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# SPECIFICATIONS

Product Name: Network Monitor Signal Tower with MP3

Model: NH□-□FV2□-□□□□□

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## 1. General Specifications

Model	5 tiers	NHL-5FV2	NHP-5FV2
	4 tiers	NHL-4FV2	NHP-4FV2
	3 tiers	NHL-3FV2	NHP-3FV2
	2 tiers	NHL-2FV2	NHP-2FV2
	1 tier	NHL-1FV2	NHP-1FV2
Rated Voltage		24VDC (Main Unit)	
AC Adaptor		Input: 100VAC - 240VAC (50/60Hz)    Output: 24VDC	
Operating Voltage Range		Rated Voltage $\pm 10\%$	
Rated Power Consumption	Main Unit	Standby: 2.2W    Maximum: 3.5W    (with AC Adaptor, 100VAC input)	
	LED Unit	1.0W (per Unit)	
Operating Ambient Temperature		0°C - +40°C (No Dew or Condensation)	
Operating Ambient Humidity		20% - +80% RH (No Dew or Condensation)	
Storage Ambient Temperature		-10°C - +60°C (No Dew or Condensation)	
Storage Ambient Humidity		20% - +80% RH (No Dew or Condensation)	
Mounting Location		Indoor Only	
Mounting Direction		Upright	
Protection Rating		IP 20	
Insulation Resistance		More than 10M $\Omega$ at 500VDC between live part and non-current carrying metallic part *1	
Withstand Voltage		1500VAC applied for 1min (10mA or less) between live part and non-current carrying metallic part without breaking insulation *1	
Mass (Tolerance $\pm 10\%$ ) (AC Adaptor not include)	5 tiers	1270g	1085g
	4 tiers	1210g	1050g
	3 tiers	1150g	1015g
	2 tiers	1090g	980g
	1 tier	1030g	945g
Outer Dimensions		Refer to the Outer Dimension Drawing	
Sound Pressure Level		88dB or more	
Environmental Condition		Front direction from the center, at 1m, (1kHz sine wave played back at -6dB) MP3 data of the content and use of the environment, the sound pressure level will change.	
Audio Line Output		600 $\Omega$ 0dBv (Unbalanced, Monaural Mini-Jack)	
Communication Method (LAN)		Ethernet (Conforms to the IEEE 802.3) 10BASE-T / 100BASE-TX (Auto negotiation, Full Duplex / Half Duplex)	
Interface	USB Port	USB2.0 / 1.1 Type-A 1ch (For USB Memory)	
External Contact Output		Non-voltage contact output	
		Number of Contacts 1	
		Contact Capacity (30VDC @ 3A) inrush current 5A or less (5VDC @ 1mA, Minimum, Reference)	
		Wire Diameter Solid Wire / Stranded Wire: $\phi$ 0.41 - 0.81mm (AWG26 - 20)	
		Wiring Method Screwless terminal block	
External Contact Input		Non-voltage contact input NPN Transistor	
		Number of Contacts 4	
		Contact Capacity "ON" output current @ 6mA or less per channel Terminal OFF condition Voltage: 24VDC	
		Wire Diameter Solid Wire / Stranded Wire: $\phi$ 0.41 - 0.81mm (AWG26 - 20)	
		Wiring Method Screwless terminal block	
Operating portion		"Volume", "Reset" Switch, "Clear" Switch, "Mode" Switch, "Test" Switch	
Accessories		AC Adaptor *1, Replacement plug (5 pcs.) *2, Installation Manual, Rubber feet (4pcs.)	
Option		Wall Bracket (NH-WST2), Tint Film (NHL-TF, NHP-TF)	
Remark		*1 : N type excluded *2 : Only W type	

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Conformity Standards	RoHS Directive (EN 50581) EMC Directive (EN 55032 (Class A), EN 55024) FCC Part15 Subpart B Class A, ICES-003 Class A UL 1638, UL 464, CSA C22.2 No.205 KC ( KN 61000-6-2, KN 61000-6-4) *3 PSE Compliant AC Adaptor
Remark	*3 : Only N type and W type CE Marking UL/cUL Listed W type is an international model.

## 2. Model

### 2.1. Model Number Configuration

N	H	<input type="text"/>	-	<input type="text"/>	F	V	2	<input type="text"/>	-	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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Signal Tower Type

L	LR6(φ 60)
P	LR4(φ 40)

Signal Tower Tiers

1	1 tier
2	2 tiers
3	3 tiers
4	4 tiers
5	5 tiers

AC Adaptor

None	AC Adaptor included
W	AC Adaptor included Replacement plug included
N	AC Adaptor not included

LED Unit Color

R	Red
Y	Amber
G	Green
B	Blue
C	White

From top to bottom

W type is an international model.

### 2.2. Model Number List

NHL-1FV2-R	NHL-3FV2-RYG	NHP-1FV2-R	NHP-3FV2-RYG
NHL-1FV2-Y	NHL-3FV2N-RYG	NHP-1FV2-Y	NHP-3FV2N-RYG
NHL-1FV2-G	NHL-3FV2W-RYG	NHP-1FV2-G	NHP-3FV2W-RYG
NHL-2FV2-RY	NHL-4FV2-RYGB	NHP-2FV2-RY	NHP-4FV2-RYGB
NHL-2FV2-RG	NHL-5FV2-RYGBC	NHP-2FV2-RG	NHP-5FV2-RYGBC

### 3. Action Specification

#### 3.1. Information (Main Unit)

Signal Tower		Lighting pattern for each color LED units, such as continuous lighting, flashing pattern 1, and flashing pattern 2
	Flashing pattern 1	ON(500ms), OFF(500ms) (repetition)
	Flashing pattern 2	ON(80ms), OFF(170ms), ON(80ms), OFF(670ms) (repetition)
Sound		Up to 70 types of messages can be played on the main unit speaker and line output.
	Number of messages	Playlist Package : 30 kinds MP3 File : 30 kinds Preset : 10 kinds
	MP3 Format	Bit Rate 32kbit/s, 64kbit/s (Standard Rate), 128kbit/s Constant Bit Rate (CBR) only
	Preset	Buzzer Sound : 4 kinds Chime Sound : 3 kinds Voice Sound : 3kinds
	Playback Pattern	One-shot Playback, Repeat Playback, Endless Playback
	One-shot Playback	It is played back once per playback event.
	Repeat Playback	It is played back when set up to play a certain number of times per playback event. Number of playback times : 1 - 254
	Endless Playback	It will play back repeatedly per playback event.
	Playback Mode	Input Priority Playback, Memory Playback
	Input Priority Playback	If a new playback event occurs, the channel being played back will be interrupted and a new channel will play.
	Memory Playback	When playback is ended, the next available channel stored in memory will play.
Buzzer Sound		Four kinds of buzzer sounds, such as buzzer pattern1, 2, 3, and 4
	Buzzer pattern 1	ON(250ms), OFF(250ms) (repetition)
	Buzzer pattern 2	ON(500ms), OFF(500ms) (repetition)
	Buzzer pattern 3	ON(200ms), OFF(50ms), ON(200ms), OFF(550ms) (repetition)
	Buzzer pattern 4	ON(continuity)

#### 3.2. External control

External Contact Output		External contact output can be controlled when an event occurs or outputting sound.
	Contact Function	Digital Output, BUSY Output
	Digital Output	The digital "A Contact" or "B Contact" output for an automatic OFF function of the digital output port can be set up.
	BUSY Output	It controls the relay contact output in conjunction with the signal output from the line-out.

#### 3.3. Information (Network)

Mail Transmission		When an event occurs, an e-mail message is transmitted to the registered address.
	Number of mail address	8
	Authentication protocol	POP before SMTP, SMTP_AUTH
	Security	SSL, TLS, none
SNMP TRAP Transmission		When an event occurs, TRAP transmission can be executed.
	Number of transmission	8
	Version	v2c
SLMP Write Command		When "Clear operation" occurs, SLMP Write Command can be executed.
	Number of transmission	4
	Protocol	SLMP (The same format as the QnA compatible 3E and 4E frame of MC protocol) TCP / UDP

## 4. Function Specification

### 4.1. Main Unit Control Function

RSH Command	Controllable with RSH Command						
HTTP Command	Controllable with HTTP Command						
Socket Communication	Controllable with PNS Command and PHN Command						
SNMP Command	Controllable with SNMP "set" Command						
Version	v1 / v2c						
"Clear" Switch	Clear operation is possible with "Clear" Switch of the main unit.						

		Controllable Action						
Command		Signal Tower	Sound	Buzzer	Digi-Out	e-mail	TRAP	SLMP
RSH Command		✓	✓	✓	✓	✓ *1	✓ *1	-
HTTP Command		✓	✓	✓	✓	-	-	-
Socket	PNS	✓	✓	✓	✓	-	-	-
	PHN	△ *2	-	△ *3	-	-	-	-
SNMP Command		✓	✓	✓	✓	-	-	-
"Clear" Switch		✓	✓ *4	✓ *5	✓	✓	✓	✓

\*1 : It can be used when e-mail or TRAP is set to "Active" in the RSH Command Configuration.  
 \*2 : Signal Tower "Red", "Amber" and "Green", and Flashing pattern 1  
 \*3 : Buzzer pattern1 and Buzzer pattern 2  
 \*4 : In memory playback mode, you can proceed to the next message.  
 \*5 : It is possible to stop only the buzzer while maintaining the state of Signal Tower.

### 4.2. External Monitoring Function

Ping Monitoring Function	Network abnormality detection by sending Ping network devices	
Number of Monitoring	24	
Monitoring Cycle	1 - 600 seconds	
Sending Count	The number of times to detect can be set from 1 to 30.	
Number of Sending	The number of sending Ping by one monitoring can be set from 1 to 3.	
Application Monitoring Function	External devices abnormality detection by receiving the data from them	
Number of Monitoring	4	
Monitoring Cycle	1 - 600 seconds	
SNMP TRAP Reception Function	TRAP Reception detection	
Version	v1 / v2c	
Number of Reception	64	
variable-bindings	2 OID per 1 TRAP Reception	
Detectable Type	INTEGER	
	OCTET STRING ( String data, Binary data )	
SNMP Supported Equipment Monitor Function	For SNMP Supported equipment, with the SNMP command, their status can be acquisitioned periodically and monitored.	
Version	v1	
Monitoring Cycle	1 - 60 seconds	
Detection method	Condition Agreement Detection : 20      Change Detection : 5	
Condition Agreement	Detection that the acquired value meets the condition	
	INTEGER	
Detectable Type	OCTET STRING ( String data, Binary data )	
	OCTET STRING ( String data, Binary data )	
Change Detection	Detection that the acquired value has changed	
	INTEGER	

SLMP Read Command		Detects the state change of the device information of the PLC					
Number of Monitoring		16					
Transmission Interval		10ms / 50ms / 100ms					
Protocol		SLMP (The same format as the QnA compatible 3E and 4E frame of MC protocol) TCP / UDP					
External Contact Input Monitor Function		It monitors the state change of external contact input.					
Digital Logic Setting		A Contact, B Contact					
Detection method		Status Change Detection, Status Agreement Detection					
Status Change		Detection of change from OFF to ON or change from ON to OFF					
Status Agreement		Detecting the input for a certain period of time Detection time : 1 - 3600 seconds      Number of Detection : 4					
		Executable action at detection					
Monitoring	Signal Tower	Sound	Buzzer	Digi-Out	e-mail	TRAP	SLMP
Ping Monitoring	✓	✓	✓	✓	✓	✓	-
Application Monitoring	✓	✓	✓	✓	✓	✓	-
TRAP Reception	✓	✓	✓	✓	✓	✓	-
SNMP Supported	✓	✓	✓	✓	✓	✓	-
SLMP Command	✓	✓	✓	✓	✓	✓	-
External Contact Input	✓	✓	✓	✓	✓	✓	-

#### 4.3. Main Unit Status Acquisition Function

RSH Command	The state of the main body can be acquired by the status acquisition command.				
Socket Communication	Status acquisition available with PNS Command and PHN Command				
SNMP Command	Status acquisition available with SNMP "get" Command				
Version	v1 / v2c				
HTTP Communication	By executing CGI, the state of the main body can be acquired in XML data format.				
Web browser	Download main unit status and event log with web browser Main Unit Status : XML format file      Event Log : text format file				
USB Memory	Event log (text file) can be downloaded to USB memory				

Command		Acquisition data				
		Signal Tower	Sound	Buzzer	Ex-Input	Ex-Output
RSH Command		✓	✓	✓	✓	✓
Socket	PNS	✓	-	✓	-	-
	PHN	✓ *1	-	✓ *2	-	-
SNMP Command		✓	✓	✓	✓	✓
XML format file		✓	✓	✓	✓	✓

\*1 : Signal Tower "Red", "Amber"and "Green",and Flashing pattern 1

\*2 : Buzzer pattern 1 and Buzzer pattern 2

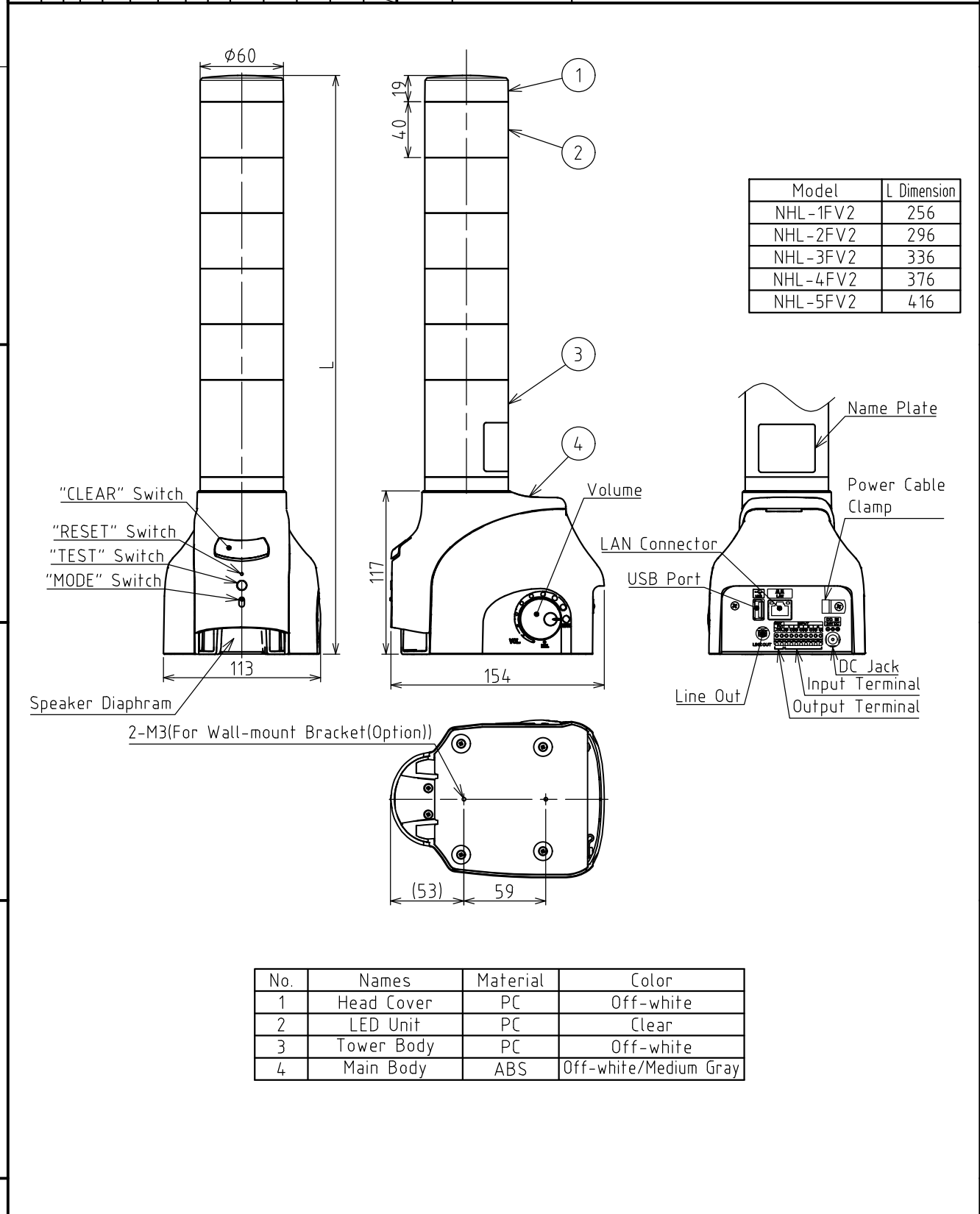
#### 4.4. Main Unit Setting Function

Schedule Function	The time period for disabling the notification operation can be set.
Suspended operations	"Signal Tower", "Sound and Buzzer", "Digital Output", "Trap Transmission"
Time period of the schedule	"24 hours" or "Three time periods per day"
Time Correction Function	The internal clock in this product can communicate with an NTP server to automatically correct the time.
Automatic Network Setting	Network setting in this product can communicate with an DHCP server to automatically set.
Master Volume Setting	Mstar Volume of Buzzer and sound can be set
Standard Action Setting	This product can set lighting color of the Signal Tower after clear operation is executed.
Self-test Function	Self test of Signal Tower and buzzer is possible with test switch of the main body and RSH command.
Config Setting	Various settings of the main body can be read and written as setting file.
Main Unit Setting	Various settings of the main body can be done with a web browser.
USB memory support	By using the USB memory, the following items can be executed by the main body only.
Config File	Various settings of the main unit can be read and written as a config file.
Playlist Package	You can set the playlist package created with PATLITE Playlist Editor 2
Event Log	It is possible to acquire an event log that records the operation history of the main unit.
Firmware update	It is possible to update firmware.
Setting Supported languages	Japanese, English

#### 4.5. Cloud Function

Supported Cloud Platform		Microsoft Azure *1
		Amazon Web Services (AWS) *2
Azure	Connection Settings	Azure IoT Central/DPS, Azure IoT Hub
	Built-in features	Device Twin, Direct Method, Device-to-cloud Message, Cloud-to-device Message
AWS	Connection Settings	AWS IoT Core
	Built-in features	Device Shadow, MQTT client
Main Unit Control		Signal Tower, Sound, Buzzer, Digi-Out
Main Unit Status Acquisition		Signal Tower, Sound, Buzzer, Digi-Out
Main Unit Status Transmission		Signal Tower, Sound, Buzzer, "Clear" switch, External Contact Input, Digi-Out
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1		2		3		4						
指定公差 General Tolerance	角度公差 Angular tolerance ±[°]		寸法公差 Dimensional tolerance ±[mm]					図番 Drawing No.		ページ Page		
	短辺 Length of short side							NHL-5FV2-W18		8 / 10		
	10	50	100	精 f	0.05	0.1	0.2	0.4	0.6	改訂 Rev.	年月日 Date	改訂履歴 Revisions
	1	0.5	0.3	0.1	中 m	0.1	0.3	0.5	0.7	1		
	精 f	1	0.5	0.3	0.1	中 m	0.1	0.3	0.5	0.7	1	
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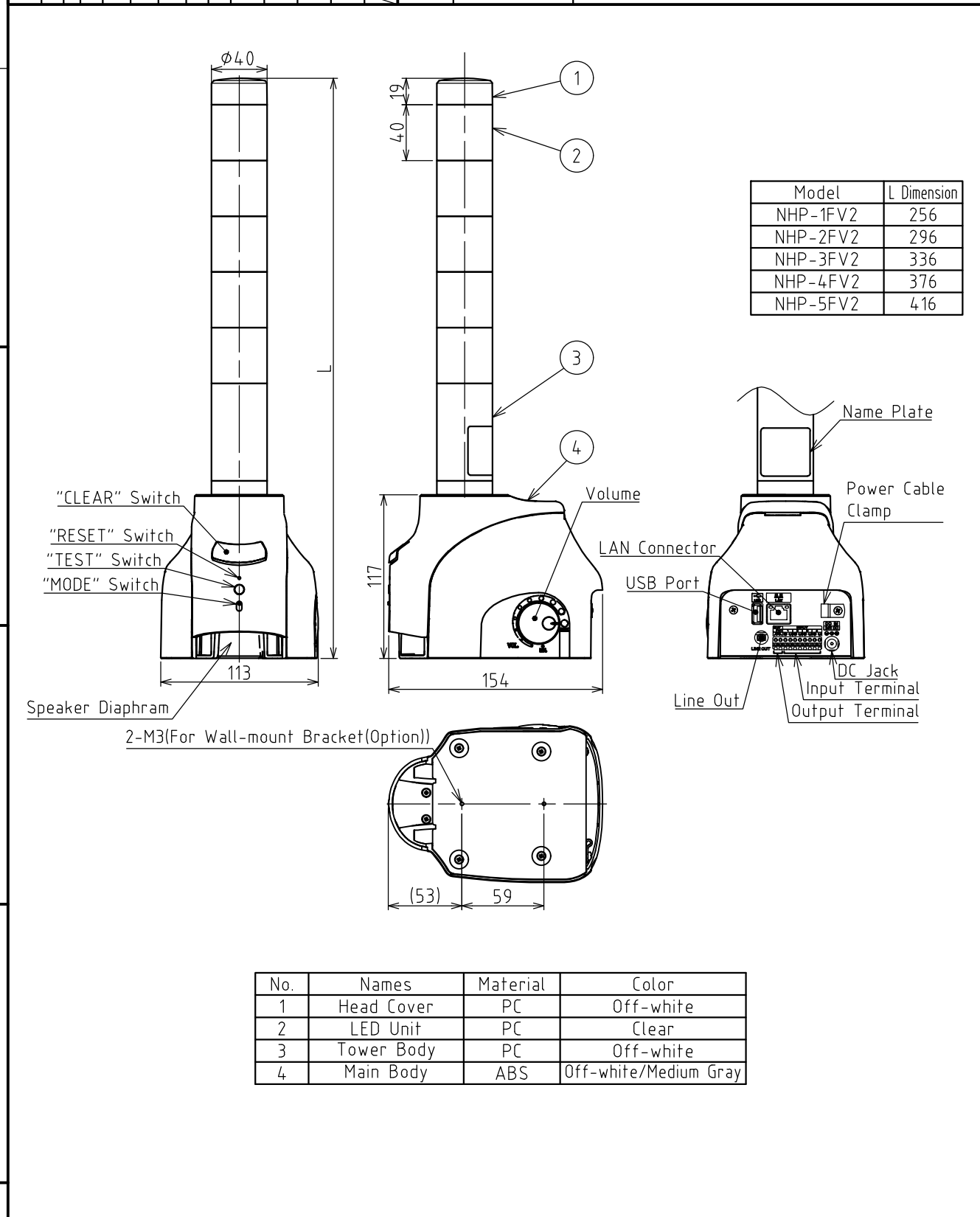
Model	L Dimension
NHL-1FV2	256
NHL-2FV2	296
NHL-3FV2	336
NHL-4FV2	376
NHL-5FV2	416

No.	Names	Material	Color
1	Head Cover	PC	Off-white
2	LED Unit	PC	Clear
3	Tower Body	PC	Off-white
4	Main Body	ABS	Off-white/Medium Gray

番号 No.	部品名 Part Name	数量 Qty.	記事 Remarks
機種 Model	NHL-5FV2	特注No. S.P.No.	図名 Name
品目コード Part No.		尺度 Scale	三角法 3rd Angle P.
			単位 Unit
			株式会社 パトライト PATLITE Corporation

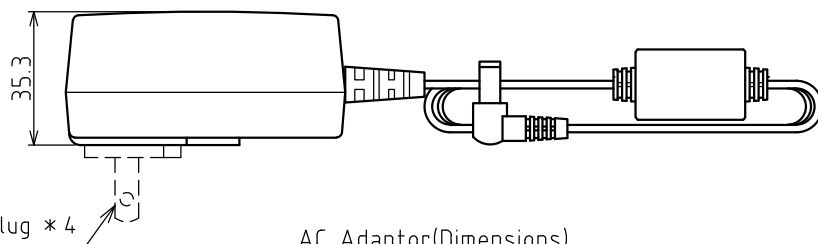
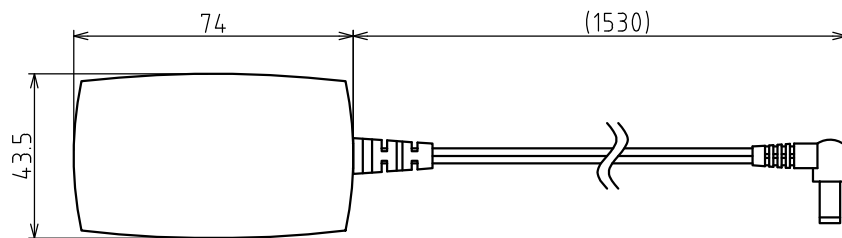


1		2		3		4								
指定公差 General Tolerance	角度公差 Angular tolerance ±[°]	寸法公差 Dimensional tolerance ±[mm]				図番 Drawing No.		ページ Page						
	短辺長 Length of short side	10	50	100	6	30	120	300	1000	NHL-5FV2-W18		9 / 10		
	精 f	1	0.5	0.3	0.1	中 m	0.1	0.3	0.5	0.7	1	改訂 Rev.	年月日 Date	改訂履歴 Revisions
	粗 v	3	1.5	1	0.5	粗 c	0.3	0.5	1	1.2	2	△ F		



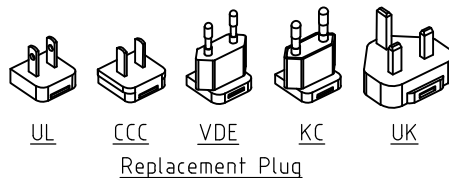
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機種 Model	NHP-5FV2	特注No. S.P.No.	図名 Name	
品目コード Part No.		尺度 Scale	三角法 3rd Angle P.	単位 Unit
		株式会社 PATLITE Corporation		Ver.2.0

1		2		3		4								
指定公差 General Tolerance	角度公差 Angular tolerance ±[°]		寸法公差 Dimensional tolerance ±[mm]					図番 Drawing No.		ページ Page				
	短辺長さ Length of short side							NHL-5FV2-W18		10 / 10				
	精 f	1	0.5	0.3	0.1	精 f	0.05	0.1	0.2	0.4	0.6	改訂 Rev.	年月日 Date	改訂履歴 Revisions
	粗 v	3	1.5	1	0.5	粗 c	0.3	0.5	1	1.2	2	△ F		



AC Adaptor(Dimensions)

* 4	Model(AC Adaptor)	AC Plug
	None	Replacement Plug [UL] is attached
	W	Replacement Plug [UL][VDE][UK][CCC][KC] included
	N	AC Adaptor not included



番号 No.	部品名 Part Name	数量 Qty.	記事 Remarks		
機種 Model		特注No. S.P.No.	図名 Name		
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品目コード Part No.		尺度 Scale	三角法 3rd Angle P.	単位 Unit	株式会社 パトライト PATLITE Corporation
		mm			