SafeLink 2
A compact ring main switchgear solution for secondary 12 kV distribution networks
SafeLink 2 – compact 12 kV ring main switchgear

SafeLink 2 ring main switchgear from ABB delivers smart, safe and compact solutions for secondary distribution applications.

The result is an inherently safe, cost-effective, flexible and innovative solution.

Smart
Control and monitoring of distribution networks through:
– Modular plug and play automation options
– Customer interface panel allows networks to connect to SCADA or other control systems to ensure easy integration
– Ready for operation in smart networks

Safe
Installation and operation safety is provided by:
– All live and switching functions are hermetically sealed in an SF6 insulated tank
– A fully mechanically interlocked solution for operation and access. The cable box and fuse compartment cannot be accessed when voltage is present
– Arc venting design of the tank and cable box complies with IEC 62271-200 on internal arc fault classification (IAC)

Compact
The compact design delivers solutions for:
– Integration in compact substations
– Indoor and outdoor installations
– Replacement of existing switchgear
– Installations where space is a premium

SafeLink 2 is designed for use in:
– Compact secondary substations
– Small industries
– Renewable power plants
– Hotels, shopping centres, office buildings, business centres
<table>
<thead>
<tr>
<th>No.</th>
<th>Feature</th>
<th>Standard</th>
<th>Monitoring/control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fuse compartment</td>
<td></td>
<td></td>
<td>Fuse compartment door interlocked with earth switch</td>
</tr>
<tr>
<td>2</td>
<td>Fuse blown indicator</td>
<td>✓</td>
<td>✓</td>
<td>Three phase fuse trip indicator – red flag</td>
</tr>
<tr>
<td>3</td>
<td>Local/Remote switch</td>
<td>Optional</td>
<td>✓</td>
<td>Local switch setting disables remote control</td>
</tr>
<tr>
<td>4</td>
<td>Fault passage indicators</td>
<td>Optional</td>
<td>✓</td>
<td>Fault passage indicators and LED indicators with remote status available</td>
</tr>
<tr>
<td>5</td>
<td>SF6 gas density gauge</td>
<td>✓</td>
<td>✓</td>
<td>Temperature compensated, optional remote alarm and lockout available</td>
</tr>
<tr>
<td>6</td>
<td>Voltage indication</td>
<td>✓</td>
<td>✓</td>
<td>Capacitive voltage indication, phase comparison testing</td>
</tr>
<tr>
<td>7</td>
<td>Cable bushings and connection</td>
<td>✓</td>
<td></td>
<td>DIN47636 in-line bolted cable connections</td>
</tr>
<tr>
<td>8</td>
<td>Individual cable compartments</td>
<td>✓</td>
<td></td>
<td>Door interlock, arc fault protection, all internal/external panels removable</td>
</tr>
</tbody>
</table>
Complete future proof solutions
Complex applications involving remote control and monitoring can now all be supplied from ABB as one complete solution.

SafeLink 2 automation is an optional system designed for controlling and monitoring the SafeLink range of 12 kV ring main switchgear.

This makes large scale implementation feasible, and simplifies engineering and procurement. The remote control and monitoring unit available for SafeLink is easily connected. This option is also readily available for retrofit where automation demands evolve after SafeLink 2 is put into service.

Key functions of SafeLink automation
- Switch position indication for both ring and fuse switches
- Control for ring switches when motor drive units are fitted
- Real time ring current and voltage measurement on all three phases
- Directional earth fault and phase to phase fault detection
- Space in the enclosure for customer communication equipment

Servicing
With a service life of 30 years for the main circuit without maintenance, SafeLink 2 delivers simple and reliable use.

Optional equipment
- Auxiliary switches on main and earth switches
- Fuse blown auxiliary switch
- Shunt trip for fuse switch
- Fault passage indicators
- Motor operation for load break switch
- Outdoor enclosure
- Gas density monitor
- Extended height plinth
- Removable cable termination boots
- Cable clamp support rails
- Gland plates
- Concrete base
Technical data

SafeLink 2 is manufactured and tested in accordance with the latest edition of the following IEC regulations.
IEC 60529 (1989-11), IEC 62271-206

<table>
<thead>
<tr>
<th>Electrical Data</th>
<th>Ring Switch</th>
<th>Switch Fuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Voltage</td>
<td>Ur</td>
<td>12 kV</td>
</tr>
<tr>
<td>Frequency</td>
<td>Fr</td>
<td>50 Hz</td>
</tr>
<tr>
<td>Rated Current</td>
<td>Ir</td>
<td>630 A</td>
</tr>
<tr>
<td>Lightning Impulse Withstand Voltage</td>
<td>Up</td>
<td>95 kV / 110 kV</td>
</tr>
<tr>
<td>Short-Time Withstand current</td>
<td>lk</td>
<td>21 kA</td>
</tr>
<tr>
<td>Duration of Short Circuit</td>
<td>tk</td>
<td>3 s</td>
</tr>
<tr>
<td>Short Circuit Making Current</td>
<td>Ima</td>
<td>52.5 kA</td>
</tr>
<tr>
<td>Number of Load Break operations</td>
<td>n</td>
<td>100</td>
</tr>
<tr>
<td>Power Frequency Withstand Voltage</td>
<td>Ud</td>
<td>28 kV / 32 kV</td>
</tr>
<tr>
<td>Electrical Endurance Class</td>
<td>Er</td>
<td>E3</td>
</tr>
</tbody>
</table>

1 General Ratings @ 1.1 bar abs SF6 Pressure
2 Dependent on fuse current rating.

<table>
<thead>
<tr>
<th>Function</th>
<th>Configuration</th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Way</td>
<td>DC</td>
<td>1350 / 1380¹</td>
<td>705 / 810¹</td>
<td>700 / 838¹</td>
<td>300 / 420²</td>
</tr>
<tr>
<td>3-Way</td>
<td>CFC</td>
<td>1350 / 1380¹</td>
<td>705 / 810¹</td>
<td>700 / 838¹</td>
<td>300 / 420²</td>
</tr>
<tr>
<td>4-Way</td>
<td>CCCC</td>
<td>1350 / 1380¹</td>
<td>910 / 1015¹</td>
<td>700 / 838¹</td>
<td>320 / 453²</td>
</tr>
<tr>
<td></td>
<td>CFCC</td>
<td>1350 / 1380¹</td>
<td>1130 / 1235¹</td>
<td>700 / 838¹</td>
<td>400 / 550²</td>
</tr>
</tbody>
</table>

Configuration types:
C - Cable switch connection
D - Direct cable connection
F - Switch-fuse connection

¹ Outdoor enclosure
² Weight with SafeLink Automation box and outdoor enclosure.
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