

Instruction Leaflet for Type Polymer XPS Solid State Metal Oxide Surge Arresters

SAFETY NOTICE

- Keep these instructions available to those responsible for the proper installation, maintenance and operation of this product.
- Follow your company's safety procedures.
- Read these instructions carefully before attempting to install, operate or maintain this device. Failure to follow these instructions could cause severe personal injury, death or property damage.
- Apparatus covered by this instruction literature should be operated and serviced only by competent personnel familiar with good safety practice. These instructions are written for such personnel and are not intended as a substitute for proper training and experience in safety procedures for this type of equipment.

Introduction

Polymer metal oxide surge arresters are used for over voltage protection of high voltage equipment, either indoor or outdoor. These arresters meet all NEMA, ANSI and IEC Standards. These instructions are for arresters with duty cycle ratings 3 through 240 kV.

Description

A master nameplate located on the arrester lists the style number, serial number, voltage rating, MCOV (maximum continuous operating voltage) rating and the pressure-relief class in amperes rms. The complete arrester will include the line terminal bracket, a ground terminal bracket, line and ground terminal pads and grading ring (starting at 108 kV). Hardware is provided to attach the line terminal and ground terminal pads.

Line and ground terminals are suitable for copper or aluminum conductors 0.250 to 1.188 inches in diameter (cable size #2 to 1000 MCM). The ground terminal assembly can be attached to the bottom arrester unit on any of its bottom mounting bolts. Insulating base units and discharge counters may be purchased separately and provide a means to record arrester activity.

Receipt

On receipt of the arrester, carefully inspect the shipping packaging and units for any visible signs of damage. Check nameplates to be sure the desired ratings have been received and check parts against the packing list. If damage or shortage exists, save the shipping packaging and packing materials, file a claim immediately with the carrier and promptly notify the nearest ABB Sales Office.

Installation

Locate arresters such that they are not accessible to people. Arresters have dangerous high voltage, terminal to terminal, under normal operating conditions. Arresters should be installed above reach of people and behind safety fences. The arrangement should be such that the maximum arrester mechanical loading from conductor pull, wind load and earthquakes does not exceed the maximum design cantilever strength.

To obtain the best margin of protection by the arrester, it should be located as near the apparatus to be protected as possible using leads of the shortest length. Ground leads should be tied to a substation common ground.

Testing of In-Service Arresters

No simple field test will verify the complete characteristics of an arrester unit. This requires extensive, rather specialized test facilities.

Notes

1. Voltage ratings per latest revision of ANSI C62.11.
2. Type polymer arresters are designed to be operated at voltages equal to or less than the MCOV rating shown on the master nameplate. For the short time over voltage capability, consult the product bulletin.
3. Increase clearances 3% for each 1000 ft. over 6000 ft.
4. Dimensions can be obtained from the enclosed line drawing.
5. Style numbers are for standard arresters with gray polymer.
6. Minimum phase-to-ground and phase-to-phase spacing for arresters is specified on the outline. Other apparatus standards, other specifications or local codes may supersede distances specified on the outline.
7. If an insulating base is installed without a counter, the insulating base should be shorted by a shunt wire.

Maintenance

Under normal conditions, the polymer arrester requires no maintenance. In locations where the environment is hazardous to insulating structures, periodic inspection of the arresters may disclose the need to remove contaminants of dirt, soot, salt and other conducting materials.

Correspondence

Inquiries pertaining to polymer arresters should be directed to the nearest ABB Sales Office, giving all information stated on the master nameplate.

For more information please contact:

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