

Wheelock DSM Synchronization Module by Eaton



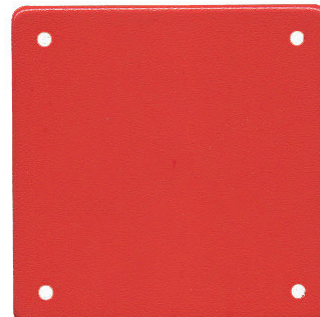
Effective: August 2026

K-75-012

P/N DSM-12/24-R

FEATURES

- Approvals include: UL Standard 1971, ULC, California State Marshal (CSFM), and Chicago (BFP)
- Accepts an independent strobe and audible input from Kidde Fire Systems' families of AEGIS™ and ARIES™ Control Units and converts to a single output that connects to Series AS or Series NS family of audible strobes
- Can also be used to synchronize Wheelock Series Exceder, RSS, and RSSP appliances
- 3 ampere per circuit current handling at 12 or 24 VDC
- Meets the NFPA-72 requirement for Temporal Pattern when used with the Series AS/AH and/or Series Exceder



Series DSM Sync Module

DESCRIPTION

Eaton's Wheelock DSM Sync Module (order part number DSM-12/24-R) is utilized with the Series Exceder, Series AS/AH, Series RSS, and Series RSSP appliances.

When used with Series AS Audible Strobes and/or Series Exceder Horn Strobes, the DSM Sync Module provides 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, while using only a single pair of wires. The DSM-12/24-R Sync Module controls either a Class A or two (2) Class B NAC circuits.

Table 1: 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
8.0 VRMS	8.0 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	33.0 VRMS	0.062	0.012	0.175	0.022	0.685	0.056



Please read these specifications and installation instructions carefully before using, specifying or applying this product. Failure to comply with any of these instructions, cautions or 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.



Make sure that the total current required by all appliances that are connected to a DSM does not exceed 3.0A or exceed the rating of the fire alarm control panel's primary and secondary power sources and NAC circuits. Overloading these sources could result in loss of power and failure to alert occupants during an emergency, which could result in property damage and serious injury or death to you and/or others.

When calculating the total current, use Table 1 to determine the highest value of "Rated Average Current" for the 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.



Make sure that all fuses used on NAC circuits are rated to handle the maximum inrush or peak current from all appliances on those circuits. Failure to do this may result in loss of power to the NAC circuit and the failure of all appliances on that circuit to operate, which could result in property damage and serious injury or death to you and/or others.

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



Use DSM Sync Modules only on NAC circuits with continuously applied voltage. Do not use DSM Sync Modules on coded or interrupted NAC circuits in which the applied voltage is cycled on and off.



Power Boosters may be used in conjunction with the DSM Sync Modules only in the order shown below. Only one DSM Sync Module shall be allowed on a NAC circuit. Do not connect Power Booster to the NAC circuit after the one DSM Sync Module. Exception: Eaton Wheelock Power Booster can be connected either before or after the DSM Sync Module. Refer to Power Booster instruction manual for proper application and installation.



DSM Connection Diagram with Power Booster

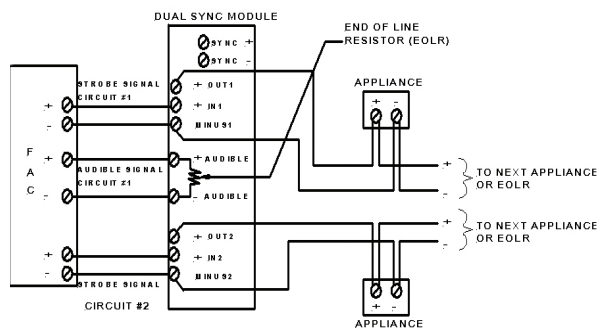


Figure 1. Dual Class "B" Circuit with Audible Silence Feature

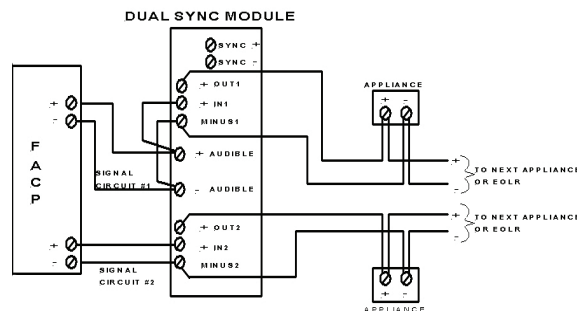


Figure 2. Dual Class "B" Circuit with No Audible Silence Feature

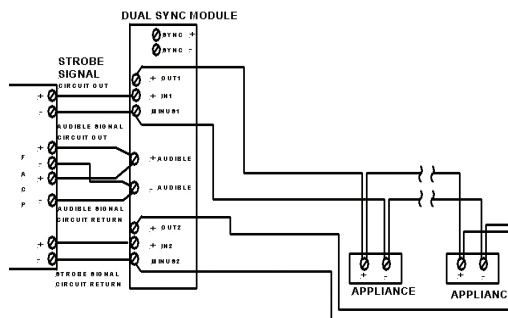


Figure 3. Single Class "A" Circuit with Audible Silence Feature

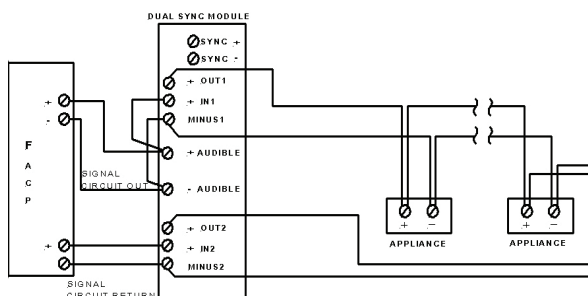


Figure 4. Single Class "A" Circuit without Audible Silence Feature

Notes:

1. 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.
2. The audible appliance produces a momentary interruption (approximately 25ms) each time the strobes flash.
3. Circuit #2 may be omitted if only 1 circuit is required when using the DSM.
4. Non-Sync Audible Appliances can be installed on the audible NAC. Be aware of the current required for the DSM module.

SPECIFICATIONS AND ORDERING INFORMATION

Model	Input Voltage VDC	Average Current @ 12 or 24 VDC	UL Max*
DSM-12/24-R***	12	0.020	0.026
	24	0.035	0.055

R = Red

*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.

*** The maximum number of interconnected DSM modules is twenty (20).

*** 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.

Wall mount in 4"/16" (square) x 2-1/8" deep backbox



These appliances were tested to the operating voltage limits of 8-33 volts using filtered DC or unfiltered full-wave rectified (FWR). Do not apply 80% and 110% of these voltage values for system operation. The application of improper voltage may result in degraded operation or damage to these products, which could result in property damage and serious injury or death to you and or others.

This product must be used within its 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).



It is important that you have the following information prior to specifying or installing these products including:

- **TOTAL CURRENT REQUIRED BY ALL APPLIANCES CONNECTED TO SYSTEM SECONDARY POWER SOURCES.**
- **FUSE RATINGS ON NAC CIRCUITS TO HANDLE MAXIMUM INRUSH OR PEAK CURRENTS FROM ALL APPLIANCES ON THOSE NAC CIRCUITS.**
- **COMPOSITE FLASH RATE FROM MULTIPLE STROBES WITHIN A PERSON'S FIELD OF VIEW.**
- **THE VOLTAGE APPLIED TO THESE PRODUCTS MUST BE WITHIN THEIR RATED INPUT VOLTAGE RANGE.**
- **INSTALLATION IN OFFICE AREAS AND OTHER SPECIFICATION AND INSTALLATION ISSUES.**
- **USE STROBES ONLY ON NAC CIRCUITS WITH CONTINUOUSLY APPLIED OPERATING VOLTAGE. DO NOT USE STROBE ON CODED OR INTERRUPTED NAC CIRCUITS IN WHICH THE APPLIED VOLTAGE IS CYCLED ON AND OFF AS THE STROBE MAY NOT FLASH.**

ARCHITECTS AND ENGINEERS SPECIFICATIONS

The sync module shall be DSM-12/24-R. The DSM-12/24-R shall be the master controllers for Series Exceder, AS/AH, RSS, RSSP and appliances where a synchronized audible/visual, audible or visual only appliance is specified. All modules shall be UL listed under Standard 464. The DSM-12/24-R shall be designed to interface with Series 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. Other synchronized products are Series Exceder, RSS, and RSSP visual only appliances and Series AH and Exceder Horn Appliances.

The DSM-12/24-R 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 Series AS Audible Strobe and/or the Series NS Horn Strobe may be silenced while maintaining strobe activation.

The DSM-12/24-R shall provide the capability of "daisy-chaining", that is, the ability to interconnect multiple DSM-12/24-R modules for synchronous horn and strobe operation on multiple NAC circuits. Modules shall operate on either 12 or 24 VDC. The DSM-12/24-R 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. The DSM Sync module shall mount to a 4-11/16" x 2-1/8" deep backbox.

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