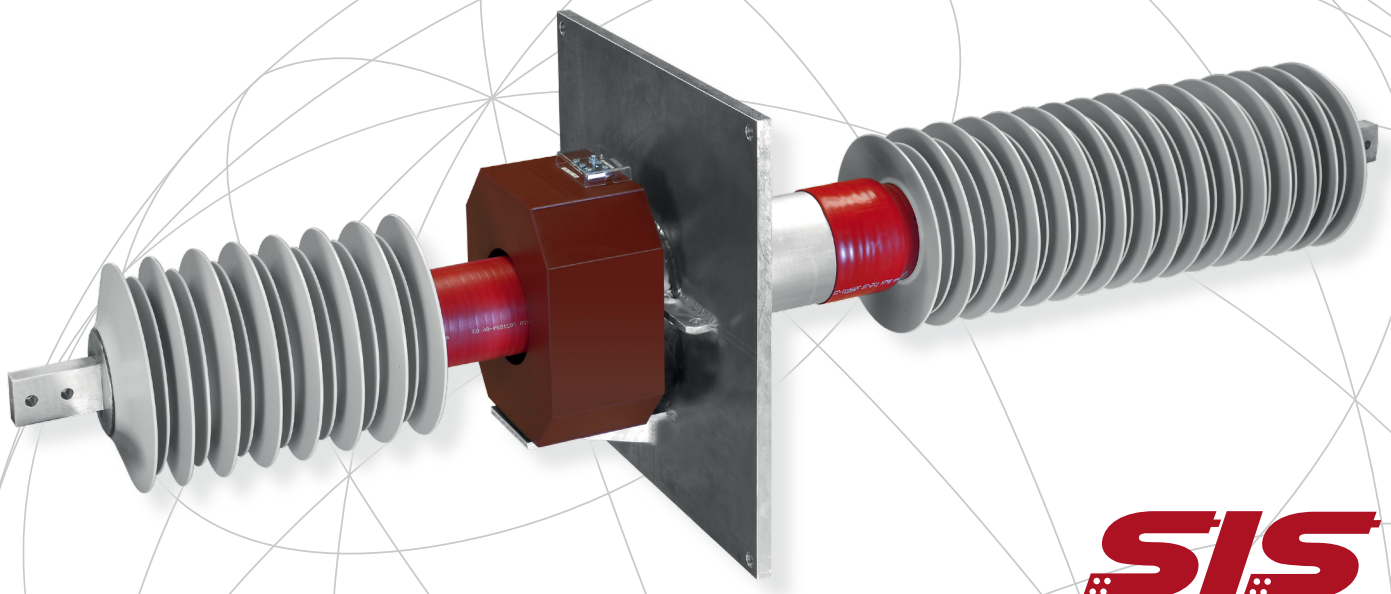




SISD BUSHINGS

For indoor and outdoor applications
Up to 72.5 kV and 7000 A



SIS



GERMANY HAMBURG • WIRGES • KIRCHAICH • DRESDEN
AUSTRIA MARCHTRENK | HUNGARY KECSKEMÉT | CHINA SHANGHAI | USA HARTWELL



RITZ SIS PRODUCT RANGE

SIS BUS BAR SYSTEM

System voltage 1 kV up to 72.5 kV

System current 630 A up to 7000 A

SISD BUSHINGS

System voltage 3.6 kV up to 72.5 kV

System current 630 A up to 7000 A

DESIGN AND DESCRIPTION ELECTRICAL SAFETY

RITZ, SISD bushings are insulated using field- proven, cast resin, Epoxy Resin Impregnated Paper technology. (ERIP)

The Bushings are designed and dimensioned according to the electro-technical requirements of the project. Conductors are dimensioned according to the nominal voltage. They can be copper or aluminum and either solid or tubular.

The conductors are then wrapped using electrical quality crepe paper. Semi-conductive capacitive grading layers are embedded during the wrapping process in order to control the electrical field. A grounding layer (earth) is embedded across the entire length. The grounding is connected to the fixing plate of the Bushing. Its function is to guarantee safe penetration of the wall or roof.

The composite insulation is then impregnated with epoxy resin and cast under vacuum in one of our autoclaves. After manufacture, each Bushing is routine tested according to IEC60 137 in our high voltage test lab.

This guarantees safe, partial discharge free operation. The design and subsequent high voltage testing of each bushing guarantees safety for human operators & longevity of our bushings.

TYPICAL FEATURES OF THE SISD BUSHINGS

- safe, available, reliable, compact
- long life span
- very low maintenance
- easy installation

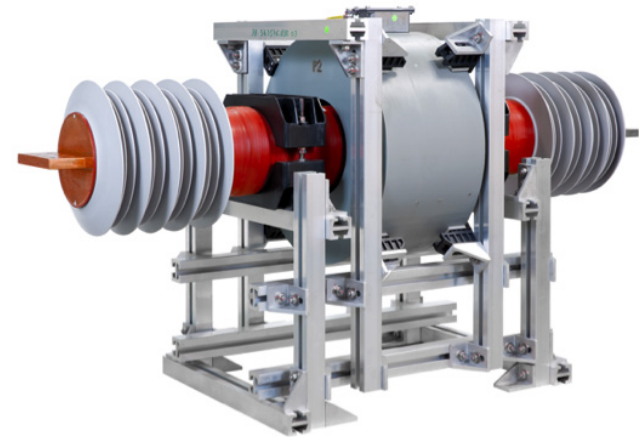
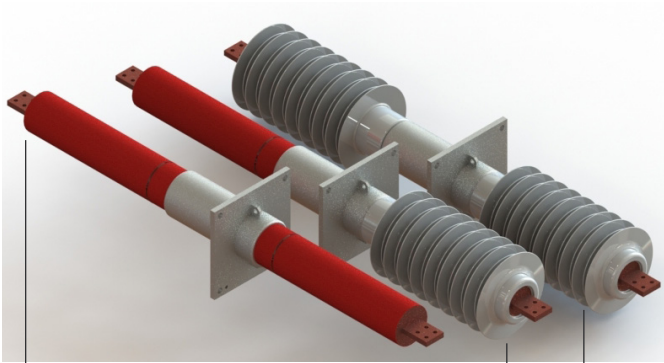


Illustration: SISD bushing and low voltage current transformer

PRODUCT VARIATIONS



SISD-II Indoor / Indoor SISD-IO Indoor / Outdoor SISD-00 Outdoor / Outdoor

MECHANICAL SAFETY

All bushings are protected both environmentally and mechanically by a high quality, compressed shrinking sleeve. The sleeve protects the insulation from humidity, dust and light knocks along the complete bushing length. The contact ring in the bushing terminals is designed with the same diameter as the insulation, so the ends are protected against hard knocks during installation and transport. In order to increase the creepage distance without adding additional bushing length we use silicone insulator sheds.

We supply as standard 31mm/kV SDC. According to IEC 60815, 31mm/kV SDC is for very high levels of pollution. Other levels are available on request.

Where required we can integrate Ritz ring core current transformers as illustrated in the photograph below.

TECHNICAL STANDARD DATA

International standard	IEC 60137:2017
Type	Capacitive graded bushing
Insulation	ERIP insulation (Epoxy Resin Impregnated Paper)
Conductor	E-AlMgSi0,5 or CuETP
Surface	Shrinking sleeve, compressed
Fixation plate	Aluminium, 20mm
Operating conditions	Indoor/Indoor, Indoor/Outdoor, Outdoor / Outdoor, located and fixed at wall, roof or ceiling
Altitude	<1000m (others on request)
Humidity	99%
Ambient temperature	-40 up to +40°C (others on request)
Mounting angle	0 to 90°
Insulation sheds	gray Silicone rubber
Creepage distance	Outdoor, min. 31mm/kV acc. IEC 60815 (others on request)
Wall Thickness	A) 300mm B) 500mm
Terminals	Flat or stud type
Max. conductor temp.	100°C at 40°C ambient
Mechanical impact resistance class	IK10

INDOOR

$U_m / U_p / U_{BIL}$	I_N from - up to		Complete length A	Wall thickness A	Complete length B	Wall thickness B	Creepage distance	Sparking distance
[kV]	[A]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
3.6 / 10 / 40	630	6500	950	300	1150	500	177	175
7.2 / 20 / 60	630	6500	1010	300	1210	500	207	205
12 / 28 / 75	630	6500	1090	300	1290	500	247	245
17.5 / 38 / 95	630	6500	1140	300	1370	500	272	270
24 / 50 / 125	630	6500	1170	300	1370	500	287	285
36 / 70 / 170	630	6500	1330	300	1530	500	367	365
40.5 / 85 / 200	630	6500	1330	300	1530	500	367	365
52 / 95 / 250	630	3150	1570	300	1770	500	487	485
72.5 / 140 / 325	630	3150	1880	300	2080	500	642	640

OUTDOOR

$U_m / U_p / U_{BIL}$	I_N from - up to		Complete length A	Wall thickness A	Complete length B	Wall thickness B	Creepage distance	Sparking distance
[kV]	[A]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
3.6 / 10 / 40	630	6500	950	300	1150	500	587	241
7.2 / 20 / 60	630	6500	1010	300	1210	500	617	264
12 / 28 / 75	630	6500	1090	300	1290	500	657	297
17.5 / 38 / 95	630	6500	1140	300	1370	500	682	320
24 / 50 / 125	630	6500	1170	300	1370	500	807	334
36 / 70 / 170	630	6500	1330	300	1530	500	1147	410
40.5 / 85 / 200	630	6500	1330	300	1530	500	1297	407
52 / 95 / 250	630	3150	1570	300	1770	500	1677	530
72.5 / 140 / 325	630	3150	1880	300	2080	500	2462	685

I_N [A]	≤ 800		1000 - 1600		2000 - 2500		≥ 3150	
U_m	Cantilever operating load	Cantilever test load	Cantilever operating load	Cantilever test load	Cantilever operating load	Cantilever test load	Cantilever operating load	Cantilever test load
[kV]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]
≤ 36	500	1000	625	1250	1000	2000	1575	3150
52	800	1600	800	1600	1000	2500	1575	3150
72.5	1000	2000	100	2000	1575	3150	2000	4000

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EXPERIENCE AND SOLUTIONS / TOGETHER!

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We are the leading specialist for instrument transformers, cast resin parts, solid bus bar systems and power transformers.

We develop your standard equipment, but also translate your ideas into customized products. Tell us your requirements, we develop the solution.

For more information visit www.ritz-international.com or contact us at info@ritz-international.com

