

# Polymeric surge arresters

## Polymeric surge arrester

Rated voltage  
**9-36 kVrms**

**ADVANTAGES:**

The "INZP" arrester offers all the advantages of a metal oxide distribution arrester in light-weight, low profile polymeric housing designed for either indoor or outdoor overhead applications. The polymeric housing eliminates the problem of chipped or cracked porcelain that can occur with rough handling or shipping.

The failure mode of the "INZP" arrester is less severe than that of porcelain housed units. When violent failure mode of porcelain housed arresters occurs, it does so when the internal arc from excessive fault current causes thermal fracture of porcelain housing and the hot gases created by the arc explodes the porcelain fragments in all directions. The "INZP" with its polymer housing will split open during failure conditions to relieve the internal pressure.

**DURABILITY**

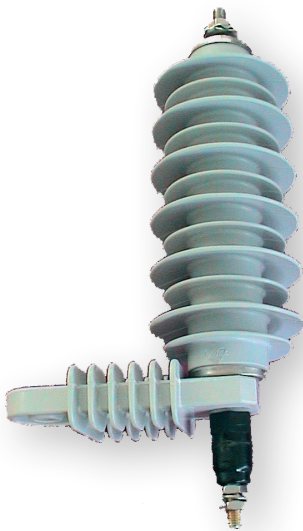
The "INZP" is tested in accordance with the latest industry standard ANSI/IEEE C62.11-1993 for metal oxide arresters, and also with IEC 99-4 for class line discharge 1. The "INZP" consistently withstands the following minimum design tests:

- Low Current-Long Duration: 18 current surges of 250 A magnitude and 2000 μs duration.
- Duty cycle: 20 discharges with a current surge of 10 kA magnitude and 8/20 μs wave shape, followed by 2 discharges with a current surge of 100 kA magnitude.

Following each of these test, the "INZP" arrester remains thermally stable and the discharge voltage increase at rated current is less than 10%.

**5000 HOURS CLIMATIC AGEING TEST**

The "INZP" arrester have overcome the 5000 hours of accelerated ageing test of the polymer, carried out according to the annex C of IEC 1109 standard.



ETISURGE						
type	code No.	arrester with disconnector and support	rated voltage	U <sub>c</sub>	weight	packaging
			[kV rms]	[kV]	[kg]	[pcs]
INZP0910S	004211030	no	9	7,65	1,8	1
INZP1010S	004211040	no	10	8,4	1,9	
INZP1210S	004211050	no	12	10,2	2,0	
INZP1810S	004211080	no	18	15,3	2,8	
INZP2110S	004211090	no	21	17	3,2	
INZP2410S	004211100	no	24	19,5	3,3	
INZP3310S	004211130	no	33	27	4,5	
INZP3610S	004211140	no	36	29	4,6	
INZP0910	004213030	yes	9	7,65	2,2	
INZP1010	004213040	yes	10	8,4	2,3	
INZP1210	004213050	yes	12	10,2	2,4	
INZP1810	004213080	yes	18	15,3	3,2	
INZP2110	004213090	yes	21	17	3,6	
INZP2410	004213100	yes	24	19,5	3,7	
INZP3310	004213130	yes	33	27	4,9	
INZP3610	004213140	yes	36	29	5,0	

NOTE: Other voltages are available on special request

**MODELS - TYPES**

It is possible to order overvoltage arresters in two variants: INZP\_\_ - overvoltage arresters with ground lead disconnecter and insulating bracket (support) and without that features – INZP\_\_S.

Rated discharged current is 10kA for all types.



INZP\_\_



INZP\_\_S

**LINE TERMINAL**

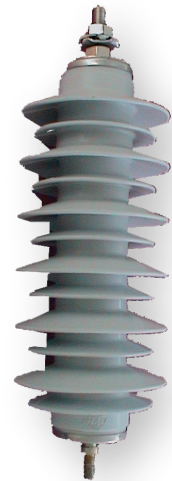
The line connections accept terminals with suitable diameter of 12.5 mm in the slice. They also allow the connection of aluminium or copper conductors of 70 mm<sup>2</sup> of maximum cross section. If a rod is used to make the connection, its diameter must be less than 8 mm.

**INSULATING BRACKET**

The "INZP" arrester is assembled complete with a high strength, molded glass reinforced polyester insulating bracket. The insulating bracket provides insulation between the arrester and ground after the ground lead disconnecter has operated, in the unlikely event of arrester failure.

**GROUND LEAD DISCONNECTOR**

Helps prevent line lockout by disconnecting a failed arrester from the system and serves as an indicating device that shows the failed arrester needs replacement. Ground terminal clamp will accept the same cross section of conductors as on line terminals.

**RATINGS FOR VARIOUS VOLTAGES**

Prior to installation of arrester, check the arrester's voltage rating ( $U_r$ ) and continuous operating voltage ( $U_c$ ) to verify these are proper for the system. The continuous operating voltage ( $U_c$ ) of arrester shall not be less than maximum line-to-ground voltage system.

In the case of short circuit between a phase and earth, in a system with ungrounded or impedance neutral circuits, the maximum voltage across the arresters placed on the two phases without fault may reach, during the operating time of the protective breaker, the maximum L-L value.

In order to correctly choose arrester, it is necessary to take into account the duration of an eventual overvoltage.

By inspection of the TOV characteristics of the metal oxide arresters, a model should be chosen which supports the prospective overvoltage for its whole duration.