

FW2963, FW2973

Addressable / Conventional low frequency Horn and/or Strobe



FW2963 Horn Strobe



FW2973 Horn

DESCRIPTION

The FW2963 Horn Strobe, FW2973 Horn are a family of low frequency visual and/or audible signal appliances with light sources generated from white LED, listed according to UL 1971, UL 1638, UL 464, ULC-S525 and ULC-S526 for indoor use. Studies have shown that low frequency audible devices that operate around 520Hz are more effective in waking individuals in sleeping areas. This appliance is intended to provide a low frequency audible or audible/visible, notification signal for the purpose of life safety and property protection. They can be configured as both conventional and addressable manners. The LED light source offers superior performance, including low power consumption and long operating life. When working as addressable manner, each appliance has the intelligence to report its location (the device address) and status to the FireWatcher series fire alarm control panels. Six levels of light output, two levels of sound outputs are selectable. Figure 1 shows relative light outputs in horizontal and vertical dispersion from strobes mounted on walls/ceilings.

The strobe appliances produce a flash rate of one flash per second over the Regulated Voltage Range. The temporal tone generated by the horn portion is designed as per ANSI and NFPA72 for standard emergency evacuation signaling requirement. The NFPA72, requires that audible appliances installed in sleeping areas produce a low frequency alarm signal that shall be a square wave or provide equivalent awakening ability (effective Jan.1,2014).

The appliance has the feature that can synchronize multiple horn and/or strobes based on loop.

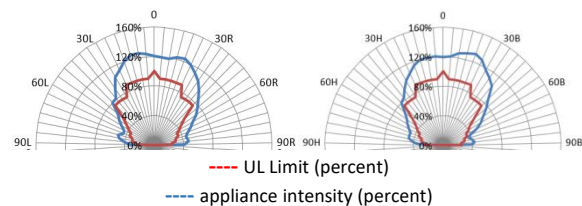


Figure 1. Horizontal and Vertical Light Outputs

ATTENTION



The product must be used within its published specifications and properly installed, operated, and maintained, in accordance with these instructions. Users are solely responsible for determining whether a product is suitable for the user's purposes or achieves the intended results. Read the instructions carefully before using this product. Failure to comply with any of the instructions, cautions, and warnings could result in improper application, installation and/or operation of these products in an emergency situation. This could result in property damage and serious personal injury or death.

NOTE

Do not paint this device.

Any material extrapolated from this document or from Maple Armor's instructions or other documents describing the product for use in promotional or advertising claims, or for any other use, including description of the product's application, operation, installation, and testing is the sole responsibility of the user. Maple Armor will not assume any liability for such use. In no case will Maple Armor's liability exceed the purchase price paid for a product.

SPECIFICATION

Operating Voltage	16 to 33 VDC (regulated 24VDC)		
Effective Light (cd)	177, 140, 110, 75, 30, 15		
Directional Characteristics	Horizontal Axis	Angle	OSPL (dBA)
		0° (ref)	0 (ref)
		+65°/-50°	-3
		*/-85°	-6
		+90°/-90°	-5/-6.5
	Vertical Axis	Angle	OSPL (dBA)
		0° (ref)	0 (ref)
		+65°/-65°	-3
		/	-6
		+90°/-90°	-4.9
Operating Temperature	-10° C to 55° C (14° F to 131° F)		
Operating Humidity	0 to 93% RH Non-condensing		
Horn Pattern	Temporal 3, temporal 4, steady, 20bpm, 60bpm, 120bpm		
Strobe Pattern	1 flash per second		
Wire Size	12 to 18 AWG		
Location	Indoor wall/ceiling		
Compatible FACP	FW105, FW106, FW106S, FW131, FW2105		
Compatible Base	FW900W & FW901W		

Sound Output – FW2963 Low Frequency Horn Strobe

FW2963	OSPL (dBA) at 3.05 metres (10 ft)		
	UL 464 / ULC-S525 Reverberant		
Volume	16Vdc	24Vdc	33Vdc
High	86.5	86.7	86.8
Low	81.7	81.8	81.8

Sound Output – FW2973 Low Frequency Horn

FW2973	OSPL (dBA) at 3.05 metres (10 ft)		
	UL 464 / ULC-S525 Reverberant		
Volume	16Vdc	24Vdc	33Vdc
High	86.5	86.7	86.8
Low	81.7	81.8	81.8

RMS Operating Current (mA) – FW2963 Low Frequency Horn Strobe

Light	177cd	140cd	110 cd	75 cd	30 cd	15 cd
	Sound					
High(16VDC)	270	210	200	168	117	100
High(24VDC)	195	170	146	129	82	71
High(33VDC)	168	140	120	100	65	56
Low(16VDC)	194	162	128	95	42	28
Low(24VDC)	143	118	95	76	33	21
Low(33VDC)	121	100	79	65	27	19

RMS Operating Current (mA) – FW2973 Low Frequency Horn

Sound level	High			Low		
Volume	16Vdc	24Vdc	33Vdc	16Vdc	24Vdc	33Vdc
RMS Current (mA)	111	76	59	27	20	16

Addressable Mode Standby Current (mA)

Model	FW2963	FW2973
Voltage		
16 VDC	0.62	0.62
24VDC	0.81	0.81
33 VDC	1	1

CAUTION

- To avoid electrocution that could result in personal injury or death, remove all sources of power and allow 10 minutes to discharge stored energy prior to installing or removing equipment. Install this device in accordance with all applicable codes and the Local Authorities Having Jurisdiction.
- Electrical supervision requires breaking the wire run at each terminal. Do not loop the signaling circuit field wires around the terminals.
- Check the manufacturer’s installation instructions for other equipment used in the system for any guidelines or restrictions on wiring and/or locating NACs and notification appliances. Some system communication circuits and/or audio circuits, for example, may require special precautions to assure electrical noise immunity (e.g., audio crosstalk).
- Check that the installed product will have sufficient clearance and wiring room prior to installing bases. Do not over tighten mounting screws as this can deform the base and may affect operation.

INSTALLATION

- Note: Wiring method which shall be in accordance with:*
- 1) *In Canada, CSA C22.1, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations, Section 32;*
 - 2) *In the United States, the National Electrical Code, NFPA 70, and the National Fire Alarm and Signaling Code, NFPA 72;*

1. Mount the FW900W/FW901W base onto an electrical box (2x4, 4x4, or octagon), see Figure 2.

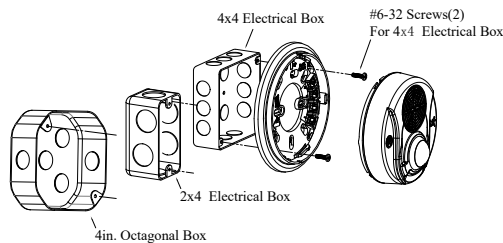
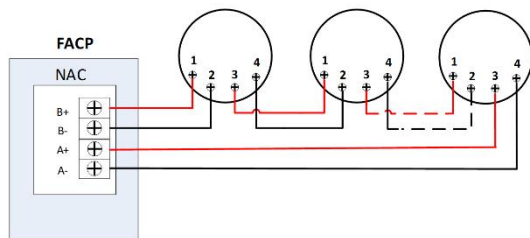
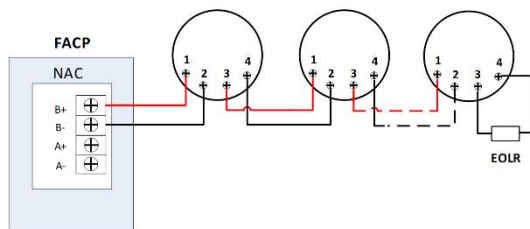


Figure 2. Base Installation

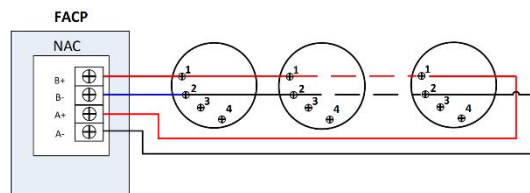
2. Connect the wires. See Figure 3.



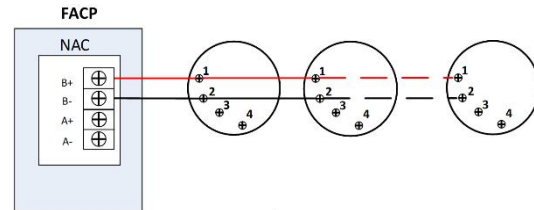
(a) Conventional – Class A



(b) Conventional – Class B



(c) Addressable – Class A



(d) Addressable – Class B

Figure 3. Wiring Diagram

3. Install the low frequency horn and/or strobe head onto base – Align the horn and/or strobe head onto the base then and twist it in clockwise.
4. Test for proper operation. Initiate this unit from the connected FACP and observe for proper operation.

PROGRAMMING

NAC protocol (addressable or conventional mode) programming is only made on FACP and the low frequency horn and/or strobe will follow. Field programming is not required on horn strobe.

The parameters for low frequency horn and/or strobe could be set from hand-held programmer and FACP. Refer to manuals for FACP for parameters setting for horn/strobe. Table below are all possible settings.

Option	Possible settings
Candela Setting	177cd/140cd/110cd/75cd/30cd/15cd
Sounder volume	High, Low
Bell code	Steady, Temporal3, Temporal4, 20bpm, 60bpm, 120bpm
Work mode	24V mode, Auto Compatible

Scheduled inspection and operational test should be carried as per requirement set out by Local Authority Having Jurisdiction.

Return the device for reparation if it fails to operate during testing. Do not disassemble the detector without permission.