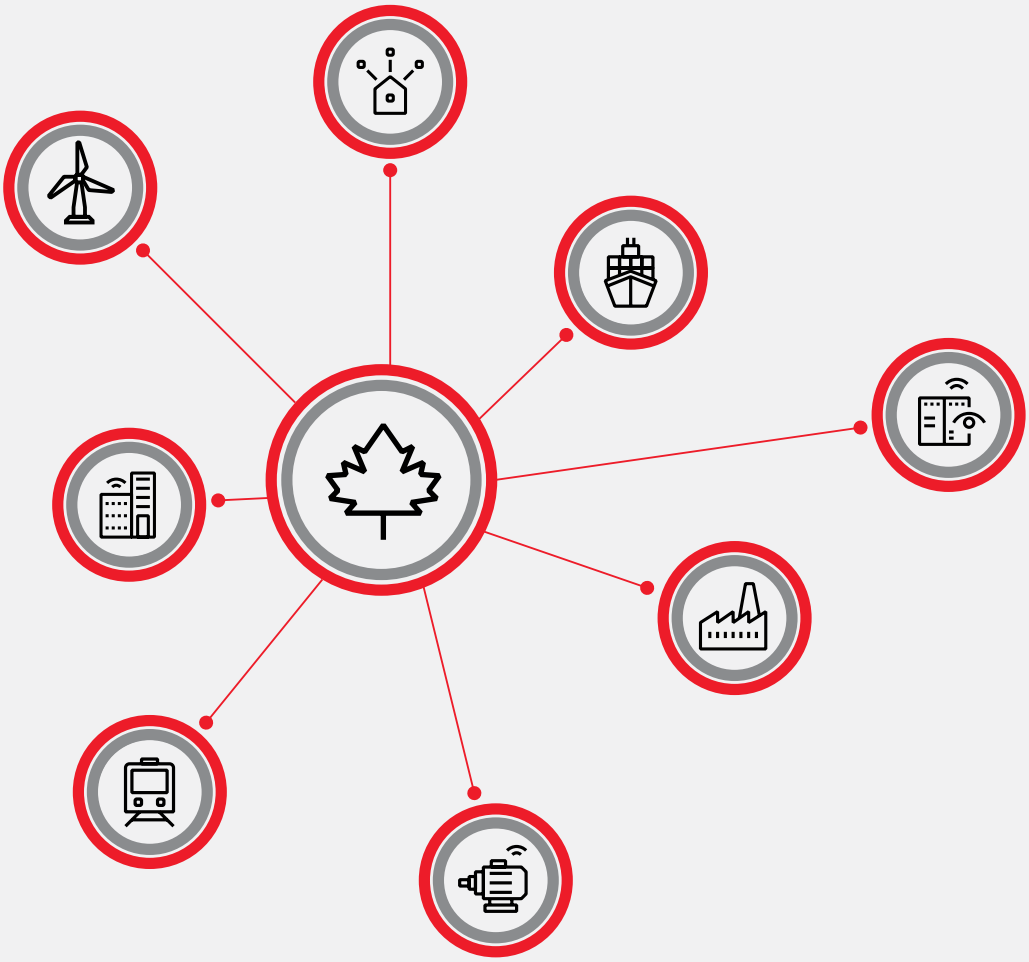
ELECTRIFICATION CANADA

Electrical Distribution, Control and Power Solutions

Innovative solutions when and where you need them



- ABB Ability™
- Smart Power
- Smart Buildings
- Distribution Solutions

Electrical solutions are all around us...

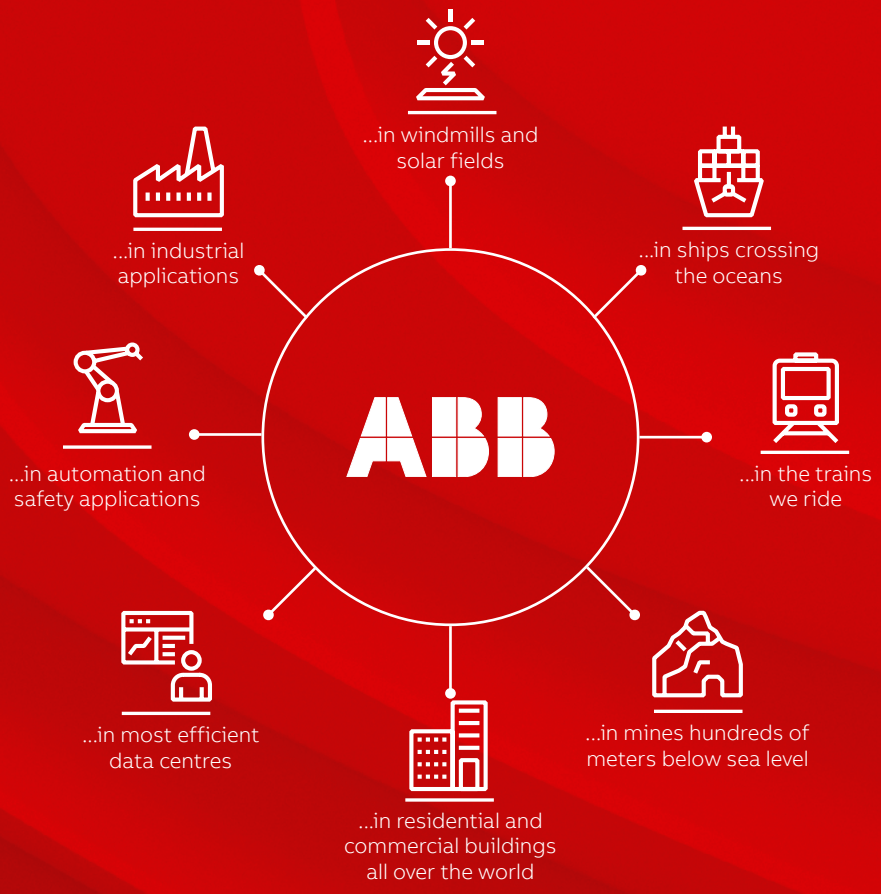


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ABB in Canada for Canada
visit our new dedicated web page at
new.abb.com/ca/CountOnUs

ABB Electrical Distribution, Control and Power Solutions

ABB, a powerful source for control solutions, offers the broadest range of low voltage products. With nationwide sales offices, ABB provides immediate service and personalized support.

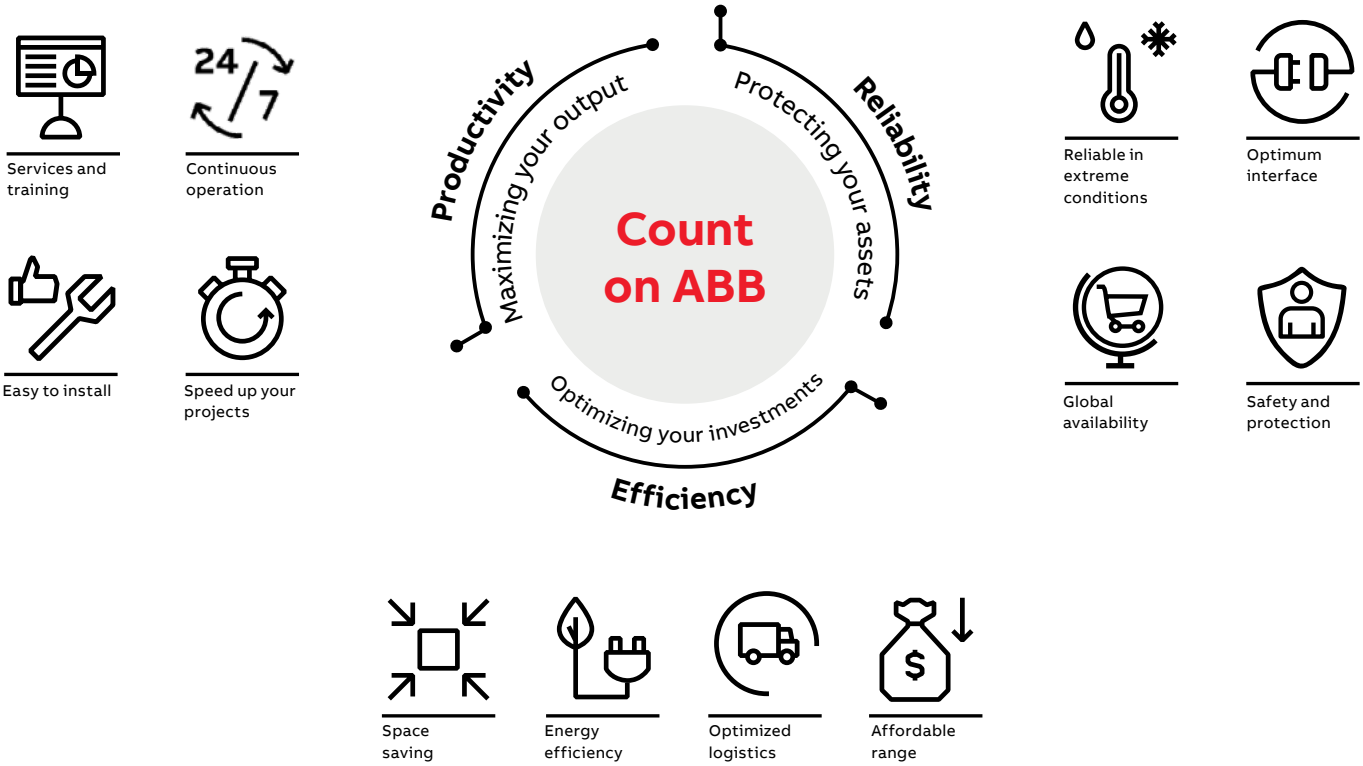
All of our sales engineers and technical support personnel are ready to help you to select the best solution for your requirements.

At ABB, we continue to improve our offering by having an outstanding research and development program. As a result, innovative new and improved products. Moreover, ABB products meet the highest quality standards worldwide, including UL, CSA, VDE, IEC, EN, and many other approvals.

All ABB manufacturing sites have received ISO 9001 approval. Our mission is to be a leader in supplying high quality products and services that consistently meet the needs and requirements of our customers.

Our broad product lines include high quality, safe and reliable solutions for:

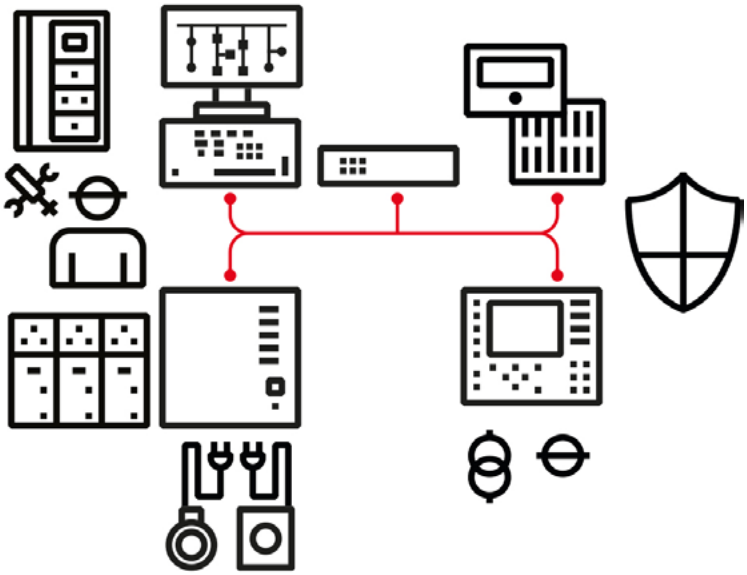
- Control products
- Switches
- Circuit breakers
- Electronic products and relays
- Machine safety
- Low voltage power quality systems
- Electrical distribution equipment



01

Solutions

Digital Solutions



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Link for more info

Solutions overview
ABB's versatile and high performance medium voltage products facilitate creation of unique customer solutions towards smarter power distribution in industries, sensitive infrastructure and utilities. These type of solutions are enabled through distributed functions across multiple interconnected digital-enabled products and in doing so, their individual features are fully exploited to derive maximum benefit. Besides, new installations, these solutions also offer the possibilities to introduce latest substation, digital-edge technologies into existing installations.

Key solutions
- Bus transfers solutions
- MV Substation data management
- cPMS load-shedding solution
- cPMS Power generation control
- cPMS Islanding, ensuring a rapid isolation of customer power network after a grid disturbance.
- ZEE600 Energy Management System and SCADA solutions

Benefits
- High expertise, competence and commitment in understanding and solving customer challenges
- Safeguarding customer investment by avoiding expensive and dedicated high-end equipment
- Providing high returns to customer's substation protection and control infrastructure

Markets & applications
- Utilities
- Industrial applications

ABB Ability™

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ABB Ability™ website

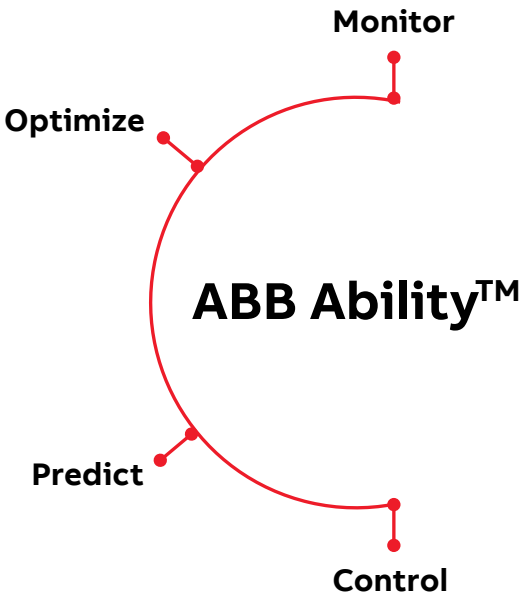
ABB Ability™ solutions combine ABB's deep domain expertise with connectivity and software innovation to empower real-time, data-driven decisions for safer, smarter operations that maximize resource efficiency and contribute to a low-carbon future. Our large portfolio of digital solutions help organizations automate, optimize and future-proof their business to achieve new heights of performance and drive sustainable progress.

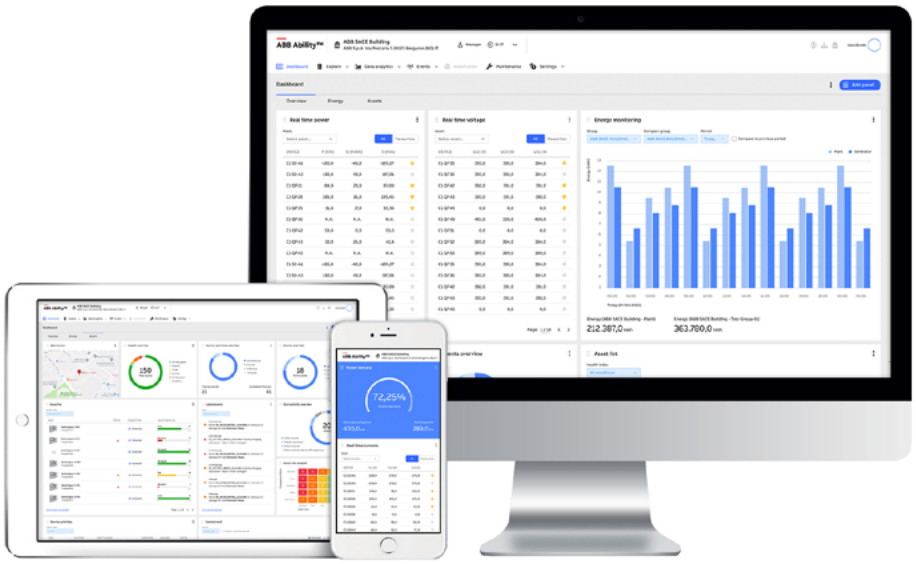
As a subset of the wider ABB Ability™ cloud platform, Energy and Asset Manager (EAM) is a modular, state-of-the-art, Software as a Service (SaaS) solution that integrates energy and asset management in a single intuitive dashboard. With real-time visibility into energy use, electrical power quality and health of LV/MV electrical distribution system equipment, the solution helps organizations with multiple small or medium-sized sites like factories, commercial buildings and data centers optimize power consumption and minimize downtime. The energy and asset management modules can be purchased separately or together, depending on your needs. Monitoring can also be segmented down to individual pieces of equipment and/or sub-systems such as an elevator, a single HVAC system, or a production line.

The Energy Manager side of EAM comprises widgets specifically aligned to ISO50001 energy management guidelines. The Asset Manager functions in EAM include predictive maintenance for asset health optimization. Together, they contribute to direct and indirect cost savings that accumulate over the operating life of the equipment.

Fast facts:
- Powerful platform with vast possibilities
- Fast and simple implementation
- Good for greenfield and brownfield applications
- No coding or programming needed
- Strong data security
- Safe to install and operate
- Little to no disruption on existing site equipment
- Move from Capex to Opex

ABB Ability™ is not merely a digital connectivity platform but also a technology enabler that opens up opportunities to improve safety, efficiency and cumulative cost savings through energy conservation and asset availability.





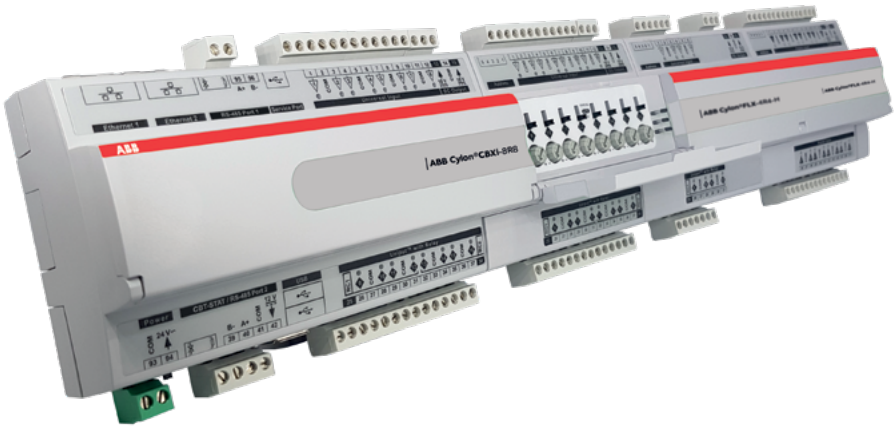
End users
Save up to 30% on operational costs

Facility / plant managers
Take action in 1 minute, anywhere...anytime

Consultants
Increase the value of your projects by 15%

Panel builders
Connect the panel to the cloud in 10 minutes

ABB Cylon® CB Line



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Link for more info

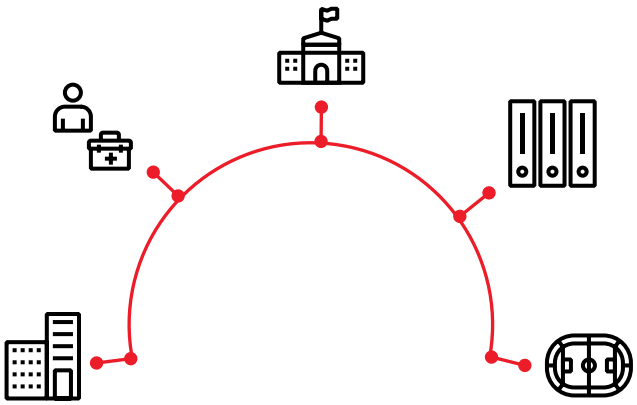
ABB Cylon® CB Line series of BACnet® field controllers, CBXi Series, CBX Series, CBT Series, and CBV Series are designed to work as part of the ABB Cylon dual-platform offering and can be used as field level BACnet IP and BACnet MS/TP controllers for ASPECT® and INTEGRA™ building management solutions.

Product overview
ABB Cylon® CB Line delivers a holistic smart building offering of smart energy management, heating, ventilation, and air conditioning control systems, based on the ABB Cylon® BACnet solutions

Features
- Freely programmable controller for various applications
- BACnet/IP (CBXi) and BACnet MS/TP (CBX, CBXi, CBT, CBV) Controllers
- Modbus TCP (CBXi) and Modbus RTU (CBX, CBXi, CBT, CBV) Controllers
- Uniputs™ - universal in- and outputs, digital and analogue
- Extendable IO's with FLX modules (modular hardware)
- With and without manual operation
- Wide range of sensors (Humidity, Temperature, etc)

Benefits
- Monitor and control in real time
- Assured safety
- Centralized supervision
- Protect your investment
- Future proof plant and equipment
- Full control in users' hands
- Improved occupant comfort

Applications
Designed for a wide range of applications for the intelligent control of :
- HVAC Equipment
- Boilers and Chillers
- Cooling Towers
- Pumps
- Variable Frequency Drives
- Rooftop Units
- Air Handling Units
- Constant Volume, Variable Air Volume, Multi-zone
- Metering
- Electrical Systems e.g. Lighting Control



Markets & applications
- Commercial
- Healthcare
- Institution
- Data centers
- Infrastructure (Airports, Stadiums)

ABB Electrification Services

ABB's Electrification Distribution Solutions Service team are experts across a wide range of products and service offerings. They have the knowledge and experience to help solve problems and assist in meeting all your service needs, both on and offsite. With over 100 years of experience in the design, development, manufacturing, and service support of medium and low voltage distribution equipment, we have established a wealth of technical solutions to meet your specific electrical network reliability needs.

Medium voltage service website

Supporting the entire asset lifecycle

Low voltage service website

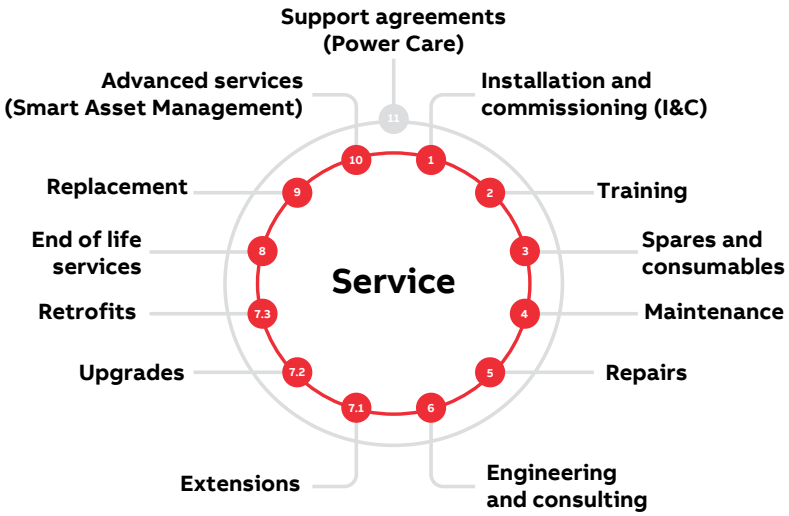


ABB offers service solutions for both low and medium voltage networks that:

- Ensures continuous availability of customer assets and their operational efficiency.
- Safeguard highest reliability of customer assets throughout their lifetime.
- Increase predictability of customer assets behavior to optimize and improve operations.

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Service and aftermarket solutions
Electrification products distribution solutions service

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ABB Services
Phone: 1-800-435-7365

Customer Needs

Availability

- Life cycle product Support
- Highest Product reliability and fast service response
- Reduce risk through certified technicians and parts

Reliability - Safety services

- Be sure to meet all safety regulations
- Exploit the latest technology for higher safety standards
- Increase operator and equipment safety

Reliability - Life cycle services

- Cost effective life extension optimized investment
- Usage of latest breaker technology
- 1 to 1 replacement

Predictability

- Increase functionality
- Utilize real time data for fast recovery
- Optimize assets performance through condition analysis

ABB Solutions

- Installation & Commissioning Training
- Spare parts
- Maintenance
- Repairs
- Warranty

- Testing
- Studies
- Upgrades

- Retrofit
- Replacement breakers
- Match-in-Line/Extension

- Monitoring & diagnostics
- Engineering & consulting
- Assessments
- Service agreements

Notes

02

Low Voltage Distribution Equipment

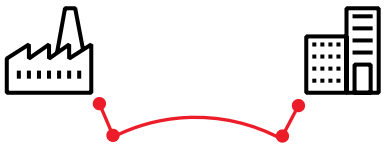
Low Voltage Switchgear

Features
- Up to 600Vac, 800...6000A / up to 100kA
- The optimized footprint uses smaller section sizes when possible. Sections are provided in 22", 30" or 38" and 49" width
- Breaker compartment doors have no ventilation openings, thus protecting operators from hot ion-ized gases vented by the breaker during circuit interruption
- A superior bus system offers different levels of protection. Insulated and isolated bus makes maintenance procedures touch friendly to reduce the risk of arc flash
- True closed-door drawout construction is standard with all ReliaGear LV equipment. The breaker compartment doors remain stationary and closed while the breaker is racked out from the connect position, through test, to the disconnect position. Doors are secured with rugged 1/4-turn latches

Product overview
ReliaGear LV SG is the new generation low voltage switchgear platform incorporating the best of both worlds: cutting-edge SACE® Emax® 2 air circuit breaker with SACE® Emax® 2 Ekip trip unit technology, integrated into the proven AKD switchgear platform, once again, demonstrating the innovation and relia-bility end users expect from ABB.

Optional Arc-Resistant type MNS-SG.

Benefits
- Low total cost of ownership
- Ease of installation, maintenance, and configuration flexibility.
- Each CB is located in a completely enclosed ventilated compartment with grounded steel barriers to minimize the possibility of fault communication between compartments.
- Optional safety shutters protect operators from accidental contact with live conductors when the breaker is withdrawn.
- The conduit entrance area meets CEC require-ments. Extended depth frame options are avail-able in 7" and 14" sizes for applications requiring additional cable space. The section width can also be increased for additional cable space.



Markets & applications
- Contractors
- Distributors
- Commercial
- Industrial

Low Voltage MCC

Product overview
ReliaGear® LV MCC provides a safer, smarter, and more sustain-able means to protect and control motors by featuring SACE® Tmax® XT 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 3200A bus, across-the-line starters with SACE Tmax XT motor circuit protectors through size 5, and variable frequency drives and softstarters up to 500 HP (200HP at 600V).

Optional Arc-resistant type MNS-MCC.

Features
- Up to 600Vac, 3200A / up to 65kA
- Built to the UL845 standard, Reli-aGear LV MCC is designed with safety and flexibility in mind.
- Reinforced cabinet door latches and more robust breaker handles help increase mechanical endurance and reliability during operation, and also help provide an additional layer of operator protection.
- Multiple mechanical interlocks and padlock provisions are standard, to limit access to energized parts and provide safety for personnel.
- Arc flash mitigation units are available and include retractable stabs that enable removal from the main bus outside the arc flash boundary. The engagement position of both the stabs and the vertical bus shutters is indicated on the front cover without the need to open the unit door.

Benefits
- Low total cost of ownership
- Ease of installation, maintenance, and configuration flexibility.
- Designed with an optimal compact footprint and flexible construction, it's easy to move and replace starters and feeders as load requirements change.
- Standard units can be field converted to arc flash mitigation units with AFM retrofit kit.
- 25" deep back-to-back shared bus construction is also available for floor space optimization.
- Applications requiring additional cable space. The section width can also be increased for additional cable space.

Markets & applications
- Contractors
- Distributors
- Industrial

Switchboards

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Link for more info

Product overview

ReliaGear™ SB switchboards offer a state-of the-art design that provides the high quality, safety and reliability long associated with ABB's group-mounted switchboards. In addition, Tmax XT and Emax 2 Circuit Breakers meet all NEMA, NEC, IBC Seismic, UL and cUL requirements.

Features

- Modular components for easy, fast and flexible installation
- Fixed mounted or withdrawable breaker options
- Cloud connectivity with built-in metering for real-time energy monitoring
- Bluetooth® technology embedded to set parameters in an arc-free zone
- Flexible operation mode (ATS, Load shedding etc.)
- Design compliance with seismic standard

Benefits

- Speed up your project
- Link to data analysis in real time
- Enhanced safety
- Improved Arc Flash Mitigation
- Increased functionality
- Expanded grid operational mode

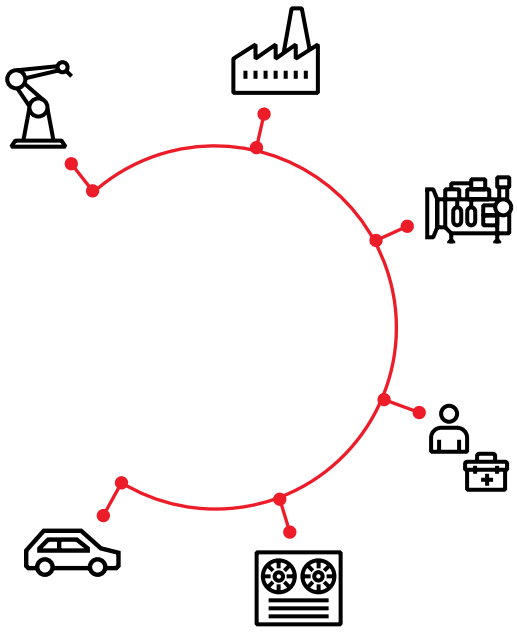
Markets & applications

- Contractors
- Distributors
- Commercial
- Institutional
- Data Centres
- Small industrial

Busways

Product overview
Spectra Series Busway is at least 50 percent lighter than comparable wire and conduit – and lighter than competitors' busway, too. Its simplified design, reduces installation time and may lower your total installation costs by up to 75 percent versus wire and conduit. The compact Spectra Series also allows runs in more places, such as around and between existing structures. Removable isolation joints mean maintenance and modifications are done easily and with minimal downtime, which may lower your operational costs versus wire and conduit as your building needs change. Lighter, smaller, lower cost, easier modifications. The Spectra Busway is available up to 4000A in Aluminum or 5000A Copper.

Features and benefits
ABB produced a compact design which has resulted in these improvements over wire and conduit installations:
- 50 percent minimum decrease in size
- Up to 50 percent decrease in weight
- Increased adaptability and versatility
- Higher short circuit ratings
- Improved installation and operational safety
- Fully tested and certified to UL, ANSI, CSA and ASTA standards



Markets & applications
- Contractors
- Distributors
- Commercial
- Institutional
- Data Centres
- Industrial

Power Panelboards

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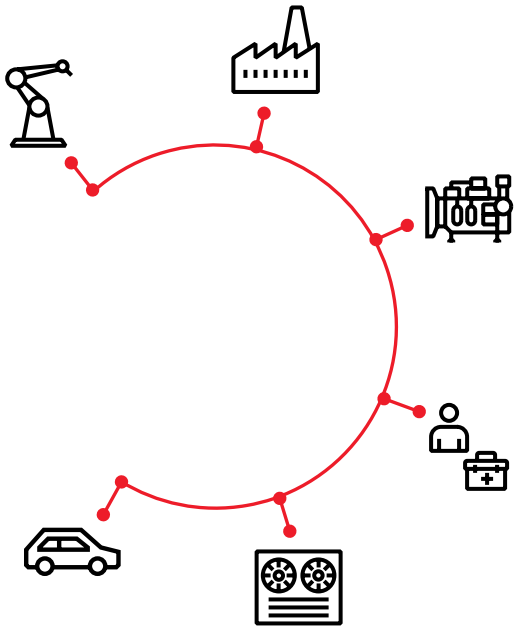
Link for more info

Product overview
ReliaGear neXT Power Panelboards offers plug-in and bolt-on style interiors that offer superior electrical performance, safety and sustainability for use in all ReliaGear Series Power Panelboard applications.

Main or branch devices can come factory installed, or customer installed on site to provide application flexibility. Breakers can come with adjustable thermal magnetic or digital trip units with measurement and communication modules for energy monitoring and management.

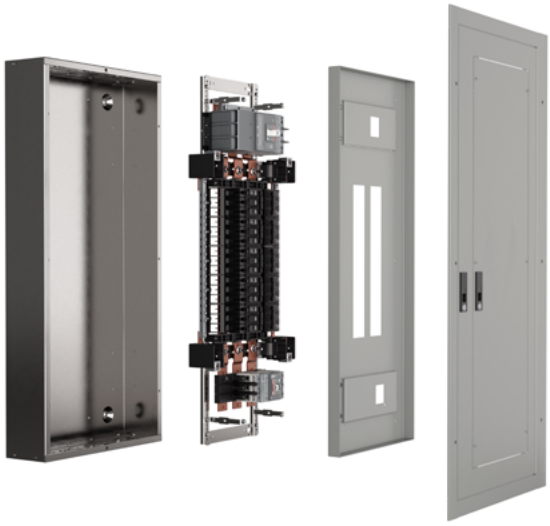
Features
- A field-reversible bus stack for top-bottom feed change without extra parts
- Tmax XT circuit breakers feature plug-in to bus and bolt-on to interior frames
- Cloud connectivity with built-in metering for real-time data analysis
- IP20 finger-safe feature in select models
- Adjustable breaker trip setting in thermal magnetic or electronic trip units
- Design compliance with seismic standard



Benefits
- Safe and fast installation
- Flexible in field modification
- Reliable operation and no thermal cycle re-torque required
- Cloud connectivity for energy monitoring
- Simplified quotation system and breaker ordering

Markets & applications
- OEMs
- Contractors
- Distributors
- Light and Heavy Commercial
- Institutional
- Healthcare
- Data Centres
- Industrial

Lighting Panelboards



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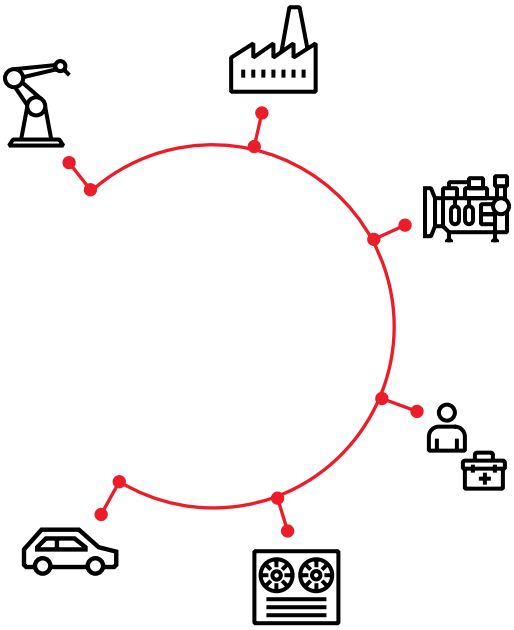
For more info:

(ATTENTION: link is US based, information on this page could miss the CSA data)

Product overview
ReliaGear Lighting panelboards RQ, RL, RE/RS, RD combine the whole family of high-quality circuit breakers into one pre-engineered modular panelboard system. The Tmax XT, TEY and TQB breaker series are the main breakers used in these panels.

ReliaGear Lighting panelboards components, boxes, fronts, interiors and circuit breakers have been designed to make it easy for the contractor to specify, order and install.



Features
- Wide, easy-to-install, galvanized, Type 1 enclosures with removable endwalls
- Flush or surface mounting for Type 1 enclosures
- Standard concealed mounting hardware and hinges
- Interiors that allow “straight-in” wiring
- Split neutral
- Field-installable, cUL Listed, optional 200% neutral for non-linear loads
- Branch-bus direct connection
- Captive hardware on branch breakers
- Short circuit ratings allow up to 42kA @ 600/347V, 100KA @ 480Y/277Vac; 200KA @ 240Vac
- Main bus ratings of 125 to 600 amps copper or aluminum
- Vertically mounted main circuit breakers available
- Bus-connected SPD for maximum surge protection
- Optional door-in-door or front-hinged-to-box door
- Enclosures available in Type 1, Type 3R/12, Type 4/4X

Benefits
- More room for cable connection
- Quick installation

Markets & applications
- Light and Heavy Commercial
- Contractors
- Distributors
- Institutional
- Healthcare
- Data Centres
- Industrial
- OEMs

Safety Switches

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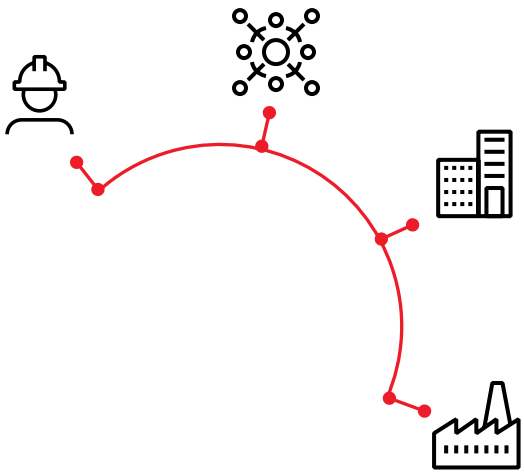
Link for more info

Product overview
ABB offers a wide variety of general duty switches for residential and light commercial purposes, while our extensive line of heavy duty switches is best suited for commercial and industrial applications. For the toughest industrial environments – like cement foundries, steel mills and processing plants – dust tight and stainless steel switches are available. We also offer a variety of double throw switches for emergency generators.



No matter what the application, we've got you covered with a rugged, reliable and easy-to-install Spec Setter safety switch. When it comes to getting the job done right, you can count on ABB!

Features
- General duty switch 240V, 2 and 3 poles
- Heavy duty switch 240V & 600V, 2, 3 & 6 poles
- Double Throw
- Fusible and non-fusible
- Nema 1, 3R, 5/12 and 4X, SS316 available
- CSA service-entrance rated options available
- Highly visible ON/OFF label
- Highly visible, easy to grip red handle and accepts 1 padlock in the OFF position for General duty switch.
- Donut handle ideal for hook stick operation and accepts 3 padlocks in the OFF position for the Heavy Duty switch.
- Direct-drive, quick-make, quick-break mechanism "snaps" contacts open and closed providing positive ON/OFF indication
- Viewing window options available
- Self-leveling, three-point mounting system
- Integral cover interlock for GD; Coin-proof, defeatable interlock for HD
- Visible confirmation of plated blade contact positions
- Spring reinforced fuse clips assure reliable contact for cool operation. Suitable for Class H, K, J or R fuses, where applicable

Benefits
- Safety
- Ease of installation and maintenance

Markets & applications
- Contractors
- Distributors
- Commercial
- Industrial

Enclosed Switches

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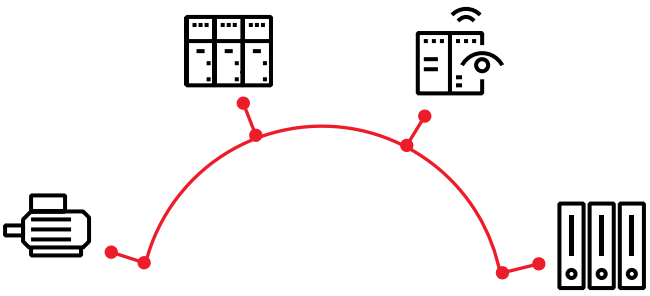
Link for more info

Product overview
Enclosed disconnect switches from ABB for the North American market offer a fusible and non-fusible solution from 20 up to 800 Amps. Our complete range meets all relevant standards UL98, UL508 and CSA. Available with voltage up to 600Vac.

Features
- Fusible and non-fusible up to 800A.
- Single switch available in 3p, 4p, 6p, 8p configuration
- Transfer/combination switch configurations
- Plastic, steel, stainless steel or acid proof steel available
- Dual color handles
- CSA, UL98 and UL508 certified
- 600VAC rated acc. to UL/CSA

Benefits
- Increase safety
- Reliability
- Easy installation
- Savings in maintenance



Markets & applications
- Packaging machine
- HVAC
- OEM

Load Centres – Residential

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For more info

Product overview
PowerMark™ PRO Load Center is an essential electrical component to receive and distribute power from the utility source throughout residential applications.

With advanced plug-on neutral electronic circuit breakers that attach to the neutral bus using ABB's unique ReliaLock™ connection feature and round plug-on neutral bars, PowerMark PRO's features enable you to perform faster and more efficient circuit breaker installations. Plus, the convenient and elevated factory-installed neutral and ground bars simplify wiring, helping reduce labor time and project costs.

Features
- Tin-plated copper bus
- Ultra rigid galvanized steel enclosure
- Full length, elevated neutral bars
- Relialock™ Plug-on neutral connection capability for electronic circuit breakers (AFCI, GFCI, DFCI)
- Standard main breaker range from 100A to 200A
- Available in 24-60 circuit capacity
- 22k AIC main breaker, series rated 22kA/10kA
- Single-phase, three-wire, 120/240VAC
- And more...

Benefits
- Fast and efficient installation
- User friendly – Ground bar and ground lug are factory installed
- Convenient and elevated factory installed neutral and ground bars simplify wiring

Markets & applications
- New home construction
- Multifamily
- Residential Renovation

Modular Metering

Product overview
Designed for Main and Sub-Service switching and Metering of residential, commercial, and industrial applications, modular metering products offer safe and easy installation with a galvanized steel enclosure for rust prevention and durability. Available with a selection of Meter modules that have three- or six-Meter sockets and a main service module that can be provided with a choice of Lug, Breaker or Fusible device.

The meter socket base is fastener-free to minimize hot spots, and separate covers allow convenient access to tenant breaker wireway sections without disturbing meters or covers. And are designed to meet CSA requirements for “Cold Metering”.

Features
- Mechanically and electrically built to bolt-up with main service modules and commercial modular Metering stacks
- Meter socket and tenant main breaker/wireway sections are separated by a solid metal barrier to guard unmetered bus against power theft
- A convenient termination for neutral conductors is in the wireway of each module
- Type 3R rainproof enclosures made of galvanized steel construction
- The meter socket base is installed without any fasteners, reducing chances for hot spots

Benefits
- Long term durability owing to rust-inhibiting phosphate primer and grey baked enamel in enclosures
- Separate covers allow easy access to tenant breaker and wireway section as well as permit work on breakers or in wireway without disturbing meters or meter covers
- All Meter centres are factory phase balanced for ease and speed of installation
- CSA approved and suitable for use as service entrance equipment, which means no need to purchase more equipment or use add-ons

Markets & applications
- High-rise apartments and condos
- Multi-family apartments and mixed use
- Light commercial modular metering projects

Low Voltage Dry Type Transformers

Features

- Seismic qualified to the requirements of ASCE 7.16, IEEE-693-2018, and IBC/CBC-2022
- 200% neutral standard
- 220°C insulation system
- Sound levels equivalent to or exceeding NEMA ST- 20
- 40°C ambient
- 10kV- BIL
- Aluminum or copper windings
- Copper ground strap
- cUL listed (CSA 802.2 / NRCan)
- Standard NEMA 1/2 drip-proof enclosure with op¬tional rain shield kit for field conversion to NEMA 3R outdoor
- Lifting eyes provided in top clamp
- NEMA 3R stainless steel (Type 316) enclosure is available up to and including 150kVA
- Clear comprehensive documentation and labeling
- Single-piece front/back for easier service
- One year limited warranty

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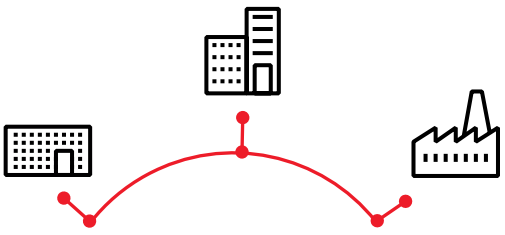
Link for more info

Product overview

Type QL are ABB's large power transformers ranging from 15kVA to 750 kVA. The QL transformers come in standard NEMA 2 enclosures with rain shield kits available for NEMA 3R installations. Stainless steel enclosures are available as options as well. QL transformers are available in single or three-phase configurations with either aluminum or copper windings. Type QL's are DOE 2016 compliant with models available for the Canadian market with NRCan efficiency standards.

Benefits

- Lug kit included (up to 150kVA) lowers installation costs (they don't have to buy or supply a set of lugs).
- Free copper ground bar kit (up to 150KVA) lowers installation costs (they don't have to buy or supply a ground bar).
- Outward-facing mounting feet. Move it into position, mount it, and you're done.
- Quick removal front panel is a real innovation. Don't remove the screws, just loosen them!
- ABB's exclusive wood crate packaging provides effective defense against shipping damages (available up to 150kVA).



Markets & applications

- Mutli-Residential
- Commercial
- Industrial

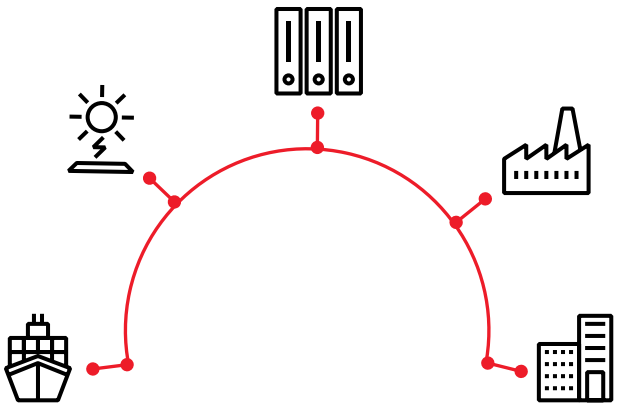
03

Low Voltage Components

Power Circuit Breakers

Main factory:
Frosinone, Italy

Product overview
The new SACE Emax 2 power circuit breakers up to 6000A have been designed to increase efficiency in all installations. From industrial and naval applications to traditional and renewable power generation installations, buildings and shopping centres. The SACE Emax 2 circuit-breaker is no longer intended as a simply stand-alone protection device.



Features
- Amperage available up to 6000A with voltage up to 635Vac
- Interrupting rating up to 100 kA
- All frames and their accessories conform with ANSI C37.13, C37.16, C37.17 and C37.50 standards and are UL 1066 certified
- SACE Emax 2 circuit breakers can be into all automation and energy management systems thanks to its communication modules that support the following protocols: Modbus RTU, Profibus, and DeviceNet™, Modbus TCP, Profinet,EtherNet/IP, IEC 61850
- SACE Emax 2 can be integrated in ABB Ability™ Energy and Asset Manager thanks to Ekip COM Hub Module
- Compact dimensions with fixed and withdrawable versions
- Latest of electronic protection units with touch technology
- Four solutions are available to fully exploit the potential of the Ekip architecture: Embedded ATS, Adaptive Load Shedding and Power Controller

Benefits
- Increase reliability, extraordinary efficiency and control & easier integration into automation systems
- Trip units are upgradable and field installable
- Accessories are field installable, which reduces downtime and maintenance
- Easy and safe accessorizing as the operating mechanism is segregated
- Rear orientable connection for busbars
- On-line upgradability of the most advanced functionalities through ABB Ability Marketplace™

Markets & applications
- Marine
- Solar
- Data Centres
- Industrial
- Utilities
- Commercial

Insulated Case Circuit Breakers

Product overview
The Power Break II Insulated Case Circuit Breaker has been created and designed in 1965 to be a reliable, flexible and easy-to-use circuit protection for several types of applications. They are certified by UL and CSA and are rated from 200A to 4000A. Offer in two levels of interrupting capacity – "standard break" and "Hi-Break" – it can support up to 200KAIC @ 240V without fuses or current limiters.

Features
- Compact, lightweight design
- 36-point pre-wired, dedicated secondary terminal block standard
- Optional mechanical counter
- Padlock device standard
- Easy-to-reach ON/OFF buttons
- Choice of Entelliguard TU™ trip units – field upgradeable, UL Listed, CSA Certified, IEC 947-Certified
- Sealable door provides added security
- Drop-in shunt trip, undervoltage release and bell alarm (with and without manual lockout) modules
- Flush-mounted pump handle

Others
- Two-stage, stored energy mechanism provides charge-after-close capability
- Stationary and drawout versions (stationary shown)
- Manually and electrically operated versions in same envelope
- Modular, field-installable motor operator and remote-close solenoid with independent voltages available

Benefits
- More room for cable connection
- 180 degrees installation
- Quick installation

Markets & applications
- OEMs
- Contractors
- Distributors
- Light and Heavy Commercial

Molded Case Circuit-Breakers

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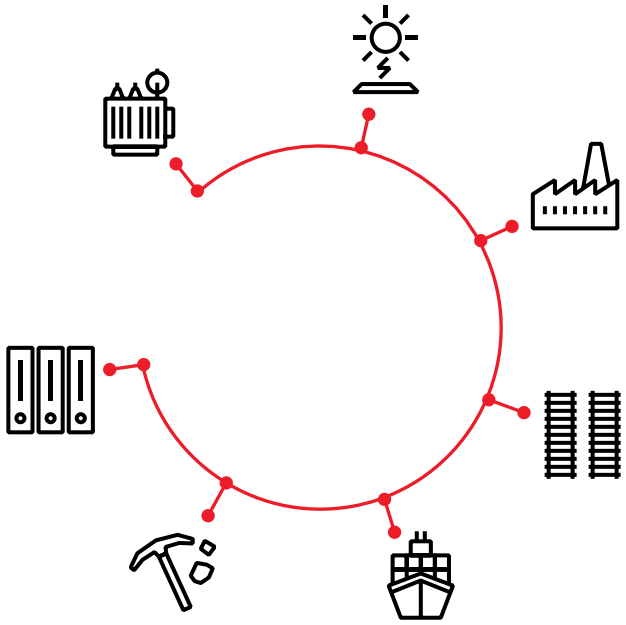
Link for more info

Product overview
The new SACE Tmax XT are made to respond successfully to the most challenging plant engineering requirements. A complete offering up to 1200A ac/dc for distribution, motor protection and switches enable the fulfillment of all requirements will be available in 2019.

A new interchangeable range of both thermomagnetic and electronic protection units plus a large number of dedicated accessories allow for extreme flexibility.

The Tmax XT range is available with the following features:
- A complete range from 125A up to 1200A (Q3-2019)
- Extreme performance and protection features
- Designed to maximize the ease-of-use, integration and connectivity
- Built to deliver safety, reliability and quality
- Value through the entire customer journey
- On-line upgradability and functions customization through ABB Ability Marketplace™

Main factory
- Italy



Markets & applications
- Panel builders
- System integrators
- OEMs
- Renewable energy
- Critical power
- Railway
- Marine
- Mining
- Data Centres

Miniature Circuit Breakers

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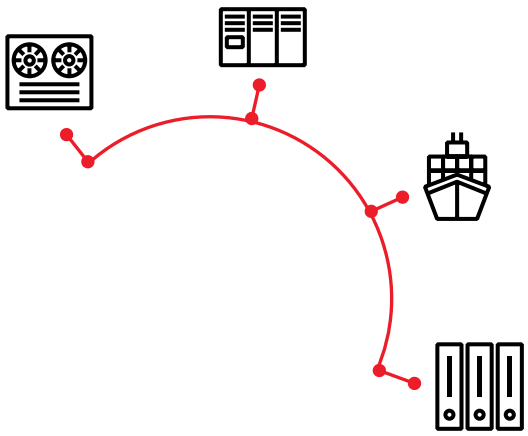
Link for more info

Product overview
The miniature circuit breaker SU 200 M is ABB's solution for UL 489 branch circuit protection up to 480Y/277Vac and 96Vdc.

This circuit breaker is an all-round device for AC and DC applications for universal use in North American and global markets due to its approvals acc. to the international standards UL, CSA and IEC. Moreover, SU 200 M is fully compatible with System pro M compact® UL 489 accessories.

Features
- Rated breaking capacity 10kA acc. UL489 / CSA 22.2 No. 5
- Certified up to 40A at 480Y / 277 V AC acc. to UL 489 / CSA 22.2 No.5
- 40 °C reference temperature acc. to UL and CSA
- Clear contact position indication in red / green ("real CPI")
- AC and DC ratings
- Easy identification of the product
- Worldwide certified (including IEC and CCC certifications)
- Marine approvals
- Made in Germany

Benefits
- Less inventory to manage
- Larger scope of amperage available
- Better visual inspection of the product
- Fully compatible with existing accessories
- Outstanding mechanical and electrical characteristics
- More than 120 years of reliability.



Markets & applications
- OEM and panel shops
- Electrical industrial contractors
- Marine industry (vessels)
- Data Centres

Disconnect Switches

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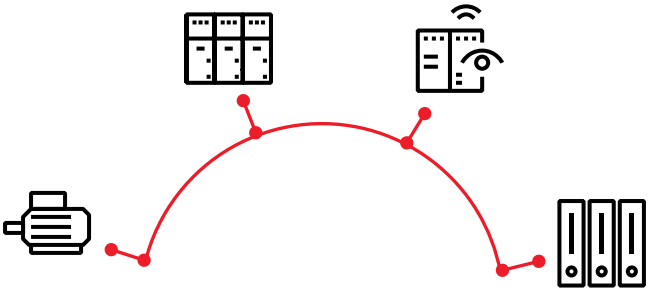
Link for more info

Product overview
Open type disconnect switches from ABB are offered as fusible, non-fusible and change-over switches. Our complete range meets all relevant standards UL, CSA and IEC.

Features
- Fusible from 30A up to 1200A, CSA C22.2 No.4/ UL98 with high interrupting capacity (200kA)
- Non-fusible from 16A to 2000A, CSA C22.2 No.4 and 14/UL508
- Change-over from 16A to 800A, CSA C22.2 No.4 and 14/UL98 and 508
- Viewing window (160A to 2000A)
- Up to 600Vac and 1000Vdc acc. to CSA/UL
- Double contacts, totally isolated in the OFF position.
- Special 1500Vdc versions available
- Other premium configurations available including:
  - Side/Flange operated
  - Multiple poles (2p, 3p, 4p, 6p)
  - Motor operated (IEC only)

Benefits
- Compact size
- Modular design
- Easy installation
- Increased safety



Markets & applications
- Motor control centres
- Distribution switchgears/switchboards
- Drives
- Data Centre panels

Fuse Holders

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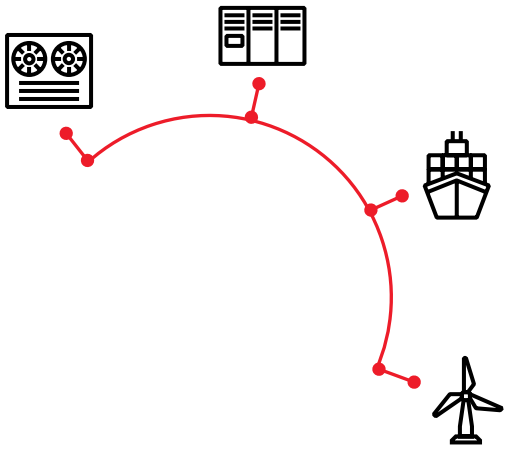
Link for more info

Product overview
Suitability for disconnection and switching, effective heat dissipation and certified compliance with several international standards are mandatory requirements for the most demanding customers. ABB has dedicated its designer's passion, creativity and competence to the development of the new E90 range of fuse holders.

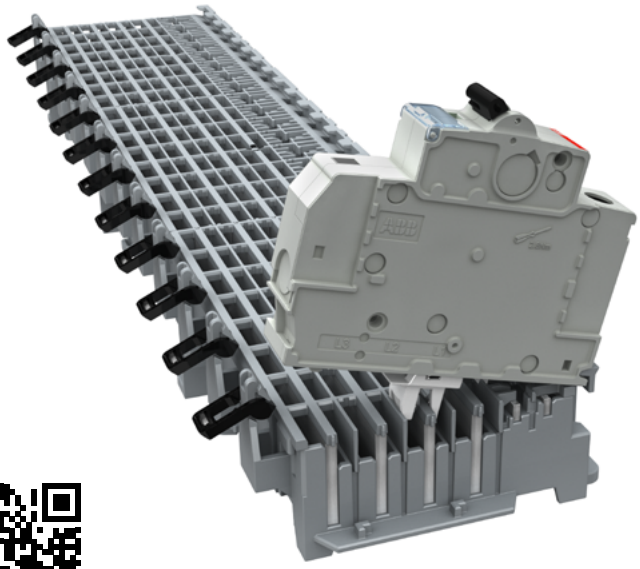
Features
- Certified up to 30A with CC and J class fuses
- Certified up to 60A with J class fuses
- 1p, 2p, 3p, 4p with or without neutral available
- Blown fuse indicator LED available as an option on all poles
- Rejection member on CC class fuse holders
- AC and DC ratings up to 600V
- CSA and UL (4248-4 and 4248-8) approvals
- Worldwide certified (including IEC certifications)
- Made in Italy

Benefits
- Compact design for easy integration
- Highly reliable due its unique design
- Increased safety
- Fast acting device due to its fused component
- Low cost unit



Markets & applications
- OEM and panel shops
- Electrical industrial contractors
- Marine, utility and renewable energy
- Automation switchboard applications

Plug-In Distribution Systems



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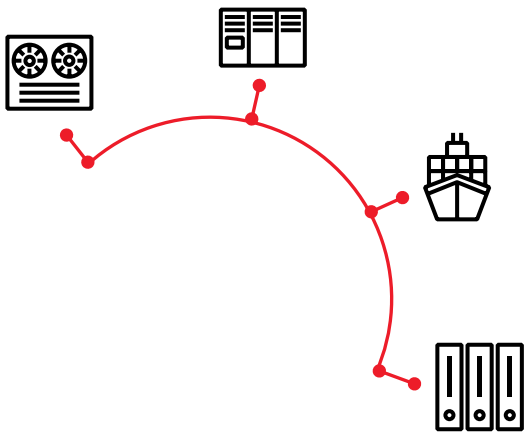
Link for more info

Product overview
The SMISSLINE TP power distribution bus system provides a versatile and flexible means of distributing power to a wide variety of electrical devices. Ideal for group motor installations and ABB modular DIN rail products.

Individual devices may be turned off and safely removed without turning off power to the whole bus, provided there are properly approved.

Features
- "Starter kits" available in various busbar lengths
- 125A rated busbars (250A in certification)
- Rated up to 600Vac with 50kA (with main circuit breaker)
- Certified for use in UL508, UL1077 and UL489 applications
- Group motor starting available with dedicated adaptors
- Dedicated 1p circuit breakers (SU400M) clip-on
- Universal adaptors to mount existing line of ST200M and SU200M MCBs
- cULus certified
- Touch-Proof system (IP20)

Benefits
- Less inventory to manage
- Flexibility and reliability
- Better visual inspection of the product
- No need of PPE to service the equipment under load.
- Easy to use
- Faster installation



Markets & applications
- OEM and panel shops
- Electrical industrial contractors
- Marine industry (vessels)
- Data Centres

Control Transformers

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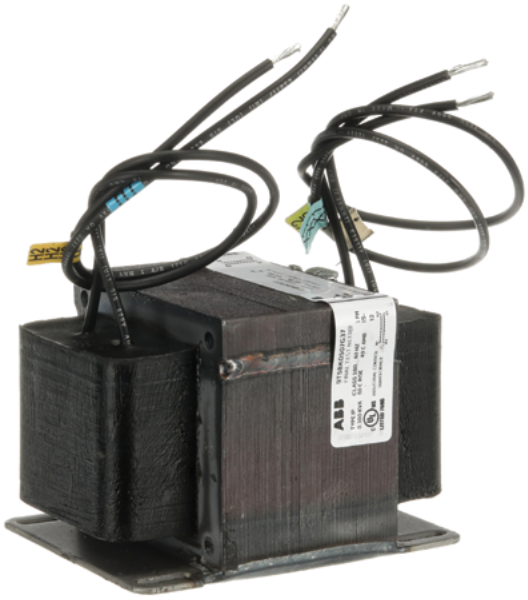
Link for more info



Product overview

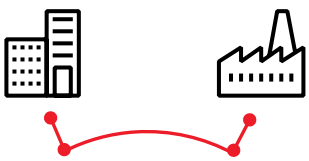
- Core and coil transformers for machine tools are used to provide voltage to control devices in applications where regulation and minimum space are important. Welded cores provide the highest quality electrical performance and quiet operation. Control power transformers are an economical alternative to high inrush/machine tool transformers. Available in various voltage configurations (up to 600V Primary) and ranging from 0.05kVA up to 3kVA

Features

- Rugged, high-impact plastic terminal block
- Welded core for consistent performance in high vibration environments
- Full head #8 brass screws assure quick, easy terminations with maximum connection integrity
- Copper windings
- Flexible design allows input or output voltage to match any application
- CUL, UL approvals
- CE rated on selected models
- Available fuse-blocks offer simple, low-cost fusing

Benefits

- Finger-safe terminals offer added protection and safety
- Pressure plate terminals ensure secure connections
- Wide variety of fusing options
- Type IP transformers are seismically qualified



Markets & applications

- OEM / Panel Builders
- Industrial

General Purpose Enclosures

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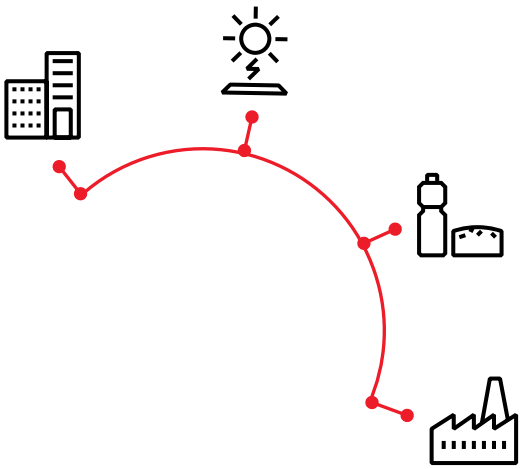
Link for more info

Product overview
ABB's range of automation & multipurpose boards is extremely versatile and used in industrial automation applications but also in segments like Food & Beverage, Solar, Oil & Gas etc.

Thanks to high degrees in protection (IP) and mechanical strength (IK) automation & multipurpose boards can be used even in harsh environments as well as indoors and/or outdoors. International approvals and certifications are available for the whole range.

Features
- Monobloc type of cabinet; light grey color RAL 7035, opaque and transparent doors versions
- IP rating of IP65/IP66 according to EN/IEC 62208; shock resistance index IK08 according to EN/IEC 62208 (IK07 for cabinets with transparent door)
- Enclosure type 3, 3R, 3S, 4, 4X, 12 and 13
- Double insulation
- Insulation voltage Ui = 1000Vac and 1500Vdc
- Self-extinguishing (GWT 960°C, UL HB) and halogen-free
- Compliant with EN/IEC 61439-2, EN/IEC 60529, EN/IEC 62262, EN/IEC 62208 and UL50E Standards
- UL, CSA and Lloyd's approvals available

Benefits
- Versatility and multi-purpose
- Reliable in extreme conditions
- Protection
- Safety



Markets & applications
- OEM / Panel Builders
- Solar
- Food & Beverage
- Industrial

04

Control

Softstarters

—
Link for more info

Product overview
The PSR, PSE and PSTX combine many years of research and product development with extensive knowledge of application specific requirements and needs. It's our latest advancement in motor control and protection and adds new functionality with increased reliability to any motor starting application.

PSR – The compact range
The two-phase controlled PSR can handle up to 100 starts per hour. Suitable for small motors.

Features & benefits
- Operational voltage: 208...600 V AC
- Wide rated control supply voltage: 100...240 V AC, 50/60 Hz or 24 V AC/DC
- Rated operational current: 3...105 A
- Soft start/stop with voltage ramp
- Built-in bypass for energy saving and easy installation
- Easy set-up by three potentiometers
- Fieldbus communication with fieldbus plug adapter and the fieldbus plug
- Run and Top of Ramp relays available for monitoring
- Connection kits available for connection to ABB´s manual motor starters (MMS)

PSE – The efficient range
The two-phase controlled new generation PSE is a true general purpose softstarter. It's a perfect balance between high starting capacity and cost efficiency.

Features & benefits
- Rated operational current: 18...370 A
- Operational voltage: 208...600 V AC
- Wide rated control supply voltage: 100...250 V AC, 50/60 Hz
- Voltage ramp and torque control for both start and stop
- Current limit, kick-start
- Built-in bypass for energy saving and easy installation
- Coated PCBA protecting from dust, moist and corrosive atmosphere
- Illuminated display that uses symbols to become language neutral
- External keypad rated IP66 (Type 1, 4X,12) as an option
- Built-in modbus-RTU communication for monitoring and control.
- Fieldbus communication
- Analog output for display of motor current
- Electronic overload, underload and locked rotor protection

PSTX – The advanced range
The three-phased controlled PSTX is our most advanced softstarter with full control and motor protection built-in. PSTX is the most complete alternative for any motor starting application.

Features & benefits
- Rated operational current: 30 to 1250 A
- Operational voltage: 208 – 690 VAC
- Wide rated control supply voltage: 100 – 250 V, 50/60 Hz (inside-delta: 2160 A)
- Both in-line and inside-delta connection
- Coated circuit boards protecting from dust, moist and corrosive atmosphere
- Detachable keypad rated IP66 (4X outdoor)
- Graphical display with 17 languages for easy setup and operation
- Built-in bypass for energy saving and easy installation
- Built-in Modbus RTU for monitoring and control
- Support for all major communication protocols
- Analog output for measurement of current, voltage, power factor etc.
- ABB Ability ready

Enclosed Magnetic Starters

Product overview
The enclosed Pro-S starters series offer a variety of models to cover the majority of applications. They're available as across the line, reversing, 2-speed 1 winding, 2-speed 2 winding and single-phase versions. All starters are offered in either a NEMA 1, 4/12 or 4X enclosure and in multiple combination with a fusible disconnect switch, non-fusible disconnect switch or circuit breaker.

Features
- Integrate the same features as the AF contactors
- Rated operational power up to 125hp 600vac or NEMA size 4
- Modular design for field assembly

Benefits
- Optimized logistics
- Easy to assemble
- Reliable in all networks
- Secured uptime

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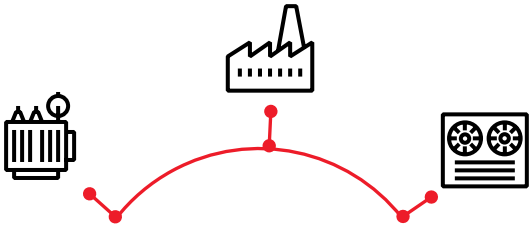
Link for more info



Markets & applications
- Contractors
- HVAC
- Industries
- Machine tool OEM

Enclosed Starters NEMA

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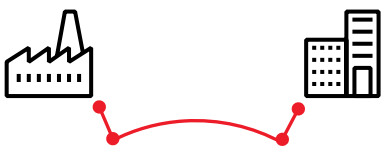
Link for more info

Product overview
ABB's 300-Line of NEMA rated controls is a complete offering of full voltage non-reversing, reversing, and multi-speed and combination motor starters and contactors. The 300-Line is a proven product for the toughest industrial applications. NEMA Type 1, 3R, 12, 4 and 4X enclosures available.

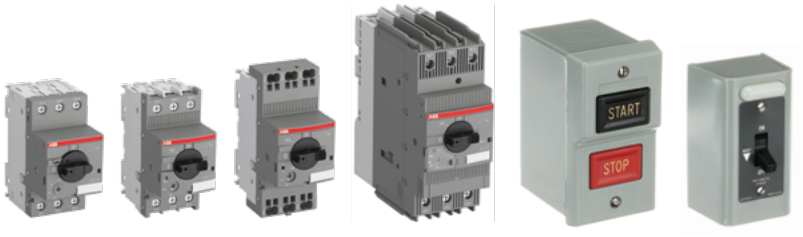
Features
- LED Pilot Lights
- 200VA Extra Control Power Transformer
- Quantity 2 Control Relays
- Space Heater
- 12 Point Terminal Board for field wiring
- DIN Rail for field installed components
- Combination of options (for example, Phase Failure Relay & Control Relay)
- Spectra Series Thermal-Mag & Mag-Break Circuit Breakers
- Easy to remove conduit knockouts on type 1 enclosures
- Conduit locators on type 3R, 12, & 4/4X enclosures (no conduit hubs)

Benefits
- Optimized logistics
- Easy to assemble
- Reliable in all networks
- Secured uptime



Markets & applications
- OEM’s
- Panel builders
- System integrators
- Industries
- Contractors

Manual Motor Starters



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Link for more info

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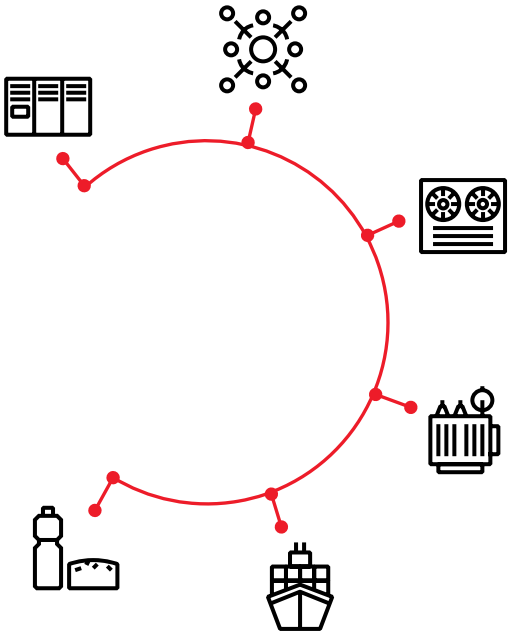
Link for more info on NEMA series

Product overview

MS and MO Series
Manual motor starters are electromechanical protection devices for the main circuit up to 80A. They are used mainly to switch motors manually ON/OFF and to provide fuse less protection against short-circuit, overload and phase failures. Starter combinations are setup together with contactors.

NEMA Series (CR101)
The CR101 manual motor starters provide dependable overload protection for single phase motors up to one horsepower (115 or 230 Volts), and are the most economical starter choices where under-voltage protection is not required.



Markets & applications
- Panel builders
- System integrators
- OEMs
- HVAC
- Critical power (GenSets)
- UPS
- Marine
- Food and beverage

Contactors

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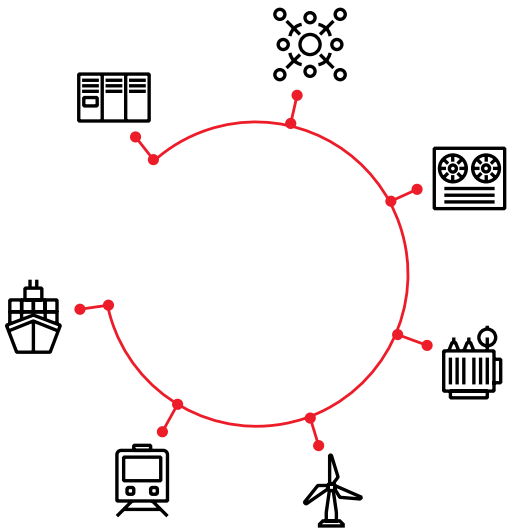
Link for more info

Product overview
ABB now offers a complete IEC/NEMA contactor product line up to 2850A.

AF Series
Featuring AF technology as standard, the latest range of ABB's contactors establish a new industry benchmark. The electronically controlled coil offers multiple benefits over conventional alternatives, and together with ABB's wide product offering an optimal configuration, every time.

NEMA Series (CR305/CR385)
ABB's NEMA magnetic contactor is designed for use on today's modern equipment. Especially suitable for handling the switching of resistance heating and capacitor circuit loads, their compact size also fits the needs of the panel building industry. In addition, they may be used for controlling ac motors where overload protection is provided separately.



Lighting contactors (CR460)
CR460 Series lighting contactors deliver unprecedented versatility in application, simplicity in configuration and performance in operation. Ingenious design, rugged construction and a host of truly useful features make them uniquely appealing to all those who use them.

Mini contactors (B & M range)
Mini contactors are ideally suited for applications where reliability is a must and space is at a premium. The dimensions, technical features and the variety of the assortment provide customers a high flexibility in a wide range of applications. Its small sizes and safe connections allow for compact panel design even in extreme conditions.

Markets & applications
- Panel builders
- System integrators
- OEMs
- HVAC
- Renewable energy
- Critical power (GenSets)
- UPS
- Railway
- Marine
- Food and beverage
- Industrial/ Commercial markets

Overload Relays

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Link for more info on thermal overload relays

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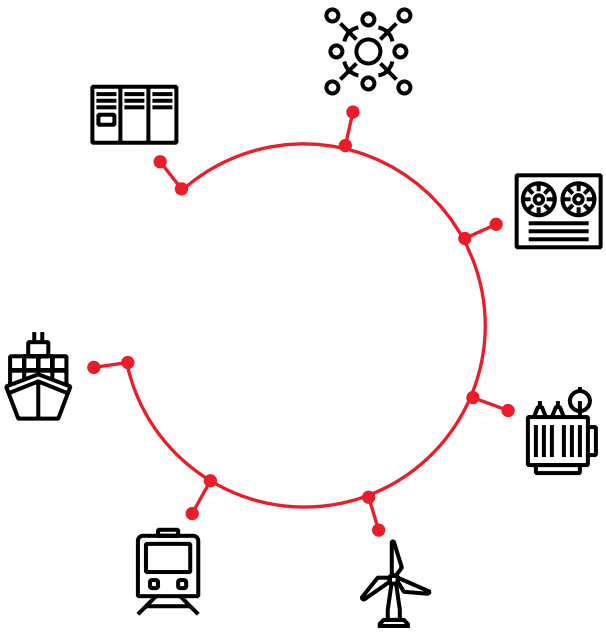
Link for more info on electronic overload relays

Product overview
Electronic and thermal overload relays for the AF, B and M range offer reliable and precise protection for motors in the event of overload or phase failure. The electronic overload relay can make up a compact starting solution together with contactors.

Features
- Electronic overload relay with selectable trip class (10E, 20E, 30E)
- Adjustable current setting ranges
- Overload protection with phase loss sensitivity
- Operating temperature up to +70 °C and self-compensated
- Automatic or manual reset, sealable
- Stop and test function

Benefits
- Reliable protection for motors
- Easy to create starters
- Optimized match to ABB contactors
- Reduced logistic costs and improved designed by three trip classes in one device
- Single mounting kit and wire for remote reset



Markets & applications
- Panel builders
- System integrators
- OEMs
- HVAC
- Renewable energy

Motor Management System

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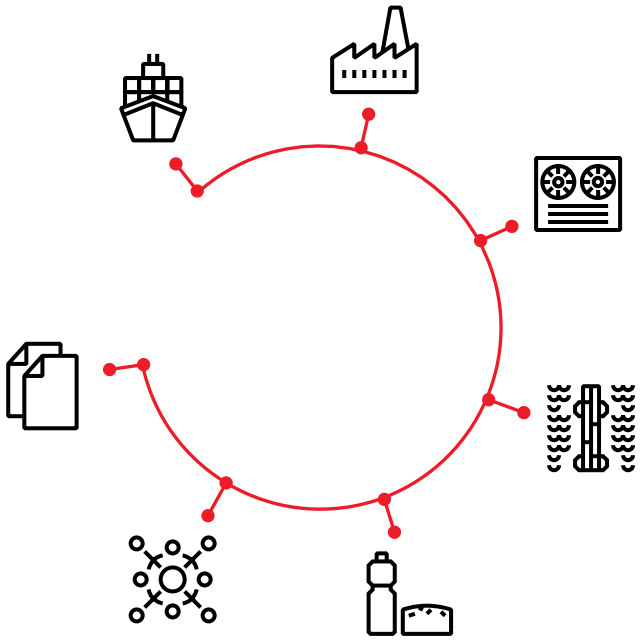
Link for more info

Product overview
The UMC100.3 is a flexible, modular and expandable motor management system for constant-speed, low-voltage range motors. Its most important tasks include motor protection, preventing production down time.

Features
- Motor protection functions: over-/underload, over-/ undercurrent, over-/undervoltage, locked rotor, phase failure/ imbalance/sequence, earth fault detection integrated or with external sensor CEM11, hot motor protection with thermistor or temperature measurement
- Motor control functions: direct, reverse, star-delta starter, pole-changing, overload relay, actuator mode, softstarter mode
- Programmable application specific logic with function blocks
- Service and diagnostic data: operating hours, number of motor starts and overload trips, energy, standstill and operation hour supervision, motor status, faults and warnings, fault history (16 events), motor current, phase voltages, thermal load, power factor, active power, apparent power, energy, total harmonic distortion (THD)
- Integrated I/Os: 6 digital inputs, 1 PTC input, 4 digital outputs
- Ethernet/IP™, Modbus TCP, Modbus RTU, Profinet and Profibus. Communication available



Benefits
- High plant availability

Markets & applications
- Panel builders
- System integrators
- OEMs
- Renewable energy
- HVAC
- Food and beverage
- Critical power
- UPS
- Marine

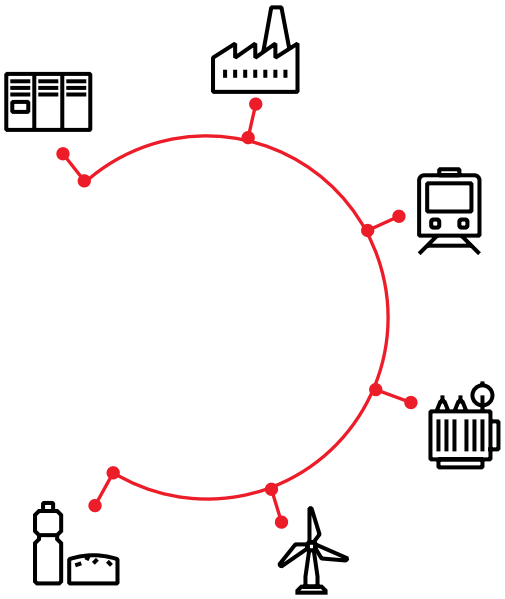
Electronic Timers

—
Link for more info

Product overview
The highly sophisticated CT-S range is our most modern and universal range of electronic timers. It includes 24 single-function devices and 16 multifunction timers with up to 11 functions offering the highest flexibility in operation. The devices feature 7 or 10 time ranges which are adjustable from 0.05 seconds to 300 hours.

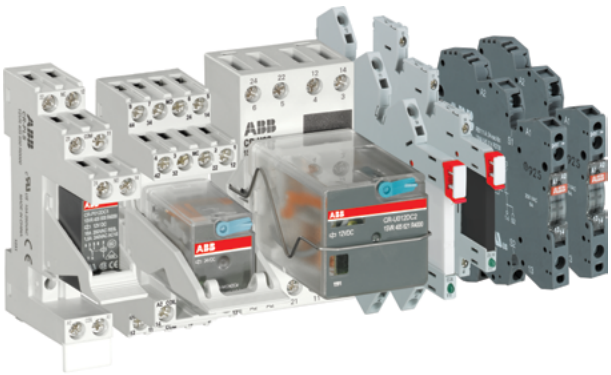
Features
- Worldwide approvals
- Two connection technologies are available
- Remote potentiometer connection
- Complete tool free mounting and demounting on the DIN rail
- 2 c/o contacts
- Integrated marker label

Benefits
- Push-in spring connection withstands highest vibrations
- Save time with ease of adjustment
- Wide range of timers to meet your specific needs
- Save time on wiring with the double-chamber terminals
- Worldwide availability



Markets & applications
- Panel builders
- System integrators
- OEMs
- Renewable energy
- Railway
- Food and beverage

Interface Relays and Optocouplers



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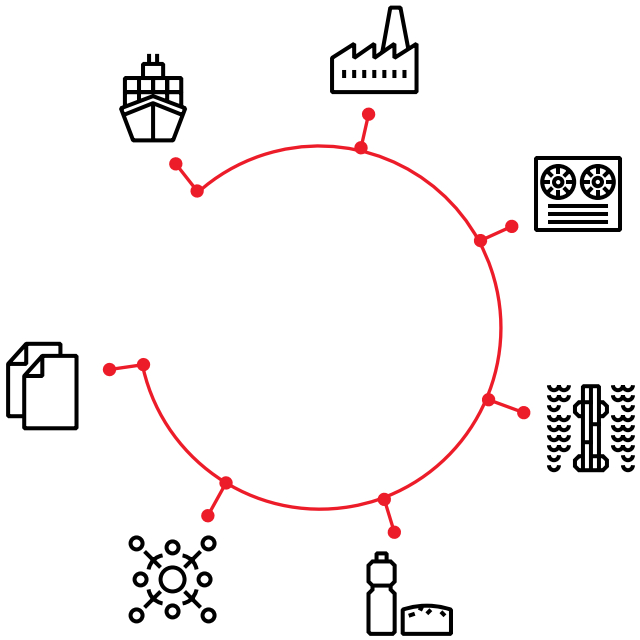
Link for more info

Product overview
Interface relays and optocouplers ensure a reliable voltage conversion between process peripherals and higher-level control systems. For all types 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.

Features
- Coil voltages from 5 V DC up to 230 V AC
- Up to 16 A contact ratings
- Up to 4 output contacts
- Pluggable function modules such as RC elements available
- Integrated test button for manual operation
- Gold plated contacts available for lowest contact resistivity
- Environmentally friendly thanks to cadmium- and lead-free material selection and production (e.g. for ROHS requirements)

Benefits
- Safe and reliable voltage conversion
- Highest contact ratings
- Pluggable function modules for highest application requirements



Markets & applications
- Panel builders
- System integrators
- OEMs
- Renewable energy
- HVAC
- Food and beverage
- Critical power
- UPS
- Marine

Limit Switches

Product overview
Limit switches are electro-mechanical devices. The contacts are mechanically linked to an actuator. By combining different types of actuators, casings and contacts, our limit switches are perfectly suited for a large variety of applications and environments.

Features
- Plastic or metal casing, NEMA 1
- Able to switch strong current up to 10 A
- Mechanical durability up to 10 million operations

Benefits
- Reliable operations
- Visible operations
- Each application gets the right limit switch

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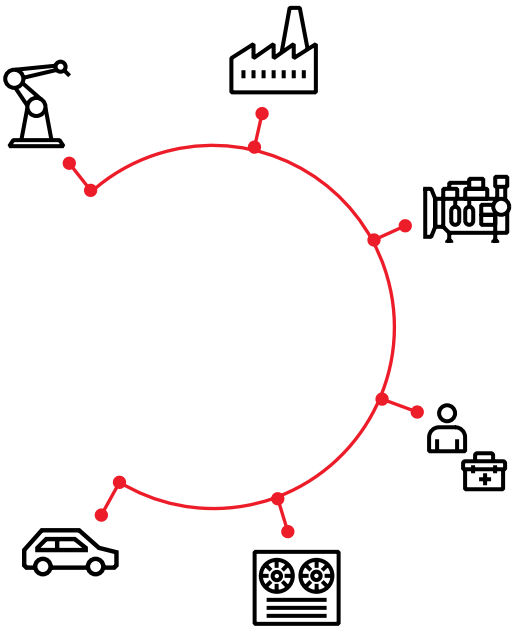
Link for more info



Markets & applications
- Cranes
- Ramps
- Elevators, escalators
- Parking barriers
- Automatic doors
- Machine tools
- Manufacturing lines

Pilot Devices

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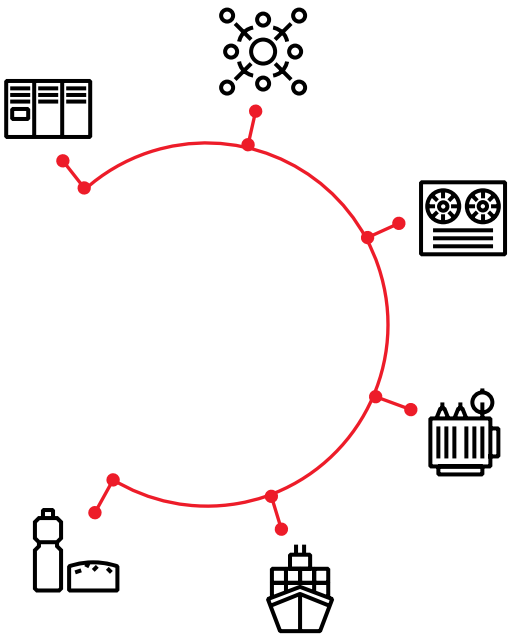
Link for more info

Product overview

Modular and compact plastic range
ABB pilot devices are engineered for total reliability. Our products are tested to extremes and proven in the toughest environments. Their innovative design simplify the entire process, from selection to installation.

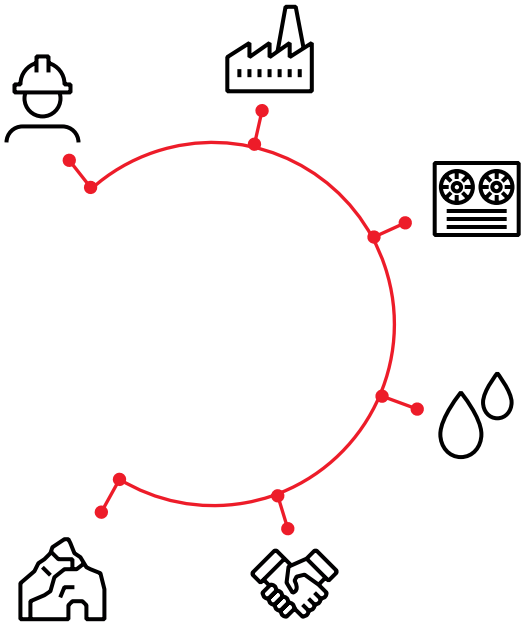
NEMA pilot devices 30mm (A3)
Especially adapted to machine-tool service or any application where oil or coolant is present. The convenient one-hole mounting makes this line suitable for general-purpose use in equipment of all kinds where panel mounting is possible. This line is ideal for applications where oil-tightness, water-tightness and long life are essential.

P9M modular metal range 22mm
P9M is a metal modular range, to the pilot device portfolio of ABB which is addressing requirements in selected markets. ABB's modular metal range combines ultimate reliability with the total flexibility of a modular range. For mining, construction and heavy industry applications, find the right solution here.



Markets & applications
- Panel builders
- System integrators
- OEMs
- HVAC
- Critical power (GenSets)
- UPS
- Marine
- Food and beverage

Test Switches



Product overview
Test switches are designed and manufactured to allow quick and easy multi-circuit testing of switchboard relays, meters and instruments by any conventional system.

Features
- Clear covers that allow for easier visual check on switch status
- Colored switch handles to simply identify circuits
- Rear extended switches for easier, faster access to wiring points
- 14-pole and 19" wide rack mounted test switches (FT-14 and FT-19R) to save space and installation time
- Patented 3D white lettering on the front, and 3D white numbering on the rear of the test switch which allows for easier identification of poles
- Comprehensive family of test plugs including SafePlugTM- individual current test plug with open CT protection.
- Online configurator to create and easily order your own, customized switch - spine.abb.com/ftswitch
- FT-1 and FT-14 meet Ingress Protection IP41 for protection against dripping water from the front with shallow clear and black covers installed. FT-1 and FT-14 meet Ingress Protection IP2X for finger safety at the product rear
- FT-1 and FT-14 are RoHS compliant

Benefits
- Possible to test components and circuits without disconnecting existing wiring
- Standard screw type terminals (optionally stud and nut)
- Secure testing with good isolation between the terminals

Markets & applications
- Contractors
- Distributors
- Utilities
- Water/wastewater
- Data Centres
- Industrial
- Mining

Power Supplies

Combined with a broad AC and DC input range and extensive worldwide approvals, the CP-C.1 power supplies are the preferred choice for professional DC applications. Giving the power to control.

Features
- 24 V DC output voltage
- Power reserve delivers up to 150 percent at Ta ≤ 40 °C
- Output voltage adjustable from 22.5 to 28.5 V via front-face rotary potentiometer
- 100-240V AC, 90-300V DC input voltage range
- High efficiency up to 94 percent
- Low power dissipation and low heating
- Free convection cooling (no forced cooling)
- -25 to +70 °C ambient temperature range during operation
- Open-circuit, overload and short-circuit stable
- Integrated input fuse
- DC OK - signaling output relay, power reserve signaling output transistor

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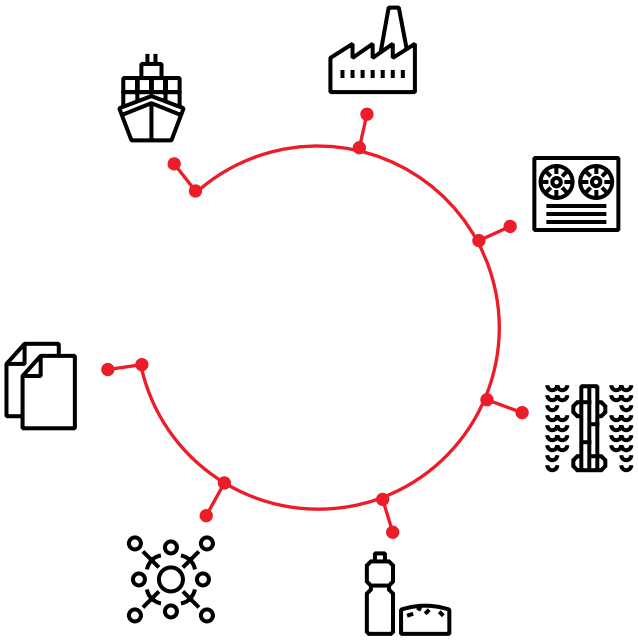
Link for more info

Product overview
The CP-C.1 power supplies are ABB's high-performance and most advanced range. With excellent efficiency, high reliability and innovative functionality, it is prepared for the most demanding industrial applications. These power supplies have a 50 percent integrated power reserve and operate at a high efficiency up to 94 percent. They are equipped with overheat protection and active power factor correction.

Benefits
- Power reserve and switching of high peak currents keep your application running
- High efficiency of up to 94 percent leads to less energy consumption thus saving money and space while avoiding development of heat
- Reliable in harsh environments due to application under extreme temperatures conditions



Markets & applications
- Panel builders
- System integrators
- OEM's
- Renewable energy
- HVAC
- Food and beverage
- Critical power
- UPS
- Marine

05

Machine Safety

Safety Light Curtains

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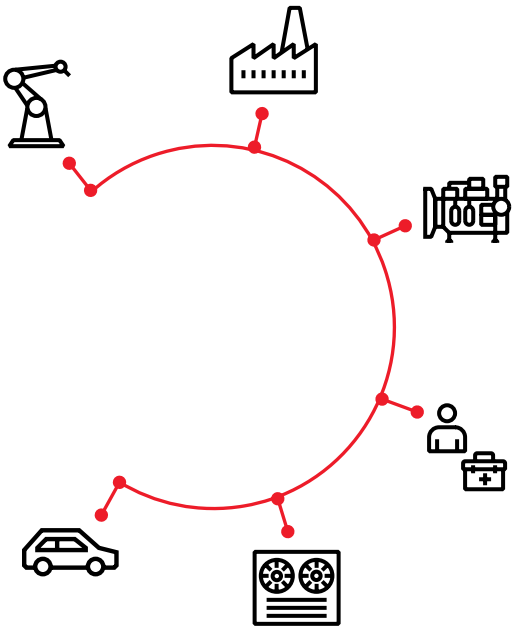
Link for more info

Product overview
Orion light curtains are a production friendly safety component that do not physically impact the locations of the machine operator. Light curtain protection is also a good safety component for use when goods are to be passed in and out of a risk area.

Features
- Blanking
- Coding
- Muting
- External device monitoring
- Local reset
- No dead zone

Benefits
- Cost effective
- Easy diagnostics with extensive indication
- Reduce complexity and downtime
- Speed up installation



Markets & applications
- Robotic cells
- Material handling
- Packaging
- Welding
- Assembly
- Roll formers
- Tube benders
- Presses
- Pharmaceutical
- OEMs
- Automotive and automotive tier supplier

Safety Relays

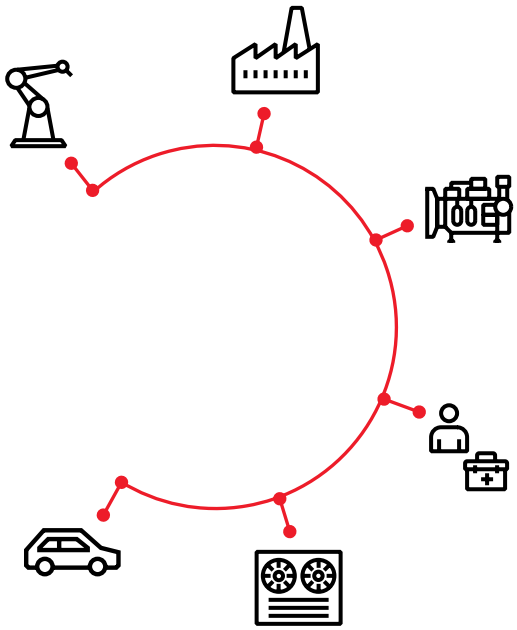
—
Link for more info

Product overview
The Sentry safety relays are powerful and easy to use safety relays used when safety devices need to be monitored according to the requirements of functional safety standards, up to PL e/SIL3.

The Sentry series contains basic models for simple applications and easy output expansion, single function models, universal models and timer models.

Features
- 22.5 mm wide
- Powerful outputs, up to 6A
- Configurable models with display
- Advanced timer functions with high accuracy
- Multi-reset
- Universal models
- Multi-voltage models
- Detachable terminal blocks
- Switch for reset selection

Benefits
- High level of safety
- Easy to use
- Reduced stock levels and warehouse space
- Increased productivity



Markets & applications
- Robotic cells
- Material handling
- Packaging
- Welding
- Assembly
- Roll formers
- Tube benders
- Presses
- Pharmaceutical
- OEMs
- Automotive and automotive tier suppliers
- Pre-reset
- Inching

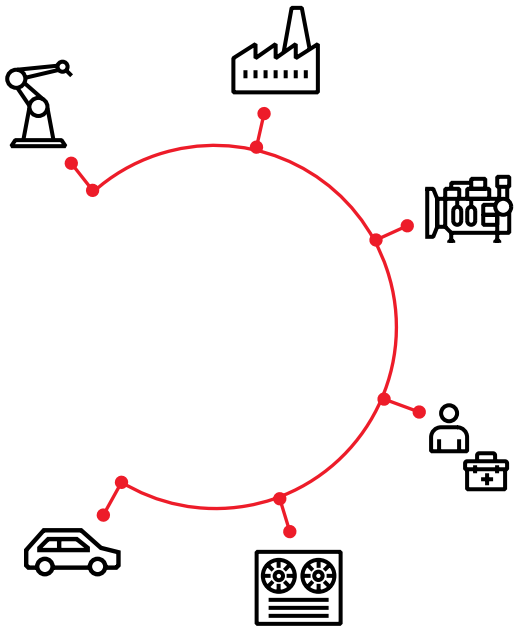
Safety Sensors

—
Link for more info

Product overview
Eden OSSD is a non-contact sensor output signal switching device usually used with optical safety devices. The safety device itself can detect a short-circuit between the outputs. Seen as two +24 VDC from the safety control module. Possible to reach PL e with up to 30 sensors connected in cascade. It has long detecting distance and operates at the highest safety level (cat.4). The OSSD signal is not a dynamic signal (unlike the other Eden). It can be connected to any safety relay or safety PLC and still reach the highest safety level. It manages harsh environments e.g. high-pressure wash-down, high and low temperatures. The sensor is rated at -40C to +70C (has been tested up to +100 ºC and down to -70 °C).

Features
- Non-contact detection, 0-15 mm
- Up to 30 devices in series with PL e
- OSSD Output Signal Switching Device
- Unique coded version meets high level coding standards
- Local reset function
- IP69K protection class

Benefits
- High level of safety
- Reduce installation time
- Increase productivity



Markets & applications
- Robotic cells
- Material handling
- Packaging
- Welding
- Assembly
- Roll formers
- Tube benders
- Presses
- Pharmaceutical
- OEMs
- Automotive and automotive tier supplier

MKEY RFID

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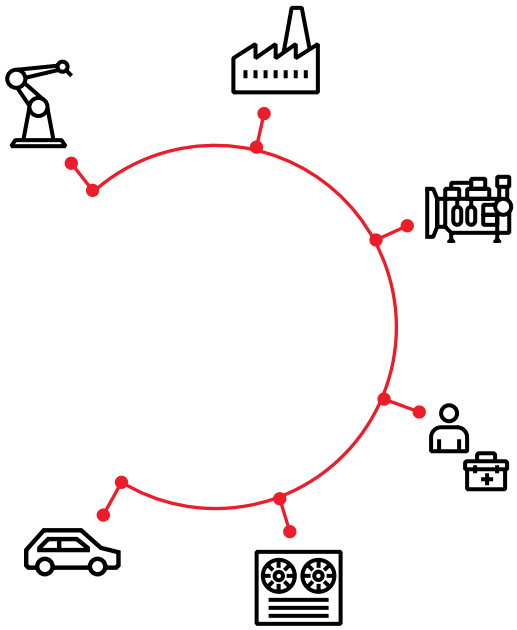
Link for more info

Product overview
MKey RFID is a safety lock with dual interlocking function used to safely lock doors, gates and hatches. In addition to the standard mechanical key, there is also an integrated RFID sensor. This makes it easy to reach the highest safety level. The head of MKey RFID is always stainless-steel, but the body is available in plastic, die cast metal or stainless-steel to suit different demands.

Features
- RFID (radio frequency identification)
- OSSD series connection
- Rear escape release
- Rotatable head
- LED indications

Benefits
- Continuous operation
- Safety and protection
- Easy to install



Markets & applications
- Robotic cells
- Material handling
- Packaging
- Welding
- Assembly
- Roll formers
- Tube benders
- Pharmaceutical
- OEMs
- Automotive and automotive tier suppliers

Notes

06

Power Protection & Monitoring

Arc Flash Detectors

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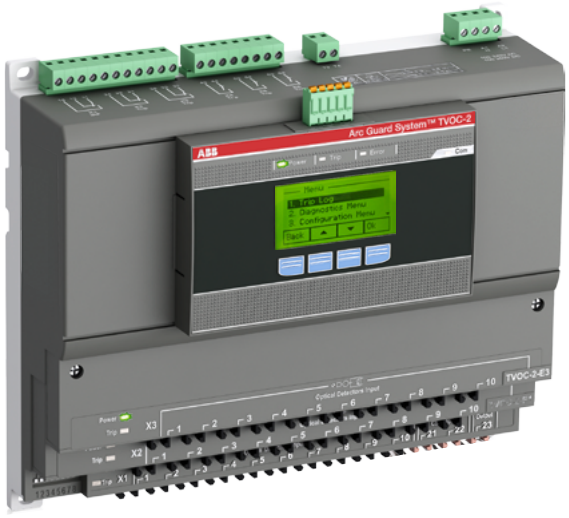
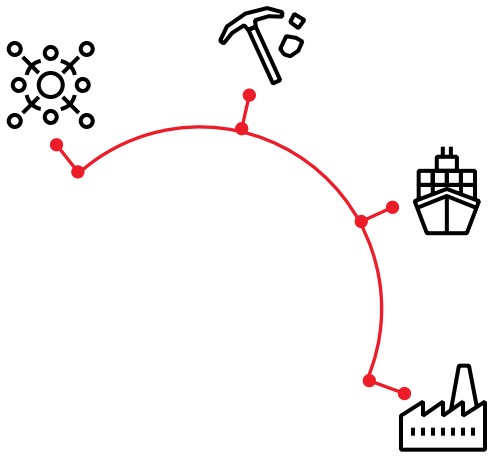
Link for more info



Product overview
For the past 35 years, ABB is the leader in arc guard technology. Experience from the highly appreciated TVOC is built into the new TVOC-2, a product for protection of people and property when having an electric arc.

Features
- Certified according to functional safety (SIL2) standard
- Pre-calibrated optical sensors
- Expandable up to 30 optical sensors
- Easy configuration
- Din-rail or wall-mounted
- Modbus RTU ready
- cULus certified current sensing

Benefits
- Reliability
- Flexibility
- Simplicity
- Increase safety



Markets & applications
- System integrator
- Mining
- Marine
- Industrial facilities

Ultra-Fast Earthing Switches

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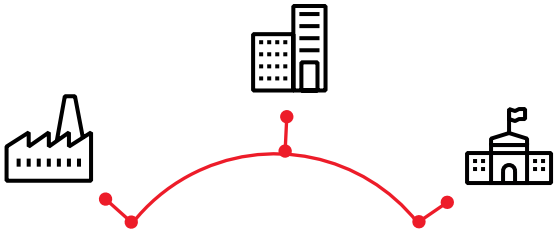
Link for more info

Product overview
The Ultra-Fast Earthing Switch UFES is a safe and effective combination of specific arc detection relays and an associated arc quenching device consisting of the so-called primary switching elements (PSE). In case of an internal arc fault the arc detection relay trips the UFES PSE, which initiate a three-phase earthing to break the arc voltage immediately. The extremely short switching time of the PSE, less than 1.5 ms, in conjunction with the rapid and reliable detection of the fault, ensures that an occurring arc flash is extinguished in less than 4 ms after its detection.

Features
- Arc flash extinction in less than 4 ms, 20 times faster compared to standard arc protection
- Arc detection by means of optical sensors and current measurement
- Available for switchgear ratings up to 40.5 kV and 100 kA
- Easy integration into new and existing low- and medium-voltage systems
- Combinable with different arc detection devices, including REA, TVOC-2, Relion or non-ABB devices
- Available as individual components and fully type-tested switchgear solutions

Benefits
- Greatly increased operator safety due to ultra-fast arc mitigation
- Minimized damage of electrical equipment and environment
- 98 percent reduction of downtime and repair costs
- 20 times faster than standard arc fault protection - reduces pressure level allowing active arc fault protection concepts, e.g. where gas ducts are not applicable
- Possible reduction of personal protective equipment (PPE) category according to NFPA 70E
- 0 percent toxic gases release due to effective reduction of arc duration



Markets & applications
- OEMs
- Industrial
- Commercial
- Institutional

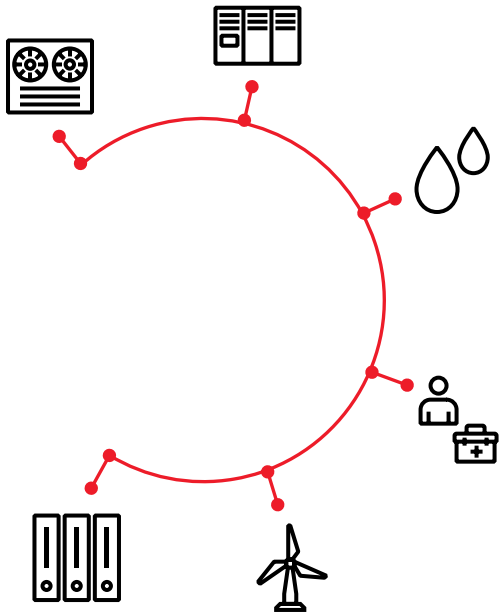
Surge Protection Devices

—
Link for more info

Product overview
ABB Surge protective devices are designed to protect against transient surge conditions. Large single surge events, such as lightning and load switching, can reach hundreds of volts and can cause immediate or intermittent equipment failure. Joslyn SPDs are designed to protect against those events.

Features
- Type 1, 2 3 and 4 SPDs available up to 400kA protection level per phase
- Up to 600Vac operating voltage
- UL1449 3rd edition and CSA approved
- NEMA 4 enclosed device
- EMI filter, surge counters, dry relay contacts and audible alarm options
- 5 years warranty
- Worldwide certified (including IEC certifications)
- Made in USA

Benefits
- Indoor or outdoor installation
- Increased security and reliability of the distribution network
- Large scope of products available for all types of applications
- Reduced downtime due to transient failures replacement of unprotected units
- More than 60 years of reliability



Markets & applications
- OEM and panel shops
- Electrical industrial/commercial and residential contractors
- Wastewater, healthcare, renewable energy and transportation applications
- Data Centres applications

Residual Current Devices

—
Link for more info

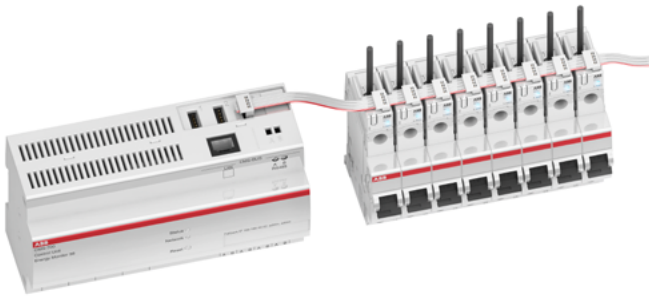
Product overview
A ground fault equipment protector is a device intended to provide protection of equipment against damaging line-to-ground currents by disconnecting all ungrounded conductors of the faulted circuit. By adding a ground fault equipment protector (GFEP) to the system, ground faults are detected immediately, preventing serious damage.

Features
- Type A and AC units for AC currents or AC currents with DC components
- Up to 480Y/277Vac operating voltage
- 1P+N or 3P+N configurations
- Available with overcurrent protection (DS951 series)
- Installation in applications up to 100A
- Up to 500mA detection level (10mA the lowest)
- Left or right positioned toggle
- Worldwide certified (including IEC certifications)

Benefits
- Elimination of hazardous ground current leakage
- Increased equipment protection
- Reliable internal CT for accurate measurements
- Reduced downtime due to replacement of unprotected units

Markets & applications
- Trainyards
- Airports
- Portable power OEMs
- Motion picture industry

Circuit Monitoring Systems



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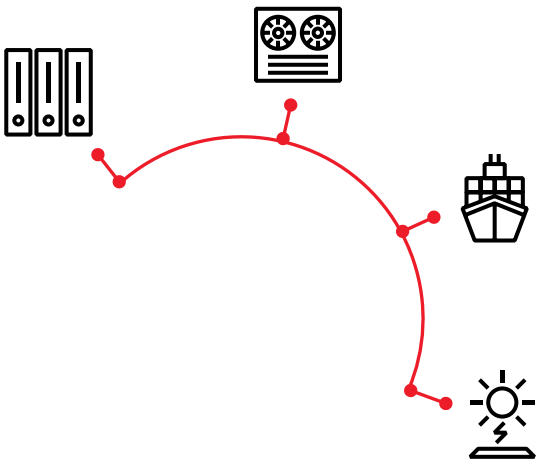
Link for more info

Product overview
Using CMS-700 it is possible to measure and calculate electrical parameters from both the mains and the branches, in order to provide the most comprehensive set of information on the system. A maximum of 3x32 sensors can be connected to the CMS-700, allowing to simultaneously obtain AC and DC current as well as active energy from up to 96 branches. At the mains side, the control unit allows to access the complete set of measurement data.

Features
- Current sensing up to 160A in both AC and DC using Hall effect sensors (open core sensors)
- Direct MCB or cable mount (using cable tie) of the sensors
- Main control unit allowing connection up to 96 sensors
- Integrated web user interface
- Modbus / Ethernet communication ready
- Up to 277Vac on branch measurements
- Compact size and DinRail mounted
- cULus listed
- Worldwide certified

Benefits
- Clear visibility of energy consumption at branch level
- Easy retrofitting and upgrades
- Maximum reliability and security thanks to encryption
- Simplified installation and commissioning
- One sensor for all types of currents



Markets & applications
- Data Centres
- OEMs
- Electrical industrial/commercial contractors
- Marine and solar industries

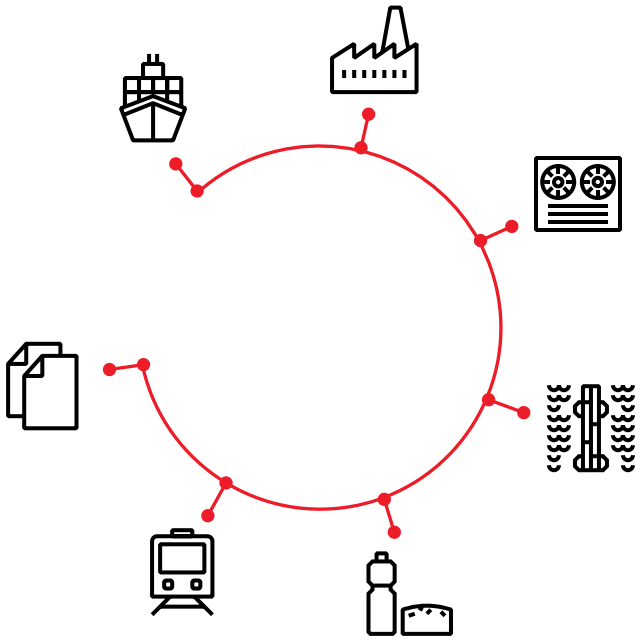
Monitoring Relays

—
Link for more info

Product overview
Monitoring relays guarantee reliable operation of an installation by responding quickly to occurring failures. The status is immediately forwarded to the control unit. This way, dangerous situations are detected as they are coming up and faults can be measured and treated with corresponding short response times.

Features
- Single-phase current and voltage
- Three-phase voltage
- Insulation
- Grid feeding
- Liquid level
- Thermistor
- Temperature

Benefits
- Process control and protection
- Push-in spring connection withstands highest vibrations
- Save time with ease of adjustment
- Wide range of monitors to meet your specific needs
- Save time on wiring with the double-chamber terminals
- Worldwide availability



Markets & applications
- Panel builders
- System integrators
- OEM's
- Renewable energy
- Railway
- Food and beverage
- UPS
- Marine

Notes

07

Critical Power

Active Voltage Conditioners PCS100 AVC-40

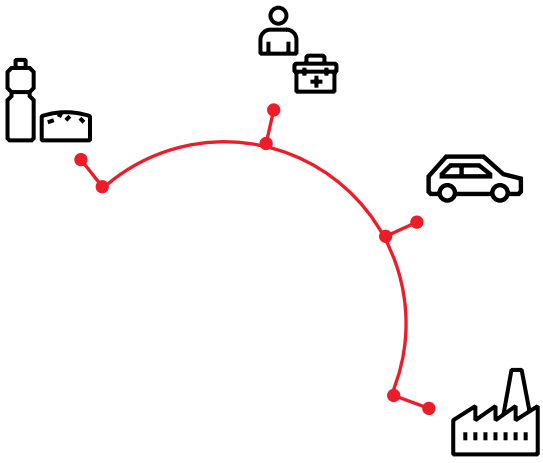
—
Link for more info

Product overview
Industries in developed countries, with modern power networks, are not immune to voltage problems. Although utilities endeavor to supply reliable, high-quality power, voltage sags and surges will continue to be a fact of life.

The PCS100 AVC-40 is an active voltage conditioner. It is a high-performance power electronic system designed for industrial and large commercial applications. It responds instantly to power quality events, providing continuous regulation of voltage. With high power capacity, the PCS100 AVC-40 is the perfect solution for industrial loads using significant power as well as large commercial buildings where continuity of service is paramount. The PCS100 AVC-40 is designed to target voltage sag events while also providing protection against swells. Sag events are the major cause of lost production.

Features
- No energy storage used
- Very high efficiency of >98 percent
- Designed for demanding process loads
- Internal bypass

Benefits
- Reduce the cost of voltage sag events
- Improve the plant operation
- Faster return on investment
- Reduce damage to the process equipment



Markets & applications
- Food and Beverage (bottling, packaging, dairy process)
- Pharmaceutical (batch process, climate control)
- Automotive (welding, coating, painting)
- Continuous manufacturing processes

Medium Voltage UPS PCS120 MV UPS

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Link for more info

Product overview
The space and electrical power needed to run a large critical power facility have increased over the past decade. Facilities are now faced with the need for energy efficient and reliable power as it is essential to have clean, continuous power to avoid any major losses standard grid supply and converts it to the desired frequency and voltage using static technology meaning there are no large moving masses using an efficient proven platform.

PCS120 MV UPS is the next generation of medium voltage UPS intended for multi megawatt power protection. Based on the ZISC architecture, the PCS120 MV UPS introduces a flexible solution for higher reliability and efficiency in critical power installations.

The transition from low voltage (LV) to medium voltage (MV) level is a natural progression of power protection for large critical power installations. The approach offers two main benefits. It increases reliability and reduces costs of the critical power facility build and operation.

Features
- Class leading efficiency of 98 percent
- High fault clearing capability
- Broad voltage range
- Paralleling up to 22.5MVA in a single MV UPS system

Benefits
- Higley available continuous clean power
- Centralized power protection system
- Optimized operating costs

Markets & applications
- Datacenters
- Semiconductor FABs
- Continuous process industrial facilities

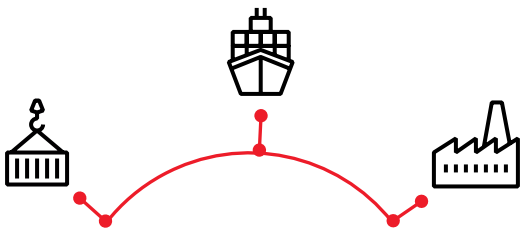
Static Frequency Converters PCS100 SFC

—
Link for more info

Product overview
Around the world there are many different power systems, while different voltages can easily be rectified, changing frequency typically from 50 Hz to 60 Hz or vice versa is much more difficult. The PCS100 Static Frequency Converter is the ideal solution for addressing that exact issue, it takes the standard grid supply and converts it to the desired frequency and voltage using static technology meaning there are no large moving masses using an efficient proven platform.

Features
- Modular design, self-contained independent rectifier and inverter modules
- High reliability and availability
- Precise output frequency generation
- Paralleling and synchronizing with other power sources

Benefits
- Continuous and stable supply
- Minimized total cost of ownership



Markets & applications
- Shipyards
- Ports
- Ships
- Industry

TruFit Power Distribution Unit (PDU) 50 – 800KVA

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Link for more info

Product overview
ABB's TruFit power distribution unit are from 50 to 800kVA. The TruFit PDU is equipped with a high efficiency transformer and integrated comprehensive monitoring system to better monitor the true health of your power distribution equipment. Its compartmentalized system architecture requires only front access for complete system operation and maintenance, ensuring an easier fit into the white space. A holistic view of overall system health is supported by the PowerView™ advanced monitoring and integrated thermal monitoring package.

Features
- Revenue grade metering accuracy, compliant with ANSI/NEMA C12.1 – 2015
- Supports additional functional cards for advanced monitoring features such as breaker status or thermal monitoring.
- PDU ground fault interrupt
- Waveform capture
- Global time sync via NTP

Benefits
Improving safety through automated thermal monitoring.
- The Thermocouple Input Board (TIB) for PowerView Pro provides the ability to thermally monitor points of interest within your equipment
- Eliminate the recurring expenses (labor and time) and risks (required PPE or removal of deadfronts) associated with traditional thermal scanning
- Proactively identify potential loosening of bolted connections

Ease of configuration
- User-friendly and intuitive graphical user interface
- Flexible configuration – by individual circuit or entire panelboard
- Customizable naming or numbering of main breaker(s), sub-feed breakers, panelboards, or branch circuit breakers
- Ability to create custom groups of circuits as well as monitor and alarm at the custom group level

Markets & applications
- Data centers
- High power density applications

Static transfer switch (STS) Cyberex SuperSwitch® 4

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Link for more info

Product overview
The SuperSwitch® 4 is available in comprehensive power ranges from 100 – 4000A in 208V through 480V and in select cabinet sizes that cater to your serviceability requirements. Its standard ultradense design max-imizes physical floor space.

Fully rated hockey puck SCRs are employed to prevent system damage after load faults. The superior cooling design of the assembly enables higher current applications. Infrared scans are easily accomplished without removal of assembly. Connections and maintenance are made easier by staggered phase connections and ample gutter space. 100% of connections are torqued ensuring maximum reliability.

Features
- Peak performance and reliability
- ≤1/4 cycle in-phase transfers
- ≤16ms out of phase transfers regardless of phase difference between sources
- ≤1.2x inrush for out of phase transfers

Benefits
Minimize risk of human error.
- On-screen software guided bypass operation
- Dedicated LED indicators coordinate with bypass instructions on HMI to ensure proper bypass sequence

Improved safety and serviceability
- Sectionalized design for safety and ease of serviceability enables quicker troubleshooting and time to repair
- Isolation of consumable components allows for easier replacement without need to de-energize equipment

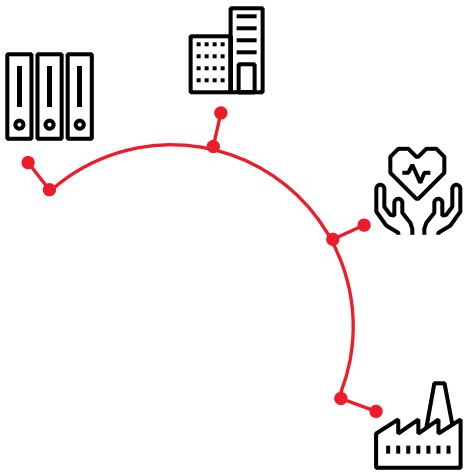
Markets & applications
- Data centers
- High power density applications

Three Phase Uninterruptible Power Supplies (UPS)

ABB TLE: Transformerless Technology & Best-in-Class Efficiency

—
Link for more info

Product overview
The TLE Series UPS brings the latest power conversion technology to the marketplace, using a three-level inverter design and a multimode architecture that makes real-time decisions between premium protection and premium efficiency mode. The TLE Series UPS was developed using Six Sigma (DFSS) methodology to ensure that the product meets customer requirements for reliability and quality.



ABB's TLE Series UPS is one of the most energy efficient double-conversion UPS in the industry and provides world-class energy efficiency across the operating load range. The TLE Series delivers efficiency up to 96.5 percent in double conversion mode and 99 percent in eBoost operating mode. This system efficiency substantially reduces operating and cooling costs thus providing a reduced cost of ownership and improved power usage effectiveness (PUE) compared to conventional UPS. ABB's UPS performance is optimized at 50-75 percent load operation, as this is the most common operating range.

Features & benefits

ABB technology at its best
- Highly reliable and efficient tri-level conversion.
- Automatic or manual multimode generation.

“Best of both worlds” operating efficiency
- Up to 99 percent premium efficiency mode (filtered eBoost).
- Up to 97 percent premium protection mode (double conversion).

Electrical environment optimization
- Unity (1.0) Output Power Factor.
- High (0.99) Input Power Factor.
- Less than 5 percent Input Current Harmonic Distortion.

Physical environment optimization
- Small footprint.
- Front access only design for maintenance.
- “Cable saver” design to allow +/- 25 percent differential of cable lengths between the output parallel modules.

Markets & applications
- IT / Server Rooms
- Data Centers
- Building Infrastructure
- Healthcare and Medical
- Light industries

Three Phase Uninterruptible Power Supplies (UPS)

MegaFlex: The best and most reliable high-power density UPS

—
Link for more info

Product overview

The on-line double conversion Megaflex provides the best power protection for critical infrastructure from 1200 kW to 1600 kW. This monolithic UPS is specifically designed for critical high-density computing environment across private and public enterprise, as well as data centers collocation, hosting clouds and telecommunication centers.

Technology based on ABB redundant parallel architecture (RPA) allows parallel arrangements, eliminating any “single point of failure” with true redundancy. RPA reduces operating footprint and provide a scalable approach that increase system reliability. It also eliminates the need for external paralleling equipment or centralized bypass and master control.

The ABB Megaflex delivers up to 97 percent efficiency in double conversion mode and 99 percent in eBoost operation mode. The system efficiency substantially reduces the cost of ownership and provide more effective power usage than conventional UPS.

Features & benefits

Flexible approach
- Capacity from 1200 kW to 1600 kW, using core power blocks of 400 kW.
- Redundant parallel architecture with distributed static bypass.
- Multimode ready offering: N+1, 2N, 2N+1, N+N, 3N/2 and a redundant catcher design.

Reliable operation
- RPA technology eliminates “single point of failure” in parallel systems.
- Ease of operation and remote real time monitoring.

Simple installation and serviceability
- Front and top service access.
- Modular subassembly for ease of service and low MTTR.
- Consumable parts design life up to 15 years.

Ultimate space savings
- Market leading power density.
- Up to 40 percent footprint savings inside high density computing rooms.

Optimize energy efficiency
- Minimized energy losses, heat dissipation and electrical costs in double conversion, up to 97 percent.
- High energy efficiency operation in eBoost mode, up to 99 percent.

World class innovation
- Proven technology from world-leading R&D experts.
- Power conversion technology for high-power density.
- eBoost (VFD) mode for premium efficiency.

Markets & applications
- Data centers
- High power density applications

Single Phase Uninterruptible Power Supplies (UPS)

PowerValue 11RT G2 1-3 kVA UL: The single-phase UPS for critical applications

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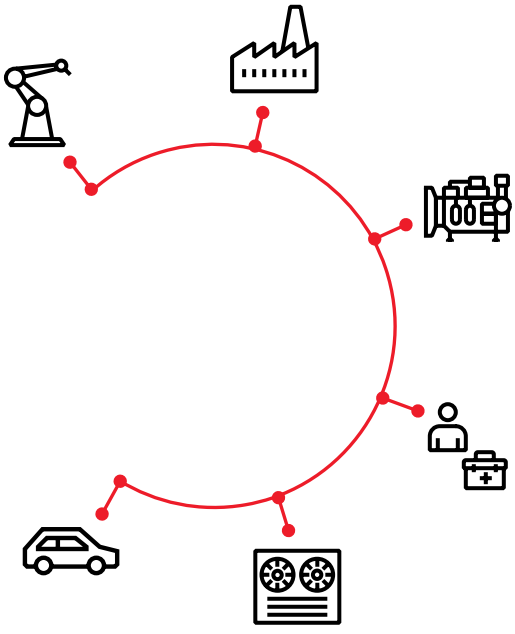
Link for more info

Product overview
ABB's PowerValue11RT G2 is a double-conversion online UPS that guarantees clean, reliable power for your critical single-phase applications. As well as maintaining power to your servers, point-of-sale terminals, workstation clusters, routers, switches, hubs and sensitive electronic equipment, the PowerValue11RT G2 also conditions incoming power to eliminate spikes, swells, sags, noise and harmonics.



The PowerValue11RT G2 can be used as a standalone UPS device or installed into a standard 19"rack configuration, with connectivity options available for each. All units can be fitted with up to six battery modules to extend runtime.

Features & benefits

High reliability
- Reliable double conversion topology protects load from all input disturbances.
- Batteries can be added or replaced easily.
- Reduced recovery time from discharge.

Low cost of ownership
- Unity or close to unity power factor (kW = kVA).
- Scalable runtime.
- High operating efficiency, regardless of loading.
- Reduced installation and upgrading costs.
- Compact design.

Flexible design
- Configurable in tower or rackmount format.
- A rotatable display.
- UPS can be connected with up to six external battery modules (EBMs) for extended runtime.
- Full set of accessories and connectivity options.

Efficient service concept
- Easy set-up and maintenance (plug-and-play).
- User-friendly display.
- Hot-swap user-replaceable internal batteries.

Markets & applications
- Small IT room
- Building Infrastructure
- Contractor
- Distributor
- Commercial

Three Phase modular Uninterruptible Power Supplies (UPS)

ConceptPower DPA: True modular UPS system for critical applications

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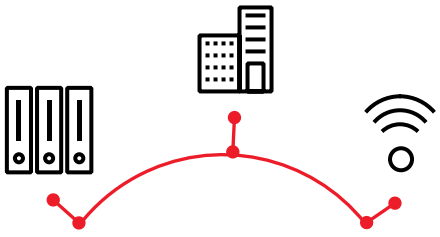
Link for more info

Product overview

Conceptpower DPA is a high-power, modular UPS system designed for today's critical high-density computing environments. The UPS is built using true online double conversion technology and delivers high-quality power. When combined with complete network integration software and communication connectivity, the Conceptpower DPA provides a comprehensive, easy-to-integrate power protection for data centers and network environments.

DPA is based on ABB's unique and proven Decentralized Parallel Architecture DPA™. DPA means that each UPS module contains all the hardware and software required for full system operation. They share no common components. Each UPS module has its own independent static bypass, rectifier, inverter, logic control, control panel and battery charger. Even the batteries can be configured separately for each module if required.



With all the critical components duplicated and distributed between individual units, potential single points of failure are eliminated. System uptime is further maximized by the true safe-swap modularity of the modules (easy replacement during system operation) which allows the simple addition or removal of modules without the need to bypass the UPS.

Features & benefits

Lower cost of ownership

- Lowest cost of ownership of any UPS system by offering energy efficiency, scalable flexibility and ergonomic design to enable easy serviceability.

Simplify installation and service

- Easy set-up and maintenance involve lower operating and maintenance costs, adding modules in a simple plug-and-play procedure.

Optimize energy efficiency

- Class-leading energy efficiency significantly reduces system running costs and site air-conditioning costs.

Advanced scalable architecture

- Vertical and horizontal scalability. Independent modules or frames can be added to achieving a total power capacity.

Markets & applications

- Data centers
- IT / Server Room / Edge
- Building Infrastructure
- Telecommunications

Automatic Transfer Switches – Zenith ZTG series

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Link for more info

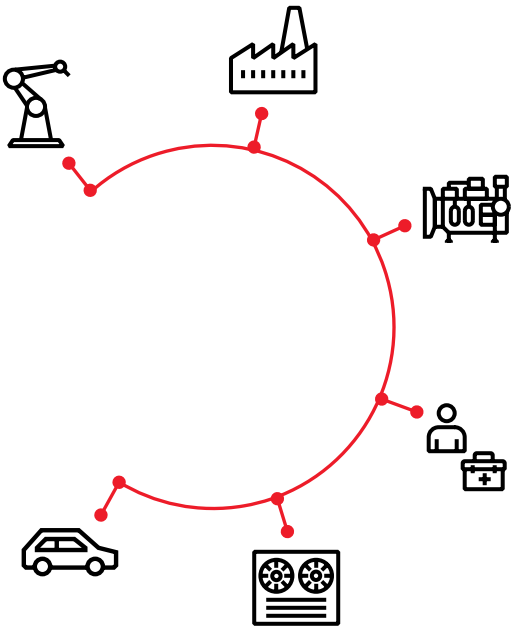
Product overview
Zenith and ABB have over 150 years of combined experience in power switching technologies. Now under ABB, Zenith is bringing you the next generation of automatic transfer switch technology designed to increase system reliability and provide the easiest possible user experience.

Powered by TruONE™ technology, Zenith ZTG series automatic transfer switches incorporate switch and controller in one seamless, self-contained unit, reducing the number of wires and connections. This design saves room in the enclosure and minimizes the potential for connection failures. In addition, the design incorporates modular components to reduce downtime and service costs.

Finally – what matters most – you can count on Zenith for continuous power flow and installation longevity. This new generation of ZTG series ATS owes its robustness to its innovative contactor design, developed from years of careful engineering and countless hours in testing.

Easy to install and commission
The new Zenith series weighs up to 30 percent less than comparable ATS models but has up to 25 percent more wire-bending space, making it especially easy for contractors to install.

Once sources are connected, an innovative auto-configure function via the HMI sets electrical system parameters in seconds. Because of breakthrough ABB technology, no additional control wiring or troubleshooting is required on-site. And any programming changes can be done from the HMI with a few keystrokes, making commissioning quick and painless. You can even configure Zenith ZTG on site before installation – using a laptop with Ekip Connect software, even without any external power supply.



Continuous operation
Zenith ATS solutions are tested to last up to 6,000 cycles. Based on 10 transfers per month, that's 50 years of reliable operation! If things ever do go wrong, all critical modules are customer-replaceable to simplify service and significantly reduce downtime and service costs.

Advanced data and connectivity
The Zenith now features cloud-based connectivity through the ABB Ability Electrical Distribution Control System (EDCS). ABB Ability simplifies implementation and use of Zenith transfer switches in coordination with other ABB devices, ensuring one common user interface and one common software environment. Market-leading modular communication with seven protocols ensures easy installation and connectivity now and far into the future.

Markets & applications
- OEMs
- Contractors
- Distributors
- Commercial
- Institutional
- Healthcare
- Data Centres
- Industrial

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1SXP100002B0202 - May 2024