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Wheelock AS Series Audible Strobe Devices and AH Series Audible Devices

Section: Audio/Visual Devices

GENERAL

Wheelock's patented 2-wire Series AS Audible Strobe Appliances and Series AH Audible Devices offer more features with low current draw.

Strobe options for wall mount models include 1575 cd or Wheelock's patented MCW multi-candela wall strobes with field selectable candela settings of 15/30/75/110cd.

Ceiling mount models incorporate Wheelock's patented MCC multi-candela ceiling strobe with field selectable intensities of 15/30/75/95cd.

The audible provides a selectable choice of either a continuous horn or temporal pattern (Code 3) when constant voltage from a Fire Alarm Panel (FACP) is applied. Each tone has 3 dBA settings to choose from.

When used with the Wheelock Series SM or DSM Sync Module or power supply with patented Wheelock sync protocol, synchronization of the continuous horn tone provides the temporal (code 3) tone (mandated by NFPA 72) simultaneously for all audible appliances. This ensures a distinct temporal (code 3) pattern when 2 or more audibles are within hearing distance. If not synchronized, the temporal sound could overlap and not be distinctive; at the same time the strobes will be synchronized. This provides the ability to comply with ADA guidelines concerning photosensitive epilepsy and the NFPA standards when installing 2 or more visual appliances within the field of view. All of this, plus the ability to silence the audible, is achieved by using only 2 wires.

FEATURES

- ADA/NFPA/UFC/ANSI Compliant
- **AS Series Audible Strobe Devices are available in wall and ceiling-mount models:**
 - Wall mount models offered** are available with Field Selectable Candela Settings of 15/30/75/110cd or 1575cd (single candela model)
 - Ceiling mount models offered** are available with field selectable candela settings of 15/30/75/95cd
- Selectable Continuous Horn or Temporal (Code 3)
- 3 Selectable dBA settings (99, 95 and 90 dBA) in both tones
- **Patented 2-Wire Audible Strobe Appliance**
- Patented Universal Mounting Plate
- Weatherproof models are available for outdoor use
- Strobes produce 1 flash per second over the regulated voltage range
- 12 and 24 VDC models with wide UL "Regulated Voltage Range" using filtered DC or unfiltered FWR input voltage
- Synchronize with Wheelock SM, DSM or power supply with built-in Wheelock sync protocol
- Fast installation with IN/OUT screw terminals using #12 and #18 AWG wires



CS 356



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E 5946



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AS Audible Strobe



AH Audible

GENERAL NOTES

- Strobes are designed to flash at 1 flash per second minimum over the Regulated Voltage Range. Note that NFPA-72 (1999) specifies a flash rate of 1 to 2 flashes per second and ADA Guidelines specify a flash rate of 1 to 3 flashes per second.
- All candela ratings represent minimum effective Strobe intensity based on UL Standard 1971.
- AS Series Strobe products are listed under UL Standard 1971 for indoor use with a temperature range of 32° F to 120° F (0° C to 49° C) and maximum humidity of 93% (± 2%)
- AH-24 Series horns are listed under UL Standard 464 for audible signal appliances (indoor use only).
- AH-24WP Series audible appliances are listed under UL Standard 464 for indoor/outdoor use with a temperature range of -31° F to 150° F (-35° C to 66° C) and maximum humidity of 95%.
- **"Regulated Voltage Range" is the newest terminology used by UL to identify the voltage range. Prior this change, UL used the terminology "Listed Voltage Range".**

Fire-Lite® Alarms is a Honeywell company.

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

For more information, contact **Fire-Lite Alarms**, One Fire-Lite Place, Northford, Connecticut 06472. Phone: (800) 627-3473, Toll-Free FAX: (877) 699-4105.

ISO 9001
CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

⚠ WARNING!

PLEASE READ THESE SPECIFICATIONS AND ASSOCIATED INSTALLATION INSTRUCTIONS CAREFULLY BEFORE USING, SPECIFYING, OR APPLYING THIS PRODUCT. FAILURE TO COMPLY WITH ANY OF THE FOLLOWING INSTRUCTIONS, CAUTIONS, AND WARNINGS COULD RESULT IN IMPROPER APPLICATION, INSTALLATION AND/OR OPERATION OF THESE PRODUCTS IN AN EMERGENCY SITUATION, WHICH COULD RESULT IN PROPERTY DAMAGE, AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

ORDERING INFORMATION

MODEL	STROBE CANDELA	NON-SYNC	SYNC W/SM, DSM	VDC	WALL/CEILING MOUNT	MOUNTING OPTIONS*	AGENCY APPROVALS				
							UL	MEA	CSFM	FM	BFP
AS-24MCW-FR	15/30/75/110	X	X	24	WALL	A,B,D,E,F,G,H,J,N,O,R,X	X	X	X	X	X
AS-24MCW-FW	15/30/75/110	X	X	24	WALL	A,B,D,E,F,G,H,J,N,O,R,X	X	X	X	X	X
AS-241575W-FR	15 (75 on Axis)	X	X	24	WALL	A,B,D,E,F,G,H,J,N,O,R,X	X		X	X	X
AS-121575W-FR	15 (75 on Axis)	X	X	12	WALL	A,B,D,E,F,G,H,J,N,O,R,X	X		X	X	X
AS-24MCC-FW	15/30/75/95	X	X	24	CEILING	A,B,D,E,F,G,H,J,N,O,R,X	X	X	X	*	*
ASWP-2475W-FR	75 @ -31°F	X	X	24	WALL	I	X	X	X	X	X
AH-24-R	-	X	X	24	WALL/CEILING	A,B,D,E,F,G,H,J,N,O,R,X	X	X	X	X	X
AH-12-R	-	X	X	12	WALL/CEILING	A,B,D,E,F,G,H,J,N,O,R,X	X	X	X	X	X
AH-24WP-R	-	X	X	24	WALL/CEILING	K	X	X	X	X	X
AH-12-WP-R	-	X	X	12	WALL/CEILING	K	X	X	X	X	X

*Refer to data sheet DN6111 for Mounting Options

NOTE: Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Notifier's standard terms and conditions

TABLE 1: RATINGS PER UL 1971

MODEL	INPUT VOLTAGE VDC	REGULATED VOLTAGE RANGE VDC/FWR	STROBE CANDELA (cd)
AS-24MCW	24	16.0 - 33.0	15/30/75/110
AS-241575W	24	16.0 - 33.0	15 (75 on axis)
AS-121575W	12	8.0 - 17.5	15 (75 on axis)
AS-24MCC	24	16.0 - 33.0	15/30/75/95
ASWP-2475W	24	16.0 - 33.0	75 @ -31°F

SYNC MODELS/POWER SUPPLY

MODEL NUMBER	INPUT VOLTAGE (VDC)	AVERAGE MEAN CURRENT @ 24 VDC	MOUNTING OPTIONS
SM-12/24-R	24	.028	W
DSM-12/24-R	24	.035	W

TABLE 2: DBA RATINGS FOR 12 VDC & 24 VDC SERIES AS/AH 12 & 24 VDC AUDIBLE

DESCRIPTION	VOLUME	REVERBERANT DBA PER UL 464 @ 10 FT.	ANECHOIC DBA @ 10 FT.
Continuous Horn	High	91	99
	Medium	88	95
	Low	83	90
Code 3 Horn	High	87	99
	Medium	84	95
	Low	79	90

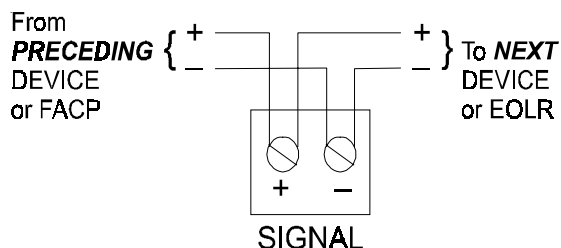
NOTES:

SM Sync Module is rated for 3.0 amperes @ 24 VDC.

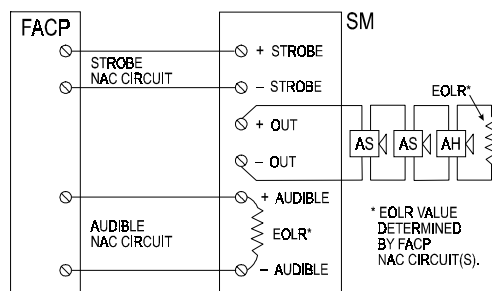
DSM Sync Module is rated for 3.0 amperes per circuit. The maximum number of interconnected DSM modules is twenty (20).

WIRING DIAGRAMS

AS device non-synchronized.



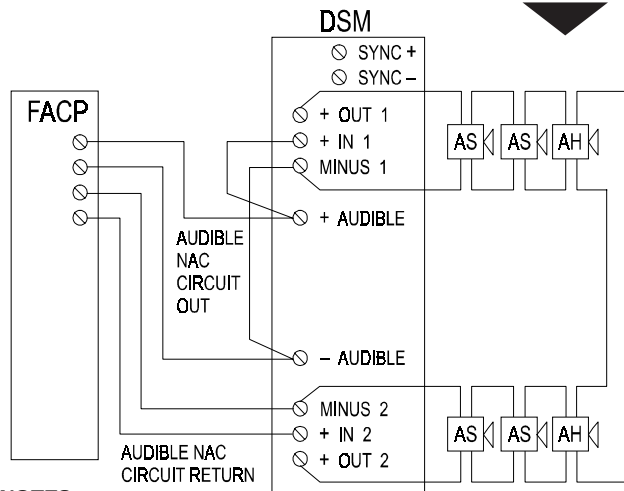
AS devices synchronized with SM Module single Class "B" (Style Y) circuit WITH audible silence feature.



* EOLR VALUE DETERMINED BY FACP NAC CIRCUIT(S).

WIRING DIAGRAMS

AS and AH devices synchronized with DSM Module dual Class "A" (Style Z) circuit with NO audible silence feature.



NOTES:

- AS/AH must be set on continuous horn tone, and connected to the SM or DSM Sync Module, to achieve synchronized temporal (Code 3) tone.

AS and AH devices synchronized with multiple DSM Modules.

INTERCONNECTING WIRING SHOWN.
MAXIMUM OF TWENTY (20) DSM MODULES.

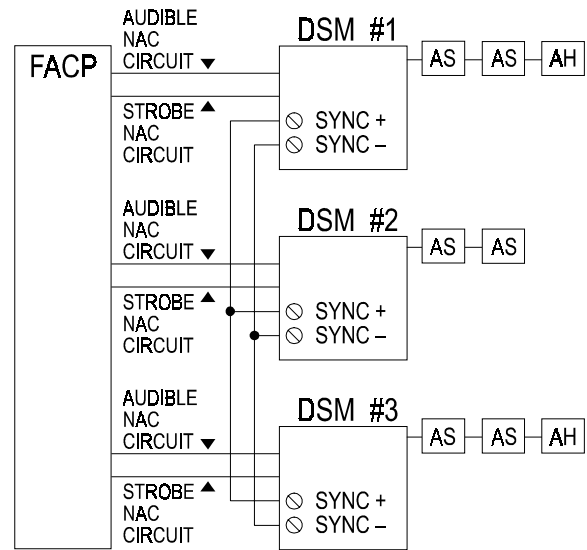


TABLE 3: AVERAGE RSM CURRENT*

TABLE 3: AVERAGE RS MOUNT* 															
24 VDC MODELS		AUDIBLE		WALL MOUNT AUDIBLE STROBE MODELS						CEILING MOUNT STROBE MODELS					
		AH-24	AS-241575W	AS-24MOW				AS-24MOWH		AS-24MOC				AS-24MOCH	
			1575cd	15cd	30cd	75cd	110cd	135cd	185cd	15cd	30cd	75cd	95cd	115cd	177cd
HIGH (99) dBA	16 vdc	0.035	0.0130	0.099	0.135	0.219	0.303	0.355	0.480	0.105	0.145	0.238	0.330	0.355	0.480
	24 vdc	0.050	0.0107	0.093	0.114	0.157	0.197	0.250	0.320	0.970	0.120	0.169	0.213	0.250	0.320
	33 vdc	0.069	0.0105	0.098	0.108	0.138	0.166	0.210	0.250	0.101	0.113	0.146	0.177	0.210	0.250
MEDIUM (95) dBA	16 vdc	0.020	0.114	0.078	0.116	0.203	0.282	0.340	0.465	0.084	0.126	0.222	0.309	0.340	0.465
	24 vdc	0.026	0.085	0.065	0.088	0.133	0.179	0.230	0.305	0.069	0.094	0.145	0.195	0.230	0.305
	33 vdc	0.035	0.075	0.065	0.078	0.206	0.134	0.180	0.230	0.068	0.083	0.114	0.145	0.180	0.230
LOW (90) dBA	16 vdc	0.014	0.108	0.070	0.111	0.201	0.279	0.335	0.460	0.076	0.121	0.220	0.306	0.335	0.460
	24 vdc	0.014	0.075	0.052	0.077	0.126	0.169	0.220	0.295	0.056	0.084	0.138	0.185	0.220	0.295
	33 vdc	0.021	0.060	0.046	0.063	0.094	0.121	0.170	0.215	0.049	0.068	0.102	0.132	0.170	0.215
12 VDC MODELS		AUDIBLE	WALL MOUNT AUDIBLE STROBE	12 VDC MODELS		AUDIBLE	WALL MOUNT AUDIBLE STROBE	12 VDC MODELS		AUDIBLE	WALL MOUNT AUDIBLE STROBE				
		AH-12	AS-121575W			AH-12	AS-121575W			AH-12	AS-121575W				
HIGH(99) dBA	8 vdc	0.093	0.320	MEDIUM (95) dBA	8 vdc	0.037	0.275	LOW(90) dBA	8 vdc	0.030	0.265				
	12 vdc	0.108	0.260		12 vdc	0.049	0.195		12 vdc	0.035	0.175				
	17.5 vdc	0.128	0.220		17.5 vdc	0.069	0.160		17.5 vdc	0.042	0.133				

*Average RSM Current is per UL average method and Average Mean Current is per UL average mean method. AH and AS-12 models use average mean current. For rated in Rush and Peak current across the UL listed voltage range for both filtered DC and unfiltered VRMS (FWR), see installation instructions.



WARNING!

CONTACT WHEELLOCK FOR "INSTALLATION INSTRUCTIONS" (Wheelock #P83509 [AS], #P83641 [AH-WP], and #P83519 [AH]) AND "GENERAL INFORMATION" SHEET (Wheelock #P82380) ON THESE PRODUCTS. THESE MATERIALS UNDERGO PERIODIC CHANGES. IT IS IMPORTANT THAT YOU HAVE CURRENT INFORMATION ON THESE PRODUCTS. THESE MATERIALS CONTAIN IMPORTANT INFORMATION THAT SHOULD BE READ PRIOR TO SPECIFYING OR INSTALLING THESE PRODUCTS, INCLUDING:

- TOTAL CURRENT REQUIRED BY ALL DEVICES CONNECTED TO SYSTEM PRIMARY AND SECONDARY POWER SOURCES.
- FUSE RATINGS ON NAC CIRCUITS TO HANDLE PEAK CURRENTS FROM ALL DEVICES ON THOSE CIRCUITS.
- COMPOSITE FLASH RATE FROM MULTIPLE STROBES WITHIN A PERSON'S FIELD OF VIEW.
- VOLTAGE APPLIED: THE VOLTAGE APPLIED TO THESE PRODUCTS MUST BE WITHIN THEIR RATED INPUT VOLTAGE RANGE.
- INSTALLATION OF 100/110 CANDELA STROBE PRODUCTS IN SLEEPING AREAS.
- INSTALLATION IN OFFICE AREAS AND OTHER SPECIFICATION AND INSTALLATION ISSUES.
- **Note:** USE AS/AH ONLY ON CIRCUITS WITH CONTINUOUSLY APPLIED OPERATING VOLTAGE. DO NOT USE AS SERIES ON CODED OR INTERRUPTED NAC CIRCUITS IN WHICH THE APPLIED VOLTAGE IS CYCLED ON AND OFF, AS THE STROBE MAY NOT FLASH.
- CONDUCTOR SPECIFICATIONS: CONDUCTOR SIZE (AWG), LENGTH AND AMPACITY SHOULD BE TAKEN INTO CONSIDERATION PRIOR TO DESIGN AND INSTALLATION OF THESE PRODUCTS, PARTICULARLY IN RETROFIT INSTALLATIONS.

FAILURE TO COMPLY WITH THE INSTALLATION INSTRUCTIONS OR GENERAL INFORMATION SHEETS COULD RESULT IN IMPROPER INSTALLATION, APPLICATION, AND/OR OPERATION OF THESE PRODUCTS IN AN EMERGENCY SITUATION, WHICH COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

Wheelock products must be used within their published specifications and must be PROPERLY specified, applied, installed, operated, maintained, and operationally tested in accordance with their installation instructions at the time of installation and at least twice a year or more often and in accordance with local, state, and federal codes, regulations, and laws. Specification, application, installation, operation, maintenance, and testing must be performed by qualified personnel for proper operation in accordance with all of the latest National Fire Protection Association (NFPA), Underwriters' Laboratories (UL), National Electrical Code (NEC), Occupational Safety and Health Administration (OSHA), local, state, county, province, district, federal, and other applicable building and fire standards, guidelines, regulations, laws, and codes including, but not limited to, all appendices and amendments and the requirements of the local authority having jurisdiction (AHJ).

ARCHITECTS' & ENGINEERS' SPECIFICATIONS

- The notification appliances shall be Wheelock's patented AS Series Audible Strobe and AH Series Audible Horn devices, and when synchronization is required, companion SM and DSM Sync Modules, or approved equivalents. AS Series devices and SM and DSM Sync Modules shall be listed under UL Standard 1971 (Emergency Devices for the Hearing Impaired for Indoor Fire Protection Service). AH Series Audible Horn shall be listed under Standard 464 (Fire Protective Signaling). AS, AH, SM, and DSM devices shall be certified to meet FCC Part 15, Class B.
- The devices shall be designed for two-wire operation and shall provide either a continuous or temporal (Code 3) tone when constant voltage from a Notification Appliance Circuit (NACs) of the Fire Alarm Control Panel (FACP) is applied; or synchronized temporal (Code 3) horn and synchronized strobe when used in conjunction with the SM or DSM Sync Modules.
- The AS Series shall be designed so that the audible signal may be silenced while maintaining strobe activation (when used with the SM or DSM Sync Modules). The SM and DSM Sync Modules shall incorporate two inputs from Notification Appliance Circuits (NACs) for power connection from the Fire Alarm Control Panel (FACP): one for the strobe circuit (NAC), and one for the audible circuit (NAC). A single two-wire output shall control both the audible and visual appliances. Upon activation of the audible silence function of the FACP, the audible signal shall be silenced while maintaining strobe activation.
- Sound output at 10 feet (3.048 m) shall be field-selectable for 90, 95, or 99 dBA anechoic for both continuous or temporal (Code 3) tone. The AS Series shall provide listed strobe intensities of 15, 15/75, 30, 75, and 110 candela for wall-mount and/or 75 or 100 candela for ceiling-mount applications; with a flash rate of one flash per second minimum across the listed voltage range. The strobe shall incorporate a Xenon® flashtube enclosed in a rugged LEXAN® lens. The maximum allowable current at 24 VDC shall be 87 mA @ 15 cd, 102 mA @ 15/75 cd, 120 mA @ 30 cd, 177 mA @ 75 cd, and 202 mA @ 110 cd. All devices shall incorporate a reduced inrush circuit design. The strobe shall have a horizontal plane.
- The Sync Module shall be designed and available in two versions: the **SM-12/24**, for control of a single Class "B" NAC circuit; and a dual-output version, the **DSM-12/24**, for control of either a single Class "A" or two Class "B" NAC circuits. The DSM dual-circuit version shall provide the additional capability of "daisy-chaining," i.e., the ability to interconnect multiple DSM's for synchronous horn and strobe operation on multiple NAC circuits. DSM-12/24 interconnection capability shall be for a maximum of 20 modules (40 Class "B" NAC circuits or 20 Class "A" NAC circuits). Rated average current requirement for the SM-12/24 shall be 0.014 amperes @ 12 VDC and 0.025 amperes @ 24 VDC; the DSM-12/24 shall be 0.020 amperes @ 12 VDC and 0.038 amperes @ 24 VDC. The SM Sync Module shall be capable of handling a three-ampere load at 12 or 24 VDC. The DSM Sync Modules shall be capable of handling a load of three amperes **per circuit** in the Class "B" mode, and three amperes **per module** in the Class "A" mode at 12 or 24 VDC.
- SM or DSM Sync Modules and AS Audible Strobes shall be designed as a **system** for continuous activation of the strobes should the Sync Module contacts fail in the passive state (i.e., contacts remain closed). In this default mode, the strobes shall revert to a non-synchronized default flash rate.
- AS/AH Series devices shall be designed for operation at 12 or 24 VDC, over their respective listed voltage ranges of 10.5 to 15.6 VDC; and 20.0 to 31.0 VDC. The units shall be designed for operation on filtered DC, or unfiltered V_{RMS} . Rated average current for AS Series devices shall depend upon voltage and strobe intensity; current shall be as low as 0.058 amperes for 24 VDC versions and 0.145 amperes for 12 VDC versions. Rated average current for AH Series devices (volume set at high-dB output) shall be 0.041 amperes for 24 VDC versions and 0.113 amperes for 12 VDC versions.
- All versions shall be polarized for DC supervision and shall incorporate screw terminals for in/out field wiring of size #18 AWG (0.75 mm²) to #12 AWG (3.25 mm²).
- AS/AH shall incorporate a patented Universal Mounting Plate which shall allow mounting to single-gang, double-gang, 4" (10.16 cm) square, 100 mm European backboxes or Wheelock's SHBB surface backbox. No additional trim plate shall be required for flush mounting.
- Dimensions for AS/AH appliances shall be 4.625" (11.7475 cm) square by 1.5" (3.81 cm) deep.