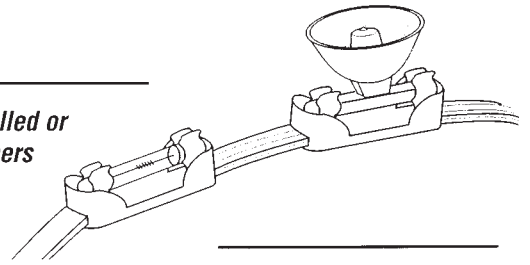


# LOW VOLTAGE DECOLUME

**WARNING:** This product may represent a possible shock or fire hazard if improperly installed or attached in any way. Decolume strip light should be installed in accordance with the owners manual, current local codes, and the current National Electric Codes (NEC).



## IMPORTANT

- The following instructions are provided to assure safe installation and operation of Decolume. Read instructions carefully before connecting or installing.
- Decolume is UL Class I Dry Location Listed.
- Do not mount or support Decolume strip in manner that can cut the outer jacket or damage the wire insulation.
- Always make sure power is disconnected from Decolume strip before cutting, mounting, attaching components, or modifying in any way.
- Do not mount in manner such that lamps are near flammable or combustible materials.

## MOUNTING DECOLUME

- Always make sure power is disconnected before modifying, mounting, or installing a section of Decolume.
- Do not mount Decolume in a situation that lamps will contact combustible materials. Make sure area is well ventilated to dissipate heat, especially in cabinet mounting.
- Maximum wattage per run is 300 watts (12V); 600 watts (24V). Sum the number of bulbs and respective wattage to assure you do not exceed this. In most applications, simply clean mounting surface, remove paper backing from double sided pad on bottom of sockets bearing the adhesive pad (NDSA-10) and attach Decolume to mounting surface.
- In situations where Decolume is continuously mounted with lamps facing down, affix with double sided tape (NDSA-10) as per above, and use mounting clips (NDSA-3) as needed.

## CUTTING DECOLUME

- Disconnect Decolume from power source before cutting.
- Determine the wattage of lamps required for the application.

## ATTACHING POWER CONNECTOR

1. Disconnect power and assure transformer is disconnected from main power source.
2. Strip insulation back 3/8" on both Decolume strip and secondary transformer wires.
3. Insert stripped Decolume leads into one side of terminal block (NDSA-2) connector. Tighten screws on top to secure wire.
4. Insert stripped transformer secondary leads or 10 gauge wire into opposite side of terminal block and tighten screws on top to secure wire.

## ATTACHING END CAP

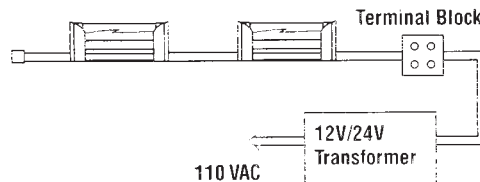
1. End cap consists of top and bottom halves.
2. Place end of Decolume strip on bottom half portion of end cap so wire strip is approximately 1/2" into cap.
3. Cap Decolume strip with the top half until both halves snap together.

## LAMP INSTALLATION

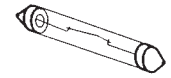
1. Disconnect power to Decolume strip prior to lamp installations.
2. For Festoon lamps, verify filament is in operable condition. Push individual lamp into open cradle of each socket.
3. For Halogen MR11 lamps, socket adapter (NDSA-1) is required. Push adapter into open socket cradle. Use only sealed MR11 lamps. Wattage not to exceed 35 watts maximum. Match lamp pins with adapter holes and push lamp until secured.
4. Power may be turned on after all lamps are installed.

## POWERING DECOLUME

1. Verify that each single run has a terminal block or cross connector and an end cap.
2. Check the transformer and assure it has a secondary voltage of 12/24 volts and proper wattage rating to cover the total lamps of each run. Fuse secondary voltage to 25 amperes per NEC 411-2. Note: Nora "NMT" Series Transformers are already Class I fuse protected.
3. Connect the transformer's secondary leads to decolume strip using the terminal block (NDSA-2), if an extension is required, use minimum 10 gauge wire. Connect transformer to 110 volts supply.

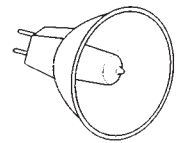


## ACCESSORIES



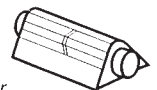
**NDSL-5**  
Festoon Incandescent/Xenon  
5 watts / 12 volts

**NDSL-10/24**  
Festoon Incandescent/Xenon  
10 watts / 12 volts

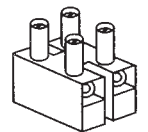


**NDSL-20**  
Halogen  
Sealed MR11  
20 watts / 12 volts

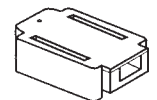
**NDSL-35**  
Halogen Sealed MR11  
35 watts / 12 volts



**NDSA-1**  
Socket Adapter  
for MR11 lamp



**NDSA-2**  
Terminal Block  
Connector



**NDSA-7**  
End Cap  
Assembly



**NDSA-3**  
Mounting Clip



**NDSA-10**  
Mounting  
Adhesive Pad

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## **INSTALLATION TIPS for the XENON LOW VOLTAGE LIGHT STRIP**

**Electrician:** It is advisable that you use a qualified electrician who is familiar with the electric code in your area and who has experience with installing low voltage lighting systems.

**Light Strip:** The Light Strip cable is rated for 30 amps of current but should never be used for more than 25 amps.

**Additional Wiring:** If additional wiring is needed between the end of the Light Strip and the transformer, then that wire should be rated for 30 amps of current and should never be used for more than 25 amps. The wiring used on the primary side of the transformer (120-volt side) may be typical household Romex wire.

**Mounting Channel:** The Mounting Channel should always be used if the Light Strip is being installed against wood or plastic.

**Electrical Connections:** Wire nuts should not be used at any point on the low voltage side of the transformer (the secondary side). Only Terminal Blocks should be used and the screws in the Terminal Blocks should be very tight and secure; if they are not, arcing could produce excessive heat and possibly become a fire hazard.

**Location of Electronic Transformers:** If an AC electronic transformer is used, it should be located no more than 10 feet from the Light Strip. If a DC electronic transformer is used, it may be located as much as 50 feet away from the Light Strip.

**Location of Magnetic Transformer:** If a toroidal magnetic transformer is used, it may be located as much as 50 feet away from the Light Strip.

**Transformer Wattages:** No 12-volt electronic transformer is rated for more than 300 watts, no 12-volt magnetic transformer can supply more than 300 watts to a given circuit, and no 24-volt magnetic transformer can supply more than 600 watts to a given circuit. This is why a 600-watt, 12-volt magnetic transformer is made up of TWO separate 300-watt circuits, a 900-watt, 12-volt magnetic transformer is made up of THREE separate 300-watt circuits, and a 1200-watt, 12-volt magnetic transformer is made up of FOUR separate 300-watt circuits. Likewise, a 600-watt, 24-volt magnetic transformer is made up of ONE 600-watt circuit, a 900-watt, 24-volt magnetic transformer is made up of TWO separate 450-watt circuits, and a 1200-watt, 24-volt magnetic transformer is made up of TWO separate 600-watt circuits. Why is there any limitation to the wattage for a given circuit? There are these limitations because the amperage in a low voltage circuit should NEVER exceed 25 amps. (See Calculations below.)

**Lighting System Wattages:** For both electronic transformers and toroidal magnetic transformers the total lighting system wattage may equal the wattage of the transformer. Thus, a 300-watt, 12-volt electronic transformer can be used to power as much as 300 watts of lighting load and a 600-watt, 24-volt toroidal magnetic transformer can be used to power as much as 600 watts of lighting load.

**Number of Circuits:** If a Light Strip has a large total wattage of say 460 watts (46 10-watt festoon lamps) and is using a 12-volt magnetic transformer, then the Light Strip must be separated into TWO circuits (230 watts each) each of which is powered by one of the 300-watt circuits in the 600-watt, 12-volt magnetic transformer. If a Light Strip has a large total wattage of say 1000 watts and is using a 24-volt magnetic transformer, then the Light Strip must be separated into TWO circuits (500 watts each) each of which is powered by one of the 600-watt circuits in the 1200-watt, 24-volt magnetic transformer.

**Light Bulbs:** If you are powering the Light Strip with 12 volts, then the light bulbs should be rated for 12 volts. If you are powering the Light Strip with 24 volts, then the light bulbs should be rated for 24 volts. Using a 12-volt light bulb with a 24-volt transformer will burn the light bulb out immediately and possibly become a fire hazard.

**Calculations:** Wattage = Voltage x Amperage

On the low voltage side of the transformer:

The amperage in a 12-volt circuit with 300 watts is 25 amps (300 watts/12 volts)

The amperage in a 24-volt circuit with 600 watts is 25 amps (600 watts/24 volts)

On the line voltage side of the transformer:

The amperage in a 120-volt circuit with 300 watts is 2.5 amps (300 watts/120 volts)

The amperage in a 120-volt circuit with 600 watts is 5 amps (600 watts/120 volts)

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