Our Protection. Your Benefit.



WORLD LEADERS IN ESS, WIND & PV PROTECTION





Expanded PV & Energy Storage (ESS) Systems

630 A .



Phone: 1-973-575-SIBA (7422) Email: info@sibafuse.com Web: www.siballc.net





### **Product Overview**

HH - High Voltage Fuses International Standards for Indoor / Outdoor / Oil Submersible for AC and DC applications DIN / IEC Standards.

Power: HV (high Voltage) fuses from 2.4kV to 40.5kV. Transformer / Motor / Capacitor Protection. Siba HV fuses: Current Limiting -Full Range (True Full Range) - General Purpose - Back-UP. SIBA HV fuses are available with striker pins of force: 50N, 80N & 120N.All SIBA 80 N striker pin systems are fitted with an integral Temperature Limiter. Accessories: Fuse base In/Out Door, clips and insertion/removal tool.



Transformer / Motor **Din Style R-Rated** 



**Capacitor Protection HHA American Standard** 



**Under Oil and Motor** HHB British Standard SSK Wind-Power/Low Losses



For PT and Under Oil

**Full Range Fuses** 

UR - Ultra Rapid<sup>®</sup> Fuses For Rectifiers, Inverters and Photovoltaic Systems. UL Recognized, UL Listed





URDC PV Solar Photovolatic **URZ Cylindrical** 250VDC - 1500VDC 250VAC - 1000VAC

URB Size 000 & 00 DIN80 URD ND & D

600VAC - 1000VAC



**URS Square Body** 500VAC - 2500VAC & 2000VDC



Over many decades, SIBA has developed a comprehensive product line of Ultra Rapid<sup>®</sup> fuses with worldwide acceptance. SIBA's worldwide distribution network provides technical support, and with our R&D Engineering Department, provides design partnerships for the development of new products with the most modern equipment for the design, manufacturing, and

URE British StandardURL Combination URM German Style Knife Blade 150VDC - 700VDC 690VAC - 700VAC 690VAC - 2000VAC

testing, to minimize development time.

DC Sizes: 10x38mm, 14x51mm, 22x58mm, 27x60mm, 20x127mm, 20x190mm, 36x190mm, 40x254mm, NH000 DIN80, SQB-DC0 &2, SQB-DC2-2 (double), SQB-DC90, 1, & 2, SQB DC92-2 (double body), SQB-DC93, SQB-DC93-2 (double body), NH3, NH4.

**URDC DC Fuses** 

440VDC - 5000VDC



440VAC - 500VAC





Siba Fuses is the world leader in PV Protection. Combiner & Inverters. 1500 VDC PV.

### URS Square Body 500VAC - 2500VAC



SQB Size 1, 2, 3 & 4, UL & IEC, 690-2500VAC, 2000VDC. UNC & Metric Thread.

#### G - Miniature Fuses



SMD Miniature Cylindrical, KS, Holders & Clips. Piqtail & Panel Mount. UL / IEC / VDE / EC.



Phone: 973-575-7422 Fax: 973-575-5858 Email: info@sibafuse.com

SIBA LLC 29 Fairfield Place West Caldwell, NJ 07006 USA

### Solar Fuses

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### **Product Overview**

<u>ال</u> SIE	BA PV Fuse Offering		
Desc	cription	Image	
e	00V <sub>DC</sub>		
	No blown fuse indication	Mette Ste	
NH00, DIN 80 (IEC 60 269-6)	With blown fuse indication		
1	With fitting for microswitch		
	000V <sub>DC</sub>		
	No blown fuse indication (1A - 22 4A)	BB	
10x38mm - 50.6mm mounting centers		and the state	
10x38mm - For cable connection			
14x51mm (ground fault)	With blown fuse indication (1A - 5A)	Manager States and Sta	
NH1 (IEC 60 269-6)	With blown fuse indication (50A - 200A)		
NH2 (IEC 60 269-6)	With blown fuse indication (200A - 250A)		
NH3 (IEC 60 269-6)	With blown fuse indication (200A - 400A)	State 1	
\ /	, ,	Anter a stant	
, , , , , , , , , , , , , , , , , , ,	, ,	100 - 1000 20 12 11.3	
	( ,		
	- (04054)	Selection of the second	
10/14x85mm clip mounting	- (8A - 25A)		
14x65mm for cable connection			
	With fitting for microswitch (35A - 200A)	and the	
- SQB1-M8 (IEC 60 269-6)	No blown fuse indication (35A - 200A)		
	No blown fuse indication (35A - 200A)		
-NH1XL (IEC 60 269-6)	With fitting for microswitch (35A - 200A)		
	No blown fuse indication (200A - 400A)	the state	
- NH3L	With fitting for microswitch (200A - 400A)		
	No blown fuse indication (200A - 450A)		
SQB2 - US Short	· · · · · · · · · · · · · · · · · · ·		
1		•	
14x65mm			
14x65mm-80mm	(10A - 30A)		
ě			
	(1A - 16A)		
22x65mm	(40A - 50A)		
22x65mm With Bolted Contacts		18.2	
SQB1 (Knife)	No blown fuse indication (50A - 200A)		
	With blown fuse indication (50A - 200A)		
SQB1 (Bolted)	No blown fuse indication (50A - 200A)	#iz <sup>1</sup> [:1]	
– NH3L	No blown fuse indication (200A - 500A)	eluitelt	
	With blown fuse indication (200A - 500A)		
	No blown fuse indication (200A - 500A)		
SOB3-Bolted			
SQB3-Bolted	With blown fuse indication (200A - 500A)		
SQB3-Bolted SQB3-DIN	With blown fuse indication(200A - 500A)No blown fuse indication(200A - 500A)		
	Desc   6   NH00, DIN 80 (IEC 60 269-6)   10x38mm   10x38mm - PCB Mount   10x38mm - For cable connection   14x51mm (ground fault)   NH1 (IEC 60 269-6)   NH2 (IEC 60 269-6)   SQB-DC102 (IEC 60 269-6)   SQB-DC101 (IEC 60 269-6)   SQB-DC101 (IEC 60 269-6)   14x65mm   14x65mm for cable connection   14x65mm for cable connection   SQB1-M8 (IEC 60 269-6)   NH1XL (IEC 60 269-6)   NH3L   SQB2 - US Short   14x65mm   14x65mm   10/14x85mm clip mounting   10/14x85mm clip mounting   10/14x85mm   NH3L   SQB2 - US Short   14x65mm   14x65mm   10/14x85mm clip mounting   10/14x85mm clip mounting   10/14x85mm   SQB1 (Knife)   SQB1 (Knife)   SQB1 (Bolted)	Description   600Vpc   NH00, DIN 80 (IEC 60 269-6) No blown fuse indication   With blown fuse indication With blown fuse indication   10x38mm 1000Vpc   10x38mm 50.6mm mounting centers   10x38mm For cable connection   14x51mm (ground fault) With blown fuse indication (1A - 22.4A)   NN38mm For cable connection   14x51mm (ground fault) With blown fuse indication (200A - 200A)   NH1 (IEC 60 269-6) With blown fuse indication (200A - 200A)   NH3 (IEC 60 269-6) With blown fuse indication (200A - 400A)   SQB-DC102 (IEC 60 269-6) With blown fuse indication (200A - 400A)   SQB-DC101 (IEC 60 269-6) With blown fuse indication (35A - 200A)   14x65mm Toroswitch (35A - 200A)   NH1XL (IEC 60 269-6) With fitting for microswitch (35A - 200A)   NH1XL (IEC 60 269-6) With fitting for microswitch (35A - 200A)   NH3L No blown fuse indication (200A - 450A)   SQB1-M8 (IEC 60 269-6) With fitting for microswitch (200A - 450A)   NH1XL (IEC 60 269-6) With fitting for microswitch (200A - 450A)   NH3L No blown f	

# Energy Storage Fuses **Product Overview**

c <b>AL</b> us	SIBA Energ	y Storage (ESS) Fuse Offe	ering
Article Number	Desc	cription	Image
	150V <sub>D</sub>	<sub>C</sub> Battery Fuses	
50 054 38	35 x 59 mm	100A-450A	
50 071 38	2 x 35 x 59 mm	300A-900A	
	250V <sub>D</sub>	<sub>C</sub> Battery Fuses	
50 048 38	BS 17.5mm x 21mm-41.8mm mm	12A-180A	
50 050 38	17.5mm x 25.5mm Solder Contacts	12A-180A	
50 154 36	22 x 58 mm	12A-160A	and the second sec
50 155 36	22 x 58 mm - 80mm Bolted	12A-160A	
	900V <sub>DC</sub> Bre	aking capacity 226kA (L/R=2.7ms)	
50 204 34	14mm x 51 mm Full Range	104 054	
50 205 34	14mm x 51 mm Bolted Full Range	10A - 25A	
20 556 34	SQB1-DC-082	32A - 160A	
20 545 34	SQB1-DC-082	63A - 350A	
20 7xx 32	SQB1 SQB2 SQB3	50A - 400A 250A - 630A 315A - 800A	
20 031 34	NH3L W/O Indicator Full Range		
20 034 33	SQB-DC93 DIN W/O Ind Full Range	]	elatitelt
20 034 34	SQB-DC93 DIN W Ind Full Range		
20 035 33	SQB-DC93 Bolted W/O Ind Full Range	125A-630A	
20 035 35	SQB-DC93 Bolted W Ind Full Range	1	
20 036 33	SQB-DC93 M12 W/O Ind Full Range	_	
20 036 35	SQB-DC93 M12 W Ind Full Range		d b
	1000V <sub>DC</sub> Bre	eaking capacity 200kA	
50 196 10	27mmx60mm	20A-170A	
90 080 10	20mmx127mm	1-63A	

## Energy Storage Fuses Product Overview

SIBA Energy Storage (ESS) Fuse Offering			
rticle Number	Desci	ription	Image
	1000V <sub>DC</sub> Brea	aking capacity 200kA	
20 585 21	NHO	63A - 200A	
90 540 25	SQB-DC101 DIN-110mm W/O Indicator		1 11.54
90 540 26	SQB-DC101 DIN-110mm W Indicator	63A - 400A	
90 280 26	SQB3-70 With center indicator M12		
90 281 25	SQB3-70 Without indicator US Balde	400A - 630A	
90 281 26	SQB3-70 With center inidcator US blade		
90 388 21	SQB-DC93-2 (Double Body Full Rage)	900A - 1100A	and and a second
90 290 25	SQB4 2x M12 without indicator		
90 290 26	SQB4 2x M12 with center indicator		
90 291 25	SQB4 4x M10 without indicator	1000A - 1600A	
90 291 26	SQB4 4x M10 with center indicator		and all
	120	0V <sub>DC</sub>	
50 240 34	14mm x 65mm Full Range		
50 242 34	14mm x 65mm Bolted Full Range	10A - 25A	
50 243 34	10/14 x 85mm clip mounting Full Range	1011 2011	
20 028 34	NH1XL with Flap Indicator	50A - 200A 1200VDC (L/R = 10ms)	
20 029 34	NH1XL with Flap Indicator (bolted)		
90 203 38	SQB-DC2 without indicator	250A - 315A 1200VDC (L/R = 15ms)	5
90 203 39	SQB-DC2 with center indicator	250A - 315A 1200VDC (L/R = 15ms)	E.232
90 213 38	SQB-DC2-2 without indicator	500A 620A 1200\/DC (I /D = 15ma)	nation and an
90 213 39	SQB-DC2-2 with center indicator	500A - 630A 1200VDC (L/R = 15ms)	it nije
20 243 33	NH3L without Flap Indicator Full Range		elatit sit
20 243 34	NH3L with Flap Indicator Full Rage	200A - 500A 1200VDC (L/R = 10ms)	
20 245 33	SQB3 Bladed w/o Indicator Full Range		A BELIN
20 245 34	SQB3 Bladed with Indicator Full Range	- 200A - 500A 1200VDC (L/R = 10ms)	
20 247 33	SQB3 US Blade w/o Indicator Full Range		
20 247 35	SQB3 US Blade with Indicator		2 "IFind®
20 248 33	SQB3 M12 w/o Indicator Full Range		ALS IT
20 248 35	SQB3 M12 with Indicator Full Range		
90 390 25	SQB4 2x M12 without indicator	1000A - 2000A	
90 390 26	SQB4 2x M12 with center indicator	Double body 4000A is available	
90 391 25	SQB4 4x M12 without indicator	1000A - 2000A	
90 391 26	SQB4 4x M12 with center indicator	Double body 4000A is available	

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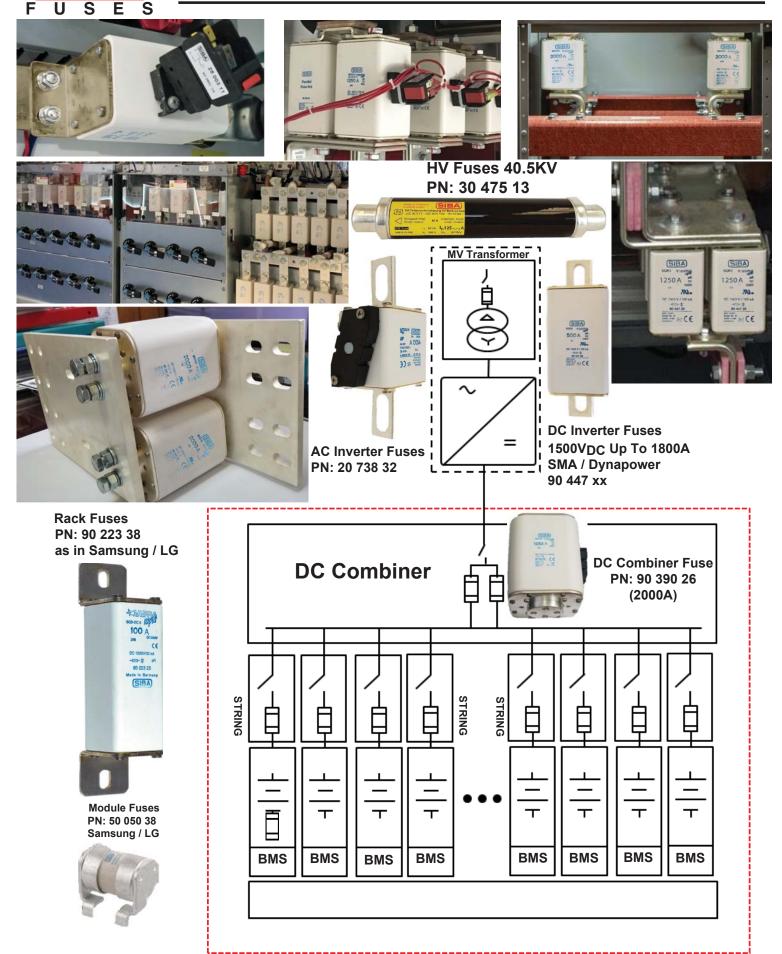
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# Energy Storage Fuses **Product Overview**

c <b>FL</b> us	SIBA Energy	/ Storage (ESS) Fuse Offeri	ng		
Article Number	Desc	ription	Image		
	1500V <sub>DC</sub>				
50 271 06	27 x 88 (SM140)	60A - 125A			
50 271 06	27 x 88 (SM110)				
90 445 26	SQB1 Bladed without Indicator	50A-200A			
90 223 38	SQB-DC0	100A - 200A			
90 203 38	SQB-DC2 without indicator	125A - 400A			
90 203 39	SQB-DC2 without indicator				
90 213 38	SQB-DC2 x2 without indicator	- 400A - 800A	nallie Grucie		
90 213 39	SQB-DC2 x 2 without indicator	10077 00077			
90 443 25	NH3L without Flap Indicator	200A-750A	alutti alt		
90 443 26	NH3L with Flap Indicator		Sector Se		
90 447 25	SQB3 Bladed US Short without Indicator	200A-750A			
90 447 27	SQB3 Bladed US Short with MS Adaptor	2007-7007			
90 448 25	SQB3 Bladed without Indicator	800A-1250A	Station .		
90 448 26	SQB3 Bladed with Indicator	000A-1250A			
90 443 38	NH3L without Flap Indicator	8004 12504			
90 443 39	NH3L with Flap Indicator	800A-1250A			
90 447 38	SQB3 Bladed US Short without Indicator	800A-1250A			
90 447 39	SQB3 Bladed US Short with MS Adaptor				
90 448 38	SQB3 Bladed without Indicator	- 800A-1250A	Sti ille		
90 448 39	SQB3 Bladed with Indicator		E		
90 449 38	SQB3 M12 without Indicator	- 800A-1250A			
90 449 39	SQB3 M12 with Indicator				
90 392 25	SQB4 2x M12 without indicator	900A - 1800A	00		
90 392 26	SQB4 2x M12 with center indicator				
90 393 25	SQB4 4x M12 without indicator	0004 40004			
90 393 26	SQB4 4x M12 with center indicator	900A - 1800A	0		

# **BA** ESS Block Diagram With SIBA ESS Fuses



# F U S E S

### Solar Fuses and Accessories **Product Overview**

rticle Number	Desc	ription	Image
		ories - Fuse Modules	
5106305.1DC	Fuse Module 10x38mm 1-Pole, 1000V <sub>DC</sub>	No blown fuse indication (30A - 4W)	11 24
5106305.1LDC		w/ Neon Lamp Indicator (30A - 4W)	· -
5106305.2DC	Fuse Module 10x38mm 2-Pole, 1000V <sub>DC</sub>	No blown fuse indication (30A - 4W)	- 10110 BEN L
5106305.2LDC		w/ Neon Lamp Indicator (30A - 4W)	and the this
5105805.1SDC	Fuse Module 14x51mm 1-Pole, 1000V <sub>DC</sub>	w/ Microswitch (50A - 6W) ssories - Fuse Base	
110000			
2118928	Fuse Base NH00 DIN80, 600V <sub>DC</sub>	For use with microswitch (200A)	20 _ 86
2119028	Fuse Base NH00 DIN80, 600V <sub>DC</sub>	With terminal covers (200A)	
2155628	Fuse Base NH1, 1000V <sub>DC</sub>	250A	
2102828	Fuse Base NH1XL, 1500V <sub>DC</sub>	250A	
2155728	Fuse Base NH2, 1000V <sub>DC</sub>	400A	- Color
2156828	Fuse Base NH3, 1000V <sub>DC</sub>	600A	
2103128	Fuse Base NH3L, 1500V <sub>DC</sub>	600A	600
5123805	Fuse base 10/14x85mm fuses1500V <sub>DC</sub>	32A	
5126005.1	Fuse Base 22x65mm 1500V <sub>DC</sub>	100A	
2800201	Microswitch For NH NH00 DIN80 SQB1-3	250Vac/5A 33Vdc/3A, 26Vdc/3A	
2800202	Microswitch For NH Combi-Indicator & NH000 DIN80 (Red Hammer) NH000 - 4	250Vac/5A 33Vdc/3A, 26Vdc/3A	2.50
2800114	Microswitch 250VAC	250Vac/10A 35Vdc/1A	and DEBIS
	Acces	ssories - Fuse Clips	
5806316	10mm, PCB mounting (clips)		
5806319	10mm, PCB mounting (clips)		
5806317	10mm, screw mounting (clips)		
6301701	Clamping plate for 58 063 17		
6301701.3	Terminal link for 58 063 17		
6100101.2	14mm, screw mounting	_	
6301701	Clamping plate for 60 001 01.2		
5805806	14mm, PCB mounting	Fuse Clips	
		Fuse Insertion-Removal Tool	<u> </u>
2200102		Standard	
	NH00 -3, 690V <sub>AC</sub>		TOTAL
2200105		w/Leather Sleeve	
2203101	NH3, 1600V <sub>AC</sub>	Standard	
2203102	NH3, 1600V <sub>AC</sub>	w/Leather Sleeve	
2212001	NH4a & NH4, 690V <sub>AC</sub>	Handle only	



### ABOUT SIBA FUSES

Our protection is your benefit. SIBA has over 75 years of history in developing a global product line which is supported by efficient worldwide offices, local technical assistance and a vast distribution network. Our products work in the background, unobtrusively protecting your personnel, equipment and your investments. Our own proprietary product developments and meticulous monitoring of our production ensure that our fuses are of the best quality. Our products come into action before any major damage can occur. Seen in this light, SIBA fuses are an important investment.

SIBA FUSES is proud to introduce our new product line of Energy Storage (ESS) fuses that features a high breaking capacity for low L/R, specifically designed to meet the stringent requirements for energy storage applications. Voltages range from 150VDC - 4200VDC +. Fuses come with a wide range of mounting options.

**EV fuses**: Automotive electrical fuses: SIBA is the world #1 in EV fuses supplying fuses for the most prestigious EV manufacturers where a SIBA fuse can be found in every new electrical vehicle.

#### SIBA - Safety through quality. Superior engineering for circuit protection.

SIBA Fuse products are designed and manufactured to a variety of major international standards such as: UL/CSA/IEC/ DIN/BS and NF. The design and manufacturing operation in Germany is DIN EN ISO 9001 and DIN EN ISO 14001.

Phone:973-575-7422 Fax:973-575-5858 Email:info@sibafuse.com SIBA LLC 29 Fairfield Place West Caldwell, NJ 07006 USA

### SOLAR, WIND & ENERGY STORAGE



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Our Protection. Your Benefit.

**ABOUT SIBA FUSES** 

**Product Overview** 



**SIBA Fuses North America**: Your number one source for all circuit protection applications. From Solar Power, Wind Power to Energy Storage Systems (ESS) and from the Batteries all the way to the Substations we are the world leaders in these applications. With globally accepted products, we are the most trusted name for your circuit protection needs. We have been working for over 75 years in Ultra-Rapid® semiconductor fuses, classes aR, gR, gRL(gS). With a wide range of DC rated fuses (24VDC - 6000VDC) for all types of applications. Our product line cover the range from miniature fuses, electronic fuses, SMD/surface mount fuses (Europe's Product of the Year) with PCB mount technology for circuit boards, high DC voltage and PC board mount, fuses for the protection of transistors, control panels 1000VAC/DC multimeter protection, branch circuit controls, alarm circuits, small motors, lighting, power transformers, and solenoids. Fuses are available in acting speeds of very fast acting, fast acting, medium time delay, and time delay speeds with UL, IEC and RoHS requirements. Mounting accessories such as axial leads, PCB mount clips, and panel mount holders are also available.

For Solar applications, Photovoltaic (PV), fuses offer the ultimate circuit protection are available up to 1500VDC PV and are UL Listed. SIBA's semiconductor fuses are the first in the world of their kind with global certifications. Ultra-Rapid fuses are utilized in Power Conversion, Thyristors, Rectifiers, UPS, Traction Applications, SCR's (Silicon Controlled Rectifiers/Semiconductor Controlled Rectifiers) Inverters, Converters, Traction Substations, DC Common Buses, Reduced Voltage Starters, Drives, both AC and DC rated. Our NEW line of "Full Range" UL DC-rated fuses are available up to 1100VDC for UL DC Drives, the first fuses in the world of this class offered exclusively by SIBA.

Medium and high voltage fuses are available with ANSI/IEEE, E-rated & IEC standard for protection of transformers, including submersibles, MCC fuses for Motor Control Centers, switchgear, compact substations, overhead fuses, mainline fusing, and capacitor filters & harmonic banks, as well as PT fuses with IEC Standards. SIBA's world class one of a kind SSK® fuses for switch disconnects which include a special thermal sensor specifically invented by SIBA for this application and are offered for both dry type and under oil usage with unique SIBA patented technology. All of our HD fuses can be used in standard switchgear for special wind and solar applications to 40.5kV and have a high I<sub>1</sub> breaking capacity.

SIBA is constantly developing new technology for various industries, and have recently introduced several new product lines, including for specialized Energy Storage System (ESS) of which SIBA is the leading developer of such fuses. Fuse applications include rack mount PCS, combiners, recombiners, Large scale inverters/rectifiers, DC-DC converters, DC chargers, fused main disconnects, flywheel, fuel cells and puled energy systems, automotive and maritime requiring heavy duty and high cyclic loading conditions. Fuses Range from 150VDC to 4200VDC-ESS, which have the highest breaking capacity and lowest L/R in the industry.

**SIBA Fuses LLC's North American Headquarters** is located in West Caldwell, NJ. We have a full time Sales and Engineering staff, who are anxious to assist with time-critical requests. Our warehouse is stocked with millions of dollars in inventory, in order to support our customers with time sensitive requirements, including same day shipments across the USA.

We're very confident you will appreciate our superior technology, product knowledge, imaginative solutions and efficiency that we offer. We would be happy for you to ask any of our customers about our exceptional technical and commercial services. Call us today at 973-575-7422 or drop us an email at <u>Info@sibafuse.com</u> for more information on our product and services.

We'd love to have you as one of our many satisfied SIBA FUSES customers.

Regards,

Abe Faraj President

