Linear Series 2.0

LED linear luminaires and retrofit linear kits

The Linear Series delivers ultra-long life and high efficacy. Fixtures can be installed independently or joined together for continuous-run lighting.

In applications where fluorescent strip housings are used, the Linear Retrofit Kits (RTR and RMW) are a fast and easy way to upgrade existing back boxes to LED.

Applications: Industrial and Commercial Facilities, Warehouses, Manufacturing, Parking Garages and Retail.

Project Name	
Date	
Cat. Number	
Type	

Nominal Lumens	Length	Lumen Output [1]	Efficacy	Watts	Part Number
3000	4'	3184	149	21	LR20S-A1-03K-04-40-80-FR
4000	4'	4532	139	33	LR20S-A1-04K-04-40-80-FR
6000	8'	6276	146	43	LR20S-A1-06K-08-40-80-FR
8000	8'	8186	148	55	LR20S-A1-08K-08-40-80-FR
9000	12'	9304	151	62	LR20S-A1-09K-12-40-80-FR
12000	12'	12488	150	83	LR20S-A1-12K-12-40-80-FR

[1]Typical at 277V (LV) and (25°C), 4000K/5000K, Frosted Lens, +/-10%. Typical CRI 80+. No lens Multiplier is 1.08. 3500K multiplier is 0.93.

Features & Specifications

- **Environment:** Dry/Damp, for interior applications.

- **Length:** Fixtures are all 4' sections. Available for order in 4', 8' and 12' lengths. 8' and 12' versions are attached with included bracket(s). Each fixture has 1 driver to maximize efficiency and value.

- **Housing:** Steel.

- **Lenses:** Frosted acrylic (standard). Option of No Lens available (recommended for indirect lighting only).

- **Mounting Options:** All suitable for continuous row.

  - **Stand-alone Fixture (FXT)**: Cable Mount or Surface Mount (standard).

  - **RetroFit Kit (RTR):** For standard back boxes. 4 ⅜" wide. Utilizes existing housing, (no mounting kits available).

  - **Retro Multi Width Kit (RMW):** For any back box from 3.25" to 5.25" in width. Utilizes existing housing.

- **LED:** 3500K, 4000K and 5000K (standard), 80CRI (standard). Other CCTs and CRIs available upon request.

- **Warranty:** 5-year standard, up to 10-year optional.

Projected Lumen Maintenance

TM-21 from initial lumens (based on 24/7 operation)

Ambient	Year 1	Year 5	Year 10	L70 (calculated)
25°C	99.62%	95.60%	90.81%	309.000 hours
45°C	99.70%	95.41%	90.31%	250.000 hours

Power & Control

- **Power input:** 120-277V (50/60Hz).

- **Dimming:** 0-10V dimming standard. Capable of dimming down to 10%.

- **Power Factor:** Greater than 0.9 (0.96–0.99 typical).

- **Total Harmonic Distortion:** Less than 20%, 10% typical.

- **Occupancy Sensors:** Optional - factory installed photocell sensors for motion and daylight harvesting.

- **Emergency Battery Backup:** Initial lumen output is 2200-2400 lumens, thereafer EMB produces 1900-2000 lumens for a minimum of 90 minutes. 16 watts initial output. Temperature range 10°C to 45°C. Not to exceed ambient of fixture. Available on stand-alone fixture (FXT) only.[10]

- **Surge Protection:** Minimum 2kV (standard). Additional surge protection up to 10kV is available.

Ordering Example

Base Fixture: LR20S-A1-04K-04-40-80-FR-LV-FXT-10V

Base Fixture with Options: LR20S-A1-04K-04-40-80-FR-LV-FXT-OCC8-EMB-10V

DLC Number: LR20S-A1-04K-04-40-80-FR-LV-FXT-(xxx)-10V

SELECT ONE			SELECT ONE	SELECT ONE	SELECT ONE	LV
Series-Compliance-Model			**Color Temp[4]**	**CRI**	**Lens**	**Voltage**
4' LONG	**8' LONG**	**12' LONG**	**35[6]** 3500K	**80** (Standard)	**FR** Frosted Lens, Wide Distribution	**LV** 120-277V
LR20S-A1-03K-04 3K lumens	LR20S-A1-06K-08 6K lumens	LR20S-A1-09K-12 9K lumens	**40** 4000K	**Other CRI available upon request[7]**	**NL** No Lens	
LR20S-A1-04K-04 4K lumens	LR20S-A1-08K-08 8K lumens	LR20S-A1-12K-12 12K lumens	**50** 5000K			
			Other CCT available upon request[7]			

SELECT ONE	SELECT ONE IF APPLICABLE, IF NONE, LEAVE BLANK AND MOVE TO CORD & PLUG		SELECT ONE IF APPLICABLE, IF NONE, LEAVE BLANK, MOVE TO OPTION		SELECT AS MANY AS APPLICABLE, SEPARATE EACH WITH "-". IF NONE, LEAVE BLANK, MOVE TO DIMMING	10V
Mounting	**Occupancy Sensors – No OCC sensor (Standard)**		**Cord & Plug – No cord/plug (Standard)**		**Option [4]**	**Dimming**
FXT[4, 7] Stand-alone fixture	**OCC8[3,11]** WattStopper Occ Sensor, on/off, with photocell, 8' mounting height	**TOCC20[3,11]** IR-TEC OCC Sensor, on/off, w/ photocell, 8' to 20' mounting height	**6' 18AWG CORD, white with the following:**	**15' 18AWG CORD, white with the following:**	**EMB[3, 9, 10]** Battery back-up for emergency lighting	**10V** 0–10V Interface (Standard)
RTR 4 ⅜" Retrofit Kit, utilizes existing housing and wiring	**OCCDIM8[3,5,11]** Programmable WattStopper Occ Sensor, dimmable, with photocell, 8' mounting height	**OCCDIM20[3,5,11]** WattStopper OCC Sensor, dimmable, w/ photocell, 20' mounting height	**CW[3]** Cord, 15A, no plug	**15CW[3]** Cord, 15A, no plug	**CTRL[3, 8]** Fixture installed EnOcean Control Module	
RMW Retro Multi Width Kit (3.25" to 5.25"), utilizes existing housing and wiring	**MOCCDIM8[3,11]** WattStopper OCC Sensor, manual set and photocell, dimmable, 8' mounting height	**MOCCDIM20[3,11]** WattStopper Occ Sensor, manual set and photocell, dimmable, 20' mounting height	**DW[3]** Dimming cord, 15A, 5 Wire, no plug	**15DW[3]** Dimming cord, 15A, 5 Wire, no plug	**SRG[3]** Fixture installed Surge Protector	
	OCC20[3,11] WattStopper OCC Sensor, manual set and photocell, dimmable, 20' mounting height		**C515[3]** Cord, 15A, straight plug 120V (5-15P)	**15C515[3]** Cord, 15A, straight plug 120V (5–15P)	**BOX[3]** Individual box packing available	
					QDC[3] Driver Quick Disconnect	

When submitting for utility incentives and rebates, please use catalog numbers

When ordering OPTIONS, separate each option with a "-". Catalog number always ends with dimming selection "10V"

End Notes

1. Typical at 277V (LV) and (25°C), 4000K/5000K, Frosted Lens, +/-10%. Typical CRI 80+. No lens Multiplier is 1.08. 3500K multiplier is 0.93.

2. Dimensions listed are for the fixture only. See dimensional drawings for measurements with mounting hardware. Weights are approximate and vary by model, if weight is a concern, please contact factory. Weight changes when battery backup is added.

3. Optional add-on. See price list for pricing.

4. Optional CABLEKIT ordered separately. See ACCESSORIES.

5. Wireless programmer required for final field setup. See ACCESSORIES.

6. 3500K not DLC listed.

7. Cable mounting full fixtures requires the additional support for 8' and 12' lengths. 4' requires 1 HANGERKIT (2-y cables), 8' and 12' require 2 each HANGERKIT(4-y cables, total).

8. EnOcean controls require accessories and commissioning software (sold separately). See ACCESSORIES.

9. Available on stand-alone (FXT) only.

10. If AC input wiring passes through fixture housings in continuous run installations, max ambient on all fixtures containing a factory installed battery backup system is 40°C

11. Settings for Sensors from Factory--
OCC (LV and HV)--If no movement for 15 mins, OFF
TOCC-- If no movement for 10 mins, OFF
OCCDIM—If no movement for 5 mins, dim to 10%, if no movement for 60 mins, OFF
MOCCDIM--If no movement for 15 mins, dim to 10%, if no movement for ~8 mins, OFF.
The photocell is disabled from the factory.

Accessories

Must be ordered separately. Packaged separately.

Type	Part Number	Description
Safety Kit	SAFETYCABLE	Kit includes (one) 5 ft. aircraft cable with single snap hook, L-bracket, screw and nut. For use with all mounting options.
V-Hanger	VHANGERKIT	Kit includes 2 wire V-hangers, enough to hang one 4' fixture. Order fixture with FXT mounting option.
Hanger	HANGERKIT	Kit includes 2 cable and toggle hangers. Order fixture with FXT mounting option.[7]
Wireless Programmer for Dimmable Occupancy Sensors(s)	OCCDIMPROG	Hand held wireless programmer for setup OCCDIMXX dimmable occupancy sensors. Required with OCCDIM8 selection.
Replacement Power Supply		Available upon request. Contact factory for details
EnOcean Controls		
Single Rocker	ENSR	EnOcean Control Single Rocker
Double Rocker	ENDR	EnOcean Control Double Rocker
Wall Occupancy Sensor	ENWLOCC	EnOcean Control Wall OCC
Ceiling Occupancy Sensor	ENCLOCC	EnOcean Control Ceiling OCC
Ceiling Daylight Sensor	ENDAY	EnOcean Control Daylight Sensor
Software	ENCLOCC	EnOcean Control Navigan Commissioning Software

Ambient Range Operation[10]

-25°C to 45°C (-13°F to 113°F)

-25°C to 40°C (-13°F to 104°F) for 08K-08

Lumen Ambient Temperature Factor (LATF)

Ambient	35°C	40°C	45°C
Lumen Multiplier	0.99	0.98	0.98

Listings & Certifications

- ETL listed (UL 1598)
- RoHS Compliant
- DLC Premium and DLC Standard
- LM-79, LM 80 and TM-21 tests and reports are performed in accordance to IESNA standards
- CAN/CSA C22.2 No. 250.13

Dimensions & Drawings[2]

| Model		Length (in)	Width (in)	Depth (in)	Weight (lb)
4'	FXT	48.0	4.4	2.6	4.9
	RTR	47.8	4.3	1.8	2.3
	RMW	47.8	5.8	1.8	2.4
8'	FXT	96.0	4.4	2.6	8.8
	RTR	95.6	4.3	1.8	3.6
	RMW	95.6	5.8	1.8	3.7
12'	FXT	144.0	4.4	2.6	13.7
	RTR	143.4	4.3	1.8	6.9
	RMW	143.4	5.8	1.8	7.2

Dimensions listed are for the fixture only. See dimensional drawings for measurements with mounting hardware.

4' Stand-alone Fixture (FXT)

48" [121.9cm]

BOTTOM VIEW

TOP VIEW

4.4" [11.1cm]

2.6" [6.6cm]
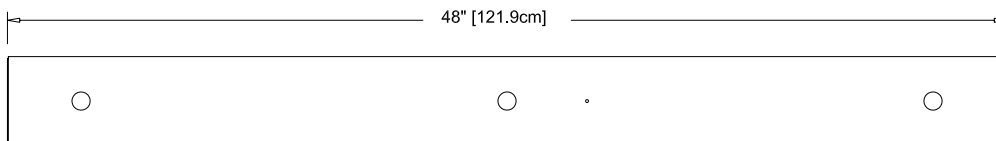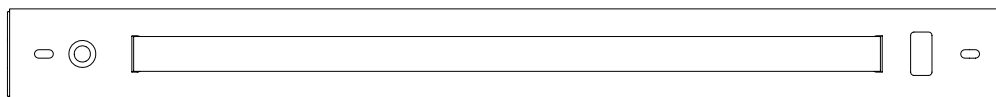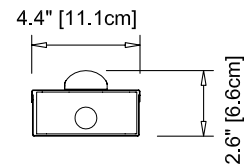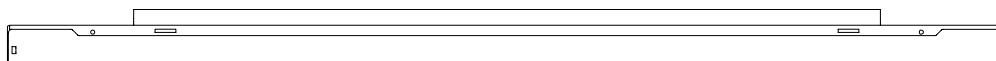
END VIEW

SIDE VIEW

4' Retrofit Kit (RTR)

47.8" [121.6cm]

BOTTOM VIEW

TOP VIEW

4.3" [11cm]

END VIEW

1.8" [4.7cm]
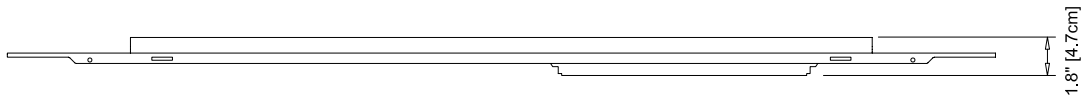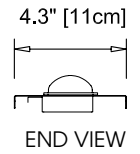
SIDE VIEW

4' Retro Multi Width Kit (RMW)

47.8" [121.6cm]
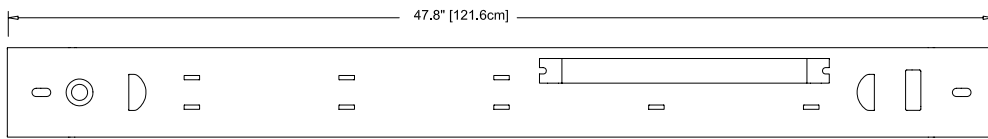
BOTTOM VIEW
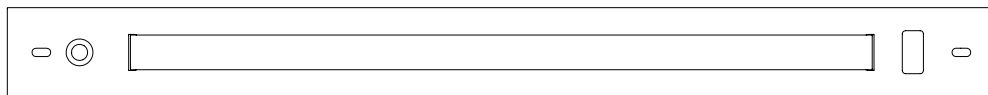
TOP VIEW

BRACKET ISO VIEW

5.8" [15cm]

END VIEW

1.8" [4.7cm]
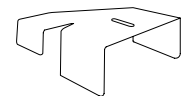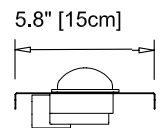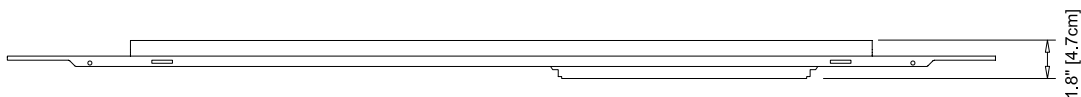
SIDE VIEW

flex

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