



## Technical data

- For system voltages up to 1000 V a.c.
  - Nominal discharge current  $I_n$  8/20  $\mu$ s 20 / 40 kA pk
  - High current impulse  $I_{hc}$  4/10  $\mu$ s 100 / 200 kA pk
  - Short circuit rating (1)  $I_s$  50 Hz 20 kA rms for 0.2s
  - Tested according to IEC 61643-1 class I and II
  - Service conditions: temperature (2) - 60°C up to + 45°C
  - altitude (3) up to 1800 m
  - Long duration current impulse 1350 / 2400 A / 2000  $\mu$ s
  - Energy capability 12 / 24 kJ / kV of  $U_c$
- (1) Tested value acc. IEC 60099-4.  
 (2) These values exceed IEC requirements. For installations in higher ambient temperatures, please contact the manufacturer.  
 (3) This value exceeds IEC requirements. For installations in higher altitudes, please contact the manufacturer.

## Application

Protection of low voltage AC networks against both, multiple atmospheric and switching overvoltages, as well as Very Fast Transients (VFT). Suitable for the protection of apparatuses and rotating machines, for railway systems, and other special applications. For indoor and outdoor installation.

## Advantages

- Low residual voltage
- Long protection distance
- High energy input capacity
- Stable U-I characteristics even after multiple strokes
- Proof against ageing
- Explosion and shatter-resistant design
- Pollution resistant and UV-stable
- Housing resistant to rough handling
- Maintenance free
- Stable against shock and vibration

## Temporary overvoltage capability (TOV) - Power frequency versus time characteristic

- During 1 second (a: 1.437 x  $U_c$  or b: 1.375 x  $U_c$ )
- During 3 seconds (a: 1.410 x  $U_c$  or b: 1.341 x  $U_c$ )
- During 10 seconds (a: 1.370 x  $U_c$  or b: 1.310 x  $U_c$ )
- a: value tested with a sample that has not been prestressed by any energy input.
- b: value tested with a sample that has been prestressed with a prior energy input according to the operating duty test
- The values have been determined with a test sample preheated at 60 degrees Celsius according to IEC 60099-4 and refer to an ambient temperature up to 45 degrees Celsius.

## Guaranteed data for POLIM-R..-1 N

Type	$U_c$ (4) Continuous operating voltage kV rms	Residual voltage ( $U_{res}$ ) in kV pk at a specified impulse current												
		Wave 1/... $\mu$ s		Wave 8/20 $\mu$ s								Wave 30/60 $\mu$ s		
		10 kA pk	20 kA pk	1kA pk	1.5 kA pk	3 kA pk	5 kA pk	10 kA pk	20 kA pk	40 kA pk	250 A pk	500 A pk	1 kA pk	2 kA pk
POLIM-R-1N														
0.11-1	0.11	0.38	0.43	0.30	0.31	0.32	0.33	0.34	0.38	0.42	0.28	0.29	0.30	0.31
0.22-1	0.22	0.78	0.88	0.62	0.63	0.66	0.68	0.70	0.77	0.85	0.58	0.59	0.60	0.63
0.28-1	0.28	0.97	1.09	0.77	0.79	0.82	0.84	0.87	0.96	1.06	0.72	0.73	0.75	0.78
0.40-1	0.40	1.32	1.48	1.04	1.07	1.12	1.14	1.18	1.30	1.44	0.97	0.99	1.02	1.05
0.44-1	0.44	1.51	1.69	1.19	1.22	1.28	1.30	1.35	1.49	1.64	1.11	1.14	1.16	1.20
0.66-1	0.66	2.29	2.57	1.80	1.85	1.94	1.98	2.05	2.26	2.49	1.68	1.72	1.76	1.82
0.78-1	0.78	2.67	3.00	2.10	2.16	2.26	2.31	2.40	2.64	2.91	1.96	2.01	2.06	2.13

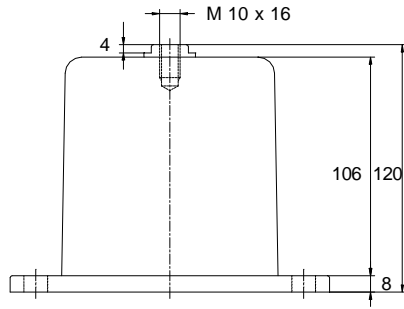
## Guaranteed data for POLIM-R..-2 N

Type	$U_c$ (4) Continuous operating voltage kV rms	Residual voltage ( $U_{res}$ ) in kV pk at a specified impulse current												
		Wave 1/... $\mu$ s		Wave 8/20 $\mu$ s								Wave 30/60 $\mu$ s		
		10 kA pk	20 kA pk	1kA pk	1.5 kA pk	3 kA pk	5 kA pk	10 kA pk	20 kA pk	40 kA pk	250 A pk	500 A pk	1 kA pk	2 kA pk
POLIM-R-2N														
0.11-2	0.11	0.32	0.38	0.29	0.30	0.31	0.32	0.33	0.34	0.38	0.27	0.28	0.29	0.30
0.22-2	0.22	0.68	0.78	0.61	0.62	0.63	0.66	0.68	0.70	0.77	0.57	0.58	0.59	0.60
0.28-2	0.28	0.85	0.97	0.76	0.77	0.79	0.82	0.84	0.87	0.96	0.71	0.72	0.73	0.75
0.40-2	0.40	1.16	1.32	1.02	1.04	1.07	1.12	1.14	1.18	1.30	0.96	0.97	0.99	1.02
0.44-2	0.44	1.33	1.51	1.16	1.19	1.22	1.28	1.30	1.35	1.49	1.09	1.11	1.14	1.16
0.66-2	0.66	2.01	2.29	1.76	1.80	1.85	1.94	1.98	2.05	2.26	1.65	1.68	1.72	1.76
0.78-2	0.78	2.34	2.67	2.05	2.10	2.16	2.26	2.31	2.40	2.64	1.92	1.96	2.01	2.06

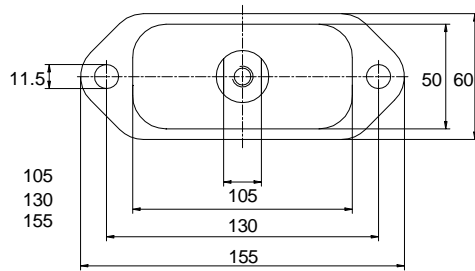
(4) For low voltage systems (a.c. and d.c.) the continuous operating voltage  $U_c$  is equal to the rated voltage  $U_r$  (see IEC 61643-1).

The manufacturer reserves the right to change technical data or design without prior notice 10/00

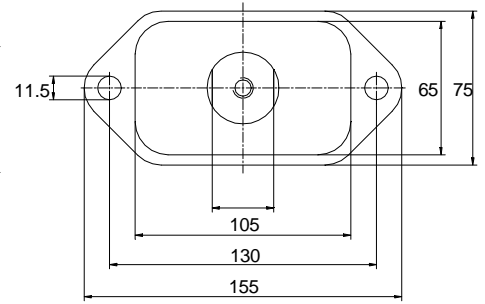
## Dimensions (in mm)



POLIM-R..-1 N / POLIM-R..-2 N



POLIM-R..-1 N



POLIM-R..-2 N

## Insulation data, dimensions and weight for POLIM-R..-1 N

Type	Creepage distance	Flashover distance	Height H	Weight
	mm	mm	mm	kg
0.11-1	113	113	120	< 0.9
0.22-1	113	113	120	< 0.9
0.28-1	113	113	120	< 0.9
0.40-1	113	113	120	< 0.9
0.44-1	113	113	120	< 0.9
0.66-1	113	113	120	< 0.9
0.78-1	113	113	120	< 0.9

## Insulation data, dimensions and weight for POLIM-R..-2 N

Type	Creepage distance	Flashover distance	Height H	Weight
	mm	mm	mm	kg
0.11-2	115	115	120	< 1.3
0.22-2	115	115	120	< 1.3
0.28-2	115	115	120	< 1.3
0.40-2	115	115	120	< 1.3
0.44-2	115	115	120	< 1.3
0.66-2	115	115	120	< 1.3
0.78-2	115	115	120	< 1.3