User Manual

(GS888 Version)

(For all the animation lasers operated by GS888)

This user manual contains important information about the safe installation and use of this product. Please read and follow the instruction carefully and keep this manual in a safe place for future reference.

Professional Stage Lighting

Getting Started

Thanks for choosing our product, please read and follow the user manual carefully and keep this manual in a safe place for future use.

1. Security warning

1、When the product is outputting a single laser beam, there must be no flammable substances within 10 meters.

2、Prohibited to expose the laser light to human skin or eyes, as it poses a risk of damaging human health.

3、Do not point your camera too close to the laser aperture, as it may burn out the camera!

4、The product is only intended for installation, operation and maintenance by qualified personnel.

5、Before installation, ensure that the voltage and frequency of power supply match the power requirement of the product.

6、It is essential that each product is correctly earthed and that electrical installation conforms to all relevant standards.

7、Make sure that the power-cord is never crimped or damaged by sharp edges. Never let the power-cord come into contact with other cables. Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.

8、Do not attempt to dismantle and/or modify the product inner structure. Otherwise 2 years of warranty will get invalid.

9、There is no user serviceable parts inside the product, do not open the housing and never operate the product with the cover removed.

2. Specification

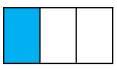
(This user manual is for all the animation lasers operated by FB4, as different models differ on power, scanner, size etc., so they are marked by blanks)

Product Name	Animation laser	**Model No.**	
Power		**Diode Brand**	Nichia (import from Japan)
Light Source	（R）：* W/638nm；（G）：* W/525nm；（B）：* W/450nm；		
Input Voltage	110/240V；50/60HZ	**Power Consumption**	
Power Supply	Mornsun / Mean Well brand	**DMX Channel**	16/26CH
Scanning Angle	Max 60°	**Scanner**	
Laser Show	Text/graphic/animation/beam /LOGO/ customization	**Special Design**	Unique double-layer structure, with the optical path layer completely sealed
Heat Dissipation	High-speed air cooling (with built-in cooling fan system)	**IP Grade**	IP65 waterproof (Third-party quality inspection report)
Working Temperature	-40°C ~ 45°C-	**Diode Lifetime**	Over 20000 hours
Net Weight		**Product Size**	
Gross Weight		**Packing Size**	
Self Protection	When the laser beam is focused to the minimum point for a long time, it automatically light off.		
Analog Modulation	100k Analog. The power of the red, green and blue can be adjusted from 0 to 100. Adjust the power according to the show to optimize the alignment effect		
Control Mode	ILDA mode: international standard 25 pins (with inbuilt FB4 or external FB4, use it when controlled by computer software) DMX mode：XLR DMX512 (use it when controlled by console. If the laser has inbuilt FB4, a DMX sub-board must be installed) Auto mode: voice control/auto-run/master-slave mode (use it with no controller. Voice control cannot be used if the laser has inbuilt FB4)		
Packing	To prevent damage during transportation, professional flight case (shock-absorbing EPE foam + silent wheels) have been adopted for safety protection!		

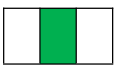
3. Main function

Auto mode: from the LCD display ILDA Lock option, click ON/OFF to start the Auto mode.
ILDA mode: When you use software to control the laser, connect the ILDA cable to the computer.
ILDA to RJ45: from the “ILDA Lock” option, select “on” mode, connect the signal cable.
DMX mode: connect the DMX cable to the lighting console, then ready to operate.

4. GS-PLAYER Operation



Using the tap button and LCD menu display function, the menu operation is easy.
From the button and knob to select the function.
Click to select the function, double-click to return to the main menu.



Link indication:

Under DMX mode

Light off	DMX board not connected
Slow flash	DMX board connected but no DMX signal
Light on	DMX working

Laser lighting signal output

Light off	No output
Light on	On output

1.1 Display description:

1.2 Home Directory

Menu	Description	Default
【Operation Mode】	Select the operation mode, 【DMX512】、【ILDA】、【ZLDA】、【TEST】and so on	
【XXX Setting】	Setting of the selected operation mode	
【Master Setting】	Master setting of the system	
【Geo Correction】	Correction of the geography	

【Color Setting】	Setting of the color	
【Language】	【中文】Simplified Chinese 【en】English	【中文】
【Device Info】	Info of the device version etc.	
【Exit Menu】	Save the settings and backlight off	

1.3 To select the operation mode

Menu	Description	Default
【DMX512】	DMX512 mode, program comes from TF card, corresponding to ZLDA format files under dmx\ directory.	×
【ILDA Play】	ILDA mode, program comes from TF card, corresponding to ILDA format files under ilda\ directory.	×
【ZLDA Play】	ZLDA mode, program comes from TF card, corresponding to ZLDA format files under zlda\ directory.	×
【TEST Play】	TEST mode, program comes from TF card, corresponding to ZLDA format files under test\ directory.	×
【Exit】	Exit the current menu and return to the upper menu.	

1.4 DMX setup

Menu	Description	Default
【Start Addr】	DMX data start address 1~500	1
【Timeout】	Unit: second. If no DMX data received within this time, the DMX will be disconnected and output be off.	3
【Profile】	【V3】Compatible with FB3 format control commands. 【CH26】26 channel format control commands. 【V4】Compatible with FB4 format control commands	V3
【Exit】	Exit the current menu and return to the upper menu.	

1.5 ILDA setup

Menu	Description	Default
【Play Mode】	【cue】Play the single cue, corresponding to ILDA format files under ilda\cue directory. 【list】Play the list cues, corresponding to ILDA format files under ilda\list\001~999\ directory	cue
【File Index】	The cues being played, 001~999。 Under play mode 【cue】, corresponding to 001.ild~999.ild under ilda\cue directory. Under play mode【list】， corresponding to files under ilda\list\001~999\ directory	001
【End Action】	【list】 After the file is played to the end, replay from the beginning. 【off】 After the file is played to the end, turn off the laser output.	list
【Exit】	Exit the current menu and return to the upper menu.	

1.6 ZLDA setup

Menu	Description	Default
【Play Mode】	【cue】Play the single cue, corresponding to ZLDA format files under ilda\cue directory. 【list】Play the list cues, corresponding to ZLDA format files under ilda\list\001~999\ directory.	cue
【File Index】	The cues being played, 001~999。 Under play mode【cue】, corresponding to 001.ild~999.ild under zlda\cue directory. Under play mode【list】， corresponding to files under zlda\list\001~999\ directory	001
【End Action】	【list】 After the file is played to the end, replay from the beginning.	list

	【off】 After the file is played to the end, turn off the laser output.	
【Exit】	Exit the current menu and return to the upper menu.	

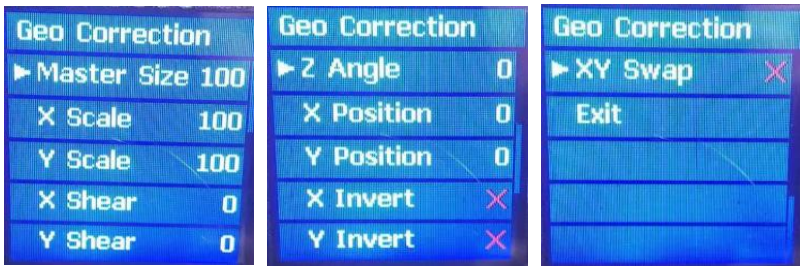
1.7 TEST setup

Menu	Description	Default
【Output】	Turn on and off the laser output	×
【File Index】	The cues being played, 001~999, corresponding to 001.zld~999.zld under test\ directory	001
【Master Size】	0~100%	50
【Brightness】	0~100%	100
【Exit】	Exit the current menu and return to the upper menu.	

1.8 Master setting

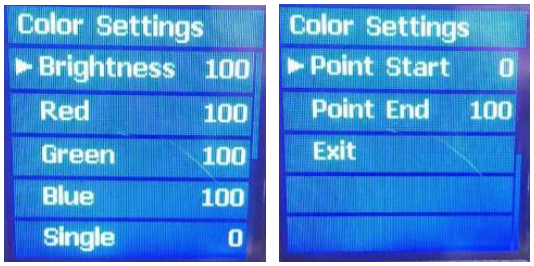
Menu	Description	Default
【Scan Rate】	Number of points per second of the laser output, unit: K, range: 5~40K.	20
【Color Shift】	The number of points that color lag coordinates, unit: point, range: 0~15	0
【Rescan】	After the playing source is disconnected, the duration before the program is closed, unit: millisecond, range: 100~999ms	999
【Each Play T】	The minimum time each program plays, unit: second, range: 1~20s	2
【TurnOffTime】	After no operation on the interface, the time of turning off,unit: second, range: 5~60s, 60s indicates that the screen is always on	30
【Animate Mode】	1——play via point, 2——play via frame	1
【Animate Rate】	Valid for play via point, 1: full rate, 2: 1/2 rate, 3: 1/3 rate	1
【Targer FPS】	Valid for play via frame, frames played per second, unit: frame, range: 1~40	10
【Exit】	Exit the current menu and return to the upper menu.	

1.9 Geo Correction



Menu	Description	Default
【Master Size】	0~100%	50
【X Scale】	0~100%	100
【Y Scale】	0~100%	100
【X Shear】	-100~100%	0
【Y shear】	-100~100%	0
【Z Angle】	0~359	0
【X Position】	-100~100%	0
【Y Position】	-100~100%	0
【X Invert】	0|1	×
【Y Invert】	0|1	×
【XY Swap】	0|1	×
【Exit】	Exit the current menu and return to the upper menu.	

1.10 Color setting



Menu	Description	Default
【Brightness】	0~100%	100
【Red】	0~100%	100
【Green】	0~100%	100
【Blue】	0~100%	100
【Point Start】	0~100%	0
【Point End】	0~100%	100
【Exit】	Exit the current menu and return to the upper menu.	

1.11 Device Info

Menu	Description	Default
【Firmware】	X.XX indicates the major version. subversion	——
【Date(YM)】	XX.XX indicates the firmware year. month	——
【Reset Param】	Parameters are restored to factory Settings	
【Upgrade】	Click to upgrade firmware	
【Exit】	Exit the current menu and return to the upper menu.	

5. DMX512 Operation

2.1 V3 version

16 channel list（base 255）：

Channel	Value		Description		Width
1	0-255	DMX Mode	0-31	light off	8 Bit
			33-95	the former 4 channels	
			97-159	the former 8 channels	
			161-232	the former 12 channels	
			225-255	the former 16 channels	
2	0-255	Page Index (total 9 pages)	0-15	page 1	8 Bit
			17-31	page 2	
			33-47	page 3	
			49-63	page 4	
			65-79	page 5	
			81-95	page 6	
			97-111	page 7	
			113-127	page 8	
			129-255	page 9	
3	0-255	Cue Index (total 48 cues)	0-32	light off	8 Bit
			33-35	cue 1	
			37-39	cue 2	
			.. - ..	..	
			221-223	cue 48	
			225-255	——	

4	0-255	Rate	0-15 17-31 33-255	default rate pause 25% ~ 200%	8 Bit
5	0-255	brightness	0% ~ 100%		8 Bit
6	0-255	Size	0% ~ 100%		8 Bit
7	0-255	X scale	-100% ~ 100%		8 Bit
8	0-255	Y scale	-100% ~ 100%		8 Bit
9	0-255	Z angle	0~360 degrees		8 Bit
10	0-255	X position	0 = left, 128 = middle, 255 = right		8 Bit
11	0-255	Y position	0 = top, 128 = middle, 255 = bottom		8 Bit
12	0-255	points visible	0 ~ 100%		8 Bit
13	0-255	scan rate	0-31 33-223 225-255	default scan rate 6K ~ 29K 30K	8 Bit
14	0-255	reserved			8 Bit
15	0-255	color list	0-31 33-223 225-255	original color color list white	8 Bit
16	0-255	reserved	Reserved		8 Bit

2.2 V4 version

The 39 channel mode is as follows:

1. Put GS888 in Setup Mode (please note there is a two-second delay before the "Set Mode" is initialized). Now limit the area where the laser may be projected.

2. Put GS888 in Play Mode for actual performance, with ability to play programs.

During Set Mode, channel 14 - 39 will ignore DMX/ART-NET changes.

During Play Mode, channel 2 - 13 will ignore DMX/ART-NET changes.

(bass 255)

Channel	Value		Description		Width
1	0-255	play mode	0-150 150-190 200-240 240-255	light off setup mode play mode light off	8 Bit
2	0-255	max brightness	set the max brightness (0 ~ 100%)		8 Bit
3	0--255	test graphic	(1= test cue 1, 255 = test 255)		8 Bit
4,5	0-65535	X scale	set the max width (-100 ~ 100%, 0 = 32768)		16 Bit
6,7	0-65535	Y scale	set the max height (-100 ~ 100%, 0 = 32768)		16 Bit
8,9	0-65535	X position	set the horizontal position (-100 ~ 100%, 0 = 32768)		16 Bit
10,11	0-65535	Y position	set the vertical position (-100 ~ 100%, 0 = 32768)		16 Bit
12,13	0-65535	Z angle	set the rotation angle (0~ 360°)		16 Bit
14	0-255	page index	1 = page 1, ... 255 = page 255		8 Bit
15	0-255	cue index	1 = cue 1, ... 255 = cue 255		8 Bit

16	0-255 play rate	(0 = original rate, 1 – 255 = 1% ~ 255%)	8 Bit
17	0-255 brightness	(0 ~ 100%)	8 Bit
18,19	0-65535 size	(0 ~ 100%)	16 Bit
20,21	0-65535 X scale	(-100 ~ 100%, 0 = 32768)	16 Bit
22,23	0-65535 Y scale	(-100 ~ 100%, 0 = 32768)	16 Bit
24,25	0-65535 Z angle	rotation angle(0~ 360°)	16 Bit
26,27	0-65535 Z rotation	rotation rate -60 ~ 60 Rpm (0 = initial position, 1 ~ 32767 = -100% ~ -1% rotation rate, 32768 = stay still without rotation, 32769 ~ 65535 = 1% ~ 100% rotation rate)	
28,29	0-65535 X position	(-100 ~ 100%, 0 = 32768)	16 Bit
30,31	0-65535 Y position	(-100 ~ 100%, 0 = 32768)	16 Bit
32	0-255 scan rate	(5k ~ 30K)	8 Bit
33	0-255 red brightness	(0 ~ 100%)	8 Bit
34	0-255 green brightness	(0 ~ 100%)	8 Bit
35	0-255 blue brightness	(0 ~ 100%)	8 Bit
36	0-255 RGB change color	(0 = initial color, 1-255 = 0 ~ 100% change color)	8 Bit
37	0-255 initial display point	(0 ~ 100%)	8 Bit
38	0-255 end display point	(0 ~ 100%)	8 Bit
39	0-255 strobe	0 = strobe off 1-255 = 1 to 20 Hz	8 Bit

2.3 26 channel list (base 255)

Channel	Value	Description	Width
1	0-255 page index	0~3 light off 4~7 page 1 8~11 page 2 12~15 page 3 …… 252~255 page 63	8 Bit
2	0-255 file index	0~3 light off 4~7 cue 1 8~11 cue 2 12~15 cue 3 …… 252~255 cue 63	8 Bit
3	0-255 play rate	(0 = original rate, 1 – 255 = 1% ~ 255%)	8 Bit
4	0-255 brightness	(0 ~ 100%)	8 Bit
5,6	0-65535 size	(0 ~ 100%)	16 Bit
7,8	0-65535 X scale	(-100 ~ 100%, 0 = 32768)	16 Bit
9,10	0-65535 Y scale	(-100 ~ 100%, 0 = 32768)	16 Bit
11,12	0-65535 Z angle	rotation angle (0~ 360°)	16 Bit

13,14	0-65535	Z rotation	rotation rate -60 ~ 60 Rpm (0 = initial position, 1 ~ 32767 = -100% ~ -1% rotation rate, 32768 = stay still without rotation, 32769 ~ 65535 = 1% ~ 100% rotation rate)	
15,16	0-65535	X position	(-100 ~ 100%, 0 = 32768)	16 Bit
17,18	0-65535	Y position	(-100 ~ 100%, 0 = 32768)	16 Bit
19	0-255	scan rate	(5k ~ 30K)	8 Bit
20	0-255	red brightness	(0 ~ 100%)	8 Bit
21	0-255	green brightness	(0 ~ 100%)	8 Bit
22	0-255	blue brightness	(0 ~ 100%)	8 Bit
23	0-255	RGB change color	(0 = initial color, 1-255 = 0 ~ 100% change color)	8 Bit
24	0-255	initial display point	(0 ~ 100%)	8 Bit
25	0-255	end display point	(0 ~ 100%)	8 Bit
26	0-255	strobe	0 = strobe off 1-255 = 1 to 20 Hz	8 Bit

6. TF card files structure

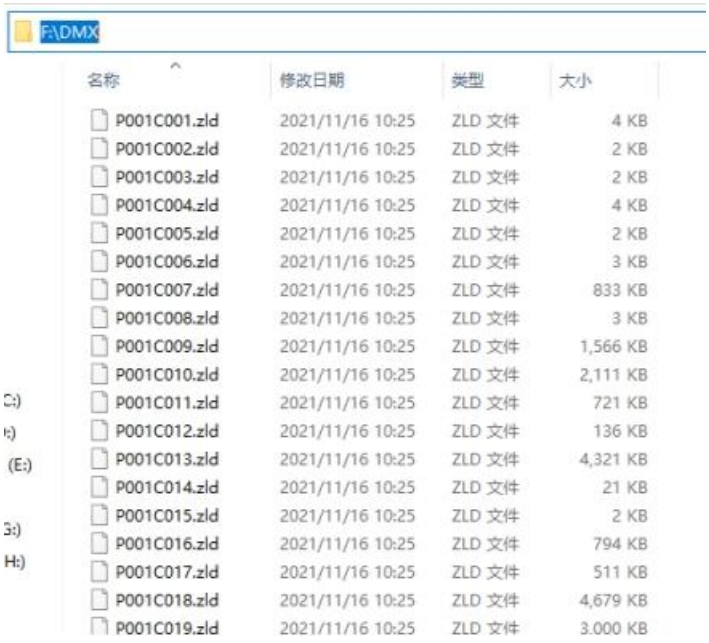
3.1 DMX file structure

DMX plays the files under DMX\ directory, the file names are included in P001C001.zld~P255C255.zld. P=Page, C=Cue.

Using DMX 16 channel command Page index and Cue Index corresponding P001C001.zld~P009C048.zld, total 9*48=432 files are supported.

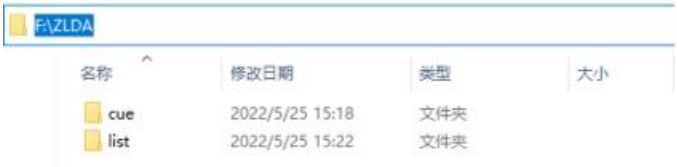
Using DMX 39 channel command Page index and Cue Index corresponding P001C001.zld~P255C255.zld, total 255*255=65025 files are supported.

During DMX playing, if the files corresponding to Pages and Cues are not found, the laser output will be off.



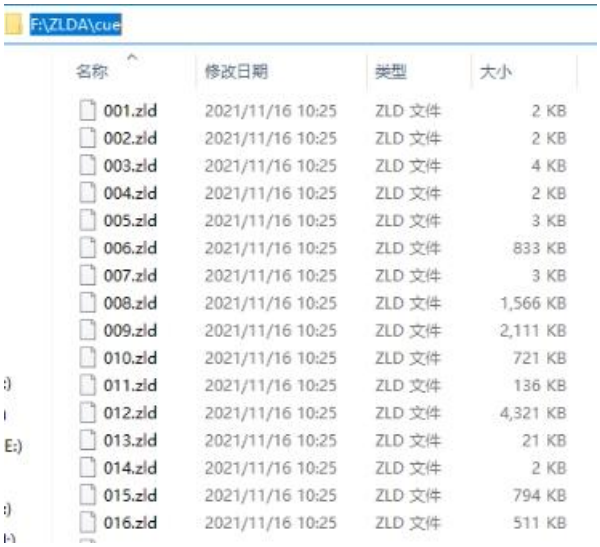
3.2 ZLDA file structure

ZLDA play has two types, one is 【cue】, the other is 【list】, corresponding to zlda\cue\ and zlda\list\ directories respectively.



1. Cue mode

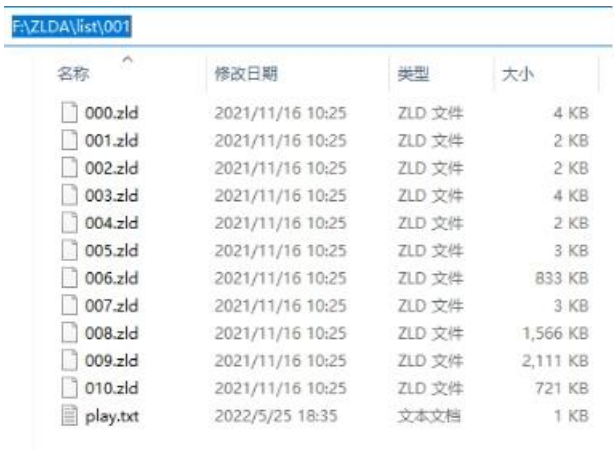
Under zlda\cue\ directory, file name 001.zld~999.zld, corresponding to the menu 【current file]】, total 999 files are supported. During ZLDA cue mode playing, if the corresponding files are not found, the laser output will be off.



1. List mode

Under zlda\list\ directory, total 999 (001~999) directories can be built, each directory as a list, file name corresponds to menu of 【current file]】 selected.

Under zlda\list\001 directory, file names 001.zld~999.zld, A play.txt file is needed to indicate the order of playing.



The content of play.txt is as below, quantity and order of files can be customized. Files can also be reused. Each file name is required to occupy one line, no other content except 001~999 file names.

During ZLDA list mode playing, if the corresponding files are not found, the laser output will be off.

3.3 ILDA file structure

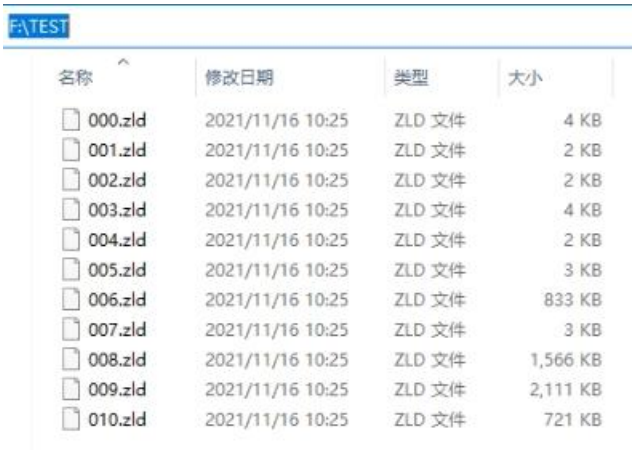
Similar to ZLDA mode，only the file format is *.ild。

3.4 TEST file structure

Under test\ directory, file name 001.zld~999.zld, corresponding to the menu 【current file]】, total 999 files are supported. Some files only for test can be put under this directory.

During Test mode playing, if the corresponding files are not found, the laser output

will be off.



4.1 Upgrade via TF card

1. Prepare file

Put the upgrade file to the root directory of the TF card, the file name is ZQS05******.zqb. The file name prefix ZQS05 and extension.zqb are mandatory, otherwise the device can not identify the file.

2. Upgrade device

Insert the TF card, start the device, find Upgrade in the device information menu, and click to enter the upgrade interface. If the firmware is invalid, the upgrade interface can not be entered

Before upgrade, confirm the version information carefully and click OK. Do not have the power off during the upgrade. Otherwise the firmware will be lost.

7. Safety Instructions

For safety reasons, please follow the following instructions:

- Do not disassemble or alter the product.
- Do not drop flammable liquids, water and metals into the product.

Avoid using the unit in the following situations：

- The relative humidity is too high.
- oscillation or collision environment.

Attention：

- If you encounter serious difficulties in use, please stop immediately, and inquire agents or manufacturers for inspection.
- Do not disassemble the product, there are no repair parts inside.
- Please request inspection by qualified personnel.

8. Warranty

We offer 2-year warranty and lifetime maintenance service. Within 2 years, any damage caused by the product's own quality issues can be repaired for free. 2 years later, material cost will be charged for the maintenance or replacement of parts.

The software included in the products can be upgraded and function improved for free in future.

The following product damages or other reasons not caused by our product itself are not covered by our company's free repair service:

1. Wrong installation.
2. Voltage not matched.
3. Not following the user manual and make wrong operation.
4. Any repair or modification not authorized by our company.
5. The product lacks necessary maintenance.
6. The required working environment was not provided.
7. Product damage caused by the user's secondary transportation

8. System failures caused by viruses or other software which is not offered by our company's etc..
9. Force majeure factors such as natural disasters (lightning strikes, earthquakes, tsunamis, floods, etc.) and unexpected situations
10. The power supply for the product must be effectively grounded.