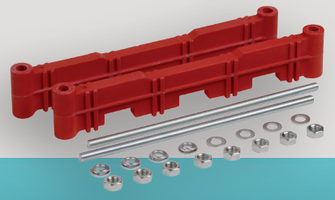
SPI SERIES

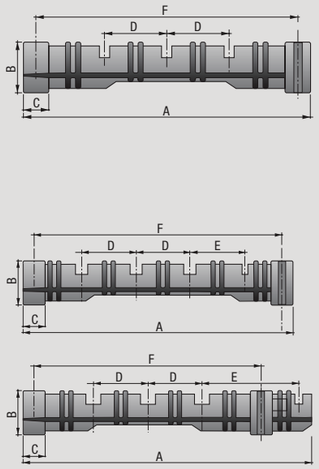


TECHNICAL CHARACTERISTICS

Series of insulators designed to be used as a busbar support element in three-phase systems and three-phase plus neutral systems.
The series consists of two families, each divided into four different measurements dimensionally related to the sections of the bars, four for the three-phase system and four for the three-phase plus neutral system.
The insulator consists of two crossbars on which socket slots are obtained whose width, which can be completed with a simple and patented system of rider spacers, allows the different bar sections to be adapted by always keeping the axle base constant between the phases. Everything is fitted with threaded shafts, washers and zinc coated nuts for fastening to the frame and the clamping of the two crossbars. Made of polyester resin with the addition of a high percentage of glass fibres, they guarantee a high electrodynamic resistance over time in case of faulty currents and an excellent performance in contaminated atmospheres.

- Colour: red RAL-3002 (a different colour can be provided on request in case of large orders)
- Arc resistance: > 120 s - ASTM D-495
- Material: self-extinguishing in class V0 (3.2 mm) according to the UL-94 standard
- Operating temperature: -40 °C ÷ +130 °C
- Water absorption: < 0.15% - UNI 4292
- Tracking resistance: 300 W/min - ASTM D-2303
- Dielectric rigidity: 12 kV/mm - UNI 4291
- Shock resistance: 25 kJ/m² - UNI 6062
- Expansion coefficient: 2x10-5 °C - UNI 6061
- AC/DC operating voltage: 750/900 V
- Max rated voltage at 50 Hz for 1 min: 3 kV
- Max rated pulse voltage: 8 kV

DIMENSIONS (mm)



Dimensions (mm)

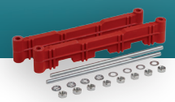
Code	Model	A	B	C	D	E	F
SA497500	SPI 31	173	32	17	40	-	156
SA498300	SPI 32	237	44	23	60	-	214
SA499100	SPI 33	293	52	23	80	-	270
SA500600	SPI 34	363	62	23	110	-	340

Dimensions (mm)

Code	Model	A	B	C	D	E	F
SA501400	SPI 41	213	34	17	40	40	196
SA502200	SPI 42	297	47	23	60	60	274
SA503000	SPI 43	363	56	23	80	70	340

Dimensions (mm)

Code	Model	A	B	C	D	E	F
SA504800	SPI 44	422	62	23	110	110	340

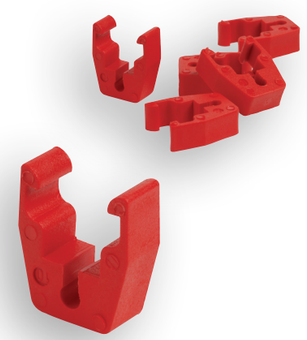


SELECTABLE ELEMENTS

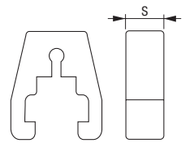
Three-phase system		Three-phase system+Neutral		Bar dimensions (mm)		Ultimate strength	Busbar
Code	Model	Code	Model	Phase	Neutral	(daN)	supports size
SA497500	SPI 31	SA501400	SPI 41	32x4 - 63x5	32x4 - 63 x 4	780	I
SA498300	SPI 32	SA502200	SPI 42	50x5 - 100x10	50x4 - 100x5	1300	II
				50x5 - 100x5			
SA499100	SPI 33	SA503000	SPI 43	50x8 - 125x10	50x4 - 125x10	2000	III
				50x5 - 125x10			
SA500600	SPI 34	SA504800	SPI 44	50x8 - 160x10	50x4 - 160x10	2500	IV
				50x5 - 160x10	50x4 - 160x10	2500	

Ultimate strength tolerance ±10% 1 daN = 10 N

Spacing slugs



DIMENSIONS (mm)



Code	Model	Thickness S (mm)
SA477700	SB 010	1
SA478500	SB 020	2
SA479300	SB 025	2.5
SA480100	SB 030	3
SA481900	SB 035	3.5
SA482700	SB 040	4
SA483500	SB 045	4.5
SA484300	SB 050	5
SA485000	SB 060	6
SA486800	SB 075	7.5
SA487600	SB 080	8
SA488400	SB 100	10
SA489200	SB 110	11

Busbar supports and spacers: one bar per phase
SELECTABLE ELEMENTS

Distance between phases	Phase bar height (mm)								Bar thickness (mm)						Rated current (A)		Symmetrical short circuit current between phases (kA)				Symmetrical short circuit current between phases (kA)										Three-phase system			Three-phase system+Neutral		
									Phase				Neutral*								20	25	30	35	40	45	50	60	70						
	32	40	50	63	80	100	125	160	4	5	6	8	10	4	5	Copper	Aluminium	5	7.5	10	15	Distance between supports (mm)										Busbar supports	Spacers	Positioning diagram	Busbar supports	Spacers	Positioning diagram
40 40 / 40 40 40	■								■					■		380	230	650	435	330												SPI31	6-SB 10	2	SPI41	8-SB 10	7
	■									■				■		420	250	820	550	410	275											SPI31	-	1	SPI41	2-SB 10	6
		■							■					■		470	280	730	490	365												SPI31	6-SB 10	2	SPI41	8-SB 10	7
		■								■				■		520	310	915	610	460	305											SPI31	-	1	SPI41	2-SB 10	6
			■						■					■		570	340	820	545	410	275											SPI31	6-SB 10	2	SPI41	8-SB 10	7
			■							■				■		630	380	1020	680	510	340											SPI31	-	1	SPI41	2-SB 10	6
				■					■					■		680	410	920	615	460	310											SPI31	6-SB 10	2	SPI41	8-SB 10	7
				■						■				■		760	460	1145	765	575	385	290										SPI31	-	1	SPI41	2-SB 10	6
60 60 / 60 60 60			■							■				■		630	380	1250	835	625	420	315										SPI32	12-SB 50	3	SPI42	12-SB 50+2-SB 40	8
			■								■			■		700	420		1000	750	500	375	300								SPI32	12-SB 45	3	SPI42	12-SB 45+2-SB 40	8
			■									■		■		790	470			1000	670	500	400	335							SPI32	12-SB 35	3	SPI42	12-SB 35+2-SB 40	8
			■										■		■	870	520			1250	835	625	500	420	360	315						SPI32	12-SB 25	3	SPI42	12-SB 25+2-SB 30	8
				■						■				■		760	460	1400	935	705	470	350	280									SPI32	12-SB 50	3	SPI42	12-SB 50+2-SB 40	8
				■							■			■		840	500		1125	845	560	420	340	280							SPI32	12-SB 45	3	SPI42	12-SB 45+2-SB 40	8
				■								■		■		950	570			1125	750	565	450	375	320						SPI32	12-SB 35	3	SPI42	12-SB 35+2-SB 40	8
				■									■		■	1100	660			1405	935	705	565	470	400	350						SPI32	12-SB 25	3	SPI42	12-SB 25+2-SB 30	8
					■					■				■		930	560		1055	790	530	395	316	265							SPI32	12-SB 50	3	SPI42	12-SB 50+2-SB 40	8
					■						■			■		1030	620	1265	950	635	475	380	220								SPI32	12-SB 45	3	SPI42	12-SB 45+2-SB 40	8
60 60 60 / 60 60 60 60					■							■		■		1130	680		1265	845	635	515	425	365	320						SPI32	12-SB 35	3	SPI42	12-SB 35+2-SB 40	8
					■								■		■	1250	750			1055	790	635	530	455	395						SPI32	12-SB 25	3	SPI42	12-SB 25+2-SB 30	8
						■				■				■		1120	670	1180	885	590	445	355	295								SPI32	12-SB 50	3	SPI42	12-SB 50+2-SB 40	8
						■					■			■		1220	730	1415	1060	710	530	425	355								SPI32	12-SB 45	3	SPI42	12-SB 45+2-SB 40	8
						■						■		■		1340	800		1415	945	710	565	470	405	355	315					SPI32	12-SB 35	3	SPI42	12-SB 35+2-SB 40	8
							■						■		■	1480	890			1180	885	710	590	505	405	320					SPI32	12-SB 25	3	SPI42	12-SB 25+2-SB 30	8
80 80 / 80 80 70		■										■		■		790	470			1155	770	580	465	385	330							SPI33	12-SB 110	3	SPI43	12-SB 110+2-SB 60	8
		■											■		■	870	520			1445	965	725	580	485	415	365	325				SPI33	12-SB 100	3	SPI43	12-SB 100+2-SB 50	8
			■									■		■		950	570			1300	865	650	520	435	370	325					SPI33	12-SB 110	3	SPI43	12-SB 110+2-SB 60	8
			■										■		■	1100	660			1080	810	650	540	465	405	360	325			SPI33	12-SB 100	3	SPI43	12-SB 100+2-SB 50	8
				■								■		■		1130	680			1460	975	730	585	490	420	365					SPI33	12-SB 110	3	SPI43	12-SB 110+2-SB 60	8
				■									■		■	1250	750			1215	915	730	610	525	460						SPI33	12-SB 100	3	SPI43	12-SB 100+2-SB 50	8
					■						■			■		1340	800			1090	820	655	545	470	410	365	330				SPI33	12-SB 110	3	SPI43	12-SB 110+2-SB 60	8
					■							■		■		1480	890			1360	1020	820	680	585	510	455	410	340	270		SPI33	12-SB 100	3	SPI43	12-SB 100+2-SB 50	8
						■					■			■		1560	940			1220	915	730	610	525	460						SPI33	12-SB 110	3	SPI43	12-SB 110+2-SB 60	8
						■						■		■		1750	1050			1520	1140	915	760	655	570	510	460	370			SPI33	12-SB 100	3	SPI43	12-SB 100+2-SB 50	8
110 110 / 110 110 110		■										■		■		790	470			1355	915	680	545	455	390	340	305	270			SPI34	12-SB 110	3	SPI44	12-SB 110+2-SB 60	8
		■											■		■	870	520			1060	850	680	565	485	425	375	340	285		SPI34	12-SB 100	3	SPI44	12-SB 100+2-SB 50	8
			■									■		■		950	570			1015	760	610	505	435	380	340	305			SPI34	12-SB 110	3	SPI44	12-SB 110+2-SB 60	8
			■										■		■	1100	660			1265	950	760	635	545	475	425	380	315	270	SPI34	12-SB 100	3	SPI44	12-SB 100+2-SB 50	8
				■							■			■		1130	680			1140	855	685	570	490	430	380	345	290		SPI34	12-SB 110	3	SPI44	12-SB110+2-SB 60	8
				■								■		■		1250	750			1425	1070	855	715	610	535	475	430	355	305	SPI34	12-SB 100	3	SPI44	12-SB 100+2-SB 50	8
110 110 110 / 110 110 110 110					■						■			■		1340	800			1280	960	770	640	550	480	425	385	320	275	SPI34	12-SB 110	3	SPI44	12-SB 110+2-SB 60	8
					■							■		■		1480	890				1200	960	800	685	600	535	480	400	345	SPI34	12-SB 100	3	SPI44	12-SB 100+2-SB 50	8
						■					■			■		1560	940			1425	1070	855	715	610	535	475	430	355	305	SPI34	12-SB 110	3	SPI44	12-SB 110+2-SB 60	8
						■						■		■		1750	1050				1340	1070	895	765	670	595	535	445	385	SPI34	12-SB 100	3	SPI44	12-SB 100+2-SB 50	8
							■						■		■	2080	1250				1515	1210	1010	865	755	670	605	505	430	SPI34	12-SB 100	3	SPI44	12-SB 100+2-SB 50	8

* Three-phase+Neutral system

Busbar supports and spacers: two bars per phase
SELECTABLE ELEMENTS

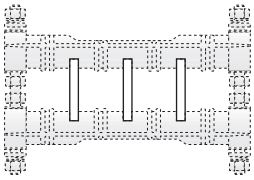
Distance between phases	Phase bar height (mm)	Bar thickness (mm) Phase	Bar thickness (mm) Neutral*	Rated current (A) In		Symmetrical short circuit current between phases (kA) Distance between supports (mm)	Three-phase system			Three-phase system+Neutral		
							Busbar supports	Spacers	Positioning diagram	Busbar supports	Spacers	Positioning diagram
	32 40 50 63 80 100 125 160	4 5 6 8 10	4 5 6 8 10	Copper	Aluminium	10 15 20 25 30 35 40 45 50 60 70						
60 60 60 60 60	■	■	■	1050	630	1250 835 625 500 420 360 315	SPI 32	6-SB 50	4	SPI 42	6-SB 50+2-SB 30	10
	■	■	■	1270	760	1405 935 705 565 470 400 350	SPI 32	6-SB 50	4	SPI 42	6-SB 50+2-SB 30	10
	■	■	■	1530	920	1055 790 635 530 455 395 320	SPI 32	6-SB 50	4	SPI 42	6-SB 50+2-SB 30	10
	■	■	■	1820	1090	1180 885 710 590 505 405 320	SPI 32	6-SB 50	4	SPI 42	6-SB 50+2-SB 30	10
	■	■	■	1050	630	1445 965 725 580 480 415 360 320	SPI 33	6-SB 50+12-SB 75	5	SPI 43	8-SB 50+12-SB 75	11
	■	■	■	1150	690	1155 865 695 580 495 435 385 350 290	SPI 33	18-SB 60	5	SPI 43	18-SB 60+2-SB 40	11
	■	■	■	1300	780	1155 925 770 660 580 515 465 370 270	SPI 33	6-SB 80+12-SB 30	5	SPI 43	6-SB 80+12-SB 30+2-SB 20	11
	■	■	■	1420	850	1445 1155 965 825 725 640 530 370 270	SPI 33	6-SB 100	4	SPI 43	6-SB 100	9
80 80	■	■	■	1270	760	1080 810 650 540 465 405 360 325	SPI 33	6-SB 50+12-SB 75	5	SPI 43	8-SB 50+12-SB 75	11
	■	■	■	1390	830	1295 975 780 650 555 490 435 390 325 270	SPI 33	18-SB 60	5	SPI 43	18-SB 60+2-SB 40	11
	■	■	■	1540	920	1300 1040 865 740 650 575 520 370 270	SPI 33	6-SB 80+12-SB 30	5	SPI 43	6-SB 80+12-SB 30+2-SB 20	11
	■	■	■	1770	1060	1300 1080 925 810 655 535 370 270	SPI 33	6-SB 100	4	SPI 43	6-SB 100	9
	■	■	■	1530	920	1215 915 730 610 525 460 405 365 305	SPI 33	6-SB 50+12-SB 75	5	SPI 43	8-SB 50+12-SB 75	11
	■	■	■	1690	1010	1460 1095 880 730 625 550 490 440 365 270	SPI 33	18-SB 60	5	SPI 43	18-SB 60+2-SB 40	11
	■	■	■	1810	1090	1460 1170 975 835 730 650 530 370 270	SPI 33	6-SB 80+12-SB 30	5	SPI 43	6-SB 80+12-SB 30+2-SB 20	11
80 80 70	■	■	■	1990	1190	1460 1215 1045 915 655 530 370 270	SPI 33	6-SB 100	4	SPI 43	6-SB 100	9
	■	■	■	1820	1090	1360 1020 820 680 585 510 455 410 340 270	SPI 33	6-SB 50+12-SB 75	5	SPI 43	8-SB 50+12-SB 75	11
	■	■	■	1970	1180	1225 980 815 700 615 545 490 370 270	SPI 33	18-SB 60	5	SPI 43	18-SB 60+2-SB 40	11
	■	■	■	2120	1270	1310 1090 935 820 655 530 370 270	SPI 33	6-SB 80+12-SB 30	5	SPI 43	6-SB 80+12-SB 30+2-SB 20	11
	■	■	■	2320	1390	1360 1080 830 655 530 370 270	SPI 33	6-SB 100	4	SPI 43	6-SB 100	9
	■	■	■	2420	1450	1460 1220 1050 920 655 530 370 270	SPI 33	6-SB 80+12-SB 30	5	SPI 43	6-SB 80+12-SB 30+2-SB 20	11
	■	■	■	2710	1630	1470 1080 830 655 530 370 270	SPI 33	6-SB 100	4	SPI 43	6-SB 100	9
	■	■	■	1050	630	1060 850 680 565 485 425 375 340 285	SPI 34	6-SB 50+12-SB 75	5	SPI 44	8-SB 50+12-SB 75	11
	■	■	■	1150	690	1360 1020 820 680 535 510 455 410 340 290	SPI 34	18-SB 60	5	SPI 44	18-SB 60+2-SB 40	11
	■	■	■	1300	780	1355 1085 905 775 680 600 540 450 390	SPI 34	6-SB 80+12-SB 30	5	SPI 44	6-SB 80+12-SB 30+2-SB 20	11
	■	■	■	1420	850	1355 1130 970 850 755 680 565 485	SPI 34	6-SB 100	4	SPI 44	6-SB 100	9
110 110	■	■	■	1270	760	1295 950 760 635 545 475 425 380 315 270	SPI 34	6-SB 50+12-SB 75	5	SPI 44	8-SB 50+12-SB 75	11
	■	■	■	1390	830	1140 910 760 650 570 505 455 380 325	SPI 34	18-SB 60	5	SPI 44	18-SB 60+2-SB 40	11
	■	■	■	1540	920	1215 1015 870 760 675 610 505 435	SPI 34	6-SB 80+12-SB 30	5	SPI 44	6-SB 80+12-SB 30+2-SB 20	11
	■	■	■	1770	1060	1520 1265 1085 950 845 760 635 545	SPI 34	6-SB 100	4	SPI 44	6-SB 100	9
	■	■	■	1530	920	1425 1070 855 715 610 535 475 430 355 305	SPI 34	6-SB 50+12-SB 75	5	SPI 44	8-SB 50+12-SB 75	11
	■	■	■	1690	1010	1285 1030 855 760 685 570 515 430 370	SPI 34	18-SB 60	5	SPI 44	18-SB 60+2-SB 40	11
	■	■	■	1810	1090	1370 1140 980 855 760 685 570 490	SPI 34	6-SB 80+12-SB 30	5	SPI 44	6-SB 80+12-SB 30+2-SB 20	11
	■	■	■	1990	1190	1425 1225 1070 950 855 715 610	SPI 34	6-SB 100	4	SPI 44	6-SB 100	9
110 110 110	■	■	■	1820	1090	1195 955 795 685 600 530 480 400 340	SPI 34	6-SB 50+12-SB 75	5	SPI 44	8-SB 50+12-SB 75	11
	■	■	■	1970	1180	1435 1150 955 820 720 640 575 480 410	SPI 34	18-SB 60	5	SPI 44	18-SB 60+2-SB 40	11
	■	■	■	2120	1270	1275 1095 960 850 765 635 470	SPI 34	6-SB 80+12-SB 30	5	SPI 44	6-SB 80+12-SB 30+2-SB 20	11
	■	■	■	2320	1390	1370 1200 1065 915 635 470	SPI 34	6-SB 100	4	SPI 44	6-SB 100	9
	■	■	■	2420	1450	1425 1225 1070 950 855 715 610	SPI 34	6-SB 80+12-SB 30	5	SPI 44	6-SB 80+12-SB 30+2-SB 20	11
	■	■	■	2710	1630	1530 1340 1130 915 635 470	SPI 34	6-SB 100	4	SPI 44	6-SB 100	9
	■	■	■	3220	1930	1430 1130 915 635 470	SPI 34	6-SB 100	4	SPI 44	6-SB 100	9

* Three-phase+Neutral system

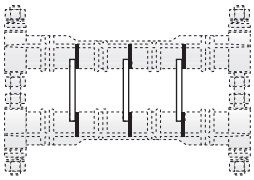
Busbar supports
SPACER POSITIONING DIAGRAMS

THREE-PHASE SYSTEM

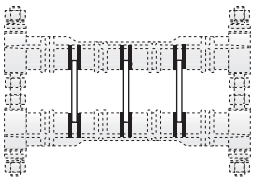
N° 1



N° 2



N° 3



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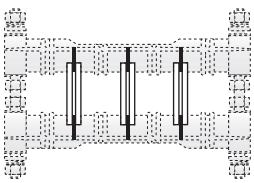

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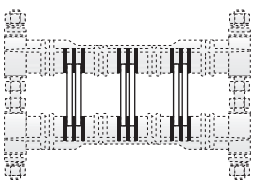
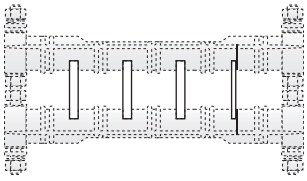
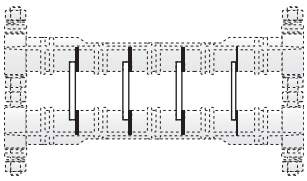


THREE-PHASE + NEUTRAL SYSTEM

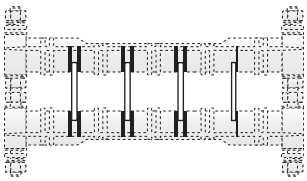
N° 6



N° 7



N° 8



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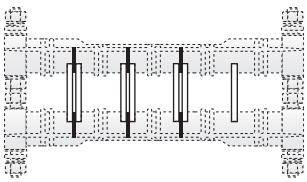

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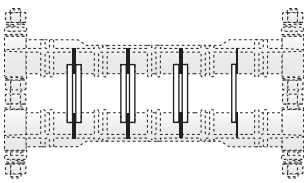

N° 11