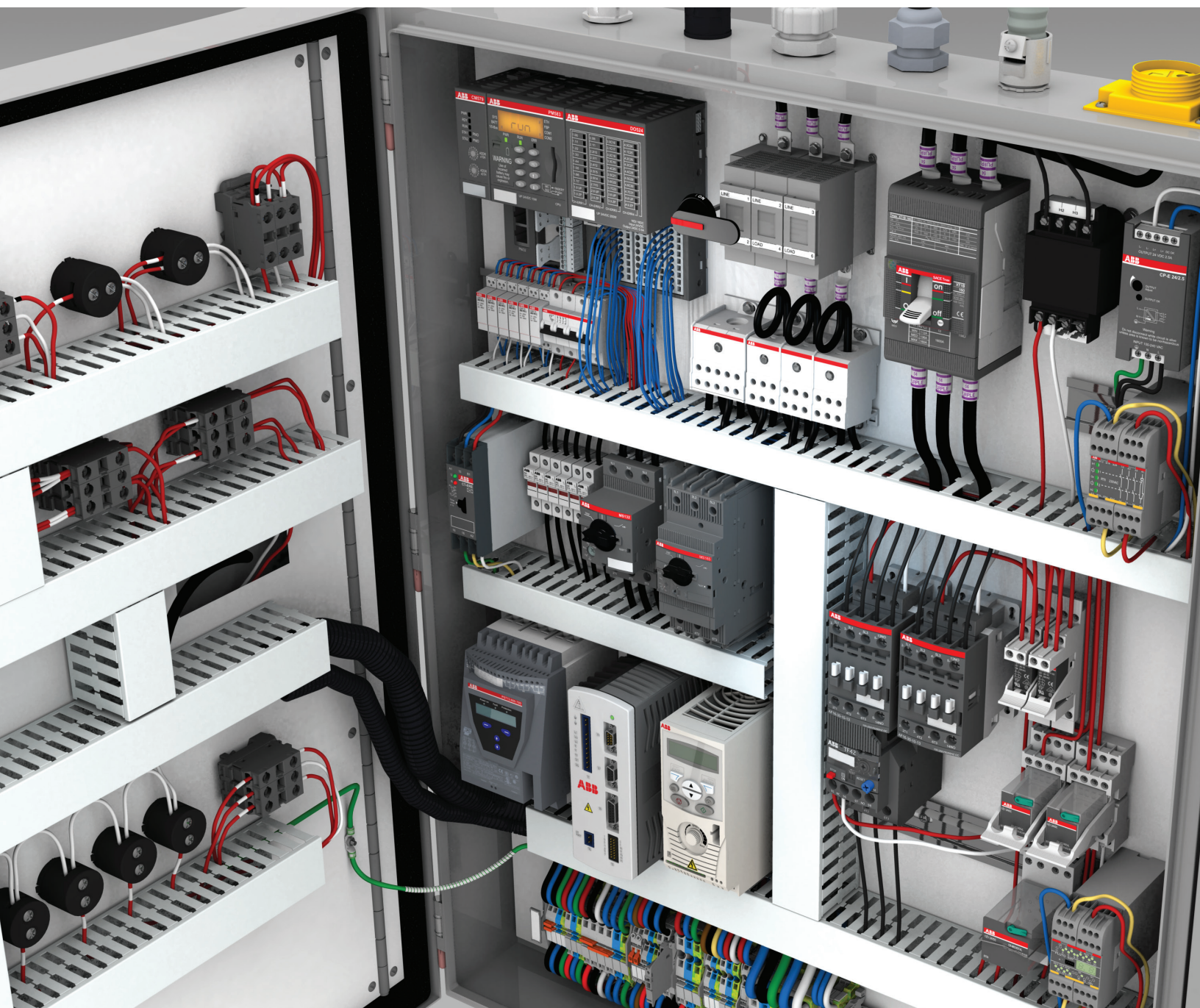


PANORAMA

ABB solutions for control panels

Capabilities guide



Top reasons to choose ABB as your preferred supplier of low voltage control products

1. The most extensive product range, enabling you to source your critical components from one supplier

- Air circuit breakers
- Arc Guard System™
- Circuit monitoring system (CMS)
- Contactors and overloads
- DIN rail components
- Disconnects
- Drives
- Enclosures
- Fittings
- Grounding systems
- Interface relays
- Limit switches
- Lugs
- Manual motor starters
- Miniature circuit breakers
- Molded case circuit breakers
- Pin and sleeve connectors
- Pilot devices
- PLCs
- Power distribution bus systems
- Power supplies
- Proline
- Safety locks
- Safety relays and PLCs
- Safety switches
- Sensors
- Softstarters
- Starters
- Surge protection devices
- Timers and monitors
- Universal motor controllers
- Wire duct and wire wrap
- Wire termination systems

2. Ease of product selection and installation

- Comprehensive selection tools and extensive technical documentation for easy specification and use
- Wide variety of product options — from economical to highly sophisticated — offering maximum value
- Products designed for safety and easy installation, set-up, commissioning and maintenance
- Common style across product line helps you create a cleaner panel design

3. Global support

- ABB products are available in more than 100 countries, giving you the confidence of worldwide sourcing and support — no matter where you build and operate your equipment
- Global certifications to support your business worldwide
- One single partner to handle your support requirements

4. Ease of doing business

- Source for widest range of best-in-class products
- Pricing available 24x7x365 for qualified control panel partners
- Product selection tools, including configurators, cross references, product training and a dedicated web portal (www.electricalengineeringresource.com)

5. Business efficiency resources

- Regulatory compliance assistance
- Priority support



Products

Enclosures

ABB enclosures easily mount to the wall or floor and can be vertically stacked with the use of a joining kit. The doors can be hinged on the right or left side. They have a durable welded construction with high mechanical strength ratings and are designed for small and medium-sized automaton, switching and control panels.

- Thermoplastic (Gemini UL) enclosures are available in six sizes for indoor and outdoor use — NEMA 1, 3R, 4 and 4X
- Painted steel (SR2) enclosures are for indoor use — NEMA 1, 2 — and are available with a solid or tempered glass door
- Stainless steel (SRX) enclosures are for indoor and outdoor use — NEMA 1, 3R, 4, 4X, 12 — and are made of 304 stainless steel available with solid or tempered glass doors



SMISSLINE TP flexible power distribution bus system

Modular assembly allows for simple reconfiguration and maintenance and reduces space and installation time drilling and taping wire connections. Design changes and future expansion are easily accomplished by connecting.

- Certified for UL508 and UL489 applications
- 200 A center-fed bus
- 0.5 to 63 A
- Combination motor starters
- Finger-safe IP20 design



ABB Ability™ Electrical Distribution Control System (EDCS)

ABB Ability™ EDCS gives you the ability to monitor energy usage, capture power quality analytics, and perform predictive maintenance easily, at anytime and from anywhere.



- Generate a new revenue stream by helping customers track panel performance
- Deliver ongoing differentiated solutions by helping your customers increase panel reliability
- Easy-to-install architecture reduces wiring and connection time
- Unmatched scalability and flexibility enable easy integration with supervision and management systems in single- and multiple-site applications

TruONE® ATS

The new TruONE ATS is the world's first true all-in-one automatic transfer switch, engineered to incorporate switch and controller in one seamless unit. TruONE stands ready to ensure the steady delivery of critical power at all times.



- Rated voltage 200–480 V
- Available in 3- and 4-pole
- Both in open and delayed transition
- Up to 1200 A with 2000 A coming soon
- Three levels of controller:
 - Standard for basic DIP switch control
 - Advanced with LCD display, programmable I/O, flexible time delays and comm modules
 - Pro version includes power measurement and predictive maintenance

Circuit monitoring system (CMS)

The CMS is a compact system used for measuring performance of diverse AC and DC load currents to reduce downtime and detect potential issues before they occur. It is easy to use and has intuitive installation and configuration via integrated touch screen (CMS-600) or web client (CMS-700) in original installations or field retrofits.



- Open and closed core sensors up to 160 A true RMS with up to 0.5% accuracy
- Up to 96 sensors can be monitored by one control unit
- Measured data can be accessed via Ethernet or polled via Ethernet or Modbus RTU protocol interface

IEC 60309 international pin and sleeve devices

IEC 60309 international pin and sleeve devices provide safe, reliable and durable electrical connections for different kinds of industrial applications and work conditions.



- Dual-rated devices
- IP44, IP67 and IP69K portfolio
- Designed for easy connections in different applications

Emax 2 Air circuit breakers (ACBs)

Emax 2 ACBs provide the latest protection technology with ease of installation and use. They function as circuit breakers for general protection of plants, end-user complexes and electric lines and as protection circuit breakers for generators, motors, transformers and capacitors, making them the ideal solution for designers, installers, OEMs and end users.



- For applications in accordance to UL1066 standards 600 V AC
- Available in fixed and drawout styles
- Up to 6000 A
- Up to 100 kA of short circuit protection
- Accessories include: motor operators, auxiliary and signal contacts, shunt trip, under-voltage release, bell alarms and more

Featuring all-in-one innovation

Emax 2 all-in-one innovation embeds into an Emax 2 air circuit breaker to provide full power control. The embedded features of all-in-one innovation extraordinarily simplify the installation, programming and testing of these functions:

- Embedded ATS
- Load shedding
- Synchronized reclosing
- Integrated IPS
- Predictive maintenance

With ready-to-go programming and simplified connections all in a compact, reliable system.

Ekip UP

Ekip UP provides the ability to upgrade any switching device with measuring and monitoring, protection and control capabilities.



Update your equipment with advanced features such as communications, measuring and advanced protections without replacing your existing circuit breaker, contactor or disconnect switch.

- Upgrade and optimize your panel with embedded energy management features
- Operating voltages: 220 V to 690 V
- Operating currents: 100 A to 4000 A
- Operating temperature: min. -25 °C, max. 85 °C
- Measurement accuracy: current, class 1; voltage, class 0.5; power, class 2; harmonics up to 50th

1 Contactors and overloads

ABB's AF contactors signify a major advancement in motor control and power switching. They come standard with electronic coils and built-in surge suppression. The AF contactors, along with ABB's short circuit and overload protective devices, provide the user with fully tested, UL-listed short circuit current rating (SCCR) motor combinations.



- UL general use and motor switching
- 9 to 2650 A
- 5 to 900 HP
- Up to 1500 V
- 3-pole and 4-pole versions
- Accessories include: connection sets, auxiliary contact blocks, interlocking units, timers, electronic and thermal overload relays
- Available with push-in spring termination for faster, easier assembly

2 Disconnect switches

ABB has a wide portfolio of low voltage switches that includes fusible, non-fusible, change-over, and enclosed switches with ratings between 16 and 2000 amps for both AC and DC applications.



These disconnects are suitable for machinery, power distribution, switchboards, motor control centers and photovoltaic applications.

- UL508 and UL98 Listed
- Compact size
- High performance
- Safe to use and easy to install
- The most complete offering of disconnects on the market

3 Tmax XT molded case circuit breakers (MCCBs)

Tmax MCCBs provide an extremely high level of performance with limited overall dimensions and installation simplicity.



The Tmax line is available in 8 sizes, a complete range of trip unit options and with a wide variety of electrical and mechanical accessories.

- Thermal magnetic and electronic versions
- Up to 3000 A with up to 200 kA of short circuit protection
- 240, 480 and 600 V optimized solutions
- Fixed, plug-in or drawout
- Accessories include: motor operators, auxiliary and signal contacts, shunt trip, under-voltage release and bell alarms

4 Starters

ABB's starters can be used in most motor control applications using mechanical starting means as well as solid state.



- IEC and NEMA rated
- Combination tested to 200 kA
- Enclosed and open styles

5 Manual motor starters

Manual motor starters can reduce panel space, installation time and cost. Applications include manual motor control, local motor disconnect, group installation and self-protected combination motor controllers.



- Up to 100 A, 100 HP and 65 kA short circuit protection
- Self-protected UL508 type E and F (up to 100 kA)
- Accessories include: connection sets, auxiliary contact blocks and shunt trips, power-feed blocks, under-voltage release and short circuit signaling contacts
- Available with push-in spring termination for faster, easier assembly

6 Transformers

ABB X series industrial control transformers provide stepped-down voltages for machine tool control devices and industrial control panels. They are made with high-quality silicon steel laminations to minimize core loss and optimize performance.



- 45 to 5000 VA
- Multiple primary AC voltages
- 24, 115, 24/115 AC secondary voltages
- Epoxy-encapsulated coils and molded-in terminals

7 Power supplies

ABB's CP range of innovative primary switch mode power supplies provides compact construction, easy DIN rail mounting, high efficiency, reliability and safety. Accessories include buffer units, redundancy modules and more.



- 5, 12, 24 or 48 V DC output voltage with wide range of AC or DC supply voltages
- High efficiency, up to 94%
- Open-circuit, overload and short-circuit proof input fuse
- Coated (PCBA) and ATEX certification available for hazardous locations

8 Surge protective devices (SPDs)

SPDs are designed for long service life, protecting equipment from surges due to lightning strikes, upstream equipment and utility load switching. They are suitable for use in hospitals, data centers, renewable energy, water/wastewater treatment and other 4th edition-power applications.



- UL1449
- OVR DIN rail SPD for equipment protection; 15 and 40 kA
- Replaceable MOV cartridges and modules
- The ABB OVRH Series offers SPDs for all applications that can help protect equipment from over-current and over-voltage events.

9 Miniature circuit breakers (MCBs)

ABB, the inventor of miniature circuit breaker technology, offers the largest selection of current-limiting, compact, DIN-rail mounted MCBs for AC and DC applications. Thermal and magnetic trips are provided to cover both over-current and short-circuit faults.

- UL489, UL1077 and IEC
- 0.2 to 125 A, up to 600 V AC/DC and 50 kA short circuit protection
- Accessories: bus bars, auxiliary and signal contacts, shunt trip, under-voltage release and lock out/tag out



10 Fuse holders

ABB offers a wide range of DIN-rail mountable, UL approved IP20 fuse holders. They offer venting grooves and cooling chambers to improve heat dissipation, increasing durability and reliability. Ergonomic flip hinge makes fuse replacement easier in small spaces even while wearing gloves. All models offer blown fuse indication.

- Class J — up to 60 A at 600 V AC/DC
- Class CC — up to 30 A at 600 V AC/DC
- Midget 10 x 38 mm — up to 30 A at 600 V AC/DC
- Photovoltaic PV — up to 30 A at 1 150 V DC

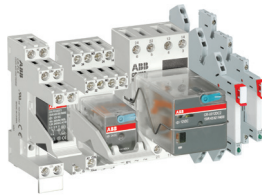


11 Ice cube and solid state relays

ABB's solid state and electromechanical relays ensure reliable voltage conversion between process peripherals and higher-level control systems.

Suitable for use in extreme environments, our relays ensure reliable signal switching and electrical isolation for sensitive electronics such as PLCs. A wide variety of pluggable interface relays with standard or logic sockets can be used for switching AC or DC loads.

- Coil voltages from 5 V DC to 230 V AC
- Up to 16 A contact ratings and up to four output contacts
- Optional plug-in modules available; timer, LED and more
- Integrated test button for manual operation
- Gold-plated contacts available for lowest contact resistance
- Super slim (CR-S), less than ¼" wide



12 Electronic relays and controls

ABB's assortment includes a wide range of products for switchgear and control gear for electrical equipment and automation of machinery and plants. These versatile products offer maximum security, economic efficiency and capacity. Ongoing development of the product range makes new applications possible.

- Timers
- Measuring and monitoring relays
- Grid-feeding monitors
- Sensor interface relays
- Universal motor control



13 Pilot devices

ABB offers three ranges of pilot devices for 22 mm and 30 mm diameter holes. The modular range is offered in metal or plastic bodies and includes operators, holders and contact, and LED blocks that can be combined. The compact range offers all functions built into a single unit. Adapter rings enable use of 22 mm pilot devices in 30 mm diameter holes.

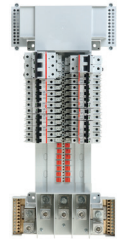
- IP66, IP67, IP69K and NEMA 1, 3R, 4, 4X, 12, 13
- Wiping contacts and integrated LEDs
- Standard and custom legend plate shrouds
- A full line of emergency stops



14 ProLine

ProLine is the first UL67 panelboard on the market offering touch-safe capabilities and total breaker coordination. It provides valuable features to those who demand the best possible protection against arc flash and electrical shock during installation or maintenance.

- UL67 panelboard with a certified touchsafe IP20 rating
- Current-limiting branch breakers reduce potential for arc flash in a short circuit event
- Pluggable branch breakers with non-energized bolt-on screw further reduce potential for contact
- Fully coordinated branch and main breakers contain the fault to the branch level, leaving the main and other branch circuits up and running



15 Safety products

ABB Jokab Safety provides an extensive range of innovative products and solutions for machine safety systems. These products save labor and components, simplify maintenance and troubleshooting and provide the highest level of safety.

- Safety relays, safety controllers and programmable safety controllers used in machine safety systems
- Safety light curtains, safety sensors and safety devices
- Safe, simple and cost-effective machine fencing systems
- Contactors for safety applications

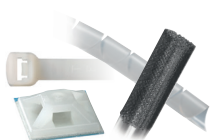


16 Wiring duct

Ty-Duct® premium duct is ideal for electrical enclosures, machine building and datacom closets. Two-point flush covers install with less force and greater capacity.

- Upper and lower score lines permit tool-less finger breakout and easy sidewall section removal
- Universal mounting clip serves as a cable tie mounting base or as a snap connector for duct dividers
- Easily removable protective film prevents scratches and allows for temporary labeling

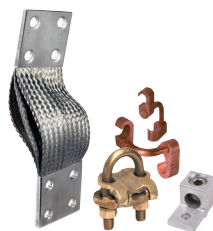




17 Ty-Fast®
cable ties, wire sleeving,
mounting accessories
and spiral wrap



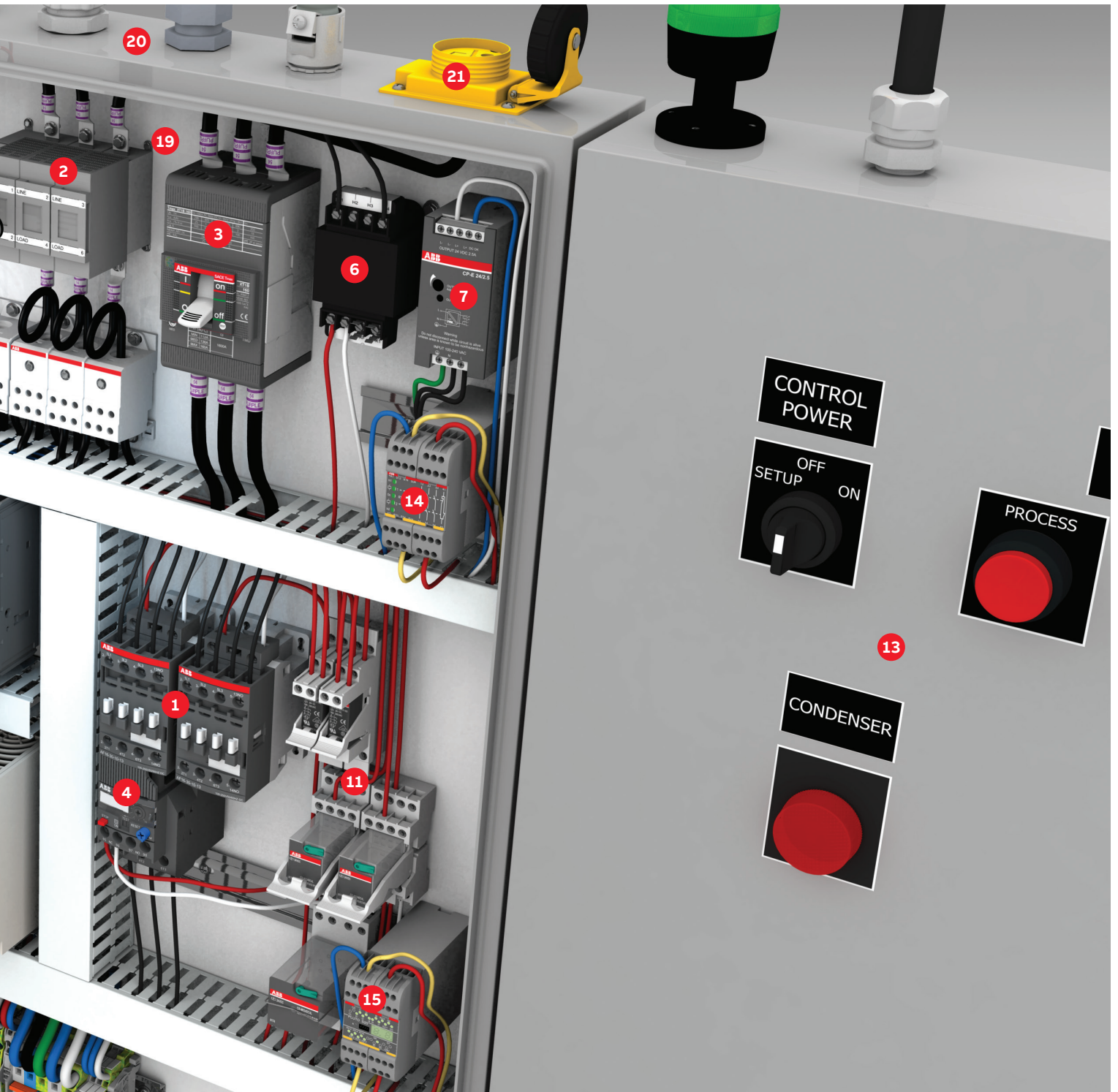
18 SpecKon®
crimp-on wire
termination



**Blackburn® grounding
and mechanical lugs**
grounding systems, mechani-
cal lugs and flexible braids



19 Color-Keyed® compression
Available in standard and narrow
tongue, along with KUBE® flag connectors



20 T&B® Fittings
Liquidtight, cord and cable fittings, CHASE® fittings and multi-hole cord grips



21 Russellstoll®
pin and sleeve connectors



Installation tooling
ergonomic application tooling



EZCODE™
safety labels, tags, signs, wire markers and barricade tapes

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ABB Inc.

Electrification Products
860 Ridge Lake Blvd.
Memphis, TN 38120
abb.com/lowvoltage

Customer Service: 800-816-7809
7:00 a.m. - 5:30 p.m., CST, Monday-Friday
elec_custserv@tnb.com

Technical Support: 888-385-1221, Option 1
7:00 a.m. - 5:00 p.m., CST, Monday-Friday
lvps.support@us.abb.com

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