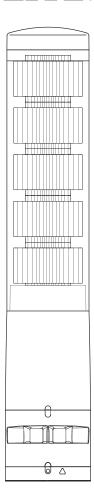
### PATLITE®



Thank you very much for purchasing our PATLITE product.

### Notice to Customer

- Request the installation and wiring be performed by a professional contractor if construction work is involved.
- Prior to installation, read this manual thoroughly before using this product to ensure correct use.
- Visit our homepage (http://www.patlite.com/) and download the "Complete Operation Manual" to find more about the operating method and features.
- After reviewing this manual, if there are any questions regarding this product, please contact the nearest PATLITE office listed on the back cover of this manual.

#### Notice to Contractor

- •Read this manual carefully prior to installation.
- •Be sure to return this manual to the customer.

# Signal Tower TYPE L A 6

## INSTRUCTION MANUAL [Maintenance Version]

Installation Operation Maintenance

		Page
1	Safety Precautions	18
2	Model Number Configuration	19
3	Part Names and Outer Appearance	20
4	How to Install	22
5	Wiring	24
6	Setup Data Transmission Method	28
7	How to use the "Multi-function" Button	28
8	Troubleshooting	29
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### Safety Precautions

### Safety Precautions

### **Warning** Failure to observe the following may result in death or serious injury.





To prevent from short-circuits or damage, observe the following:

- Be sure the signal tower is disconnected from the power supply before wiring or performing repair work.
- Use the signal tower in a properly maintained condition. (If parts such as the base or outer cover lens are cracked, they should be repaired.)





To ensure safety when this product is installed onto equipment, observe the following.

- Do not Use the signal tower as leverage when climbing up onto the equipment. Failure to comply will result in falling from a high place, or damage to the product.
- When performing tasks such as opening the covers of the equipment, be careful not to snag anything on the signal tower. Failure to comply will result in product damage.



Request the installation and wiring be performed by a professional contractor if construction work is

Failure to comply may result in fire. electric shock or falling from high places may occur.

### **Caution**

#### Failure to comply with the following points may result in injury, physical loss or damage.



Avoid long exposure to the alarm sound from a close distance. Failure to observe this may lead from irritation to permanent damage to the



(B Flashing/Alarm Type)



To maintain the dust and waterproof performance for this product, observe the following:

- Keep the Head Cover attached at all times
- Ensure the USB Cover is closed at all times.



By all means, do not apply voltage to the external lead for tiers. Failure to comply may result in **product** damage.

( A 100V - 240V AC Type)



Do not connect power to the external lead

Failure to comply may result in product damage.

( A 100V - 240V AC Type)



Do not remove parts beyond those designed to be removed from this product. Failure to comply may result in product damage.

(Refer to 3 Part Names and Outer Appearance (P. 20) for parts which can be removed)

#### **Notice**



To ensure proper safety while using the signal tower, observe the following:

- Perform periodic pre-maintenance.
- As a precaution against problems occurring, use this product together with other equipment.



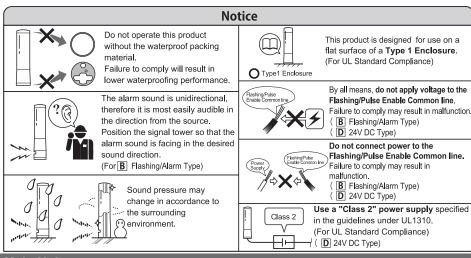
Be sure to discharge any static electricity from the body before handling static sensitive parts of this product.

(To prevent damage from static electricity, touch hands or other body parts to metals or an earth ground to discharge the body from static charge.)

To ensure safety when this product is installed onto equipment, observe the following.



- Do not modify or disassemble this product.
- Use only the specified replacement parts listed in this manual.



#### **Main Unit**

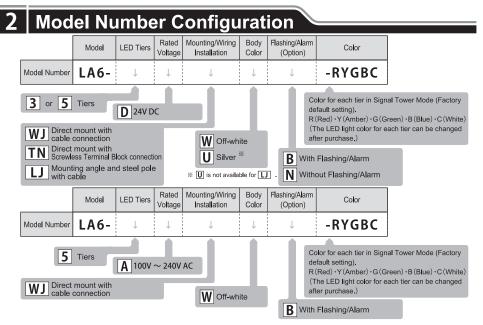
This product is a multipurpose signal tower, designed principally for giving notifications of the operating status for FA (Factory Automation) equipment in factories, etc., using LEDs and alarms\*.

★ [B]Flashing/Alarm Type
This product operates the same as the conventional Signal Tower in its "Signal Tower mode", in addition to new functions called the "Smart Mode".

In its "Smart Mode", a diverse display of a pattern flow is used, and when prepared beforehand, all the LEDs can be used to display a bar graph, etc.

#### **Instruction Manual Objective**

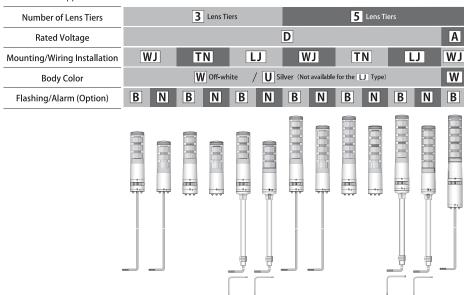
- The images in this manual may vary in comparison to the actual product and are only for the purpose of illustration.
- Store this manual in a location for future reference.
- Visit our homepage (http://www.patlite.com/) and download the "Complete Operation Manual" to find more about the operating method and features.



### 3 Part Names and Outer Appearance

### **Outer Appearance List**

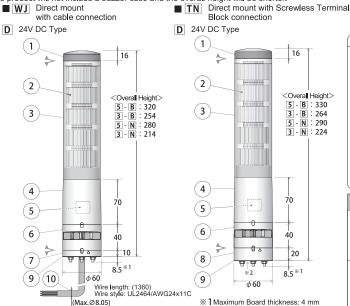
The full product appearance is indicated according to its model number. Refer to the model numbers as a reference to its appearance.



### Part Names and Outer Appearance

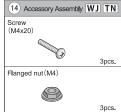
Each figure contains 5-lens tiers 5 , with flashing/alarm B functions.

For 3-lens tiers  $\boxed{3}$ , the overall height will be shorter. Also, for specifications not including the flashing/alarm  $\boxed{\mathbb{N}}$  functions, the product will not include a buzzer case and the overall height will be shorter.

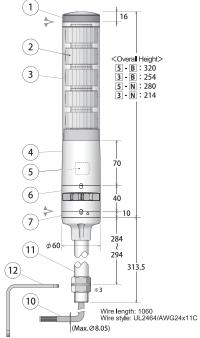




(Unit:mm)

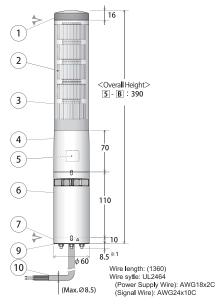


- LJ Steel pole with mounting angle and cable
- D 24V DC Type



**※3** Maximum Board Thickness: 16 mm

- WJ Direct mount with cable connection(LA6-5A)
- **A** 100V 240V AC Type



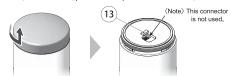
**%1 Maximun Board thickness 4mm** 

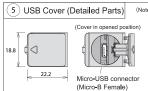
Number	Name	Material	Number	Name	Material
1	Head Cover	ABS	8	Terminal Block Bracket	ABS
2	Lens	PMMA	9	Waterproof Packing	Urethane Foam
3	Outer Lens	PC	10	Cable	PVC
4	Body	ABS	11	Pole	Steel Pipe
5	USB Cover	ABS	12	Mounting Angle	Steel Plate
6	Buzzer Case	ABS	13	Multi-function Button	ABS
7	Direct-mount Bracket	ABS	14	Accessory Assembly	Steel

(upper portion of bracket) which can be removed. Do not disassemble any parts other than the parts indicated above.

#### (13) Multi-function Button (Remove Head Cover)

Remove the head cover by turning it to the left to release it from the locked position. (To re-assemble, perform the steps in the reverse order.)





- (Note) To open the USB Cover, insert a minus driver (blade-edge width of 3 mm, thickness of 0.5 mm or less) in the indented part and lightly pry it open. (Use an object made of ceramic to avoid scratching or damaging the
  - Body.) Ensure the USB Cover is closed at all times. If not securely closed, its waterproof performance will decrease.

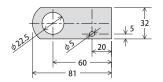
### Part Names and Outer Appearance (Mounting Angle)

The following are the dimensions for the mounting angle attachment.

Top View

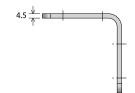
(Unit: mm)

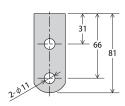




Side View

Rear View





### **How to Install**

### 



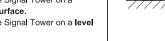
The following requirements are necessary for proper installation.

- Install the Signal Tower where excessive vibration is not present.
- Install the Signal Tower on a sturdy surface.
- Install the Signal Tower on a level surface.



Use a soft cloth, etc., dampened with water to wipe the Lens and Body.

(Do not use cleaners containing chemicals such as those indicated below.)





- Thinner - Benzine - Gasoline - Oil

Only install the Signal Tower in an upright or inverted position.











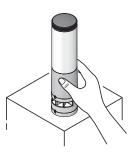
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. ( **D** 24V DC Type)

Do not remove parts beyond those designed to be removed from this product. (Refer to 3 "Part Names and Outer Appearance" (P. 20) for parts which can be removed)

This product must not be used in residential areas. (Conformity requirements for CE Marking.) ( **D** 24V DC Type)

### **General Installation**

Verify the signal tower installation position.

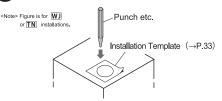


#### Point

Use the following tips to check the installation position:

- Will it obstruct other equipment?
- Can the wiring be routed properly?
- Is there space available to open and close the USB cover?
- Where is the alarm direction ( with B Flashing/Alarm) facing?

2 Mark holes for wiring and installation.



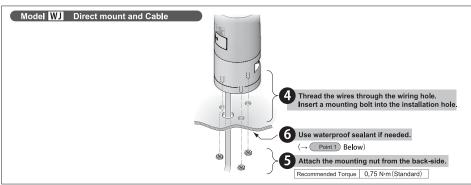
Use the installation template located on Pg. 33 and a punch, etc. to mark the places to make the holes.

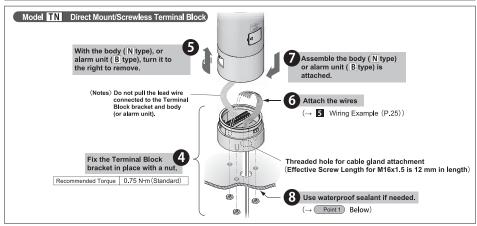
Make holes for wiring and installation

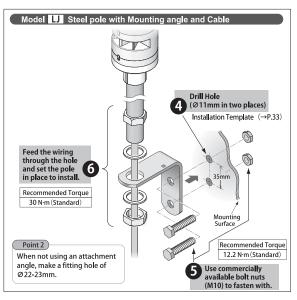


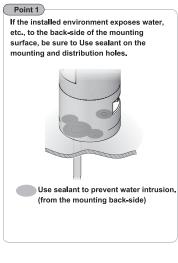
Use a drill, etc., to make holes for installation and wiring.

To continue from procedure ①, refer to the model type (WJ), (TN), (LJ) for their mounting and wiring installation.









### 5 | Wiring

### 🛕 Warning



Be sure the **power is disconnected** before replacement or repair. Failure to comply will result in damage due to **short-circuiting**.



Ensure the proper working voltage is used and that direct current or alternating current is properly applied.
Failure to comply may result in

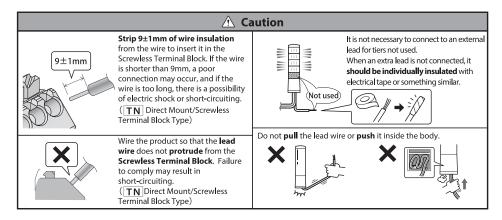
damage.



When transferring data via USB connection, **do not allow** the supply voltage from this product to contact with the personal computer, or it's peripheral devices.

Failure to comply will result in product damage due to combustion or fire.

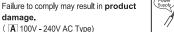
 For example, in cases where you ground + terminal of the power source supplied to a product (plus grounding), FG (housing) of the personal computer which makes USB connection with this product should not be grounded, and please make.



#### Caution



By all means, do not apply voltage to the external lead for tiers.





Do not connect power to the external lead for tiers.

Failure to comply may result in product damage.

( A 100V - 240V AC Type)

Do not control the flashing display by switching the power source ON and OFF for the A type. Possible cause of failure may occur.

#### **Notice**

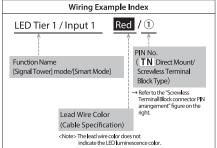


If wiring is extended beyond its factory length, a relevance in the length of the wire and wire gauge will cause a voltage drop.

#### Wiring Example

The wiring example indicates how to connect to external contacts for every classification.

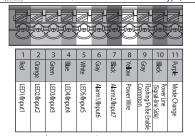
If there are any special applications that require asking questions concerning this product, feel free to contact your PATLITE Sales Representative.



#### ■ Alarm Sound Pattern (Factory Default)

Alarm 1	Alarm Sound No. 1
Alarm 2	Alarm Sound No. 2
Alarm 1 and Alarm 2 Entered Simultaneously	Alarm Sound No. 9

Screwless Terminal Block Connector PIN Arrangement (TN Direct Mount/Screwless Terminal Block Type)



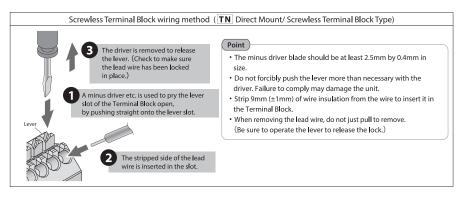
■ Recommended lead wire specifications

Wire Type	Wire Gauge (Solid Wire)	Wire Gauge (Frayed Wire)
UL1007 / UL1430	0.5~1.5mm²	AWG20∼16

Temperature rating should be above 75°C, and the conductor material should be of copper wire.

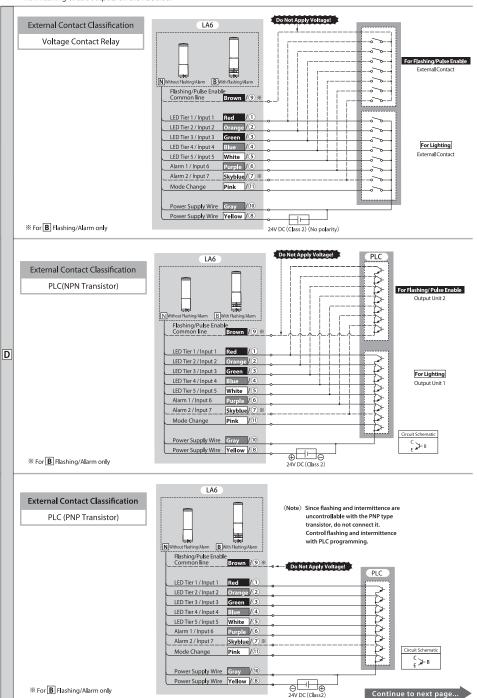
About Mode Switch-over

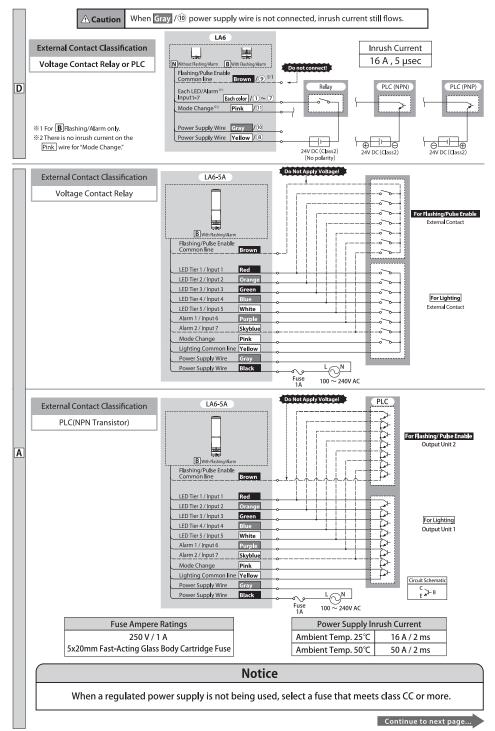
When entering the "Mode Change", the operating mode can be changed to the "Smart Mode." In the "Smart Mode", various lighting and alarm patterns can be arranged. Visit our homepage (http://www.patlite.com/) and download the "Complete Operation Manual" for further details.



When an extra lead wire is not connected, it should be individually insulated with electrical tape or something similar.

(Note) When lighting and flashing are used together in the "Signal Tower" mode with a PLC, it is necessary to separate the flashing and non-flashing circuit outputs on the PLC side.





Signal Contact Capacity							
Current Capacity	100 mA or more						
Withstand Voltage	DC 35 V or more						
Leakage Current	0.1 mA or less						
ON Voltage (V <sub>sat</sub> )	1 V or less						

### 6 | Setup Data Transmission Method

### **A** Warning

Power Suppl

when transferring data via USB connection, **do not allow** the supply voltage from this product to contact with the personal computer, or it's peripheral devices.

Failure to comply will result in product damage due to combustion or fire.

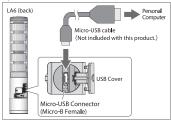
For example, in cases where you ground + terminal of the power source supplied to a product (plus
grounding), FG (housing) of the personal computer which makes USB connection with this product
should not be grounded, and please make.

This chapter explains the application of the "Smart Mode." It is necessary to create a set pattern data beforehand. For more detailed explanation on the creation and setup data for patterns, refer to the help section in the software for creation of setup data.

- \*\* To find out about the software for creation of setup data, visit our homepage (http://www.patlite.com) for further details.
- ■Preparation ..... This product
  - Personal Computer with the software for creation of setup data installed (Windows\* 7 / 8 / 8.1 / 10)
  - Micro-USB Cable (USB A-Male to USB Micro-B Male)

Note > The Micro-USB cable should be able to charge batteries and transmit data. (The Micro-USB cable is not included with this product.)

- ■Transfer Procedure
  - Change the product to the standby mode (all signal inputs are off).
    (The power supply input can either be ON or OFF, whichever is easier.)
  - 2 Open the USB Cover on the product. (Right figure)
  - 3 A micro-USB Cable is connected to a personal computer and the product. (Right figure)
  - 4 Click the "Transfer" button in the software for creation of setup data.
  - When data transfer is completed, a "Transfer was completed" message will be displayed.
  - Remove the Micro-USB cable and close the USB Cover on the product. (Ensure the USB Cover is closed.)



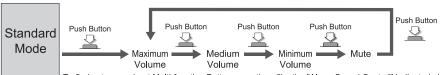
Point

If the product's power supply is on, the Multi-function Button in the software for pattern creation data can be clicked to test the setup data operation.

### 7 How to use the "Multi-function Button"

The product contains a Multi-function Button (Refer to 3 Part Names and Outer Appearance (P. 20)) under the Head Cover in the upper section, which can be operated as follows:

- Alarm Sound Control ..... Adjustable up to four steps.
- LED Color Change ..... The luminescence color of each tier can be changed.
- Version Confirmation ..... The current version of the product can be checked.
- Product Initialization ...... The memory contents of the product can be cleared and returned to factory default values. (Returns to the Signal Tower setup mode. The alarm sound pattern and the "Smart Mode" setup data have not changed.)
- Multi-function Button Operation for Alarm Sound Control



To find out more about Multi-function Button operations like the "Alarm Sound Control" indicated above, visit our homepage (http://www.patlite.com/) and download the "Complete Operation Manual" for further details.

### 8 Troubleshooting

If a problem occurs, check the following table to remedy the problem before calling for service.

No.	Problem	Where to Check	Inspection Repair	
1	The LED does not	Is the electric wiring connected correctly?	Refer to " 5 Wiring" on pgs. 24, 25 to verify wiring is correct.	
	light up.	Is the power properly supplying the correct voltage?	Check the Rated Voltage.	
2	A different LED tier from what I thought lights up when I		Refer to "5 Wiring" on pgs. 24, 25 to verify wiring is correct.	
	make it turn on.	Is the setup data correct?	Check that the contents of the setup data is correct.	
		Is the electric wiring connected correctly?	Refer to "5 Wiring" on pgs. 24, 25 to verify wiring is correct.	
3	The alarm does not sound.	Is the power properly supplying the correct voltage?	Check the Rated Voltage.	
3		Check that the product type has a alarm included or not.	Only products with B added to the part number include the alarm function.	
		Is the setup data correct?	Check that the contents of the setup data is correct.	
4	The alarm volume is too low.	Is the alarm volume set to minimum?	Refer to "  How to use the Multi-function Button" on pg. 28 to adjust the volume.	
	too low.	Is the setup data correct?	Check that the contents of the setup data is correct.	
		Is the electric wiring connected correctly?	Refer to "5 Wiring" on pgs. 24, 25 to verify wiring is correct.	
5	The LED does not flash.	Are the external contacts for lighting turning on?	Priority is given to the lighting input over the flashing input when simultaneous signals are applied.	
	ilasii.	Check that the product type has a alarm included or not.	Only products with $\boxed{B}$ added to the part number include the alarm function.	
		Is the setup data correct?	Check that the contents of the setup data is correct.	

If the problem is not solved, even after the above-mentioned symptoms were checked, fill out the "Product Specification Details for Inquiry" before contacting your nearest Patlite Sales Representative or our Technical Support.

<Product Specification Details for Inquiry>

Product Name	Signal Tower	Purchase Date	Year/Month/Day	
Model	(→ 2 Model Number Configuration" (P. 19))	Problem Symptoms	Describe as much detail as possible	

### Specifications

Mod					LA6	-0000		. Model N	lumber C	onfiguration")			
Rated V			24V DC						100 ~ 240V AC (50Hz/60Hz)				
Operating Voltage Range			±10% of Rated Voltage						90 ~ 250V AC (50Hz/60Hz)				
Rated Power	r	Тур.		5D□□N-RY 5-3D□□N-F		5W 3.5W	LA6-5D B-I		6.5W 4.5W	LA6-5AWJWB-RYGBC	6.5W		
Consumption		Max.		5D		7W 4.5W	LA6-5D B-		8W 5.5W	LA6-5AWJWB-YYYYY	7.5W		
Environmen				Alarm Sound No.1 at Maximum Volume									
Signal Wire		t				Max. 7				Max. 20mA			
Standby						Max. 1:	5mA						
Standby			Max. 0.6W										
Operating Ambie			-25°C ∼ +60°C										
Operating Amb Storage Ambien			Less than 90% (No Dew or Condensation)										
Storage Ambie			-25°C ~+60°C										
Mounting			Less than 90% (No Dew or Condensation) Indoor Only										
Mounting	Location	1	-	Uprigh	\+					Inverted			
Mounting l	Directio	n		Upright Horizontal					il verted				
Protection	n Rating		<b>†</b>			IP	65 (Alarm specifica	tion: IP5	4) IEC 605	529			
Environment		ition					Upright In	stallation	1				
Vibration R				Sweep Durability; Amplitude: 0.30mm p-p(10~58.1Hz), Acceleration: 20m/s²(58.1~150Hz) Fixed Pitch Durability; Acceleration: 20m/s²(58.1~150Hz)  LA6-□□WJ□□ Sweep Durability; Amplitude: 0.30mm p-p(10~58.1Hz), Acceleration: 20m/s²(58.1~150Hz)									
VIDIALION	esistanc	e									1· • 130HZ)		
			LAO-	LA6-\(\text{LTN}\)\(\text{T}\)\(\text{Fixed Pitch Durability; Acceleration: } 10m/s^2(58.1~150Hz)									
Environment	tal Cond	ition	JJS C 60068-2-6: 2010 Upright Installation										
Insulation F			<del>                                     </del>		More	than 1M				and the chassis			
Withstand			More than $1M\Omega$ at 500VDC between the terminals and the chassis  500VAC applied for 1 min between terminals and chassis without breaking insulation										
Display			Red (1000mcd); Amber (1700mcd); Green (2600mcd); Blue (1000mcd); White (1250mcd)										
(Typical Lumin		nsitv)	Purple (800mcd); Pink (850mcd); Lemon/Yellow (2150mcd); Cyan (2150mcd)										
Flashing			60±2 Flashes Per Minute										
,									Intermittent at 0.05sec				
			No.3							Intermittent at 0.5sec			
Alarm S	ound		No.5	3600Hz, Co	ontinuo	ous beep :	sound	No.6	3600Hz,	00Hz, Intermittent at 0.05sec			
(Typical Fr	equency	r)	No.7	3600Hz, In				No.8	3600Hz, Intermittent at 0.5sec				
										:&3600Hz, 0.25sec/0.25sec			
			No.11	4000Hz&4	800Hz,	0.5sec/0.							
Sound							Max. 8						
Environment	tal Cond	ition	Alarm Sound No.1 measured from the front direction of the alarm opening at 1m										
Volume (	Control		4-step volume selection from Multi-function Button (Factory Default: Max.)  Max. → -5dB from Max. (APPROX.) → -10dB from Max. (APPROX.) → OFF										
		1116					USB micro-	B Female	:				
Data Transmission	Main		Interface: USB2.0/1.1; Transmission Speed: USB2.0/1.1/1.0										
Interface	Tran	sfer	Micro-USB Cable (Not included), Data Transfer/Charge Cable										
	Ca	ble	<u> </u>		Conn		e: USB Male (Type:						
Data Programming Application Software			Exclusive "EDITOR for LA series" Application Software (Downloadable from Homepage)										
				6-3DTN□B		480g	LA6-5DTN□		590g	LA6-5AWJWB	740g		
Mass (±10%)			6-3DTN□N		420g	LA6-5DTN□I	-	530g					
			6-3DWJ□B		450g	LA6-5DWJ		560g					
			6-3DWJ□N 6-3DLJ□B		400g 980g	LA6-5DWJ□ LA6-5DLJ□E		510g 1090g					
			.6-3DLJ□B		980g 930g	LA6-5DLJ		1090g					
				) 2 NI -					EMC Directive /EN 61000 C 2 F	N 61000 4 31			
Conform!+	Conformity Standards		UL508, CSA-C22.2 No. 14 :EMC Directive (EN 61000-6-4, EN 61000-6-2) EMC Directive (EN 61000-6-2, EN 61000-6-3) FCC Part15 SubpartB Class A : KC (KN 61000-6-4, KN 61000-6-2) Low Voltage Derective (EC/EN 60947-5-1, EN 6247]										
Contormity			RoHS Derective (EN 50581)  RoHS Derective (EN 50581)										
Operating Mode		H KC	ons perectiv	e (EN 3	00301)	: "Signal Tower" me	ode/"Sma	art Mode	NODS Defective (EN :	00301)			
			CE Marking Compliant										
Remarks			UL Recognized Component (File No.£215660), Maximum Surrounding Temperature Rating of 60°C										

### 10 Replacement Parts

The following replacement parts for this product are available for the customer to change or replace.





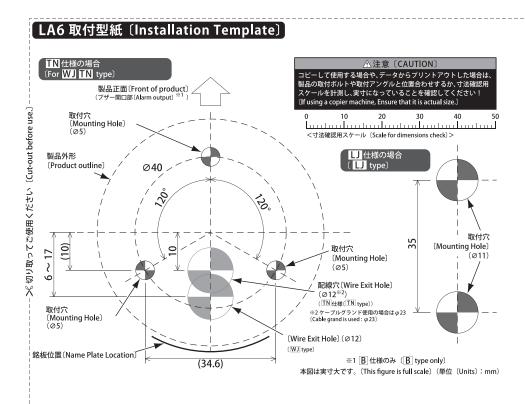












(取付型紙)

書込みなどしないでください。

(Installation template)

Do not write here.

世界中に「安心・安全・楽楽」をお届けする 株式会社パトライ

J2D

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