



INSTALLATION INSTRUCTIONS

Protecta*Lite™ Arresters

INSTRUCTION SHEET NO. 17-5124

(7/2015) Rev 1

⚠ CAUTION

The equipment covered by these instructions should be installed and serviced only by competent personnel familiar with good safety practices. This instruction is written for such personnel and is not intended as a substitute for adequate training and experience in safe procedures.

⚠ WARNING

Protecta*Lite™ arresters must be applied where the continuous phase-to-ground voltage at the arrester location does not exceed the arrester continuous voltage capability as indicated on the nameplate. Arrester physical size will not determine the voltage rating. Do not install arrester if type, rated voltage and maximum continuous operating voltage are not exactly the same on the nameplate and packaging labels.

I. INTRODUCTION

Hubbell Power Systems (HPS) Protecta*Lite™ arresters are specially designed to mitigate outages caused by lightning related flashovers. By doing so, the arrester safely diverts lightning surges to ground in a controlled manner. The arresters covered by these installation instructions are suitable for outdoor use, and designed in accordance with the latest revision of industry standard ANSI C62.11 and/or IEC 60099-4. Due to the variability of requirements, a multitude of arrester types are utilized to meet customer specific protection requirements. The common thread between all arresters lies at the heart of each assembly with the use of vertically stacked MOV blocks.

II. INITIAL INSPECTION

Rough handling can result in damage to the arrester. Arresters or arrester units should be carefully removed from the carton or crate for inspection. Careful inspection of individual polymer housings prior to installation is required to assure that no damage has occurred during shipment. **If damage is apparent, do not install the arrester.** Claims for shipping damage should be registered immediately with the common carrier.

III. INSTALLATION

An outline drawing of each Protecta*Lite™ assembly is included with every shipment. Refer to that drawing for information concerning the proper installation of required hardware accessories. Before installation review the drawing and ensure all components necessary are available for assembly and installation. Standard tools carried by linemen are all that is necessary for assembly and installation of Protecta*Lite™.

The arrester should remain in its original shipping container, for additional support and protection, prior to installation. Review the nameplate and verify the arrester voltage rating is correct for the application. **If there is any discrepancy, do not proceed with installation until the issue has been resolved.**

Depending on voltage rating, the Protecta*Lite™ arrester design may require installation of a grading ring. The outline drawing identifies the proper location of the grading ring. Install the ring as indicated with the hardware provided.

Hardware unique to each design is generally shipped unattached to the arrester. These items will be contained inside the carton or crate. Install all hardware and accessories to the arrester as indicated on the outline drawing. Additional assembly is required if the assembly is paired with an insulator. During assembly please refer to the maximum recommended fastener tightening torque values listed below:

| Stud Size | Maximum Recommended Tightening Torque |
|-----------|---------------------------------------|
| 3/8" | 20 ft.-lb |
| 1/2" | 40 ft.-lb |
| 5/8" | 90 ft.-lb |
| 3/4" | 125 ft.-lb |

IV. DISCONNECTOR PREPARATION

Certain assemblies are required to be shipped with a restraint on the disconnecter. Any shipping restraint must be completely removed prior to installation. Failure to remove the restraint could hinder successful operation of the disconnecter.

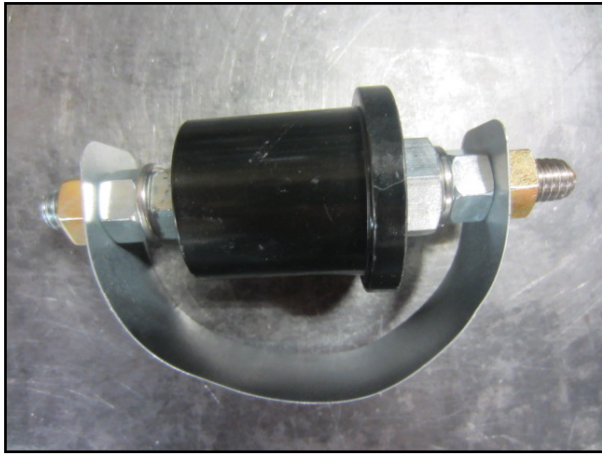


Figure 1: Typical view of Protecta*Lite disconnecter as received.



Figure 2: Typical view of Protecta*Lite disconnecter as received.

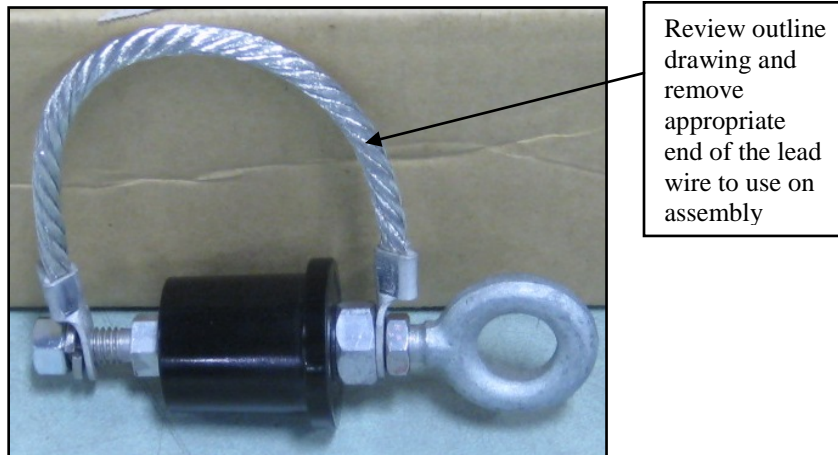


Figure 3: Example of Protecta*Lite™ disconnecter shipped with a lead wire used as the restraint.

The above photographs do not cover all possible shipping restraint arrangements utilized for Protecta*Lite™ disconnecters. Regardless, any restraint must be removed prior to installation. If you have any questions, contact HPS for assistance prior to installation. An incorrect configuration could prevent successful separation of the disconnecter upon operation.

V. CAUTION

Protecta*Lite™ arresters are not designed for excessive cantilever loading. Exercise care in handling them; while being especially careful with longer units. Do not drop, throw or otherwise abuse the arresters.

All Protecta*Lite™ assemblies are equipped with a line or ground end disconnecter unless specifically requested by the customer. This device functions to physically disconnect a damaged or failed arrester from the transmission or distribution line to prevent lockout. To perform this function in a controlled, predictable, and rapid manner, the disconnecter housing is designed to fracture near the midpoint, around its full circumference.

Because of this integral fracture zone, care must be taken to avoid excessive cantilever moments on the disconnecter housing during installation. Excessive cantilever loads may cause damage to the unit, which can lead to premature operation of the disconnecter on a functional arrester.

Excessive loading can usually be avoided by being sure to not assemble the unit with the disconnect in a constant cantilever application. Make all necessary position and alignment adjustments before tightening the disconnect or ground end chain/lead wire. If a bracket is assembled to it, the disconnect can be assembled to the bracket to check for proper alignment but it should be removed before bending or otherwise adjusting the bracket. **Do not attempt to bend or otherwise adjust a bracket by applying force to the disconnect. Do not allow bracket spring back, which could apply cantilever moment to the disconnect.**

For assistance with installation practices all question should be referred to your respective HPS salesman.

VI. PERIODIC INSPECTION, MAINTENANCE AND REMOVAL

Protecta*Lite™ arresters require no routine maintenance. If maintenance or handling of the arrester is deemed necessary, certain precautions should be taken. Prior to inspecting or handling the unit, disconnect the arrester from the line. When a metal-oxide arrester is disconnected from an energized line, it is possible for a small amount of static charge to be retained by the arrester. The energy available in the form of retained charge on the arrester is imperceptibly small. After disconnecting the arrester from the line, a slight "pin-prick" type spark may be felt by anyone touching the line end. As a precautionary measure, install a temporary ground on the line end of the arrester after it is disconnected from the line. This will ensure that any retained charge is discharged to ground. **Remove the temporary ground before the arrester is re-installed.**

Protecta*Lite™ arresters do not require field testing. **There is no single field test that will indicate the complete operating characteristics of the arrester.**

VII. STORAGE

All HPS arresters are designed for outdoor use, and may be stored outdoors if suitable precautions are taken to prevent deterioration of the packing material. The arresters may be covered with a polyethylene or other waterproof covering to keep them dry, clean, and free from litter until used. In climates where outdoor temperature and humidity extremes rapidly deteriorate the packing material, it is recommended that arresters stored outdoors be removed from their packing and be vertically bolted to a skid.

VIII. DISCHARGE COUNTERS

An insulator is required when installing a discharge counter with Protecta*Lite™ arresters. Both of these accessories are available through your HPS salesman. Install the discharge counter and insulator as shown on the outline drawing.

IX. RECYCLE PACKAGING

Corrugated box material is recyclable, as is wood crating, following recycling industry standard practice. Any spacer foam can be recycled as LDPE.

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These instructions do not profess to cover all details or variations in equipment or to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise, which are not covered sufficiently for the purchaser's purposes, the matter should be referred to your Hubbell Power Systems salesman.