SURGE ARRESTERS

Explanation of published data:

1. Starting voltage (Ignition voltage; V_{ign})

The specified minimum and maximum starting voltage values indicate the voltage limits below which no ignition will take place and above which all tubes will ignite.

2. Extinguishing voltage (V_{ext})

At voltages equal to or lower than the voltage specified, the discharge is extinguished.

3. Line voltage (V_{line})

Surge arresters can be used for the protection of lines, the maximum operating voltage of which does not exceed the value specified. It is clear that surge arresters can also be used for the protection of lines and apparatus to which under normal conditions no voltage is applied.

4. Surge current (I_{surge})

The values specified for the maximum temporary current and the appartaining period of time should be regarded as design values and are a measure for the ability to discharge large quantities of electrical energy during a brief period.

Heavy discharges (within the time specified) resulting in currents that are about equal to the maximum surge current can be drawn off several times.

Moderate discharges can take place many times before the surge arrester will fail. Failure will generally be due to too large deviations from the published starting and extinguishing voltages

If there is a great chance of heavy continuous discharges, it is recommended to insert a series resistor, e.g. a voltage dependent resistor. In doing so the surge arrester will be protected against too large energies, whilst a voltage dependent resistor (exponent at least 4 to 5) will ensure extinguishing when discharge has taken place, also in the case of power lines.

5. Fuse in series

In the case of discharges of long duration e.g. as a result of direct contact between low and high-tension

lines, care should be taken that the lines to be protected are disconnected, since otherwise damage will be caused to the surge arrester. A series-connected fuse may serve this purpose. The value published applies to a normal fuse type

6. Capacitive discharge

Like the surge current value the value (expressed in watt seconds) given under this heading is a measure for the power of the surge arrester. For this value it also holds that energies equal to the value published can be drawn off a few times, and that energies that are several times smaller can be drawn off many times before the surge arrester will be unserviceable

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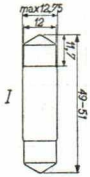
Type		4349	4369	4370	4371	4372	4373	4378	4379	4380	4383	4390	4397
Starting voltage Tension d'allumage Zündspannung	V	130-180	150-200	80-120	150-200	280-350	150-200	80-120	280-350	280-350	280-350	460-660[1])	400-500
Min. extinguishing voltage Tension d'extinction min. Min. Löschspannung	V	110	110	60	110	250	110	60	130	250	130	400[1])	200
Surge current, max. Courant de choc, max. Stromstoss, max.	A	5	10	10	5	2,5	10	10	10	2,5	5	25	5
	sec	3	3	3	3	1	3	3	3	1	3	3	1
Fuse in series Fusible en série Seriensicherung	max A	6	10	10	6	6	10	10	10	6	6	25	6
Capacitive discharge Décharge capacitive Kapazitive Entladung	Ws	10	10	10	10	10	10	10	10	10	10	500	10
Max.line voltage Tension du ligne max Max.Leitungsspannung	$V_{=}$	70	70	36	70	200	70	36	50	200	50	-	150
	$V_{\sim}$	75	75	50	75	180	75	50	180	180	180	300	230
Dimensions, see fig. Encombrements, voir fig. Abmessungen, siehe Abb.	No.	I	IV	IV	II	IV	III	III	IV	II	II	V	IV

[1])A.C. voltage (rms value); Tension alternative (valeur efficace); Wechselspannung (Effektivwert)

PHILIPS

4349-4397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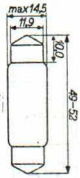
I
49–51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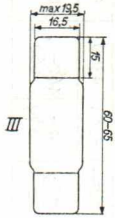
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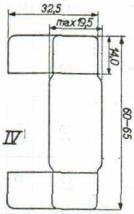
59–65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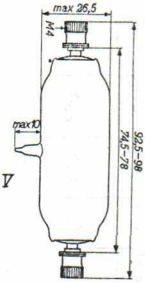
59–65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M4
max10
V
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92,5–98