



# ABB LV Product Overview Capabilities Guide

Power and productivity  
for a better world™



# Breakers and Switches



## Disconnects

ABB has a wide portfolio of low voltage switches that include: fusible, non-fusible, change-over, enclosed and cam switches with ratings between 16 and 3150 Amperes. Suitable for machinery, power distribution, switch boards, motor control centers and photovoltaic applications.

- UL 508 & UL 98 Listed
- Compact solution
- High performance
- Safe to use
- Easy to install



## Molded Case Circuit Breakers (MCCBs)

Tmax molded case circuit breakers are characterized by an extremely high level of performances with limited overall dimensions and installation simplicity. The Tmax line is available in nine sizes, a complete range of trip units to select from, and a wide variety of electrical and mechanical accessories. Tmax offers complete adaptability to solve any application need.

- Thermal magnetic and electronic versions
- Up to 3000A
- Up to 150kA @ 480VAC of short circuit protection
- 600VAC
- 1000VDC
- Available in fixed, plug-in and drawout
- Accessories include: motor operators, aux and signal contacts, shunt trip, under voltage release, bell-alarms, and much more



## Power Circuit Breakers (PCBs)

The Emax Power circuit breaker provide an innovative solutions that focuses on the latest in protection technology providing ease of installation and use. They can be used both as circuit-breakers for general protection (of plants, of user complexes, of electric lines) and as protection circuit-breakers of electrical machines (generators, motors, transformers, capacitors). Emax is the ideal solution for the growing requirements of designers, switchboard and switchgear manufacturers, installers, OEMs, and users.

- 600VAC
- 1000VDC
- Available in fixed and drawout
- Up to 6300A
- Up to 150kA of short circuit protection
- Accessories include: motor operators, aux and signal contacts, shunt trip, under voltage release, bell-alarms, and much more

# Control, Protection, Connection, Electronic Product and Relays



## Contactors and Overload Relays

ABB's AF Range of contactors and overload relays is the new standard in motor control and power switching. Featuring electronically controlled coils with wide input voltage ranges, AF contactors establish a new industry benchmark. By helping to access global support, optimize logistics, simplify design and secure uptime, ABB's wide product offering provides the optimal solution, every time.

- UL/CSA, NEMA, and IEC approvals
- 9 to 2700A
- 3 to 900 hp @ 480V
- Rated up to 1000V
- Coordinated short-circuit testing with fuses & MCCBs
- [www.abb-connecttocontrol.com](http://www.abb-connecttocontrol.com)



## Manual Motor Protectors

Manual motor protectors can reduce panel space, installation time, and cost. Applications include manual motor control, local motor disconnect, group installation and self-protected combination motor controllers. A wide variety of busbar, signaling contacts and coupling accessories for use with AF Range contactors are available.

- Short circuit current rated up to 65 kA
- Rated for motors up to 75 hp @ 480V
- Suitable as motor disconnect
- Tap Conductor Protection rated in group installations
- Self-protected CMC Types E & F



## Pilot Devices

ABB offers two ranges of pilot devices for 22mm diameter holes. The Modular Range includes operators, holders, contact blocks, lamp blocks and LED blocks that can be combined to get the required function. Snap on feature reduces installation time and spring loaded tabs ensure that actuators and legend plates are in correct position. The Compact Range offers a flexible, economical solution with all functions built into one single unit for easy mounting and reduces stocking levels. The same 22mm pilot devices can be easily converted to fit 30mm diameter hole by using the 30mm adapter rings.

- IP66, IP67, and IP69
- NEMA 1,3R, 4, 4X, 12 and 13
- Wiping contacts
- Integrated LEDs
- Standard & Custom Legend plates shrouds

# Low Voltage Product Profile

The Low Voltage Products (LVP) division manufactures products and systems that provide protection, control and measurement for electrical installations, enclosures, switchboards, electronics and electromechanical devices for industrial machines, plants and related service. Employing over 20,000 employees worldwide in both manufacturing and sales capacities, ABB LVP operates 60 manufacturing sites in more than 35 countries and has sales activities in over 100 countries. ABB LVP encompasses roughly 150,000

cataloged products, delivering more than one million products per day, and has an installed base estimated at 15 billion USD.

In North America, ABB LVP offers one of the largest product ranges of Automation & Industrial Control components to meet your customer's electrical needs, from circuit-breakers, switches, control products, wiring accessories, to enclosures and cable systems.







### Limit Switches

The broadest range on the market for an unlimited number of solutions, ABB offers all components from position sensors via automation systems to complete control panels. Economic...from one single source.

- Plastic casing IP 65 protection and metal casing IP 66 protection
- 30mm to 60mm in width
- Complete safety line
- 3 cable conduits
- Miniature pre-wired line
- Actuators: safety key, plunger, roller, adjustable lever, flexible rod, pull action



### Starters

ABB's starters can be designed for most motor control application using mechanical starting means as well as solid state incorporating many custom solutions as well.

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



### Softstarters

The ABB softstarter portfolio now consists of three different ranges making it possible to find a suitable softstarter for almost all possible applications and motor sizes all the way up to 1800A. The softstarter family consists of the Compact PSR, the Efficient PSE and the Advanced PST(B) range. The range covers all motor applications from 3 amps to 1810 amps used in a main voltage between 208 volts to 600 volts AC.

- PSR - The compact range, 3 to 105A
- PSE - The efficient range, 18 to 370A
- PST(B) - The advanced range, 30 to 1050A



### Connections

As a specialist in connection devices for over 50 years, ABB offers one of the most comprehensive product ranges of terminal blocks on the market. ABB's terminal blocks meet a wide range of customer requirements: from small panel builders to large OEM's, from standard distribution and control panels to the most specialized applications in key industries such as energy, maritime, explosive atmospheres and traction. Choose from thousands of high quality standard terminal blocks and functions. Whatever your requirements are, you will find the connection products that fit your needs.

- Screw clamp blocks
- Spring clamp blocks
- IDC Blocks
- Distribution, Fuse and Specialty Blocks
- Markers and Marking Systems
- Interfast PLC Pre-Wired Cable System



### Electronic Products and Relays

ABB's Electronic Products and Relays assortment includes a broad range of products that provide power, control and monitoring of electrical and automation equipment. These versatile products offer maximum efficiency and functionality at a wide variety of price points, adding value while meeting the customer's requirements.

- Power Supplies
- Timers
- Monitors
- Signal and Data Converters
- Relays and Optocouplers
- Interface Products
- Universal Motor Controller
- Logic Relays



### Safety

ABB JOKAB SAFETY offers an extensive range of innovative products and solutions for machine safety systems. We have great experience of practical application of safety requirements and standards from both authorities and production. We are represented in standardization organizations for machine safety and we work daily with the practical application of safety requirements in combination with production requirements.

- Safety relays, safety controllers and programmable safety controllers
- Light barriers, sensors, locks and control devices
- Machine fencing systems and modular panels



### Arc Guard

Arc Guard System™ quickly detects an arc fault and trip the incoming circuit-breaker. Using light as the main condition, Arc Guard System™ trips instantaneously. Thanks to this key functional advantage, it overrides all other protections and delays, which is crucial when reaction times need to be measured in milliseconds.

- Fiber optic detection
- Pre-calibrated sensors
- IP54
- 30 optical detector inputs
- Optional current sensing unit

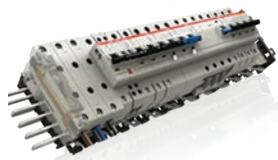
# Modular Din Rail Protection, Panelboards, Enclosures and Wire Management Systems



## Miniature Circuit Breakers (MCBs)

ABB, the inventor of the miniature circuit breaker technology, offers the largest selection of current limiting compact DIN rail mounted MCB options, including industry specific solutions for the Wind and Solar PV markets – for both AC and DC applications. Thermal and magnetic trips are provided to cover both over current and short circuit faults.

- UL 489, UL 1077 and IEC
- 0.2A to 125A
- 3kA to 50kA
- Accessories include: busbars, aux and signal contacts, shunt trip, under voltage release, and Lock Out/Tag Out



## SMISLINE Flexible Power Distribution Bus System

Modular SMISLINE protection devices allow for flexible design and arrangement. Devices are simply snapped into plug-in sockets providing a reduction in installed time and life cycle costs. Design changes or future expansion is easily accomplished by connecting addition devices.

- Certified for UL 508 and UL 489 applications
- 200 A Center Fed Bus
- 0.5A to 63A
- Combination motor starters



## ProLine Panelboard

The ABB patented ProLine panelboard is the electrical industry's first current limiting, touch safe, per IP20 ingress protection, fully coordinated UL 67 panelboard providing plug on branch breakers with non-energized bolt on screws.

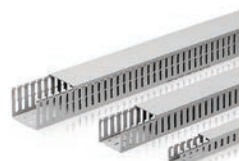
- 400A bus
- 12, 24, and 42 circuits
- 35 KAIC series rating
- 1A to 100A Branch breakers



## Surge Protection Devices

SPDs are designed for a long service life, protecting valuable equipment from transient surges due to lightning strikes, and surges from upstream equipment and utility load switching. They are suitable for protection of facilities such as critical power (hospitals, data centers, etc.), renewable energy, water/wastewater and other manufacturing and commercial operations.

- OVR NE12 enclosed SPD for service entrance
- OVR DIN rail SPD for equipment protection
- UL 1449 3rd addition
- Replaceable MOV cartridges and modules
- Optional surge counter on OVR NE12
- OVR DIN rail - 15 and 40kA; OVR NE12 - 160 and 320kA



## Wire Management

The first on the market to be awarded the EN 50085 (parts 1, 2 and 3) conformity certificate, ABB thermoplastic wiring systems are designed and manufactured to guarantee an appropriate level of mechanical and electrical protection to the wires, cables and other devices housed inside them. They also guarantee resistance to the different kinds of stress to which they are subjected during transport, installation and use, both at minimum storage and maximum utilization temperatures.

- D-Duct
- Q-Flex
- Q-Wrap



## Ground Fault Equipment Protectors

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 GFEP to the system, ground faults are detected immediately, preventing serious damage.

- F202 2-pole GFEP for single phase networks
- F204 4-pole GFEP for split phase, Delta and Wye networks
- UL 1053 recognized component
- UL approved up to 100A
- 10mA to 1000mA sensitivities
- Applicable to up to 480VAC networks



## Fuseholders and Fuse Disconnectors

Fuseholders can be used in any application where there is a need to ensure electrical protection and isolation. E90 series fuseholders are designed for quick, flexible installation.

- UL approved
- DIN rail mountable
- E90/30 for Class CC fuses, up to 4 poles, rated to 30A and 600V
- E90/32 for midget fuses, up to 4 poles, rated to 32A and 690V
- E90/32PV for photovoltaic installations, 1 and 2 pole versions, rated to 32A and 1000VDC

# Contact us

**ABB Inc.**

**Low Voltage Products**

16250 W. Glendale Drive

New Berlin, WI 53151

Phone: 888-385-1221

Fax: 800-726-1441

USA Technical Help:

888-385-1221, Option 4

7:30AM to 5:30PM, CST

Monday - Friday

Find USA Authorized Distributors

[www.abb.us/lowvoltage](http://www.abb.us/lowvoltage)

1SXU00020B0201 Rev A - 06/2013