This high-end solid-state pulse modulator is designed to handle a wide range of the largest klystrons on the market with a RF peak power from 50 MW to 100 MW. ScandiNova offers everything from a standard modulator to a turn-key RF system that includes all necessary system components from the wall socket to the accelerator, such as the klystron, diagnostics and low-level RF. Review our other pulse modulators in the modular K-Series.
### SYSTEM SPECIFICATIONS

<table>
<thead>
<tr>
<th>SYSTEM SPECIFICATION</th>
<th>UNIT</th>
<th>DATA</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Klystron RF Peak Power</td>
<td>MW</td>
<td>50–100</td>
<td>Depends on choice of klystron</td>
</tr>
<tr>
<td>Klystron RF Average Power</td>
<td>kW</td>
<td>60</td>
<td>Maximum</td>
</tr>
<tr>
<td>Modulator Peak Power</td>
<td>MW</td>
<td>220</td>
<td>Maximum</td>
</tr>
<tr>
<td>Modulator Average Power</td>
<td>kW</td>
<td>160</td>
<td>Maximum</td>
</tr>
<tr>
<td>Pulse Voltage</td>
<td>kV</td>
<td>320–500</td>
<td>Typical range</td>
</tr>
<tr>
<td>Pulse Current</td>
<td>A</td>
<td>300–525</td>
<td>Typical range</td>
</tr>
<tr>
<td>Pulse Repetition Frequency Range</td>
<td>Hz</td>
<td>0–500</td>
<td>Typical range. Depending on max average power (see options).</td>
</tr>
<tr>
<td>Pulse Length, Top</td>
<td>μs</td>
<td>0.5–15</td>
<td>Typical range. Depending on max average power.</td>
</tr>
<tr>
<td>Flatness (Voltage)</td>
<td>%</td>
<td>+/-1</td>
<td>Flat top (see options)</td>
</tr>
<tr>
<td>Modulator Voltage Stability, RMS</td>
<td>%</td>
<td>0.01</td>
<td>(see options)</td>
</tr>
<tr>
<td>Cooling</td>
<td></td>
<td>Water</td>
<td></td>
</tr>
</tbody>
</table>

### INTERFACE

<table>
<thead>
<tr>
<th>INTERFACE</th>
<th>DEFAULT</th>
<th>OPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mains Power, 3 Phase</td>
<td>400 VAC, 50/60 Hz</td>
<td>208/380/480 VAC</td>
</tr>
<tr>
<td>Mains Power, Single Phase</td>
<td>230 VAC, 50/60 Hz</td>
<td>115 VAC</td>
</tr>
<tr>
<td>Control Interface</td>
<td>ModBus TCP</td>
<td></td>
</tr>
<tr>
<td>Water Cooling Interface In/Out</td>
<td>ISO G2&quot;</td>
<td></td>
</tr>
<tr>
<td>Trig Input</td>
<td>Electrical and Optical</td>
<td></td>
</tr>
<tr>
<td>Diagnostics</td>
<td>Pulse Voltage and Current</td>
<td>See Options</td>
</tr>
</tbody>
</table>

### Standard Modulator Includes

- Control System (ScandiCat)
- Remote Control
- Local Control Panel
- Mains Power Distribution
- Cooling System
- Filament PS
- Klystron Socket
- Pulse Sensors
- Hard Wired Interlock System

### Additional System Components

- Low Level RF Amplifier/Generator
- Circulator & RF Loads
- Directional Coupler
- Waveguide Windows
- Vacuum PS
- Solenoid PS
- Klystron
- Extended cooling for Klystron, Solenoid etc.

### Typical Klystron Loads

- Thales
  - TH1801
  - TH2104C
  - TH2104D
  - TH2104U
  - TH2108-1
- Toshiba
  - E3712 (100 MW)
  - E3712 (80 MW)
  - E3740A
  - E3766
- CPI
  - TV2022B
  - TV2022C
  - TV2022D
- Toshiba
  - E3712 (100 MW)
  - E3712 (80 MW)
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  - TV2022B
  - TV2022C
  - TV2022D

### Options

- Pulse/RF Diagnostics
- Enhanced PRF Range (up to 1000 Hz)
- Enhanced Stability (down to 0.002%)
- Enhanced Flatness (+/-0.1-0.5%)
- Neutron Resistant Switching

### Size and Weight

- Weight approx. 3000 kg (excl. oil, klystron, solenoid)

Information contained in this document is subject to change without notice.