

DSM Sync modules



DSM

Description

The DSM sync modules provide independent operation of synchronized temporal pattern (code 3) horn and synchronized strobe flash, as well as the ability to silence the horn while maintaining the strobe flash (audible silence) while using only a single pair of wires. The DSM-12/24 sync modules control either one (1) Class A or two (2) Class B NAC circuits. When using the low frequency 520 sounder (ELFHS) the DSM can provide the code three temporal (T3) and also the code four temporal (T4) for carbon monoxide notification.

Table 1. Products available for use with DSM sync module

Model	Description
AH-WP, HS	Audible horn
MT with strobe ^①	Multitone horn with sync strobes
E and EH with strobe	E and EH HIFI speakers with sync strobe
ET70/90/1080 with strobe	ET speakers with sync strobe
RSS/RSSP strobes	Remote sync strobes
CH70 strobes ^①	Chimes with sync strobes
AS-WP, HS4	Audible horn with sync strobes
ELSPST, ELHS	LED speaker strobes and horn strobes
ELFHS	Low frequency (520Hz) sounder strobes

^① Strobe portion of device is compatible; audible portion does not synchronize.



Powering Business Worldwide

Features & benefits

- Uniquely designed to accept an independent strobe and audible input from the FACP and convert to a single output that connects to Wheelock compatible appliances.
- 3 ampere per circuit current handling at 12 or 24 VDC
- Low operating current draw
- Compatible with all standard fire alarm control panels
- Meets the NFPA-72 requirement for Temporal Pattern when used with the Series AS/AH and/or Series Eluxa

Note: Please read these specifications and associated installation instructions before using, specifying, or installing this product. Visit [Eaton.com/massnotification](https://www.eaton.com/massnotification) for current installation instructions.

Approvals & compliances

- Approvals include UL Standard 1971, ULC, New York City (MEA), California State Fire Marshal (CSFM) and Chicago (BFP)

General information

When calculating the total current, use Tables 1 & 2 to determine the highest value of “Rated Average Current” for the SM or DSM (across the listed voltage range), then add this value to the total current for any other appliances powered by the same source and include any required safety factors. Refer to Instruction Sheet for additional information.

Drawings

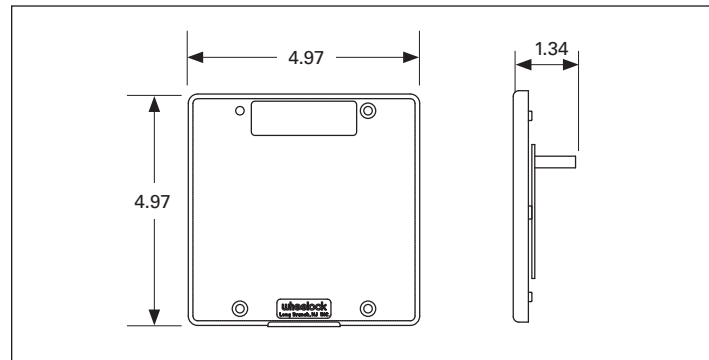


Figure 1. DSM front and side views

Table 2. Sync module (DSM) current requirements (AMPS)

UL Voltage	ULC Voltage	Rated Average Current		Rated Peak Current		Rated Inrush Current	
		In1/In2	Audible	In1/In2	Audible	In1/In2	Audible
8.0 VDC	10.5 VDC	0.019	0.004	0.055	0.004	0.150	0.016
12.0 VDC	12.0 VDC	0.020	0.004	0.064	0.004	0.170	0.019
24.0 VDC	24.0 VDC	0.035	0.008	0.080	0.008	0.342	0.030
33.0 VDC	33.0 VDC	0.045	0.010	0.090	0.010	0.470	0.040
8.0 VRMS	8.0 VRMS	0.028	0.005	0.107	0.008	0.210	0.016
12.0 VRMS	12.0 VRMS	0.030	0.006	0.103	0.009	0.240	0.019
24.0 VRMS	24.0 VRMS	0.048	0.010	0.145	0.015	0.480	0.033
33.0 VRMS	31.0 VRMS	0.062	0.012	0.175	0.022	0.685	0.056

Table 3. Current consumption DSM modules

Output Circuit Description of DSM Module	DSM Module
Class “B” with Audible Silence (dual circuit)	Y
Class “B” with No Audible Silence (dual circuit)	Y
Class “A” with Audible Silence (single circuit)	Y
Class “A” with No Audible Silence (single circuit)	Y

- Notes:**
1. DSM dual sync modules are rated for 3.0 amperes per circuit. The maximum number of interconnected DSM modules is twenty (20).
 2. Non-sync appliances can be installed before or after a DSM. If the non-sync appliance requires audible silence, four wire connection is necessary with the strobe circuit connected before the DSM NAC circuit, and the audible leads connected to a silenceable NAC circuit from the FACP.
 3. The audible appliance produces a momentary interruption (approximately 25ms) each time the strobes flash.
 4. Circuit #2 may be omitted if only 1 circuit is required when using the DSM.
 5. Non-sync audible appliances can be installed on the audible NAC. Be aware of the current requirement for the DSM module. See Table 2.

Table 4. Specifications and Ordering Information

Model Number	Finish	Order Code	Input Voltage VDC	Average Current @ 12 or 24 VDC	UL Max ^①	Mounting Options ^②
DSM-12/24-R ^{③④}	Red	6374	12	0.020	0.026	W
			24	0.035	0.055	W

① RMS current ratings are per UL average RMS method. UL max current rating is the maximum RMS current within the listed voltage range (16–33v for 24v units). For strobes, the UL max current is usually at the minimum listed voltage (16v for 24v units). For audibles, the max current is usually at the maximum listed voltage (33v for 24v units). For unfiltered FWR ratings, see installation instructions.

② Refer to Data Sheet #TD450028EN for mounting options.

③ The total distance from the first to the last DSM shall not exceed 1,000 feet of #18 AWG wire. Use only #18 AWG wire.

Architects and engineers specifications

The sync modules shall be Wheelock DSM sync modules. Wheelock DSM sync modules shall be the master controllers for Wheelock Eluxa LED (ELSPST, ELHS), and Wheelock AH-WP, MT, E, EH, ET70/90/1080, RSS/RSSP, and CH70 product lines appliances where a synchronized audible/visual audible or visual only appliance is specified. All modules shall be UL listed under Standard 464. Wheelock DSM modules shall be designed to interface with AS audible strobe appliances and horn strobe appliances to produce a synchronized temporal (Code 3) horn as well as synchronized strobe flash on a two-wire alarm circuit.

DSM modules shall provide an additional strobe circuit input/output for control of either two Class “B” NAC circuits or a single Class “A” NAC circuit. Upon activation of the audible silence function at the fire alarm control panel, the audible signal component of AS audible strobes and/or NS horn strobes may be silenced while maintaining strobe activation.

When using the low frequency 520 sounder (ELFHS) the DSM shall provide the code three temporal (T3) and also the code four temporal (T4) for carbon monoxide signaling.

DSM module shall be DSM-12/24 for control of either Class A two (2) Class B NAC circuits. The DSM dual circuit version shall provide the additional capability of “daisy-chaining”—the ability to interconnect multiple DSM’s for synchronous horn and strobe operation on multiple NAC circuits. Interconnection capability shall be for a maximum of 40 NAC circuits. All modules shall operate on either 12 or 24 VDC. The DSM 12/24 shall be 0.020 amperes @ 12 VDC and 0.035 amperes @ 24 VDC. The dual circuit DSM sync module shall be capable of handling a load of 3 amperes per NAC circuit at 12 or 24 VDC.

All versions shall be polarized for DC supervision and shall incorporate screw terminals for in/out field wiring of #18 to #12 AWG wire size. DSM sync modules shall mount to a 4-11/16” x 2-1/8” deep backbox.



WE ENCOURAGE AND SUPPORT NICET CERTIFICATION
3-YEAR WARRANTY

Note: Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Cooper Wheelock, Inc. dba Eaton standard terms and conditions.

Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

Eaton
Life safety & mass notification solutions
273 Branchport Ave.
Long Branch, NJ 07740
www.eaton.com/massnotification

© 2023 Eaton
All Rights Reserved
Printed in USA
Publication No. TD450081EN
December 2023



Eaton is a registered trademark.

All other trademarks are property
of their respective owners.