EM SOLUTION

INTEGRATED BATTERY BACK-UP SYSTEM

OVERVIEW

The EM Solution features an integrated battery back-up system, seamlessly combined with ALW specification-grade LED luminaires. The EM solution is compatible with a wide range of ALW luminaires to be used as emergency fixtures.

The EM Solution allows the same ALW luminaires to be used for both normal and emergency operation without compromising performance or aesthetics.

Its unobtrusive design allows for the luminaire to seamlessly blend in with other architectural fixtures installed in the project.

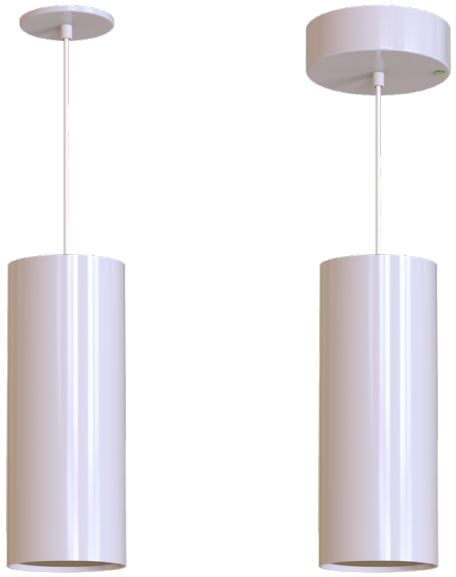
This EM Solution from ALW is built with reliability and flexiblity in mind, ideal for any modern emergency LED lighting applications.

FEATURES

- LED driver with integrated battery back-up system
- 180 minutes @ 5W, 90 minutes @ 10W - switch selectable
- 0-10V dimming, with 1% dimming and dim to off
- Manual and self-diagnostic test modes
- Input surge protection
- Test switch included

EM DRIVER SPECIFICATIONS

Input Voltage:	120-277VAC, 50/60Hz
Max Input Power:	54W
Power Factor:	>0.9
THD:	<20%
Standby Input Power:	<0.85W
Output Type:	Constant Current, Isolated, Class 2, Suitable for LEDs only
Output Voltage Range:	11-55VDC
Normal Output Power:	40W Max
Emergency Output Power:	5W or 10W switch selectable
Minimum Emergency Run Time:	180 Minutes @ 5W, 90 Minutes @ 10W
Dimming:	0-10V, 100% - 1%, 0% (dim to off)
RFI/EMI:	FCC Part 15A Non-Consumer
Battery Capacity Available:	3200mAh
Battery Recharge Time:	12 Hours
Battery Type:	LiFePO4 6.4VDC, User Replaceable
Replacement Battery:	Fulham p/n FHSBATL2-3.2L ALW p/n 401-0164
Remote Test Switch:	Included
Ambient Operating Temperature Range:	32°F to 104 °F [0°C to 40°C]
Sound Rating:	A
Input Surge Protection:	Line-Neutral 3kV , Line & Neutral-Gound 6kV, Ring Wave ANSI/IEEEC62.41
Protections:	Input Current Protection Output Open Circuit Protection Overload Protection Over Temperature Protection Output Short Circuit Protection Output To Ground Short Circuit Protection
EM Battery Service Life:	50,000 hours



REMOTE EM SOLUTION
5" shallow canopy with remote EM enclosure

CANOPY EM SOLUTION
7.5" deep canopy with integrated battery back-up

*For Direct + Indirect cylinder specifications, EMB is supplied with a remote enclosure.

EM COMPATIBLE FIXTURES

CORE

PENDANT	SURFACE MOUNT	SCONCE	YOKE
CRP3/4/6	CRM3/4/6	CRS3/4/6	CRY3/4/6
CSP3/4/6	CSM3/4/6	CSS3/4/6	CSY3/4/6
CCP3/4/6	CCM3/4/6	CCS3/4/6	CCY3/4/6
CRT3/4/6		CRU3/4/6	
CST3/4/6		CSU3/4/6	
CCT3/4/6		CCU3/4/6	

CORE EM available for output ranges
Max: 4500lm
Min: 1500lm
Remote or Deep Canopy LED Driver w/ Integral EM & Battery

NOVA

PENDANT	SURFACE MOUNT*	SCONCE	YOKE
NRP2/3/6	NRM2/3/6	NRS2/3/6	NRY2/3/6
NSP2/3/6	NSM2/3/6	NSS2/3/6	NSY2/3/6

NOVA EM available for output ranges
Max: 3000lm
Min: 1500lm
Remote or Deep Canopy LED Driver w/ Integral EM & Battery
*Surface Mount Remote EMB Driver only

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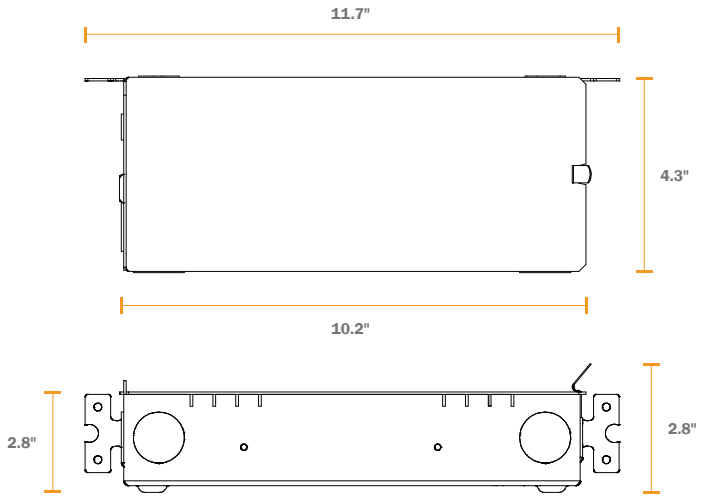
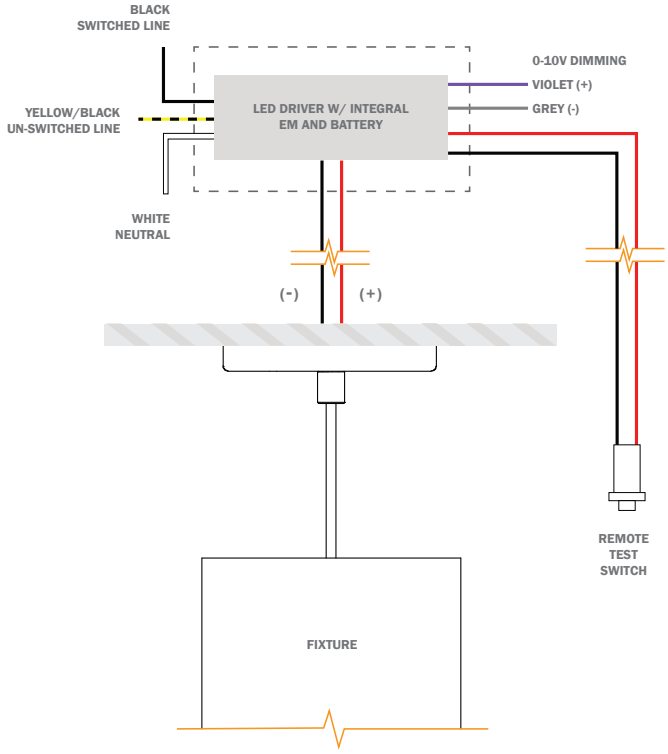
REMOTE EM SOLUTION

- EM enclosure holds LED driver with integrated battery back-up system
- 5" diameter canopy to match CORE and NOVA
- Test switch mounted on face plate, can be located up to 20 feet from EM enclosure
- Damp or wet location fixture
- EM enclosure must be damp location only
- EM enclosure includes three 1/2" and three 3/4" conduit knockout

REMOTE EM ENCLOSURE DIMENSIONS



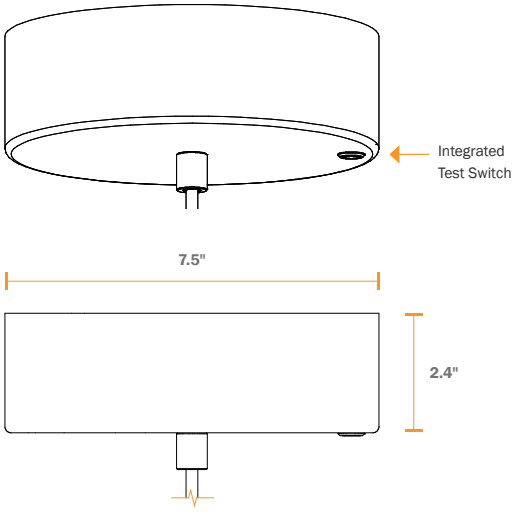
REMOTE CONFIGURATION BLOCK DIAGRAM



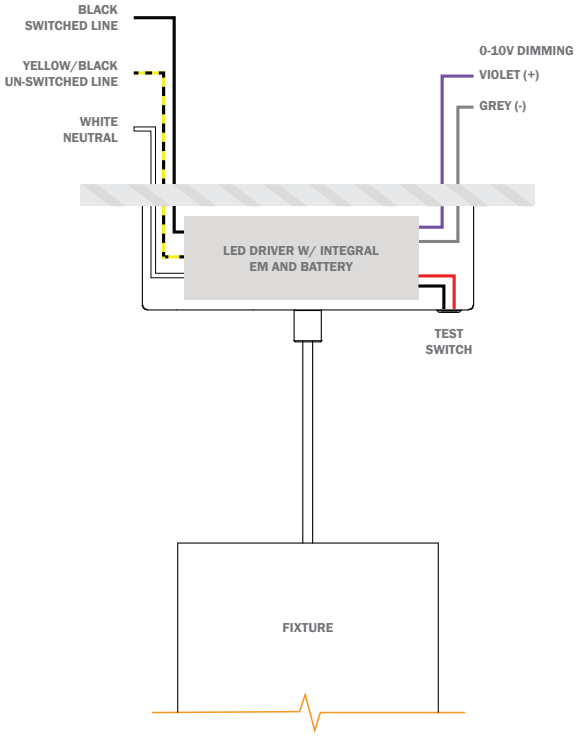
CANOPY EM SOLUTION

- Canopy holds LED driver with integrated battery back-up system
- 7.5" diameter canopy to match CORE and NOVA
- Test switch mounted on canopy housing
- Damp location fixture only
- For Direct + Indirect cylinder specifications, EMB is supplied with a remote enclosure.

CANOPY EM ENCLOSURE DIMENSIONS



CANOPY CONFIGURATION BLOCK DIAGRAM



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CALCULATING EMERGENCY ILLUMINATION LEVEL

For CORE and NOVA products, calculating lumen output during emergency operations is determined by two parameters:

1) Emergency power output level setting on the EM driver (W)

2) LED efficacy (LM/W)

Obtain the Required Data for the Luminaire
The values for these parameters can be found on the product specification sheet under the performance details and photometrics sections.

Calculate the Emergency Light Output in Lumens
Emergency Light Output(lm) = Emergency Power Output Level(W) x LED Efficacy(lm/W)

> EXAMPLE:
> Emergency Power Output Level = 5W
> Luminaire Efficacy = 120lm/W
> Emergency Light Output = 5W x 120lm/W = 600lm

Scaling the IES Files
To scale the lumen output for the EM solution, begin by opening the .IES file for the specified product in any industry lighting design software. Use the lumen value calculated for Emergency Light Output to scale the lumen output of the .IES file via the candela multiplier. Visit alwusa.com/speclit for .IES files.

Calculate the Candela Multiplier
Candela Multiplier = Emergency Light Output(lm) ÷ Standard Light Output(lm)

> EXAMPLE:
> Standard Light Output = 1,000 lumens
> Emergency Light Output = 600 lumens,
> Candela Multiplier = 600 ÷ 1000 = 0.6

Note:
It is the specifier or installer's responsibility to validate the actual illumination level on-site to ensure it meets federal, state and local codes. It may differ from the theoretical calculation or simulation on a computer.