The ABB Active Voltage Conditioner, Ride Through Store (AVC<sub>RTS</sub>) is an off line, short-time rated storage solution to complement the ABB AVC<sub>2</sub> product. It uses energy storage to allow the system (downstream load) to remain operational through short outages and very deep sags of up to 30 seconds duration.

The actual ride through time will be dependent on the load and the capacity of the storage system which can be batteries, electrolytic capacitors, super capacitors, film capacitor and flywheels.

The system operates with improved transient performance due to the revolutionary inverter commutated utility disconnect. This allows the AVC<sub>RTS</sub> to more rapidly interrupt the connection to the utility and take over the load while minimizing the disturbance to the connected load.

The AVC<sub>RTS</sub> may be partnered with an AVC<sub>REG</sub>. This combination of voltage regulation and ride through storage protection provides a complete level of power disturbance protection.

The AVC<sub>RTS</sub> series conducting element – the ‘utility disconnect’ is generously sized and rated for applications with industrial loads and in an industrial supply environment.

System Benefits

- Protects against utility recloser events and other short outages
- Provides back-up during generator start-up following utility supply failure
- Very high efficiency (typically 99%)
- Suited to industrial loads (motors, drives, transformers, tools)
- Modular design providing high reliability and short repair times (MTBF and MTTR)
- Very high fault capacity compared with UPS solutions
- Extensive range of voltages available
- Small footprint design
- Custom storage solutions available

Typical Factory Configuration
Technical Specifications

Load
- 150kVA through 2.4MVA
- Displacement Power Factor of connected load: 0.9 lagging to 0.9 leading
- Crest factor for rated kVA: 2 at rated kVA
- Utility overload capability: 150% for 30 seconds not more than once every 10 minutes

Utility Supply
- Nominal Supply Voltage (according to model):
  - 3phase 60Hz: 208V, 220V, 380V, 480V
  - 3phase 50Hz: 208V, 400V, 480V
- Power System Type: 3 phase centre ground referenced (TN-S)
- Overvoltage category: III
- Fault Capacity: 20pu, ½ cycle
- Efficiency of system: >99%

Utility Disconnect
- Upstream series isolator: customer supplied
- Parallel bypass contactor: fail safe

Inverter Supply
- Operating Period: 30s as standard (15 seconds UL/US model)
- Transition Disturbance: ≤¼ cycle
- Minimum output voltage: 90% @ End of Discharge
- Output Impedance: 10%
- Overload: 100%
- Fault Capacity: 1.5pu

Energy Storage
- System DC nominal voltage: 750Vdc
- Autonomy: storage system dependent to 30 seconds maximum
- Storage Technology: High Discharge Rate batteries, Options for Flywheels, super-capacitors and electrolytic capacitors.
- Interface
  - Access protocol: Ethernet connectivity, Modbus-RTU, dry contacts

Environmental
- Enclosure IP rating: IP20
- Pollution degree rating: 2
- Minimum operating temperature: 0°C
- Maximum operating temperature: 40°C
- Recommended operating temperature for batteries 15-25°C
- Capacity derating with elevation:
  - 1.2%/100m for application above 1000m, 3000m maximum
- Humidity: <95% non-condensing
- Noise: 75dBA @ 2m

Standards Conformance
- EN50178
- CE, C-tick: pending

All specifications are subject to change without prior notice.

Technical Dimensions

<table>
<thead>
<tr>
<th>Number of Cabinets</th>
<th>Energy Storage Options:</th>
</tr>
</thead>
<tbody>
<tr>
<td>208/230V</td>
<td>380/400/415V</td>
</tr>
<tr>
<td>480V</td>
<td>Short time - Electrolytic Capacitor &lt;0.4s</td>
</tr>
<tr>
<td></td>
<td>Intermediate time - Super Capacitor/Flywheel &lt;4s</td>
</tr>
<tr>
<td></td>
<td>Longer time - Battery &lt;30s</td>
</tr>
<tr>
<td></td>
<td>Maximum time, any option = 30s</td>
</tr>
</tbody>
</table>

*Included in Inverter Cabinet
**Extra space required for termination

<table>
<thead>
<tr>
<th>Cabinet Type</th>
<th>H</th>
<th>W</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2154mm/84.4”</td>
<td>809mm/31.9”</td>
<td>804mm/31.7”</td>
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<tr>
<td>B</td>
<td>2154mm/84.4”</td>
<td>809mm/31.9”</td>
<td>1204mm/47.4”</td>
</tr>
<tr>
<td>C</td>
<td>2154mm/84.4”</td>
<td>1609mm/63.3”</td>
<td>1204mm/47.4”</td>
</tr>
</tbody>
</table>