

### OVERVIEW

Fresco Lighting Management Panels provide dimming and switching control for any lighting load. Available as a rough-in enclosure or factory pre-wired with or without circuit breakers and main lugs, Fresco LMP is configured for site requirements.

LMP panels and modules are appropriate for conference centers, retail, restaurant, hospitality and house of worship applications, Fresco LMP is engineered for high performance control.

### FEATURES

- Optimized design for modern solid state lighting control: adaptive phase modules, 0-10V dimming and DALI within one cabinet
- Less than 1W minimum load on phase control dimming modules (LM4A, LM4D)
- Universal voltage operation (120 to 277 V~)
- NEMA SSL7A compliant line voltage dimming
- DMX controlled lighting modules with RDM communication

#### Panel Configurations

##### Main Lug and Feed Through

Enclosure Size	Max Module Count	Circuit Breakers Included	
		Main Lug	Feed Through
Small	3	4	1
Medium	6	7	1
Large	9	10	1

NOTE: See Page 4 for dimensions.

### Warranty

Three-year limited warranty. Complete warranty terms located at:

[www.acuitybrands.com/CustomerResources/Terms\\_and\\_conditions.aspx](http://www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx)

**Note:** Actual performance may differ as a result of end-user environment and application.

Specifications subject to change without notice.



Fresco™

## LMP Lighting Management Panels

### Modular Dimming and Relay Panels



### ORDERING INFORMATION

Example: LMPM EM 3A 2L MVOLT 4ML 20A							
Series		Emergency	Module	Option	MVOLT	Feed	Branch Circuit Breaker
LMPM	Small enclosure, 3 modules max	[blank] None EM Emergency	_A LM4A (Advanced phase selective) module count <sup>1</sup> _D LM4D (Phase selective) module count <sup>1</sup>	[blank] Factory installed lighting modules	MVOLT 120/277 volt, 50/60 Hz	4ML 4 Wire main lug, 3 phase and Neutral	20A 16A continuous rating
LMPM	Medium enclosure, 6 modules max		_L LM4L (0-10V) module count	ENC Empty enclosure only		3ML 3 Wire main lug, 2 phase and Neutral	16A 12A continuous rating
LMPL	Large enclosure, 9 modules max		_R LM4R (Relay) module count _B LM2B (DALI) module count				

NOTES:

1. Lutron Hi-Lume ballasts and Acuity dimming modules require minimum 10 devices per LM4A or LM4D dimmed output. For less than 10 devices install (1) LMP SNB per dimmed output.

**ACCESSORIES:** *Order as a separate item.*

<b>LM4A MVOLT</b>	Advanced phase dimming module
<b>LM4D MVOLT</b>	Phase dimming module
<b>LM4L MVOLT</b>	0-10V module
<b>LM4R MVOLT</b>	Relay module
<b>LM2B MVOLT</b>	DALI module
<b>LMP SNB</b>	Minimal Load Snubber
<b>LMP HVB</b>	High Voltage Barrier
<b>LMB 125</b>	Main Breaker

## SPECIFICATIONS

### Electrical

- Input: 120/277 V~ 50/60 Hz (phase to neutral)
- Available as a feed-through cabinet or with main lugs and circuit breakers
- Branch Circuit Breaker Options & ratings:
  - 20 A, 277V~ max @45° C, 14 kAIC
  - 16 A, 277V~ max @45° C, 14 kAICBreakers are thermal magnetic and UL489 listed
- Surge protected for 6,000 V, 3,000 A
- Maximum 3-phase current rating at 120Vac:
  - LMPL: 150A
  - LMPM: 100A
  - LMPS: 50A
- Maximum 3-phase current rating at 277Vac:
  - LMPL: 65A
  - LMPM: 43.3A
  - LMPS: 21.7A

### Enclosure

- NEMA Type 1
- Maximum Weight with Dimmers:
  - Small: 35 lbs (16 kg)
  - Medium: 55 lbs (25 kg)
  - Large: 75 lbs (34 kg)

### Supported Load Types

- LED forward or reverse phase dimmed (4D, 4A)
- LED 0-10 V dimmed (4L)
- Electronic low voltage transformer (4D, 4A)
- Magnetic low voltage transformer (4A)
- Incandescent/Halogen/Tungsten (4A)
- Non dim (full conduction lighting loads) (4A, 4R, 4L)
- Fluorescent 0-10V dimmed (4L)
- Fluorescent 2-wire (4D, 4L)
- Fluorescent 3-wire (4A)
- DALI (2B)
- HID 0-10V dimmed (4L)

### Mounting

- Enclosures recess mount between studs or surface mount.
- Indoor use only.

### Environment

- 32 to 104° F (0 to 40° C)
- Relative humidity less than 90%, non-condensing

### Standards

- UL Listed, CUL
- ESD hardened: IEC61000-4-2, level 4: +/-8 kV contact
- IEC60929 Annex E (DALI and 0-10V control)
- NEMA SSL7A (LED phase dimming control)
- ANSI C82-11 Annex A (0-10V control)
- ANSI E1.11, E1.20, E1.27 (DMX and RDM)

### Controller

- LMP controller with numeric display and large buttons supports panel addressing, module programming, diagnostics, flash to find, etc.
- Integral USB port for panel programming.
- Dedicated control circuit breaker provided in 3ML and 4ML panels.

### Other

- Assembled in USA
- Convection cooled, no fans
- Automatic over-temperature protection internal to phase control dimming modules

## MODULE OVERVIEW

### LM4A

Phase adaptive dimming module with selectable forward and reverse phase cut dimming selection and an air gap relay per channel.

Input Voltage	120 V~ to 277 V~
Channel Count	4
Input Circuits	1
Fall Time (reverse phase control)	165 µsec (independent of load)
Rise Time (forward phase control)	80 µsec at 120 V 165 µsec at 277 V~ (independent of load)
Total Module Output Rating	16.6 A at 120 V~, 7.2 A at 277 V~
Max Channel Rating (continuous)	8.3 A at 120 V~, 3.6 A at 277 V~
Minimum Load	0.1W (Note 1)
Load Types (configured per channel)	<ul style="list-style-type: none"> <li>• LED</li> <li>• Electronic Low Voltage</li> <li>• Magnetic Low Voltage</li> <li>• Incandescent</li> <li>• 2-Wire (advance Mark 10, Sylvania Powersense®, Lutron Tu-Wire®)</li> <li>• 3-Wire (Lutron Hi-Lume®)</li> <li>• Non-dim</li> </ul>

### LM4D

Phase control dimming module with selectable forward and reverse phase cut dimming.

Input Voltage	120 V~ to 277 V~
Channel Circuit	4
Input Circuits	1
Rise Time / Fall Time	10 µsec (independent of load)
Total Module Output Rating	16.6 A at 120V~, 7.2 A at 277V~
Max Channel Rating (continuous)	8.3 A at 120V~, 3.6 A at 277V~
Minimum Load	0.1 W (Note 1)
Load Types (configured per channel)	<ul style="list-style-type: none"> <li>• LED</li> <li>• Electronic Low Voltage</li> <li>• Incandescent</li> <li>• 2-Wire (Advance Mark 10, Sylvania Powersense®, Lutron Tu-Wire®)</li> </ul>

#### Note 1:

Lutron Hi-Lume ballasts and Acuity RDM remote dimmers require a minimum 10 devices per LM4A or LM4D dimmed output. For less than 10 devices install (1) LMP SNB per dimmed output.

#### Note 2:

When installed as part of a 3ML or 4ML panel, all four relays will be fed from a single circuit breaker; the total load for all four output circuits cannot exceed the circuit breaker continuous rating. When installed as part of a FT panel, each relay can be fed by an individual circuit breaker.

### LM2B

Digital (DALI) ballast and LED driver control module with integrated bus power supply and controller for two independent DALI loops supporting up to 64 ballasts or drivers per loop.

Input Voltage	120 V~ to 277 V~
DALI Loops	2
Input Circuits	1
DALI Output Voltage (nominal)	18 VDC
DALI Output Current (each loop)	150 mA
DALI Loop Isolation	2500 V isolation
DALI Loop Wiring Method	Class 1 or Class 2
DALI Loop Protection	over voltage & over current
Load Types	DALI (IEC 60929.E)

### LM4L

Four circuit 0-10V dimming module with four independent mechanically latching relays. Relays are individually replaceable and feature a manual override handle. 0-10V dimmers have a wide operating range, are isolated and protected against wiring faults.

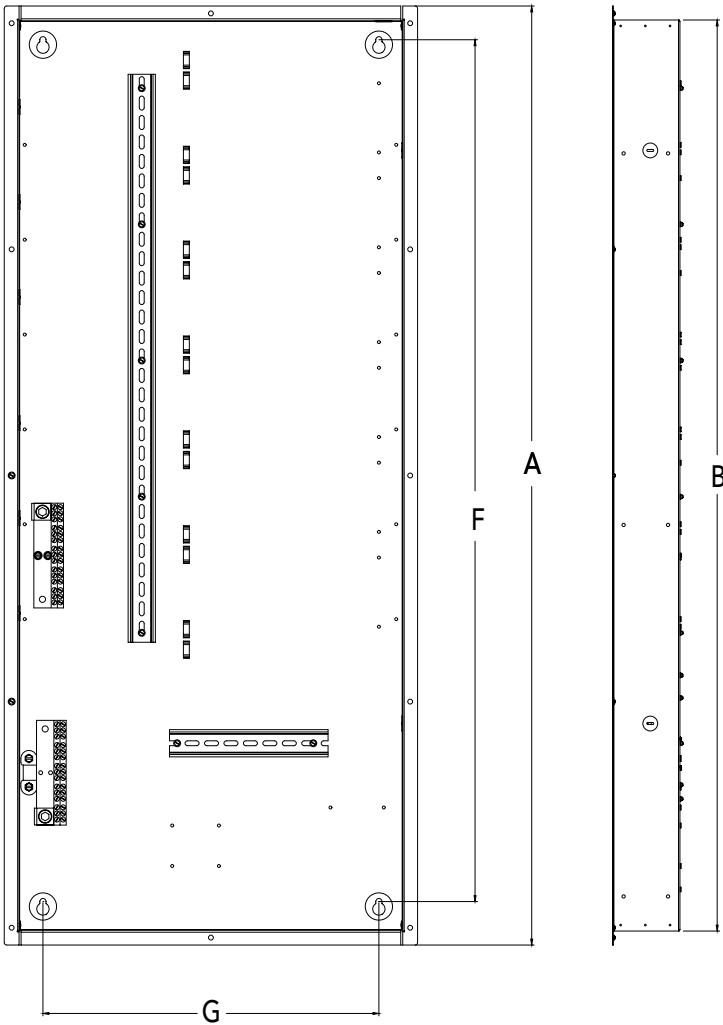
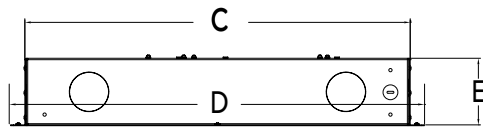
Input Voltage	120 V~ to 277 V~
Circuit Count	4
Input Circuits	4 <sup>2</sup>
Relay Rating	0.1 V (compatible with eldoLED)
0 - 10V Dimmer low end	0.1 V (compatible with eldoLED)
0 - 10V Dimmer	2500 V isolation
0 - 10V Dimmer Capacity	100 mA sink each
0 - 10V Dimmer Protection	over voltage & over current
0 - 10V Dimmer Wiring Method	Class 1 or Class 2
Load Types	<ul style="list-style-type: none"> <li>• 0-10V (IEC 60929 compliant devices)</li> <li>• Non-dim</li> </ul>
SCCR (relay)	14,000 A @ 277V~

### LM4R

Four circuit mechanically latching relay module. Relays are individually replaceable and feature a manual override handle.

Input Voltage	120 V~ to 277 V~
Circuit Count	4
Input Circuits	4 <sup>2</sup>
Relay Rating	20 A @ 277 V~ Resistive/Magnetic 16 A @ 277 V~ Electronic 20A @ 250 V Tungsten 20 FLA @ 120 V for Motor
Load Types	Non-dim SCCR 14,000 A @ 277~
SCCR	14,000 A @ 277~

# DIMENSIONS



Dimension	Panel Size in inches (mm)		
	Small	Medium	Large
A	32 5/8 (829)	47 1/2 (1207)	61 3/8 (1559)
B	31 3/16 (792)	46 1/8 (1172)	60 (1524)
C	20 5/16 (516)	20 5/16 (516)	20 5/16 (516)
D	19 1/2 (495)	19 1/2 (495)	19 1/2 (495)
E	3 3/8 (86)	3 3/8 (86)	3 3/8 (86)
F	28 11/16 (729)	43 5/8 (1108)	57 1/2 (1461)
G	17 (432)	17 (432)	17 (432)

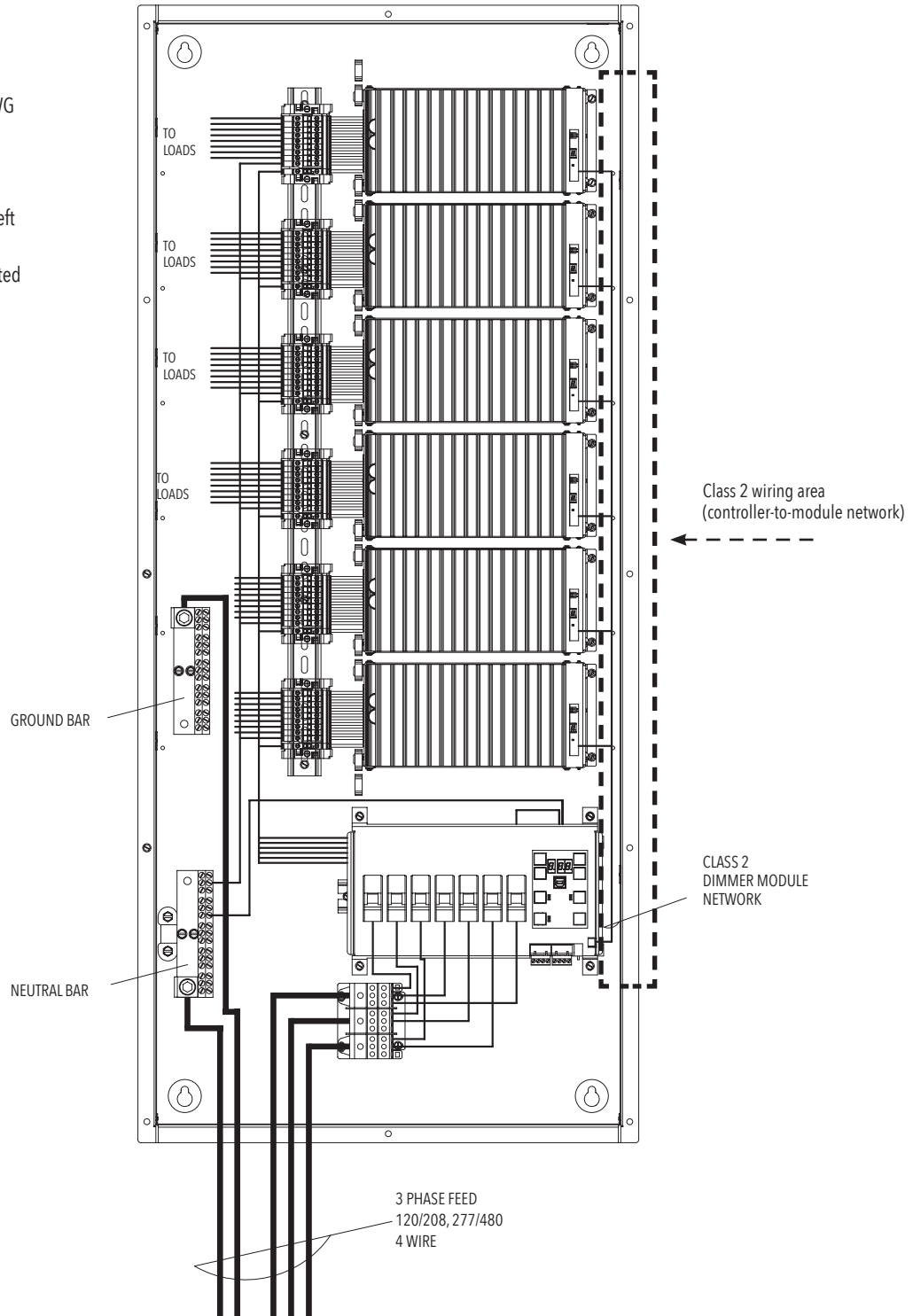
# FEED AND FIELD WIRING

## Wire Sizes and Load Wiring

- Load terminal blocks: #14 AWG to #10 AWG
- Main lugs: #14 AWG to #2/0 AWG

## Notes

- Main feed entry from top left or bottom left is supported
- Class 2 wiring should enter where indicated



## CONTROLLER AND NETWORK WIRING

This Network is Class 2 requires specific wiring methods to be followed.

Each LMP on the network requires the controller to be connected as shown below. Note, the controller to module communication is accomplished through the module wire harness provided within the panel.

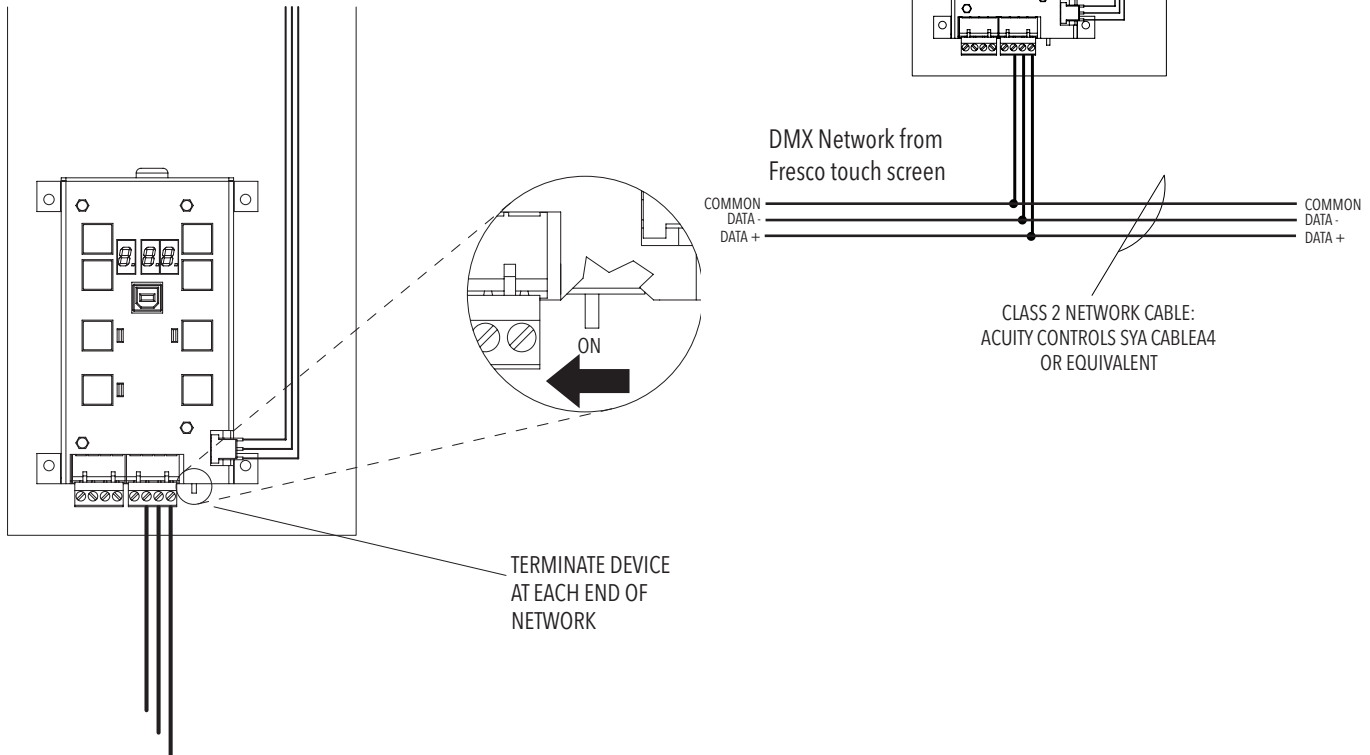
### DMX/RDM Control Network

- The LMP controller connects to the Fresco controller using the DMX network using the wiring pinout table below
- Connects with a provided plug in 4-position harness.
- All network connections must be a daisy chain

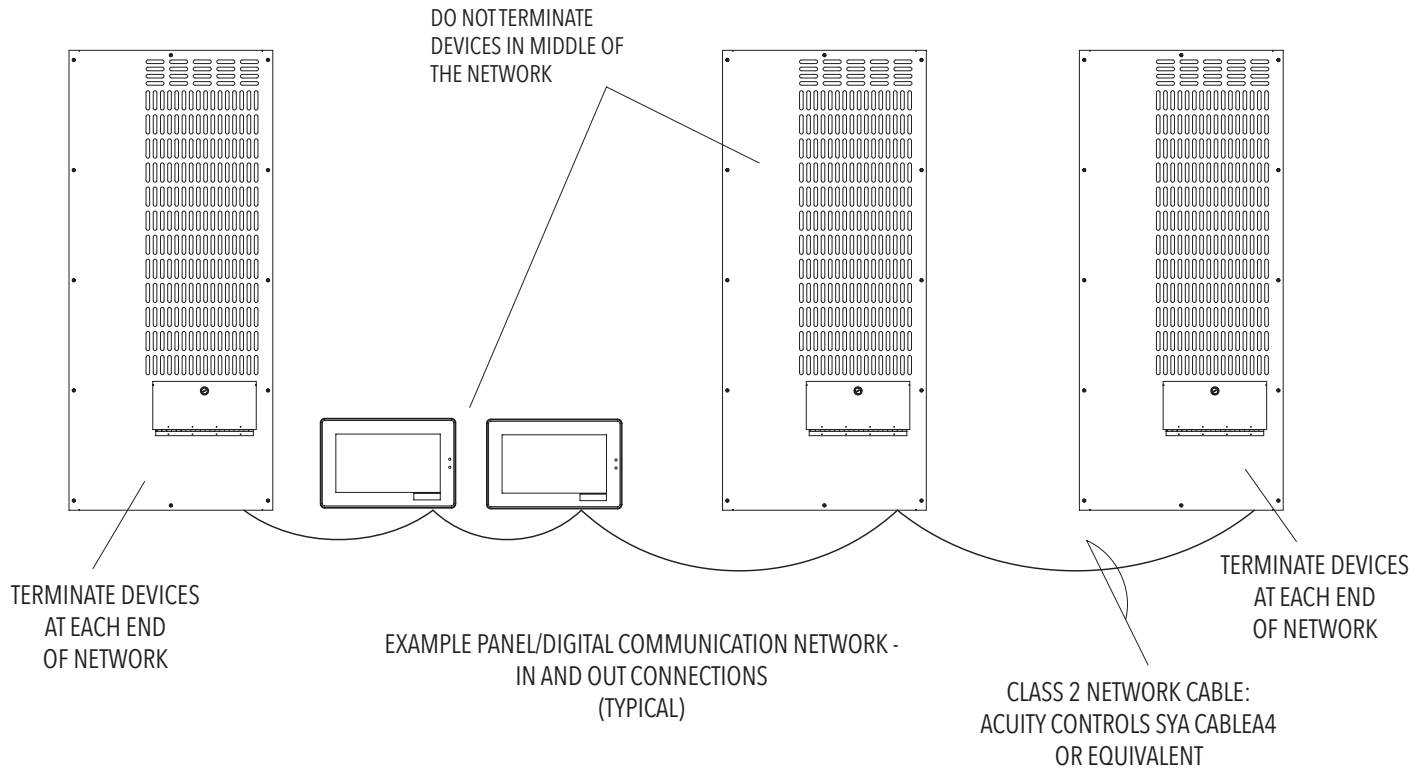
Terminal	Signal	Wire Color
1		No Connection
2	Com	Black
3	B (-)	Yellow / Black Stripe
4	A (+)	White / Black Stripe

### Termination

- Activate network termination by activating the switch to the "ON" position for any one LMP controller located at the end or beginning of the network
- Termination switches is located on the LMP controller as shown:



## NETWORK OPERATION



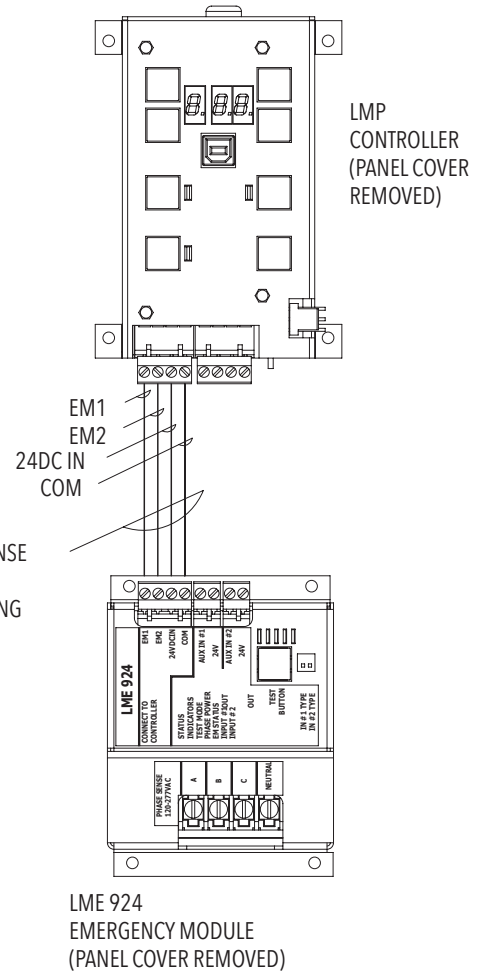
### Termination

- All Fresco system devices (touchscreen and LMP) have termination switches
- Activate network termination by activating the switch to the "ON" position
- Termination switches are located:
  - Back of the Fresco touchscreen
  - LMP Controller near the network terminal

## UL 924 EMERGENCY LMP (LME 924)

Fresco lighting management panels may be configured for emergency (essential) lighting control. When ordered with the EM option, LME 924, a UL 924 listed phase sense device is factory installed near the bottom of the lighting panel enclosure. Either a brownout or full blackout condition causes LME 924 to signal to the LMP controller that a fault is present, driving all modules within the panel to their emergency condition.

LME 924 also supports testing via push button and/or contact closure trigger via security or fire alarm systems as well.



### Wiring Notes

- LME 924 may be fed with single, dual and three phase power, follow LME 924 installation manual
- Test and status LED indicators are visible only when the cabinet cover is removed
- Emergency sense (EM1, EM2) and power supply from the controller (24 VDC IN, COM) are Class 2
- Only feed normal power to the LME 924 device's input sense terminals

