Dual Wavelength Optical Pulse Generator

Negoh-Op Technologies Ltd. introduces its dual wavelength optical pulse/signal generator modules (WDMOPG) with bandwidth of more than 100 MHz, peak power of output signal larger than 20mW and pulse width from 10ns to CW at 1064nm and 1550nm wavelengths. The two sources are DFB or FP diode lasers which are stabilized in its frequency and output power, where the operator can choose to operate both diodes simultaneously or one of them. The WDMOPG modules are a turn key solution, which provides superb performances in stability quality through one single mode fiber output, and could be purchased with different polarization states, including a 2mW SLD non-coherent version.

Applications:
- Testing Equipment for sensors and receivers
- Labs

Key features:
- Wavelengths: 1064nm and 1550nm
- Peak power: 20 mW
- Bandwidth: >100 MHz
- Pulsewidth: 10 ns up to CW
- Output: fiber-coupled
- Any pulse shape

Options:
- Linearly polarized output (EXR>25dB)
- Random polarized output
- Depolarized output (DOP<5%)
- Non-coherent output (SLD source)

For WDMOPG purchase orders with specific wavelength and polarization state, the customer should order WDMOPG-WL1-WL2-P, where WL1 and WL2 are the two wavelengths and P is the requested Polarization state. (P=Polarized, R=Random, D=Depolarized, N=Non-coherent).

For example WDMOPG-980-1560-P is a module at 980nm and 1560nm with Polarized output.
WDMOPG Specifications:

Described below are Negoh-Op WDMOPG module specifications at 1064nm and 1550nm.

Other WDMOPG modules at wavelengths between 980nm to 1600nm are also available, and have similar optical, electrical and mechanical specifications.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification (typical)</th>
<th>Unit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Optical</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central wavelengths</td>
<td>1064 and 1550 (+5)</td>
<td>nm</td>
<td>Other wavelengths between 980nm to 1600nm are available</td>
</tr>
<tr>
<td>Maximum output power</td>
<td>20</td>
<td>mW</td>
<td></td>
</tr>
<tr>
<td>Pulse width</td>
<td>10 to CW</td>
<td>ns</td>
<td></td>
</tr>
<tr>
<td>Output Polarization</td>
<td>≥25</td>
<td>dB</td>
<td>▪ Linearly polarization</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>▪ Random polarization</td>
</tr>
<tr>
<td></td>
<td>≤5</td>
<td>%</td>
<td>▪ Depolarized</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>μm</td>
<td>▪ Non-coherent (2mW SLD)</td>
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<tr>
<td>Modulation signal frequency</td>
<td>DC to 100</td>
<td>MHz</td>
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<tr>
<td>Power between pulses</td>
<td>-80</td>
<td>dB</td>
<td>At 0V input</td>
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<tr>
<td>Modulation dynamic range</td>
<td>&gt; 20</td>
<td>dB</td>
<td></td>
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<tr>
<td>Time drift (WL)</td>
<td>≤ 0.1</td>
<td>nm</td>
<td>For DFB source</td>
</tr>
<tr>
<td>Temperature drift (WL)</td>
<td>≤ 0.1</td>
<td>nm</td>
<td>For DFB source</td>
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<tr>
<td>Output power stability</td>
<td>2</td>
<td>%</td>
<td>Within 2 hours</td>
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<tr>
<td>Rise time/ fall time</td>
<td>≤ 3</td>
<td>nsec</td>
<td></td>
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<tr>
<td><strong>Electrical</strong></td>
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<tr>
<td>Modulation Input Voltage</td>
<td>0-5</td>
<td>V</td>
<td>Optional different voltage range</td>
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<tr>
<td>Modulation input impedance</td>
<td>50</td>
<td>ohm</td>
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<tr>
<td>Modulation signal</td>
<td>Arbitrary</td>
<td>-</td>
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<tr>
<td>Main AC supply</td>
<td>220/50</td>
<td>V/Hz</td>
<td>110V is optional</td>
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<tr>
<td><strong>Mechanical</strong></td>
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<tr>
<td>Output optical interface</td>
<td>One single mode</td>
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<td>Other connectors are optional</td>
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<tr>
<td>Modulation input connector</td>
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<tr>
<td>Dimensions</td>
<td>380X280X95</td>
<td>mm³</td>
<td>Optional smaller dimensions</td>
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<tr>
<td>19” Rack mount adaptor</td>
<td>2U</td>
<td>-</td>
<td>Optional</td>
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<tr>
<td>Operating Temperature</td>
<td>-20 to +50</td>
<td>°C</td>
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</table>
OPG Stability

Output Power

WAVELENGTH

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