
How to Design Your Plan

The Proper Mechanical Design for a Low-Voltage Lighting System

There are four components of a low-voltage lighting system that must be selected:

1. Fixtures & Lamps
2. Mounting Method
3. Transformer
4. Cable

1. The **fixtures** and **lamps** are selected after determining which features of the landscape are to be utilized and what effects you want to create. When using projector lamps (MR and PAR), the lamp that best creates the effect should be selected first. To assist in determining the best choice of lamps, refer to the lamp guide in the back of this manual. After selection of the lamp, select the fixture according to desired style, mounting restrictions, and finish from the Philips Hadco catalog.

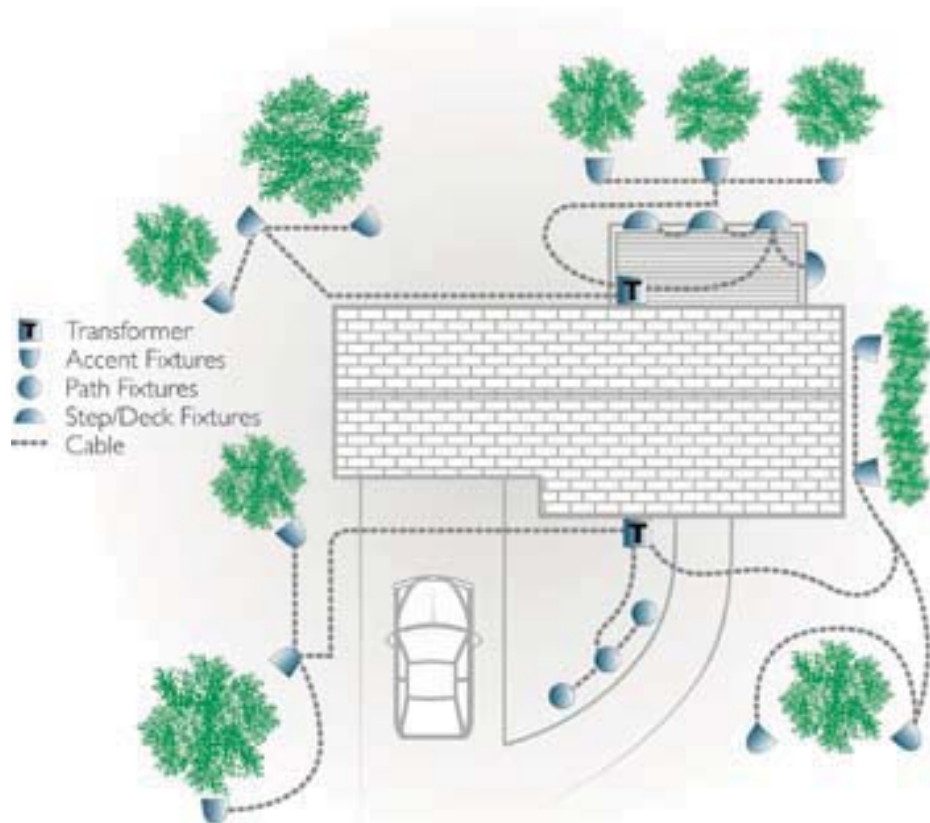


2. The **mounting method** is determined by the location of the fixture. Canopies to allow mounting of fixtures onto decks, non-metallic stakes for acidic soil conditions, tree-mount canopies and wall plates are just a few of the options available to you in the accessory section of the Philips Hadco Landscape Lighting Specification Guide.

3. The **transformer** is selected by first determining the total wattage being used in your plan. If more than one transformer is required, determine the total wattage to be allocated for each. Select a transformer that has a higher wattage capacity than the actual watts used on that console. We suggest using only 60–80% of the transformer's capacity since most clients will want to add more fixtures to the system at a later date. Also, larger wattage lamps are often needed as plants mature. Remember, your clients only pay for the power actually being used.

Transformers also come in different voltage outputs. Higher output consoles are used to accommodate longer cable runs. Refer to pages 19–22 to determine which transformer is right for your job. The mounting location of the transformer must also be considered. In some cases, you might want to consider an inground model to better conceal it.





4. The correct **cable** needed for your job is determined by the length of the runs and the amount of wattage per run. Refer to the voltage formula on page 27 to assist you in selecting the proper gauge and length of cable. When laying out a job, always center feed to the group of fixtures on any single run. Avoid wiring to the closest fixture and continuing out from there in a straight line. Also, avoid heavily loading any single run. Keep run as short as possible.

The layout itself can be accomplished by sketching a view of the property, including all landscape features to be illuminated. Mark the location of each fixture and transformer. Draw a dotted line from the power console to each fixture to denote the cable, remembering to center feed each group of fixtures. Try to avoid running the cable under walks and drives more than once to help eliminate the need for extra work when installing. Keep a copy of the plan as a reference for expansion or excavation work.