essential, in harsh environments or in existing installations where an exact replacement is required.
		Microprocessor relays with PCM600	The Relion® product family offers the widest range of products for the protection, control, measurement and supervision of power systems for ANSI applications. To ensure interoperable and future-proof solutions, Relion products have been designed to implement the core values of the IEC 61850 standard. The IEC 61850-compliant protection and control IED manager PCM600 tool provides versatile functionalities for the entire life cycle of all Relion protection and control IED applications, at all voltage levels.
		SSC600 centralized control and protection	Designed to support the increasing digitalization of substations, ABB Ability® smart substation control and protection for electrical systems, SSC600, represents an innovative way of looking at protection and control in distribution networks— with all protection and control functionality centralized in one device.
		Pre-configured matching unit	Serving as a direct replacement for ABB legacy relays, the PCMU and REF615R is the ideal solution to mitigate risks, limit downtime and save costs on relay upgrades. It offers a reliable, seamless upgrade due to the risk reduction only a wire-alike solution can provide.
Instrument transformers		Current and voltage instrument transformers 0.6–34.5 kV	Dry-type instrument transformers for indoor and outdoor use provide standard accuracy and high accuracy metering, relay protection and control power. Utility applications include use in power transformers, breakers, capacitor banks, substations, metering cabinets and pole mounting.
		AccuRange® current transformers High accuracy and extended range, 0.6–34.5 kV	AccuRange current transformers deliver savings through improved accuracy metering and reduced inventory requirements. These units exceed 0.15S metering class accuracy and provide 0.15% accuracy from 1% of the nominal current through the rating factor.
		Voltage transformers with ResiVolt™ technology, Very fast transient (VFT) resistant	World's first dry-type voltage transformers designed for VFT resistance. Units with ResiVolt technology offer enhanced withstand to VFT overvoltages, resulting in unparalleled performance and safety in renewable and frequent line switching installations.
		PMU (primary metering unit) 5–34.5 kV	Primary metering units are designed for three-phase primary metering in pole-mounted or pad-mounted applications. They consist of medium voltage current transformers (CTs), voltage transformers (VTs) or combination transformers (CT/VTs) that have a smaller footprint and fewer connection points for easier installation. Pole-mounted PMUs are mounted on an aluminum frame, and pad-mounted PMUs are mounted inside a steel cabinet.

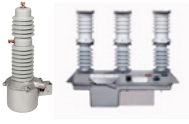







Product	Picture	Offering	Benefits
Sensors		Distribusense™ current, voltage and combination outdoor sensors For installation on 15–34.5 kV overhead lines	Distribusense sensors offer lighter weight, greater safety, easier installation, more reliability and better linear response to a wide range of varying loads when compared to traditional instrument transformers. They are ideal for grid modernization applications and provide utilities with improved visibility, reliability and grid efficiency.
Overhead disconnect switches		DCD double insulator single-phase	Hookstick-operated switch used for sectionalizing or isolating circuits on electrical distribution systems up to 38 kV.
		ITD single-phase, non-loadbreak, inline tension	Used for manual switching of de-energized or parallel circuits of overhead distribution lines rated 15–38 kV.
		RBD single-phase bypass	Provides a means for bypassing and disconnecting reclosers or voltage regulators, allowing maintenance on equipment without service interruption.
		SID (15–38 kV, 600 or 900 A) LSID, loadbreak (15.5–15/27 kV, 600 A)	Single-phase disconnect on overhead distribution feeders and in outdoor distribution substations. Mounts like a standard cutout or directly on a pole. Used as a disconnect between overhead and underground lines.
Outdoor circuit breakers		R-MAG® magnetically actuated outdoor breaker 15–38 kV, 200 kV BIL and 40 kA	Designed with a magnetic actuator mechanism, the field-proven R-MAG breaker reduces costly maintenance intervals, increases reliability and improves safety.
Overhead distribution cutouts and sectionalizers		ICX, LBU-II, NCX, EU	Distribution cutouts are used on overhead distribution systems to provide overcurrent protection and give visible indication of fuse operation and sectionalizing break points for maintenance personnel.
		AutoLink sectionalizer Up to 38 kV, 200 A, 8 kA, 170 kV BIL	Improve grid reliability by adding a simple AutoLink or smarter WiAutoLink wireless sectionalizer. Fits on a standard ICX cutout body, and only one style per voltage class reduces inventory. A loadbreak option allows for a safe manual opening, and the units can be operated in single, bi-phase or three-phase operation.
Capacitor fuses		Outdoor: CXP, COL, CLXP Indoor: CLC, CIL	Indoor and outdoor current limiting and expulsion fuses from 1.2-26.2 kV and 6-100 A
Passive voltage indicators		VisiVolt™ For outdoor and indoor systems, 3–36 kV	Adapted for permanent installation on busbars and naked or insulated metal conductors in medium voltage systems, the VisiVolt indicates the presence of voltage to provide a higher level of safety.
Reclosers		 Solid dielectric reclosers Up to 38 kV	ABB's Elastimold™ solid dielectric reclosers are built for the evolving smart grid with integral load-side voltage sensors and provision to add optional source-side voltage sensors. These reclosers stand up to harsh environments, featuring proven solid dielectric and silicone insulation with improved weatherability and UV performance. The modular design allows for fast and easy field upgrades and retrofits. The three-phase model weighs 30% less than typical reclosers, making it easier and safer to install, while the single-phase model has a pole-rotation mounting bracket for easier installation. Triple-single-phase configurations are also available. A simple, maintenance-free magnetic actuator mechanism increases reliability, and 360° position indicator provides easy visibility from ground level.
		GridShield® triple-single recloser Up to 38 kV, 1200 A, 16 kA, 170 kV BIL Highest accuracy, ±1%, embedded dual voltage sensors Flexible controller with ABB, Beckwith and SEL options	ABB's newest generation recloser with high accuracy single and dual embedded voltage-sensing capability, highest creepage distance for heavily polluted environments, hydrophobic cycloaliphatic epoxy (HCEP) poles to shed water and state-of-the-art vacuum interrupters is available in single-tank or modular pole design to support the grid of tomorrow. GridShield can be paired with multiple ABB and non-ABB recloser controllers, making it completely interchangeable and flexible.
		OVR three-phase recloser Up to 38 kV, 1200 A, 16 kA, 170 kV BIL	A three-phase recloser with options for single and dual voltage-sensing capability, hydrophobic cycloaliphatic epoxy (HCEP) poles and state-of-the-art vacuum interrupters is a versatile and economical recloser, not only for reclosing but also for sectionalizing and automatic switching to tackle everyday smart grid challenges. Paired with the RER615 Relion® recloser control, it offers seamless integration into the network using high-end protection, control, automation and communication capabilities.



Product	Picture	Offering	Benefits
Motor control centers – Medium voltage		SafeGear® arc-resistant and Advance® non-arc-resistant motor control centers Rated 2.4–7.2 kV	SafeGear arc-resistant construction maximizes protection for equipment and personnel. It provides a superior solution for increased worker safety with enhanced reliability and ease of use. Advance provides cost-effective and innovative ways to power medium voltage motors.
		Limitamp Also available in arc-resistant	The Limitamp motor control center provides an economical means of centralizing motor starters and related control equipment. It permits motor control starters, feeders, isolator switches, distribution transformers, interlocking relays, programmable control metering and other miscellaneous devices to be obtained in a single floor-mounted structural assembly fed from a common enclosed main bus.
Motor control centers – Low voltage		ReliaGear™ LV MCC Up to 600 V, 3200 A and 100 kA	The ReliaGear LV MCC provides a safer, smarter and more sustainable means to protect and control motors by featuring Tmax® XT circuit breaker technology, UMC 100.3 motor protection relays and the ACS580 family of variable frequency drives. This flagship low voltage motor control center is full featured for any industry need, with up to 3200 A bus, across-the-line starters through size 6 and variable speed drives up to 500 HP.
		MNS-MCC Up to 4000 A horizontal and 1600 A vertical bus Also available in arc-resistant	Designed for the highest degree of safety, ease of installation and maintenance, reliability and flexibility, the MNS-MCC provides users with maximum uptime. The unique and innovative design raises the bar in arc flash protection for low voltage motor control centers. The MNS-MCC provides industry-leading features that afford operators optimal safety and efficiency while performing both normal and maintenance operations.
Switchgear – Medium voltage		Advance® air-insulated metal-clad switchgear 5–15 kV and 27 kV	Advance is ABB's ANSI platform for 5, 15 and 27 kV metal-clad switchgear, featuring a narrow footprint and designed and tested according to IEEE C37.20.2. With galvanized steel construction, hem bending techniques, and Delrin arc-quenching contacts, it is designed with safety, reliability and durability in mind. Advance is available as digital switchgear and with 24x7 asset health monitoring, SwitchgearMD™. Digital switchgear offers enhanced safety, simplicity by design and reduced operational costs.
		ReliaGear® ND MV SG air-insulated metal-clad switchgear 5–15 kV	ReliaGear ND is an IEEE C37.20.2-1999 compliant, 5 and 15 kV metal-clad switchgear platform featuring a narrow width, two-high breaker configurations and the compact, easy-to-maintain Vmax/A Breaker. ReliaGear ND is available as digital switchgear and with 24x7 asset health monitoring, SwitchgearMD™. Digital switchgear offers enhanced safety, simplicity by design and reduced operational costs.
		SafeGear® air-insulated arc-resistant metal-clad switchgear 5–15 kV	SafeGear's arc-resistant construction maximizes protection for equipment and personnel. SafeGear HD is the "high-duty" version of SafeGear, specifically designed for interruption and arc fault ratings of 63 kA. These products provide a superior solution for increased worker safety with enhanced reliability and ease of use. SafeGear and SafeGear HD are available as digital switchgear and with 24x7 asset health monitoring, SwitchgearMD™. Digital switchgear offers enhanced safety, simplicity by design and reduced operational costs.
		 Solid dielectric switchgear Up to 38 kV	Elastimold™ solid dielectric switchgear provides compelling value for pad-mount, riser-pole and vault applications. Maintenance-free vacuum and molded EPDM solid dielectric insulation offer more than 50 years of field-proven performance, and all components are sealed and fully submersible. With no oil or gas involved, there is no leakage and no maintenance required. Dead-front construction eliminates exposure to live components, and the optional Tru-Break® visible break module ensures that the circuit is dead and isolated. The non-position-sensitive switchgear features a compact and lightweight design that fits into tight vaults and is modular for combining molded vacuum switches and interrupters in an unlimited number of ways and configurations.
		ZX family of gas-insulated arc-resistant switchgear 15–40.5 kV	Combining modern vacuum interrupter technology with a low-pressure SF6 gas insulation, all primary components inside the SF6 cabinets are maintenance-free during their lifetime, making the ZX family ideal for harsh, aggressive environments with a space-saving compact design.
		SafePlus secondary gas-insulated switchgear 6–40.5 kV	SafePlus is a metal-enclosed compact switchgear system for distribution applications from 6 to 40.5 kV. The switchgear offers a unique flexibility due to its extendibility and the possible combination of fully modular and semi-modular configurations. The switchgear is type tested according to ANSI/IEEE C37.20.3, C37.58, C37.54, and UL listed. It is rated 38 kV, 20 kA, 600 A, non-arc resistant. Available panels include cable switching, vacuum circuit breaker and air-insulated cable riser.

Product	Picture	Offering	Benefits
Switchgear – Low voltage		ReliaGear® LV SG	Built to ANSI standards, ReliaGear LV SG incorporates the best of both worlds: cutting-edge Emax2 air circuit breakers with Ekip trip unit technology, all integrated into the proven AKD switchgear platform. Bus insulation/isolation is optional and integrates Emax 2 breaker and Ekip trip unit technology. Also features an optimized footprint that fits into a smaller area for the most common configurations. E1.2 Emax frame provides a 15-inch minimum four-high stack width.
		AKD-20 Available in arc-resistant	AKD-20 low-voltage switchgear is designed and built to ANSI and UL 1558 standards, with UL 1066 breakers for segments/industries where standard and arc-resistant gear is required. AKD-20 offers a safer, smarter, and more sustainable solution for NEMA 1 and 3R construction. Features include main breaker ratings up to 6000 A and interrupting ratings up to 150 kA. AKD-20 switchgear has an optimized footprint that fits into a smaller area for the most common configurations. Safety is enhanced through arc-flash mitigation via reduced energy let-through protection (RELT), zone selective interlocking on instantaneous (IZSI) and ultra-fast earthing switch (UFES).
		Entellisys® 5.6 Available in arc-resistant	Entellisys low-voltage switchgear is designed for mission-critical applications, providing a better integrated, smart approach to power distribution needs in healthcare, education, data centers, oil and gas and industrial applications. Entellisys addresses customer concerns related to operator safety, arc-flash mitigation, diagnostics and total cost of ownership. Entellisys is also available as IEEE Type 2B arc-resistant robust construction with the same footprint as standard equipment.
Fault current limiters		IS-Limiter current-limiting device	The world's fastest current-limiting and switching device rated up to 40 kV, the IS-Limiter is capable of detecting and limiting a short-circuit current during the first current rise, i.e., in less than a millisecond. It can be applied in early system design stages or to increase ratings in existing systems, thereby reducing capital costs and improving system functionality.
		FC-Protector®	Unique standard and compact fault current limiter for indoor and outdoor use allows fast and easy integration into new and existing systems, resolving short-circuit challenges.
Active internal arc protection devices		UFES	Provides innovative arc-fault protection, offering the highest possible level of safety for personnel and equipment, maintenance of secure power supply and reduction of production outages.
Generator breakers		ADVAC® G Vacuum circuit breakers for generator switching applications	A complete product line compliant with the latest global dual logo IEC/IEEE 62271-37-013 standard, featuring the familiar ADVAC design for easy integration into metal-clad switchgear applications, increasing benefits in a compact footprint and optimizing maintenance.
Load interrupter switches – Medium voltage		Breakmaster	The Breakmaster metal-enclosed load interrupter switch provides dependable, economical load switching and protection for medium voltage circuit applications from 2.4 kV through 15 kV in 600 A or 1200 A load interrupting ratings. Used mainly as a primary or secondary disconnect switch for transformers, the variety of configurations in which Breakmaster is available also make it useful for specific distribution needs.
		Breakmaster V With vacuum circuit breaker (instead of fuses)	For facilities concerned with arc flash safety standards, Breakmaster V provides reduced arc flash incident energy levels for customers on their existing medium voltage equipment.
		LIS retrofit	The LIS retrofit provides reduced arc flash incident energy levels on existing medium voltage equipment by retrofitting a fixed mounted vacuum circuit breaker (VCB) into the fused compartment of LIS. Operating in three cycles, the fast-acting VCB is superior to fuses and offers an arc flash mitigating solution designed in response to arc flash safety standards.
		VersaRupter®	The VersaRupter general-purpose, three-pole, loadbreak switch offers switchgear owners and assemblers the advantages of an advanced interrupting technology and proven, dependable performance in a compact design. The switch is available to switchgear assemblers as a building block for metal-enclosed and pad-mounted switchgear applications in ratings from 4.76–38 kV.
Switchboards		ReliaGear™ SB	ReliaGear SB features a safer, more reliable design and groundbreaking Emax 2 power circuit breakers or Tmax® XT plug-in molded-case circuit breakers to dramatically save time, labor, and cost while helping ensure greater energy efficiency and reliability.
Busway		Spectra series busway	Spectra Series busway is a custom-designed, low-voltage modular electrical power distribution system, available in both feeder and plug-in styles. Offered with ratings up to 6000 A, and voltages up to 600 V AC and 1000 V DC, the smaller size and lightweight construction replaces wire and conduit, resulting in reduced installation costs and improved reliability. Spectra busway complies with commercial and industrial standards and can be applied in commercial buildings, data centers, distribution centers, airports, universities, hospitals and industrial facilities.

Product	Picture	Offering	Benefits
Cable accessories		<b>elastimold</b> Underground cable accessories	The Elastimold™ brand offers one of the largest product offerings in the industry of IEEE 200 A loadbreak and deadbreak elbows and 600 A and 900 A with EPDM rubber molded products and epoxy components. All products are manufactured in the USA in state-of-the-art facilities with centralized stocking in the USA and are 100% tested. The Elastimold™ brand's long, innovative history includes pioneering such products as extended, repair and jacket seal elbows. Elastimold accessories, available from 5–138 kV, are used to connect, ground, splice, terminate and protect underground cable.
		<b>Hi-Tech</b> Current-limiting fuses	Hi-Tech™ is an industry brand of current-limiting fuses with advanced designs to provide superior protection in small, cost-efficient form factors to optimize value, reliability and reduce system life cycle costs. With fault clearing capabilities in less than one-half cycle, Hi-Tech current limiting fuses reduce the let-through energy, thereby significantly reducing stress on equipment and increasing safety. One hundred percent factory tested and sealed, rugged machined-brass end caps and patented damage sensors are just a few benefits. ABB now offers the Hi-Tech Valiant™ full-range current-limiting fuse for fire mitigation. This new fuse incorporates over 20 years of field-tested Hi-Tech full-range fuse technology combined with a new visual indicating mechanism. The Hi-Tech Valiant current-limiting fuse's special construction contains the explosive fragments that could otherwise be emitted during fuse operation – fragments that could fall on dry vegetation and ignite a wildfire.
Underground and network connectors		<b>HOMAC</b> Network connectors	Homac™ continues to be one of the industry leaders in underground distribution connectors and network connectors. World-class product configurations meet transformer, hand hole and pedestal application needs. One hundred percent of our Flood-Seal® bus connectors are subjected to a dielectric test at 4,000 volts for 60 seconds to ensure insulation integrity. Our product experts are ready to work with you directly to develop customized solutions to meet your specific needs.
		Transformer connectors	
		Multiport connectors	
		Splice systems	
		Compression	
		Grounding	
		<b>HOMAC</b> Street lighting connectors	Homac™ street lighting connectors are available in breakaway and non-breakaway styles with both compression and mechanical connectors to meet all of your street lighting connection needs.
Overhead connectors		<b>Blackburn</b> Terminals	The Blackburn™ brand stands for quality and reliability in connecting overhead distribution power lines and equipment, encompassing a complete line of splices, taps and terminals for all overhead distribution applications. With Blackburn Storm-Safe® breakaway service entrance kits, when ice-loaded or debris-damaged service cables come down, they are de-energized, with no further damage to equipment or customer property.
		Taps	
		Splices	
Substation connectors		<b>HOMAC</b> Welded aluminum	Homac™ substation connectors encompass a broad line of high-quality substation connectors. With weldment and bolted products up to 500 kV, the wide Homac product offering includes a full line of couplers, taps, bus supports, terminals and expansion connectors. Homac products are made in plants that are ISO 9001-2008 certified for both design and manufacturing to ensure quality and reliability. Prefabricated bus assemblies, A-frames and jumpers are also available to save you time and money on the jobsite.
		Bolted aluminum	
		Bolted bronze	
		EHV 345–500 kV welded and bolted aluminum	

Product	Picture	Offering	Benefits
Capacitor bank switches		<b>JOSLYN</b> Varmaster and VerSaVac® switches	Joslyn Hi-Voltage® switches are designed to switch capacitor banks for improved system efficiency, voltage profile and capacity. Using vacuum interruption, solid dielectric insulation and solenoid operators, these switches offer long, reliable service life of up to 100,000 expected operations with no required maintenance. They contain no oil or gas, eliminating the associated environmental concerns and regulatory requirements for monitoring usage and leakage. VerSaVac (VSV) distribution capacitor switches are available in single- and three-phase, 15–38 kV, 200 A. Varmaster (VBM) substation capacitor and reactor switches are available in one-pole and three-phase, 15–72.5 kV, 300 to 600 A. A zero voltage closing (ZVC) control option provides transient mitigation of system over-voltages and inrush current.
		DS1	The DS1 is the first synchronous switch isolated in dry air specifically designed for transient-free capacitor bank switching. Thanks to an integrated electronic control unit, semiconductor technology and synchronization with the network, the DS1 increases reliability and prolongs the life of system components such as capacitor banks and transformers.
Capacitor bank controllers		<b>FISHER PIERCE</b> 54000 and 55000 series capacitor controllers	Fisher Pierce™ 54000 series controllers optimize grid power performance and power factor corrections. They can be used in conjunction with Joslyn Hi-Voltage® VerSaVac® and Varmaster VBM capacitor switches. The controllers offer durability with coated stainless steel or plastic cabinets and different mounting options, including pole mount, meter socket jaw and configurable base plates. They offer remote control communication capabilities, user-friendly programming via front panel or PC-based software, and data logging that captures 10,000 events.
Packaging and solutions		Single point of contact for products and services related to project packages or modular solutions	ABB offers a comprehensive approach to product administration for modular solutions such as E-houses and skid solutions. By managing the design, procurement, installation, logistics and commissioning of all project elements, customer engineering costs, risk and complexity are reduced.
Services		Replacement parts, emergency services, equipment start-up and field commissioning, power system studies and reports, equipment modernization and upgrades, motor services, training and turn-key projects	ABB Electrification Services offers service, retrofits and upgrades on installed equipment regardless of the manufacturer, as well as consulting services, power system studies and turn-key project support. ABB's superior technology, engineering resources, and field technicians help provide a multitude of services to fit customer needs.
E-mobility		Public and passenger vehicle charging infrastructure	As the first to deploy nationwide charging networks over a decade ago, ABB E-mobility is experienced in DC fast charging systems for public networks, commercial retail sites, public parking and convenience locations. Our charging solutions serve all passenger vehicles in a range of power from 20 to 350 kW at up to 920 VDC, according to all open charging protocols and safety standards. Additionally, ABB E-mobility chargers are connected 24/7 for enabling OCPP and varied payment solutions, as well as remote updates and field services which support an optimal owner and driver experience.
		Fleet and commercial vehicle charging infrastructure	ABB E-mobility provides a wide range of charging solutions tailored to fleet and commercial vehicle needs from 20 to 350 kW including critical high voltage DC fast charging for trucks, vans and other medium- and heavy- duty fleet vehicles. Every charger is connected for round the clock remote services and updates, OCPP integrations, and a suite of web tools to enable data collection and reporting as well as multiple authentication modes. All ABB chargers are backed by specialized services including tech support, training, interoperability testing and validation, as well as commissioning and field service support.
		Bus and transit charging infrastructure	HVC charging systems from ABB E-mobility cover a robust DC power range up to 450 kW and 850 VDC via CCS and pantograph-based connections. The HVC overnight charging solution allows connection of up to three depot charge boxes with a single power cabinet, where vehicles are charged sequentially over time. The pantograph opportunity charging systems can deliver high-power charging via an automated rooftop connection in charge times of 3 to 6 minutes at endpoints, terminals and intermediate stops, mounted on a pole or ceiling, without impacting daily route operations. All ABB E-mobility HVC solutions can meet Buy America (Rule 49 CFR Part 661.5). ABB's HVC charging systems come with an extensive suite of connectivity features including network integrations as well as remote services such as monitoring, management, diagnostics and software upgrades.



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