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Picosecond Optical Pulse Generator

Pilot Photonics' Picosecond Optical Pulse Generator is based on our patented gain switching technology and offers excellent stability, tuneable repetition rate and near transform limited, low jitter, picosecond pulses. A wide range of central wavelengths are available.

Features

- Stable and robust pulse source.
- Low Jitter (<1ps).
- Near Transform Limited pulses.
- Tuneable Repetition rate
- Polarization maintaining fibre coupled output.
- Simple, push-button operation.

Applications

- Test and Measurement
- Spectroscopy
- Seed pulse generation
- Medical Imaging
- Fluorescence Spectroscopy
- Pump-probe experiments
- Optical time domain reflectometry
- Return to Zero Transmission Systems
- Optical Time Division Multiplexing Systems



Time (33 ps/div)

Typical Specifications

Wavelength	1310, 1530-1610nm others on request
Wavelength tuning	+/- 1nm
Repetition Rate	5-15 GHz/others on request
Pulse Width	20ps
Jitter	<1ps (RMS)
Pulse Energy	1 pJ
Average power	5dBm
Peak power	65 mW





Specification	Min.	Тур.	Max.	Unit	Notes
Optical Characteristics					
Centre Wavelength	1530	1550	1610	nm	Other wavelengths 500-1100 nm and 1200-2000 nm available on request.
Centre wavelength tuning range	- 1	-	+ 1	nm	On request, wavelength can be tuned within the specified range around the selected centre wavelength.
Repetition Rate	5	10	15	GHz	The free spectral range can be tuned over a range by an external voltage.
Pulse Width			20	ps	FWHM
Pulse Jitter			1	ps	
Average Output Power	1	-	10	mW	Repetition rate dependant
Pulse Peak Power	30	-	65	mW	Repetition rate dependant
Pulse Energy		1		pJ	
Relative Intensity Noise	-140	-125	-110	dBc/Hz	Uniform distribution over frequency span, without mode partition noise.
Laser Optical Linewidth		300	500	kHz	
Physical Specifications					
Physical Specifications Dimensions		190x110x31		mm	
Physical Specifications Dimensions Power Consumption		190x110x31	10	mm W	
Physical Specifications Dimensions Power Consumption AC Voltage	100	190x110x31	10 240	mm W V	
Physical Specifications Dimensions Power Consumption AC Voltage DC Supply Voltage	100 10	190x110x31	10 240 13	mm W V	AC-DC power supply is provided.
Physical Specifications Dimensions Power Consumption AC Voltage DC Supply Voltage DC Supply Noise (1 kHz – 200 kHz)	100 10	190x110x31 12 20	10 240 13 60	mm W V mVpp	AC-DC power supply is provided.
Physical SpecificationsDimensionsPower ConsumptionAC VoltageDC Supply VoltageDC Supply Noise(1 kHz - 200 kHz)Operating Temperature	100 10 +5	190x110x31 12 20	10 240 13 60 +35	mm W V mVpp	AC-DC power supply is provided.
Physical SpecificationsDimensionsPower ConsumptionAC VoltageDC Supply VoltageDC Supply Noise(1 kHz - 200 kHz)Operating TemperatureStorage Temperature	100 10 +5 -20	190x110x31 12 20	10 240 13 60 +35 +70	mm W V mVpp °C °C	AC-DC power supply is provided.
Physical SpecificationsDimensionsPower ConsumptionAC VoltageDC Supply VoltageDC Supply Noise(1 kHz - 200 kHz)Operating TemperatureStorage TemperatureHumidity, non- condensing	100 10 +5 -20	190x110x31 12 20	10 240 13 60 +35 +70 90	mm W V mVpp °C °C %RH	AC-DC power supply is provided.
Physical Specifications Dimensions Power Consumption AC Voltage DC Supply Voltage DC Supply Noise (1 kHz – 200 kHz) Operating Temperature Storage Temperature Humidity, non- condensing RF Input Connector	100 10 +5 -20	190x110x31 190x110x31 12 20	10 240 13 60 +35 +70 90	mm W V mVpp °C °C %RH	AC-DC power supply is provided.
Physical SpecificationsDimensionsPower ConsumptionAC VoltageDC Supply VoltageDC Supply Noise(1 kHz - 200 kHz)Operating TemperatureStorage TemperatureHumidity, non- condensingRF Input ConnectorOptical Output	100 10 +5 -20	190x110x31 190x110x31 12 20 10 5MA FC/APC PM	10 240 13 60 +35 +70 90	mm W V mVpp °C °C %RH	AC-DC power supply is provided.
Physical SpecificationsDimensionsPower ConsumptionAC VoltageDC Supply VoltageDC Supply Noise(1 kHz - 200 kHz)Operating TemperatureStorage TemperatureHumidity, non- condensingRF Input ConnectorOptical OutputOther Specifications	100 10 +5 -20	190x110x31 190x110x31 12 20 10 10 10 10 10 10 10 10 10 1	10 240 13 60 +35 +70 90	mm W V mVpp °C °C %RH	AC-DC power supply is provided.
Physical SpecificationsDimensionsPower ConsumptionAC VoltageDC Supply VoltageDC Supply Noise(1 kHz - 200 kHz)Operating TemperatureStorage TemperatureHumidity, non- condensingRF Input ConnectorOptical OutputOther SpecificationsTurn on time	100 10 +5 -20	190x110x31 12 20 SMA FC/APC PM	10 240 13 60 +35 +70 90	mm W V mVpp °C °C %RH	AC-DC power supply is provided. AC-DC power supply is provided. Female. From the moment of DC power application.
Physical SpecificationsDimensionsPower ConsumptionAC VoltageDC Supply VoltageDC Supply Noise(1 kHz - 200 kHz)Operating TemperatureStorage TemperatureHumidity, non- condensingRF Input ConnectorOptical OutputOther SpecificationsTurn on timeCold start settling time	100 10 +5 -20	190x110x31 190x110x31 12 20 5MA FC/APC PM 30	10 240 13 60 +35 +70 90 7 7 90	mm W V mVpp °C °C °C %RH	AC-DC power supply is provided. AC-DC power supply is provided. Female. From the moment of DC power application.
Physical SpecificationsDimensionsPower ConsumptionAC VoltageDC Supply VoltageDC Supply Noise(1 kHz - 200 kHz)Operating TemperatureStorage TemperatureHumidity, non- condensingRF Input ConnectorOptical OutputOther SpecificationsTurn on timeCold start settling time (system warm-up)	100 10 +5 -20 20	190x110x31 190x110x31 12 20 10 10 10 10 10 10 10 10 10 1	10 240 13 60 +35 +70 90 7 7 90	mm W V mVpp °C °C %RH S s min	AC-DC power supply is provided. AC-DC power supply is provided. Female. From the moment of DC power application.
Physical SpecificationsDimensionsPower ConsumptionAC VoltageDC Supply VoltageDC Supply Noise(1 kHz – 200 kHz)Operating TemperatureStorage TemperatureHumidity, non- condensingRF Input ConnectorOptical OutputOther SpecificationsTurn on timeCold start settling time (system warm-up)Rise time of optical signal	100 10 +5 -20 20 30	190x110x31 190x110x31 12 20 10 10 10 10 10 10 10 10 10 1	10 240 13 60 +35 +70 90 7 7 90 100	mm W V mVpp °C °C °C %RH S min ms	AC-DC power supply is provided. AC-DC power supply is provided. Female. From the moment of DC power application.