

Power Supply Series

Power Supply for Peltier | STD/STDS

RoHS

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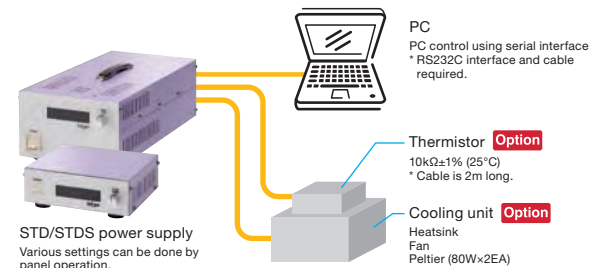
- ▶ We do handle orders for manufacturing products with special specifications, which are not shown in the catalog. Please contact our sales department.

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

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.

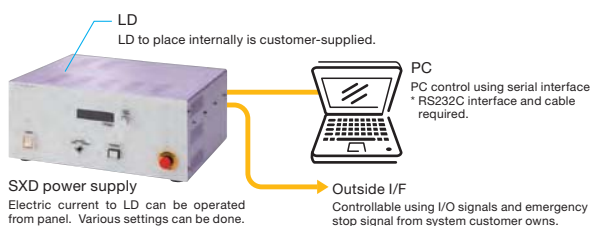
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Example of Performance Specifications

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

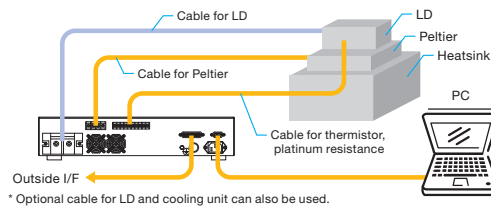
Control method	High-frequency switching method for CW only
Current ripple	Less than 0.1% RMS (FS) (However, it is in the range of more than maximum output current × 10%)
Current setting accuracy	0.1A
Output current error	<1% (for maximum output current)
Linearity error	<1% (for maximum output current)
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

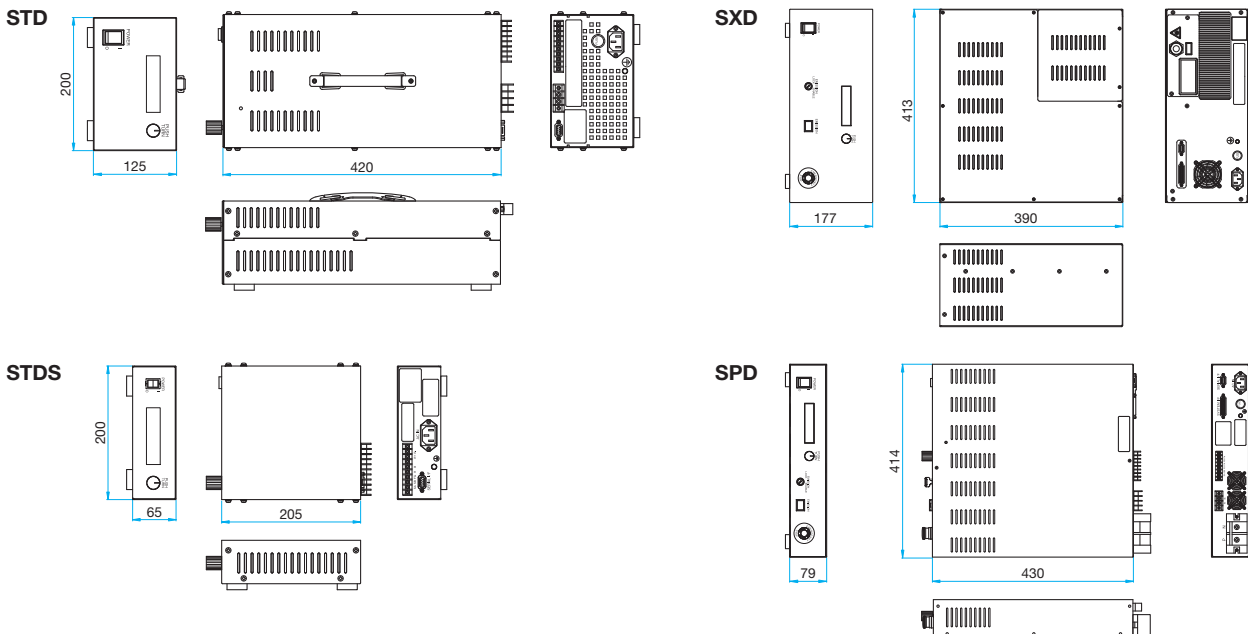
Measurement part	Applicable sensor	Thermistor or Pt100 (3wire system)		
	Accuracy	0.01°C	AD convertor	24bit
Control part	Control method	Digital PID system		
	Control range	-50°C – 150°C (depends on the sensor)		
Max. current	9A	Max. voltage	36V	

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)



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