CoreSync
Emergency Lighting Bypass

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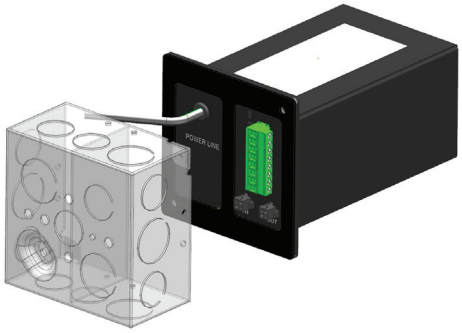
The CoreSync Emergency Lighting Bypass is a UL924-compliant solution for operating emergency light fixtures controlled on a Molex CoreSync PoE network.

The CoreSync Emergency Lighting Bypass receives both a PoE input and emergency power from a Life Safety power source. During normal operation, PoE power from a Molex PoE Gateway passes through the Module, enabling routine CoreSync control of an emergency-designated fixture.

In the event of an emergency, such as power failure, PoE power source failure or disconnection of cabling, the Module will bypass normal PoE control and activate the emergency power source and onboard LED driver. The fixture will be powered to full brightness irrespective of previous state/control. Once the emergency condition is cleared, the lighting system will resume normal operation and the fixture will revert to the previous CoreSync control state. The Emergency Lighting Bypass also provides inputs for testing and fire alarm connection.



Features and Advantages

CoreSync enabled	Low voltage PoE infrastructure for power, control, communication
Easy Mounting	Allows mounting on standard 4x4 junction box
CoreSync daisy-chain compatible	Enables connection and interaction on the CoreSync bus
Available in a range of power outputs	Provides flexibility across a wide variety of fixture types
Powered by building emergency source	High reliability; no local batteries required; reduced maintenance
No auxiliary PoE port needed	Optimized and cost effective PoE infrastructure utilization
UL 924, CSA C22.2 No 141, FCC Class A	Meets agency standards for safe operation and reliability
NFPA (NEC, Life Safety Code) IBC	Compliant with important building safety requirements

Specifications

COMMERCIAL STANDARDS

UL924, CSA, CSA C22.2 No 141;
FCC Class A

NFPA (NEC, Life Safety) IBC

ENVIRONMENTAL

Ambient Operating Temp: 0-40°C (32 to 104°F)
Humidity: 10-80% Non-condensing
Environmental Rating: Indoor

MECHANICAL

Fire Alarm:	Contacts: normally open (N.O.)
Test Button:	Push to ON with illuminated LED. Push button is not included in the product and it is optional.
Nominal Dimensions:	4 x 4 x 6.5 inches 101.6 x 101.6 x 165.1 mm

ELECTRICAL

EM input:	110-277VAC,
Output:	12-42VDC up to 1050mA
Standby PoE Power:	1W
CoreSync Bus I/O:	42-57VDC; IEEE 802.3xx power compliant

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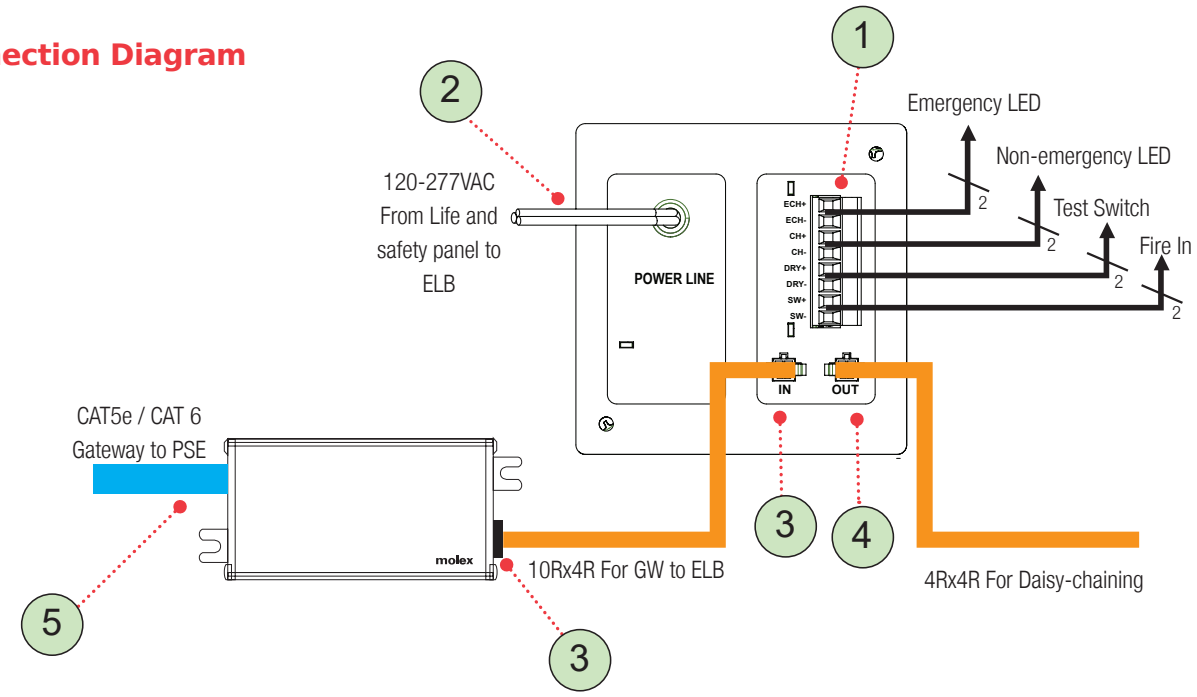
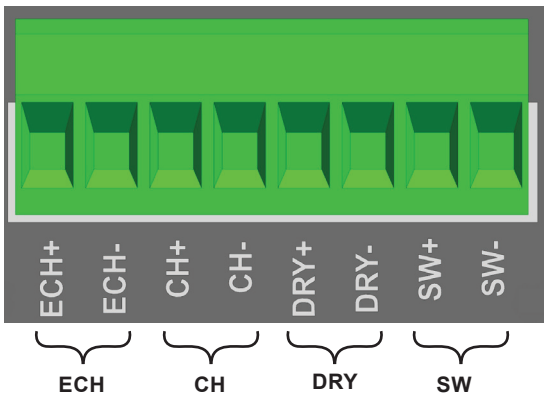
Connection Diagram



1	Connection to LED load, fire alarm and test switches
2	120-277V AC power from life safety panel to ELB
3	Molex harness from the PoE gateway to the panel mount micro-fit input on the ELB
4	From the panel mount micro-fit output connector on ELB to the next CoreSync device in the daisy-chaining
5	CAT5e /CAT 6 PoE input from the PoE switch (PSE) to the CoreSync PoE gateway



ECH	Constant Current LED Out to drive the emergency fixture
CH	Constant Current LED Out to drive non emergency channel (Only used with a tunable driver)
DRY	Connects to a dry contact emergency signal. DRY pins should only be connected the signal source and the DRY pins from other ELBs if required.
SW	Input for an illuminated low voltage push button used to simulate emergency operation. The LED stays on as long as PoE is present and turns off in case of emergency

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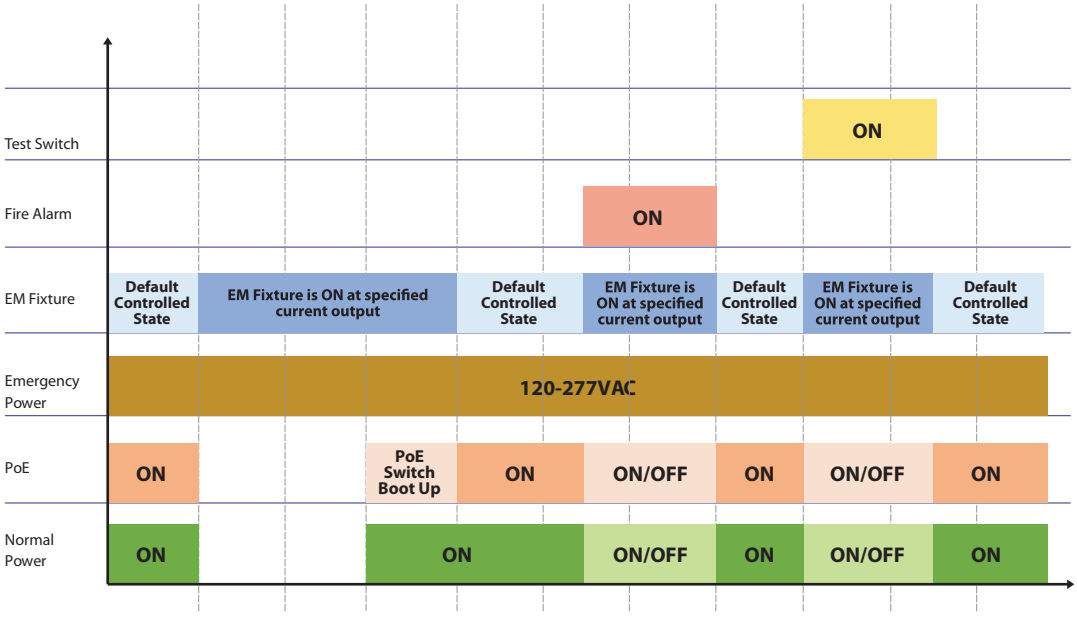
Description

CoreSync Bus	The CoreSync Bus on the Emergency Lighting Bypass sences the presence of PoE power and daisy-chaining of other CoreSync devices such as sensors and drivers without disrupting the flow of operation.
Test Switch (SW)	Test Switch input allows for a pushbutton to test and simulate emergency operation. The Test switch is not included in the Emergency Lighting Bypass and would be purchased separately and installed on site.
Fire Alarm (DRY)	The Fire Alarm input connects to a normally open dry contact signal for integration with the fire alarm system. On activation, the module changes to emergency mode, turning on the luminaire to maximum brightness. Connecting a Fire Alarm input is optional.
LED Out (ECH)	This is a constant current output: LED+ and LED- drive an emergency LED luminaire.
Emergency Power	110 -277 VAC emergency power; for powering the luminaire in case of emergency.

Timing Diagram



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Operation

The Emergency Lighting Bypass differentiates between emergency and normal operation mode by monitoring power on the CoreSync bus.

During normal operation, the emergency light fixture is driven by a CoreSync LED Driver inside the ELB which powers and controls the fixture using CoreSync PoE.

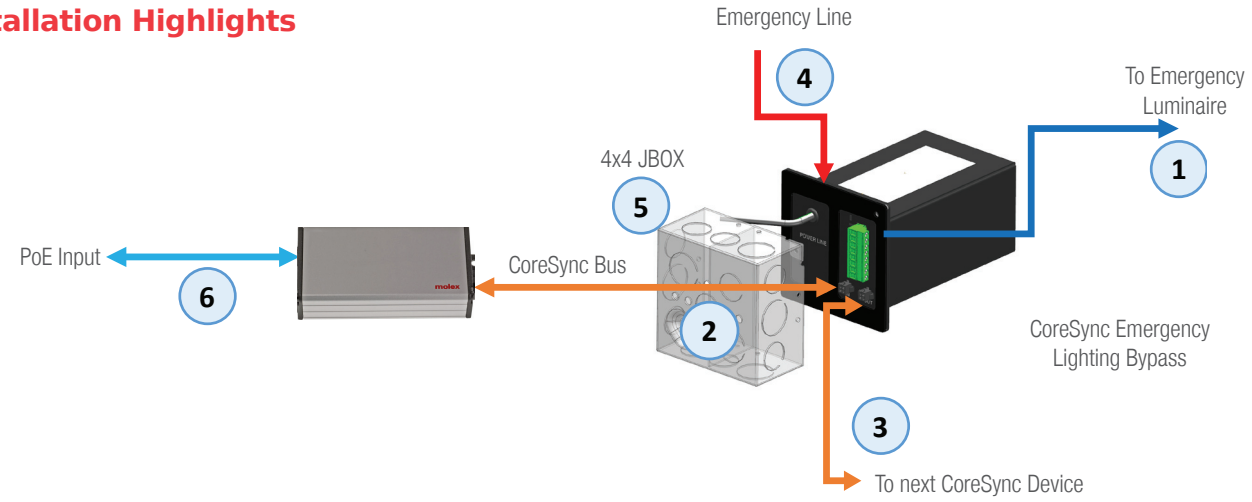
In the event of power failure, the relay bypasses control and switches to Emergency power, turning the fixture on to the specified current output for maximum brightness.

When normal power is restored, the relay switches back to CoreSync operation mode as soon as CoreSync power is available.

The fire alarm input is connected to the fire alarm system. Upon activation, the Module forces the fixture to turn on 100% irrespective of the mode of operation.

If an optional test button switch is installed, the module can be routinely tested to simulate emergency operation per the building requirements.

Installation Highlights



Wiring diagram for installing Emergency Lighting Bypass

Instructions Highlights

Important

Do not connect the PoE input or emergency line until Steps 1 through 3 are complete

1. Connect LED+ and LED- from emergency luminaire to “ECH+/ECH-” of Emergency Lighting Bypass through the junction box knock out. If using a dual channel ELB and luminaire, connect the CH+/CH- to the second LED channel.Connect the test switches and Fire alarm inputs to the appropriate pins if required,
2. Connect the CoreSync Bus harnesses to the CoreSync Bus input trough the junction box knock out.
3. Connect the CoreSync Bus harnesses to the CoreSync Bus output through the junction box knock out and connect another CoreSync Device in Daisy-Chain.
4. Connect the Emergency Line Power to the emergency input on the Emergency Lighting Bypass.
5. Mount the Emergency Lighting Bypass to the junction box. Use appropriate dividers for high voltage and low voltage separation.
6. Connect PoE power to Gateway using CAT5e or better Ethernet cable, to power the fixture

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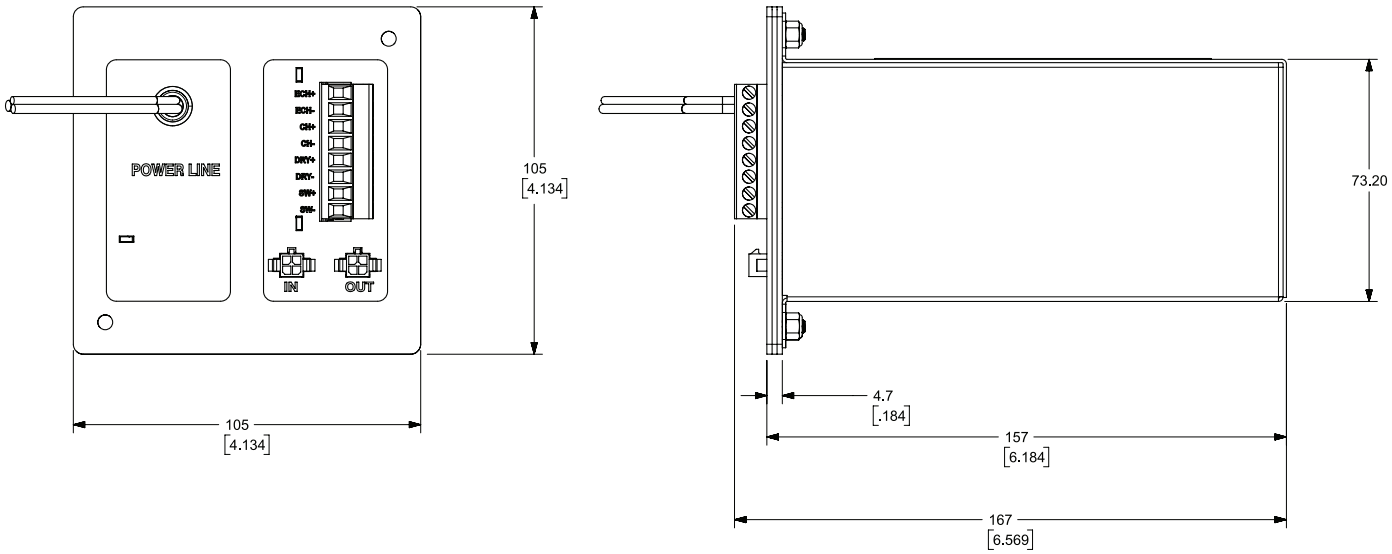
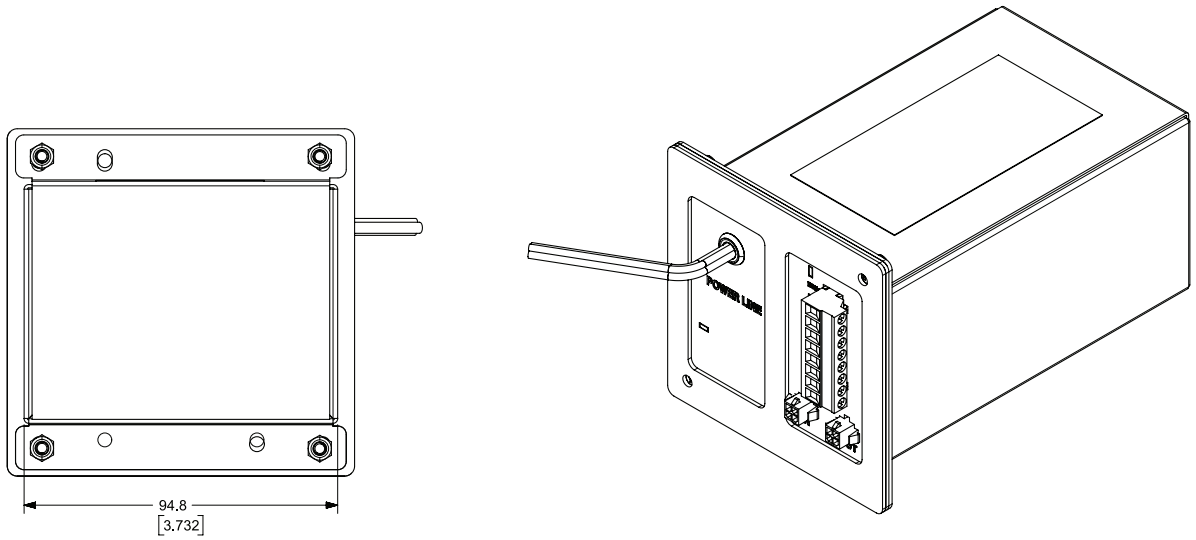
Mechanical Dimensions





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Connections

Molex Series*	Description	Gauge / conductor	Start	End	Plenum rated Cable
180777, 180778	CoreSync Daisy-Chain	20/4	4-pin Micro-Fit receptacle	4-pin Micro-Fit receptacle	No
180887, 180888	CoreSync Gateway to Driver		10-pin Micro-Fit receptacle	10-pin Micro-Fit receptacle	No
182105	CoreSync Gateway to Driver, reverse gender		4-pin Micro-Fit receptacle	4-circuit Micro-Fit plug	No
182106	CoreSync Extender, 2-Gender		4-pin Micro-Fit receptacle	4-circuit Micro-Fit plug	No
182110-400x	CoreSync Long-Run Cable	18/4	10-pin Micro-Fit receptacle	4-pin Micro-Fit receptacle	Yes
182110-5xxx	CoreSync Poke-In Extender		4-pin Micro-Fit receptacle	4-circuit poke-in connector	Yes
182110-6xxx	CoreSync Extender, 2-Gender		4-pin Micro-Fit receptacle	4-circuit Micro-Fit plug	Yes
182110-7xxx	CoreSync Poke-In Extender		10-pin Micro-Fit receptacle	4-circuit poke-in connector	Yes

* See individual data sheets for specific order numbers

Ordering Information

Order No.	SAP No.	Description
CORESM-00350	1821351201	CoreSync Emergency Lighting Bypass 350mA Single Channel
CORESM-00500	1821351202	CoreSync Emergency Lighting Bypass 500mA Single Channel
CORESM-00700	1821351203	CoreSync Emergency Lighting Bypass 700mA Single Channel
CORESM-01050	1821351204	CoreSync Emergency Lighting Bypass 1050mA Single Channel
CORESM-00880	1821351206	CoreSync Emergency Lighting Bypass 880mA Single Channel
COREDM-00350	1821351211	CoreSync Emergency Lighting Bypass 350mA Dual Channel
COREDM-00500	1821351212	CoreSync Emergency Lighting Bypass 500mA Dual Channel
COREDM-00700	1821351213	CoreSync Emergency Lighting Bypass 700mA Dual Channel
COREDM-01050	1821351214	CoreSync Emergency Lighting Bypass 1050mA Dual Channel
COREDM-00880	1821351216	CoreSync Emergency Lighting Bypass 880mA Dual Channel

Note:
1. CoreSync Driver can be high-end trimmed for desired current output during the normal operation. The device will produce a full brightness output during the emergency operation
2. Programmable in 10mA increments, using CoreSync Programming Kit No. 180788-1000

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