

LF1D/LF2D LED Illumination Units

Brightest in its class, excellent power savings. Optimal optical design achieves high brightness at both the center and periphery. IP67f degree of protection.

- LED provides energy-savings, long-life, space-saving and no-maintenance advantages.
- Illumination surface variety—reinforced glass or polycarbonate, both in clear or diffused type.
- IP67f degree of protection (polycarbonate: IP67)
- Robust housing of aluminum diecast and stainless steel.
- Thin and slim profiles allow installation in space-limited areas.
- Even low profile is available with the sleek design of LF2D. Resistant to dust build up on the surface.

Application examples

Machine tools, food processing equipment, automatic manufacturing machines, printing machines, production system, test equipment, refrigeration and freezers.



LF1D (Illumination color: white)

Style			Slim (LF1D-E)		Wide (LF1D-F)	
Shape						
LED Arrangement			10 LEDs × 1 row		7 LEDs × 2 rows	
Optional Accessories			Illumination Surface		Illumination Surface	
Cable Gland LF9Z-A11	Cable LF9Z-C05	Mounting Bracket LF9Z-B11, -B12	Clear Reinforced Glass	Clear Polycarbonate	Clear Reinforced Glass	Clear Polycarbonate
Without (Cable gland hole on the side of LF1D)	—	—	LF1D-E2F-2W	LF1D-E3G-2W	LF1D-F2F-2W	LF1D-F3G-2W
		With	LF1D-E2F-2W-101	LF1D-E3G-2W-101	LF1D-F2F-2W-101	LF1D-F3G-2W-101
Without (Cable gland hole on the back of LF1D)	—	—	LF1D-E2F-2W-200	LF1D-E3G-2W-200	LF1D-F2F-2W-200	LF1D-F3G-2W-200
		With	LF1D-E2F-2W-201	LF1D-E3G-2W-201	LF1D-F2F-2W-201	LF1D-F3G-2W-201
With (Side)	—	—	LF1D-E2F-2W-300	LF1D-E3G-2W-300	LF1D-F2F-2W-300	LF1D-F3G-2W-300
		With	LF1D-E2F-2W-301	LF1D-E3G-2W-301	LF1D-F2F-2W-301	LF1D-F3G-2W-301
	With	—	LF1D-E2F-2W-350	LF1D-E3G-2W-350	LF1D-F2F-2W-350	LF1D-F3G-2W-350
		With	LF1D-E2F-2W-A	LF1D-E3G-2W-A	LF1D-F2F-2W-A	LF1D-F3G-2W-A
With (Back)	—	—	LF1D-E2F-2W-400	LF1D-E3G-2W-400	LF1D-F2F-2W-400	LF1D-F3G-2W-400
		With	LF1D-E2F-2W-401	LF1D-E3G-2W-401	LF1D-F2F-2W-401	LF1D-F3G-2W-401
	With	—	LF1D-E2F-2W-450	LF1D-E3G-2W-450	LF1D-F2F-2W-450	LF1D-F3G-2W-450
		With	LF1D-E2F-2W-451	LF1D-E3G-2W-451	LF1D-F2F-2W-451	LF1D-F3G-2W-451

• Contact IDEC for cable gland hole other than the standard M8 size. • Use Class 2 power supply when using the LF1D as UL/c-UL listed LED illumination unit.

LF2D (Illumination color: white)

Style			Slim (LF2D-E)		Wide (LF2D-F)	
Shape						
LED Arrangement			10 LEDs × 1 row		7 LEDs × 2 rows	
Optional Accessories			Illumination Surface		Illumination Surface	
Cable Gland LF9Z-A11	Cable LF9Z-C05		Clear Reinforced Glass	Clear Polycarbonate	Clear Reinforced Glass	Clear Polycarbonate
Without (cable gland hole on the side of LF2D)	—		LF2D-E2F-2W	LF2D-E3G-2W	LF2D-F2F-2W	LF2D-F3G-2W
			LF2D-E2F-2W-200	LF2D-E3G-2W-200	LF2D-F2F-2W-200	LF2D-F3G-2W-200
Without (cable gland hole on the back of LF2D)	—		LF2D-E2F-2W-300	LF2D-E3G-2W-300	LF2D-F2F-2W-300	LF2D-F3G-2W-300
		With	LF2D-E2F-2W-A	LF2D-E3G-2W-A	LF2D-F2F-2W-A	LF2D-F3G-2W-A
With (Side)	With	—	LF2D-E2F-2W-400	LF2D-E3G-2W-400	LF2D-F2F-2W-400	LF2D-F3G-2W-400
		With	LF2D-E2F-2W-450	LF2D-E3G-2W-450	LF2D-F2F-2W-450	LF2D-F3G-2W-450

• Contact IDEC for cable gland hole other than the standard M8 size. • Use Class 2 power supply when using the LF2D as UL/c-UL listed LED illumination unit.

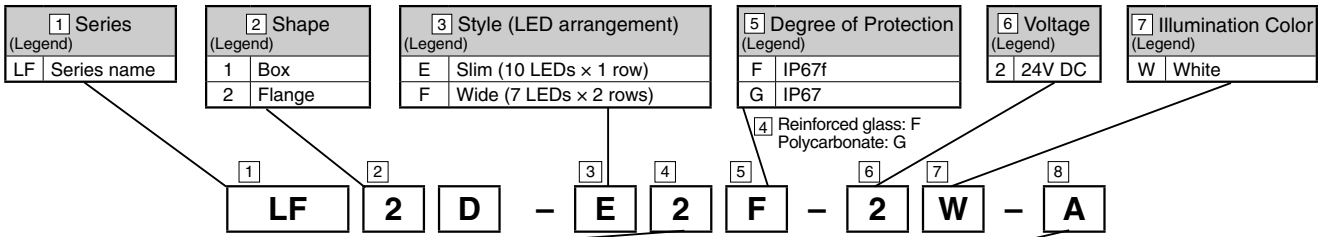
Accessories

Accessory		Material	Part No.	Remarks	Package Quantity
Cable Gland		Brass	LF9Z-A11	M8, applicable wire size: ø3.5 to 5.5 mm	1
Mounting Bracket	For LF1D-E (slim)	Stainless Steel	LF9Z-B11	With mounting screws	2 (for right and left)
	For LF1D-F (wide)		LF9Z-B12	With mounting screws	2 (one each for right and left)
Cable		PVC	LF9Z-C05	5m	1

• See page 623 for angle adjustable mounting bracket (LF1D). • Use Class 2 power supply when using the LF2D as UL/c-UL listed LED illumination unit.

LF1D/LF2D LED Illumination Units

Part No. Development



4 Illumination Surface (Legend)		
2	Clear	Reinforced glass
3		Polycarbonate
5	Diffused	Polycarbonate
9		Reinforced glass

8 Cable Gland (LF9Z-A11)		8 Cable (Legend) (LF9Z-C05)		8 Mounting Bracket (Legend) (LF9Z-B11, LF9Z-B12)	
Blank	Without accessories. Cable gland hole on the side.				
A	With cable gland (standard). With cable. With mounting bracket (LF1D only)				
1	Without cable gland. Cable gland hole on the side.	0	Without	0	Without
2	Without cable gland. Cable gland hole in the back.			1	Yes
3	With cable gland (standard) on the side.	0	Without		
4	With cable gland (standard) in the back.	5	Yes		

- LF1D/LF2D: "100" and "351" are not available.
- LF2D: "350" and "**1" (with mounting bracket) are not available.

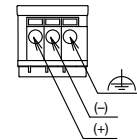
Specifications

Model	LF1D		LF2D	
	Slim	Wide	Slim	Wide
Style	Slim	Wide	Slim	Wide
Rated Voltage	24V DC			
Voltage Range	21.6 to 26.4V DC			
Rated Power (typ.) (at rated voltage)	9W	12.5W	9W	12.5W
Insulation Resistance	1MΩ minimum (500V DC megger)			
Dielectric Strength	1000V AC 50/60Hz, 1 minute			
Vibration Resistance (damage limits)	Frequency 5 to 55 Hz, amplitude 0.5 mm			
Shock Resistance (damage limits)	1000 m/s ²			
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 brightness maintains a minimum of 70% of the initial value at 25°C.)			
Degree of Protection (Note 2)	IP67f (reinforced glass), IP67 (polycarbonate)			
Material (Note 3)	Housing: Diecast aluminum Front cover: Stainless steel Illumination surface: Reinforced glass or polycarbonate		Housing and flange: Diecast aluminum Illumination surface: Reinforced glass or polycarbonate	
Weight (approx.)	LF1D-E**2W*: 750g LF1D-E**2W-A*: 950g	LF1D-F**2W*: 800g LF1D-F**2W-A*: 1000g	LF2D-E**2W*: 850g LF2D-E**2W-A*: 1000g	LF2D-F**2W*: 900g LF2D-F**2W-A*: 1050g

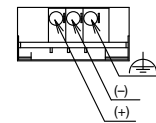
- Note 1: LED life depends on the operating environment.
 Note 2: Waterproof or oil-proof characteristics specified by IEC 60529 and JEM1030.
 For illumination units without accessories, use a cable gland and cable that satisfy IP67f or IP67 degree of protection.
 Note 3: The reinforced glass and polycarbonate illumination surfaces have the same appearance, but have different degrees of protection (IP67f or IP67).

Terminal Block Wiring

Slim



Wide



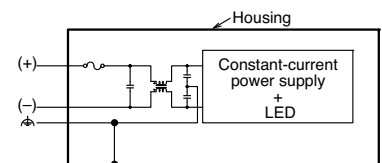
Applicable ferrules: 0.25 to 0.75 mm²
 Recommended source:
 Phoenix Contact:
 AI 0,25-12 BU, AI 0,34-12 TQ,
 AI 0,5-12 WH, AI 0,75-12 GY

LED Optical Specifications

Model	LF1D				LF2D			
	Slim		Wide		Slim		Wide	
Illumination Surface	Clear	Diffused	Clear	Diffused	Clear	Diffused	Clear	Diffused
Illumination Color	White							
Color Temperature (typ.)	5700K							
Total Luminous Flux (typ.)	600 lm		840 lm		600 lm		840 lm	
Reference Illuminance (typ.) at 1.0m directly below	1100 lx	1000 lx	1100 lx	1000 lx	1100 lx	1000 lx	1100 lx	1000 lx

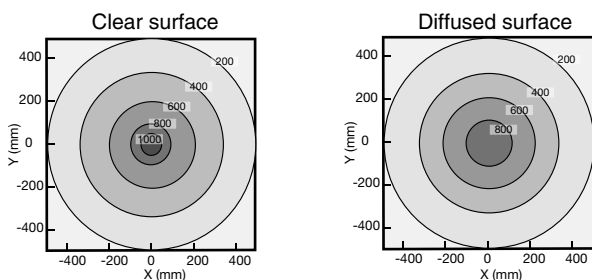
- LED modules and illumination units may vary in illumination color and illuminance.

Internal Circuit

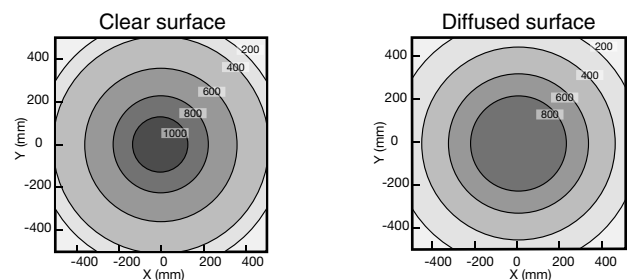


Illuminance Distribution (LF1D/LF2D) at 1.0m

Slim



Wide



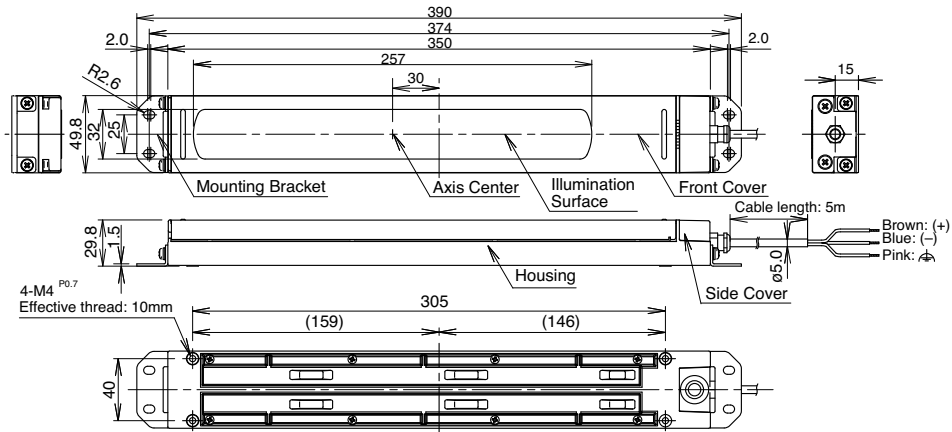
X: long side
Y: short side

LF1D/LF2D LED Illumination Units

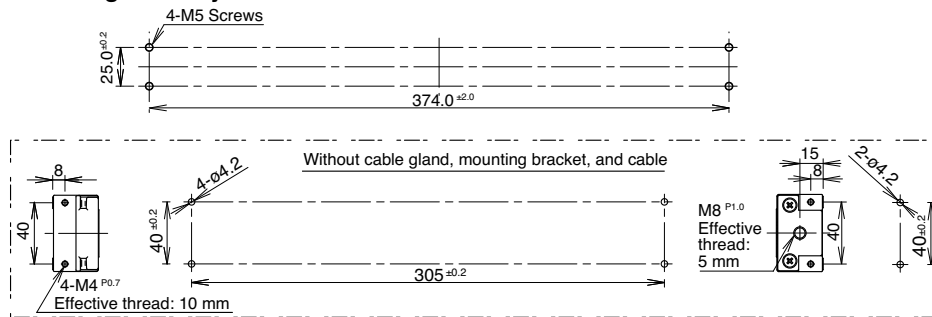
Dimensions

LF1D-E (Slim, 10 LEDs × 1 row)

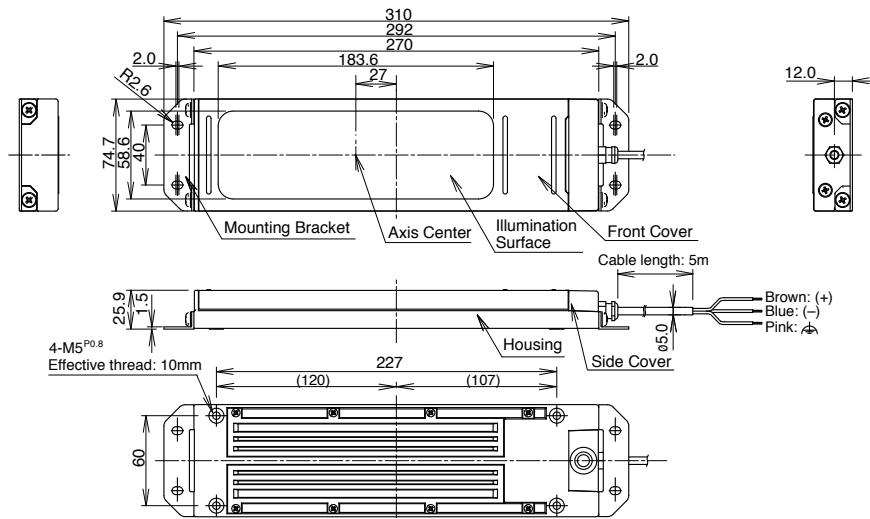
All dimensions in mm.



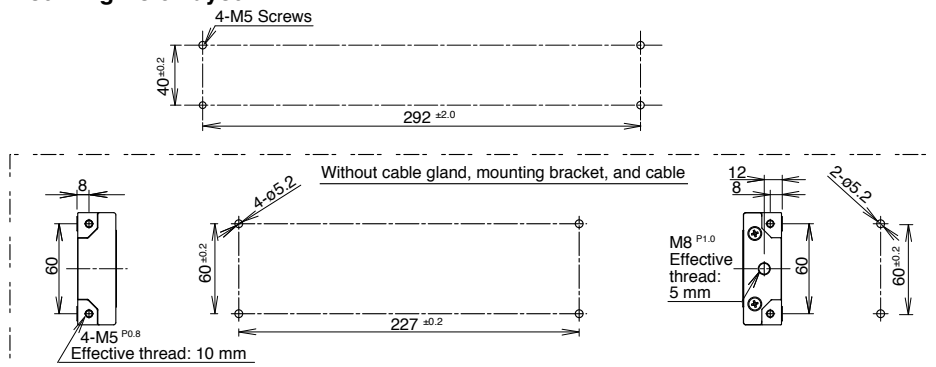
Mounting Hole Layout



LF1D-F (Wide, 7 LEDs × 2 rows)



Mounting Hole Layout

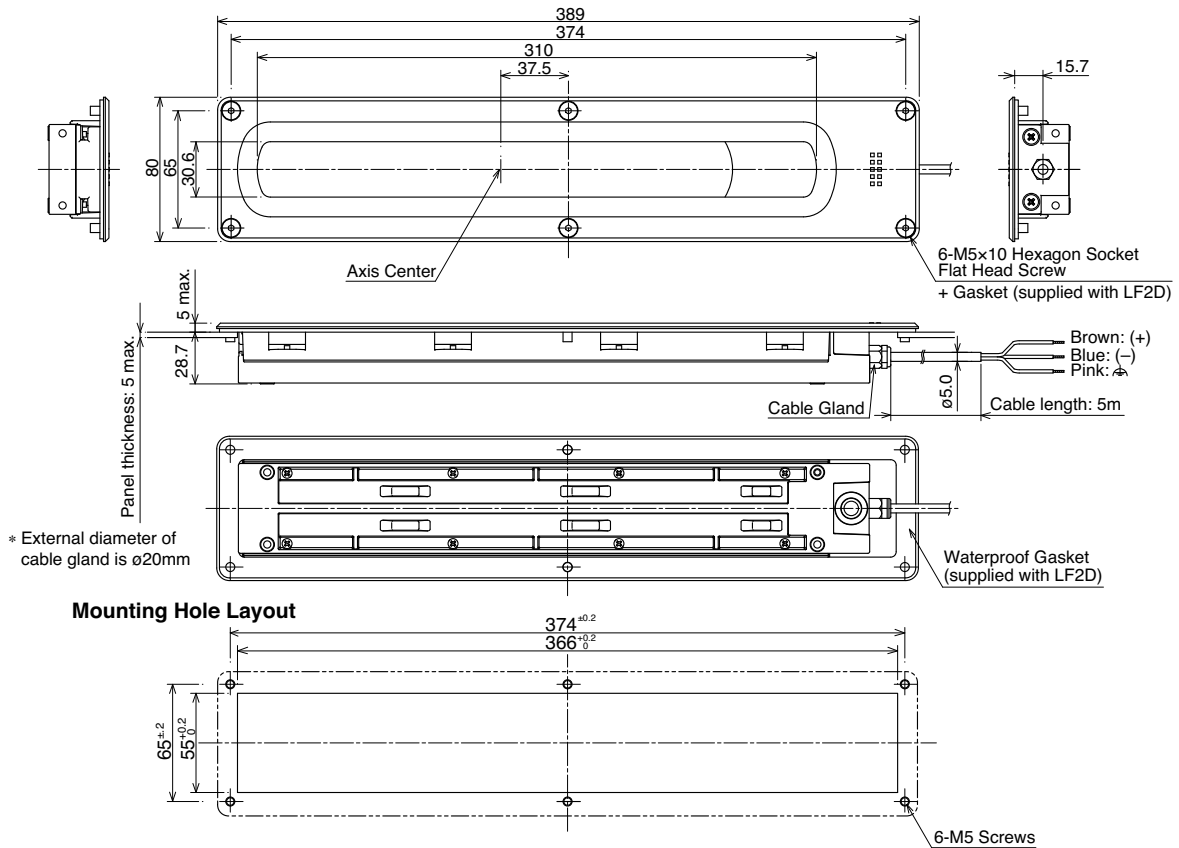


LF1D/LF2D LED Illumination Units

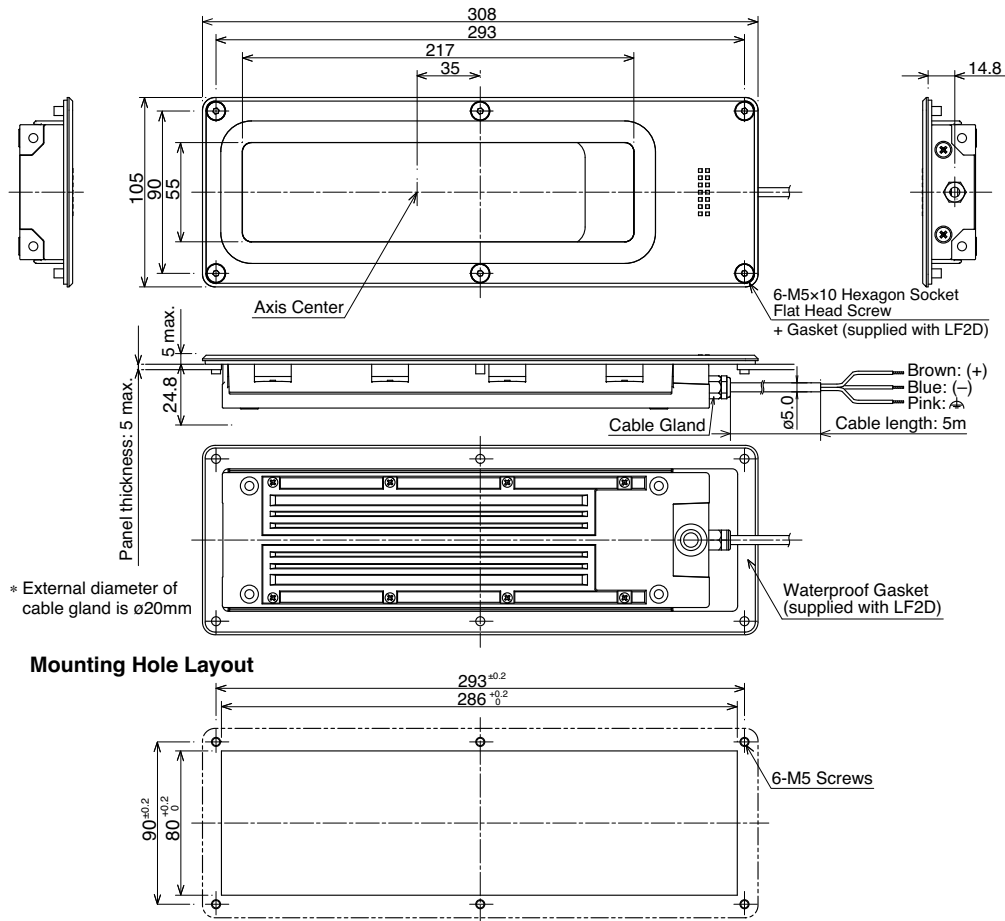
Dimensions

LF2D-E (Slim, 10 LEDs × 1 row)

All dimensions in mm.



LF2D-F (Wide, 7 LEDs × 2 rows)



Flush Silhouette
Switches & Pilot Lights
Display Lights
LED Illumination Units
Display Units
Safety Products
Terminal Blocks
Comm. Terminals
AS-Interface
Relays & Timers
Sockets
Circuit Protectors
Power Supplies
PLCs & SmartRelay
Operator Interfaces
Sensors
Control Stations
Explosion Protection
References