A solution for every need
ABB portfolio for MV Outdoor and Underground Networks
Complete portfolio offering in all ranges
Outdoor MV Instrument Transformers

The family of outdoor instrument transformers are cast in hydrophobic cycloaliphatic epoxy resin (HCEP), capable of withstanding outdoor environmental conditions. The HCEP material offers superior arc track, ozone, and ultraviolet-resistant properties while maintaining physical strength. The hydrophobic surface properties of HCEP ensure highly reliable performance in wet or humid environments.

<table>
<thead>
<tr>
<th>ABB has in its offer</th>
<th>ITs dedicated to different applications for voltage levels up to 40.5 kV:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substations:</td>
<td>KON-24 FR v02: The KON-24 outdoor current transformer is used for</td>
</tr>
<tr>
<td>CT type TPO, single</td>
<td>metering and relaying on outdoor 24 kV circuits.</td>
</tr>
<tr>
<td>pole VT type TJO</td>
<td></td>
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<tr>
<td>and double pole VT</td>
<td>KON 24 I2Cv02: The KON-24 I2C outdoor current transformers are</td>
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<tr>
<td>type TDO.</td>
<td>used for metering and relaying on circuits up to 24 kV. It is designed</td>
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<td></td>
<td>as single-or-multiple turn transformers, with one transformer ratio</td>
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<td></td>
<td>and, if necessary, with the possibility to change over on the primary</td>
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<tr>
<td></td>
<td>or secondary side.</td>
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<tr>
<td>Pole mounted:</td>
<td>VOG-FR v01: The VOG-24 are outdoor single-pole voltage transformers. It</td>
</tr>
<tr>
<td>CT type KON, single</td>
<td>is made of resin insulation and is designed for networks up to 24 kV.</td>
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<tr>
<td>pole VT type VOG and</td>
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<tr>
<td>double pole VT type</td>
<td>VOL-24 FR v01: The VOL-24 outdoor double-pole insulated voltage</td>
</tr>
<tr>
<td>VOL.</td>
<td>transformer is used for metering line-to-line circuits. It is made of</td>
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<tr>
<td></td>
<td>resin insulation and is designed for networks up to 24 kV.</td>
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<tr>
<td>Special CTs:</td>
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<tr>
<td>KOKU G dedicated to</td>
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<tr>
<td>LBS SECTOS, KOHU</td>
<td></td>
</tr>
<tr>
<td>dedicated to LBS</td>
<td></td>
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<tr>
<td>NPS 24, IMT dedicated</td>
<td></td>
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<tr>
<td>to LV bushings of</td>
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<tr>
<td>distribution</td>
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<tr>
<td>transformers (for</td>
<td></td>
</tr>
<tr>
<td>balance measurement).</td>
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</tbody>
</table>

Your way to communicate your outdoor products efficiently

<table>
<thead>
<tr>
<th>Product</th>
<th>Offering</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM600 grid automation</td>
<td>Distribution protection relays &amp;</td>
<td>A flexible substation automation device that provides localized</td>
</tr>
<tr>
<td>controller</td>
<td>control solutions</td>
<td>automation tasks. The COM600 gathers data from protection and control</td>
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<tr>
<td></td>
<td></td>
<td>devices, such as relays and meters, combining different communication</td>
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<tr>
<td></td>
<td></td>
<td>protocols into one common contact point. This unit enables local HMI,</td>
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<td></td>
<td>data concentrator, and advanced smart grid automation such as FDIR and</td>
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<td></td>
<td></td>
<td>VVO automation.</td>
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<tr>
<td>RER603</td>
<td></td>
<td>The Wireless Gateway RER603 provides wireless monitoring and control of</td>
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<td>field devices via GPRS from a central site or network control centre</td>
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<td>(SCADA). The device offers industrial quality connectivity for the IEC</td>
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<td></td>
<td>60870 protocol family and can be connected by using IEC 60870-5-104</td>
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<tr>
<td></td>
<td></td>
<td>protocol from the SCADA and controlled through 2 serial application ports.</td>
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<tr>
<td>REC603</td>
<td></td>
<td>The Wireless Controller REC603 is a compact, solution based device for</td>
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<td>the remote control and monitoring of secondary substations such as</td>
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<td></td>
<td>network disconnectors, load break switches and Ring Main Units (RMUs) in</td>
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<td></td>
<td>distribution networks. REC603 enables the network control system (SCADA)</td>
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<tr>
<td></td>
<td></td>
<td>to wirelessly monitor and control the field devices over the public</td>
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<tr>
<td></td>
<td></td>
<td>communication infrastructure (GPRS).</td>
</tr>
<tr>
<td>Tropos</td>
<td>Wireless communication devices</td>
<td>Rugged, easy to install devices used to build field area communication</td>
</tr>
<tr>
<td></td>
<td></td>
<td>networks for smart grid applications.</td>
</tr>
</tbody>
</table>
## Outdoor Application Products
### Power Products Medium Voltage

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<tbody>
<tr>
<td><strong>Outdoor Dead Tank Vacuum Circuit Breakers</strong></td>
<td>R-MAG® magnetically actuated outdoor breaker</td>
<td>Designed with a magnetic actuator mechanism, the R-MAG breaker reduces costly maintenance intervals, increases reliability, and improves safety. This field-proven design is offered in ratings of 15-38 kV 200 kV BIL and 40 kA.</td>
</tr>
<tr>
<td><strong>Outdoor Live Tank Circuit Breakers</strong></td>
<td>OVB-VBF; OVB-SDB; OHB.</td>
<td>Vacuum Circuit Breakers OVB-VBF are used in distribution systems rated at 24 / 36 / 40.5 kV and are of live tank design.</td>
</tr>
<tr>
<td><strong>Pole Mounted Circuit Breaker</strong></td>
<td>PVB</td>
<td>The PVB is a 12kV, three-phase, live tank, outdoor pole mounted vacuum circuit breaker with solid dielectric insulator designed for pole-mounted or substation applications. The insulating material of PVB is Hydrophobic Cycloaliphatic Epoxy (HCEP), the next generation of Cycloaliphatic Epoxy (CEP).</td>
</tr>
<tr>
<td><strong>Reclosers</strong></td>
<td>OVR recloser (single and three phase), up to 38 kV, 1200 A, 16 kA</td>
<td>Provided with the PCD control, the OVR recloser provides single-phase tripping, reduced maintenance, and increased safety with all electronics located in the low voltage control cabinet. The OVR is available with single- and three-phase tripping recloser units.</td>
</tr>
<tr>
<td></td>
<td>GridShield® up to 38 kV, 1200 A, 16 kA</td>
<td>ABB’s newest generation recloser with the advanced RER620 control and integrated web browser for easy programming, the GridShield provides smart grid technologies such as DNP and IEC 61850 with GOOSE messaging. The GridShield is available with single- and three-phase tripping, integrated loop control.</td>
</tr>
<tr>
<td></td>
<td>OVR-15 recloser</td>
<td>ABB’s continuous efforts to provide the most advanced feeder automation equipment to the industry has led to the expansion of the OVR platform. OVR-15® is a three-phase automatic recloser paired and fully type tested with RER615, an advanced and comprehensive yet simple relay from ABB’s Relion® family. OVR-15 provides reliable performance and advanced features to protect outdoor networks and substations.</td>
</tr>
<tr>
<td><strong>Padmount</strong></td>
<td>ReliaPad® padmounted circuit breaker</td>
<td>Dead-front padmount circuit breaker consists of a three-phase breaker, load-break switches, control cabinet and a VT for control power. The ReliaPad is offered with the PCD or RER620 control for single- or three-phase tripping, remote communication, and multiple smart grid applications.</td>
</tr>
<tr>
<td><strong>SF6 Load Breaking Switches</strong></td>
<td>Sectos</td>
<td>Sectos is an SF6-insulated, outdoor pole mounted load break switch family for overhead lines and specifically designed for use in modern remote controlled distribution automation systems, working as sectionalizer.</td>
</tr>
<tr>
<td><strong>Three-Phase Air Insulated Switches</strong></td>
<td>NPS</td>
<td>ABB brings reliability of operation in all climatic conditions and installations in various arrangements. In addition, the NPS switch is either manually controlled or remotely with the possibility of working in the automation network as a sectionalizer.</td>
</tr>
<tr>
<td><strong>Automatic Electronic Sectionalizer</strong></td>
<td>AutoLink sectionalizer</td>
<td>With only one style needed per voltage class (15, 27 and 38kV), you’ll save time, effort, and money. The ABB AutoLink fits on a standard ICX cutout body and is field configurable and field resettable. Available for three-phase and load break.</td>
</tr>
<tr>
<td><strong>Fuse Cutoffs</strong></td>
<td>Types ICX, LBU, NCX, EU &amp; vertical contact</td>
<td>Distribution cutouts, used on overhead distribution systems to provide overcurrent protection, give visible indication of fuse operation and sectionalizing break points for maintenance personnel.</td>
</tr>
<tr>
<td><strong>Single-Phase Disconnectors</strong></td>
<td>DCD double insulator single-phase</td>
<td>Hookstick operated switch used for sectionalizing or isolating equipment on electrical distribution systems up to 38 kV.</td>
</tr>
</tbody>
</table>
ABB, Complete Solution Provider, Products and equipment for Medium Voltage distribution networks for outdoor installations, creating A Brighter Outdoor and optimized grids.

ABB, leader in automation and power distribution, offers a full federated solution comprising of primary equipment for distribution networks, complete family of switchers and distribution solutions. This comprehensive portfolio provides reliable and sustainable solutions to protect primary and transformer installation. This comprehensive portfolio allows much higher value for the customer via a package solution to be offered or targeted solutions meeting smart grid applications.

Smart solutions for A Brighter Outdoor
ABB portfolio for MV Outdoor networks

### Main features
- **Application/Technology**
  - Outdoor
  - Pole Mount
  - Substation
  - Padmount
- **Function**
  - Breaking
  - Sectionalizing
  - Switching
- **Protection**
  - Overcurrent
  - Earth-fault
- **Flexibility**
  - Configurable
  - Modular
  - Field configurable
  - Flexible mounting
- **Integration**
  - IEC 61850
  - GOOSE messaging
  - IEC 60870-5-101
  - IEC 60870-5-103
  - Modbus
  - DNP 3.0
  - Embedded communication
- **User interface**
  - WebHMI
  - Single-Phase Tripping
  - Web HMI
  - Remote control and monitoring
  - Protection, fault expulsion
  - Single-venting
  - Live load breaking
  - Single-phase air insulated switchgear
  - Fully automated
  - Upgradeable to automatic maintenance
  - Easily upgradeable
  - Stainless steel tank
  - High quality, 3 mm stainless steel tank

### Main functions
- **Current**
  - Maximum Rated
  - Voltage
  - Maximum Rated

### Main Function Circuit Breakers Reclosers Load Break Switches/Sectionalizers Fuse Cutouts & Disconnectors

**ABB portfolio for MV Outdoor networks**

- **Circuit Breakers**
  - Vacuum
  - Outdoor dead tank
- **Reclosers**
  - Up to 40.5 kV
  - Substation
- **Switches**
  - Insulated
  - Three-phase air
  - Reclosers
- **Cutouts & Disconnectors**
  - Single-phase
  - Disconnectors
  - Sectionalizers

- **Technology**
  - Magnetic
  - Vacuum

- **Application**
  - ANSI
  - IEC
  - ANSI/IEEE
  - IEC/GB

- **Main overcurrent and earth-fault protection**
  - Overhead lines and cable feeders,
  - Protection, fault expulsion
  - Combination load break sectionalizer

- **Protection**
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ABB, leader in automation and power distribution, offers a full feather solution comprising of primary equipment for distribution systems, complete family of meters for communications and distribution automation, providing customers with the flexibility to choose the right solution for their specific needs. This comprehensive portfolio allows much higher value to the customer as a package usage, communication enabling devices and substations gateway with automatic full insulation and reliability.

ABB, leader in automation and power distribution, offers a full feeder automation solution comprising of A Brighter Outdoor and optimized grids.

Smart solutions for A Brighter Outdoor
ABB portfolio for MV Outdoor networks