LPS-20

https://www.gigahertz-optik.com/en-us/product/lps-20/

Product tags:

Description

LPS-20 Single Channel LED Power Supply

The LPS-20 is a microprocessor-based current and voltage source especially designed for the operation of LEDs, OLEDs and other light sources requiring high resolution, very low noise operating voltage and current that is controllable and measureable. It is set-up for full remote control operation in CW or Flash mode via its RS232 or alternative RS485 opto-coupler isolated interface. DLL and Labview VI are available. Its design includes two high resolution 16 bit digital to analog converters for precise current and voltage control. It can be operated either in constant voltage or constant current mode. The variable (current or voltage) can be measured with a high resolution ADC. Beside the continuous mode the output of the LPS-20 can be controlled for a defined time (single pulse) with rise time as short as 500µs (load dependent). A standard version with defined maximum output current level is supplied.

LPS-20

LPS-20-xx Versions

LPS-20-1500: max. 1500 mA (30 µA resolution). max. 24V (0.5 V resolution)

LPS-20-1000: max. 1000 mA (20 µA resolution). max. 24V (0.5 V resolution)

LPS-20-100: max. 100 mA (2 µA resolution). max. 24V (0.5 V resolution)

LPS-20-10: max. 10 mA (0.2 µA resolution). max. 24V (0.5 V resolution)

Specifications

General	
Short description	High precision controller for constant-current or constant-voltage remote operation of LEDs. Linear controller for low noise Operation.
Main features	16 bit DAC for the current or voltage control. 16 bit ADC for the current or voltage measurement. Change between voltage and/or current mode without spikes for very fast current or voltage limiting. Sense Input to measure the foreward voltage direct at the test LED (Four contace measurement) CW or pulse mode. RS232 or RS485 remote Interface. Software development kit. Housing for 19 Inch rack use.
Measurement range	LPS-20-1500: max. 1500 mA (30 µA resolution). max. 24V (0.5 V resolution) LPS-20-1000: max. 1000 mA (20 µA resolution). max. 24V (0.5 V resolution) LPS-20-100: max. 100 mA (2 µA resolution). max. 24V (0.5 V resolution) LPS-20-10: max. 10 mA (0.2 µA resolution). max. 24V (0.5 V resolution)

Typical applications	LED current or voltage driver in LED Testsystems in CW or pulse measurement mode. See System excamples TFCT25, TPI21-TH
Calibration	Current Calibration
Product	
Power Supply	(7 - 28) VDC
DC input connector	Phoenix MC15/2GF
Output current	Max. 1,5 A, other current ranges on request
Output Voltage	max. 24V or (DC input voltage - 4V)
max. internal power	7W (input voltage - output voltage) · output current
DC output connector	Phoenix MCDN1.5/6
Accuracy of output current	± 0.1 % ± 60 µA LPS-20-1500 ± 40 µA LPS-20-1000 ± 4,0 µA LPS-20-100 ± 0,4 µA LPS-20-10
Accuracy of output voltage	± 0.1 % ± 1 mV
Resolution of output current	30 µA LPS-20-1500 20 µA LPS-20-1000 2 µA LPS-20-100 0,2 µA LPS-20-10
Resolution of output voltage	0.5 mV
Rise time	output current or voltage (10-90) % (also valid for pulse operation) at load resistance: 10R: 500 µs, 100R: 2 ms, 1000R: 20 ms
Temperature range	current: ± 30 µA LPS-20-1500 ± 20 µA LPS-20-1000 ± 2 µA LPS-20-100 ± 200 nA LPS-20-10 voltage: ± 0.5 mV/°K
Stability	± 150 µA LPS-20-1500 ±100 µA LPS-20-1000 ±10 µA LPS-20-100 ±1uA LPS-20-10 ±0.5 mV for 8 hours (60 minutes after switch on of output current by constant environment)

Accuracy of current measurement	± 0.1 % ± 60 µA LPS-20-1500 ± 40 µA LPS-20-1000 ± 4 µA LPS-20.100 ± 0,4 µA LPS-20-10
Accuracy of voltage measurement	± 0.1 % ± 1mV
Resolution of current measurement	15 µA LPS-20-1500 10 µA LPS-20-1000 1 µA LPS-20-100 100 nA LPS-20-10
Resolution of voltage measurement	0.1 mV
ADC conversion time	100 ms (Option 1: 20 ms) for voltage or current measurement
Pulse values	pulse on time: (1 - 999) ms pulse off time: (1 - 999) ms number of pulses: 1 - 999
Accuracy of pulse on/off time	2 % ± 0.5 ms
Display	LEDs: green: blinking: DC input voltage present continuous: output switched on red: continuous: error
Control Input	internal pull-up resistor 10 kOhm to +5 V option 1: Input 2 replaced by signal SCL
Control Output	MOSFET switch to GND, 0.3 R, max. 32 V, max. 1 A option 1: Output 2 replaced by signal SDA
Miscellaneous	
Interface	RS232 / RS485: 19200 Bd, 8D, 1S, N optocoupler isolated
Temperature range	operation: 10 °C - 30 °C (with free air flow) storage: 5 °C - 50 °C
Dimensions	105 mm x 126 mm x 45 mm (3HE, 9TE)
Weight	350 g
Warranty	12 month

Configurable with

Product Name	Product Image	Description	Go to product
S-SDK-LPS		Software Development Kit for LPS variants (power supply) for own software implementation.	https://www.gigahertz-optik.com/en-us/product/s-sdk-lps/
BTH-19		Bench-top and rack housing for 3HE rack modules. Features: The bench-top housings are available in half, third or full 19” widths. Power supply modules for (110-230) V, 50/60 Hz with low DC voltages for both external devices and those within the housing.	https://www.gigahertz-optik.com/en-us/product/bth-19/
LS-OS1.5-LED3		Light source for use with the UM series modular construction integrating spheres. Features: External lamp for up to seven LEDs of type Golden Dragon Osram. LEDs connected in line or in 3 groups. Fan for the heat sink.	https://www.gigahertz-optik.com/en-us/product/ls-os1.5-led3/
LS-OS1.5-LED1		Light source for use with the UM series modular construction integrating spheres. Features: External lamp for up to 24x LEDs of type Golden Dragon Osram. LEDs connected in line or in 3 groups. Fan for the heat sink.	https://www.gigahertz-optik.com/en-us/product/ls-os1.5-led1/
SC-05		System control for versatile light measurement applications	https://www.gigahertz-optik.com/en-us/product/sc-05/

Purchasing information

Article-Nr	Modell	Description
Product		
15297596	LPS-20-1500-RM	Power supply module. Output current controllable up to 1500 mA. Other current ranges on request.
Software		
15298224	S-SDK-LPS	Software Development Kit for the implementation of a LPS variant into custom made software

Contact, Calibration, Service & Support

We are known worldwide for excellent technical consulting and after sales support. Contact us to find together the best solution for you. Our services:

- Technical Consulting & Sales
- After-Sales Support
- Calibrations & Re-Calibrations (ISO/IEC 17025 Calibration Services, factory calibration, Calibration of Third-Party Products)
- Repairs & Updates
- OEM & Feasibility Consulting of Customized Solutions

Send us your inquiry or contact us by phone or e-mail. We would welcome your feedback too or review us on Google.

Gigahertz Optik GmbH (Headquarter)

Tel.: +49 (0)8193-93700-0
Fax: +49 (0)8193-93700-50
info@gigahertz-optik.de

An der Kaelberweide 12
82299 Tuerkenfeld, Germany

Gigahertz-Optik, Inc. (US office)

Phone: +1-978-462-1818
info-us@gigahertz-optik.com

Boston North Technology Park
Bldg B - Ste 205
Amesbury, MA 01913 USA