



File E158873

Vol X13

Authorization Page 1

Issued: 2020-07-22

Revised: 2023-03-17

FOLLOW-UP SERVICE PROCEDURE  
(TYPE R)

AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT  
(AZOT, AZOT7)

Manufacturer:	SEE ADDENDUM FOR MANUFACTURER LOCATIONS
Applicant: (813307-003)	105140 (Party Site) Hanwha Vision Co Ltd 6, Pangyo-ro 319beon-gil, Bundang-gu Seongnam-si Gyeonggi-do 13488 KR
Listee/Classified Company: (813307-003)	105140 (Party Site) SAME AS APPLICANT

**Use of the Mark**

This Follow-Up Service Procedure authorizes the above Manufacturer(s) to use the marking specified by UL LLC, or any authorized licensee of UL LLC, including the UL Contracting Party, only on products when constructed, tested and found to be in compliance with the requirements of this Follow-Up Service Procedure and in accordance with the terms of the applicable service agreement with UL Contracting Party. The UL Contracting Party for Follow-Up Services is listed in the addendum to this Follow-Up Service Procedure ("UL Contracting Party"). UL Contracting Party and UL LLC are referred to jointly herein as "UL."

It is the responsibility of the Applicant, Manufacturer(s), and Listee/Classified Company to make sure that only the products meeting the aforementioned requirements bear the authorized Marks of UL LLC, or any authorized licensee of UL LLC.

**Additional Responsibilities**

Additional responsibilities, duties and requirements for the Applicant and Manufacturers are defined under Additional Resources at the following website: <https://www.ul.com/fus>. Manufacturers without Internet access may obtain the current version of these documents from their local UL customer service representative or UL field representative. For assistance, or to obtain a paper copy of these documents or the Follow-Up Service Terms referenced below, please contact UL's Customer Service at <https://www.ul.com/aboutul/locations/>, select a location and enter your request, or call the number listed for that location.

**Acceptance of Follow-Up Services**

The Applicant and the specified Manufacturer(s) and any Listee/Classified Company in this Follow-Up Service Procedure must agree to receive Follow-Up Services from UL Contracting Party. If your applicable service agreement is a Global Services Agreement ("GSA"), the Applicant, the specified Manufacturer(s), and any Listee/Classified Company will be bound to a Service Agreement for Follow-Up Services upon the earliest by any Subscriber of a) use of the prescribed UL Mark, b) acceptance of the factory inspection, or c) payment of the Follow-Up Service fees. The Service Agreement incorporates such GSA, this Follow-Up Service Procedure and the Follow-Up Service Terms which can be accessed by clicking the following link: <https://www.ul.com/resources/contracts/follow-up-service-terms>. In all other events, Follow-Up Services will be governed by and incorporate the terms of your applicable service agreement and this Follow-Up Service Procedure.

**Use and Ownership of the Follow-Up Service Procedure**

This Follow-Up Service Procedure, and any subsequent revisions, is the property of UL and is not transferable. This Follow-Up Service Procedure contains confidential information for use only by the Applicant, the specified Manufacturer(s), and representatives of UL and is not to be used for any other purpose. It is provided to the Subscribers with the understanding

that it is not to be copied, either wholly or in part unless specifically allowed, and that it will be returned to UL, upon request.

**Definition of Terms**

Capitalized terms used but not defined herein have the meanings set forth in the GSA and the applicable Service Terms or any other applicable UL service agreement.

**No Third Party Liability**

UL shall not incur any obligation or liability for any loss, expense or damages, including incidental, consequential or punitive damages arising out of or in connection with the use or reliance upon this Follow-Up Service Procedure to anyone other than the above Manufacturer(s) as provided in the agreement between UL LLC or an authorized licensee of UL LLC, including UL Contracting Party, and the Manufacturer(s).

**Certification Body**

UL LLC has signed below solely in its capacity as the certification body to indicate that this Follow-Up Service Procedure fulfills the requirements for certification documentation issued by the certification body. The certification body's accreditation status for the applicable certification scheme and identification of the accreditation body can be found at <https://www.ul.com/resources/accreditation>.

Deborah Jennings-Conner  
VP Regulatory Services  
UL LLC

## LOCATION

135422 (Party Site)  
D-TECH CO LTD  
173-25 Saneop-ro Gwonseon-gu  
Suwon-si Gyeonggi-do 16648 KR  
Factory ID: D  
UL Contracting Party for above site is: UL GmbH

1846102 (Party Site)  
Hanwha Techwin Security Vietnam Co Ltd  
Lot O-2 Que Vo Industrial Zone extended area Nam Son Ward  
Bac Ninh VN  
Factory ID: V  
UL Contracting Party for above site is: UL GmbH

241273 (Party Site)  
(100578-786) OIC KOREA CO LTD  
5F, 12 Annam-ro 369beon-gil Bupyeong-gu  
Incheon 21312 KR  
Factory ID: O  
UL Contracting Party for above site is: UL GmbH

2637173 (Party Site)  
KOSTEM CO.,Ltd.  
4-74, 228, Haan-ro  
Gwangmyeong-si Gyeonggi-do KR  
Factory ID: KOS  
UL Contracting Party for above site is: UL GmbH

2467434 (Party Site)  
KCE Co Ltd  
KCE B/D 34, Annam-ro 369beon-gil Bupyeong-gu  
Incheon 21312 KR  
Factory ID: C  
UL Contracting Party for above site is: UL GmbH



# Multiple Listing Correlation Sheet

ML FILE NO. E482654

Issued: 2022-11-30  
Revised: 2023-03-21

MULTIPLE LISTING  
of  
AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT  
(AZOT, AZOT7)  
for

[1566244] QOGNIFY LTD

Basically Listed for:

[105140] HANWHA VISION CO LTD

MARKING: Same as that described in Follow-Up Service Procedure and/or Report except for Multiple Listee's name, file number, Trademark / Tradename, when applicable, and product designation. The Control Number remains 9T96.

LITERATURE: If literature is packaged with the Multiple Listed product(s) it shall be in compliance with the requirements outlined in the appropriate UL Standard(s).

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Basically Listed products covered by Procedure and/or Reports under File No. E158873, Volume X13

Products Covered	Report Date	Basic Applicant's (Supplier's) Product Designation	Multiple Listee's Product Designation
NETWORK VIDEO ENCODER	A6125-UL	SPE-1630	NVE4016

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Product Type	Model/Type Reference	Report Reference #	Status
NETWORK VIDEO RECORDER	XRN-6410B4, XRN-3210B4	E158873-A6027-UL	
NETWORK VIDEO RECORDER	PRN-6410B4, PRN-3210B4, XRP-4210B4, PRN-6400B4, PRN-3200B4	E158873-A6028-UL	
NETWORK VIDEO RECORDER	XRN-6410DB4	E158873-A6029-UL	
NETWORK VIDEO RECORDER	PRN-6410DB4, XRP-4310DB4, PRN-6400DB4	E158873-A6030-UL	
NETWORK CAMERA	PNM-9002VQ	E158873-A6031-UL	
NETWORK CAMERA	XNF-9010RV, XNF-9010RVM, XNF-9010RS	E158873-A6032-UL	
NETWORK CAMERA	PNM-9000QB	E158873-A6033-UL	
NETWORK CAMERA	XNP-9300RW, XNP-8300RW, XNP-6400RW	E158873-A6034-UL	
NETWORK CAMERA	TNV-8010C, TNV-8011C	E158873-A6035-UL	
OUTDOOR NETWORK CAMERA	PNM-8082VT	E158873-A6036-UL	
THERMAL CAMERA	TNM-3620TDY	E158873-A6037-UL	
DIGITAL VIDEO RECORDER	HRX-1621* (* is Blank or N or P : P=PAL, N=NTSC)	E158873-A6038-UL	
NETWORK CAMERA	PNM-9022V	E158873-A6039-UL	
NETWORK CAMERA	PNM-9322VQP	E158873-A6040-UL	
DIGITAL VIDEO RECORDER	HRX-821* (* is Blank or N or P : P=PAL, N=NTSC)	E158873-A6041-UL	
NETWORK I/O BOX	SPM-4210	E158873-A6042-UL	
NETWORK VIDEO RECORDER	XRN-2011*, XRN-2010*, XRN-3010*, XRN-1610*, XRN-2010P/DM, XRN-3010P/DM, XRN-3010A, XRN-2011A, XRN-2010A, XRN-1610A (* is blank or N or P: N=NTSC, P=PAL)	E158873-A6043-UL	
PUBLIC VIEW MONITOR	SMT-2730PV	E158873-A6044-UL	
PUBLIC VIEW MONITOR	SMT-3230PV	E158873-A6045-UL	
CAMERA HOUSING	SHB-9000H	E158873-A6046-UL	
PUBLIC VIEW MONITOR	SMT-1030PV	E158873-A6047-UL	
NETWORK CAMERA	XNP-9250R, XNP-8250R, XNP-6400R	E158873-A6049-UL	
NETWORK CAMERA	XNP-9250, XNP-8250, XNP-6400	E158873-A6050-UL	
NETWORK CAMERA	ONO-9081R	E158873-A6051-UL	
NETWORK CAMERA	ONV-9081R	E158873-A6052-UL	
NETWORK VIDEO RECORDER	XRN-1620B2	E158873-A6053-UL	

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NETWORK VIDEO RECORDER	XRN-1620SB1	E158873-A6054-UL	
NETWORK VIDEO RECORDER	XRN-820S	E158873-A6055-UL	
NETWORK CAMERA	SCO-6020	E158873-A6056-UL	
NETWORK CAMERA	TNF-9010	E158873-A6057-UL	
NETWORK VIDEO RECORDER	PRN-3210B2, PRN-1610B2, XRN-6410RB2, XRN-3210RB2, XRN-6410B2, XRN-3210B2, PRN-3200B2, PRN-3205B2, PRN-1600B2, PRN-1605B2	E158873-A6058-UL	
NETWORK CAMERA	PNB-A6001	E158873-A6059-UL	
NETWORK CAMERA	PND-A6081RV, PND-A6081RF	E158873-A6060-UL	
NETWORK CAMERA	PNO-A6081R	E158873-A6061-UL	
LENS MODULE	SLA-T2480*, SLA-T2480V*, SLA-T4680*, SLA-T4680V*, SLA-T4680D, SLA-T4680DW, SLA-T4680DS, SLA-T2415, SLA-T2815B, SLA-T2480A, SLA-T2480VA, SLA-T4680A, SLA-T4680VA (* is blank or N or P: N = NTSC, P=PAL)	E158873-A6062-UL	
NETWORK CAMERA	PNV-A6081R	E158873-A6063-UL	
NETWORK CAMERA	XNB-6001*, XNB-H6240A, XNB-H6242A	E158873-A6064-UL	
NETWORK THERMAL CAMERA	TNO-3030T, TNO-3020T, TNO-3010T, TNO-3040T, TNO-3050T	E158873-A6067-UL	
NETWORK CAMERA	QNP-6320, QNP-6250, QNP-6251	E158873-A6068-UL	
NETWORK CAMERA	QNP-6320H, QNP-6250H, QNP-6251H	E158873-A6069-UL	
NETWORK CAMERA	XNV-C9083R, XNV-C8083R, XNV-C7083R, XNV-C6083R, XNV-C6083	E158873-A6070-UL	
NETWORK CAMERA	TID-600R	E158873-A6071-UL	
DIGITAL VIDEO RECORDER	HRX-1632, HRX-835	E158873-A6072-UL	
LED MONITOR	SMT-4343	E158873-A6073-UL	
NETWORK CAMERA	TNO-7180R, TNO-7180RLP	E158873-A6075-UL	
NETWORK CAMERA	XND-C9083RV, XND-C8083RV, XND-C7083RV, XND-C6083RV	E158873-A6076-UL	
NETWORK CAMERA	PNM-9031RV	E158873-A6077-UL	
NETWORK CAMERA	QNO-7082R	E158873-A6078-UL	
NETWORK CAMERA	QND-7082R	E158873-A6080-UL	
NETWORK CAMERA	QNV-7082R	E158873-A6081-UL	
NETWORK CAMERA	XNO-C9083R, XNO-C8083R, XNO-C7083R, XNO-C6083R	E158873-A6082-UL	
NETWORK CAMERA	XNV-9083R, XNV-8083R, XNV-8093R, XNV-6083R	E158873-A6083-UL	
NETWORK CAMERA	XND-9083RV, XND-8083RV, XND-8093RV, XND-6083RV	E158873-A6084-UL	
NETWORK CAMERA	QNO-7032R, QNO-7022R, QNO-7012R	E158873-A6088-UL	

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NETWORK CAMERA	XNB-9003, XNB-8003, XNB-6003	E158873-A6089-UL	
NETWORK CAMERA	XNO-9083R, XNO-8083R, XNO-6083R	E158873-A6091-UL	
NETWORK CAMERA	QNV-7012R, QNV-7022R, QNV-7032R	E158873-A6092-UL	
NETWORK CAMERA	QND-7012R, QND-7022R, QND-7032R	E158873-A6093-UL	
NETWORK CAMERA	QNP-6320R, QNP-6250R	E158873-A6094-UL	
NETWORK CAMERA	XNV-6123R	E158873-A6100-UL	
NETWORK CAMERA	XNO-6123R	E158873-A6101-UL	
NETWORK CAMERA	LNO-6072R	E158873-A6102-UL	
NETWORK CAMERA	LVN-6012R, LVN-6022R, LVN-6032R, ANV-L6012R	E158873-A6103-UL	
NETWORK CAMERA	LVN-6072R	E158873-A6104-UL	
NETWORK CAMERA	LND-6012R, LND-6022R, LND-6032R	E158873-A6105-UL	
NETWORK CAMERA	LND-6072R	E158873-A6106-UL	
NETWORK CAMERA	LNO-6012R, LNO-6022R, LNO-6032R, ANO-L6012R, ANO-L6022R	E158873-A6107-UL	
NETWORK CAMERA	ANO-L7022R, ANO-L7012R	E158873-A6108-UL	
NETWORK CAMERA	TNV-7010RC, TNV-7011RC	E158873-A6109-UL	
NETWORK CAMERA	ANV-L7012R	E158873-A6110-UL	
NETWORK CAMERA	XNZ-6320A	E158873-A6111-UL	
NETWORK CAMERA	QNP-6320HS	E158873-A6112-UL	
NETWORK CAMERA	PNM-A9083RVD, PNM-A7083RVD, PNM-C12083RVD, PNM-C7083RVD	E158873-A6113-UL	
NETWORK VIDEO RECORDER	ARN-1610S	E158873-A6114-UL	
NETWORK CAMERA	XNZ-L6320A	E158873-A6115-UL	
NETWORK VIDEO RECORDER	QRN-1630S, XRN-815S	E158873-A6116-UL	
NETWORK CAMERA	ANO-L7082R, ANO-L6082R	E158873-A6117-UL	
THERMAL NETWORK CAMERA	TNM-C4940TD, TNM-C4950TD, TNM-C4960TD	E158873-A6118-UL	
NETWORK CAMERA	ANE-L7012R, ANE-L6012R	E158873-A6119-UL	
NETWORK CAMERA	PNM-12082RVD, PNM-7082RVD	E158873-A6120-UL	
NETWORK CAMERA	ANV-L7082R, ANV-L6082R	E158873-A6121-UL	
DIGITAL VIDEO RECORDER	HRX-1635	E158873-A6122-UL	
DIGITAL VIDEO RECORDER	HRX-835A	E158873-A6123-UL	
NETWORK CAMERA	XNF-9013RV	E158873-A6124-UL	
NETWORK VIDEO ENCODER	SPE-1630	E158873-A6125-UL	
NETWORK VIDEO RECORDER	QRN-430S, ARN-410S	E158873-A6126-UL	
NETWORK VIDEO RECORDER	XRN-420S	E158873-A6127-UL	

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NETWORK VIDEO RECORDER	QRN-830S	E158873-A6128-UL	
NETWORK VIDEO RECORDER	ARN-810S	E158873-A6129-UL	
NETWORK CAMERA	XNV-9083RZ, XNV-8083RZ, XNV-6083RZ	E158873-A6130-UL	
DIGITAL VIDEO RECORDER	HRX-434	E158873-A6131-UL	
NETWORK CAMERA	XNV-8083Z, XNV-6083Z	E158873-A6132-UL	
NETWORK VIDEO ENCODER	SPE-420	E158873-A6133-UL	
NETWORK CAMERA	XNB-6002	E158873-A6134-UL	
DIGITAL VIDEO RECORDER	HRX-435	E158873-A6135-UL	
DIGITAL VIDEO RECORDER	HRX-1634	E158873-A6136-UL	
VIDEO DECODER	SPD-152	E158873-A6137-UL	
NETWORK CAMERA	PNM-C9022RV	E158873-A6138-UL	
PENDANT SPEAKER	SPA-P100W, SPA-P100B	E158873-A6139-UL	
SECURITY LED MONITOR	SMT-2212	E158873-A6140-UL	
DIGITAL VIDEO RECORDER	ARD-1610	E158873-A6142-UL	
DIGITAL VIDEO RECORDER	ARD-810, ARD-410	E158873-A6144-UL	
NETWORK CAMERA	PNV-A6081R-E2T, PNV-A6081R-E1T	E158873-A6150-UL	
USB JOYSTICK CONTROLLER	SPC-2001	E158873-A6151-UL	



## UL TEST REPORT AND PROCEDURE

<b>Standard:</b>	UL 62368-1, 3rd Ed, 2021-10-22 (Audio/video, information and communication technology equipment Part 1: Safety requirements) CAN/CSA C22.2 No. 62368-1:19, 3rd Ed, 2021-10-22 (Audio/video, information and communication technology equipment Part 1: Safety requirements)
<b>Certification Type:</b>	Listing
<b>CCN:</b>	AZOT, AZOT7 (Audio/video, Information and Communication Technology Equipment)
<b>Complementary CCN:</b>	N/A
<b>Product:</b>	PENDANT SPEAKER
<b>Model:</b>	SPA-P100W, SPA-P100B
<b>Rating:</b>	PoE (44-57 Vdc), 300 mA or PoE+ (50-57 Vdc), 510 mA
<b>Applicant Name and Address:</b>	HANWHA TECHWIN CO LTD 6, PANGYO-RO 319BEON-GIL, BUNDANG-GU SEONGNAM-SI GYEONGGI-DO 13488 KOREA

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared By: Lawrence Lee / Project Handler      Reviewed By: SeulKi Park / Reviewer

### Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

A. Authorization - The Authorization page may include additional Factory Identification Code markings.

B. Generic Inspection Instructions -

- i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
- ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
- iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

### Product Description

PENDANT SPEAKER has been designed for INDOOR use and integrated a bracket for only ceiling mount.

It is a commercial equipment supplied by PoE/PoE+ (Power over Ethernet) and installed by service personnel.

### Model Differences

SPA-P100W is basic model.

SPA-P100B is identical to basic model except model designation and enclosure color.

### Test Item Particulars

Product group	end product
Classification of use by	Instructed person
Supply Connection	not mains connected: ES1
Supply tolerance	None
Supply connection – type	mating connector
Considered current rating of protective device	N/A
Equipment mobility	wall/ceiling-mounted
Over voltage category (OVC)	OVC I
Class of equipment	Class III
Special installation location	N/A
Pollution degree (PD)	PD 2
Manufacturer's specified Tma (°C)	50
IP protection class	IPX0
Power systems	not AC mains
Altitude during operation (m)	2000 m or less
Altitude of test laboratory (m)	2000 m or less
Mass of equipment (kg)	2.1

### Technical Considerations

- ☐ The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of : 50 °C
- ☐ The product is intended for use on the following power systems : No direct connection
- ☐ Considered current rating of protective device as part of the building installation (A) : N/A

- ☐ Mains supply tolerance (%) or absolute mains supply : No direct connection
- ☐ The equipment disconnect device is considered to be : N/A
- ☐ The following are available from the Applicant upon request : Installation (Safety) Instructions / Manual

**Additional Information**

4790588048

- Maximum Normal Load: Continuous operation with 1/8 Pmax for speaker. (Volume: 19)

**Additional Standards**

The product fulfills the requirements of: N/A

**Markings and Instructions**

Clause Title	Marking or Instruction Details
Equipment identification marking – Manufacturer identification	Listee's or Recognized Company's name, Trade Name, Trademark or File Number
Equipment identification marking – model identification	Model Number
Equipment rating marking – ratings	Input Ratings (voltage, frequency/dc, current/power) Output Ratings (voltage, frequency/dc, current/power)
Installation Manual	These servicing instructions are for use by qualified service personnel only.
Hard Copy	A. IMPORTANT B. Please check 'Manuals' from our website, before connecting to the supply. C. Company website URL ( <a href="https://www.~~">https://www.~~</a> ) or QR code.
(Website) Manual - 1	This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" or "PS2" and rated from PoE (44-57 Vdc), 300 mA or PoE+ (50-57 Vdc), 510 mA.
(Website) Manual - 2	The wired LAN hub providing power over the Ethernet (PoE) in accordance with IEEE 802.3.af shall be a UL Listed device with the output evaluated as a Limited Power Source as defined in UL60950-1 or PS2 as defined in UL62368-1.

**Special Instructions to UL Representative**

N/A

<b>BD1.0</b>	<b>TABLE: Production-Line Testing Requirements</b>					
<b>BD1.1</b>	<b>Electric Strength Test Special Constructions – Refer to Generic Inspection Instructions, Part AC for further information.</b>					
Model	Component	Removable parts	Test probe location	Test V rms	Test V dc	Test Time, s
-	-	-	-	-	-	-
<b>BD1.2</b>	<b>Earthing Continuity Test Exemptions – This test is not required for the following models:</b>					
	All models					
<b>BD1.3</b>	<b>Electric Strength Test Exemptions – This test is not required for the following models:</b>					
	All models					
<b>BD1.4</b>	<b>Electric Strength Test Component Exemptions – The following solid-state components may be disconnected from the remainder of the circuitry during the performance of this test.</b>					
	-					

<b>BE1.0</b>	<b>Sample and Test Specifics for Follow-Up Tests at UL</b>				
Model	Component	Material	Test	Sample (s)	Test Specifics
-	-	-	-	-	-

4.1.2	TABLE: List of critical components					Pass
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Product Category CCN(s)	Mark(s) of conformity	Supplement ID
Front Mesh Enclosure (Metal)	Interchangeable	Interchangeable	Steel, Min. 0.6 mm thickness.	-	-	
Enclosure Front, Rear, Side (Plastic)	LG CHEM LTD	AF365(&)	Min. 2.0 mm thickness, rated Min. V- 0, 80 deg. C.	QMFZ2	UL (E67171)	
Enclosure Front, Rear, Side (Plastic) - Alternate	LOTTE CHEMICAL CORPORATION	VE-0800	Min. 2.0 mm thickness, rated Min. V- 0, 60 deg. C	QMFZ2	UL (E115797)	
Holder Bracket (Metal)	Interchangeable	Interchangeable	Steel, Min. 2.0 mm thickness	-	-	
Speaker	Interchangeable	Interchangeable	8 $\Omega$ , 30W	-	-	
Tubing – Speaker (+) pin	DAEIL COATING CO LTD	DFA-250NR	600 Vrms, 105 deg. C, VW-1	VDTU2	UL (E104390)	
Tubing – Speaker (+) pin - Alternate	Interchangeable	Interchangeable	600 Vrms, 105 deg. C, VW-1	VDTU2	UL	
Tubing – Speaker (-) pin	DAEIL COATING CO LTD	DFA-110NR	600 Vrms, 105 deg. C, VW-1	VDTU2	UL (E104390)	
Tubing – Speaker (-) pin - Alternate	Interchangeable	Interchangeable	600 Vrms, 105 deg. C, VW-1	VDTU2	UL	
Internal wiring - Speaker	Interchangeable	Interchangeable	Style No. 1007 marked VW-1	AVLV2	UL	
Output Terminal Block	CIXI WANJIE ELECTRON CO LTD	WJ2EDGR followed by C, M or blank, followed by -5.0, - 5.08, -7.5 or -7.62 @A	300 V, 15 A	XCFR2	UL (E251331)	
Output Terminal Block - Alternate	Interchangeable	Interchangeable	300 V, 15 A	XCFR2	UL	
Marking	-	-	Silk- screened to enclosure	-	-	

Audio Module - PCB Assembly (See below detail Critical Components list)	Inter-M Corporation	SPA-P100	Rated: 44-57 Vdc, Max. 300 mA or 50-57 Vdc, Max. 510 mA	-	-	
Bridge Diode (BD100, BD101)	Interchangeable	Interchangeable	Rated 600 V, 3.0 A	-	-	
Transformer (T1)	ATECH OEM INC	ATS-1259R	Class B, 130 deg. C, See enclosure for more detail.	-	-	
Inductor (L100)	NIC COMPONENTS CORP.	NPI43C	125 deg. C,	-	-	
Optocoupler (OC1)	COSMO ELECTRONICS CORP	KPC357NT	Isolation Voltage: 3750. Max. Operation Temperature:110 deg. C	FPQU2	UL (E169586)	
Optocoupler (OC1) - Alternate	Interchangeable	Interchangeable	Isolation Voltage: 3750. Max. Operation Temperature:110 deg. C	FPQU2	UL	
Optocoupler (PC1)	LITE-ON Technology Corporation	LTV-356T(%) (c)	Isolation Voltage: 3750. Max. Operation Temperature:110 deg. C	FPQU2	UL (E113898)	
Optocoupler (PC1) - Alternate	Interchangeable	Interchangeable	Isolation Voltage: 3750. Max. Operation Temperature:110 deg. C	FPQU2	UL	
Coin cell (for RTC) (BAT200)	PANASONIC CORPORATION, PANASONIC CORPORATION OF NORTH AMERICA	ML621*	Lithium alloy (Coin), Max charging current: 300 mA, Max charging voltage: 12 Vdc	BBCV2	UL (MH12210)	
Protective device for Coin cell (R219)	Interchangeable	Interchangeable	Rated 1 Kohm	-	-	

Protective device for Coin cell (D219)	Interchangeable	Interchangeable	Rated 80 V, 250 mA	-	-	
Printed wiring board	HALLA ELECTRONICS CO LTD	M1	Min. V-0, 105 deg. C	ZPMV2	UL (E217542)	
Printed wiring board - Alternate	Interchangeable	Interchangeable	Min. V-0, 105 deg. C	ZPMV2	UL	

## Enclosures

Type	Supplement Id	Description
Photographs	03-01	External View - 1
Photographs	03-02	External View - 2
Photographs	03-03	External View - 3
Photographs	03-04	Port View
Photographs	03-05	Internal View - 1
Photographs	03-06	Internal View - 2
Photographs	03-07	Internal View - 3
Photographs	03-08	Audio Module Board - Top
Photographs	03-09	Audio Module Board - Bottom
Diagrams	04-01	Enclosure Diagram
Manuals	06-01	Manual
Miscellaneous	07-01	Lable
Miscellaneous	07-02	Transformer (T1) Specification



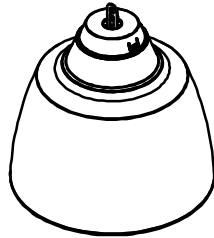
# 외관기준정보

## 외관기준정보

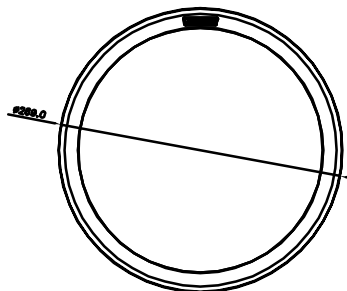
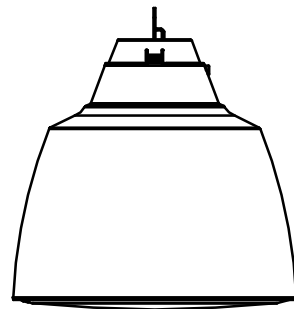
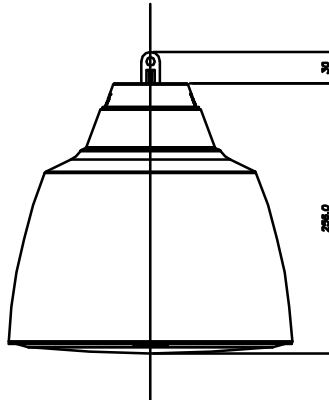
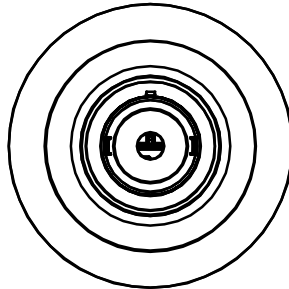
KS규격 B ISO 2768-1(C)에 준함

제품치수 ± 2mm	ø269(W)X256(H)	PA : ± 2mm , SR : ± 5mm
순중량 (Net) ± 10%	2.1 Kg	10kg초과: ± 5% / 10kg이하:±10%적용
총중량 (Gross) ± 10%	3.35 kg	10kg초과: ± 5% / 10kg이하:±10%적용
박스외부치수 ± 8mm	345 X 395 X 345	(W)X(H)X(D)
기타사항	홍죽공장 생산	

참조도면



## 외관치수도



MODEL	 Inter-M Corporation	작성부서	작성일	작성자
SPA-P100BW		개발2팀	22.09.05	김운철
			도번	98S0000222

# SAFETY INFORMATION

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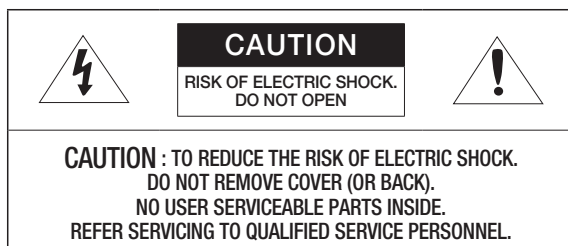
## WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

To prevent injury, this apparatus must be securely attached to the Wall/ceiling in accordance with the installation instructions.

## CAUTION



## EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

## CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.  
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

## ATTENTION

IL Y A RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACÉE PAR UNE BATTERIE DE TYPE INCORRECT.

METTRE AU REBUT LES BATTERIES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS.

These servicing instructions are for use by qualified service personnel only.

To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

**The ITE is to be connected only to (PoE/PoE+) networks without routing to the outside plant.**



**The wired LAN hub providing power over the Ethernet (PoE/PoE+) in accordance with IEEE 802.3af/at shall be a UL Listed device with the output evaluated as a Limited Power Source as defined in UL60950-1 or PS2 as defined in UL62368-1.**

**Unit is intended for installation in a Network Environment 0 as defined in IEC TR 62102. As such, associated Ethernet wiring shall be limited to inside the building.**

# SAFETY INFORMATION

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## Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean the contaminated area on the product surface with a soft, dry cloth or a damp cloth.  
(Do not use a detergent or cosmetic products that contain alcohol, solvents or surfactants or oil constituents as they may deform or cause damage to the product.)
7. Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. To prevent injury, this apparatus must be securely attached to the Wall/ceiling in accordance with the installation instructions.
14. Unplug this apparatus during lighting storms or when unused for long periods of time.
15. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
16. This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" or "PS2" and rated from PoE(802.3af) : 44V-57V ( , max 300mA / PoE+(802.3at) : 50V-57V ( , max 510mA.
17. This product is intended to be supplied by isolation power.
18. If you use excessive force when installing the product, the product may be damaged and malfunction.  
If you forcibly install the product using non-compliant tools, the product may be damaged.
19. Do not install the product in a place where chemical substances or oil mist exists or may be generated. As edible oils such as soybean oil may damage or warp the product, do not install the product in the kitchen or near the kitchen table.  
This may cause damage to the product.
20. When installing the product, be careful not to allow the surface of the product to be stained with chemical substance.  
Some chemical solvents such as cleaner or adhesives may cause serious damage to the product's surface.
21. If you install/disassemble the product in a manner that has not been recommended, the production functions/ performance may not be guaranteed.
22. Do not install on a surface where it is exposed to direct sunlight, near heating equipment or heavy cold area.
23. Do not place this apparatus near conductive material.
24. Do not attempt to service this apparatus yourself.



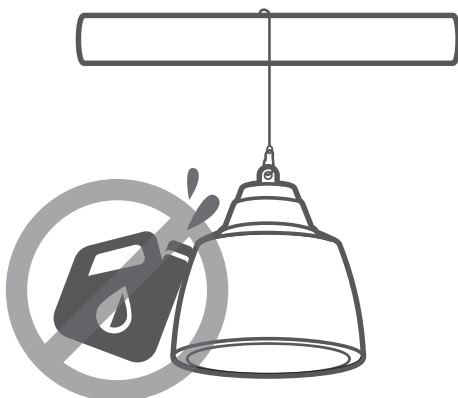
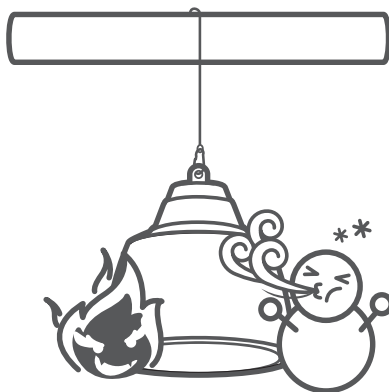
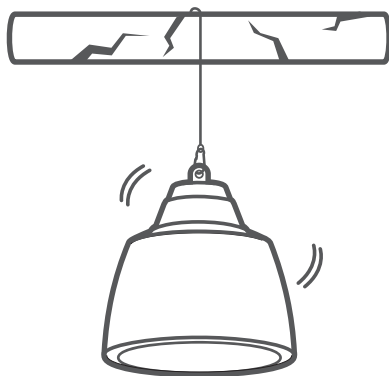
## SAFETY INFORMATION

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- 25. Do not place a glass of water on the product.
- 26. Do not install near any magnetic sources.
- 27. Do not place heavy items on the product.
- 28. Please wear protective gloves when installing/removing the product.  
The high temperature of the product surface may cause a burn.
- 29. This device has been verified using STP cable. The use of appropriate GND grounding and STP cable is recommended to effectively protect your product and property from transient voltage, thunderstroke, communication interruption.
- 30. In particular installation environments, there might be interference in radio communications.  
When interference of electromagnetic waves occurs between the product and radio communication device, it is recommended to keep a certain distance between the two or change the direction of the receiving antenna.
- 31. An apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.
- 32. Batteries(battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.  
The battery cannot be replaced.
- 33. Disconnect the main plug from the apparatus, if it's defected. And please call a repair man in your location.
- 34. Select an installation site that can hold at least 5 times the product's weight.
- 35. Stuck-in or peeled-off cables can cause damage to the product or a fire.
- 36. For safety purposes, keep anyone else away from the installation site.  
And put aside personal belongings from the site, just in case.
- 37. We do not guarantee the quality of third-party products (e.g. accessories) that you separately purchase.

## SAFETY INFORMATION

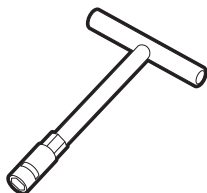
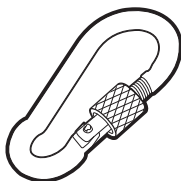
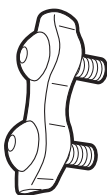
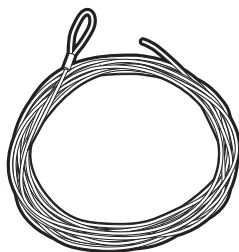
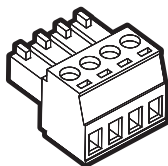
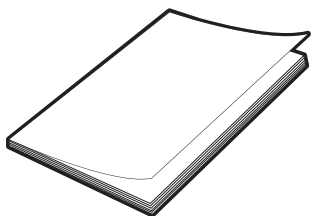
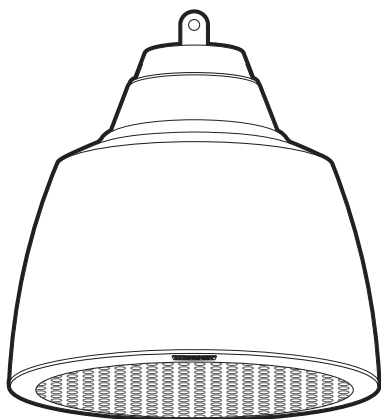
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## COMPONENT

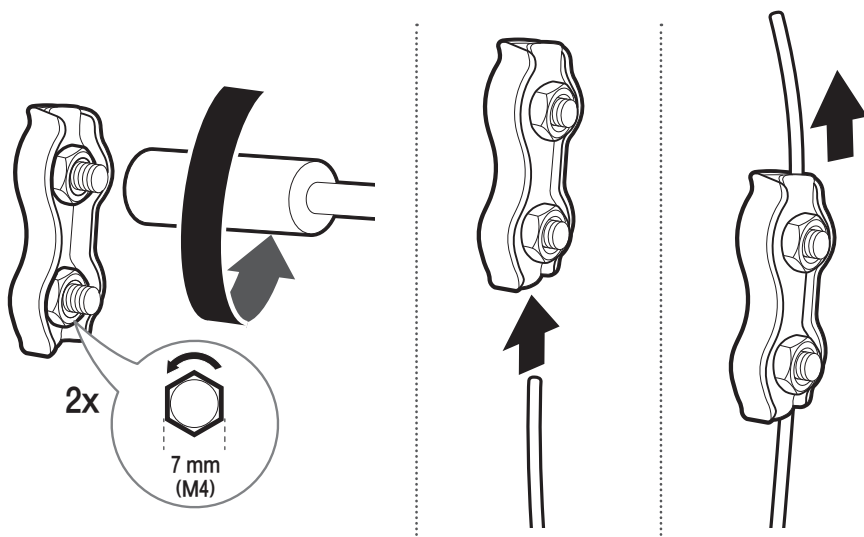
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As for each sales country, accessories are not the same.

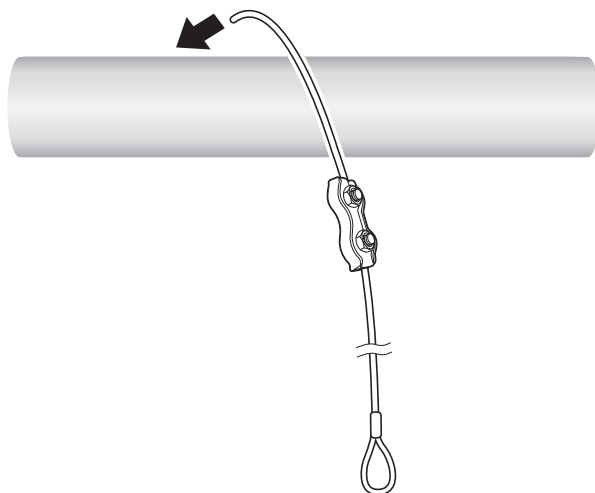


# INSTALLATION

1



2

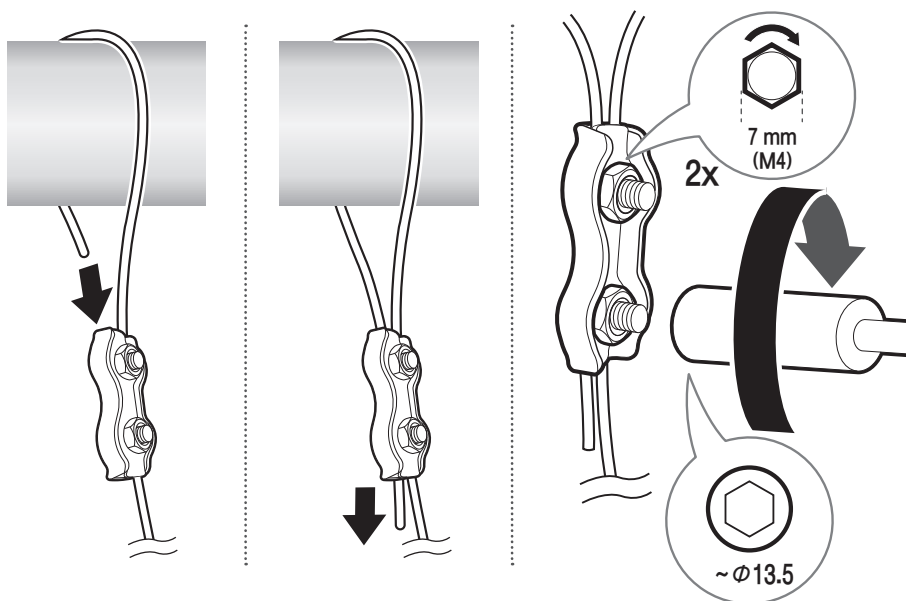


The product manufacturer is not responsible for any accident or damage occurring from using screws that do not meet the standard specifications.

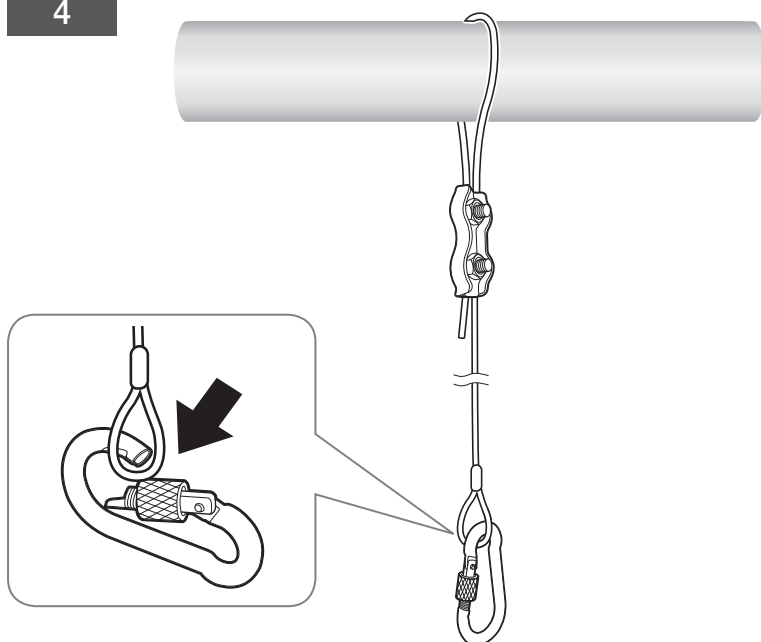
Make sure that the installation location can hold five times the weight of the product to be installed.

## INSTALLATION

3



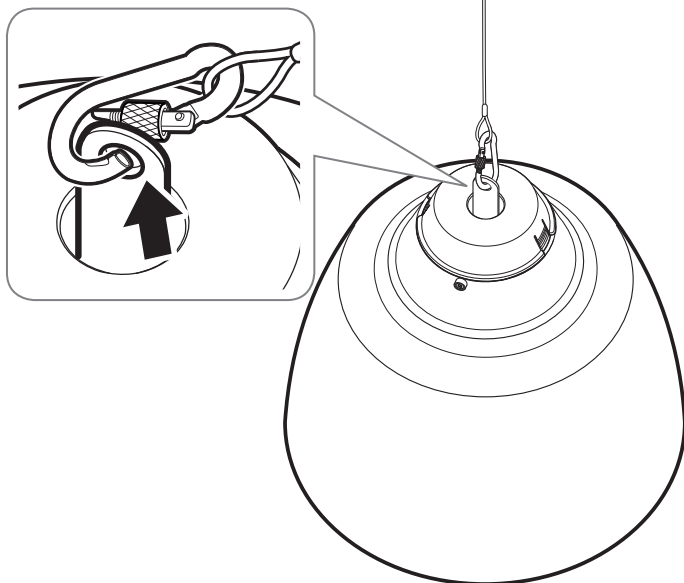
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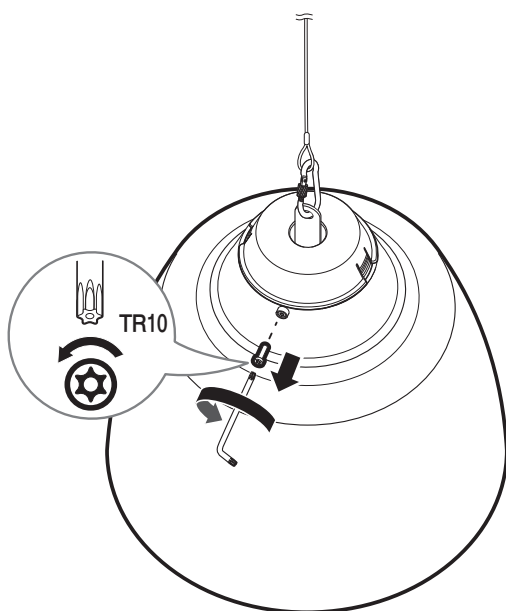


# INSTALLATION

5

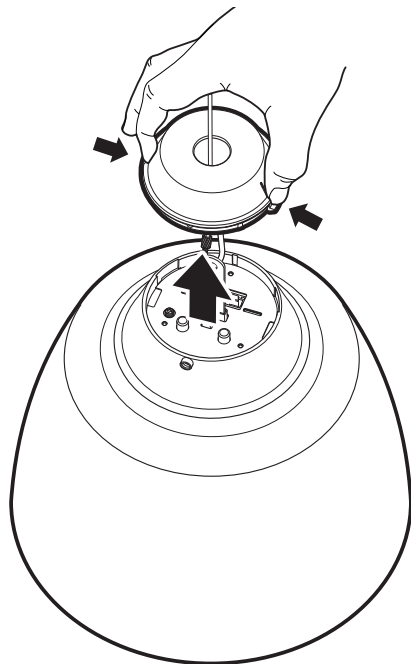


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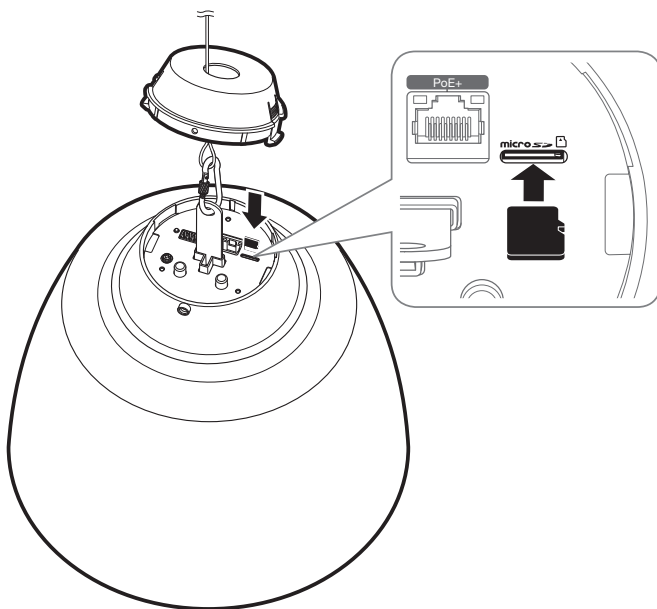
## INSTALLATION

7



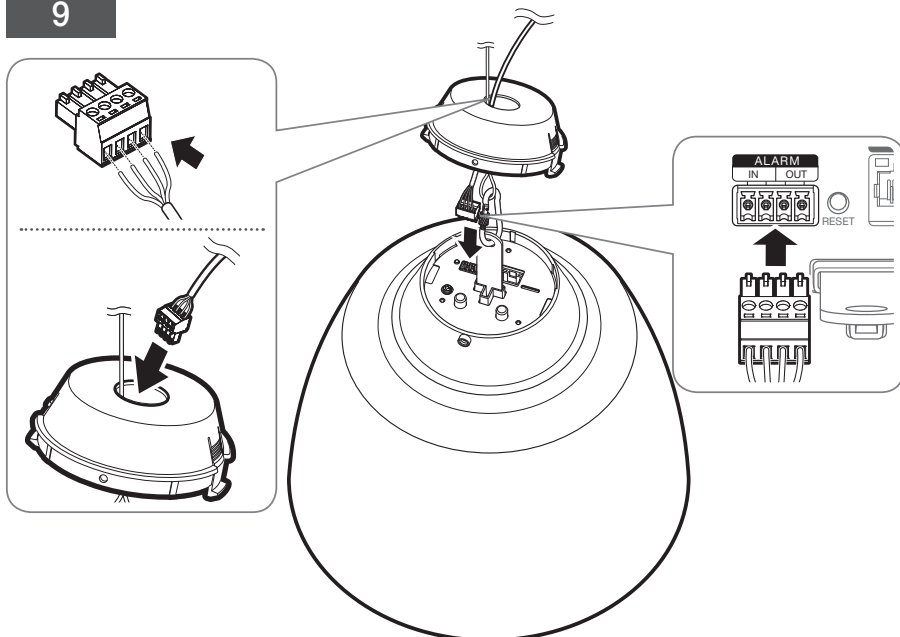
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- Not Included : Micro SD Card

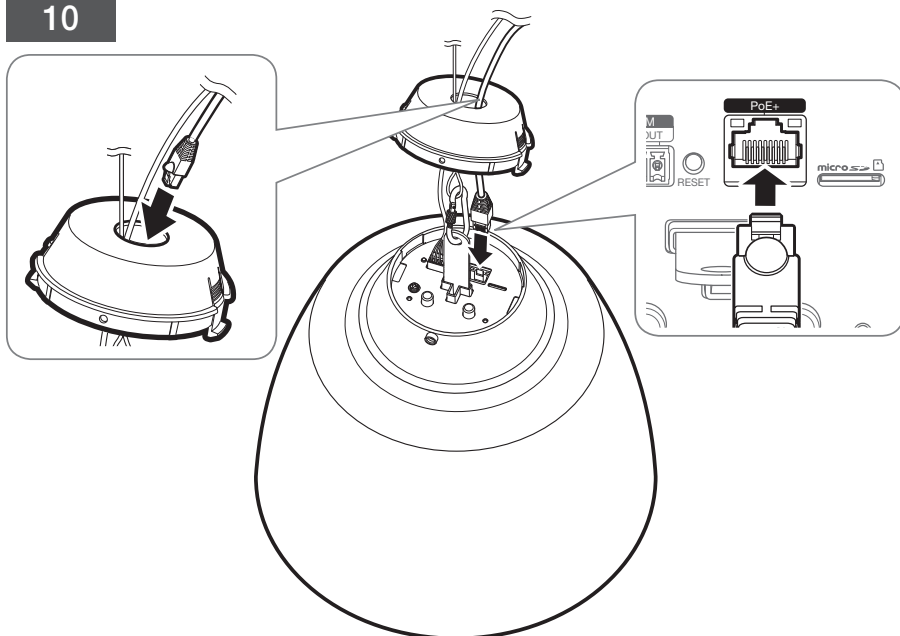


## INSTALLATION

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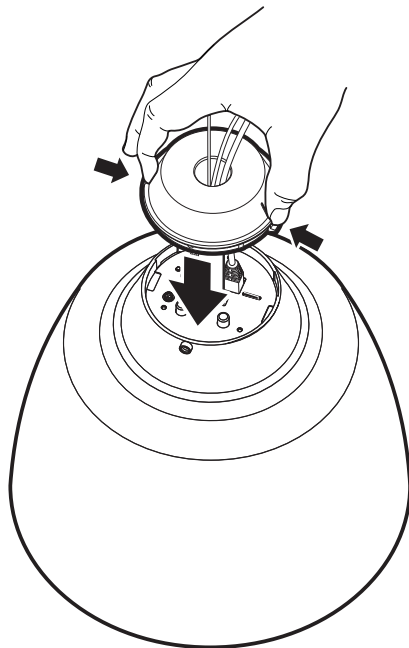


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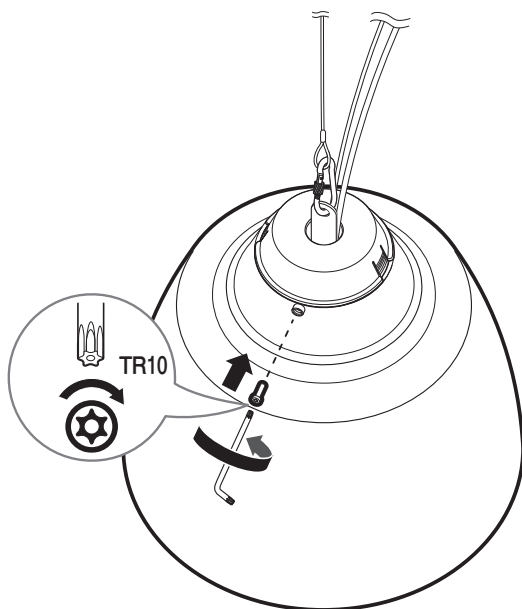


## INSTALLATION

11

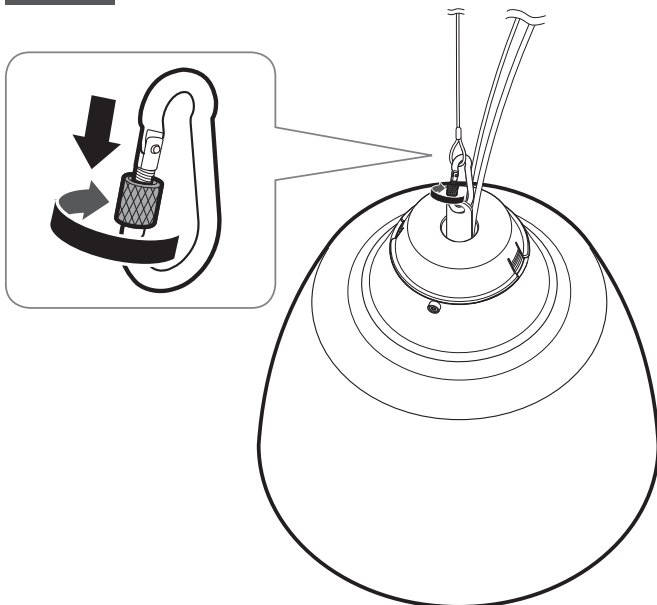


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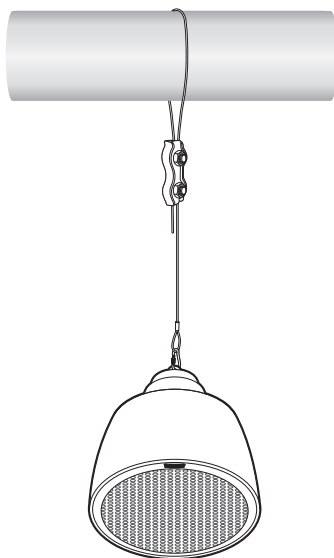


## INSTALLATION

13



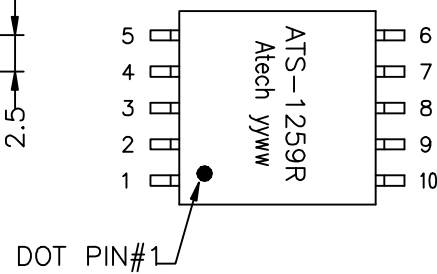
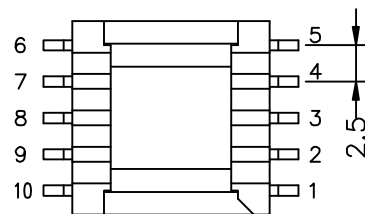
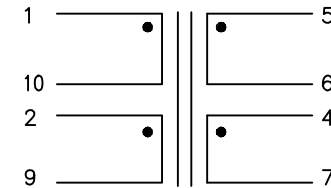
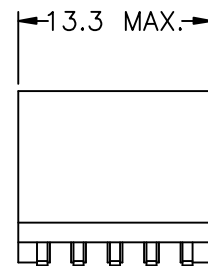
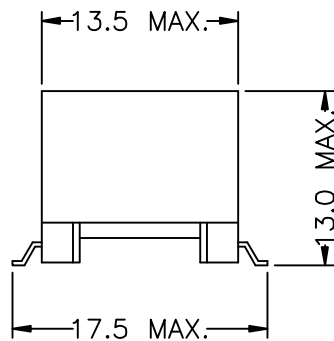
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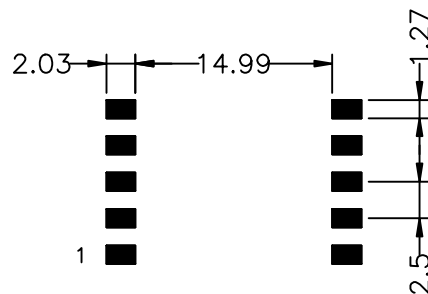
If you install/disassemble the product in a manner that has not been recommended, the production functions/performance may not be guaranteed.

Make sure that the installation location can hold five times the weight of the product to be installed.





DOT PIN#1



SUGGESTED P.C.B LAYOUT

## ELECTRICAL CHARACTERISTICS :

- DCR : 1-10 = 135mΩ MAX.  
2-9 = 280mΩ MAX.  
4-7 = 75mΩ MAX.  
5-6 = 65mΩ MAX.
- INDUCTANCE : (@200KHz, 0.1Vrms) : 45uH ±10%
- TURN RATIO : (@100KHz, 0.1Vrms) 1-10 : 5-6 = 3 ±3%  
1-10 : 4-7 = 3 ±3%  
1-10 : 2-9 = 2.625 ±3%
- HI-POT : (@1500VAC, 1mA, 2SEC) 1-2 , 1-5 , 1-4
- RoHS COMPLIANT

						TITLE TRANSFORMER	
						DWG. NO. ATS-1259R	
RELEASE		8/20/2013	SHIRLEY	BETTY	BETTY	UNITS: M/M	SAFETY
NO:	DESCRIPTION	DATE	BY	CHK	APPD	DATE 08/20/13	P/N:
REVISIONS						08/20/13	DRAW SHIRLEY

# MATERIAL LIST

PART NO.: ATS-1259R

Item	Material	Manufacturer	UL File No.
BOBBIN	E4008 EP13	SUMITOMO CHEMICAL CO LTD	E54705
WIRE	P180 0.25mm	ELEKTRISOLA (MALAYSIA) SDN BHD	E143312
	P180 0.15mm	ELEKTRISOLA (MALAYSIA) SDN BHD	E143312
Solder bar	Sn3.0Ag-0.5Cu	SHENZHEN YIK SHING TAT INDUSTRIAL CO LTD	N/A
TAPE	KA180 W7.9mm	SYMBIO INC	E50292
	PZ W7.9mm	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	E165111
CORE	Mn-Zn EP13	ACME ELECTRONICS CORPORATION	N/A
EPOXY	3300	DONGGUAN EATTO ELECTRONIC MATERIAL CO LTD	E218090











