SPECIFICATIONS

Product Name: USB Signal Tower / Body Unit

Model: LR6-3USB□-RYG／LR6-USB□

PATLITE Corporation

1. General Specifications

Model			LR6-☐USB☐
Rated Voltage			5V DC (USB Bus Power)
Operating Voltage Range			Rated Voltage ±5%(Compliant with USB 2.0 standard)
Rated Current Consumption	Max.		500mA
Operating Ambient Temperature			-20℃ - +50℃
Operating Ambient Humidity			90% RH or less (No Condensation)
Storage Ambient Temperature			-30℃ - +60℃
Storage Ambient Humidity			90% RH or less (No Condensation)
Mounting Location			Indoor Only
Mounting Direction			Upright
Protection Rating			IP 65 (IEC 60529) / NEMA TYPE 4X,13
	Environmental Condition		Upright
Supported LED Unit(Optional)			LR6-E-☐ (☐=R,Y,G,B,C), LR6-E-☐Z (☐=R,Y,G,B), LR6-E-MZ
LED Unit Control			Light On, Pattern On(4 Types)
Buzzer	Operation		Sound On, Sound Pattern(4 Types)
	Frequency		13 Types
	Sound Pressure		Typ. 80dB (Sound Reduction: Approximately -10dB)
		Environmental Condition	Front direction from the Buzzer Aperture, at 1m Buzzer Frequency: 2349.3Hz
Mass(Tolerance:±10%)			LR6-USB☐ : 140g LR6-3USB☐-RYG : 320g
Outer Dimensions			Refer to the Outer Dimension Drawing
Communication Method			USB2.0 Full Speed
Software Library(DLL) Supported OS			Windows 7, Windows 8(Excludes Windows 8 RT), Windows 8.1(Excludes Windows 8 RT), Windows 10
Conformity Standards			UL 60950-1 ,CAN/CSA C22.2 No. UL60950-1-07 FCC Part 15 Subpart B Class B ICES-003 EMC Directive (EN 61000-6-3, EN 61000-6-2, EN55032 ClassB, EN55035) KC (KN 61000-6-2 /6-4) RoHS Directive (EN IEC 63000)
Operation Unit			Volume Switch x1 (Sound Pressure: High/Low 2 Levels)
Accessories			Flanged Nut(M4) x3, Cable Tie x1
Option	Wallmount Bracket		SZK-003☐
	Pole Bracket		SZP-004☐
	Aluminum Pole		POLE-☐00A21K, POLE-☐00A21,
	Pole Mounting Base		SZ-016A, SZ-010
	L Bracket		Incompatible
	Mounting Bracket		SZW-002W
Limitations			Units other than the corresponding LED unit can not be connected.
			You cannot connect more than one LED unit(LR6-E-☐,LR6-E-☐Z) of the same color.
			When you use LR6-E-MZ,you cannnot connect any other units.
			When you use LR6-E-MZ,there are two types of LED light patterns.
Remark			CE Marking UL/cUL Listed

2. Model

2.1. Model Number Configuration

・USB Signal Tower

LR6 - 3USB□ - RYG

Size

6	φ60

Signal Tower Tiers

3	3 tiers USB Signal Tower

Body Color

W	Off-White
K	Black

*K type is an international model.

LED Unit Color

R	Red
Y	Amber
G	Green

From top to bottom

・Body Unit

LR6 - USB□

Size

6	φ60

Body Color

W	Off-White
K	Black

*K type is an international model.

2.2. Model Number List

LR6-3USBW-RYG	LR6-USBW
LR6-3USBK-RYG	LR6-USBK

3. Function Specification

3.1 Function overview

USB Comunication Function	A function for connecting and communicating with the host PC via USB cable. Use software library (DLL).	—
LED Unit Control Function	A function for the host PC to control the LED Unit via USB Control Items: Light on / Light off/ Pattern on	Refer to 3.2.1
Buzzer Function	A function for the host PC to sound the buzzer built into the body unit via USB communication. Control Items: Buzzer on / Buzzer off/ Sound Pattern	Refer to 3.2.2
Buzzer Volume Change Function	A function for changing the buzzer volume via switch on the body unit. ・Change Levels：2 Levels (H：High Volume／L：Low Volume) ・Initial Value：H	-

3.2. Function Detail

3.2.1. LED Unit Control Function

LED Unit Control	Light On(On)	Turns the LED Unit on, and keeps it on.
	Light Off(Off)	Turns off the LED Unit.This is the initial state after the body unit is started.
	Pattern On	Specify one of four types of LED patterns to illuminate the LED Unit. Operation of LED patterns for one cycle is shown in the following timing charts.
	LED Pattern 1	ON (250msec) **OFF (250msec)** ON (250msec) **OFF (250msec)**
	LED Pattern 2	ON (500msec) **OFF (500msec)**
	LED Pattern 3	ON (80msec) **OFF (170msec)** ON (80msec) **OFF (670msec)**
	LED Pattern 4	ON (100msec) **OFF (400msec)** ON (100msec) **OFF (400msec)**
	Pattern On *When using LR6-E-MZ	Specify one of two types of LED patterns to illuminate the LED Unit. Operation of LED patterns for one cycle is shown in the following timing charts.
	LED Pattern 1	**OFF (100msec)** ON (150msec) **OFF (350msec)** ON (150msec) **OFF (250msec)**
	LED Pattern 2	**OFF (100msec)** ON (400msec) **OFF (500msec)**

3.2.2. Buzzer Function

Buzzer Control	Sound On	From 13 different sound pitches, select one for Sound A to emit the buzzer. ・For the buzzer, select from continuous operation or operate for a specified number of times(1 to 15). Operating one time lasts one second.
	Sound Off	Stop the buzzer. This is the initial state after the body unit is started.
	Sound Pattern	Specify one of four types of buzzer patterns for the buzzer. ・Configure the buzzer pattern by selecting two sounds(for Sound A and Sound B) from 13 different sound pitches. ・For the sound pattern, select from fontinuous operqation or operate for a specified number of times(1 to 15). Operating one time is one cycle charts. Operation of buzzer patterns for one cycle is shown in the following timing charts.
	Buzzer Pattern 1	Sound A (250msec) Sound B (250msec) Sound A (250msec) Sound B (250msec)
	Buzzer Pattern 2	Sound A (500msec) Sound B (500msec)
	Buzzer Pattern 3	Sound A (80msec) Sound B (170msec) Sound A (80msec) Sound B (670msec)
	Buzzer Pattern 4	Sound A (100msec) Sound B (400msec) Sound A (100msec) Sound B (400msec)
Select Pitch （Sound A, Sound B）		

Pitch	Frequency（Ref. Value）	Scale	Frequency（Ref. Value）
（Stop）	－	E♭7	2489.0Hz
A6	1760.0Hz	E7	2637.0Hz
B♭6	1864.7Hz	F7	2793.8Hz
B6	1975.5Hz	G♭7	2960.0Hz
C7	2093.0Hz	G7	3136.0Hz
D♭7	2217.5Hz	A♭7	3322.4Hz
D7	2349.3Hz	A7	3520.0Hz

[Handling Precaution]

◆About handling this product

・This product (including software) is shipped only after undergoing strict quality controls and inspections. However, should you encounter any issues, please contact your PATLITE sales representative.

・This product (software is included) is for the use of general office work, home and for personal use, it has been developed, designed and manufactured for general applications, such as for industry, and it is not designed for applications which demands high safety requirements, such as equipment or systems used in connection directly, or indirectly, with human life.Understand prior to use, that no responsibility is taken at our company for damages or other disadvantages, due to customers using this product beyond the scope of its general application, or from any claims from third parties.When using this product for applications in which equipment of higher reliability than the general application demands, such as a computer system, etc., use suitable safety design countermeasures against system failure, etc.

・The suitability of this product in the system, with other machines and equipment, shall be tested and confirmed by the customer. We assume no responsibility regarding this. Design safety into the system to cope with misoperation, misuse, going offline, and other unforeseen operation of this product.

・We bear no responsibility for damages, lost opportunities, lost profits, compensation for accidents, or other costs including but not limited to personnel, construction, transportation, and shipping costs, related to using this product. We bear no responsibility for defects in other products, regardless of the other product's connection to this product (such as a communication line), or for the cost of repairing damages, losses, defects, or recovering lost data related to using the other products, including but not limited to personnel, construction, transportation, and shipping costs.

・To improve the functionality in the software for this product, we will update the software at our own discretion. We bear no responsibility for the results of software updates, such as damages, lost opportunities, lost profits, compensation for accidents, or other costs including but not limited to personnel, construction, transportation, and shipping costs, related to using this product. We bear no responsibility for defects in other products, regardless of the other product's connection to this product (such as a communication line), or for the cost of repairing damages, losses, defects, or recovering lost data related to using other products, including but not limited to personnel, construction, transportation, and shipping costs.

・Note the following statements regarding the software for this product, which require prior written consent from PATLITE:
＊Do not duplicate the software for this product.
＊Do not alter, combine, reverse-engineer, decompile, or disassemble the software for this product.
＊Do not license, rent, or resell the software for this product to a third party.
＊Do not store the software of this product on a network so it can be transmitted to a third party.
＊Do not remove the copyright notice or other trademark and company rights attached to the software for this product.

◆Things you should always do for your safety

・Avoid spilling liquids (such as water or chemicals) into this product. Avoid dropping foreign metallic objects (such as copper wire) into this product. Failure to follow these instructions could result in electric shock or equipment damage.

・Do not drop or hit this product. Failure to follow these instructions could result in electric shock or equipment damage.

・Do not apply too much force to switches and buttons on this product. Failure to follow this instruction could result in equipment damage.

◆Installation

・Turn off the power when wiring, inspecting, or repairing this product. Failure to follow this instruction could result in equipment damage.

・Do not install in locations near fire, or environments with high temperature and humidity. Do not install this product where corrosive or flammable gas is present.

・Do not install on an unstable surface. Failure to follow these instructions could result in injury or equipment damage.

・This product is rated for indoor use only. Please install and use this product indoors only.

・Avoid the following locations for installation of this product.
＊Places exposed to direct sunlight.
＊Places near fire or environments with high temperatures and humidity.
＊Environments where temperature changes are severe, and where there is condensation.
＊Environments with poor breathability and ventilation.
＊Places where external vibrations are directly transmitted to this product.
＊Environments where corrosive gas is present.
＊Locations exposed to salty sea air.
＊Locations near strong magnetic fields.
＊Environments where there is dust, iron powder, and so on.
＊Environments where chemicals and oil mist are present.

◆About maintenance

・Do not clean this product with volatile chemicals such as benzine or thinners, or with chemical wiping cloths as it could damage the product.

・Please clean this product with a soft, dry cloth.

・If the dry cloth is unable to clean off any dirt and grime, wipe the product firmly with a slightly water-moistened cloth.

指定外公差 General tolerance	角度公差 Angular tolerance ±[°]						寸法公差 Dimensional tolerance ±[mm]					
	短辺長さ Length of short side		~10	~50	~100	100~		~6	~30	~120	~300	~1000
							精	f	0.05	0.1	0.2	0.4	0.6
	精	f	1	0.5	0.3	0.1	中	m	0.1	0.3	0.5	0.7	1
	粗	v	3	1.5	1	0.5	粗	c	0.3	0.5	1	1.2	2

図番 Drawing No. LR6-USBW-W18

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改訂 Rev.	年 月 日 Date	改 訂 履 歴 Revisions
F		

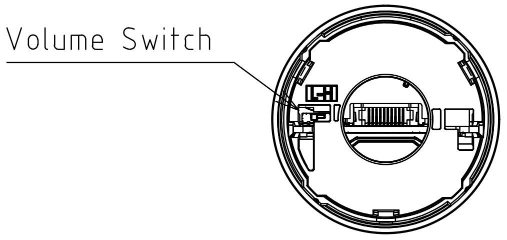
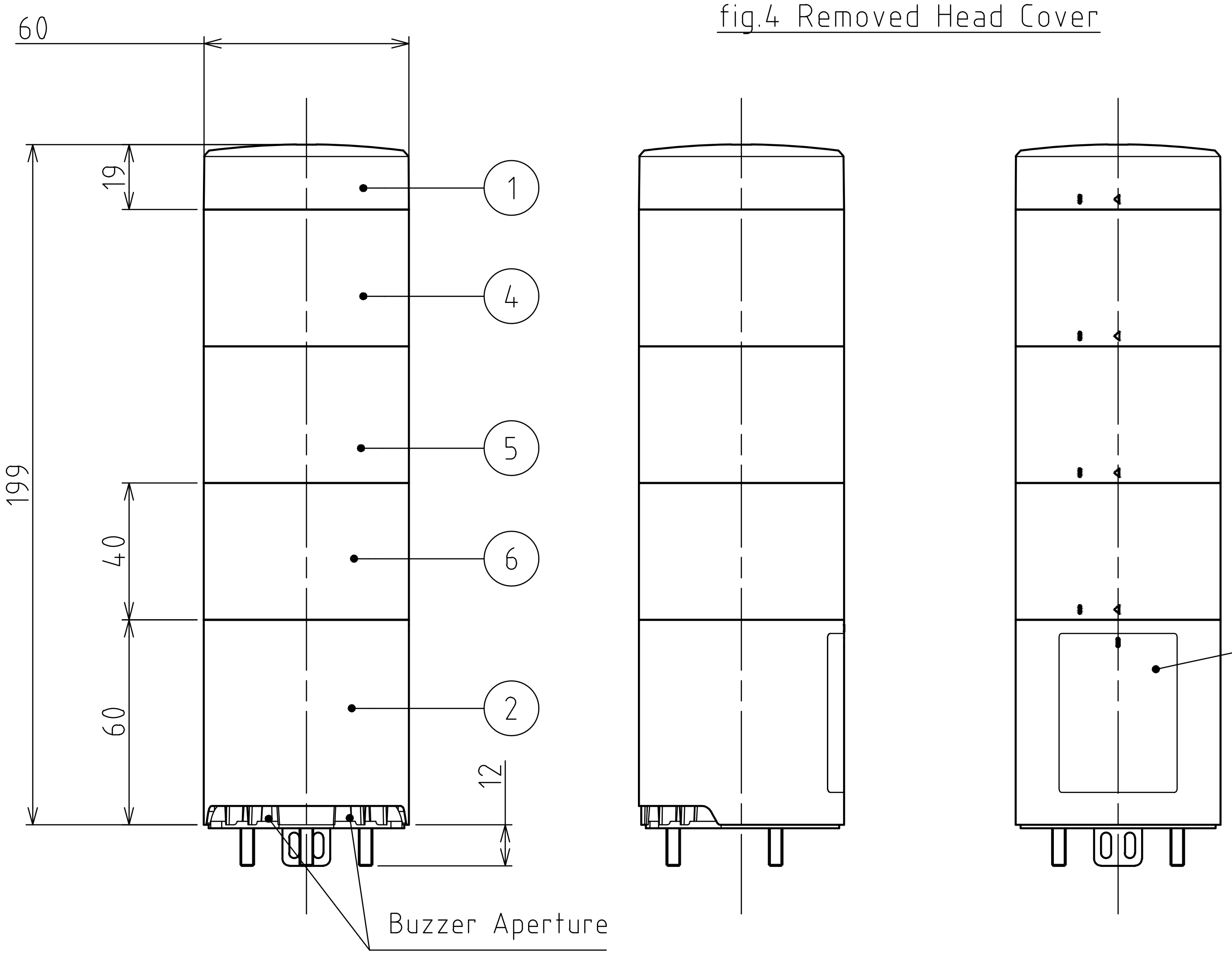

Volume Switch

fig.4 Removed Head Cover


60
199
19
40
60
12
1
4
5
6
2
Buzzer Aperture
Nameplate

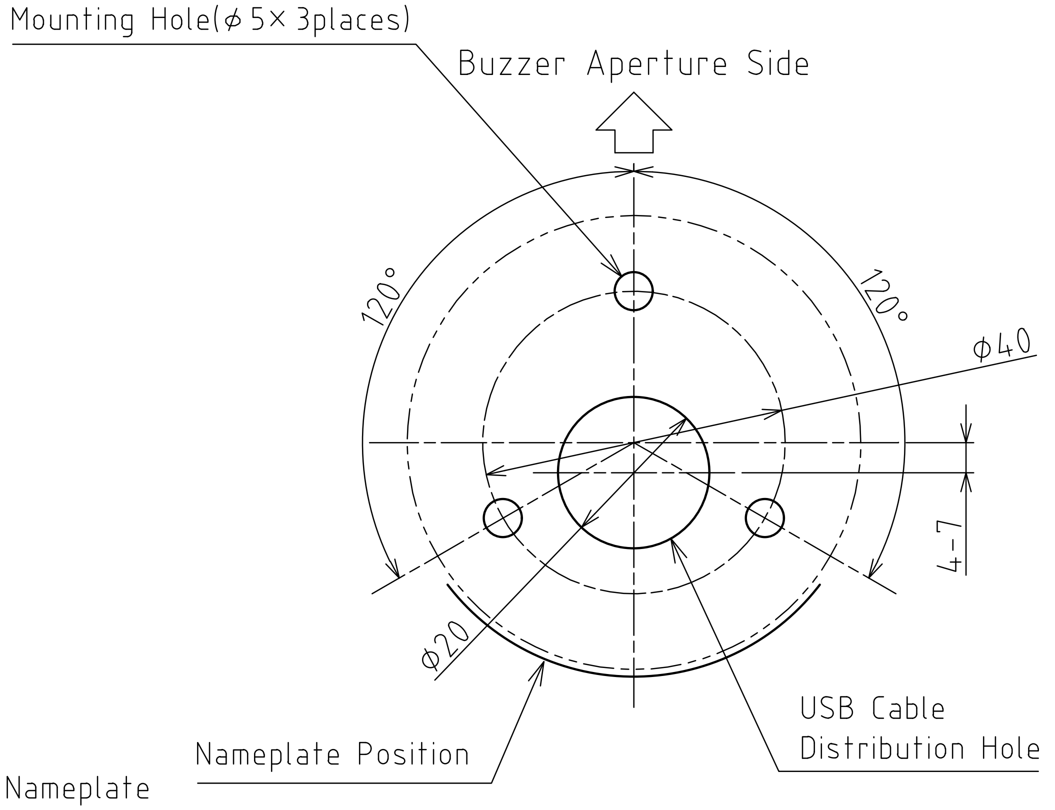

Mounting Hole(φ5× 3places)
Buzzer Aperture Side
120°
120°
φ40
4-7
φ20
Nameplate Position
USB Cable Distribution Hole

fig.2 Mounting Dimensional Drawing

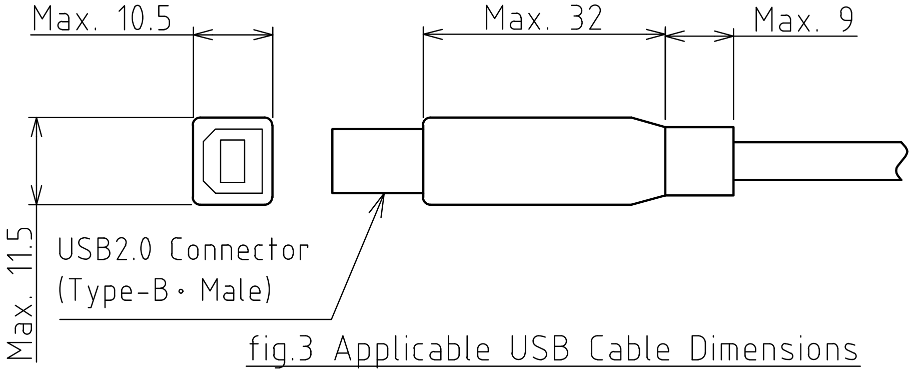
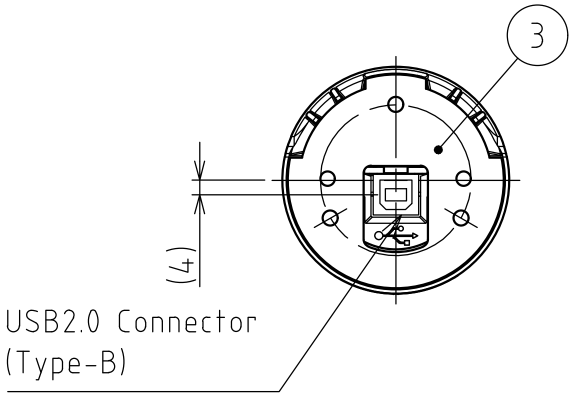

Max. 10.5
Max. 32
Max. 9
Max. 11.5
USB2.0 Connector (Type-B・Male)

fig.3 Applicable USB Cable Dimensions


3
(4)
USB2.0 Connector (Type-B)

[Note]

1.Maximum Board Thickness: 7mm

番号 No.	部品名 Part Name	数量 Qty.	記事 Remarks
6	LED Unit(Green)	1	PC
5	LED Unit(Amber)	1	PC
4	LED Unit(Red)	1	PC
3	Waterproof Packing	1	Foamed Urethane
2	Bracket	1	PC
1	Head Cover	1	PC

機種 Model	LR6-3USB□-RYG	特注No. S.P.No.	-	図名 Name	Outer Dimensions Drawing
品目コード Part No.	-	尺度 Scale	-	三角法 3rd Angle P.	単位 Unit mm

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LED unit Qty	L [mm]
0	79
1	119
2	159
3	199
4	239
5	279

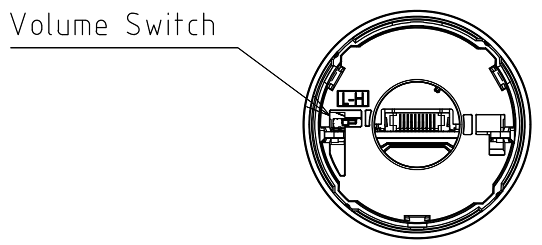
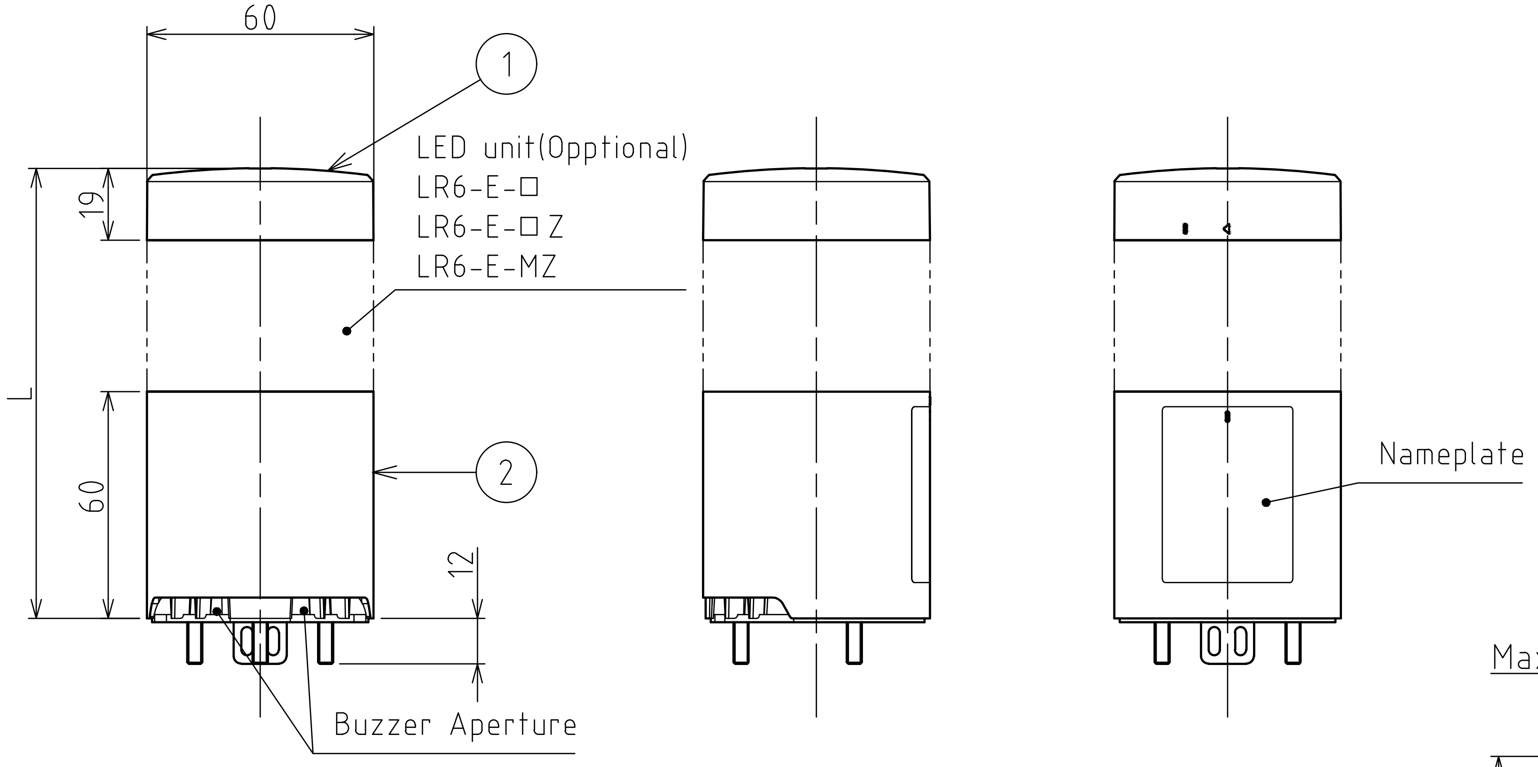
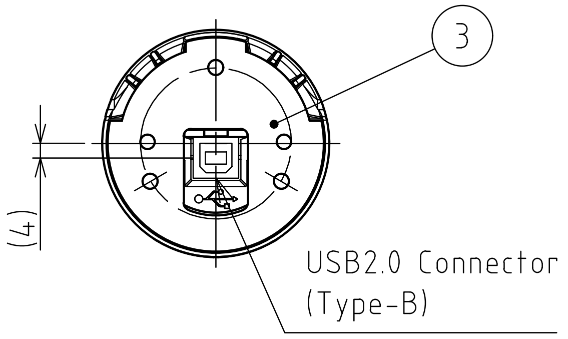

Volume Switch

fig.4 Removed Head Cover


60
①
LED unit(Opptional)
LR6-E-□
LR6-E-□Z
LR6-E-MZ
19
L
60
②
12
Buzzer Aperture
Nameplate


③
(4)
USB2.0 Connector
(Type-B)

[Note]
1.Maximum Board Thickness：7mm

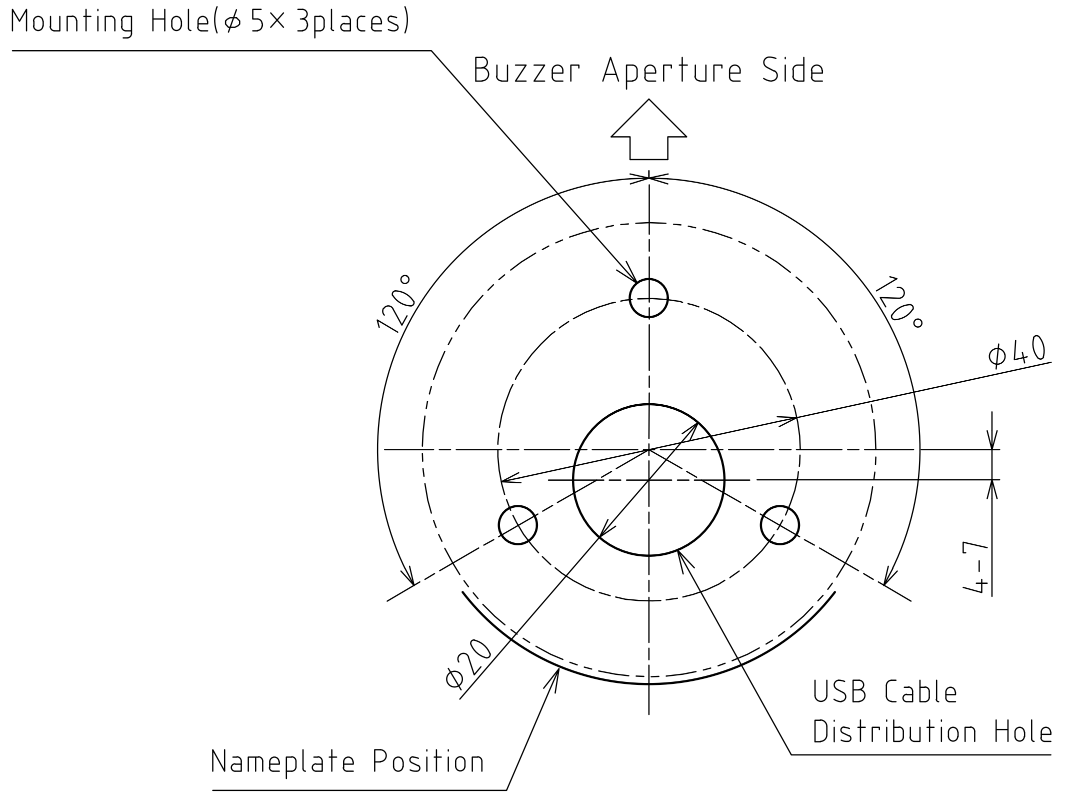

Mounting Hole(ϕ5× 3places)
Buzzer Aperture Side
120°
120°
ϕ40
ϕ20
4-7
USB Cable
Distribution Hole
Nameplate Position

fig.2 Mounting Dimensional Drawing

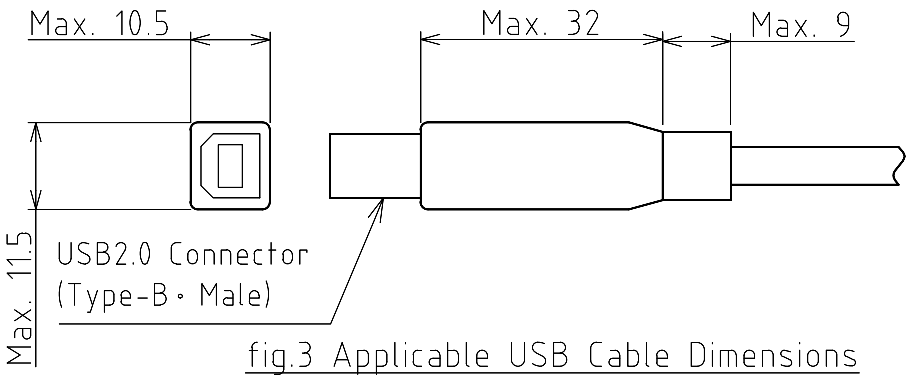

Max. 10.5
Max. 32
Max. 9
Max. 11.5
USB2.0 Connector
(Type-B・Male)

fig.3 Applicable USB Cable Dimensions

指定外公差 General tolerance	角度公差 Angular tolerance ±[°]				
短辺長さ Length of short side		~10	~50	~100	100~
精	f	1	0.5	0.3	0.1
粗	v	3	1.5	1	0.5

寸法公差 Dimensional tolerance ±[mm]						
		~6	~30	~120	~300	~1000
精	f	0.05	0.1	0.2	0.4	0.6
中	m	0.1	0.3	0.5	0.7	1
粗	c	0.3	0.5	1	1.2	2

図番 Drawing No.
LR6-USBW-W18

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改訂 Rev.	年月日 Date	改訂履歴 Revisions
F		

番号 No.	部品名 Part Name	数量 Qty.	記事 Remarks
3	Waterproof Packing	1	Foamed Urethane
2	Bracket	1	PC
1	Head Cover	1	PC

機種 Model	LR6-USB□	特注No. S.P.No.	-	図名 Name	Outer Dimensions Drawing
品目コード Part No.	-	尺度 Scale	-	三角法 3rd Angle P.	単位 Unit mm

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Ver.2.0