

# In-Ground CVE 24V Class 2 dimming series - Installation Instructions

## Models IG-CVE-96X2D-24



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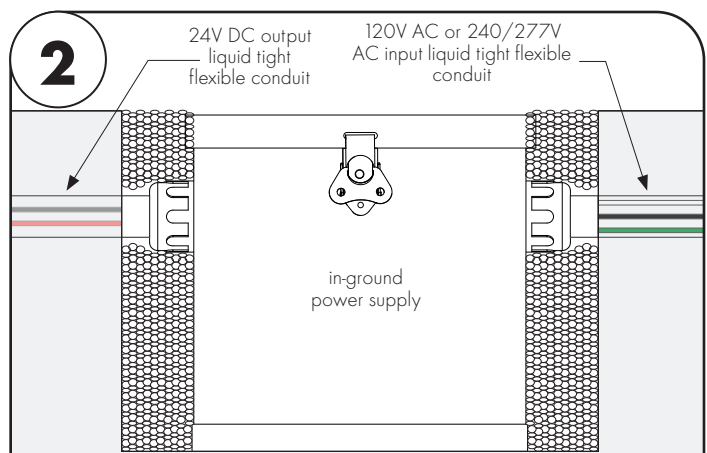
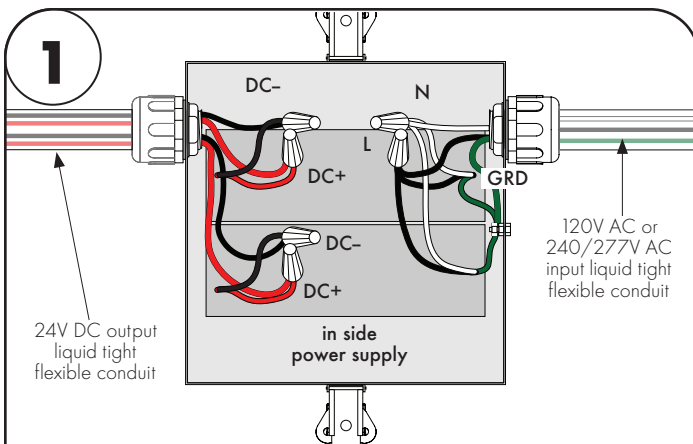
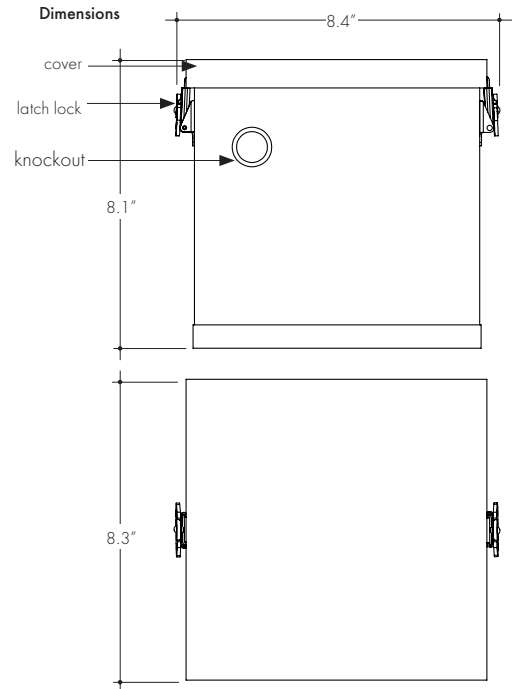
**Please read all instructions prior to installation and keep for future reference!**

This power supply is to be installed by a qualified electrician in accordance with the National Electrical Code (NEC) and local building codes. May be installed at ground level using watertight conduit and connectors. Power supply is well suited for LED at or below their maximum output rating per circuit.



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		Per 96W models
<b>Input</b>	Voltage / Frequency	120VAC, 50/60Hz 240VAC, 50/60Hz 277VAC, 50/60Hz
	AC Current	0.88A @ 120VAC 0.44A @ 240VAC 0.35A @ 277VAC
	Inrush current (Typ.)	less than 1mA
<b>Output</b>	Efficiency (Typ.)	85%
	Output Amps	2x96W, 4.0A per circuit
<b>Protection</b>	Short Circuit	Output shut down, automatic restart Auto Reset Input Current Protection
	Over Temperature	Output limiting internal NTC over temperature protection circuit
<b>Environment</b>	Working temp.	Nominal -20° to +50°C ambient @ full load
	NEMA 3 Enclosure, Damp Rated	
<b>Driver Safety</b>	TL/HL 85/70C (UL8750) Output type CC isolated NEMA 4X in-ground box 3/4" liquid-tight flex fittings	
<b>Weight</b>	14.2 lbs	



**Before installing**, check the label and ensure the power supply has the proper input voltage, output voltage, and wattage for the job. Check the wire markings to ensure they match the wiring diagram below. Refer to table above for the maximum loads supported by each power supply.

- Do Not Interconnect Individual Class 2 Circuits.  
1 WIRE RUN PER 96 WATTS.
- Strip wires #16 and smaller 7/16". Strip wires larger than #16 to 3/8".
- Align frayed strands or conductors.
- Do not pre-twist wires. Place stripped wire together. With ends even, extend stranded wire slightly. Insert wires together through sealant firmly into connector.
- Twist connector clockwise onto wires pushing firmly until tight. Do not over torque.

Install as shown, routing wiring through liquid tight conduit and conduit connectors. Once installed, care must be taken to ensure the enclosure remains watertight, keeping top cover seal free of debris. Secure cover by rotating both wing latches fully clockwise. There are two 3/4" conduit openings provided in the enclosure, shipped from the factory with seal-tight plugs installed. Any unused plugs must remain in place.

**Depending on some applications, an Irrigation style box is required if the product is at risk of being submerged.**

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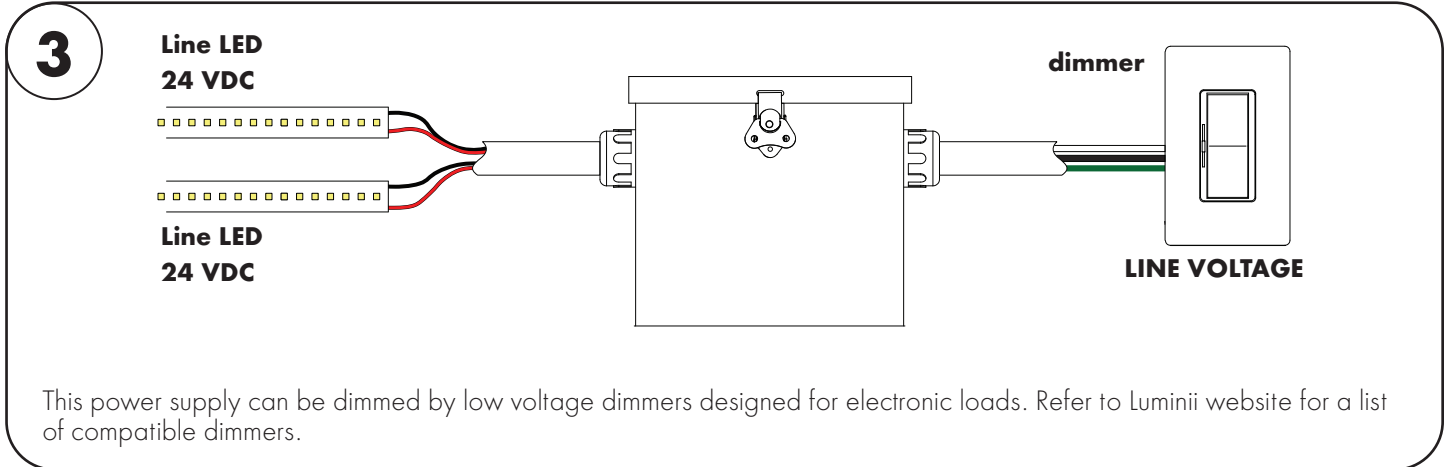
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## WIRING INSTRUCTIONS

**WARNING:** The transformers and power supplies specified here must be installed by a qualified electrician in accordance with the National Electrical Code (NEC) and local building codes. Failure to do so will void the warranty and may result in serious injury and/or permanent damage to the unit.

**DO NOT INTERCONNECT INDIVIDUAL CLASS 2 CIRCUITS.  
1 WIRE RUN PER 96 WATTS.**

1. Refer to the product labeling for detailed line and load wiring procedure.
  - A. For connection, use No. 12-22 AWG Cu wires insulated for a minimum of 90C, rated for 600V. Tightening torque 7 in-lbs for output terminal block, if provided.
  - B. Use wire connectors suitable for the number and size conductors being connected and applied in accordance with the manufacturer's instructions.
  - C. Minimum 20 amp supply side branch circuit.
  - D. A disconnect device shall be located in the field wiring.

## IMPORTANT SAFETY INSTRUCTIONS

When using electrical products, basic precautions should be practiced including the following:

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1. **READ AND FOLLOW ALL SAFETY INSTRUCTIONS**
2. Reference the National Code, ANSI/NFPA 70, specifically for the installation of wiring and clearances from power and lighting conductors.
3. Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
4. **WARNING:** Risk of Electric Shock. When used outdoors, install only on a circuit protected by Class A GFCI.
5. **WARNING:** Risk of fire. Installation involves special wiring methods to run wiring through a building structure. Consult a qualified electrician.

**SAVE THESE INSTRUCTIONS -This manual contains important safety  
and operating instructions for drivers.**

**Please read all instructions prior to installation and keep for future reference!**

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## **HARSH ENVIRONMENT WIRE NUTS PROVIDED FOR INTERNAL WIRING SILICONE FILLED, WINGED #22-6 AWG RANGE**

**Important: Turn off power before installing or removing connector. Product to be used in accordance with local & national codes.**

1. Strip wires 5/8".
2. Align frayed strands or conductors.
3. Do not pre-twist wires. Place stripped wire together with ends even. When solid and stranded are combined, extend stranded wire slightly.
4. Insert wires together through sealant fully to connector end.
5. Twist connector clockwise with down pressure onto wires, tightening firmly. Do not over torque.

NOTE: DO NOT REUSE. UL LISTED as a PRESSURE TYPE connector.

# **STOP!**

READ BELOW BEFORE INSTALLING

**FAILURE TO FOLLOW THESE PROCEDURES WILL RESULT IN COMPROMISED ENCLOSURE INTEGRITY, WILL VOID DRIVER WARRANTY, AND MAY RESULT IN SERIOUS INJURY AND/OR PERMANENT DAMAGE TO THE UNIT.**

1. THE DRIVERS SPECIFIED MUST BE INSTALLED BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL BUILDING CODES.
2. USE ONLY SEAL-TIGHT CONDUIT AND CONDUIT CONNECTORS(CONNECTORS PROVIDED)AS REFERRED TO ON ENCLOSED SHEETS, OR APPROVED EQUIVALENT.
3. THIS DRIVER MAY REQUIRE A SPECIFIC INPUT VOLTAGE SOURCE. INSTALL AND WIRE DRIVER ONLY AS INSTRUCTED.
4. TERMINATE NON-DRIVER END OF CONDUIT AT LEAST ONE FOOT ABOVE GROUND USING AN APPROVED RAINLIGHT PULLBOX.
5. DO NOT INTERCONNECT OUTPUT WIRING OR INDIVIDUAL CLASS 2 OUTPUT CIRCUITS.
6. RISK OF ELECTRIC SHOCK. INSTALL ONLY ON A CIRCUIT PROTECTED BY A Class A GFCI.

Luminii IG-CVE in-ground Class 2 LED drivers  
For further information or assistance, please contact Luminii technical support at  
(224) 333-6033  
Niles, IL USA www.luminii.com



## Heyco-Flex™ Liquid Tight Conduit Fittings

For Flexible, Nonmetallic Liquid Tight Heyco-Flex™ I Conduit and Heyco-Flex™ II Tubing Straight-Thru, NPT Hubs

- **No disassembly required.** Instead, the installer simply pushes the conduit or tubing onto the ferrule, then tightens the domed sealing nut. This completed assembly can then be secured in the panel by the locknut or into an NPT threaded hole.
- Convex ferrule ensures liquid tight seal.
- No threading of the conduit or tubing is required to install. This eliminates the possibility of cutting the conduit and creating leak paths.
- Complete conduit/connector system is reusable. Conduit will not wind tight onto the connector during assembly and can be easily removed by pulling while turning in a clockwise direction.
- Multiple sizes for use with Heyco-Flex Conduit and Tubing. See pages 2-7 and 2-8.
- Suitable for indoor/outdoor use; for original equipment manufacturers or field installers.
- Use of a sealing washer may be required for wet locations. See page 2-19.
- All nylon construction resists salt water, weak acids, gasoline, alcohol, oil, grease, and common solvents. (This feature is not assessed by UL certification and testing.)
- If using a tapped hole, Teflon® tape is needed on the threads of the connector, for all other applications an O-ring and Locknut are needed to attain liquid tight.
- Black connectors up to 1" provided with nylon locknut, packed separately. O-ring sold separately, see page 2-20.
- Black connectors larger than 1" and all gray connectors provided with assembled O-ring and metal locknuts.
- See pages 2-17 and 2-18 for locknuts.

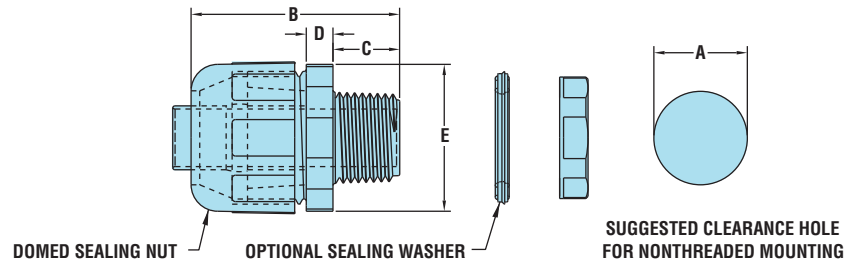
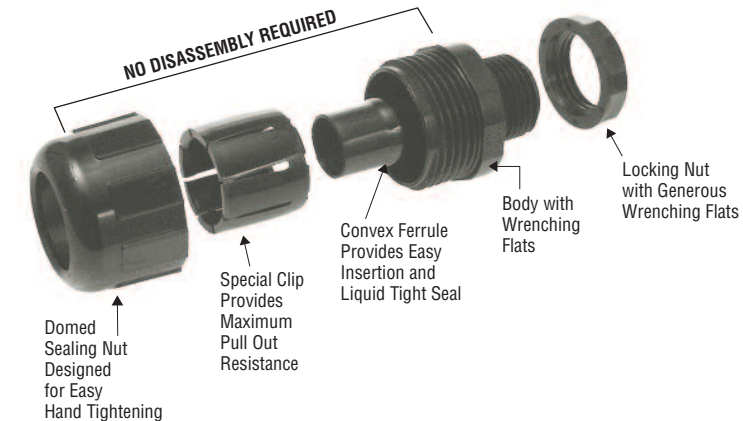
FITS CONDUIT/TUBING TRADE SIZE	PART NO.		DESCRIPTION	THREAD SIZE	PART DIMENSIONS									
	Black	Gray			BODY AND SEALING UNIT									
					A Clearance Hole		B Max. O.A. Length		C Thread Length		D Nut Thk.		E Wrenching Flat Size	
in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.					
1/4	8398	-	HFC 1/4-PG7*	PG7	.492	12.5	1.13	28.7	.45	11.4	.21	5.3	1.00	25.4
3/8	8400	8401	HFC 3/8	1/2" NPT	.875	22.2	1.96	49.8	.63	16.0	.25	6.3	1.33	33.7
1/2	8402	8403	HFC 1/2		**									
3/4	8404	8405	HFC 3/4	3/4" NPT	1.109	28.1	2.04	52.8	.63	16.0	.25	6.3	1.56	39.6
1	8406	8407	HFC 1	1" NPT	1.375	34.9	2.25	57.2	.78	19.8	.25	6.3	1.81	46.0
1-1/4	8638	8639	HFC 1-1/4 †	1-1/4" NPT	1.734	44.0	2.07	52.6	.69	17.4	.25	6.3	2.15	54.6
1-1/2	8640	8641	HFC 1-1/2 †	1-1/2" NPT	1.984	50.4	2.28	57.9	.72	18.3	.28	7.0	2.40	61.0
2	8642	8643	HFC 2 †	2" NPT	2.469	62.7	2.26	66.0	.85	21.6	.31	7.9	2.98	75.6

Standard colors black and gray.

\*Standard color black. Recognized under UL file E121095. For PG 7 thread specification, see page 3-57.

\*\*Fittings use same mounting hole size but attach two different conduit sizes.

† Certified cULus under file E28430



Material	Nylon 6/6
Certifications	Listed under Underwriters' Laboratories File E28430 Certified by Canadian Standards Association File 84579 and 81067
Flammability Rating	94V-2
Temperature Range	-22°F (-30°C) to 221°F (105°C)
IP Rating	IP 68 up to 70 psi (5 bar) water pressure

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## Type NM

A general purpose, UL and CSA listed, nonmetallic liquidtight conduit offering excellent protection to wiring from abrasion, sunlight, mild acids, alkaline and oils. Often used for air conditioning hook-ups and other outdoor applications.



All Product Proudly Made In The USA

### Construction:

Type NM is a helically wound integral Type B construction. It contains a spiral of rigid PVC reinforcement imbedded within the PVC wall.

### Application:

Type NM is intended for installation in accordance with Article 356 of the NEC (ANSI/NFPA-70) for Flexible Liquidtight Nonmetallic Conduit (LFNC-B or FNMC-B).

- For containment of 1000 volt and lower potential circuits.
- Listed and marked for outdoor use.
- Listed and marked for direct burial and in poured concrete
- Installations in hazardous (classified) locations:
  - Class I Div. 2 Article 501
  - Class II Div. 1 & 2 Article 502
  - Class III Div. 1 & 2 Article 503
- Electric signs and outdoor lighting over 1000 volts. Article 600.32(A).
- Wiring methods for pools and spas. Article 680.

Conforms to the requirements of Section 14.5.5 of the electrical Standard for Industrial Machinery NFPA-79.

### Fittings:

Suitable for use with nonmetallic fittings marked for FNMC-B or LFNC-B for liquidtight flexible nonmetallic conduit Type B or with standard metal liquidtight fittings. See NML connectors for further information. See Couplings (Splices) to reduce waste and joint lengths of Type NM conduit.

Continuous lengths on reels available in 1/2" and 3/4" diameters only. Larger sizes available in non-continuous lengths on reels. Sections are tied or taped and must be separated for use.

### Product Information

#### Certification & Compliance

Listed File # E79308  
Conforms to Underwriters Laboratories Standard ANSI/UL1660 Type B.

Certified File # LL230485  
Conforms to CSA 22.2 No. 227.2 Type B.

WEEE and RoHS Compliant

#### Standard Colors

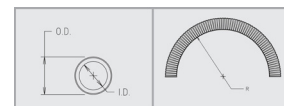
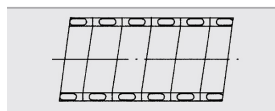
Machine Tool Gray. Also available in black. Other colors available upon request.

#### Working Temperatures:

-20°C to 80°C Dry / 60°C Wet / 70°C  
Oil For higher temperature version, see Type NMHT.

## Markets:

Cell Towers, Construction, Data Centers, Fixture / AC Whips, Healthcare, Power Plants, Rail/Transit, Renewable Energy, Security, Ship Building, Telecommunications, Utilities, Wastewater Treatment



US Trade Size	ISO (MM)	CSA (MM)	Type	Internal Diameter		Outer Diameter		Inside Bend Radius	Weight Lbs. per 100 Ft	Standard Length			
				Min (IN.)	Max (IN.)	Min (IN.)	Max (IN.)	Static (IN.)		Carton (Ft.)	Part #	Reel (Ft.)	Part #
3/8"	16	12	NM-10	0.484	0.504	0.690	0.710	2.0	10	100	81001	1000	81004
1/2"	20	16	NM-11	0.622	0.642	0.820	0.840	3.25	11	100	81011	1000	81014
3/4"	25	21	NM-12	0.820	0.840	1.030	1.050	4.25	15	100	81022	500	81024
1"	32	27	NM-13	1.041	1.066	1.290	1.315	6.5	25	100	81032	400	81034
1 1/4"	40	35	NM-14	1.380	1.410	1.630	1.660	8.0	34	100	81042		
1 1/2"	50	41	NM-15	1.575	1.600	1.865	1.900	9.0	42	50	81052		
2"	63	53	NM-16	2.020	2.045	2.340	2.375	11.0	60	50	81062		

## Related Products



### Type NMHT

This version of Type NM is designed to withstand high temperature environments. NMHT can be used to contain conductors having insulation materials with higher temperature ratings.



### Type NM2

Type NM2 is an extra-flexible liquidtight nonmetallic tubing. This lightweight tubing cuts easily and installs quickly. It is ideal for wiring protection in tight quarters and for tight bends. The thin, flexible PVC skin allows for greater movement than listed nonmetallic conduits.