



# **EX-R SERIES**

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## **EXPLOSION-PROOF LIGHT**

Class I Division 2, Class II Division 2, Zone 1 & 2, Zone 21 & 22

## INTRODUCTION

The FGE-EX-R2 / R4 Series Explosion-Proof Lighting is a round LED fixture combining high brightness and rugged construction for industrial hazardous areas. Its die-cast aluminum housing and impact-resistant lens deliver excellent protection against explosion, vibration, and corrosion.

Providing up to 170 lm/W efficiency, the R2/R4 Series offers uniform light distribution suitable for tank farms, refineries, and marine zones.

Multiple installation options—ceiling, rope, pole mount—allow flexible deployment in diverse environments.



R2 (clear)



R2 (diffuse)



R4 (clear)



R4 (diffuse)

## COMPLIANCE

UL844 Hazardous Locations  
 Class I, Division 2, Groups A, B, C, D  
 Class II, Division 1, Groups E, F, G  
 Class II, Division 2, Groups F, G  
 Class III  
 Class I, Zone 2 Group IIC  
 UL 1598 Luminaires  
 UL 1598A Marine Outside Type  
 UL 8750 LED Safety  
 UL924 Emergency Lighting  
 ATEX Marking (Certificate Number:  
 CSANe 23ATEX1213X):  
 Ex II 3GD  
 Ex db ec IIC T6/T5 GC  
 Ex tc IIIC T80°C/T95°C DC



## FEATURES



170lm/W

**High Efficacy & Energy Saving:** Up to 170 lm/W, reducing energy consumption by over 60% compared with HID fixtures.



EMERGENCY BACKUP

**90 Minutes EM Back-up Options:** Ensuring safety and visibility during critical moments.



0-10V DIMMABLE

**Smart Control Ready:** Compatible with 0-10V/DALI dimming, optional microwave/infrared sensor, and emergency kit.



RELIABLE WARRANTY

**Reliable Warranty:** 5 Years Warranty.



3 POWER SELECTABLE

**Power Selectable:** Multi-wattage options in a single fixture for flexible applications and reduced inventory.



CCT SELECTABLE

**CCT Tunable:** Adjustable color temperature to suit diverse environments.

### - Robust Protection:

IP66 waterproof & dustproof, IK08 impact resistance for harsh industrial environments.

### - Superior Thermal Management:

Stainless steel housing, great corrosion resistance and cooling performance.

### - Versatile Mounting Options:

Ceiling, rope, and pole for flexible installation.

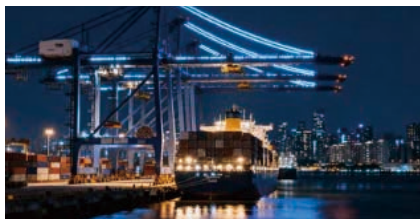
### - Wide Input Voltage:

AC120-277V, suitable for global power grids.

## APPLICATIONS



**Paper Mills:** Providing safe and stable illumination in dust-rich environments to reduce ignition risks and support continuous operation.



**Loading Dock Platforms:** Delivering durable explosion-proof lighting to withstand vibration and fuel vapors for safer loading and unloading operations.



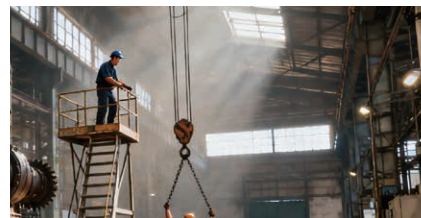
**Chemical Processing Facilities:** Ensuring reliable lighting in areas with volatile chemicals to maintain safety and compliance under hazardous conditions.



**Coal Mine:** Offering explosion-proof illumination for methane- and dust-prone mining zones to protect workers during underground operations.



**Power Plants:** Providing robust lighting around high-risk equipment to support safe inspection and maintenance in demanding conditions.



**Heavy Industrial Facilities:** Delivering long-lasting explosion-proof lighting for harsh industrial sites exposed to dust, oil mist, and mechanical impact.

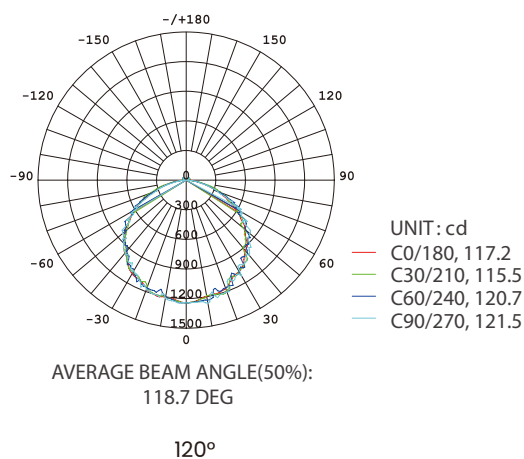
## TECHNICAL PARAMETERS

| Product Model                 | EX-R2                                     | EX-R4                                     |
|-------------------------------|-------------------------------------------|-------------------------------------------|
| <b>Electrical Performance</b> |                                           |                                           |
| Wattage                       | 20W/30W/36W                               | 30W/40W/50W/60W                           |
| Input Voltage                 | AC120-277V                                | AC120-277V                                |
| Frequency                     | 50/60Hz                                   | 50/60Hz                                   |
| Power Factor (PF)             | >0.9                                      | >0.9                                      |
| Surge Protection              | 4KV                                       | 4KV                                       |
| THD                           | <20%                                      | <20%                                      |
| <b>Optical Performance</b>    |                                           |                                           |
| Luminous Efficacy             | 150lm/W                                   | 150lm/W                                   |
| Luminous Flux                 | 3000/4500/5400lm                          | 4500/6000/7500/9000lm                     |
| CCT                           | 2700K/4000K/5000K                         | 2700K/4000K/5000K                         |
| CRI                           | Ra>80                                     | Ra>80                                     |
| Beam Angle                    | 120°                                      | 120°                                      |
| Unified Glare Rating (UGR)    | 20                                        | 20                                        |
| <b>Reliability</b>            |                                           |                                           |
| Lifetime                      | 50,000h                                   | 50,000h                                   |
| Operating Temperature         | -40°C ~ +60°C for T6/T80°C                | -40°C ~ +60°C for T6/T80°C                |
| Storage Temperature           | -40 ~ +70°C                               | -40 ~ +70°C                               |
| Ingress Protection            | IP66                                      | IP66                                      |
| Impact Resistance             | IK08                                      | IK08                                      |
| <b>Control</b>                |                                           |                                           |
| Dimming                       | 0-10V Dimming                             | 0-10V Dimming                             |
| Sensor                        | -                                         | -                                         |
| Communication Protocol        | -                                         | -                                         |
| Emergency Kit                 | No                                        | No                                        |
| <b>Mechanical</b>             |                                           |                                           |
| Housing Material              | SUS304 stainless steel                    | SUS304 stainless steel                    |
| Lens Material                 | Clear fiberglass-reinforced polycarbonate | Clear fiberglass-reinforced polycarbonate |
| Coating                       | Grey/RAL7040                              | Grey/RAL7040                              |
| Net Weight                    | 5.2kg                                     | 8.92kg                                    |
| Dimensions                    | 698x225x133.5mm                           | 1302x225x149.5mm                          |
| Warranty                      | 5 Years                                   | 5 Years                                   |

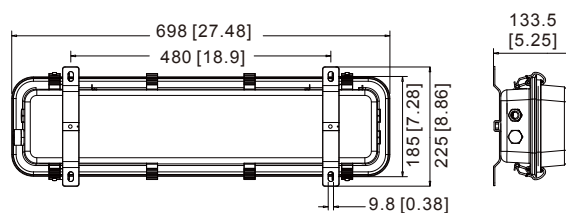
## Power and CCT Selectable

| Product Model                 | EX-40W/30W/20W                            | EX-60W/50W/40W                            |
|-------------------------------|-------------------------------------------|-------------------------------------------|
| <b>Electrical Performance</b> |                                           |                                           |
| Wattage                       | 40W/30W/20W                               | 60W/50W/40W                               |
| Input Voltage                 | AC120-277V                                | AC120-277V                                |
| Frequency                     | 50/60Hz                                   | 50/60Hz                                   |
| Power Factor (PF)             | >0.9                                      | >0.9                                      |
| Surge Protection              | 4KV                                       | 4KV                                       |
| THD                           | <20%                                      | <20%                                      |
| <b>Optical Performance</b>    |                                           |                                           |
| Luminous Efficacy             | 170lm/W                                   | 170lm/W                                   |
| Luminous Flux                 | 6800lm/5100lm/3400lm                      | 10200lm/8500lm/6800lm                     |
| CCT                           | 4000K/5000K/6500K                         | 4000K/5000K/6500K                         |
| CRI                           | Ra>80                                     | Ra>80                                     |
| Beam Angle                    | 120°                                      | 120°                                      |
| Unified Glare Rating (UGR)    | 20                                        | 20                                        |
| <b>Reliability</b>            |                                           |                                           |
| Lifetime                      | 50,000h                                   | 50,000h                                   |
| Operating Temperature         | -40°C ~ +60°C for T6/T80°C                | -40°C ~ +60°C for T6/T80°C                |
| Storage Temperature           | -40 ~ +70°C                               | -40 ~ +70°C                               |
| Ingress Protection            | IP66                                      | IP66                                      |
| Impact Resistance             | IK08                                      | IK08                                      |
| <b>Control</b>                |                                           |                                           |
| Dimming                       | 0-10V Dimming                             | 0-10V Dimming                             |
| Sensor                        | -                                         | -                                         |
| Communication Protocol        | -                                         | -                                         |
| Emergency Kit                 | No                                        | No                                        |
| <b>Mechanical</b>             |                                           |                                           |
| Housing Material              | SUS304 stainless steel                    | SUS304 stainless steel                    |
| Lens Material                 | Clear fiberglass-reinforced polycarbonate | Clear fiberglass-reinforced polycarbonate |
| Coating                       | Grey/RAL7040                              | Grey/RAL7040                              |
| Net Weight                    | 5.2kg                                     | 8.92kg                                    |
| Dimensions                    | 698x225x133.5mm                           | 1302x225x149.5mm                          |
| Warranty                      | 5 Years                                   | 5 Years                                   |

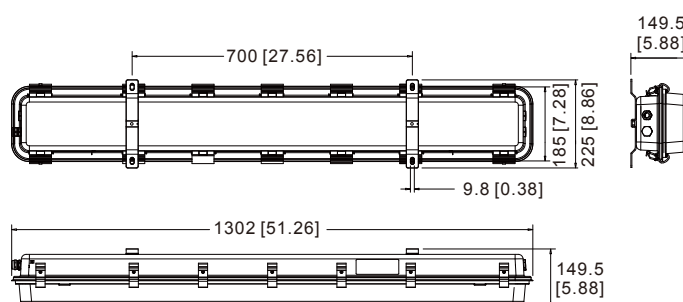
## PHOTOMETRICS



## MECHANICAL DIMENSIONS



20W/30W/36W



30W/40W/50W/60W

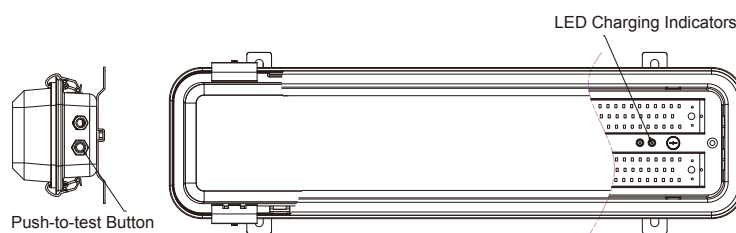
| Product Model     | EX-R2                             | EX-R2 (Emergency)                 | EX-R4                              | EX-R4(Emergency)                   |
|-------------------|-----------------------------------|-----------------------------------|------------------------------------|------------------------------------|
| Wattage           | 20W/30W/36W                       | 10W/20W/30W/40W                   | 30W/40W/50W/60W                    | 30W/40W/50W/60W                    |
| Outer box (L*W*H) | 800x250x175mm(31.49"x9.84"x6.89") | 800x250x175mm(31.49"x9.84"x6.89") | 1400x250x175mm(55.12"x9.84"x6.89") | 1400x250x175mm(55.12"x9.84"x6.89") |
| Qty/Ctn           | 1pc                               | 1pc                               | 1pc                                | 1pc                                |
| N.W./Ctn          | 5.27kg/11.6lbs                    | 6.5kg/4.33lbs                     | 8.92kg/19.67lbs                    | 10.2kg/22.49lbs                    |
| G.W./Ctn          | 6.55kg/14.44lbs                   | 7.43kg/16.38lbs                   | 11.2kg/24.69lbs                    | 11.54kg/25.44lbs                   |
| Remarks           | 0.7M cable                        | 0.7M cable                        | 0.7M cable                         | 0.7M cable                         |

## EMERGENCY SPECIFICATIONS

### FOR CLASS I, DIVISION 2

|                           |                                        |
|---------------------------|----------------------------------------|
| Emergency Driver Model    | EM-15W-HL                              |
| Input Rating              | 120-277Vac, 50/60Hz, Max.100mA, Max.7W |
| Output Rating             | 25-55Vdc, Constant wattage 15W         |
| Charge Time               | 24 hours                               |
| Emergency Run Time        | 3 hours                                |
| Response Time             | < 550mS                                |
| Rated Ambient Temperature | 0°C to 60°C                            |
| Battery Life Expectancy   | 3 years                                |

**CAUTION:** Sealed unit. Battery not replaceable.  
Replace entire unit when necessary.



## Indicator Information

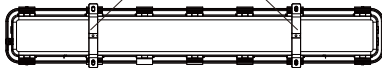
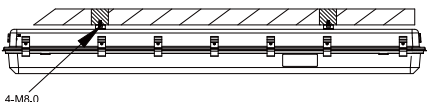
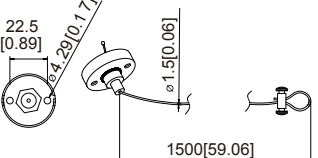
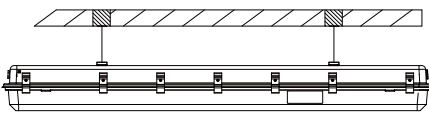
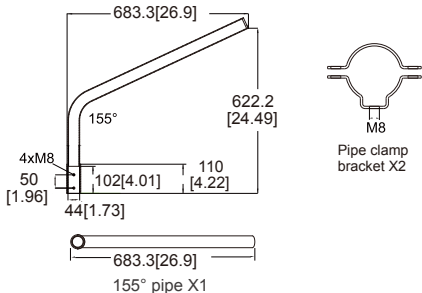
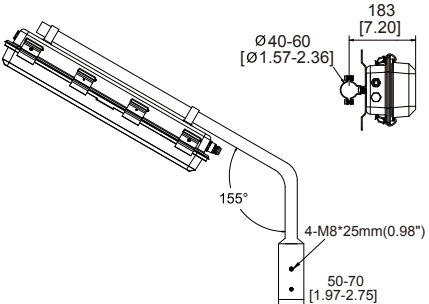
| LED Features                                    |                   | YELLOW LED<br>(State LED) | Green LED<br>(Indicate LED)          |
|-------------------------------------------------|-------------------|---------------------------|--------------------------------------|
| Operate Mode                                    | Charge Mode       |                           |                                      |
|                                                 | Charging          |                           | Flash 0.2HZ (5S/time)                |
|                                                 | Fully charged     |                           | ON                                   |
| Discharge Mode                                  | Discharge         |                           | Flash 1HZ (1S/time)                  |
|                                                 | Discharge cut-off |                           | OFF                                  |
| Battery disconnect                              |                   | Flash 2HZ (0.5S/time)     |                                      |
| LED Lamp disconnect                             |                   | Flash 2HZ (0.5S/time)     |                                      |
| Battery under voltage                           |                   | Flash 1HZ (1S/time)       |                                      |
| Battery over voltage                            |                   | Flash 1HZ (1S/time)       |                                      |
| Function test beginning (once a month)          |                   |                           | Flash 2HZ (0.5S/time), flash 5 times |
| Under function test                             |                   |                           | Flash 1HZ (1S/time)                  |
| Function test failed                            |                   | Flash 0.5HZ (2S/time)     |                                      |
| Discharge duration test beginning (once a year) |                   |                           | Flash 2HZ (0.5S/time), flash 7 times |
| Under discharge duration test                   |                   |                           | Flash 1HZ (1S/time)                  |
| Discharge duration test failed                  |                   | Flash 0.5HZ (2S/time)     |                                      |

## FOR ZONE 2

|                         |                                                                     |
|-------------------------|---------------------------------------------------------------------|
| Input Rating            | 120-270Vac, 50/60Hz, THD ≤ 20%,<br>PF ≥ 0.9, Input Current Max.0.6A |
| Input Power             | 10-50W                                                              |
| Output Rating           | 28-50Vdc                                                            |
| Emergency Power         | 8W                                                                  |
| Battery                 | Lithium                                                             |
| Emergency Run Time      | 3 hours                                                             |
| Response Time           | ≤ 1 second                                                          |
| Charge Time             | ≥ 24 hours                                                          |
| Battery Life Expectancy | 5 years                                                             |
| Ambient Temperature     | -10°C to +60°C                                                      |

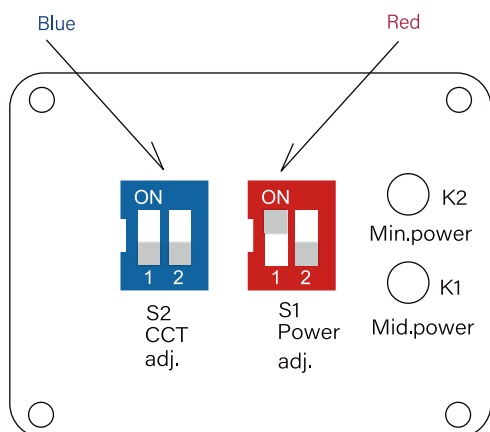
**CAUTION:** Sealed unit. Battery not replaceable.  
Replace entire unit when necessary.

## MOUNTING METHODS

| Options              | Description                                                                   | Kit (mm[inch])                                                                                                          | Installed                                                                            |
|----------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <b>Ceiling Mount</b> | Provided with two stainless steel mounting kits welded at the back of housing | Standard Mounting Kit (Included)<br> |  |
| <b>Rope Mount</b>    | Provided with two stainless steel wire. Measured 1mm diameter                 |                                      |  |
| <b>Pole Mount</b>    | (1) 155° pipe<br>(2) Pipe clamp bracket                                       |                                      |  |

**Note:** (1) Mounting screws not provided. (2) Ordered separately, field installed.

## POWER & CCT SELECTABLE



| Power Selectable | CCT Selectable    |
|------------------|-------------------|
| 40W/30W/20W      | 4000K/5000K/6500K |
| 60W/50W/40W      | 4000K/5000K/6500K |

### Operating Instructions

#### • S1 DIP switch - Red (S1 Power adj.)

The luminaire incorporates a dual-dial power configuration switch enabling three selectable output ratings. Factory default settings and power levels can be customized based on project requirements.

1. Maximum Output (100% nominal power)  
Switch configuration: Dial 1 = OFF, Dial 2 = OFF;



2. Medium Output (70%-90% of nominal power, depending on specification) Switch configuration: Dial 1 = ON, Dial 2 = OFF



3. Minimum Output (50%-70% of nominal power, depending on specification) Switch configuration: Dial 1 = OFF, Dial 2 = ON



#### • S2 DIP switch - Blue (S2 CCT adj.)

The luminaire incorporates a dual-dial power configuration switch enabling three preset color temperature options. The factory default setting can be customized according to order requirements.

1. Cool white, e.g. 6500K  
Switch configuration: Dial 1 = OFF, Dial 2 = OFF



2. Neutral white, e.g. 5000K  
Switch configuration: Dial 1 = ON, Dial 2 = OFF



3. Warm white, e.g. 4000K  
Switch configuration: Dial 1 = ON, Dial 2 = ON



## ORDER INFORMATION

**EX-YY-YY-YY-YY**

1 2 3 4 5 6 7 8 9

### 1 EX = Explosion Proof Light

### 2 Wattage

|    |     |
|----|-----|
| 10 | 10W |
| 20 | 20W |
| 30 | 30W |
| 36 | 36W |
| 40 | 40W |
| 50 | 50W |
| 60 | 60W |

### 3 Shell Shape Series

|    |    |
|----|----|
| R2 | R2 |
| R4 | R4 |

### 4 Color Temperature

|    |       |
|----|-------|
| 27 | 2700K |
| 40 | 4000K |
| 50 | 5000K |

### 5 Dimmable

|   |               |
|---|---------------|
| D | 0-10V Dimming |
|---|---------------|

### 6 Optics

|     |      |
|-----|------|
| 120 | 120° |
|-----|------|

### 7 EM Back-up

|         |                    |
|---------|--------------------|
| (Blank) | Without EM Back-up |
| EM      | With EM Back-up    |

### 8 Mounting Means

|   |                       |
|---|-----------------------|
| C | Ceiling or Wall mount |
| R | Rope mount            |
| P | Pole mount            |

### 9 Options

|         |           |
|---------|-----------|
| (Blank) | 0.7M cord |
|---------|-----------|



WARRANTY PERIOD  
**5 YEARS  
WARRANTY**



WARRANTY COVERAGE  
**LED LIGHT SOURCE,  
DRIVER**



AFTER-SALES  
SERVICE COMMITMENT  
**24H RESPONSE**



AFTER-SALES  
SERVICE COMMITMENT  
**72H RESOLUTION/REPLACEMENT**