



Fire-LITE® Alarms
INCORPORATED

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G-510

Wheelock
AS Series Audible Strobe Devices
and AH Series Audible Devices

Section: Audio/Visual Devices

GENERAL

Wheelock's new two-wire (patent pending) **AS Series Audible Strobe Devices** and **AH Series Audible Devices** feature less current draw and reduced inrush. The audible provides a selectable choice of either a continuous horn tone or a temporal pattern (Code 3) tone when constant voltage from a Fire Alarm Control Panel (FACP) is applied. Each tone has three dBA settings to choose from. All models (audible only or audible/strobe) may be synchronized when used in conjunction with the **SM** or **DSM Sync Module**. Additionally, the audible may be silenced while maintaining strobe activation on combination AS Series units.

AS Series Audible Strobes and AH Series Audibles are designed for maximum performance, reliability, and cost-effectiveness while meeting or exceeding the latest requirements of NFPA 72 (National Fire Alarm Code), ANSI 117.1 (American National Standard for Accessible and Usable Buildings and Facilities) and UL Standard 1971 (Standard for Signaling Devices for the Hearing Impaired) and UL 464 (Audible Signal Appliances). AS Series Audible Strobe Devices, when properly specified and installed in accordance with NFPA/ANSI standards, can provide the Equivalent Facilitation allowed under ADA Accessibility Guidelines (ADAAG General Section 2.2) by meeting or exceeding the illumination which results from the ADA specified strobe intensity of 75 candela at 50 feet (15.24 m). This is an illumination of 0.030 lumens per square foot.

When used with Wheelock SM and/or DSM Sync Modules, synchronization of the continuous horn tone provides the temporal (Code 3) tone (mandated by NFPA-72 [1993] with an effective date of July 1996) simultaneously for all audible devices. This ensures a distinct temporal (Code 3) pattern when two or more audibles are within hearing distance. If not synchronized, the temporal could overlap and not be distinctive. At the same time, the strobes will be synchronized. This provides the ability to comply with ADA recommendations concerning photosensitive epilepsy and NFPA standards when installing two or more visual devices within the field of view. These features, and the ability to silence the audible devices, are achieved using only two wires.

FEATURES

- ADA/NFPA/ANSI compliant. Meets OSHA 29 Part 1910.165.
- UL 1971 listed for Signaling Devices for the Hearing Impaired and UL Standard 464 for Audible Signal Appliances.
- Lower current draw and reduced inrush.
- Patented two-wire device.
- Selectable for continuous horn or temporal (Code 3) tones.
- **Field-selectable dBA levels for both tone varieties:**
Continuous tone: anechoic at 90, 95, or 99 dBA; reverberant at 82, 88, or 91 dBA.
Temporal (Code 3) tone: anechoic at 90, 95, or 99 dBA; reverberant at 75, 82, or 85 dBA.



E 5946



CS 356



California
State Fire
Marshal

7125-0785:131



MEA

151-92-E

0B6A2.AY
(SM/DSM)



AS Audible Strobe



AH Audible

- Patented Universal Mounting Plate allows mounting to single-gang, double-gang, 4" (10.16 cm), or 100 mm European backboxes, or to the SHBB surface backbox. No additional trim plates are required.
- **AS Series Audible Strobe Devices are available in wall- and ceiling-mount models:**
Wall-mount models are available in 15, 15/75, 30, 75, and 110 candela intensities. The 15/75 candela wall-mounted strobes are listed at 15 candela under UL Standard 1971 and meet 75 candela intensity on axis for ADA guidelines with low current draw.
Ceiling-mount models are offered in 75 and 100 candela intensities.
- **All models can be synchronized by adding the SM or DSM Sync Module to the NAC circuit:**
Sync the audible: Maintain the temporal pattern when two or more devices are within an area. Meets NFPA requirement for Temporal Evacuation Notification.
Sync the strobe: Maintain true one-flash-per-second when using two or more visual devices within the field of view. Meets ADA and NFPA requirements.
Silence the audible while maintaining the strobe flash, option.

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**. Phone: (203) 484-7161 FAX: (203) 484-7118



One Fire-Lite Place, Northford, Connecticut 06472

ISO-9001
Engineering and Manufacturing
Quality System Certified to
International Standard ISO-9001



Made in the U.S.A.

- All features on two wires.
- 12- and 24-volt models available.
- **AH Series Audible Devices are available in two models:**
AH-12 or AH-24 Indoor Audible Horn is enclosed in a grille matching that of the AS Series Audible Strobes.
AH-12WP or AH-24WP (weatherproof) can be installed indoors or outdoors. When used outdoors, they must be used with a WBB-R weatherproof backbox.

- AS Series Strobe products are listed under UL 1971 for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 85%.
- AH Series horns are listed under UL 464 for audible signal appliances.
- AH-12WP and AH-24WP audible devices are listed under UL 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%.

GENERAL NOTES

- Strobes are designed to flash at 1 flash per second minimum from 20 to 31 VDC (for 24 VDC models), or 10.5 to 15.6 VDC (for 12 VDC models). Note that NFPA-72 (1996) 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 1971.

! 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 NUMBER	INPUT VOLTAGE	STROBE CANDELA	MOUNTING OPTIONS*	MODEL NUMBER	INPUT VOLTAGE	STROBE CANDELA	MOUNTING OPTIONS*
AS-2415W-FR	24 VDC	15	A, B, D, F, G, O, R, X	AS-2475C-FW	24 VDC	75	A, B, D, F, G, R, V, X
AS-241575W-FR	24 VDC	15/75	A, B, D, F, G, O, R, X	AS-24100C-FW	24 VDC	100	A, B, D, F, G, R, V, X
AS-2430W-FR	24 VDC	30	A, B, D, F, G, O, R, X	AH-12-R	12 VDC	—	A, B, D, F, G, O, R, X
AS-2475W-FR	24 VDC	75	A, B, D, F, G, O, R, X	AH-24-R	24 VDC	—	A, B, D, F, G, O, R, X
AS-24110W-FR	24 VDC	110	A, B, D, F, G, O, R, X	AH-12WP-R	12 VDC	—	K
AS-1215W-FR	12 VDC	15	A, B, D, F, G, O, R, X	AH-24WP-R	24 VDC	—	K
AS-121575W-FR	12 VDC	15/75	A, B, D, F, G, O, R, X				
SYNC MODULES**	INPUT VOLTAGE	AVERAGE CURRENT		MOUNTING OPTIONS*			
SM-12/24-R	12 VDC / 24 VDC	0.014 (12 VDC) / 0.025 (24 VDC)		E, N			
DSM-12/24-R	12 VDC / 24 VDC	0.020 (12 VDC) / 0.038 (24 VDC)		W			

NOTES: 1) **COLORS:** Wall-mount models offered in red; ceiling-mount models offered in white. 2) **SUFFIXES USED ABOVE:** W = Wall mounting; C = Ceiling mounting; WP = Weatherproofing; F = Fire lettering; R at end = Red plate; W at end = White plate. **EXAMPLES:** AS-2415W-FR (Wall mounting – Fire lettering, Red plate); AS-2475C-FW (Ceiling mounting – Fire lettering, White plate).

* For descriptions of **MOUNTING OPTIONS**, refer to Fire•Lite data sheet DF-51744, derived from Wheelock #S7000.

** **SM Sync Modules** are rated for 3.0 amperes at 12 or 24 VDC; **DSM Dual Control Modules** are rated for 3.0 amperes per circuit. The maximum number of interconnected DSM modules is twenty (20). Refer to installation instructions for SM (Wheelock #P83123) and DSM (Wheelock #P83177).

▼ AVERAGE CURRENT

Average Current (Amperes)* at Low/Medium/High Audible Settings																		
Voltage:	20 VDC			24 VDC			31 VDC			10.5 VDC			12 VDC			15.6 VDC		
	LO 90 dBA	MED 95 dBA	HI 99 dBA	LO 90 dBA	MED 95 dBA	HI 99 dBA	LO 90 dBA	MED 95 dBA	HI 99 dBA	LO 90 dBA	MED 95 dBA	HI 99 dBA	LO 90 dBA	MED 95 dBA	HI 99 dBA	LO 90 dBA	MED 95 dBA	HI 99 dBA
Model:																		
AS-2415W-FR	0.070	0.074	0.088	0.064	0.072	0.087	0.058	0.067	0.090	—	—	—	—	—	—	—	—	—
AS-241575W-FR	0.084	0.089	0.105	0.077	0.083	0.102	0.067	0.077	0.100	—	—	—	—	—	—	—	—	—
AS-2430W-FR	0.111	0.116	0.128	0.098	0.105	0.120	0.084	0.092	0.119	—	—	—	—	—	—	—	—	—
AS-2475W-FR	0.178	0.184	0.200	0.149	0.156	0.177	0.117	0.130	0.152	—	—	—	—	—	—	—	—	—
AS-24110W-FR	0.210	0.216	0.230	0.177	0.183	0.202	0.148	0.158	0.183	—	—	—	—	—	—	—	—	—
AS-1215W-FR	—	—	—	—	—	—	—	—	—	0.184	0.205	0.248	0.162	0.191	0.238	0.145	0.179	0.233
AS-121575W-FR	—	—	—	—	—	—	—	—	—	0.250	0.267	0.317	0.211	0.231	0.285	0.174	0.200	0.258
AS-2475C-FW	0.279	0.287	0.306	0.230	0.238	0.261	0.284	0.294	0.329	—	—	—	—	—	—	—	—	—
AS-24100C-FW	0.317	0.324	0.340	0.265	0.272	0.292	0.334	0.340	0.366	—	—	—	—	—	—	—	—	—
AH-12-R	—	—	—	—	—	—	—	—	—	0.030	0.037	0.093	0.035	0.043	0.100	0.040	0.056	0.128
AH-24-R	0.014	0.020	0.035	0.017	0.024	0.041	0.021	0.030	0.053	—	—	—	—	—	—	—	—	—
AH-12WP-R	—	—	—	—	—	—	—	—	—	0.030	0.037	0.093	0.035	0.043	0.100	0.040	0.056	0.128
AH-24WP-R	0.014	0.020	0.035	0.017	0.024	0.041	0.021	0.030	0.053	—	—	—	—	—	—	—	—	—

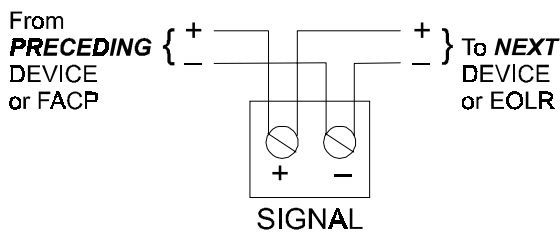
*Average current per actual Wheelock Production Testing @ 10.5, 12, 15.6, 20, 24, and 31 VDC. For rated average and peak current across the UL listed voltage range for both filtered and unfiltered V_{RMS}, see installation instructions (Wheelock #P83509 [AS] and #P83519 [AH]).

FEATURES QUICK REFERENCE

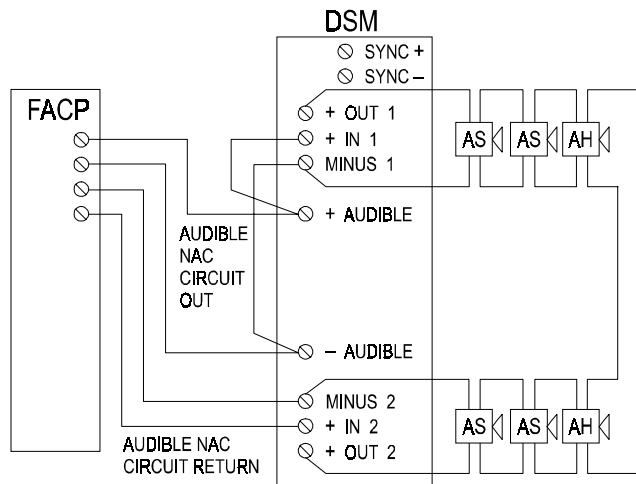
MODEL NUMBER	WALL MOUNT	CEILING MOUNT	NON-SYNC	SYNC'S w/ SM or DSM	STROBE CANDELA	24 VDC	12 VDC	RED	WHITE
AS-2415W-FR	X		X	X	15	X		X	
AS-241575W-FR	X		X	X	15/75	X		X	
AS-2430W-FR	X		X	X	30	X		X	
AS-2475W-FR	X		X	X	75	X		X	
AS-24110W-FR	X		X	X	110	X		X	
AS-1215W-FR	X		X	X	15		X	X	
AS-121575W-FR	X		X	X	15/75		X	X	
AS-2475C-FW		X	X	X	75	X			X
AS-24100C-FW		X	X	X	100	X			X
AH-12-R	X	X	X	X			X	X	
AH-24-R	X	X	X	X		X		X	
AH-12WP-R	X	X	X	X			X	X	
AH-24WP-R	X	X	X	X		X		X	

WIRING DIAGRAMS

AS device non-synchronized.



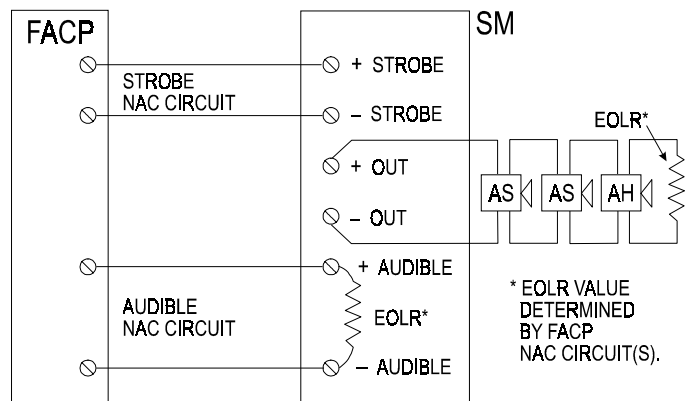
AS and AH devices synchronized with DSM Module dual Class "A" (Style Z) circuit with NO audible silence feature.



NOTES:

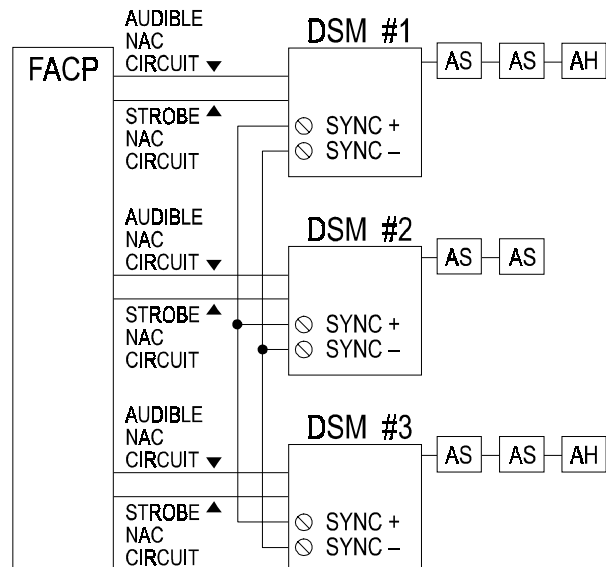
- AS/AH must be set on continuous horn tone, and connected to the SM or DSM Sync Module, to achieve synchronized temporal (Code 3) tone.
- For details on using SM or DSM Sync Modules, refer to Wheelock data sheet #S3000, or Wheelock installation instructions #P83123 (for SM) or #P83177 (for DSM).

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



AS and AH devices synchronized with multiple DSM Modules.

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





WARNING! CONTACT WHEELOCK 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.

Due to continuous development of products offered by Wheelock, specifications and product availability are subject to change without notice in accordance with Wheelock standard terms and conditions.