

RLY-1-3

Sage Relay · Emergency Lighting Control (ELC)

Installation Instructions & User's Manual

For use with the Sage Central Battery System



IMPORTANT SAFEGUARDS — READ AND FOLLOW ALL SAFETY INSTRUCTIONS

When using electrical equipment, basic safety precautions should always be followed, including the following:

1. CAUTION: This unit has more than one power supply connection point. To reduce the risk of electric shock, disconnect both the branch circuit breakers or fuses and the emergency power supplies before servicing.
2. CAUTION: This equipment provides more than one power supply output source. To reduce the risk of electric shock, disconnect both normal and emergency sources within this unit before servicing any equipment connected to this unit.
3. CAUTION: Sealed unit. Components are not replaceable. Replace the entire unit when necessary.
4. CAUTION: Installation and servicing should be performed by qualified personnel only. De-energize before opening.
5. Do not use outdoors.
6. Do not mount near gas or electric heaters.
7. Equipment should be mounted in locations and at heights where it will not be subjected to tampering by unauthorized personnel.
8. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
9. Do not use this equipment for other than its intended use.
10. Install in accordance with the National Electrical Code and local regulations.
11. Approved for field or factory installation.
12. Lighting fixture manufacturers, electricians and end users need to ensure product compatibility before final installation.
13. The output of the device qualifies as a low voltage, limited energy (LVLE) source, defined by UL 924 as having comparable output current and voltage limits as a Class 2 source. Most luminaire standards permit polymeric enclosure materials containing only circuits limited to Class 2 values to be flammability rated HB or better.

LIMITATIONS

1. The output voltage and current of the Sage Relay, as marked on the data label, must not exceed the maximum output voltage and current of the normal driver, as marked on the data label.
2. RLY-3 is plenum rated, for applications that require compliance to UL 2043, Discrete Products and Their Accessories Installed in Air-Handling Spaces.
3. Sage Relay output to the LED array may not be connected by soldering directly to a circuit board. All connections from the Sage Relay to the normal driver and the LED array should be made using standard wire nuts or terminal blocks.

SAVE THESE INSTRUCTIONS

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Ratings · Wiring Color Key · Dimensions

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EMERGENCY LIGHT OUTPUT

To verify compliance with the minimum light output required by federal, state, and local codes for emergency illumination of the path of egress, emergency light output may be calculated as follows: (1) Refer to the luminaire specification data and locate the efficacy of the fixture (delivered lumens per watt). (2) If not available on the data sheet, look up the rated efficacy on the DesignLights Consortium Qualified Products List (www.designlights.org). (3) Note the Sage Relay power rating on the data label, then: Emergency lumen output = Sage Relay Power Rating × Luminaire Efficacy (Lm). (4) Download available IES photometric files for the luminaire and use the calculated emergency lumen output to determine minimum illuminance at the specified mounting height. (5) The NFPA minimum standard is 1 fc average and 0.1 fc minimum at any point on the path of egress. Verifying minimum lighting for a single luminaire does not imply the complete installation will meet all required codes — that responsibility remains with the specifying engineer or designer.

RATINGS

	Emergency	Normal
Input	24 VDC · 900 mA	120 / 277 VAC · 6 A
Output	24–54 VDC · 100–400 mA, 20 W	N/A

The Sage Relay has ratings at Class 2 levels. Output voltage, current and emergency power for each variant and option are on the Sage Relay spec sheet.

WIRING COLOR KEY

INPUT

	RED	+24 V
	BLK	–24 V · RLY-1
	GRN	–24 V · RLY-2, RLY-3
	REDWHITE	diode pigtail · normal driver (+) · RLY-2, RLY-3

OUTPUT

	YEL	LED +
	BLU	LED –

AC LINE SWITCH

	Line In	BLK
	Line Out	BLK

DIMENSIONS

RLY-1	3.5" L × 1.1" H × 0.9" D · horizontal mount only, 4.0 cu in · cable tie through the base, or two cable ties on an adhesive base
RLY-2	2.9" L × 1.6" H × 1.0" D · 2.0" mounting hole span · high-temperature VHB tape (4.0 cu in) or flange screw mount (5.0 cu in)
RLY-3	2.17" W × 1.76" H × 1.64" D · 7.0 cu in standard mount · 1/2-14 NPS threaded fitting to the junction box · plenum rated

See the Sage Relay Dimensional Data sheet for the scaled drawing and lead detail.

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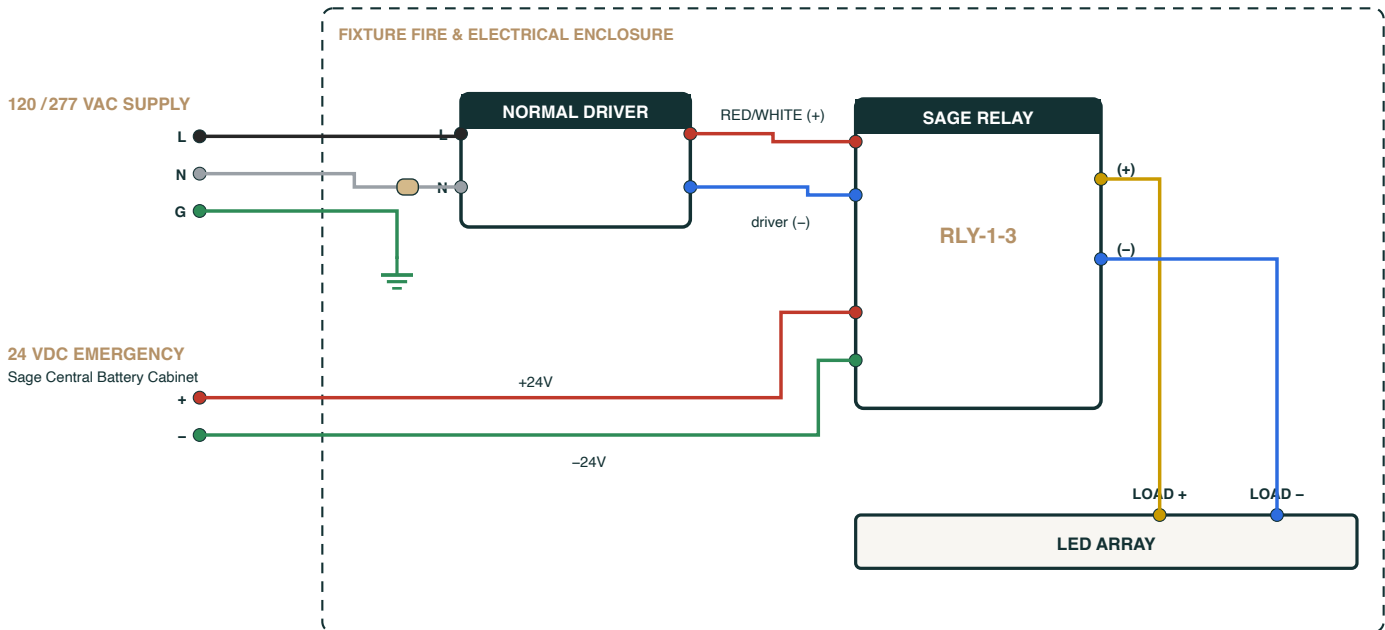
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Fixture-Mount Wiring (single driver)

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FIXTURE MOUNT — WIRING DIAGRAM



Conductor colors per the Wiring Color Key (Page 2).

WIRING PROCEDURE

1. Open the luminaire driver compartment to enable access to all input and output wiring.
2. Mount the Sage Relay within the fixture driver enclosure or other fire and electrical enclosure which is part of the fixture assembly. (If supplied, comply with the relay location and mounting instructions for specific fixture types.) Complete all wiring connections shown in the diagram and secure the wiring inside the driver compartment.
3. See Fig. 1. The output has a POSITIVE (yellow) and a NEGATIVE (blue) wire. Using push-in wire nuts, connect the output from the Sage Relay as shown to LED LOAD NEGATIVE and LED LOAD POSITIVE. DO NOT CROSS POLARIZE LED WIRING.
4. RLY-2 and RLY-3: add the diode pigtail (supplied) in series on the output (+) of the normal driver. The RED side of the pigtail is on the driver output (+) wire and the yellow pigtail wire to the load (+). DO NOT CROSS POLARIZE WIRING. RLY-1 has no pigtail.
5. Connect the 24 V emergency supply from the central battery cabinet POSITIVE (red) and NEGATIVE branch circuit wiring to the Sage Relay POSITIVE INPUT (red) and NEGATIVE (black on RLY-1, green on RLY-2 and RLY-3).
6. Replace the compartment cover and close the fixture. Activate AC normal branch circuit power to confirm LED lamp operation. Activate the central battery cabinet and check emergency power operation (AC power can remain on). NOTE: Building AC supply and emergency DC supply from the central battery cabinet must be routed through separate cable openings (K.O.).

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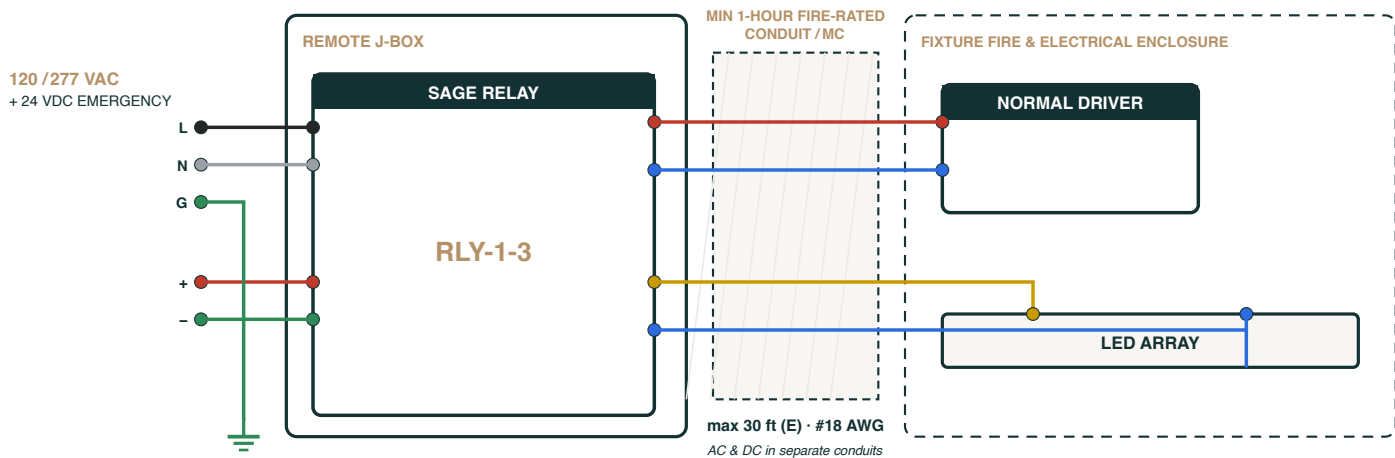
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Remote-Mount Wiring (J-box)

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REMOTE MOUNT — WIRING DIAGRAM



Conductor colors per the Wiring Color Key (Page 2).

WIRING PROCEDURE

1. See Fig. 2. Locate a junction box of suitable size for the required wiring and the Sage Relay. NOTE: Using #18 AWG for the low voltage output to the luminaire (blue and yellow connections to the relay), the maximum distance from the relay to the luminaire should not exceed 30 ft (dimension E on Fig. 2).
2. Connect the emergency supply from the central battery cabinet 24 VDC POSITIVE and NEGATIVE emergency branch circuit wiring to the Sage Relay POSITIVE INPUT (red) and NEGATIVE (black on RLY-1, green on RLY-2 and RLY-3), and the 120/277 VAC building supply LINE and GROUND inputs to the relay in the junction box as shown.
3. Route AC wiring and DC wiring from the junction box to the luminaire through separate conduit or MC flexible cables, to separate connectors on the luminaire housing.
4. Using standard wire nuts or approved push-in connectors, connect the normal driver AC LINE and NEUTRAL input and connect GROUND to the appropriate fixture terminal.
5. Connect the Sage Relay POSITIVE OUTPUT (yellow) and NEGATIVE OUTPUT (blue) to LED LOAD NEGATIVE and POSITIVE. DO NOT CROSS POLARIZE LED WIRING.
6. RLY-2 and RLY-3: add the diode pigtail (supplied) in series on the output (+) of the normal driver. The RED side of the pigtail is on the driver output (+) wire and the yellow pigtail wire on the load (+).
7. Activate AC normal branch circuit power to confirm LED lamp operation. Activate the central battery cabinet and check emergency power operation (AC power can remain on).

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