

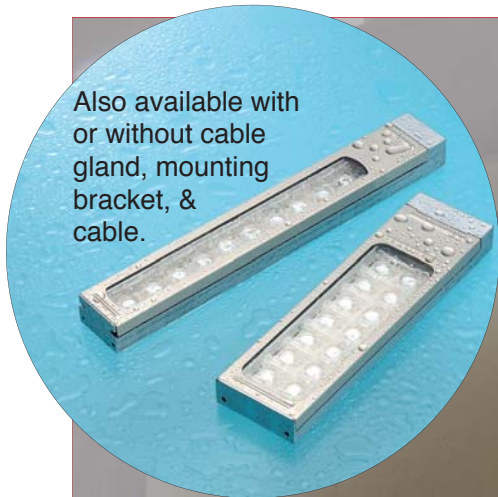
Think Automation and beyond...



# LF1D

# LUMIFA™

LED Illumination Units (water, dust, and oil-proof)



Also available with or without cable gland, mounting bracket, & cable.

Shown with cable gland, mounting bracket, & cable.

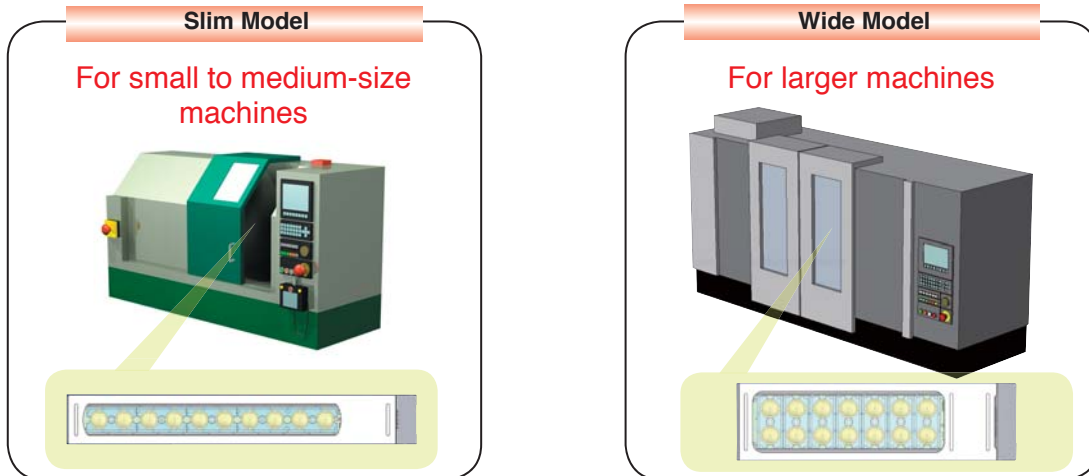
Slim Model

Wide Model

- Brightness:
  - Slim: 66.6 Lumens/Watt
  - Wide: 67.2 Lumens/Watt
- Life: 70% of initial luminance at 50,000 Hrs
- IP67 (polycarbonate lens) or IP67f (reinforced glass lens)
- UL Pending
- RoHS Compliant

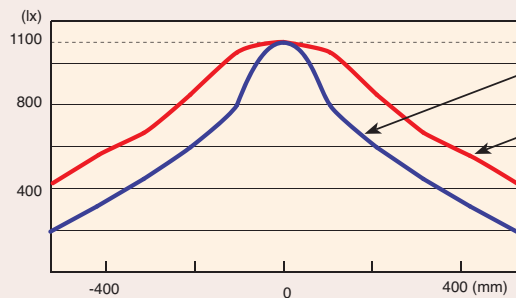


## Excellent light distribution by combining different light-dispersing lenses



### Distribution Characteristics (long side direction)

(Reference value at 1.0m)



Slim Model  
(for narrow areas)  
Wide Model  
(for larger areas)

Contact IDEC for other LF1D distribution characteristics.

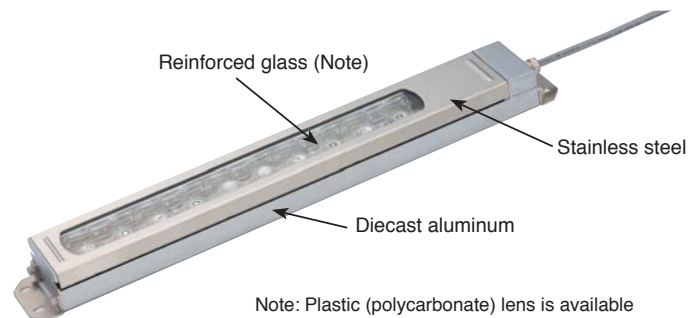
## Durable and resistant to harsh environments

### High durability

Constructed of diecast aluminum (base), stainless steel (front), and reinforced glass. Unit is resistant to flying debris.

### Degree of protection IP67f

Waterproof, dust-proof, oil-proof.  
Can be used in environments subject to water, dust, and oil.



Note: Plastic (polycarbonate) lens is available for food processing machines (IP67).

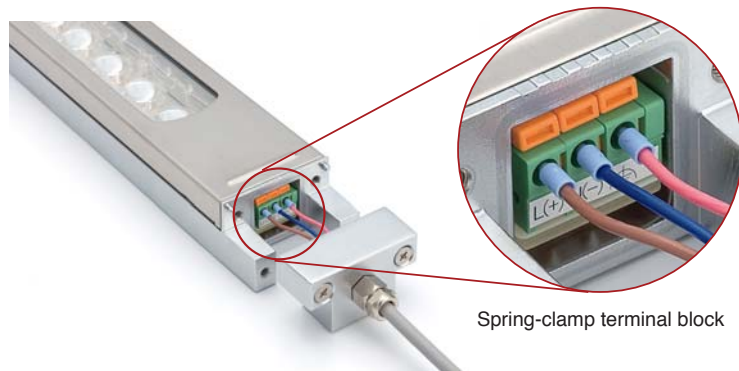
## Easy maintenance

### Spring-clamp terminal blocks

Removable direct plug-in terminal block and spring clamp connector ensures a high quality connection, making it easy to install or replace the LED illumination unit.







### Flexible mounting

The LED illumination unit can be mounted using mounting holes on the back or ends of its housing.



# LF1D LED Illumination Units

## Part Numbers

Style	Cable Connection	Pre-installed Cable gland, Mounting Bracket, 5m Cable	Rating	Part Number	
Slim LED array: 10 x 1 	Side 	No	IP67f	LF1D-E2F-2W	
		Yes	IP67	LF1D-E3G-2W	
	Back 	No	IP67f	LF1D-E2F-2W-A	
		Yes	IP67	LF1D-E3G-2W-A	
	Wide LED array 7 x 2 	Side 	No	IP67f	LF1D-F2F-2W
			Yes	IP67	LF1D-F3G-2W
Back 		No	IP67f	LF1D-F2F-2W-200	
		Yes	IP67	LF1D-F3G-2W-200	
			No	IP67f	LF1D-F2F-2W-451
			Yes	IP67	LF1D-F3G-2W-451

## Accessories

Type	Material	Part No.	Remarks	Package Qty	
Cable Gland	Brass	LF9Z-A11	M8, applicable wire size: $\phi 3.5$ to 5.5 mm (10 to 12AWG)	1	
Mounting Bracket	Stainless steel	For Slim Type	LF9Z-B11	With mounting screws	2
		For Wide Type	LF9Z-B12	With mounting screws	2
Cable	PVC	LF9Z-C05	Length: 5m	1	

## Specifications

### • General Specifications

Type	Slim	Wide
Rated Voltage	24V DC	
Voltage Range	21.6 to 26.4V DC	
Rated Power (typ.)	9W	12.5W
Insulation Resistance	1M $\Omega$ minimum (500V DC megger)	
Dielectric Strength	1000V AC, 50/60 Hz, 1 minute	
Vibration Resistance (damage limits)	Frequency 5 to 55 Hz, amplitude 0.5 mm	
Shock Resistance (damage limits)	1000 m/s <sup>2</sup>	
Operating Temperature	-30 to +55°C (no freezing)	
Operating Humidity	45 to 85% RH (no condensation)	
Storage Temperature	-35 to +70°C (no freezing)	
Operating Atmosphere	No corrosive gas	
Life (Note 1)	50,000 hours (The illumination duration in which the illuminance maintains a minimum of 70% of the initial value at 25°C.)	
Degree of Protection (Note 2)	Reinforced glass lens: IP67f Polycarbonate lens: IP67	
Material	Housing: Diecast aluminum Front cover: Stainless steel Lens: Reinforced glass or polycarbonate (Note 3)	
Weight (approx.)	LF1D-E**-2W: 750g LF1D-E**-2W-A: 950g	LF1D-F**-2W: 800g LF1D-F**-2W-A: 1000g

Note 1: LED life depends on the operating environment.

Note 2: Waterproof and oil-proof characteristics guaranteed for conditions specified by IEC 60529 and JEM1030. For illumination units without accessories, use a cable gland and cable that satisfy IP67f or IP67 degrees of protection.

Note 3: The reinforced glass and polycarbonate lenses have the same appearance, but have different degrees of protection (IP67f or IP67).

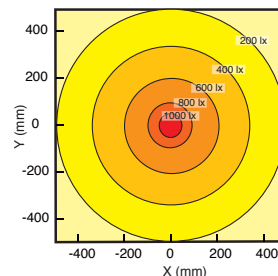
### • LED Optical Specifications

Type	Slim	Wide
Illumination Color	White	
Total Luminous Flux (typ.)	600 lm	840 lm
Color Temperature (typ.)	5700K	
Reference Illuminance (typ.) at 1.0m	1100 lx	

LED modules and illumination units may vary in illumination colors and illuminance. Luminous flux, color temperature, and illuminance shown above are typical values.

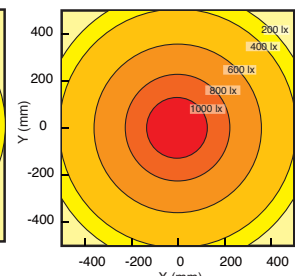
## Illuminance Distribution (at 1.0m)

### • Slim Type



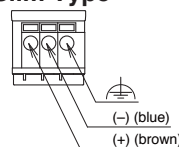
X: Long side Y: Short side

### • Wide Type

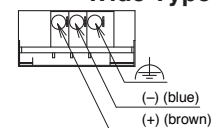


## Terminal Block Wiring

### • Slim Type



### • Wide Type

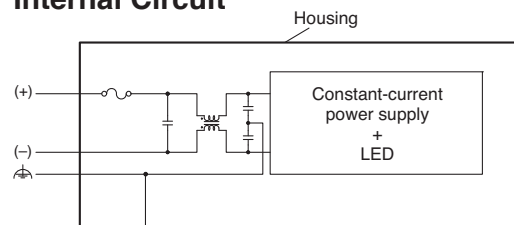


Applicable ferrules: 0.25 to 0.75 mm<sup>2</sup>

Recommended source:

Phoenix Contact: AI 0,25-12 BU, AI 0,34-12 TQ,  
AI 0,5-12 WH, AI 0,75-12 GY

## Internal Circuit

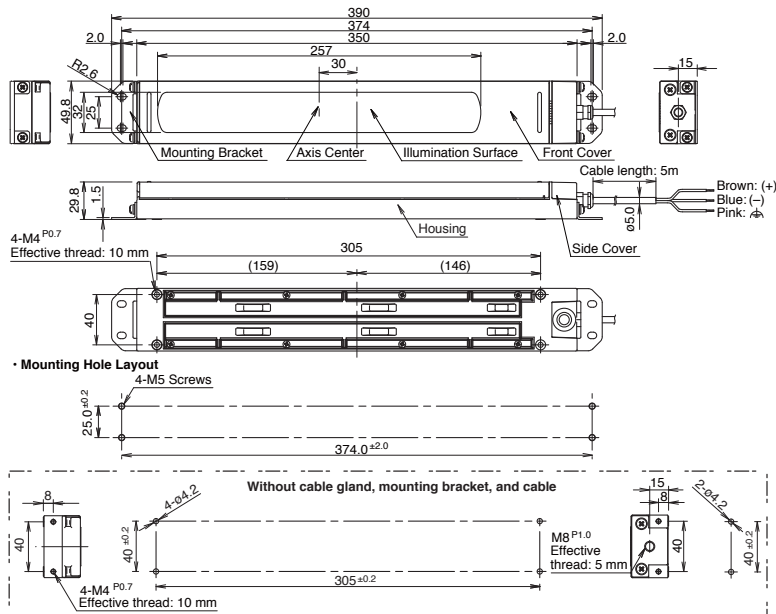


# LF1D LED Illumination Units

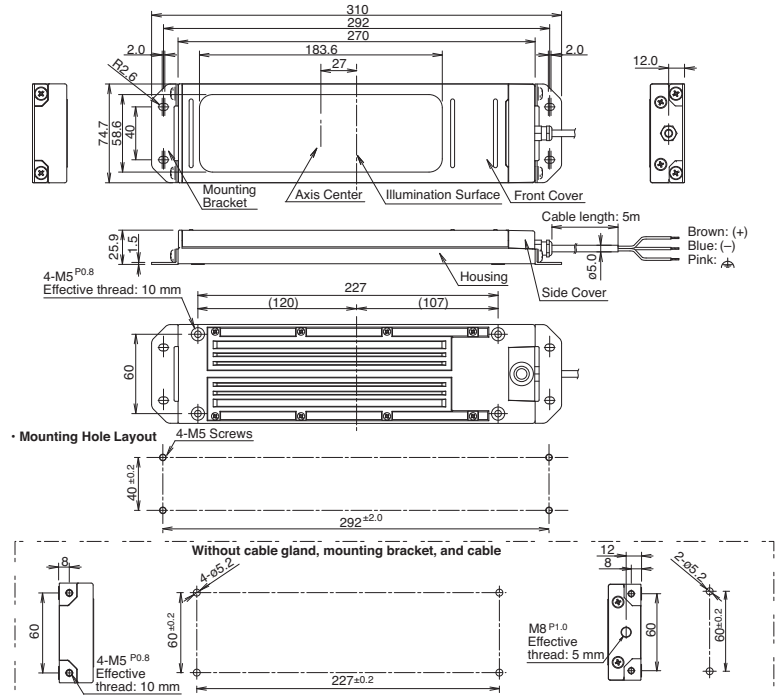
## Dimensions

(w/cable gland, mounting bracket, and cable)

### • Slim Type (10 LEDs × 1 row)



### • Wide Type (7 LEDs × 2 rows)



## Safety Precautions

- Do not disassemble, repair, or modify the LF1D illumination unit. Otherwise accidents may result, such as electric shock, fire, or malfunction.
- Turn off the power to the LF1D illumination unit before wiring. Make sure wiring is correct, otherwise electric shock or damage may result.
- Do not stare directly into the LF1D illumination unit while it is lit, and do not project the light to other people, otherwise eyes may be injured.
- The LF1D illumination unit is a general-purpose industrial electric device. Do not use the LF1D illumination unit for electronic equipment that may cause personal injury or death if a malfunction or failure should occur.

## Instructions

- Before designing the final equipment and powering up the LF1D illumination unit, confirm that the specifications described on the instruction sheet have been met. If there is any uncertainty, contact IDEC before powering up the LF1D illumination unit.
- Apply voltage within the rated range, otherwise the LED elements may be damaged.
- The illumination unit is vulnerable to static electricity. Take sufficient precautions for protection against static electricity and voltage surges.
- Make sure that the LF1D illumination unit is not dropped during transportation, installation, and operation, otherwise damage may result.
- Do not pull or push the cable of the LF1D illumination unit, otherwise damage may result. Allow sufficient slack to the cable while wiring.
- Do not apply excessive force to the LF1D illumination unit. Do not leave a damaged LF1D illumination unit unattended or use a damaged LF1D.
- Ensure the correct operating temperature around the LF1D illumination unit. Otherwise internal temperature rise may result in damage.
- Do not use or store the LF1D illumination unit in a place subject to vibration and shock.
- Do not use the LF1D illumination unit in the following situations:
  - exposure to direct sunlight, heaters, or high temperatures
  - subject to chemicals, or corrosive gases (Plastic lens types: Iron powder and oil)
  - basements, greenhouses, or other humid locations
  - cold storage warehouses or cooler exhaust outlets (make sure that no freezing occurs)
- Do not loosen screws, otherwise the protection characteristics will be impaired.

All dimensions in mm.

Specifications and other descriptions in this brochure are subject to change without notice.



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