

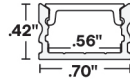


ESSENTIALS LALO-FLAT (01) SW-HE

24VDC Linear Fixtures - Surface & Recessed



Declare.



- Shallow, low-profile fixture for surface or recessed installations
- Choose from diffused, polar, frosted, or clear lens options for varying diode visibility and beam angles
- Three mounting options
- Features painted end caps to match extrusion finish
- 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
- Can be suitable for exterior use when specified as wet, contact factory for more information

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PRODUCT	WATTS/FT	CCT	RATED	EFFICIENCY	LENS	EXTERNAL LOUVER	WIRE INPUT/OUTPUT	CONNECTOR / WIRE IN	CONNECTOR / WIRE OUT	WIRE COLOR	WIRE TYPE	MOUNTING	FINISH	LENGTH (IN)	EXACT/OPTIMAL
LL1SW				STD											

Sample Part Number: LL1SW-3.0HE-30-DRY-STD-DF-P1-BW-BW-BK-CL2-SST-BK-48"-E

<div>1</div> <div>PRODUCT</div> <div>LL1SW</div> <div>See following pages for compatible power supplies.</div>	<div>2</div> <div>WATTS/FT</div> <div><div>1.5HE 1.5W/ft HE</div><div>3.0HE 3.0W/ft HE</div><div>6.0HE 6.0W/ft HE</div></div> <div><div>3.0HE+ 3.0W/ft HE+</div><div>6.0HE+ 6.0W/ft HE+</div></div> <div><div>1.5HE 1.5W/ft HE</div><div>3.0HE 3.0W/ft HE</div><div>6.0HE 6.0W/ft HE</div></div> <div><div>3.0HE+ 3.0W/ft HE+</div><div>6.0HE+ 6.0W/ft HE+</div></div> <td><div>3</div><div>CCT</div><div><div>20 2000K</div><div>22 2200K</div><div>24 2400K</div><div>27 2700K</div><div>30 3000K</div><div>35 3500K</div><div>40 4000K</div></div><div><div>27 2700K</div><div>30 3000K</div><div>35 3500K</div><div>40 4000K</div></div><div><div>24 2400K</div><div>27 2700K</div><div>30 3000K</div><div>35 3500K</div><div>40 4000K</div></div><div><div>27 2700K</div><div>30 3000K</div><div>35 3500K</div><div>40 4000K</div></div><td><div>4</div><div>RATED</div><div><div>DRY IP20</div></div><div><div>DMP IP54</div></div><div><div>WET IP67</div><div>Can be suitable for exterior use, contact factory for more information</div></div></td><td><div>5</div><div>EFFICIENCY</div><div><div>STD Standard</div></div></td><td><div>6</div><div>LENS</div><div><div>DF Diffused</div><div>PR Polar</div><div>FR Frosted</div><div>CL Clear</div></div><div>For representation of LED visibility, see Diode Visibility section on following pages. For beam angles, see Photometric Performance section on following pages</div></td><td><div>7</div><div>EXTERNAL LOUVER</div><div><div>L1-WH White Plastic</div><div>L1-BK Black Plastic</div><div>N/A No Louver</div></div><div>Louvers are shipped separately and require field assembly</div></td></td>	<div>3</div> <div>CCT</div> <div><div>20 2000K</div><div>22 2200K</div><div>24 2400K</div><div>27 2700K</div><div>30 3000K</div><div>35 3500K</div><div>40 4000K</div></div> <div><div>27 2700K</div><div>30 3000K</div><div>35 3500K</div><div>40 4000K</div></div> <div><div>24 2400K</div><div>27 2700K</div><div>30 3000K</div><div>35 3500K</div><div>40 4000K</div></div> <div><div>27 2700K</div><div>30 3000K</div><div>35 3500K</div><div>40 4000K</div></div> <td><div>4</div><div>RATED</div><div><div>DRY IP20</div></div><div><div>DMP IP54</div></div><div><div>WET IP67</div><div>Can be suitable for exterior use, contact factory for more information</div></div></td> <td><div>5</div><div>EFFICIENCY</div><div><div>STD Standard</div></div></td> <td><div>6</div><div>LENS</div><div><div>DF Diffused</div><div>PR Polar</div><div>FR Frosted</div><div>CL Clear</div></div><div>For representation of LED visibility, see Diode Visibility section on following pages. For beam angles, see Photometric Performance section on following pages</div></td> <td><div>7</div><div>EXTERNAL LOUVER</div><div><div>L1-WH White Plastic</div><div>L1-BK Black Plastic</div><div>N/A No Louver</div></div><div>Louvers are shipped separately and require field assembly</div></td>	<div>4</div> <div>RATED</div> <div><div>DRY IP20</div></div> <div><div>DMP IP54</div></div> <div><div>WET IP67</div><div>Can be suitable for exterior use, contact factory for more information</div></div>	<div>5</div> <div>EFFICIENCY</div> <div><div>STD Standard</div></div>	<div>6</div> <div>LENS</div> <div><div>DF Diffused</div><div>PR Polar</div><div>FR Frosted</div><div>CL Clear</div></div> <div>For representation of LED visibility, see Diode Visibility section on following pages. For beam angles, see Photometric Performance section on following pages</div>	<div>7</div> <div>EXTERNAL LOUVER</div> <div><div>L1-WH White Plastic</div><div>L1-BK Black Plastic</div><div>N/A No Louver</div></div> <div>Louvers are shipped separately and require field assembly</div>
<div>8</div> <div>WIRE INPUT/OUTPUT</div> <div><div>S1 Single 1 (Input only) - End Feed</div><div>S2 Single 2 (Input only) - Bottom Feed</div><div>For continuous mounting, consider bottom feed.</div></div> <div><div>P1 Pass Through 1 (Input/output) - End Feed</div><div>P2 Pass Through 2 (Input/output) - Bottom Feed</div><div>For continuous mounting, consider bottom feed.</div></div>	<div>9</div> <div>CONNECTOR/WIRE IN</div> <div><div>BW Bare Wire (Standard 24")</div><div>BRL Barrel</div><div>CON6 Connector 6"</div><div>CON24 Connector 24"</div></div> <div>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)</div> <div><div>BW Bare Wire (Standard 24")</div><div>BRL Barrel</div><div>CON6 Connector 6"</div><div>CON24 Connector 24"</div></div> <div>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)</div>	<div>10</div> <div>CONNECTOR/WIRE OUT</div> <div><div>CLS Closed End (No feed)</div></div> <div><div>BW Bare Wire (Standard 24")</div><div>BRL Barrel</div><div>CON6 Connector 6"</div><div>CON24 Connector 24"</div></div> <div>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)</div>	<div>11</div> <div>WIRE COLOR</div> <div><div>WH White</div><div>BK Black</div><div>N/A For Barrel</div></div> <div>wet barrel only available in black</div>			
<div>12</div> <div>WIRE TYPE</div> <div><div>CL2 Class 2</div><div>CL2P Plenum Rated</div><div>N/A For Barrel</div></div> <div>CL2P only available with bare wire leads (BW)</div>	<div>13</div> <div>MOUNTING</div> <div><div>SST Stainless Steel</div><div>M4 Low Profile Magnet</div><div>MG Magnet</div></div>	<div>14</div> <div>FINISH</div> <div><div>ST Satin</div><div>BK Black</div><div>CU Custom</div></div>	<div>15</div> <div>LENGTH (IN)</div> <div><div>Fixture length min 12", max 98.43" not including end caps.</div><div>Tolerance +0 – 1/8". Consult factory for lengths under 12".</div><div>Max continuous length: 3.0HE+ - 196", 6.0HE+ - 118"</div></div>	<div>16</div> <div>EXACT/OPTIMAL</div> <div><div>O Optimal Illumination</div><div>E Exact Specified Length</div></div> <div>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.</div>		

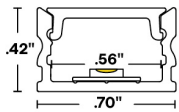
5 year warranty | Warranty only valid with QTL power supplies | Field modifications void warranty | Data subject to change, all data has +/- 5% tolerance



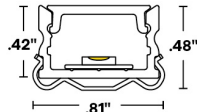
ESSENTIALS LALO-FLAT (01) SW-HE

24VDC Linear Fixtures - Surface & Recessed

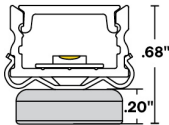
1 PRODUCT - DIMENSIONS



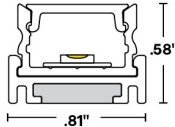
Profile with flat lens



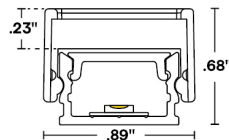
Profile with flat lens and stainless steel mounting clip



Profile with flat lens and magnet mounting clip



Profile with flat lens and low profile magnet



Profile with flat lens and plastic louver

2 DELIVERED LUMENS

[Calculated L70 = 70000 hrs, L70 = 50000 for HE+]
Tested with LL1SW-**-30-DRY-STD

	1.5HE W/FT		3.0HE W/FT		3.0HE+ W/FT		6.0HE W/FT		6.0HE+ W/FT	
	LM/FT	CRI	LM/FT	CRI	LM/FT	CRI	LM/FT	CRI	LM/FT	CRI
CL	175	98	321	98	463	92	608	98	856	92
FR	174	98	320	98	461	92	606	98	853	92
PR	157	98	288	98	416	92	546	98	768	92
DF	141	98	259	98	373	92	490	98	690	92

6 DIODE VISIBILITY



- DF - Diffused lens
- PR - Polar lens
- FR - Frosted lens
- CL - Clear lens

PHOTOMETRIC PERFORMANCE

Nominal beam spread shown, beam spread varies based on light engine. For more detailed information, see photometric data.



Clear 78°

TEMPERATURE RATINGS

		1.5 HE W/FT		3.0 HE W/FT		3.0 HE+ W/FT		6.0 HE W/FT		6.0 HE+ W/FT	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
DRY	Ambient Operating Temp - Surface	-4°F	145°F	-4°F	135°F	-13°F	135°F	-4°F	120°F	-13°F	120°F
DMP	Ambient Operating Temp - Surface	-4°F	140°F	-4°F	130°F	**	**	-4°F	115°F	**	**
WET	Ambient Operating Temp - Surface	**	**	**	**	-13°F	130°F	**	**	-13°F	115°F

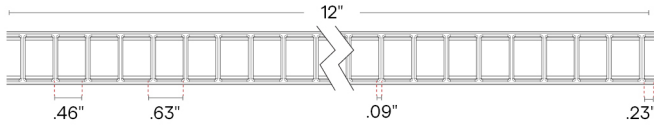


ESSENTIALS LALO-FLAT (01) SW-HE

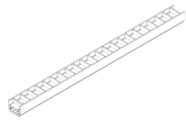
24VDC Linear Fixtures - Surface & Recessed

7 EXTERNAL LOUVER

PLASTIC



L1-XX



Lumen Multiplier

WH

BK

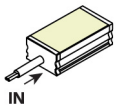
0.72

0.53

8 WIRE INPUT/OUTPUT

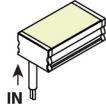
SINGLE (Input only)

S1



End Feed

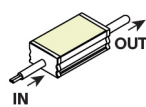
S2



Bottom Feed

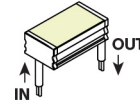
PASS THROUGH (Input/Output)

P1



End Feed

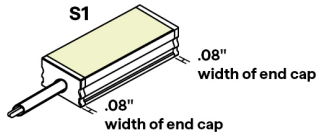
P2



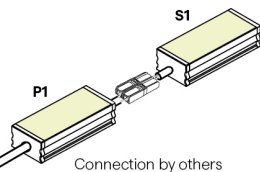
Bottom Feed

CONFIGURATION OPTIONS

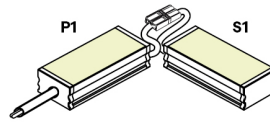
S1



Single End Feed

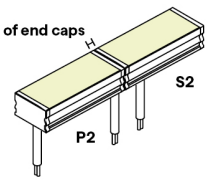


Connection by others
Non-Continuous End Feed

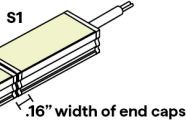


Connection by others
Non-Continuous Corner Feed

.16" width of end caps



Continuous Bottom Feed



Continuous End to End Feed

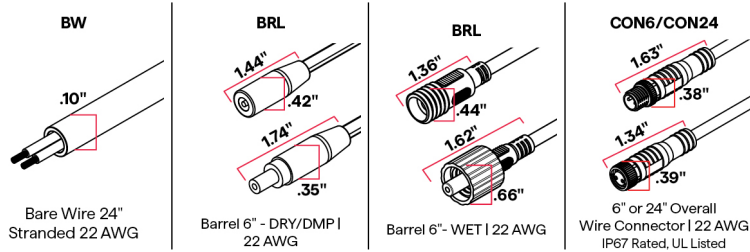


ESSENTIALS LALO-FLAT (01) SW-HE

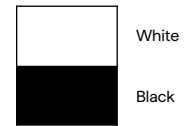
24VDC Linear Fixtures - Surface & Recessed

9 / 10 CONNECTOR/WIRE - IN/OUT

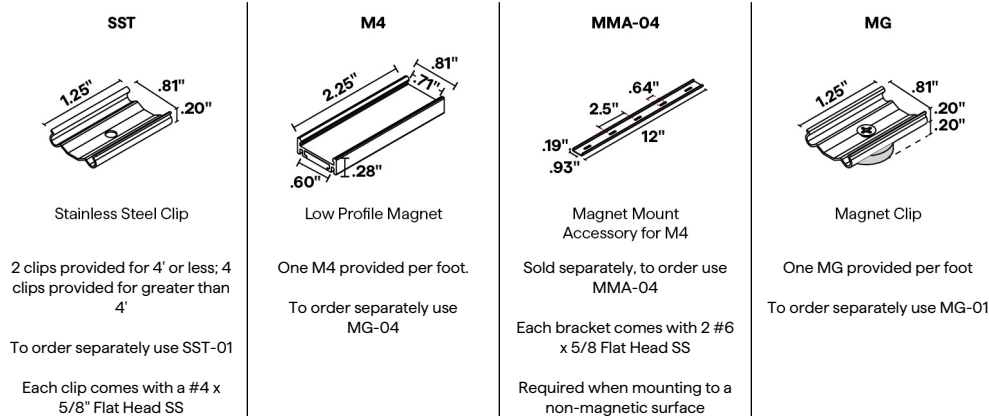
Connector/Wire In or Out not needed to specify product. Standard configuration is BW for Wire In and CLS for Wire out



11 WIRE COLOR



13 MOUNTING

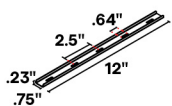


14 FINISH



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



ESSENTIALS LALO-FLAT (01) SW-HE

24VDC Linear Fixtures - Surface & Recessed

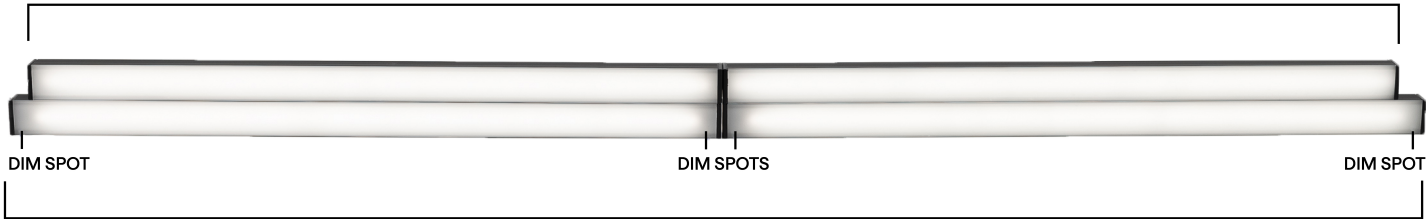
16 EXACT/OPTIMAL FIXTURE LENGTH

[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

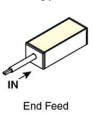
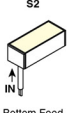
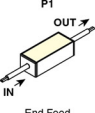
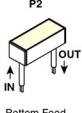
SW-HE, SW-HE+ DRY LENGTHS BY INCH

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 +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	
				
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"



ESSENTIALS LALO-FLAT (01) SW-HE

24VDC Linear Fixtures - Surface & Recessed

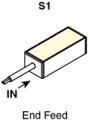
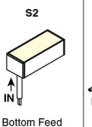
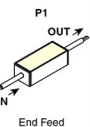
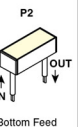
SW-HE+ WET LENGTHS BY INCH

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 +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	
				
12"		10.61"		10.76"
13"		12.61"		12.76"
14"		12.61"		12.76"
15"		14.61"		14.76"
16"		14.61"		14.76"
17"		16.61"		16.76"
18"		16.61"		16.76"
19"		18.61"		18.76"
20"		18.61"		18.76"
21"		20.61"		20.76"
22"		20.61"		20.76"
23"		22.61"		22.76"
24"		22.61"		22.76"
36"		34.61"		34.76"
48"		46.61"		46.76"
60"		58.61"		58.76"
72"		70.61"		70.76"
84"		82.61"		82.76"
96"		94.61"		94.76"

COMPATIBLE POWER SUPPLIES

See power supplies cut sheets for more information. Data subject to change, all data has +/- 5% tolerance.

DIM TO LEVEL	INDOOR	OUTDOOR
	SW24/5.0, SW-HE, SW-HE+	SW24/5.0, SW-HE, SW-HE+
Dim to Black	Q6M-DC+CAP QTM-DC+CAP iQ-PH iQ-PH+QD1	QOM-DC+CAP QOM-PH
0.1%	QT-CAB-QZ-PH/0-10V QT-CAB-eLED+0-10V QT-CAB-eLED+0-10V-AWN QTM-eLED+0-10V QTM-eLED+0-10V-AWN QZ-BOWTIE+DIMMER QZ-DMX QZ-PH/0-10V QZ-STICK-PH/0-10V QZLP	Q-SET-QZ-DMX Q-SET-QZ-PH/0-10V Q-SET-eLED+0-10V QOM-eLED+0-10V QZ-DMX QZ-PH/0-10V
1%	QT-CAB-eLED+DALI-DT6 QT-CAB-eLED+DALI-DT6-AWN QTM-eLED(E) QTM-eLED+DALI-DT6 QTM-eLED+DALI-DT6-AWN QZ-DALI-DT6	Q-SET+QZ-DALI-DT6 QOM-eLED+DALI-DT6 QOM-eLED+PS-DALI-DT6
10%	Non-Dim Power Supply with SW App Dongle	



ESSENTIALS LALO-FLAT (01) SW-HE

24VDC Linear Fixtures - Surface & Recessed

DIMMING PROTOCOL	INDOOR	OUTDOOR
	SW24/5.0, SW-HE, SW-HE+	SW24/5.0, SW-HE, SW-HE+
Non-Dim	QT-CAB-eLED-ND QTM-eLED-ND QZ-ND	Q-SET-QZ-ND Q-SET-eLED-ND QOM-eLED-ND QZ-ND iQ-ND-50-65
Phase	Q6M-DC+CAP QT-CAB-QZ-PH/0-10V QTM-DC+CAP QTM-eLED(E) QZ-BOWTIE+DIMMER QZ-PH/0-10V QZ-STICK-PH/0-10V QZLP iQ-PH iQ-PH+QD1	Q-SET-QZ-PH/0-10V QOM-DC+CAP QOM-PH QZ-PH/0-10V
0-10V	QT-CAB-QZ-PH/0-10V QT-CAB-eLED+0-10V QT-CAB-eLED+0-10V-AWN QTM-eLED+0-10V QTM-eLED+0-10V-AWN QZ-PH/0-10V QZ-STICK-PH/0-10V QZLP	Q-SET-QZ-PH/0-10V Q-SET-eLED+0-10V QOM-eLED+0-10V QZ-PH/0-10V
Lutron Athena	QT-CAB-eLED+0-10V-AWN QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+0-10V-AWN QTM-eLED+DALI-DT6-AWN	
ECO System	QTM-eLED(E)	
DMX	QZ-DMX	Q-SET-QZ-DMX QZ-DMX
DALI-2: DT6	QT-CAB-eLED+DALI-DT6 QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+DALI-DT6 QTM-eLED+DALI-DT6-AWN QZ-DALI-DT6	Q-SET+QZ-DALI-DT6 QOM-eLED+DALI-DT6
SCENE App Dimmed	Non-Dim Power Supply with SW App Dongle	

COMPATIBLE MOUNTING ACCESSORIES

HINGE - HMB-M

Adjustable mounting bracket - Medium

HINGE - HMB-L

Adjustable mounting bracket - Large

HINGE - HMB-XL

Adjustable mounting bracket - XLarge

Q-PIVOT

Small mounting accessory

Q-ANGLE

Adjustable mounting accessory

QUOVA-STANDARD

QUOVA Knife Edge

NJ-MEDIUM

J Mounting Bracket

SD-L-MEDIUM

L Mounting Bracket

COMPATIBLE WIRING ACCESSORIES

Q-mini-J

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

Q-mini-J5

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

BARREL-EXT

8ft barrel cable extender DRY ONLY

BARREL FOUR-FER

Splits lead from one to four LED Barrel connector fixtures, DRY/DMP

CON120-EXT

10ft Con cable extender DRY/DMP/WET

CON FOUR-FER

Splits lead from one to four LED Con connectors DRY/DMP/WET

CON M - BARREL F

Male con to barrel cable adaptor DRY/DMP