



Station Class Surge Arresters

CAUTION

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 FOR THIS TYPE OF EQUIPMENT.

WARNING: ARRESTERS APPLIED AT VOLTAGES HIGHER THAN MCOV (Maximum Continuous Operating Voltage) MAY CAUSE DAMAGE AND/OR INJURY. CHECK THE ARRESTER MCOV, MARKED CLEARLY ON THE NAMEPLATE, TO ASSURE CORRECT APPLICATION.

CONTINUOUS OPERATING VOLTAGE

HY surge arresters must be applied where the continuous phase-to-ground power frequency voltage at the arrester location does not exceed the arrester maximum continuous operating voltage capability as indicated on the nameplate.

ALTITUDE AND TEMPERATURE

HY surge arresters can be used from 0 to 10,000 feet (3050 m) altitude. These arresters can be used in locations where the maximum temperature does not exceed 65 C

INITIAL INSPECTION

Although it is very unlikely, extraordinarily rough handling can result in damage to the HY surge arrester. Careful inspection of each arrester porcelain housing prior to installation is required to assure that no damage has occurred during shipment. If damage is apparent, do not install arrester. Claims for shipping damage should be registered immediately with the common carrier. The catalog number, rating, and maximum continuous operating voltage (MCOV) are identified on the nameplate attached to the lower end fitting. The nameplate information should be checked against the shipping memorandum. If at any time it is necessary to correspond with Polipar Systems, complete nameplate data should be furnished in order to expedite replies.

INSTALLATION LOCATION

Install the arrester electrically as close as practicable to the equipment to be protected. Keep the arrester connections short and direct. The footings of all outdoor piers or supports should extend below the frost line and be elevated above the ground line sufficiently to meet personnel safety requirements.

ASSEMBLY

Important: Multi-unit HY surge arresters consist of units with identical serial numbers to be erected in the exact order specified on the outline drawing shipped with each arrester. The serial and catalog numbers of the unit are given on the unit nameplate attached to each lower end fitting. The base unit also bears the complete arrester nameplate, which lists the unit assembly sequence top to base.

Special arresters consisting of two or more parallel units must have identical serial numbers and are not interchangeable with units having different serial numbers. Install the base unit vertically on the foundation using care to see that it is perpendicular, shimming under all but one foot if necessary. It is important that all feet rest solidly on the foundation before foundation bolts are drawn down to avoid unnecessary stresses in the end fittings. Tighten the bolts firmly.

Select the next unit carefully by reference to the serial number, unit catalog number and the outline drawing; then mount it on top of the base unit and secure it loosely with bolts.

It must be checked carefully to determine that it is vertical, and shimmed under all but one foot if necessary. This procedure should be repeated as necessary until all the arrester units are assembled. Be sure to install the corona and grading rings at the points called for on the outline drawing.

CLEARANCE

The term “clearance” means the actual distance between any parts of the arrester at line potential and any object at ground potential or other phase potential. Clearances listed on the appropriate outline print packed with each arrester are the minimum recommended and were determined such that the operation and capability of the arrester is not significantly affected. These clearances apply for conventional outdoor substations. These values should be used only after it has been determined that any local codes or standard practices do not require larger clearances. The values shown are suitable for altitudes up to 3300 feet (1000 meters). At higher altitudes, add 3 percent for each additional 1000 feet (305 meters) of elevation. The arrangement of the foundation plans if shown on the outlines can be modified if proper clearances are maintained.

LINE AND GROUND CONNECTIONS

Connect the arrester ground to the apparatus ground and the main station ground, utilizing a reliable common ground network of low resistance. Connection to the line should be made through a suitable line connector. Line connections should be made in such a manner that no excessive mechanical stress is placed on the arrester. No more than 25 ft.-lb (34 N-m) of torque should be applied while tightening down any nuts.

CAUTION: ALWAYS BE CERTAIN THAT THE GROUND CONNECTION IS FIRMLY MADE BEFORE CONNECTING THE ARRESTER TO AN ENERGIZED LINE. IF AN INSULATING SUBBASE IS USED AT THE GROUND END TO PERMIT USE OF A DISCHARGE COUNTER, THE DISCHARGE COUNTER MUST BE CONNECTED (OR THE INSULATING SUBBASE SHORTED OUT) BEFORE CONNECTING THE ARRESTER TO AN ENERGIZED LINE.

PERIODIC INSPECTION, MAINTENANCE AND REMOVAL

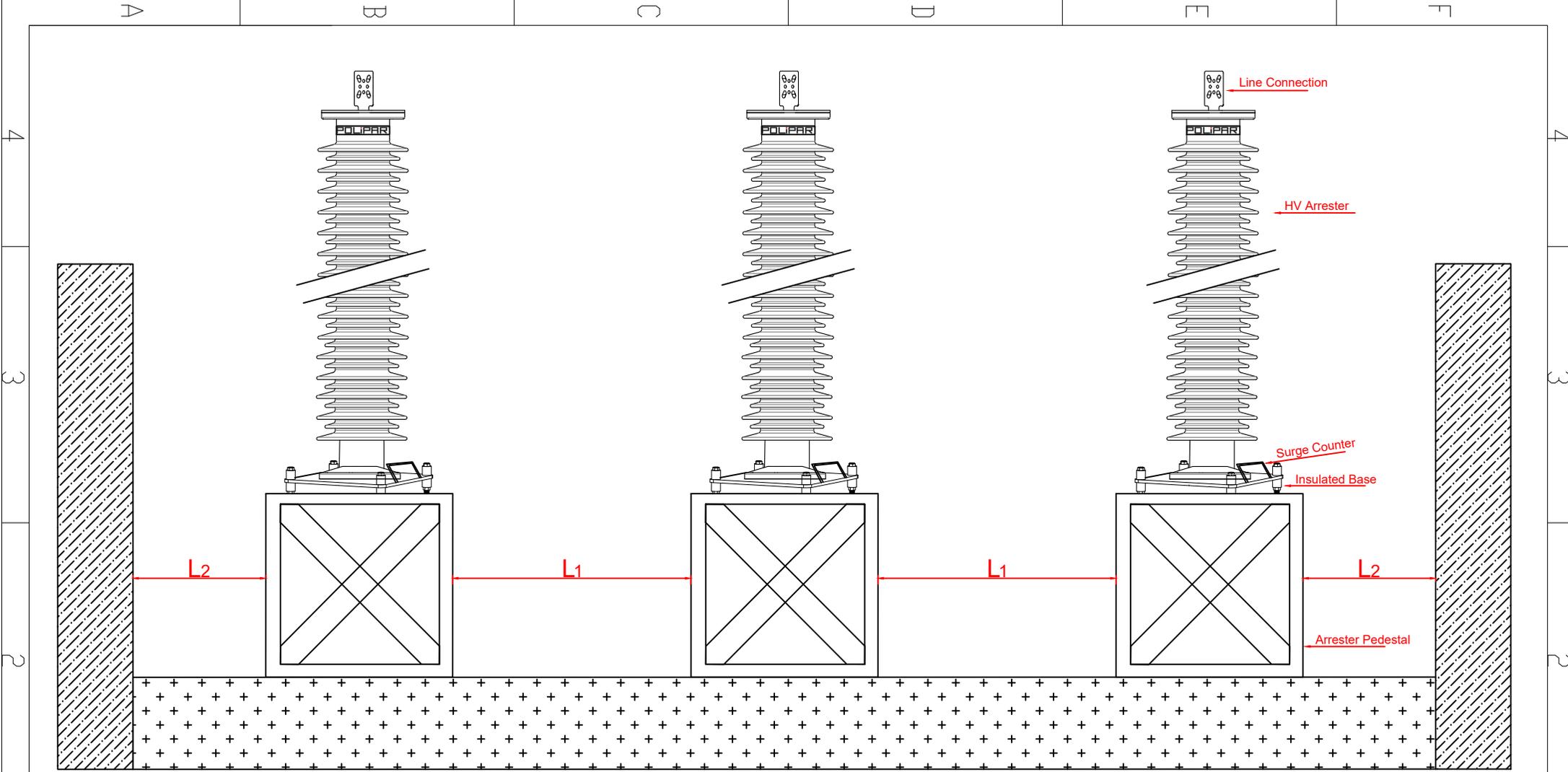
Before inspecting or handling, disconnect the arrester from the line. When a metal-oxide arrester is disconnected from an energized line, it is possible for a small amount of static charge to be retained by the arrester. As a precautionary measure, install a temporary ground on the line end of the arrester 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 reinstalled. HY surge arresters require no special care. They may be hot-washed, subject to the usual care and

techniques used in hot-washing insulation to avoid external flashover. These arresters do not require testing, and no test which applies power voltage in excess of maximum arrester voltage rating should be made without consulting Polipar Systems. There is no single field test which will indicate the complete operating characteristics of the arrester.

WARNING: To avoid electrical shock when removing an arrester from service, consider it to be fully energized until both the line and ground leads are disconnected.

STORAGE

As all HY surge arresters are designed for outdoor use, they 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 bolted (vertically) to a skid.



	Name	signature	Date
Designer	Aykut ARSLAN		7.11.2022
Examiner	ALPARSLAN DAGDELEN		7.11.2022
Collator			
Assessor			
Technology			
Marks item changed doc no signature changed date			



ERKAN ELEKTROMEKANİK
MALZEMELER ELEKTRİK MUHENDİSLİK
TAAH.HTH.IHR.SAN. ve TIC. AS.
(POLIPAR BRAND OWNER)

SURGE ARRESTER

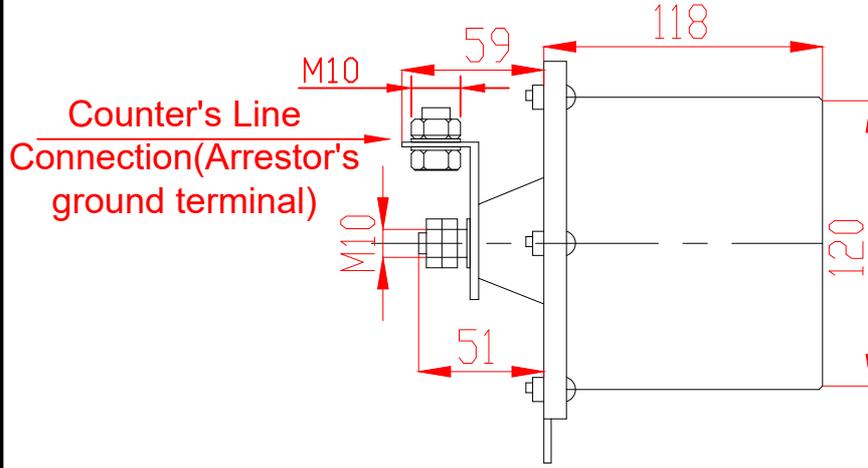
Connection Diagram

A4

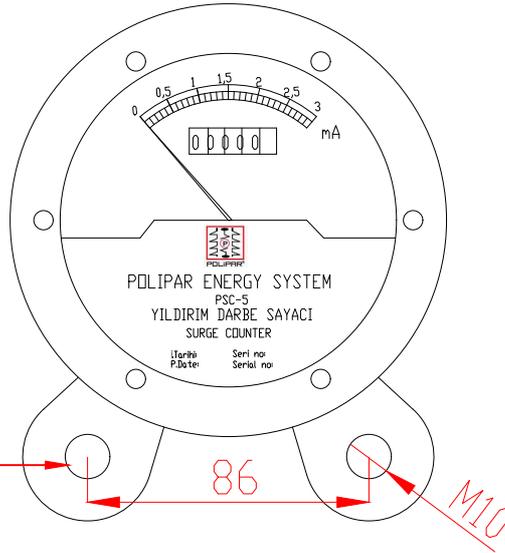
serial no :2018 -12181001

assembly drawing no

Parafudr Tipi <i>Type of Arrester</i>	Anma Gerilimi <i>Rated Voltage</i>	Maks. Devamlı İşletme Gerilimi <i>Max. Continuous Operating Voltage</i>	Korona Halkası <i>Grading Ring</i>	Kurulum Açıklığı <i>Clearances</i>	
				L ₁ (mm)	L ₂ (mm)
HY 36	36	29	-	575	490
HY 42	42	34	-	590	505
HY 45	45	36	-	605	520
HY 54	54	44	-	620	530
HY 60	60	49	-	625	540
HY 66	66	54	-	730	645
HY 72	72	59	-	730	650
HY 90	90	73	-	825	750
HY 96	96	78	-	875	790
HY 108	108	88	-	950	865
HY 120	120	98	-	1035	965
HY 132	132	107	-	1120	1030
HY 144	144	117	-	1225	1135
HY 168	168	137	√	1690	1465
HY 172	172	140	√	1840	1545
HY 180	180	146	√	1840	1545
HY 192	192	156	√	1945	1645
HY 228	228	185	√	2225	1925
HY 240	240	194	√	2300	2015
HY 258	258	210	√	2830	2350
HY 264	264	215	√	2885	2400
HY 276	276	224	√	2990	2510
HY 288	288	233	√	3100	2610
HY 294	294	238	√	3135	2655
HY 300	300	243	√	3160	2685
HY 312	312	253	√	3265	2800
HY 330	336	272	√	3440	2975
HY 360	360	292	√	3645	3500
HY 372	372	297	√	3755	3615
HY 378	378	302	√	3790	3645
HY 390	390	312	√	3895	3760
HY 396	396	316	√	3930	3795
HY 420	420	336	√	4105	3975



Ground Connection & Mounting Holes



	Name	Signature	Date
Designer	Aykut ARSLAN		8.11.2022
Examiner	Alparslan DAGDELEN		8.11.2022
Collator			
Assessor			
Technology			



ERKAN ELEKTROMEKANİK
MALZEMELER ELEKTRİK MUHENDİSLİK
TAAH.İTH.İHR.SAN. ve TİC. AŞ.
(POLIPAR BRAND OWNER)

Surge Counter

PSC-5 Surge Counter

A4

Tolerance: ±3%

assembly drawing no

