

Specifications

Product name : 100-W LED Fiber Optic Illuminator

Model name : SLG-100 (White)

Customer approval signature

Date:

The number of copies:

Revox, Inc.

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Approved	Checked	Checked	Written

Revision history

No.	Description	Date	Approved	Written
0	Issue	2010.12.22	Mitome	Matsuzawa
1	• Stabilizer function deleted • Addition of illuminance lock function • Bit digital illuminance control Changed from "8 to 12bit" to "8 to 10bit" • Housing shape is changed to square one	2011.10.17	Hirose	Matsuzawa

Precautions

Please read the instructions below carefully and follow them when using SLG-100.

- SLG-100 is designed for only an industrial use such as image inspections.
- Use SLG-100 only indoor and avoid condensation.
- Be sure to connect to ground using AC cable with 2-flat-blade and a round grounding pin in order to protect a user from electric shock.
- Choose the appropriate power cable for the region and your working environment.
- Use the AC power supply in accordance with the range in this specification.

- DO NOT look at the LED light beam directly.
- DO NOT dismantle the product or drill a hole on the panel.
- DO NOT remodel the product including adding parts or arranging parts. It can result in decreased reliability.
- DO NOT touch the products with wet hands.
- DO NOT cover the air inlets to prevent overheat.

- Turn off the main power switch immediately if the cooling fan stops or an abnormal signal is detected.
- While the main power switch is on, cooling fan is always running even if LED is OFF.
- If the product doesn't work properly, see page 26.

- If you have any questions or concerns about SLG-100, please contact us.

EU RoHS

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, which is commonly known as the RoHS, took effect on 1 July 2006. This directive bans the placing on the EU market of new electrical and electronic equipment containing more than agreed levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants.

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1. Application

This specification applies to the fiber optic LED illuminator SLG-100. Specifications are subject to change without advance notice.

2. General specification

Input voltage	AC100 to 240V $\pm 10\%$ (50/60Hz)	
Luminous flux of LED device	3,000 lm at maximum	
Power consumption	Approximately 100 VA (at maximum illuminance)	
Operating ambience	Temperature: 5 to 40 deg C Humidity: 20 to 80 %RH (No condensation)	
Dimming range	10 to 100%	
Illuminance control	Manual	Manual Dimming Knob
	External	0 to 5 V analog control
		Bit digital signal control
		Serial communication commands (RS-232C)
		Ethernet (available as an option)
Bit digital illuminance control mode	8Bit : 256 levels	
	9Bit : 512 levels	
	10Bit : 1024 levels	
Illuminance control lock function	Available	
Error detection	LED abnormal high temperature signal	
	Cooling Fan error signal	
Attachable light guide	Fiber bundle diameter $\phi 18\text{mm}$ or more	
Replacement of LED	Available by sending back the product	
Lifetime	25,000 hours (calculated values until the light output decreases to 70%)	

3. Optical specification

(1) Light wavelength range

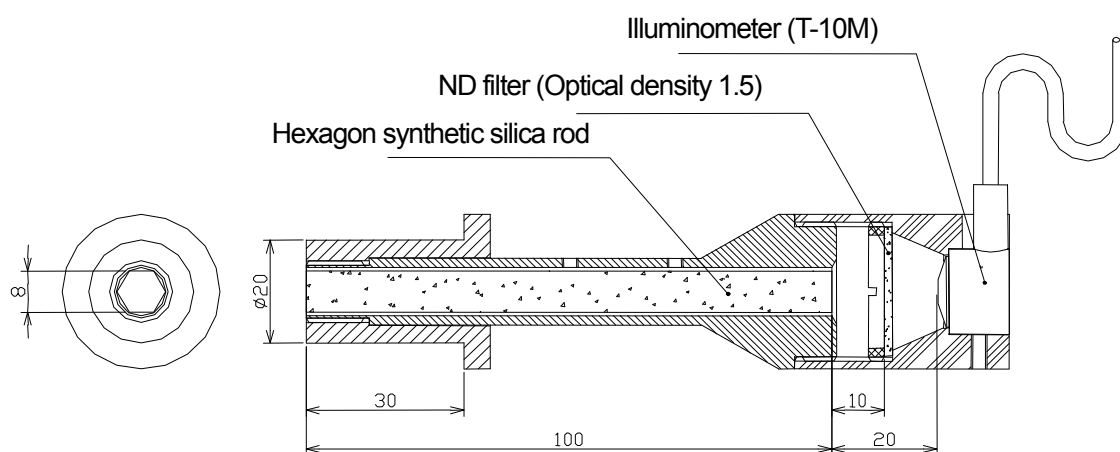
- White (W) : 400 to 750nm

(Calculated color temperature : 6,000 to 9,000 K CRI70 *Reference data)

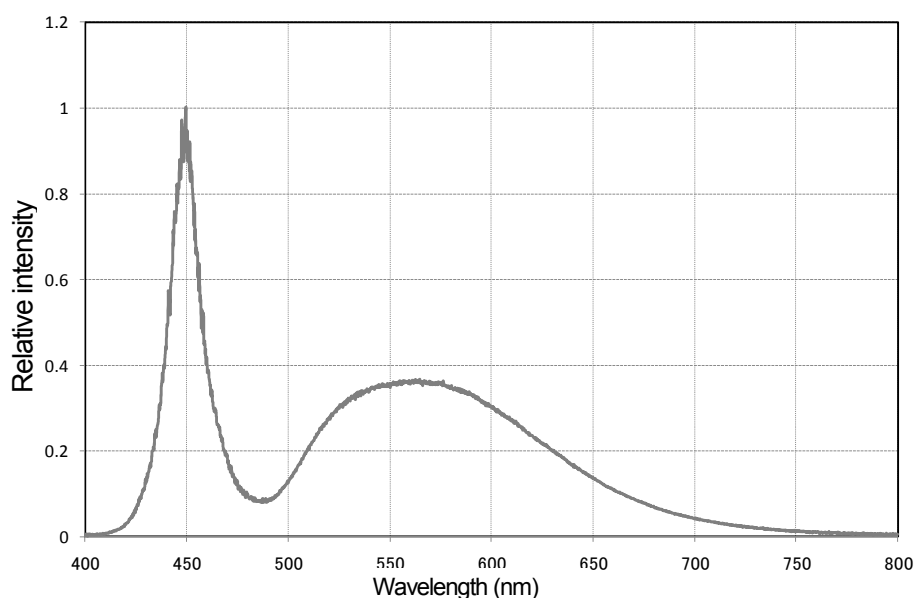
(2) Output (Reference value)

28,000 lx or more

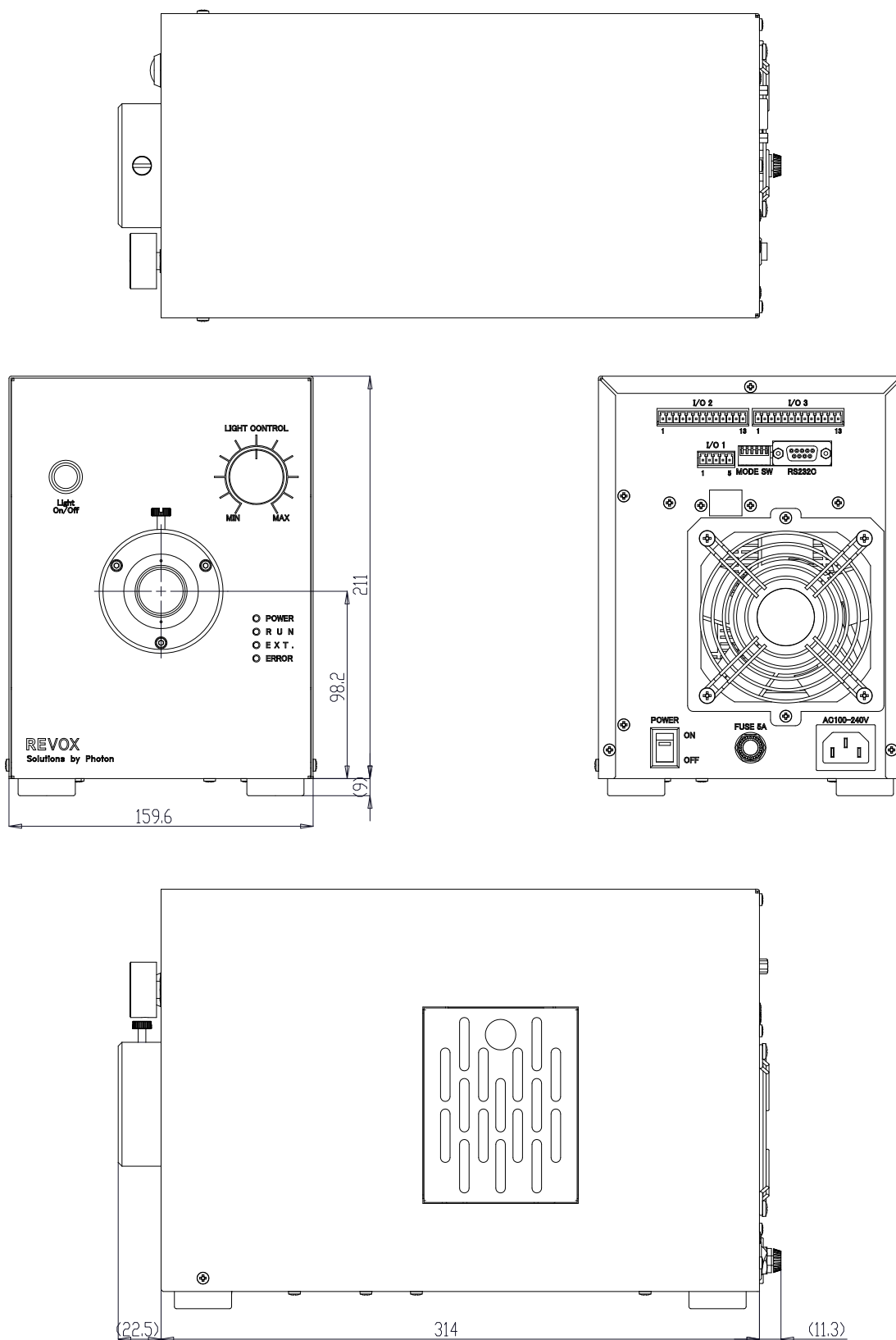
Note: Actual values observed by the following measuring tool made of a quartz rod and an illuminometer.



(3) Spectral characteristics (reference data)



4. External view



5. Part numbering/labeling

(1)Model name SLG-100- -
① ②

①	Option 1 Ethernet control	0	None
		1	Available
②	Option 2 Power cord	0	None
		1	Available

(2) Rating label

- ① Model number
- ② Rated voltage
- ③ Power consumption
- ④ Rated frequency
- ⑤ Rating of Fuse
- ⑥ Serial No. : SLG-100—production year/month(4- digit)—product number(5- digit)
- ⑦ Revox logo

<Example>

SLG-100-0-1

Rated voltage	: AC100-240V
Power consumption	: 100VA
Rated frequency	: 50/60Hz
Fuse	: 250V5A

S/N : SLG-100-1110-00001

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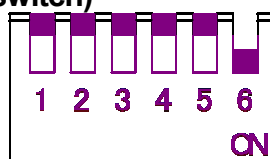
6. Interface

6.1. Indicators on the front panel

- (1)POWER : Orange indicator lights while power is ON.
- (2)RUN : Green indicator lights while LED is lighting.
- (3)EXT. : Yellow indicator lights in external control mode.
- (4)ERROR : Red indicator lights in case of error.
: LED temperature error: flashing (*1)

* 1 LED temperature error indicator on the rear panel starts to flash in case of temperature over 130 deg C. If LED temperature exceeds 140 deg C, LED will be automatically shutdown. When the LED temperature drops below 70 deg C, LED restarts lighting.

6.2. Dip Switch configuration (Mode change switch)



- (1) To use Manual control
Control with Manual Dimming Knob and Light On/Off switch on the front panel.

1	2	3	4	5	6
OFF	OFF	OFF	OFF	OFF	ON

- (2) To use External 0 to 5V analog control (See 6.3.)
Control illuminance and light on/off via 5-pin terminal on the rear panel (screw terminal block).

1	2	3	4	5	6
ON	OFF	OFF	OFF	OFF	ON

- (3) To use Bit digital control
8 to 10bit illuminance control via 13-pin terminal (External I/O port 2)
*Bit control can be switched with #.3 and #4 mode change dip switch.
(See 6.4, "Bit digital control.")

1	2	3	4	5	6
OFF	ON	OFF	OFF	OFF	ON

- (4) To use Serial communication control(see 6.5.) and Ethernet control (see 6.6.)
External control with D-sub 9 (RS-232C) or Ethernet port is available.
* You can use either Serial control or Ethernet control at one time.

1	2	3	4	5	6
ON	ON	OFF	OFF	OFF	ON

Attention:

Do not change settings of #5 and #6 of mode change dip switch, as they are used by the system.

6.3. Illuminance control via 0 to 5V analog control

(External I/O Port 1 Screw terminal block)

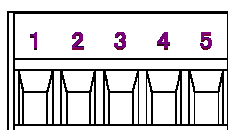
For using potentiometer, 5V voltage is output from pin 1.
The resistance of the potentiometer should be 10K-ohm.

To use illuminance control by analog signal, set pin 3 as COM and apply voltage to pin2.

*Applied voltage should be below DC5V.

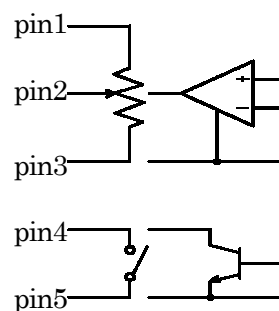
When you want to turn ON the LED, set pin 5 as COM and connect pin 4 to pin 5.

*Make the length of cable as short as possible in order to prevent effect of electrical noise.



PTB350B-05-5P-3 (OSADA CO., LTD.)

No.	SIGNAL	
1	+5V	Output
2	Analogue 0-5V for illuminance control	Input
3	Analogue GND for illuminance control	COM
4	LED ON/OFF	Input
5	LED ON/OFF GND	COM

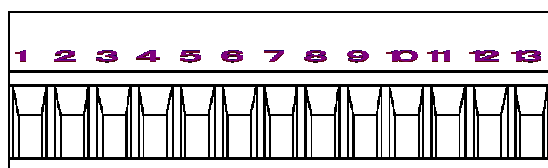


◆ Illuminance lock function (External I/O Port 2)

In case of 0 to 5V analog illuminance control, illuminance can be locked for prevention of influence by voltage variation.

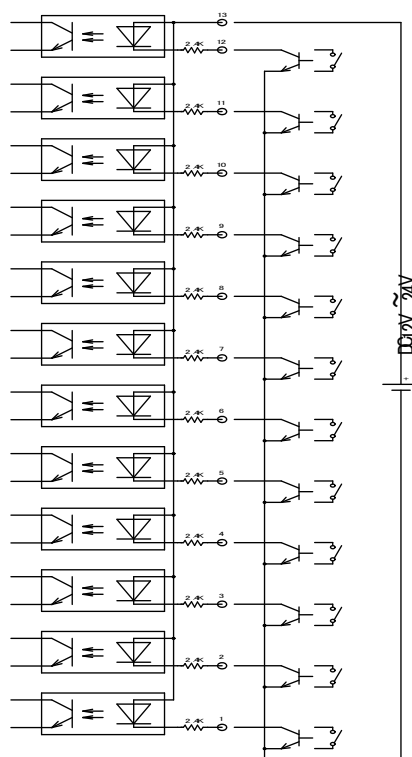
When illuminance is locked, illuminance will not be changed even when 0 to 5V analog voltage is changed.

Illuminance lock function will be effective when applying power (DC12V to DC24V) to Pin 13 of the external I/O port 2 and connecting Pin 12 to the minus terminal of the power supply.



PTB350B-05-5P-3 (OSADA CO. LTD.)

No.	
13	Power supply (DC12V to DC24V)
12	Illuminance lock
11	NC
10	NC
9	NC
8	NC
7	NC
6	NC
5	NC
4	NC
3	NC
2	NC
1	NC



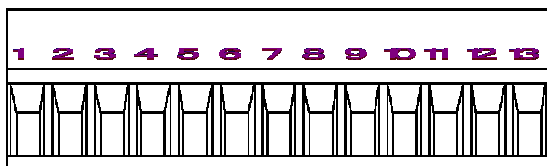
6.4. Bit Digital illuminance control; (External I/O Port 2)

Bit Digital control is available by supplying pin 13 with +12 to +24 V power and connecting pin 1 to pin 10 with a minus side of the power supply.

To turn OFF the bit digital control, make pin 1 to 10 open.

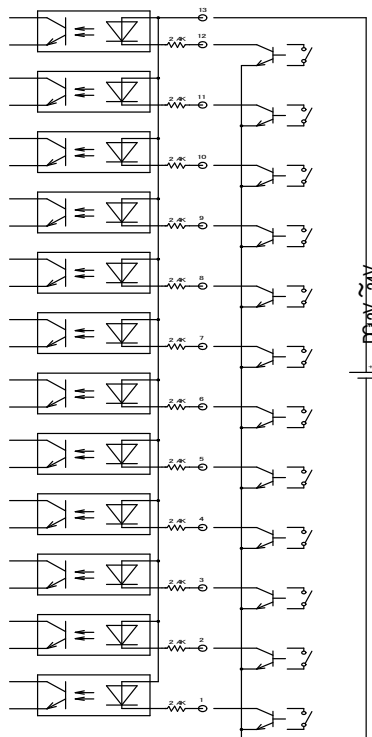
Attention :

Bit connection should be made in numerical order, starting from pin 1 (LSB).



PTB350B-05-13P-3 (OSADA CO., Ltd.)

No.	
13	Power (DC12V~DC24V)
12	NC
11	NC
10	10Bit
9	9Bit
8	8Bit
7	7Bit
6	6Bit
5	5Bit
4	4Bit
3	3Bit
2	2Bit
1	1Bit



<How to change bit digital illuminance control mode>

Change the settings of DIP switch pin 3 and Pin 4 as follows.

Pin 3	Pin 4	
OFF	OFF	8Bit : 256 levels
ON	OFF	9Bit : 512 levels
OFF	ON	10Bit : 1024 levels

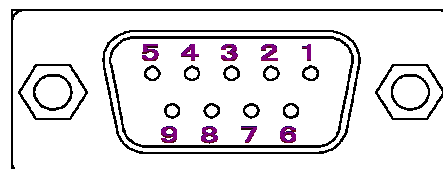
6.5. Serial communication control (Serial communication connector RS232C)

SLG-100 can be controlled by serial communication commands.

(1) Communication settings

Transmission speed : 38400bps
 Data length : 8 bit
 Parity : NONE
 Stop bit : 2 bit
 Flow control : NONE

No.	SIGNAL	No.	SIGNAL
1	NC	6	NC
2	Tx	7	NC
3	Rx	8	NC
4	NC	9	NC
5	GND		



Use a straight cable and inch-sized screws.

(2) Control function

1. ON/OFF change
2. Illuminance control by 8Bit
3. Illuminance control by 12Bit
4. Illuminance control by 16Bit
5. LED temperature monitor
6. Illuminance level sensor monitor
7. Cooling Fan error monitor
8. LED abnormal temperature error monitor

(3)Communication commands

Commands are exchanged by ASCII code in capital letters in accordance with the following procedure:
 Commands from controller must begin with STX (0x02) and end with ETX (0x03).
 Response command from SLG-100 must begin with ACK (0x06) and end with ETX (0x03).

- The parameter of each command is shown as “xxxx.”
 (The number of the letter “x” will differ according to the command.)

1. ON/OFF change (WDD)

* □ indicates the LED status. 1 : LED ON 0 : LED OFF

Command from external equipment	[STX]	WDD	x	[ETX]
Response from SLG-100	[ACK]	WDD	x	[ETX]

2. 256-step illuminance control (8Bit digital) (WDA)

* □ □ indicates 256-step illuminance data from 00 to FF.

Command from external equipment	[STX]	WDA	xx	[ETX]
Response from SLG-100	[ACK]	WDA	xx	[ETX]

3. 4096-step illuminance control(12Bit digital) (WDB)

* □ □ □ indicates 4096-step illuminance data from 000 to FFF.

Command from external equipment	[STX]	WDB	xxx	[ETX]
Response from SLG-100	[ACK]	WDB	xxx	[ETX]

4. 65536-step illuminance control (16bit signal) (WDC)

* □ □ □ □ are 65536-step data from 0000 to FFFF.

Command from external equipment	[STX]	WDC	xxxx	[ETX]
Response from SLG-100	[ACK]	WDC	xxxx	[ETX]

5. LED temperature monitor (RAF)

LED temperature is monitored, as a 16 bit data.

* 0000 to FFFF are temperature data from 0000 to FFFF.

Command from external equipment	[STX]	RAF		[ETX]
Response from SLG-100	[ACK]	RAF	xxxx	[ETX]

6. Illuminance level sensor monitor (RAC)

Illuminance level is monitored, as a 16 bit data.

* 0000 to FFFF are illuminance level data from 0000 to FFFF.

Command from external equipment	[STX]	RAC		[ETX]
Response from SLG-100	[ACK]	RAC	xxxx	[ETX]

7. Cooling Fan error monitor (REB)

Fan error is checked.

* 0 indicates the FAN behavior status. 0 : normal 1 : shutdown

Command from external equipment	[STX]	REB		[ETX]
Response from SLG-100	[ACK]	REB	x	[ETX]

8. LED abnormal temperature error monitor (REC)

LED Temperature error is checked.

* 0 indicates the LED temperature status. 0 : normal 1 : abnormal (130 deg. C)

Command from external equipment	[STX]	REC		[ETX]
Response from SLG-100	[ACK]	REC	x	[ETX]

Sudden change of temperature is not monitored simultaneously.

6.6. Ethernet control (available as an option)

Ethernet control can be used with the same commands in serial communication control.
(For the details, see page 14 to 15, 6.5. Serial communication commands.)

For Ethernet control, use the cable below.

- Connector : RJ-45
- Cable : Cross-cable, in case one external equipment controls one SLG-100
 : Straight cable, in case of using HUB

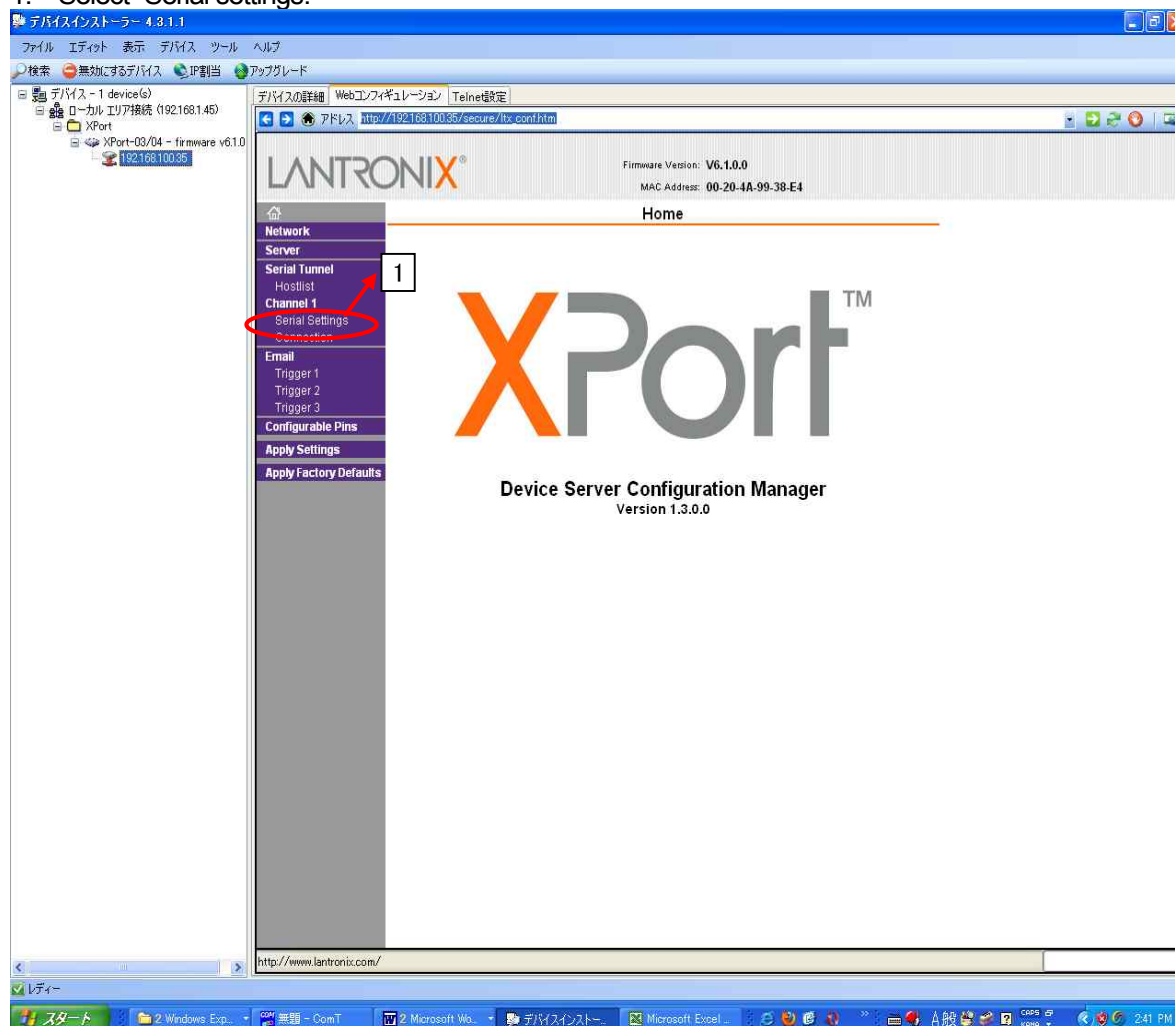
To make settings, confirm the connection between our PC and SLG-100 with an Ethernet cable and then follow the instructions on the following pages.

IP address	192.168.100.35 (Default setting)
Port number	10001
Network protocol	TCP/IP Serial parameter 38400,8,N,2

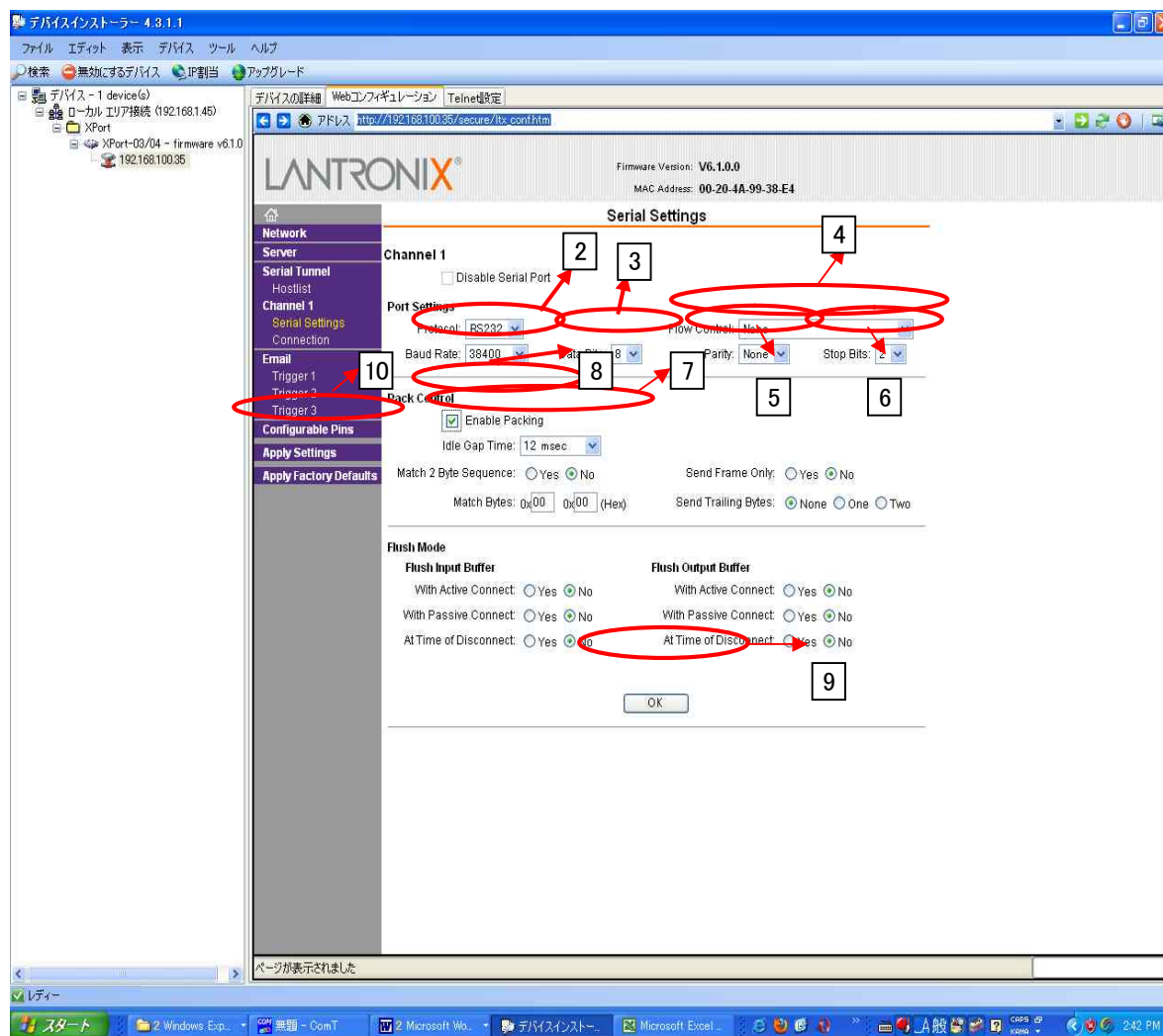
<How to set communication control>

Communication speed and number of bit can be set as follows:

1. Select "Serial settings."



- ② Set 38400 as “Baud Rate.”
- ③ Set Data Bits as 8.
- ④ Set None as Flow Control.
- ⑤ Set None as Parity.
- ⑥ Set 2 as Stop Bits.
- ⑦ Set 12 msec as Idle Gap Time.
- ⑧ Check the box of Enable Packing.
- ⑨ Click OK after setting through 1 to 7.
- ⑩ Click “Apply Settings,” in order to activate all the settings.



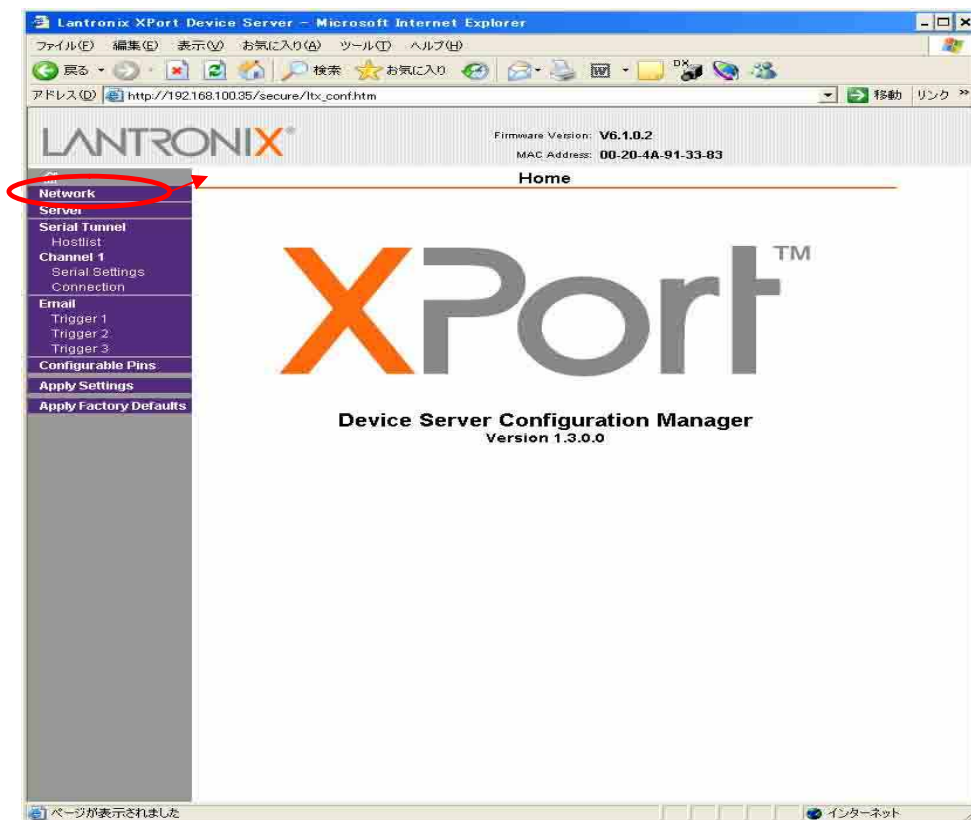
<To change the IP address>

To change the IP address, follow the instructions below.

- ① Enter the IP address into the address bar of your browser.
(default :192.168.100.35)
- ② When the user name/ password dialog opens, click “OK” leaving both fields blank.

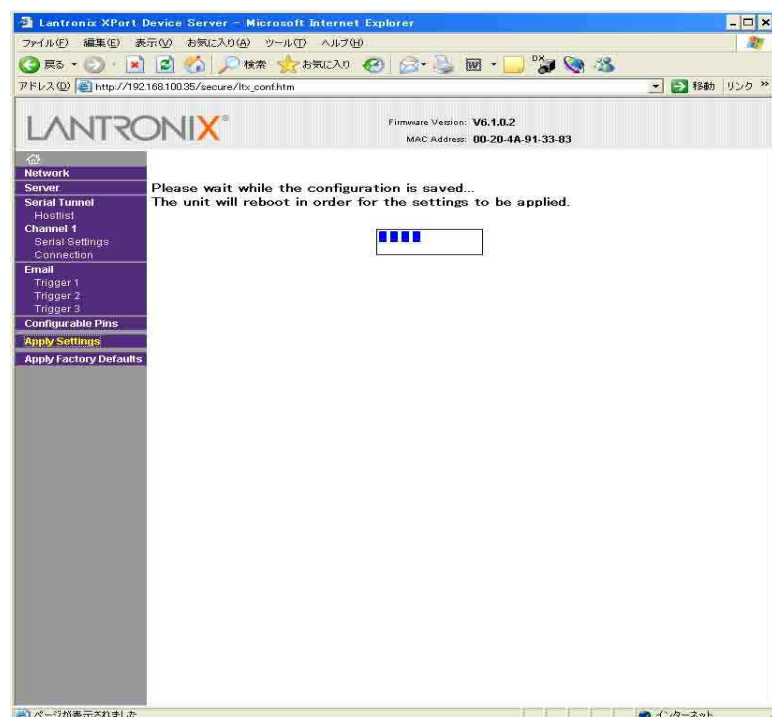
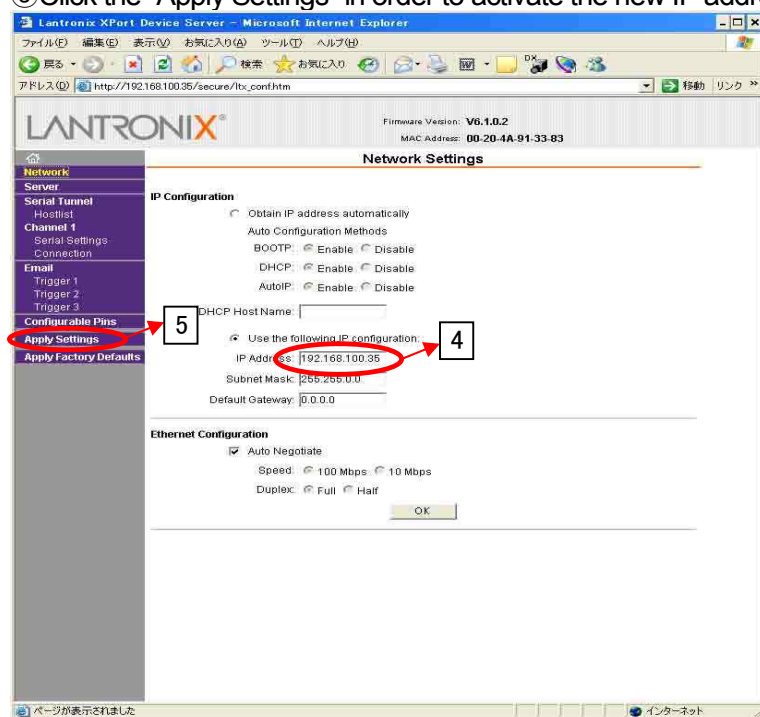


- ③ When the main screen below appears, click the ” NETWORK.”



④When the “Network settings” screen appears, change the IP address and click “OK.”

⑤Click the “Apply Settings” in order to activate the new IP address.



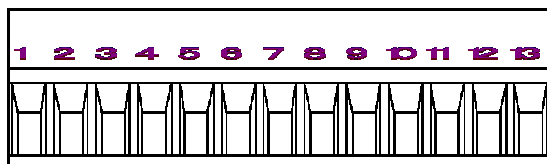
*When you change the IP address, the screen is not automatically reloaded.
Be sure to access the new IP address before using Ethernet control.

Attention Do not change all the other functions.

6.7. Error output signal (External I/O Port 3)

LED ON/OFF signal and error signals are sent to the external equipment.

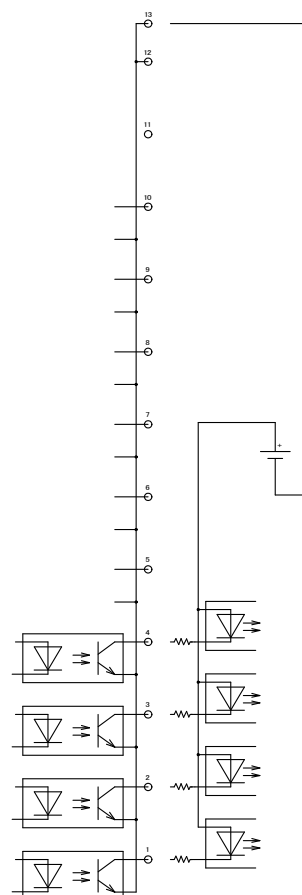
- Output signals are open collector output.
- Sink current must be 25 mA or less.



PTB350B-05-13P-3 (OSADA CO. Ltd.)

No.	
13	COM
12	COM
11	NC
10	NC
9	NC
8	NC
7	NC
6	NC
5	NC
4	OUT4 (NC)
3	OUT3 (LED TEMP ERR)
2	OUT2 (FAN ERR)
1	OUT1 (LED ON)

*Pins 12 and 13 are connected inside the product.



7. Packing

Contents

- ①SLG-100 (Specified ferrule , lens and options)
- ②Power cord (Option)

8. Replacement parts

Standard replacement parts

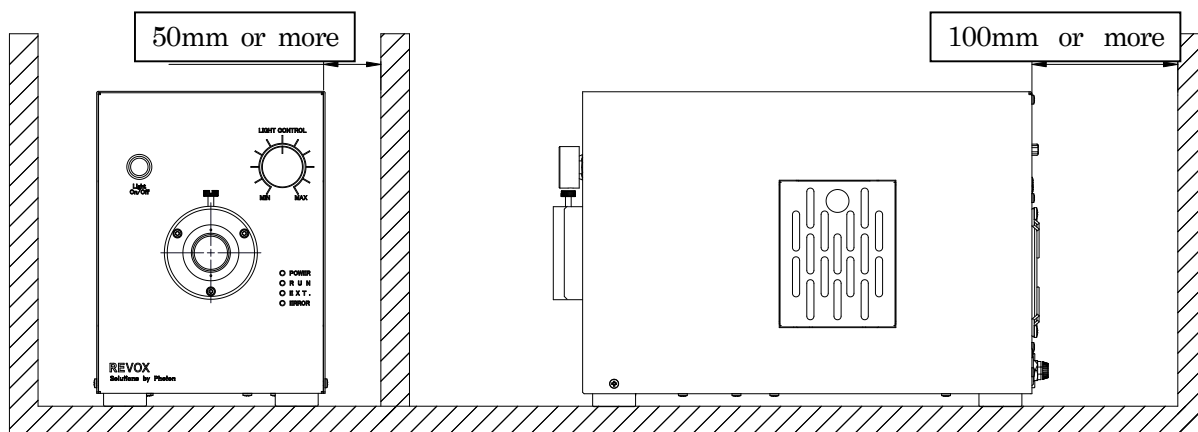
- | | |
|----------------------------|----------------------|
| ①Cooling fan | Part No. : 0000-1444 |
| ②Fuse(250V5A) *10 pcs/pack | Part No : 0000-0268 |

9. Installation instructions

As general characteristics of LED, illuminance gradually decreases over time. Excessive high junction temperature also decreases illuminance and will adversely affect the lifetime of LED.

In order to prevent a malfunction, please operate correctly in accordance with the instructions below.

- (1) Install your SLG-100 in a well ventilated room. Maintain the clearance as shown in the figure below:



- (2) If you use exhaust air duct, keep the air exhaust amount over 2.0m³/min.
- (3) Maintain a constant operating ambient temperature in accordance with this document. (See page 5)
Sudden change of temperature may cause variation of illuminance.
- (4) Be sure to keep the product and attached cables as far away from any electrical noise source as possible, such as inverter and high voltage cables. And shield the product from electrical noise source.
A power cable and communication cables connected to the product should be shorter than 5m.
- (5) Install the product on a stable surface, keeping the bottom panel with rubber feet down.
- (6) Put the product in the position in which you can turn the main power switch ON/OFF at any time.
- (7) If the product is left unused for an extended period of time, it may malfunction. Operate the product at least once every six months.
- (8) The SLG-100 is NOT waterproof. Do not use the product in places subject to rain, dripping, or enclosed places where condensation could occur.
- (9) Avoid installing the product in a room that has high temperature, high humidity or high levels of dust.
- (10) Shield the product from corrosive gas, which may corrode plated surface or soldered portions of electrical parts, to prevent changes of electrical and optical characteristics.

10. Warranty terms and conditions

- (1)The warranty period under normal installation and handling conditions is one year from the date of purchase. Within the warranty period, Revox will repair, replace or adjust a defective product, provided the trouble is clearly due to a defect in Revox's design or manufacturing.
- (2)Even during the warranty period, charges will be made for repair service in the following cases:
- 1: Defects caused by dropping the product or damage in transit.
 - 2: Defects caused by improper use, remodeling or unauthorized repair.
 - 3: Defects caused by failure to follow installation instructions, improper operating environment.
 - 4: Defects caused by a fire, earthquake, flood, lighting or other natural disasters.
- (3)The SLG-100 is intended to be used with general-use industry equipment or system. It is NOT designed or manufactured to be used with any equipment or system which requires an extremely high level of reliability such as a medical instrument, transportation equipment and nuclear-reactor controller. Malfunction or failure of the product in such applications may lead to a direct threat to human life or create a risk of human injury. If you consider using the SLG-100 for any such special purpose, be sure to inform us before purchasing.
- (4)Repairs of the SLG-100 are basically acceptable by sending back the device. Services at your office or factory are not covered by the warranty. Charges may apply to repairs performed outside of Japan. Please contact us for inquiry about the cost and availability of repair services outside of Japan.
- (5)Maintenance will be available for 5 years after the product is discontinued. In case a part or a component is discontinued, we will use a replacement part or a component. It might cause some difference in performance values specified in this document.
- (6)When sending a product for repair, please provide us with detailed information about the operating environment, external factors and malfunction description. If the information provided is insufficient, we could not offer a repair or maintenance service.

<Limitation of Liability>

- 1: Revox accepts no liability whatsoever for incidental damages arising out of the use or inability to use the product.
- 2: Revox accepts no liability whatsoever for any damages arising from improper use not conforming to the instructions in the specifications and manuals, whether intentionally or negligent, or use under abnormal conditions.

11. Troubleshooting

If the SLG-100 doesn't work properly, try the following suggestions:

- (1) Make sure to connect the power cord correctly/safely.
- (2) Make sure to connect the light guide, wires or control cables firmly.
- (3) Make sure that the fuse does not blow.
- (4) Confirm the dip switch's settings.

If the SLG-100 still doesn't work even though you confirm the above points, please contact us.
When sending a device for repair, please inform us of the following information as detailed as possible:

- ① The serial number of the device
- ② Total operating hours
- ③ The status of indicators on the rear panel
- ④ Power source (commercial /UPS) and voltage
- ⑤ Operating environment: installation position, ambient temperature and any noise source.
- ⑥ External factor such as lightning, fire, earthquake, abnormal input voltage or any liquid gets into the device.
- ⑦ Malfunction description: unusually high temperature, cooling fan error or any other abnormal actions.

[Address]

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