

Power Supply Series

This is the power supply (supporting CW and pulse) for driving the laser diode (LD). The power supply for driving a Peltier element and cooling unit all-in-one type required for driving LD is also part of our lineup.



Simple Operation

Electric current limit setting and integrated time check can be done from a handle.

Electric current limit settings

Maximum electric current can be set in parameter. It prevents LD damage deriving from malfunction.

LD Terminal Short Function

Function to short between anode and cathode of LD when power is switched OFF is equipped. By doing it, LD can be protected from static electricity, etc.

Goggle compatible white display

Letters can be displayed in white. Superior in legibility even when using laser-protect goggle.

Instantaneous power failure detection

LD can be safely protected by shutdown operation after instantaneous power failure detection, while there is electric current running after power has been cut off.

Various Alarm Functions

Alarm with screen display equipped enables prompt identification of cause and repair.

LD operation intergrator

LD operation intergrator function equipped, which is essential for LD lifecycle management. Zero reset available for LD replacement.

Full Interface

Interface equipped for setting in a system. Freely externally operable.

Power Supply for Driving Laser Diode | SLD

RoHS Catalog Code W2025

Precise digital control, environmently friendly, high efficiency Laser Diode power supply

- Developed specifically to drive Laser Diode.
- Includes various function to protect LD.
- Includes alarms such as instantaneous power failure.
- Can be controlled using the front panel and by commands from a PC connected via RS232C.
- Includes I/O (Input-Output) for interfacing to external devices and for emergency stop.
- Automatic Current Control for stable operation.



SLD Series

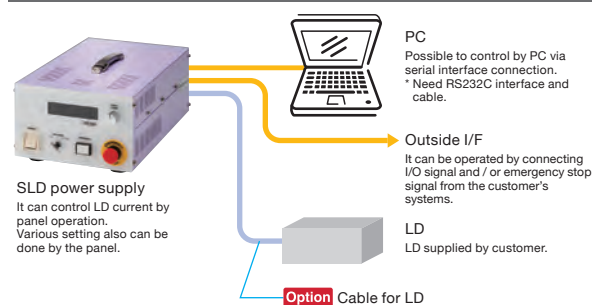
Part Number	Max. output voltage [V]	Max. output current* [A]	Input voltage [AC V]	Apparent power [VA]
SLD0350	3	50	85 - 264	500
SLD0450	4	50	85 - 264	600
SLD0635	6.5	35	85 - 264	600
SLD03A0	3	100	85 - 264	800
SLD04A0	4	100	85 - 264	1000
SLD0670	6.5	70	85 - 264	1000
SLD1045	10	45	85 - 264	1000
SLD1338	13	38	85 - 264	1000
SLD06A0	6.5	100	170 - 264	1800
SLD1078	10	78	170 - 264	1800
SLD1365	13	65	170 - 264	1800
SLD2240	22	40	170 - 264	1800

* Minimum current value is approximately 5% of maximum output current.

Guide

- ▶ We do handle orders for manufacturing products with special specifications, which are not shown in the catalog. Please contact our sales department for more information.

System Configuration



Option Cable for LD

For 50A

Part Number	Cable Length [m]	Applicable Model
LD50-CA-05	0.5	SLD0350, SLD0450, SLD0635, SLD1045, SLD1338, SLD2240
LD50-CA-10	1.0	
LD50-CA-20	2.0	

For 100A

Part Number	Cable Length [m]	Applicable Model
LD100-CA-05	0.5	SLD03A0, SLD04A0, SLD0670, SLD06A0, SLD1078, SLD1365
LD100-CA-10	1.0	
LD100-CA-20	2.0	

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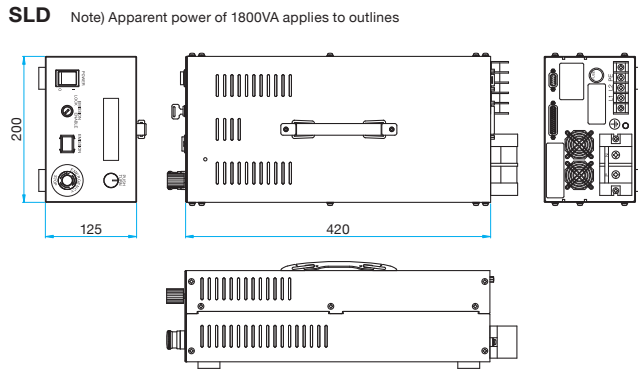
Laser Processing



Specifications	
Control method	High-frequency switching method for CW only
Output terminal block	M6
Current ripple	<0.1%RMS (for maximum output current) (Within the range of maximum output current x 10% or over)
Current setting accuracy	0.1A
Output current error	<1% (for maximum output current)
Linearity error	<1% (for maximum output current)
Output current temperature character	<0.03%/°C (for maximum output current)
Rise time*	1sec -
Fall time*	1sec -
Operation ambient temperature	0°C - 40°C
Storage ambient temperature	-20°C - 60°C
Ambient humidity	20 - 90%RH (No condensation)
External dimensions	(W)200 × (H)125 × (D)420mm (Excluding projections)
Interface	RS232C, emergency stop interlock, emission interlock, emission etc.
Accessory	Jumper connector AC100V cable (For apparent power 1000VA or less only)

* Please contact our International Sales Division to cut the Rise/Fall time.

Outline Drawing (Units: mm)



Power Supply for Driving Laser Diode (CW or pulse output) | SMD

RoHS Catalog Code W2026

Precise digital control high efficiency power supply for laser diode.



Specifications

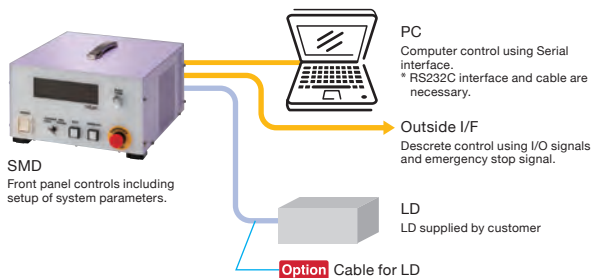
Part Number	SMD0460P	
Voltage	4V	
Output current	60A (Duty100%)	
Output current (pulse)	120A (Duty<50%, pulse width <10ms)	
Current ripple	<12mA (rms)	
Startup time	<20μs (It depends on load)	
Resolution of setting current	0.1A	
Frequency	1Hz - 50kHz	
Digits of setting frequency	3 digits	
Minimum setting pulse width	0.01ms	
Minimum setting duty	0.01%	
Wave shape	Rectangular or arbitrary (30 steps)	
Start emission trigger	Internally set or external input	
Hour meter	Emission time	
Output of current monitor	0 - 10V DC	
Operation temperature	0°C - 40°C	
Storage temperature	-20°C - 60°C	
Humidity	20 - 90%RH (No condensation)	
External dimensions	(W)250 × (H)140 × (D)330mm (Excluding projections)	
Interface	RS232C, emergency stop input, current out enable input etc.	
Accessories	Jumper connector, AC100V cable	
Control mode	CW	Output a set constant or continuous current
	PULSE	Output a pulse current of set current and pulse width (or frequency)
	WAVE	Output an arbitrary wave (set up to 30 steps)
Control method	FRONT PANEL	All control modes are available only from the front panel
	SERIAL I/F	All control modes are available only with RS232C (serial communications)
	ANALOG	The output current is set by the voltage of the SIGNAL IN.
	MOD	The output frequency is set by the frequency of the EXT MOD
	GATE	Control emission on or off with GATE input.
Monitor output signal	SYNC OUT	The current frequency is output to SYNC OUT as a pulse.
	CURRENT MONITOR	The current is output to CURRENT MONITOR as a voltage.
Protection function	Power abnormal, Inside temperature abnormal, output open, External power voltage drop etc.	
Fail-safe	Emergency stop, output permission key switch	

- Developed specifically to drive Laser Diode.
- Pulse or CW diodes can be driven.
- Includes various function to protect LD.
- Includes alarms such as instantaneous power failure.
- Fine resolution closed loop current control.
- Arbitrary wave output is available. (30 steps)
- Output can be carried out with an output input signal only.
- Bias control function for setting idle current.

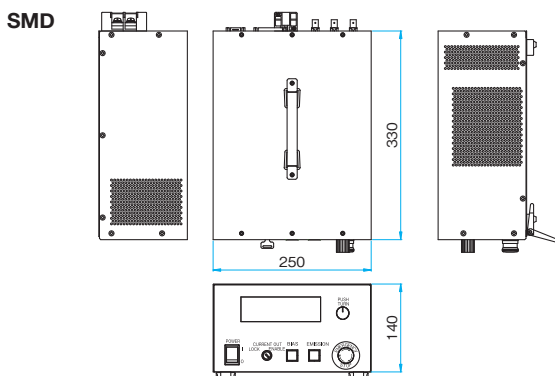
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- ▶ We do handle orders for manufacturing products with special specifications, which are not shown in the catalog. Please contact our sales department.
- ▶ For a cable for the LD, please contact our company separately.

System Configuration



Outline Drawing (Units: mm)



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Power Supply for Peltier | STD/STDS

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Laser Processing

Precise digital control, high efficiency power supply for peltier cooler.

- Measures temperatures with a thermistor or platinum resistance temperature detector, and drives the Peltier device so that the measured temperature becomes the set value.
- Equipped with various alarm detection systems and auto tuning function.
- Temperature measurement accuracy is 0.01°C. (24 bit A/D converter)
- For the STD type, both a Pt100 and thermistor can be selected using the parameters



Specifications

Measurement part	Applicable sensor	Thermistor or Pt100 (3-wire system) (STDS power supply is for thermistor only.)
	Temperature setting accuracy	0.01°C
	AD Converter	24bit
Control part	Control method	Digital PID method
	Control range	-50°C – 150°C (according to sensor)
Operation ambient temperature		0°C – 40°C
Storage ambient temperature		-20°C – 60°C
Ambient humidity		20 – 90%RH (No condensation)
External dimensions	STD power supply	(W)200 × (H)125 × (D)420mm (Excluding projections)
	STDS power supply	(W)200 × (H)205 × (D)65mm (Excluding projections)
Interface		RS232C READY contact output

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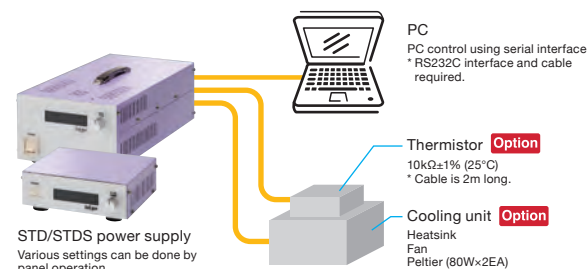
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Specifications for Each Model

Part Number	Max. output voltage [V]	Max. output current [A]	Input voltage [AC V]	Apparent power [VA]
STDS*	4	1.6	85 – 264	100
STD3609	36	9	85 – 264	600
STD4813	48	13	85 – 264	1000

* STDS: Maximum output is 3W. Temperature sensor is by thermistor only.

System Configuration



Option

Part Number	Product Name
TMS-1	Thermistor
CHU-1	Cooling unit

Cooling Unit Equipped Power Supply | SXD

Catalog Code W2028

This is a user friendly cooling unit equipped power supply for Laser Diode.



- Laser Diode driver
- Temperature of laser diode is kept at a certain point. (Peltier, its drive circuit, heat sink, and fan equipped.)
- Customized heat sink process can be done for laser diode
- High capacity heat sink and fan adopted will cool down LD under high temperature.
- Customer-supplied fiber couple laser diode is to be installed in this power supply.

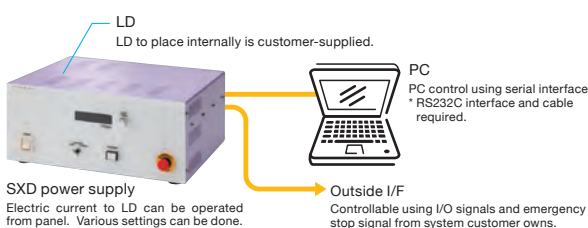
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Example of Performance Specifications

Part Number	SXD
LD Max. output voltage [V]	3
LD Max. output current [A]	50
Peltier driving voltage [V]	36
Peltier driving current [A]	9
Input AC voltage [V]	85 – 264
Apparent power [VA]	800

System Configuration



Low profile Laser Diode power supply with temperature controller.



- Constant current Laser Diode driver.
- Closed loop temperature controller with built in Peltier driver.
- Includes all essential functions to maintain SLD and STD's performance in a small, low cost package.
- Output currents of 50A and 100A
- Temperature resolution is 0.01°C. Supports both Pt100 and thermistor as the temperature sensor.
- Peltier driver maximum power of 300W.

Part Number	SPD0350S	SPD03A0S
LD Max. output voltage [V]	3	3
LD Max. output current [A]	50	100
Peltier driving voltage [V]	36	36
Peltier driving current [A]	9	9
Input AC voltage [V]	Single phase 85 – 264	Single phase 85 – 264
Apparent power [VA]	800	1000

Specifications of the LD driving part

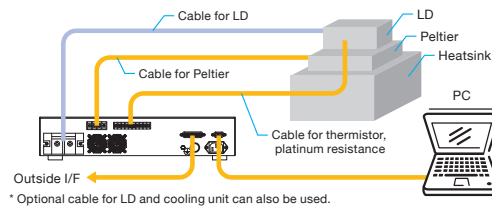
Control method	High-frequency switching method for CW only
Current ripple	Less than 0.1% RMS (FS) (However, it is in the range of more than maximum output current × 10%)
Current setting accuracy	0.1A
Output current error	<1% (for maximum output current)
Linearity error	<1% (for maximum output current)
Output current temperature character	<0.03%/C (for maximum output current)
Rise time*	1sec –
Fall time*	1sec –

* If you want to shorten the rise / fall time, please contact our company separately.

Guide

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System Configuration



Specifications of the Peltier driving part

Measurement part	Applicable sensor	Thermistor or Pt100 (3wire system)		
	Accuracy	0.01°C	AD convertor	24bit
Control part	Control method	Digital PID system		
	Control range	-50°C – 150°C (depends on the sensor)		
Max. current	9A	Max. voltage	36V	

Specifications of SXD/SPD

Part Number	Cooling unit equipped power supply <SXD>	Power supply for Laser Diode + Peltier <SPD>
External dimensions	(W)413 × (H)177 × (D)390mm (Excluding projections)	(W)414 × (H)79 × (D)430mm (Excluding projections)
Operation ambient temperature	Depends on specifications	
Storage ambient temperature	-20°C – 60°C	
Ambient humidity	20 – 90%RH (No condensation)	
Interface	RS232C, emergency stop interlock, emission interlock, emission etc.	
Accessory	Jumper connector, AC100V cable	

Outline Drawing

(Units: mm)

