



# ESSENTIALS LALO- ENCAPSULATED (03) FOR TUNABLE APPLICATIONS

24VDC Linear Fixtures - Surface & Recessed



5 YEAR  
WARRANTY

Declare.



- Shallow, low-profile fixture for surface or recessed installations
- Features high quality LED strips encapsulated in polyurethane in a rigid extrusion providing a robust fixture
- Encapsulation available in clear or translucent
- Suitable for indoor and outdoor locations (IK10)
- Three mounting options
- Features painted end caps to match extrusion finish or clear end caps to achieve seamless appearance of long runs
- Suitable for installation in the storage area of a clothes closet when specified with LEDs at 4.0 watts or less per foot per NEC regulations
- Used in applications where CCT and brightness need to be controlled separately
- When using DALI and DMX power supplies, LED wattage must be doubled

1 PRODUCT	2 WATTS/FT	3 CCT	4 RATED	5 EFFICIENCY	6 LENS	7 EXTERNAL LOUVER	8 WIRE INPUT/OUTPUT	9 CONNECTOR/WIRE IN	10 CONNECTOR/WIRE OUT	11 INPUT END CAP	12 OUTPUT END CAP	13 WIRE COLOR	14 WIRE TYPE	15 MOUNTING	16 FINISH	17 LENGTH (IN)	18 EXACT/ OPTIMAL
LL3DW			ENC	STD													

Sample Part Number: LL3DW-6.0-24/30-ENC-STD-TL-P1-BW-BW-STD-STD-BK-CL2-SST-ST-48"-E

<b>1</b> <b>PRODUCT</b> LL3DW  LED engine is built with 3 wires requiring 0-10V, DMX or DALI control. Using DALI, DMX, or non QTL power supplies may double watts/ft. See following pages for compatible power supplies.	<b>2</b> <b>WATTS/FT</b> 1.5HE 1.5W/ft HE 2.5HE 2.5W/ft HE	<b>3</b> <b>CCT</b> 24/30 2400K/3000K 27/40 2700K/4000K	<b>4</b> <b>RATED</b> ENC IP67	<b>5</b> <b>EFFICIENCY</b> STD Standard	<b>6</b> <b>LENS</b> CL Clear TL Translucent  For representation of LED visibility, see Diode Visibility section on following pages. For beam angles, see Photometric Performance section on following pages	<b>7</b> <b>EXTERNAL LOUVER</b> L1-WH White Plastic L1-BK Black Plastic N/A No Louver  Louvers are shipped separately and require field assembly
<b>8</b> <b>WIRE INPUT/OUTPUT</b>  S1 Single 1 (Input only) - End Feed S2 Single 2 (Input only) - Bottom Feed  For continuous mounting, consider bottom feed	<b>9</b> <b>CONNECTOR/WIRE IN</b>  BW Bare Wire (Standard 24") CON6 Connector 6" CON24 Connector 24"  Connector/Wire In not needed to specify product. Typical selection is BW. BW: Standard length is 24", Max length is 120". Request custom length by writing in part number next to BW (example: BW48)	<b>10</b> <b>CONNECTOR/WIRE OUT</b>  CLS Closed End (No feed)				
<b>P1</b> Pass Through 1 (Input/output) - End Feed <b>P2</b> Pass Through 2 (Input/output) - Bottom Feed  For continuous mounting, consider bottom feed	<b>P1</b> Bare Wire (Standard 24") Connector 6" Connector 24"  Connector/Wire In not needed to specify product. Typical selection is BW. BW: Standard length is 24", Max length is 120". Request custom length by writing in part number next to BW (example: BW48)	<b>P2</b> Bare Wire (Standard 24") Connector 6" Connector 24"  Connector/Wire Out not needed to specify product. Typical selection is CLS or BW. BW: Standard length is 24", Max length is 120". Request custom length by writing in part number next to BW (example: BW48)				
<b>11</b> <b>INPUT END CAP</b>  STD Standard CL Clear  STD - End cap matches fixture finish chosen  Select CL for continuous runs	<b>12</b> <b>OUTPUT END CAP</b>  STD Standard CL Clear  STD - End cap matches fixture finish chosen  Select CL for continuous runs	<b>13</b> <b>WIRE COLOR</b> WH White BK Black	<b>14</b> <b>WIRE TYPE</b> CL2 Class 2 CL2P Plenum Rated  CL2P only available with bare wire leads (BW)			
<b>15</b> <b>MOUNTING</b>  SST Stainless Steel M4 Low Profile Magnet MG Magnet	<b>16</b> <b>FINISH</b>  ST Satin BK Black CU Custom	<b>17</b> <b>LENGTH (IN)</b>  Fixture length min 12", max 98.43" not including end caps. Tolerance +0 - 1/8". Consult factory for lengths under 12".	<b>18</b> <b>EXACT/OPTIMAL</b>  O Optimal Illumination E Exact Specified Length  Exact fixtures are the exact length specified +0 - 1/8". Optimal fixtures' length is rounded down with illumination end to end. See Exact/Optimal Fixture Length charts.			

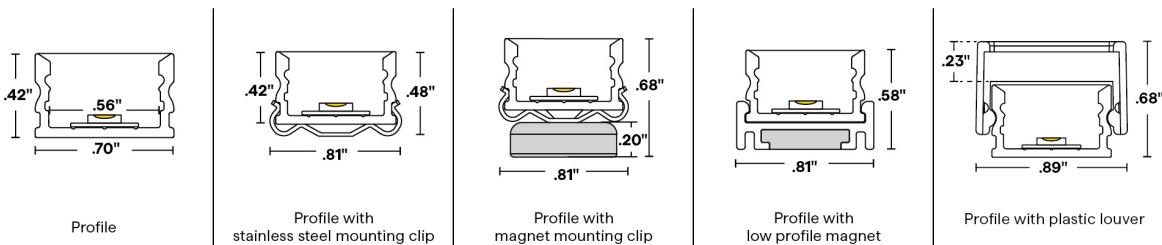
5 year warranty | Field modifications void warranty | Data subject to change, all data has +/- 5% tolerance | Compatible for use with QTL power supplies | IK10 rated



# ESSENTIALS LALO-ENCAPSULATED (03) FOR TUNABLE APPLICATIONS

24VDC Linear Fixtures - Surface & Recessed

## 1 PRODUCT - DIMENSIONS

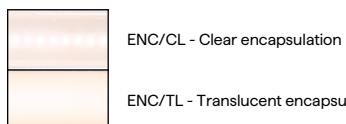


## 2 DELIVERED LUMENS

[Calculated L70 = 40000 hrs]  
Tested with LL3DW-\*\*-30-ENC-STD

	1.5HE W/FT	2.5HE W/FT
LM/FT	CRI	LM/FT
CL	105	98
TL	60	98

## 6 DIODE VISIBILITY

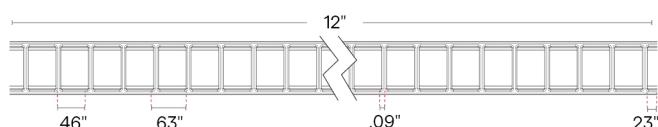


## TEMPERATURE RATINGS

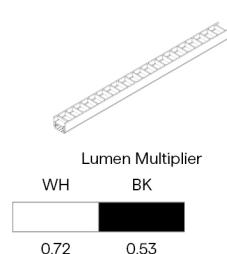
DW 1.5 HE W/FT				DW 2.5 HE W/FT			
Q-Tran power supply other than DALI, DMX		DALI, DMX, or non-Q-Tran power supply		Q-Tran power supply other than DALI, DMX		DALI, DMX, or non-Q-Tran power supply	
Min	Max	Min	Max	Min	Max	Min	Max
Ambient Operating Temp - Surface							

## 7 EXTERNAL LOUVER

### PLASTIC



### L1-XX



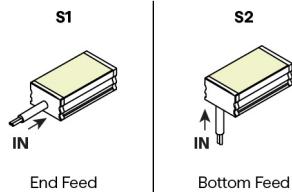


# ESSENTIALS LALO-ENCAPSULATED (03) FOR TUNABLE APPLICATIONS

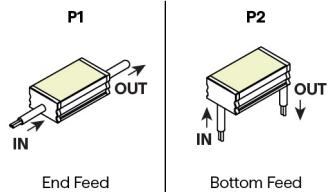
24VDC Linear Fixtures - Surface & Recessed

## 8 WIRE INPUT/OUTPUT

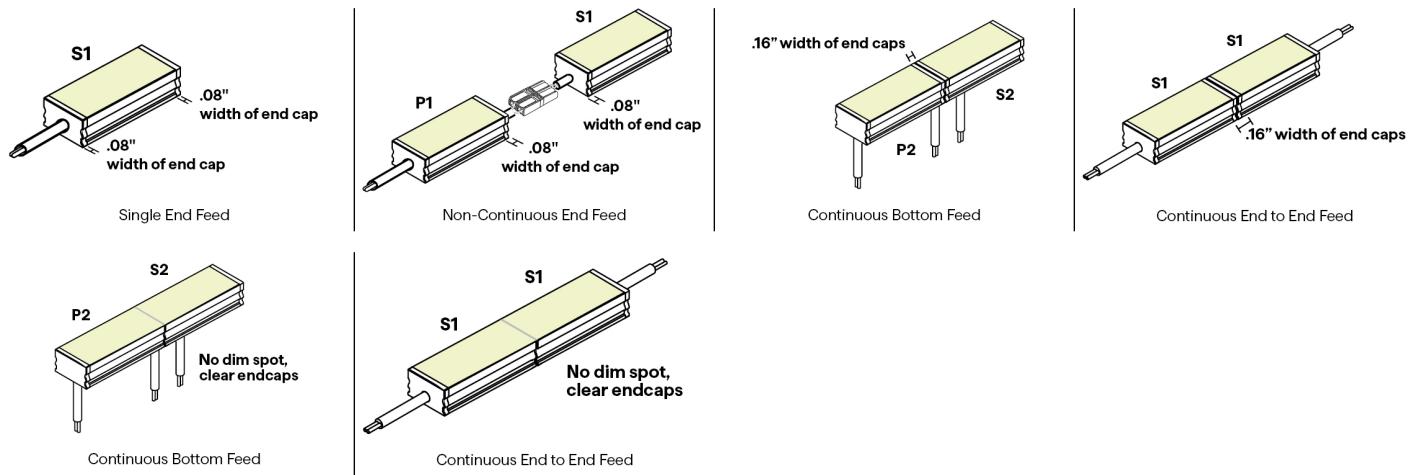
SINGLE (Input only)



PASS THROUGH (Input/Output)

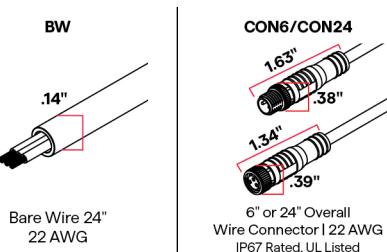


## CONFIGURATION OPTIONS

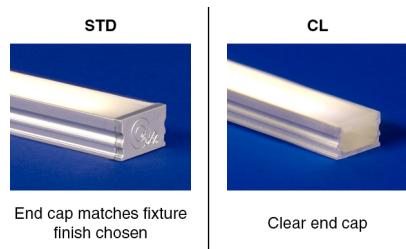


## 9 / 10 CONNECTOR/WIRE – IN/OUT

Connector/Wire In or Out not needed to specify product. Standard configuration is BW for Wire In and CLS for Wire out



## 11 / 12 END CAP – IN/OUT





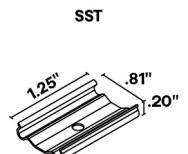
# ESSENTIALS LALO-ENCAPSULATED (03) FOR TUNABLE APPLICATIONS

24VDC Linear Fixtures - Surface & Recessed

## 13 WIRE COLOR



White  
Black

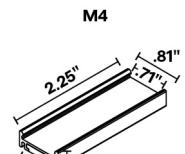


Stainless Steel Clip

2 clips provided for 4' or less; 4  
clips provided for greater than  
4'

To order separately use SST-01

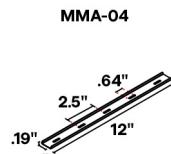
Each clip comes with a #4 x  
5/8" Flat Head screw



Low Profile Magnet

One M4 provided per foot.

To order separately use  
MG-04

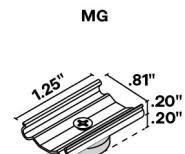


Magnet Mount  
Accessory for M4

Sold separately, to order use  
MMA-04

Each bracket comes with 2 #6  
x 5/8" Flat Head SS

Required when mounting to a  
non-magnetic surface



Magnet Clip

One MG provided per foot

To order separately use MG-01

## 16 FINISH



Satin  
Black

Custom color  
available

MMA-01



Magnet Mount  
Accessory of MG-01

Sold separately, to order use  
MMA-01

Each bracket comes with 2 #6  
x 5/8" Flat Head SS

Required when mounting to a  
non-magnetic surface

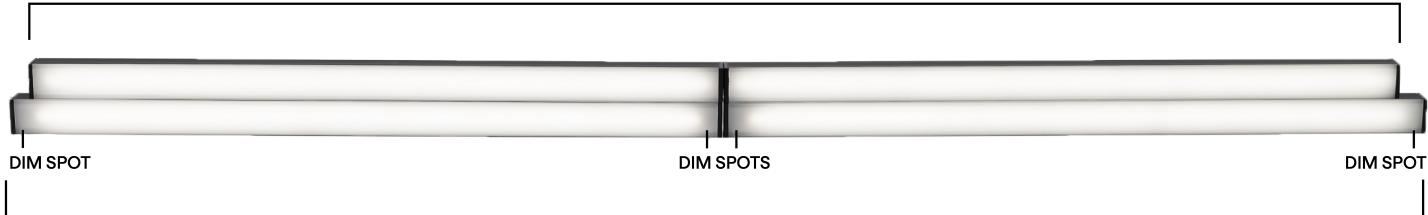
## 18 EXACT/OPTIMAL FIXTURE LENGTH

[E/O Length Calculator →](#)

[E/O Explained →](#)

Exact fixtures are the exact length specified. Optimal fixtures' length is rounded down based on LED cut points to allow the fixture to be illuminated end to end. For runs with multiple fixtures that need to fill a specific length, it's recommended to order all optimal fixtures with an exact fixture at the end of the run.

### Optimal Fixtures



### Exact Fixtures



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## DW-HE ENC LENGTHS BY INCH

Available in any length in between 12" and 98.43", chart below shows example lengths. Exact fixtures are the length specified. Optimal fixtures' length is rounded down with illumination end to end. All fixtures' tolerance is  $\pm 0 - 1/8"$ . Consult factory for lengths under 12".

### EXACT LENGTH

Requested Length	Potential dim spot on either end of fixture
12"	1"
13"	0.5"
14"	1"
15"	0.5"
16"	1"
17"	0.5"
18"	1"
19"	0.5"
20"	1"
21"	0.5"
22"	1"
23"	0.5"
24"	1"
36"	1"
48"	1"
60"	1"
72"	1"
84"	1"
96"	1"

### OPTIMAL LENGTH: highlighted rows are closest to requested nominal length

Requested Nominal Length	S1 & S2		P1 & P2	
	S1 End Feed	S2 Bottom Feed	P1 End Feed	P2 Bottom Feed
12"	10.41"		10.66"	
13"	12.41"		12.66"	
14"	12.41"		12.66"	
15"	14.41"		14.66"	
16"	14.41"		14.66"	
17"	16.41"		16.66"	
18"	16.41"		16.66"	
19"	18.41"		18.66"	
20"	18.41"		18.66"	
21"	20.41"		20.66"	
22"	20.41"		20.66"	
23"	22.41"		22.66"	
24"	22.41"		22.66"	
36"	34.41"		34.66"	
48"	46.41"		46.66"	
60"	58.41"		58.66"	
72"	70.41"		70.66"	
84"	82.41"		82.66"	
96"	94.41"		94.66"	

## COMPATIBLE POWER SUPPLIES

See power supplies cut sheets for more information. Data subject to change, all data has  $\pm 5\%$  tolerance.

DIM TO LEVEL	INDOOR	OUTDOOR
	DW-HE Tunable Applications	DW-HE Tunable Applications
0.1%	QT-CAB-eLED+TW QT-CAB-eLED+TW-AWN QTM-eLED+TW QTM-eLED+TW-AWN QZ-DMX	Q-SET-QZ-DMX QOM-eLED+TW QZ-DMX
1%	QT-CAB-eLED+DALI-DT6 QT-CAB-eLED+DALI-DT8 QT-CAB-eLED+DALI-DT8-AWN QTM-eLED+DALI-DT6 QTM-eLED+DALI-DT8 QTM-eLED+DALI-DT8-AWN QZ-DALI-DT8	Q-SET+QZ-DALI-DT8 QOM-eLED+DALI-DT6 QOM-eLED+DALI-DT8 QOM-eLED+PS-DALI-DT6 QOM-eLED+PS-DALI-DT8
10%	Non-Dim Power Supply with TW App Dongle	

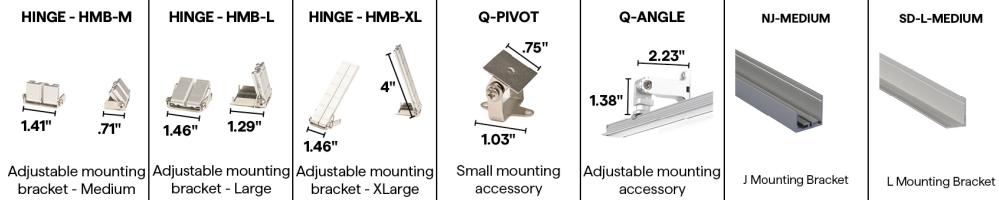


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DIMMING PROTOCOL	INDOOR	OUTDOOR
	DW-HE Tunable Applications	DW-HE Tunable Applications
0-10V	QT-CAB-eLED+TW QT-CAB-eLED+TW-AWN QTM-eLED+TW QTM-eLED+TW-AWN	QOM-eLED+TW
Lutron Athena	QT-CAB-eLED+DALI-DT8-AWN QT-CAB-eLED+TW-AWN QTM-eLED+DALI-DT8-AWN QTM-eLED+TW-AWN	
DMX LED wattage must be doubled for DW-HE products	QZ-DMX	Q-SET-QZ-DMX QZ-DMX
DALI-2: DT6 LED wattage must be doubled for DW-HE products	QT-CAB-eLED+DALI-DT6 QTM-eLED+DALI-DT6	QOM-eLED+DALI-DT6
DALI-2: DT8 LED wattage must be doubled for DW-HE products	QT-CAB-eLED+DALI-DT8 QT-CAB-eLED+DALI-DT8-AWN QTM-eLED+DALI-DT8 QTM-eLED+DALI-DT8-AWN QZ-DALI-DT8	Q-SET+QZ-DALI-DT8 QOM-eLED+DALI-DT8
SCENE App Dimmed	Non-Dim Power Supply with TW App Dongle	

## COMPATIBLE MOUNTING ACCESSORIES



## COMPATIBLE WIRING ACCESSORIES



UL Listed, miniature junction box, DRY/DMP (WET rated with silicone)

## COMPATIBLE CONTROL ACCESSORIES





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### COMPATIBLE APPS

#### NFC APP



Read and write  
DMX addresses and  
adjust voltage