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LKEH-402FV-W18	I	1/9

# SPECIFICATIONS

Model: LKEH-□□□FV

**PATLITE Corporation**

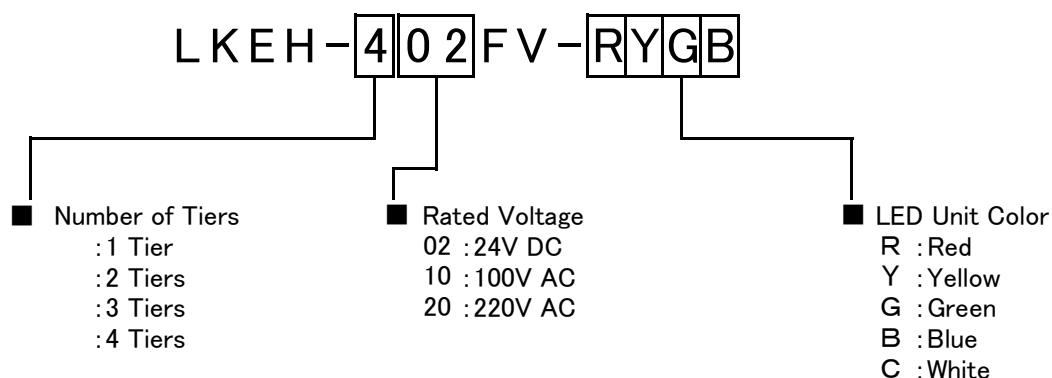
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## 1. Model Number Configuration



## 2. General Specifications

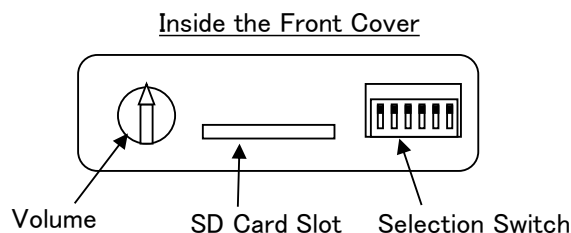
Model	LKEH-□02FV	LKEH-□10FV	LKEH-□20FV
Rated Voltage	24V DC	100V AC 50/60Hz	220V AC 50/60Hz
Operating Voltage Range	24V DC ± 10%	100V AC ± 10%	220V AC ± 10%
Power Consumption	LKEH-102FV: 10.6W	LKEH-110FV: 17.0W	LKEH-120FV: 17.0W
	LKEH-202FV: 12.4W	LKEH-210FV: 20.0W	LKEH-220FV: 20.0W
	LKEH-302FV: 14.2W	LKEH-310FV: 23.0W	LKEH-320FV: 23.0W
	LKEH-402FV: 16.0W	LKEH-410FV: 26.0W	LKEH-420FV: 26.0W
Operating Ambient Temperature	-10°C to 50°C		
Operating Ambient Humidity	Less than 85%RH (No Condensation)		
Mounting Location	Indoors and outdoors		
Mounting Direction	Upright only		
Protection Rating	IP 53		
Environmental Condition	Upright direction only		
Insulation Resistance	More than 1MΩ at 500VDC between the terminals and the chassis		
Withstand Voltage	500V AC for 1 minute	1000V AC for 1 minute	1500V AC for 1 minute
	Between terminal and chassis	Between terminal and chassis	Between terminal and chassis
Vibration Resistance	19.6m/s <sup>2</sup> (30Hz, Back and force 2h·Right and Left 2h·Up and down 4h)		
Mass (Tolerance ±10%)	LKEH-102FV 1.4kg	LKEH-110FV 2.1kg	LKEH-120FV 2.1kg
	LKEH-202FV 1.6kg	LKEH-210FV 2.3kg	LKEH-220FV 2.3kg
	LKEH-302FV 1.8kg	LKEH-310FV 2.5kg	LKEH-320FV 2.5kg
	LKEH-402FV 2.0kg	LKEH-410FV 2.7kg	LKEH-420FV 2.7kg
Comformity Standards	• EMC Directive (EN 55011, EN 610006-2) • RoHS Directive (EN IEC 63000)		
Remarks	• Conforms to the CE Requirements • Conforms to the UKCA Requirements	There are no contents of controlled substances exceeding the threshold for the RoHS Directive.	

### 3.Performance Specifications

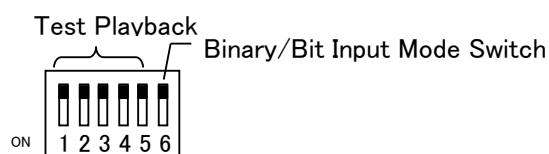
Sound Pressure Level	MAX. 105dB (Adjustable Volume)
Environmental Condition	Product was placed on a 300mm <sup>2</sup> base at a distance of 1 meter from its epicenter and a sine wave of 1kHz was played back * The sound level will vary upon the message and surrounding environment.
Sound Reduction	20dB±2dB (At maximum volume and playback of a 1kHz sine wave)
Light Unit Source	LED
Luminous Intensity	Red(R): 2100mcd or more Amber(Y): 2400mcd or more Green(G): 5200mcd or more Blue(B): 700mcd or more White(C): 5500mcd or more
Flashing Rate	60 fps ±3
Output lines	BUSY+ , BUSY- (ON during voice playback)
Input Interface	Signal Wires: 14 (LED: 5 Wires/Sound: 5 Wires/STOP/Sound Reduction/Flashing Common/Common) Selection Switch, SD Card Slot
Signal Input	Bit Input/Binary Input (Selectable)
Input Pulse Width	Pulse input width 100ms or more
Number of Playback Messages	Bit Input: 5 Channels / Binary Input: 31Channels
Channel Priority	STOP>CH5>CH4>CH3>CH2>CH1 (Only bit input)
Internal Memory Size	504kbyte (Total MP3 Data)/Maximum playback time of 63 sec. (At standard bit rate)
Audio File	MPEG1 Audio Layer III (MP3)
Memory Card	SD card Recommendation: SDV-2GP (Sold separately)
SD Card Format	FAT16
Start-up Time	Power Start-up: 500ms or less / Signal Line Input Delay: 300ms or less (Refer to sect. 3-3)

#### 3-1. Setup Method

The settings for this product can be accessed from the front panel while in its installed condition. The following diagram indicates the accessible functions:

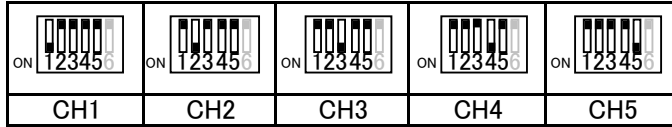


- Sound Volume Adjustment  
It is possible to adjust the sound by the volume control.
- Message Rewriting  
It is possible to use the SD Card to rewrite messages.
- Selection Switch  
It is possible to switch between the 'Test' and 'Input' modes.



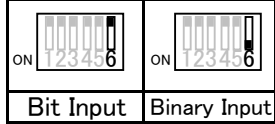
### 3-2. Selection Switch Setting

#### Test Playback



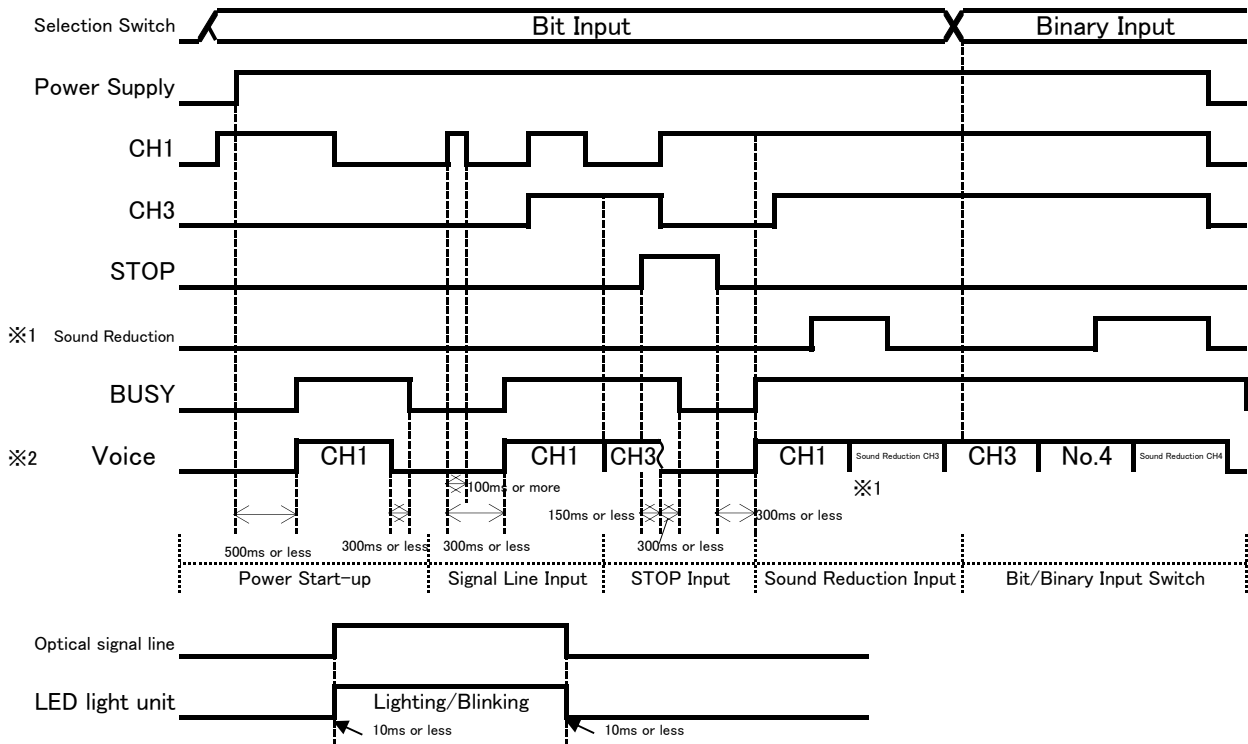
Playback Priority for Test Playback Mode:  
The following indicates when any of the channels are activated simultaneously:  
CH5>CH4>CH3>CH2>CH1

#### Bit/Binary Input Switch



When up to 5 messages are stored:  
Bit input mode  
When 6 or more messages are stored:  
Binary input mode

### 3-3. Input Timing Chart



※1 The playback sound level is reduced while the sound reduction function is activated.

If the sound reduction function is activated during sound playback, the sound level is not reduced until the next playback.

(Refer to 3-4. Sound reduction function)

※2 Once the playback signal is active, no other signal input is accepted until the playback is finished.

### 3-4. Sound Reduction Function

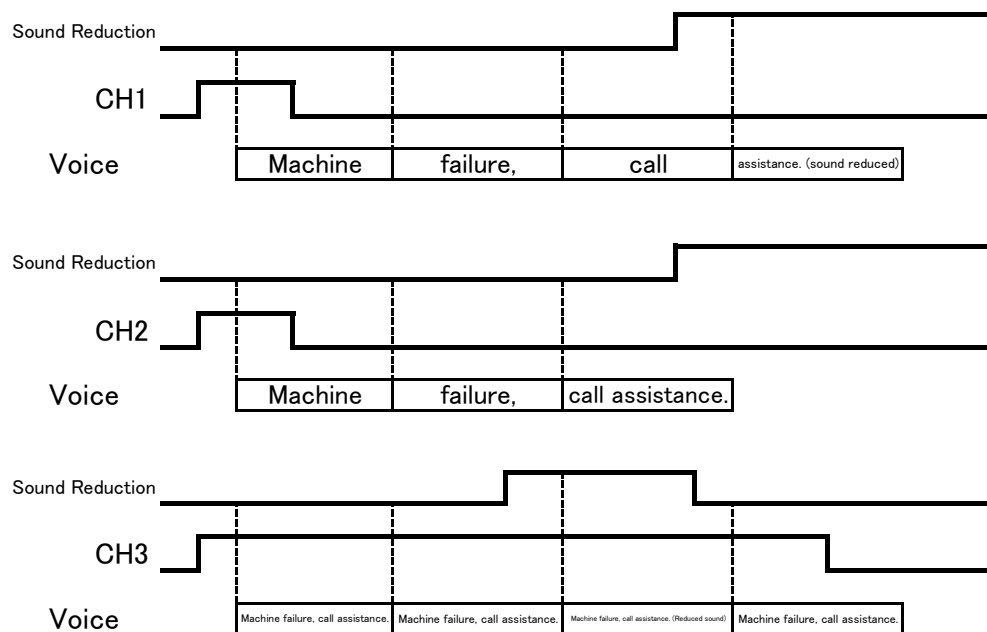
When the common line and the sound reduction signal line are short-circuited, a sound pressure level at voice playing is lowered.

The message can be configured by maximum 16 phrases per 1 channel.

The sound level can be reduced by each phrase with the sound reduction function.

[Example]

	Phrase 1	Phrase 2	Phrase 3	Phrase 4
CH1	Machine	failure,	call	assistance.
CH2	Machine	failure,	call assistance.	
CH3	Machine failure, call assistance.			



### 3-5. Binary Input Mode Table

When setting selection switch 6 to the "ON" position, the binary input mode is activated.

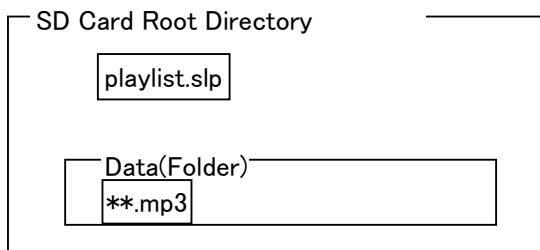
In the binary input mode, short-circuiting the common line to each CH from the table indicated below, the corresponding message is played.

Input CH					Message number	Input CH					Message number
CH1	CH2	CH3	CH4	CH5		CH1	CH2	CH3	CH4	CH5	
<input type="radio"/>					1	<input type="radio"/>				<input type="radio"/>	17
	<input type="radio"/>				2		<input type="radio"/>			<input type="radio"/>	18
<input type="radio"/>	<input type="radio"/>				3	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	19
		<input type="radio"/>			4			<input type="radio"/>		<input type="radio"/>	20
<input type="radio"/>		<input type="radio"/>			5	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	21
	<input type="radio"/>	<input type="radio"/>			6		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	22
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	23
			<input type="radio"/>		8				<input type="radio"/>	<input type="radio"/>	24
<input type="radio"/>			<input type="radio"/>		9	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	25
	<input type="radio"/>		<input type="radio"/>		10		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	26
<input type="radio"/>	<input type="radio"/>		<input type="radio"/>		11	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	27
		<input type="radio"/>	<input type="radio"/>		12			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	28
<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		13	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	29
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		14		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	30
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		15	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	31
				<input type="radio"/>	16						

Indicates a short-circuit between the signal line and common line.

### 3-6. Message Rewriting

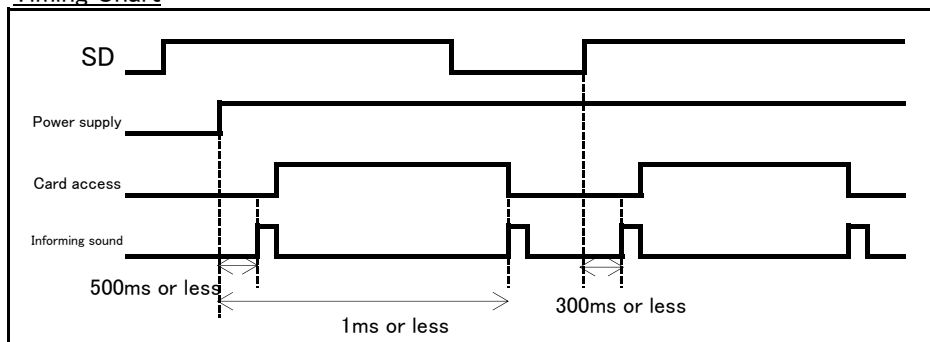
1. Prepare the SD card as shown below:



※The 'playlist.slp' file is generated from the PATLITE playlist editor software.

2. Verify the power to the product is applied.
3. Insert the SD card with the stored data into the card slot.
4. The rewriting starts when a short beep is heard.
5. When the data has finished rewriting, and a long beep is heard, pull the SD card out. Rewriting should be finished within 60 seconds. If there is a continuous beep, or there is no sound, the rewriting procedure was not properly completed. Ensure the volume is at an audible level, or the beeping alarms will not be heard during the rewriting procedure.
6. Play the message to each CH to verify that the rewriting has been properly completed.

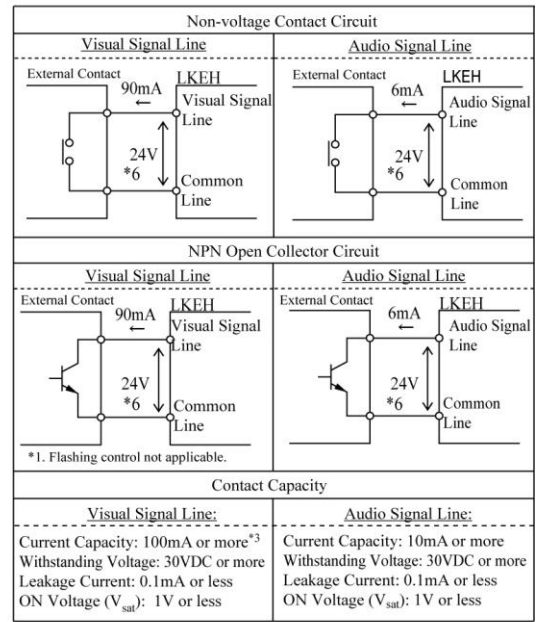
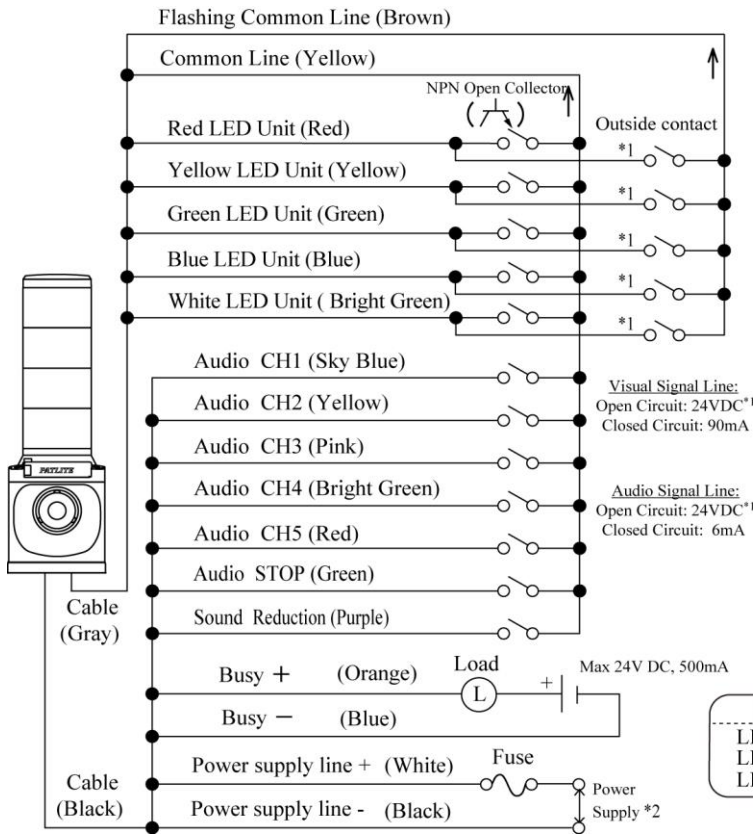
Timing Chart



\* All inputs are ignored during the SD card rewriting procedure.

\* In addition, the SD Card will not be read while signal inputs are activated.

### 3-7. Wiring Method



Model	Rated Voltage	Inrush Current <sup>*4</sup>	Fuse Capacity <sup>*5</sup>
LKEH-□02	24V DC	10A	2A(Fast)
LKEH-□10	100V AC	12A	0.5A(Delay)
LKEH-□20	220V AC	6A	0.5A(Fast)

**\* Do not apply voltage on each signal line. Or else, there is a risk of breaking down the product.**

- \*1. Blinking control is applicable only for the no-voltage contact circuit.
- \*2. Regarding LKEH-□02FV, connect the power supply line (black) at the minus (terminal).
- \*3. Current capacity of the contact per one stack of the LED light units.
- \*4. At the maximum using voltage, and when power supply is switched on.
- \*5. For LKEH-□10FV, use a fuse of the time-lag type. If the normal type is used, there is a risk of melting down by rush current.
- \*6. In case of LKEH-□02FV, this is power supply voltage.



### 4. Dimensions

品名 Part No.	数量 Qty.	部品名 Part Name	品目コード Part No.	数量 Qty.	材料 & 寸法 & 処理 Material & Size & Finish	記号 Remarks
8	1	Horn		1		
7	3	Mounting Screw		3	MFZn M5	
6	1	Headcover		1	PBT/ABS(Light Gray)	
5	1-4	LED Unit		1-4	PC (Red/Amber/Green/Blue/White)	
4	1	Frontcover		1	AES (Light Gray)	
3	1	Bottom plate		1	AES (Light Gray)	
2	1	Basecover		1	AES (Light Gray)	
1	1	Body		1	AES (Light Gray)	

公差 Tolerance	公差 Tolerance	公差 Tolerance	公差 Tolerance	公差 Tolerance	公差 Tolerance	公差 Tolerance	公差 Tolerance
±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1
±0.05	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05
±0.03	±0.03	±0.03	±0.03	±0.03	±0.03	±0.03	±0.03
±0.02	±0.02	±0.02	±0.02	±0.02	±0.02	±0.02	±0.02

Tier	L
1 tier	265.2
2 tiers	325.3
3 tiers	385.4
4 tiers	445.5

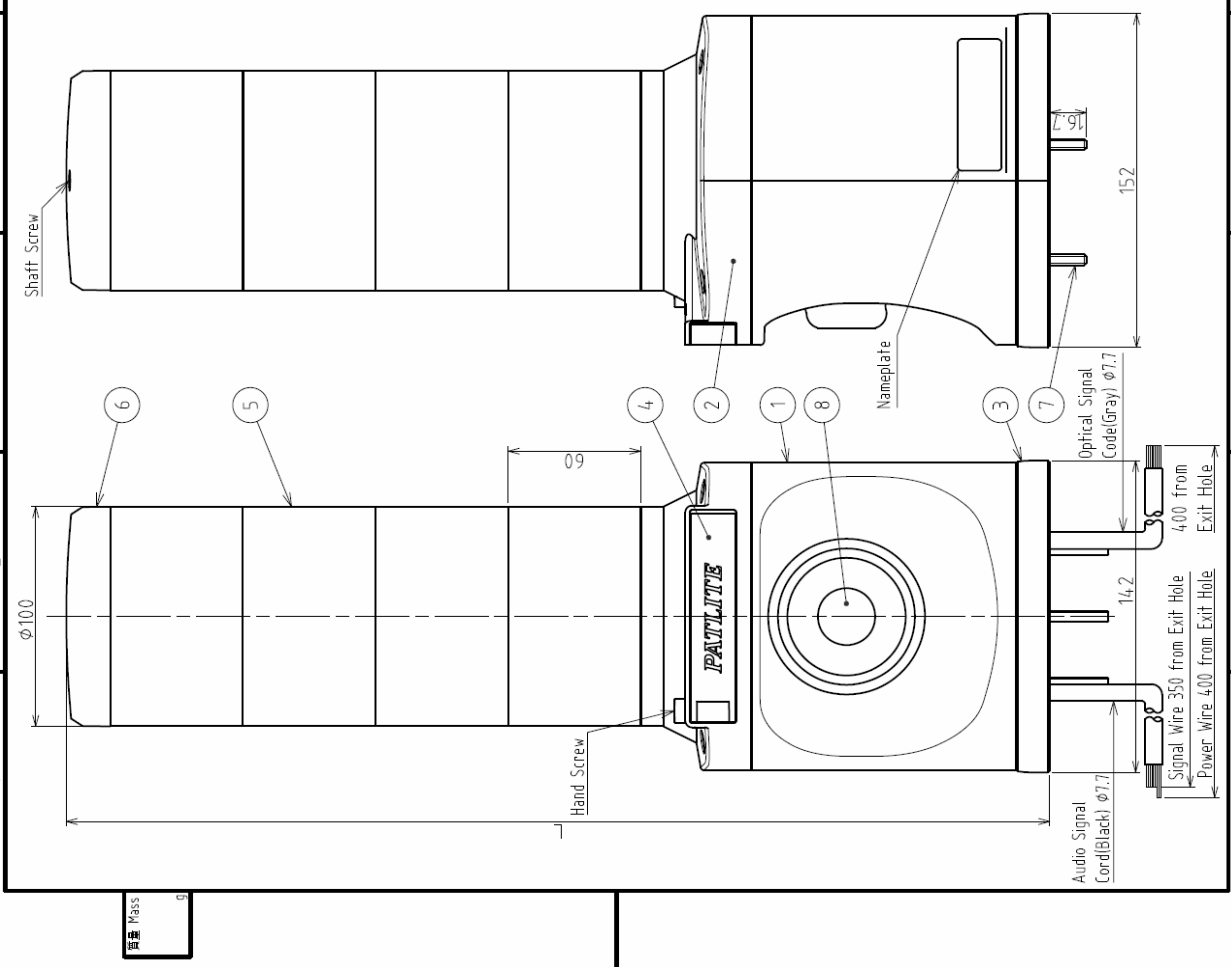
  

M5

Accessories

Front Direction  
Installation Dimensions



質量 Mass