Data sheet

Surge arrester
POLIM-R..-2ND

Overvoltage protection of

- Traction systems (fixed installations and rolling stock)

Application

- Direct current (DC)
- Outdoor and indoor

Technical data

Surge arrester with metal oxide resistors without spark gaps (MO surge arrester), direct molded silicone housing, grey color, designed and tested according EN 50526-1.

Nominal discharge current I_n 8/20 µs	20 kA peak
Class	DC-B
High current impulse I_{hc} 4/10 µs	100 kA peak
Switching current impulse I_{sw} 30/60 µs	2000 A peak
Charge transfer capability Q_t	5 As
Energy withstand capability W	19 kJ/kV$_{Uc}$
Short circuit rating I_s	20 kA DC for 0.2 s

The thermal stability of the MO surge arrester is proved in the operating duty test according class DC-B with two times the charge transfer capability (total 10 As).

The arrester POLIM-R..-2ND has with Q_t = 5 As twice the charge transfer capability as required in minimum for class DC-B.

Mechanical loads

Torque moment	20 Nm
Short term load SSL horizontal to axis	60 Nm
Long term load SSL horizontal to axis	30 Nm

Shock and vibration tested according IEC 61373.

General data

Ambient air temperature	–60 to +40 °C (for higher values contact manufacturer)
Altitude	up to 1800 m (for higher values contact manufacturer)

Electrical data

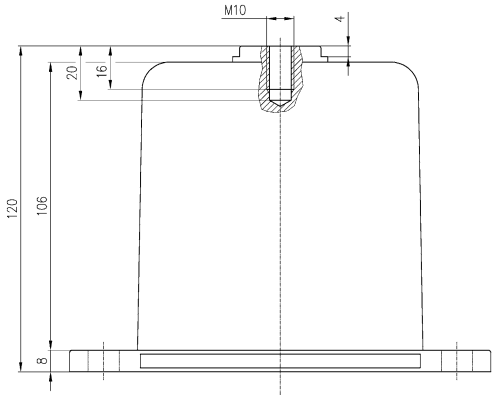
U_c (= U_r) * Continuous operating voltage	Residual voltage U_{res} in kV peak at specified impulse current									
	wave 1/…µs		wave 8/20 µs					wave 30/60 µs		
kV DC	10 kA	20 kA	2 kA	4 kA	10 kA	**20 kA**	40 kA	500 A	1000 A	2000 A
0.14	0.35	0.38	0.30	0.32	0.33	**0.34**	0.38	0.28	0.29	0.30
0.29	0.72	0.77	0.61	0.64	0.68	**0.70**	0.77	0.58	0.60	0.61
0.36	0.88	0.94	0.75	0.79	0.83	**0.86**	0.94	0.71	0.73	0.75
0.49	1.20	1.28	1.02	1.07	1.13	**1.17**	1.28	0.96	0.99	1.02
0.56	1.37	1.47	1.17	1.23	1.29	**1.34**	1.47	1.10	1.14	1.17
0.85	2.08	2.22	1.77	1.86	1.95	**2.03**	2.22	1.67	1.72	1.77
1.0	2.43	2.60	2.08	2.18	2.29	**2.38**	2.60	1.96	2.01	2.07

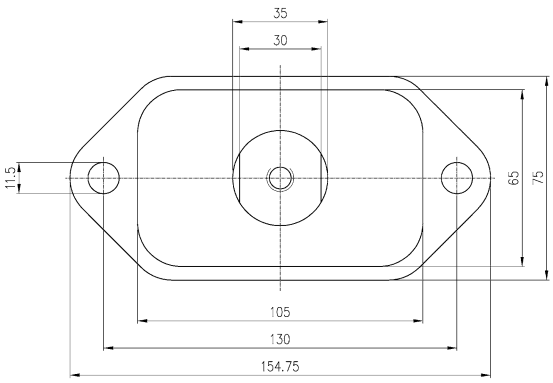
* The rated voltage U_r of the arrester coincides with the continuous operating voltage U_c.

Housing

U_c Continuous operating voltage	Creepage distance	Flashover distance	Height	Weight	Insulation withstand voltage of empty housing			
					1.2/50 µs		1 min wet	
					required values acc. to EN	guaranteed	required values acc. to EN	guaranteed
kV DC	mm	mm	mm	kg	kV peak	kV peak	kV DC	kV DC
0.14	115	115	120	< 1.5	0.50	20	0.34	10
0.29	115	115	120	< 1.5	1.03	20	0.70	10
0.36	115	115	120	< 1.5	1.27	20	0.86	10
0.49	115	115	120	< 1.5	1.72	20	1.17	10
0.56	115	115	120	< 1.5	1.97	20	1.34	10
0.85	115	115	120	< 1.5	2.99	20	2.03	10
1.0	115	115	120	< 1.5	3.50	20	2.38	10

Dimensions (mm)





Standard dimensions without accessories
(may be subject to changes)
Dimensions according outline drawing 1HC0015766
Outline drawings with accessories on request

Structure of type designation

POLIM-R 0.14-2 ND

Type of arrester
U_c = Continuous operating voltage
Housing
Direct current

For further information please contact:

ABB Switzerland Ltd
High Voltage Products
Surge Arresters
Jurastrasse 45
CH-5430 Wettingen/Switzerland
Tel. +41 58 585 29 11
Fax +41 58 585 55 70
E-mail: sales.sa@ch.abb.com

www.abb.com/arrestersonline

For detailed information regarding the dimensioning of our products see the following ABB documents:

– Application guidelines
  Overvoltage protection
  Metal oxide surge arresters in medium voltage systems
– Application guidelines
  Overvoltage protection
  Metal oxide surge arresters in railway facilities

For pdf or print version please send E-mail to:
sales.sa@ch.abb.com

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