

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

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.

9-Volt Battery Compartment
Rear panel (no tools needed)
250 hours typical battery life

Independent Filter Controls

Eliminates unwanted signals. Separate controls for low and high pass filter functions. Setting it to DC can defeat high pass filter. The DC/10 setting passes AC signals while attenuating DC by 10.

External Power Input
Auto-detects external power;
disconnects batteries.

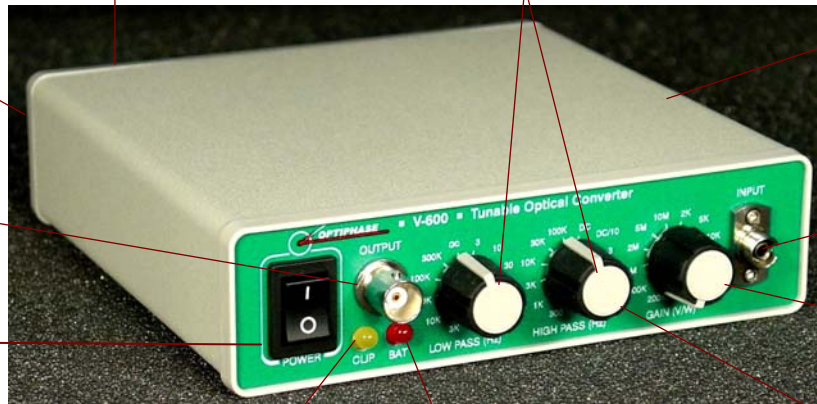
Rugged Enclosure
Metal case

BNC Output Connector
Low Impedance Output

Optical Interface
FC InGaAs PIN or Si detector; single or multimode fiber

Power Switch

Gain Control
2K-10M Volts/Watt



Signal Clipping Indicator
Triggers when signal level is greater than 85% of maximum output voltage range with flashing indicator

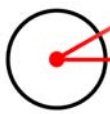
Battery Low Indicator
Ensures full battery life with flashing indicator

Rubberized Knobs
12 positions each
1, 2, 5 sequence for gain
1, 3, 10 sequence for filters



POWER MANAGEMENT

Requirements	Batteries or external power
Batteries	Two 9V Alkaline
Battery Life	Typically 250 hours
External Power	Universal Wall-mount Power Supply



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

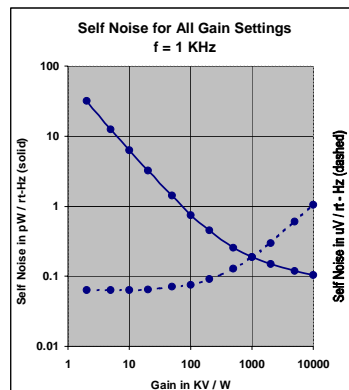
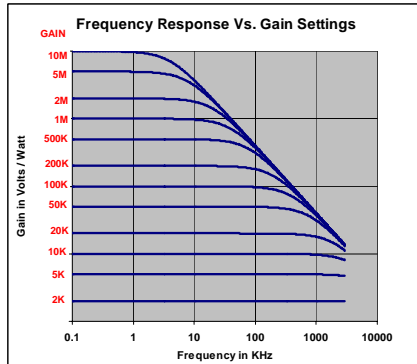


Complies with Electromagnetic Compatibility Directive, 89/336/EEC and Low Voltage Directive 73/23/EEC

MODELS

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

Performance for InGaAs model



Wavelength Sensitivity Curve and Noise Correction Factors

