RPH3 controlled switching device ensures optimum switching of circuit-breakers.

For circuit-breakers up to 800 kV

Grid Solutions, a GE and Alstom joint venture, makes the most of more than 80 years of experience in design, material selection, development, engineering, manufacturing and servicing of circuit-breakers.

CUSTOMER BENEFITS
- Longer lifespan of assets
- Greater network availability
- Higher power quality
- Smarter than closing resistor: cost-effective and reliable
- Remote support

OPTIMUM SWITCHING FOR GRID ASSETS
- Power transformer
- Shunt reactor
- Long transmission line and cable
- Shunt capacitor bank and AC filter

HIGH RELIABILITY
- Successful experience with over 1,000 RPH3 around the world
- Elimination of switching transients
- Minimization of inrush current, overvoltage and stress
- Accurate and fast analysis of current and voltage for optimal switching time
- No impact on protection scheme

GREAT VERSATILITY
- Dynamic adaptation to all network and load characteristics
- Compatibility with a wide range of circuit-breakers (with appropriate dielectric strength) and operating mechanisms (with appropriate operating time scatter)
- Compensation for coil voltage, ambient temperature, driving pressure, idle time and long-term operation time drift.

SMART GRID FEATURES
- Remote access for customer’s and OEM’s experts
- Available with IEC 61850 communication
CONTROLLED SWITCHING OF POWER TRANSFORMERS

Inrush current

CONTROLLED SWITCHING OF SHUNT REACTOR

Overvoltages
CONTROLLED SWITCHING OF LONG TRANSMISSION LINE AND CABLE

Compensated line charging current

CONTROLLED SWITCHING OF SHUNT CAPACITOR BANK

Inrush current
### GENERAL RATINGS

<table>
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<tr>
<th>Parameter</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>°C</td>
</tr>
<tr>
<td>Main supply</td>
<td>VDC / VAC 48 (-15%) - 250 / 110 - 240 ±20 %</td>
</tr>
<tr>
<td>Power consumption</td>
<td>W &lt;20</td>
</tr>
<tr>
<td>Solid-state control of circuit-breaker</td>
<td>V / A 48 - 250 / 10 - 15</td>
</tr>
<tr>
<td>Solid-state control of circuit-breaker</td>
<td>ms (L/R of CB coil) 300 @ 10 A / 200 @ 15 A</td>
</tr>
<tr>
<td>Alarm relays operating range</td>
<td>V / A 230 / 5</td>
</tr>
<tr>
<td>Synchronizing voltage range</td>
<td>V (at 20-60 Hz) 15 - 330</td>
</tr>
<tr>
<td>Switching time resolution</td>
<td>ms &lt;0.1</td>
</tr>
<tr>
<td>EMC immunity standards</td>
<td>IEC 61000-4-2, 4, 5, 8, 16 Level 4</td>
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<tr>
<td>EMC immunity standards</td>
<td>IEC 61000-4-3, 6, 17 Level 3</td>
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<td>Emission standard</td>
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<td>Digital interface</td>
<td>Ethernet 100 Mbit/s</td>
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<tr>
<td>Communication protocol</td>
<td>Ready for 61850, TCP-IP</td>
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### COMPENSATION

Switching overvoltage of long transmission line (P.U.)

![Graph showing the compensation for switching overvoltage](image)

Voltage profile along line for various mitigation measures

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For more information please contact GE Grid Solutions

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