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Find the *Phillips Scientific PLPS 2000* at our website: *Click HERE*

1. Introduction

The PLPS (programmable laser power supply) is a microprocessor controlled supply and measurement instrument for solid state laser diodes.

It is possible to regulate the applied voltage or current, or to control the laser drive current by feedback from sensors (the monitor diode in the laser, or an external light sensor).
For the sensors reverse bias can be applied.

For each of the control parameters (current, voltage, monitor current or light output) a limit value can be preset, safeguarding the laser diode.

In local mode (front panel controls enabled) the user can select and vary one of the control parameters (NORMAL mode), or when a certain light output has been set, freeze the laser current or output (HOLD modes) to allow removing the light sensor for output measurements.
To automatically produce curves on an oscilloscope screen or XY recorder, RAMP modes can be selected.
These ramp modes use a special algorithm, which can provide equally spaced points on the curve, regardless of the curve slope.

In remote mode (front panel controls disabled) most of the functions can be controlled through an IEEE 488 interface (also known as HPIB, GPIB or IEC bus).
Using this interface it is also possible to read the actual values of current, voltage, monitor current or light output, or to request an automatic scan through the full laser curves producing a data stream of measurement points.

The interface is supplied as a half 19" rack mount cassette in a table-top case. The cassette can also be placed in a 3HE size 19" cardcage.

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5. Specifications

Ambient temperature (all spec's)		+15 .. +35 [°C]
Laser drive output:		
voltage		0 .. 5 [V]
current		0 .. 0.5 [A]
polarity		programmable
Laser drive control:		
laser current	I	0 .. 0.5 [A] (full scale)
laser voltage	U	0 .. 5 [V] (full scale)
optical output	L	0 .. 10 [mW] (full scale)
monitor current	M	0 .. 10 [mA] (full scale)
resolution		4000 [steps]
accuracy		0.5 % full scale
stability, reproduceability		0.2 % full scale
modes:		
LOCAL		OFF, NORMAL, HOLD-I, HOLD-M, RAMP REP / SINGLE / MANUAL
REMOTE		OFF, NORMAL, HOLD-I, HOLD-M, RAMP SINGLE
Actual value measurement:		
range		1.023 times full scale
accuracy		0.5 % full scale
stability, reproduceability		0.2 % full scale
Actual value outputs:		
range		0 .. +10 [V] full scale
accuracy		0.5 % full scale
output resistance		10 kOhm
L sensor input:		
nominal sensitivity		0.5 [mA/mW]
sensitivity range		-50 .. +100 %
reverse bias		0 .. 10 [V]
reverse bias resolution		200 [steps]
polarity		fixed
Monitor input:		
reverse bias		0 .. 10 [V]
reverse bias resolution		100 [steps]
polarity		programmable
Measurement buffer size		511 points
Mains input:		
mains voltage (see 2.2)		110 / 220 [Vac]
mains voltage range		-10 .. +20 %
frequency		45 .. 66 [Hz]
power consumption		10 .. 25 [VA]
fuse		220V: 1AT / 110V: 2AT

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