

**LF1D LED Illumination Unit
LF1D-H/-J Series**

Confirm that the delivered product is what you have ordered. Read this instruction sheet to make sure of correct operation. Make sure that the instruction sheet is kept by the end user.

Use of PSE marked DC power supply

When using this product in Japan as a part of Electric Facilities for General Use*1 or connecting this product to such facilities, use a DC power supply with a PSE mark attached, which satisfies the technical requirements of Electrical Appliance and Material Safety Law. Also, observe the related regulations such as the Guide Book of Electrical Equipment when installing this product.

*1 Mainly electrical facilities used in buildings such as general housings and business establishments, with a receiving voltage of 600V AC or below, and also the Small Capacity Generation Facilities (refer to the Japanese Electricity Business Act, Article 38).

Safety Precautions

In this operation instruction sheet, safety precautions are categorized in order of importance to Warning and Caution :

WARNING

Warning notices are used to emphasize that improper operation may cause severe personal injury or death.

CAUTION

Caution notices are used where inattention might cause personal injury or damage to equipment.

WARNING

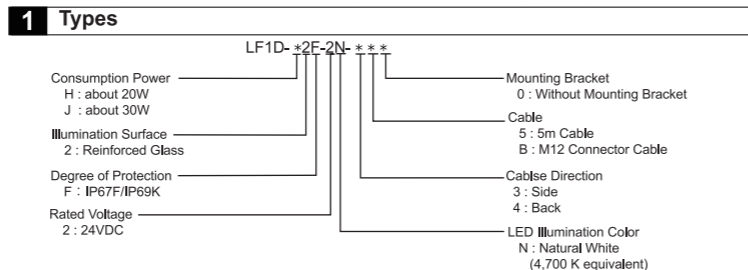
- Before designing the final equipment and powering up the LF1D-H/-J illumination unit, confirm the specifications scribed on this sheet. If there is any uncertainty in the description, contact IDEC before powering up the LF1D-H/-J illumination unit.
- Do not disassemble, repair, or modify the LF1D-H/-J illumination unit, otherwise severe accidents may result, such as electric shocks, damage, fire, or malfunction.
- Turn off the power to the LF1D-H/-J illumination unit before wiring. Make sure of correct wiring, otherwise electric shocks or damage may result.
- Do not gaze into the LF1D-H/-J illumination unit while it is lit, and do not project the light to other people, otherwise eyes may be injured.
- Make sure that the LF1D-H/-J illumination unit does not fall during transportation, installation, and operation, otherwise damage may result.
- Do not pull out or push in the cable of the LF1D-H/-J illumination unit, otherwise damage may result. Give a slack to the cable while wiring.
- The LF1D-H/-J illumination unit is a general-purpose and industrial electronic device. Do not use the LF1D-H/-J illumination unit for electronic equipment which may damage a human body or threaten a life in case a malfunction or failure occurs.
- Make sure that the cable does not touch the LF1D-H/-J housing.

CAUTION

- Apply a voltage within the rated value, otherwise the LED elements may be damaged.
- The LF1D-H/-J illumination unit is vulnerable to static electricity. Take a sufficient measure for protection against static electricity and surge voltages.
- Do not apply an excessive force to the LF1D-H/-J illumination unit. Do not leave a damaged LF1D-H/-J illumination unit unattended or use a damaged LF1D-H/-J.
- Make sure of the correct operating temperature, which is the temperature around the LF1D-H/-J illumination unit. Otherwise internal temperature rise may result in damage.
- Do not use or store the LF1D-H/-J illumination unit in a place subjected to vibrations and shocks.
- This product is for indoor use. Do not use the LF1D-H/-J illumination unit in the following places:
 - Exposed to direct sunlight
 - Near heaters, and at high temperatures
 - Subjected to chemicals, and corrosive gases
 - Basements, greenhouses, and other humid places
 - Cold storage warehouses and cooler exhaust outlets (make sure that no freezing occurs)
- Do not loosen screws, otherwise the protection characteristics will be impaired.
- The LF1D-H/-J is hot when power is applied, and right after disconnecting the power. Work on the LF1D-H/-J after it has cooled down (about for 30 minutes).

Usage note

- LED modules and illumination units may vary in illumination colors and illuminance.
- When wiring/installing the LF1D-H/-J, keep away from noise sources such as power line.



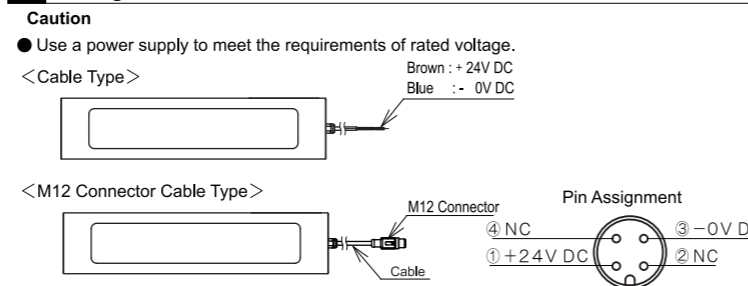
2 Specifications	
General Specifications	
Applicable Standard	UL2108 , UL8750 , CSA C22.2 No.250.0 *1 EN61000-6-2 , EN55015 , EN61547
Rated Voltage	24V DC (Operating voltage range : 21.6V to 26.4V DC)
Input Current (approx.)	LF1D-H2F-2N-*** : 765mA typ. (830mA maximum) LF1D-J2F-2N-*** : 1150mA typ. (1250mA maximum)
Rated Power (approx.)	LF1D-H2F-2N-*** : 18.4W typ. (20.0W maximum) LF1D-J2F-2N-*** : 27.6W typ. (30.0W maximum)
Operating Temperature	-30 to +55°C (no freezing)
Storage Temperature	-35 to +70°C (no freezing)
Operating Humidity	45 to 85% RH (no condensation)
Storage Humidity	20 to 90% RH (no condensation)
Life *2	50,000 hours minimum (until the brightness reduces to 70% the initial value in 25°C environment)
Insulation Resistance	1 MΩ minimum (500V DC megger)
Dielectric Strength	1000V AC, 1minute (between input terminal and ground terminal or housing)
Vibration Resistance (damage limits)	5 to 55Hz, amplitude 0.5 mm
Shock Resistance (damage limits)	1,000 m/s ²
Cable Minimum Bend Radius (at 25°C)	Cable Type : 10 mm (for fixed installation) M12 Connector Cable Type : 15 mm (for fixed installation)
Material	Front Cover : Stainless Side Cover : Stainless Housing : Aluminum Illumination Surface : Reinforced Glass <Cable Type> Cable : PVC <M12 Connector Cable Type> Cable : PUR Connector Housing : TPU Connector Knurl : Zinc die-cast (Nickel plated)
Weight (approx.)	LF1D-H2F-2N-***0 : 1.2kg LF1D-J2F-2N-***0 : 1.6kg
Degree of Protection	LF1D-*2F-*** : IP67, IP67F, IP69K*3

*1: Use Class 2 power supply when using the LF1D as UL / c-UL Listed Low Voltage Luminaire.
*2: Life of the LED is greatly affected by the operating conditions.
*3: IP67 is tested to IEC 60529 , IP67F is tested to JIS C 0920 , IP69K is tested to DIN 40050-9. Do not assure protection against all actual operating conditions.

3 Installation

Wall and ceiling Surface Mount
Mounting Centers (see Dimensions)
Using six or eight M5 screws, install the LF1D-H/J to a tightening torque shown below.
LF1D-H-2N-***0: use six M5 screws
LF1D-J-2N-***0: use eight M5 screws
Recommended tightening torque: 2.6 to 3.7 N·m
Make sure to tighten the screws to the recommended tightening torque. Failure to do so may cause fall or damage to the LF1D.
M5 screws must be provided by the user. Refer to "A-A sec." in the dimensions for the screw length.

4 Wiring



Connector Type *1	M12 Connector (4 pin plug) SAC-4P-MS SCO/150/1.5 (Phoenix contact)
Recommended Torque	0.4 N · m

*1 Choose a connector that satisfies the required degree of protection.
Recommended connector : SAC-4P-1.5-PUR/FS SCO (Phoenix Contact)

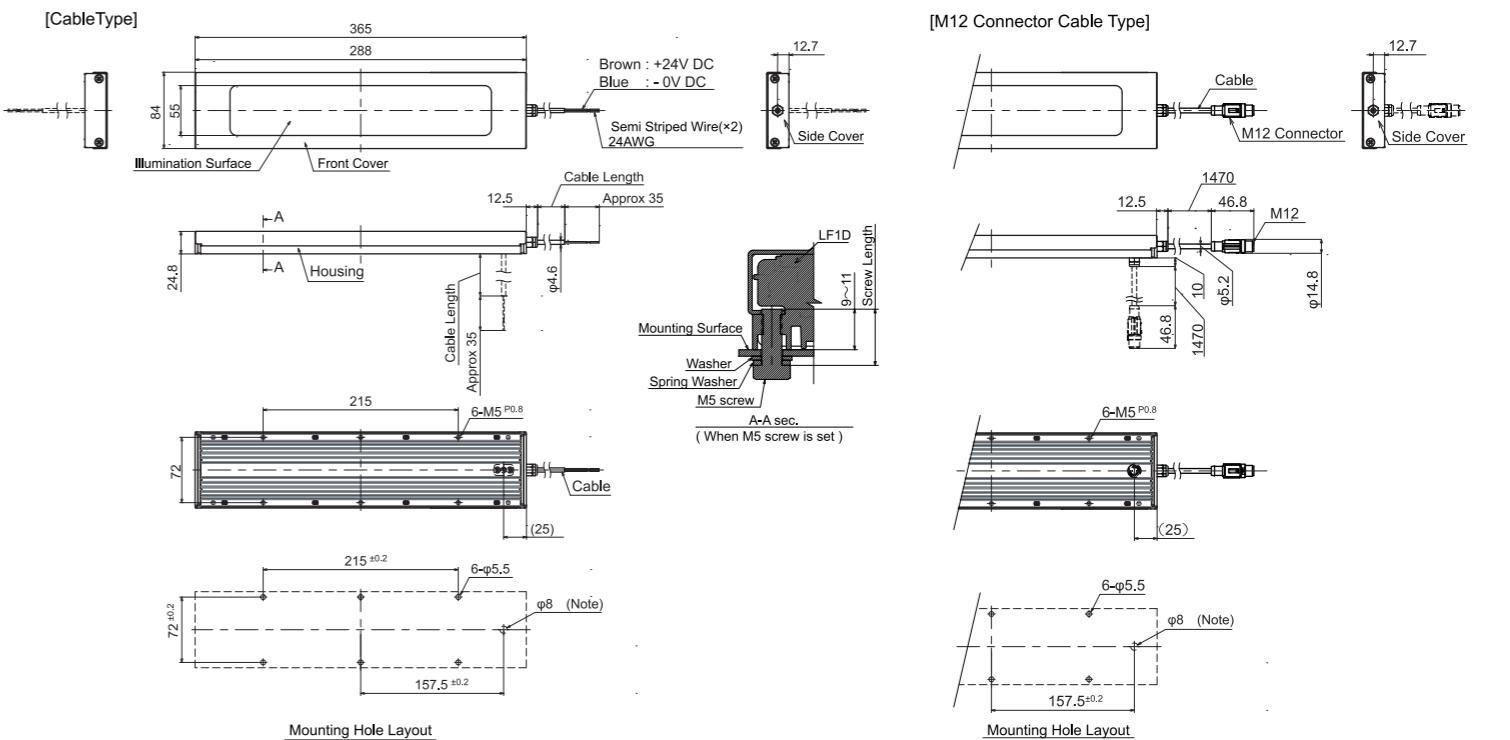
5 Precautions for disposal

Dispose of the LF1D-H/-J LED illumination Unit as an industrial waste.

6 Dimensions

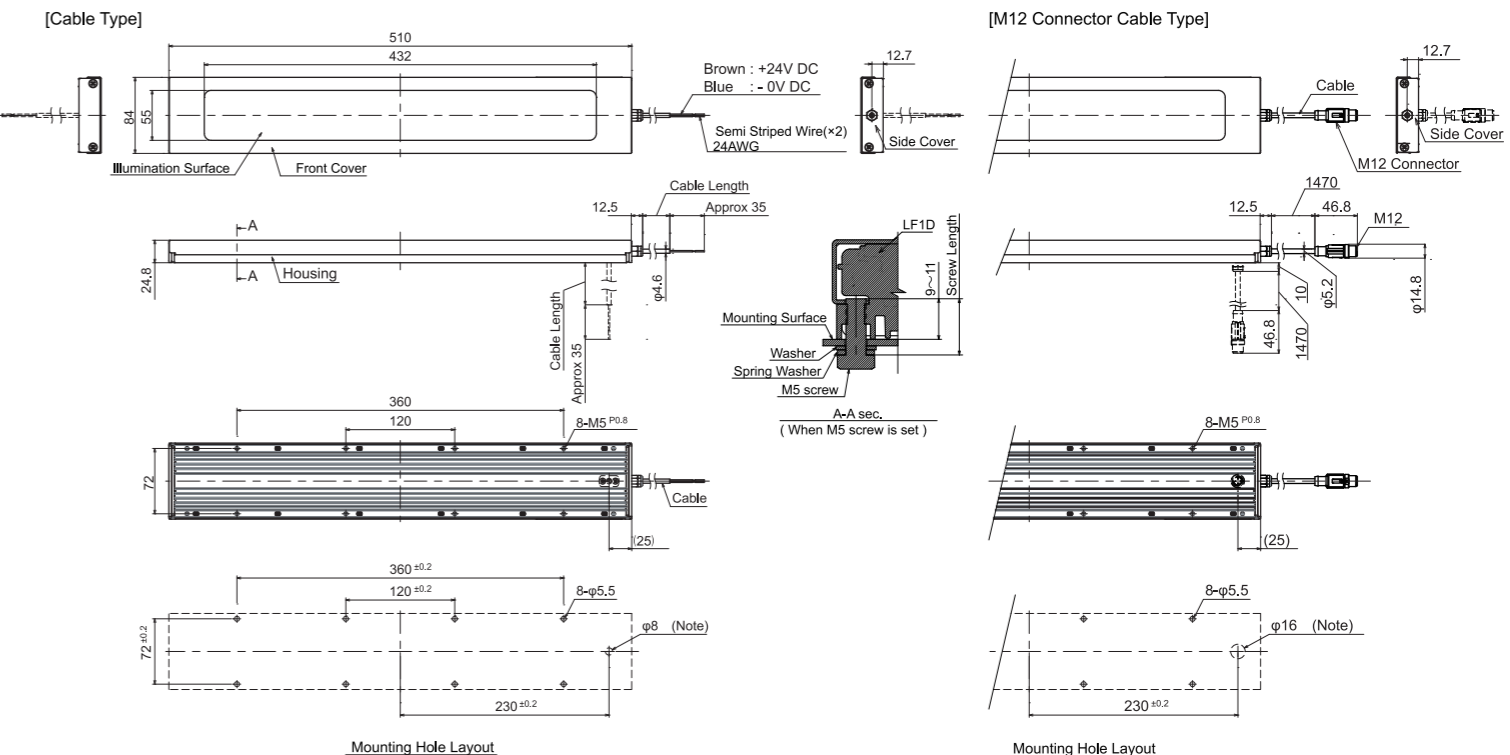
● LF1D-H
< Cable direction on the side and on the back >
LF1D-H2F-2N-3*0 / LF1D-H2F-2N-4*0
(see dotted line in the Dimensions for Cable direction on the back)

All dimensions in mm.



Note : Drill a hole on the panel when installing the LF1D with cable gland in the back. Make sure that the drilled hole does not damage the cable.

● LF1D-J
< Cable direction on the side and on the back >
LF1D-J2F-2N-3*0 / LF1D-J2F-2N-4*0
(see dotted line in the Dimensions for Cable direction on the back)



Note : Drill a hole on the panel when installing the LF1D with cable gland in the back. Make sure that the drilled hole does not damage the cable.