The **OPTIPHASE® V-600 Tunable Optical Converter** leads the field in portable and lab-bench optical test tools. It’s exceptionally high performance combined with its rich operational feature set, puts the V-600 in a class by itself.

The V-600 delivers fast, accurate and consistent results for your optic tests and experiments. With a fast 1 MHz response, the integrated design includes a photodiode receiver and a trans-impedance amplifier with tunable gain and settable high and low pass filters. It is a must for any development, manufacturing, QA or Service and Support function doing testing or designing optical systems or components.

The V-600 assures superior performance by providing a 3dB bandwidth exceeding 1MHz. The low noise operation provides for a large dynamic range. Switchable filters enable rejection of unwanted noise.

With a superior ergonomic design, the V-600 is ideal for both fixed and mobile applications. Value added features such as battery low and signal clipping indicators, DC/10 operation, BNC output and easy to understand setpoint indicators, make it a truly user friendly instrument. The sturdy modular design is easily stackable and does not require any mounts or brackets.

Battery operation eliminates any concern with power line pickup and ground noise. A rugged metal case screens out local radio stations and other EMI. Changing batteries is quick and easy and requires no tools. A wall-mount Universal Power Supply is included.

### FEATURES & BENEFITS
- Effectively converts optical signals to electrical signals
- Designed for mobility, reliability and ease-of-use
- Ideal for portable or lab-bench use.
- Battery powered
- Quick-change batteries
- Frequency response 1 MHz
- Optical measurement range from a few pW to 2.5 mW
- Independent controls for gain, low pass and high pass filters
- Large dynamic range
- Low noise floor
- Low output voltage offset
- Low output impedance
- Status indicators for low battery and signal clipping
- Power auto-detect

### POWER MANAGEMENT

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Batteries or external power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batteries</td>
<td>Two 9V Alkaline</td>
</tr>
<tr>
<td>Battery Life</td>
<td>Typically 250 hours</td>
</tr>
<tr>
<td>External Power</td>
<td>Universal Wall-mount Power Supply</td>
</tr>
</tbody>
</table>
**SPECIFICATIONS**

**OPTICAL**
- Wavelength Range: 900 to 1700 nanometers InGaAs PIN; 500 to 950 nm SI PIN
- Detector Type: 100 micron diameter InGaAs PIN; 1 mm diameter SI PIN
- Detector Mount: FC (accepts FC/PC or FC/APC)
- Optical Saturation Power: 2.5 mW

**OPERATIONAL**
- This Unit Designed for Internal Use
- Gain Selections: 2K to 10M V / W, 1,2,5 sequence
- Low Pass Filter Selections: 3 Hz to 300 KHz and wideband, 1,3,10 sequence
- High Pass Filter Selections: 3 Hz to 100 KHz and DC / 10, 1,3,10 sequence
- Output Connector: BNC [cable length attached to BNC to be less than 3 meters]
- Output Electrical: Floating: Both for battery and External Power Operation
- Output Impedance: 22 Ohms [15 mA current limit]
- Clipping Indicator: Flashing LED @ >85% of full scale power
- Low Battery Indicator: Flashing LED @ 70% battery level [6.5V]
- Battery Lifetime: 250 hours typical, high impedance load
- Battery Type: Two 9V non-rechargeable batteries
- External Power Supply: 18V Universal Supply; 100 to 240VAC (RMS), 47 – 63 Hz

**PERFORMANCE**
- at 25°C
  - Output Offset: ≤ ±1 mV
  - Gain Accuracy: Wavelength dependent; ± 5% @ 1550 nm
  - Output Voltage Range: 0 to 5V DC coupled; 5V p-p AC coupled
  - Frequency Response: Gain Dependent [see chart]
  - Slew Rate: 10 V / µs
  - Bandwidth Product: 50KV MHz / W
  - Noise Equivalent Power: Gain dependent [see chart]

**ENVIRONMENTAL**
- Operating Temperature: 0 to 50°C
- Storage Temperature: -40 to +85°C
- Operating Humidity: 0 to 95% humidity [non-condensing]
- Storage Humidity: 0 to 95% humidity [non-condensing]
- Altitude: < 3000 meters
- Other: Installation Category II, Pollution Degree II

**MECHANICAL**
- Dimensions: 5.6” x 5.6” x 1.5”; front knobs extend 0.62”
- Weight: 19.1 ounces [unit only, without batteries]

**CERTIFICATIONS**

**MODELS**
- V-600-FC: Tunable Optical Converter, FC-PC/APC, InGaAs detector
- V-600-FC-SI: Tunable Optical Converter, FC-PC/APC, Silicon detector

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**Performance for InGaAs model**
- Frequency Response Vs. Gain Settings
- Wavelength Sensitivity Curve and Noise Correction Factors
- Self Noise for All Gain Settings

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