

## Safe Switch Technical Data

Technical Specifications for Enclosed & Door Interlock Safe Switch Switch-Disconnectors			Switch Types									
Data	Range	Units	LB160	LB200	LB250	LB315	LB400	LB500	LB630	LB800	LB1000	LB1250
			LBD160	LBD200	LBD250	LBD315	LBD400	LBD500	LBD630	LBD800	LBD1000	LBD1250
Rated thermal current at 50°C	Amps	A	160	200	250	315	400	500	630	800	1000	1250
Rated insulation voltage Ui	Volts	V	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated dielectric strength	Volts	kV	4	4	5	5	5	8	8	8	8	8
Rated impulse voltage Uimp	Volts	kV	8	8	8	8	8	12	12	12	12	12
Rated operational current Ie at 400V AC-22	Amps	A	160	200	250	315	400	500	630	800	1000	1250
Rated operational current Ie at 400V AC-23	Amps	A	160	160	160	315	400	500	630	630	1000	1000
Rated operational power Pe at 400V AC-23	Watts	kW	89	89	89	175	222	277	349	349	554	554
Rated breaking capacity	Amps	A	1280	1280	1280	2520	3200	4000	5000	5000	8000	8000
Rated making capacity	Amps	A	1600	1600	1600	3150	4000	5000	6300	6300	10,000	10,000
Rated short circuit making capacity (peak value) Icm	Amps	kA	13	13	13	20	20	26	26	26	60	60
Rated short-time withstand current (1 sec) rms Icw	Amps	kA	7	7	7	12	12	16	16	16	25	25
Min. no. of mechanical operations	-	Cycles	30,000	30,000	30,000	20,000	20,000	10,000	10,000	10,000	10,000	10,000
Min. no. of electrical operations @ 400V AC-23	-	Cycles	1,000	1,000	1,000	1,000	1,000	1,000	1,000	500	500	500
Terminal Capacity (rigid copper cable)	-	mm <sup>2</sup>	95	120	120	185	240	2x185	2x240	2x240	2x300	2x300
Lug bolt size	-	-	Tunnel	M10	M10	M10	M10	M10	M10	M10	M14	M14
Maximum size of busbar connection	-	mm	-	5x30	5x30	7x25	7x40	6x40	2x5x40	2x5x40	2x10x50	2x10x50

### 160-1000A Enclosed Switch-Disconnectors Accessory Selection Table

Part Number (Enclosed)	Input Terminal Shroud Sets	Output Terminal Shroud Sets	Auxiliary Contact 1N/O & 1N/C	Auxiliary Contact 2N/O & 2N/C
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### 3 Pole Switch-Disconnectors XX = either ME / SS / GP

Part Number	Input Terminal Shroud Sets	Output Terminal Shroud Sets	Auxiliary Contact	Auxiliary Contact
LB1603PNLXX	With Tunnel Terminals Shroud Sets Not Required		LBAC010	LBAC020
LB2003PNLXX	LBTS250	LBTS240		
LB2503PNLXX	LBTS020	LBTS020		
LB3153PNLXX	LBTS030	LBTS030		
LB4003PNLXX	LBTS040	LBTS040		
LB5003PNLXX	LBTS040	LBTS040		
LB6303PNLXX	LBTS040	LBTS040		
LB8003PNLXX	LBTS040	LBTS040		
LB10003PNLXX	LBTS160	LBTS160		
LB12503PNLXX	LBTS160	LBTS160		

### 3 Pole + Switched Neutral Switch-Disconnectors XX = either ME / SS / GP

Part Number	Input Terminal Shroud Sets	Output Terminal Shroud Sets	Auxiliary Contact	Auxiliary Contact
LB1603PSNXX	With Tunnel Terminals Shroud Sets Not Required		LBAC010	LBAC020
LB2003PSNXX	LBTS260	LBTS260		
LB2503PSNXX	LBTS020	LBTS020		
LB3153PSNXX	LBTS030	LBTS030		
LB4003PSNXX	LBTS040	LBTS040		
LB5003PSNXX	LBTS040	LBTS040		
LB6303PSNXX	LBTS040	LBTS040		
LB8003PSNXX	LBTS040	LBTS040		
LB10003PSNXX	LBTS160	LBTS160		
LB12503PSNXX	LBTS160	LBTS160		

### Switch-Disconnecter Dimensions (mm) XX = either ME / SS

With Neutral Link	Switched Neutral	Height (mm)	Width (mm)	Depth (mm)	Depth inc. Handle (mm)
LB1603PNLXX	LB1603PSNXX	500	400	200	245
LB2003PNLXX	LB2003PSNXX				
LB2503PNLXX	LB2503PSNXX				
LB3153PNLXX	LB3153PSNXX	800	600	200	245
LB4003PNLXX	LB4003PSNXX				
LB5003PNLXX	LB5003PSNXX				
LB6303PNLXX	LB6303PSNXX	1000	800	300	360
LB8003PNLXX	LB8003PSNXX				
LB10003PNLXX	LB10003PSNXX				
LB12503PNLXX	LB12503PSNXX	1200			

### Switch-Disconnecter Dimensions (mm) GP

With Neutral Link	Switched Neutral	Height (mm)	Width (mm)	Depth (mm)	Depth inc. Handle (mm)
LB1603PNLGP	LB1603PSNGP	500	400	210	255
LB2003PNLGP	LB2003PSNGP	600	400	210	255
LB2503PNLGP	LB2503PSNGP				
LB3153PNLGP	LB3153PSNGP	800	600	300	345
LB4003PNLGP	LB4003PSNGP				
LB5003PNLGP	LB5003PSNGP				

### 125-800A BS88 Switch Fuse Metal Enclosure Dimensions (mm)

Neutral Link & Switched Neutral	Height (mm)	Width (mm)	Depth (mm)	Depth inc. Handle	Auxiliary Contact 1N/O & 1N/C	Auxiliary Contact 2N/O & 2N/C
125A	500	400	200	245	LBAC050	LBAC060
160A	600	400	200	245	LBAC010	LBAC020
200A						
250A						
315A	800	600	300	360		
400A						
630A	1000	800	300	360		
800A						

### 125-400A BS88 Switch Fuse GP Enclosure Dimensions (mm)

Neutral Link & Switched Neutral	Height (mm)	Width (mm)	Depth (mm)	Depth inc. Handle	Auxiliary Contact 1N/O & 1N/C	Auxiliary Contact 2N/O & 2N/C
125A	500	400	210	255	LBAC050	LBAC060
160A	600	400	210	255	LBAC010	LBAC020
200A						
250A	800	600	300	360		
315A						
400A						



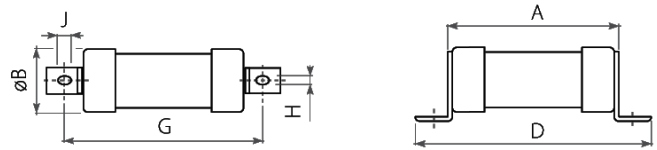
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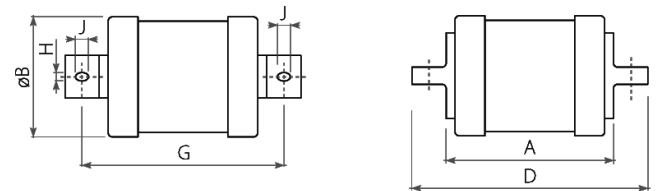
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### Maximum BS88 Fuse Sizes for LBF Safe Switch Range

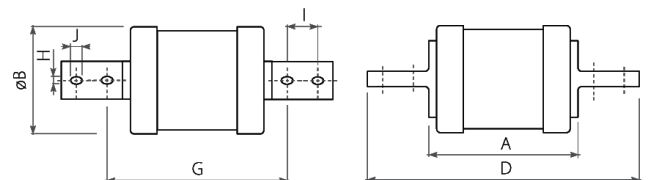
#### A2-A4 Fuse



#### B1-B4 Fuse



#### C1-C3 Fuse



Dimensions	A	øB	D	G	H	J	I
Fuse	Max	Max	Max	Nom	Nom	Min	Min
A2-A3	58	27	91	73	5,5	7	
A4	70	37	111	94	8,7	9,5	
B1	70	37	138	111	8,7	11	
B2	77	42					
B3							
B4	83	66	212	133	10,3	11	25,4
C1	83	66					
C2	85	77					
C3	89	84					

Technical Specifications for Enclosed & Door Interlock Safe Switch - Switch Fuses			Switch Types							
Data	Range	Units	LBF125	LBF160	LBF200	LBF250	LBF315	LBF400	LBF630	LBF800
			Lbfd125	Lbfd160	Lbfd200	Lbfd250	Lbfd315	Lbfd400	Lbfd630	Lbfd800
BS88 Fuse size	-	-	A2-A3	A4	B1-B2	B1-B3	B1-B3	B1-B4	C1-C2	C1-C3
Rated thermal current at 40°C	Amps	A	125	160	200	250	315	400	630	800
Rated insulation voltage Ui	Volts	V	800	800	800	1000	1000	1000	1000	1000
Rated dielectric strength	Volts	kV	6	6	6	8	8	8	8	8
Rated impulse voltage Uimp	Volts	kV	8	8	8	12	12	12	12	12
Rated operational current Ie at 400V AC-22	Amps	A	125	160	200	250	315	400	630	800
Rated operational current Ie at 400V AC-23	Amps	A	125	160	200	250	315	400	630	630
Rated operational power Pe at 400V AC-23	Watts	kW	65	90	110	132	160	220	355	355
Rated breaking capacity	Amps	A	1000	1280	1600	2000	2600	3200	5100	5100
Rated making capacity	Amps	A	1250	1600	2000	2500	3150	4000	6300	6300
Rated short circuit making current (rms) with fuses fitted	Amps	kA	50	100	100	100	100	100	100	100
Rated short circuit withstand current (rms) with fuses fitted	Amps	kA	100	100	100	100	100	100	100	100
Minimum number of mechanical operations	-	Cycles	10,000	10,000	10,000	10,000	10,000	10,000	5,000	5,000
Minimum number of electrical @ 400V AC-23	-	Cycles	1,500	1,000	1,000	1,000	1,000	1,000	1,000	500
Terminal Capacity (rigid copper cable)	-	mm <sup>2</sup>	95	120	120	240	240	240	2x185	2x240
Lug bolt size	-	-	Tunnel	M8	M8	M10	M10	M10	M12	M12
Maximum size of busbar connection	-	mm	-	5x25	5x25	6x40	6x40	6x40	2x7x50	2x7x50

125A to 800A Switch Fuse Compatibility Chart Switch								
Enclosed Switch Fuse	LBF125	LBF160	LBF200	LBF250	LBF315	LBF400	LBF630	LBF800
Door Interlocked Switch Fuse	Lbfd125	Lbfd160	Lbfd200	Lbfd250	Lbfd315	Lbfd400	Lbfd630	Lbfd800
BS88 Fuse Size Range	A2 - A3	A4	B1-B2	B1-B3	B1-B3	B1-B4	C1-C2	C1-C3
Maximum Fuse Body Diameter	27	37	42			66	77	84
Fuse Fixing Centres	73	94	111			133/188		

Fuse Type	gL/gG General			
	A3 (TIS BAO SB4)	A4 (TCP CEO SD5)	B1 (TBC AC SF4)	C1 (TKM SG7)
BTIS69V36	BTCP42V63	TBC16		TKM200
BTIS42V40	BTCP42V80	TBC20		BTKM42V250
BTIS42V50	BTCP42V100	TBC25		BTKM42V315
BTIS42V63	<b>TFP DEO SD6</b>	BTBC42V32		<b>C1 (TM EF SH8)</b>
---	BTFP42V125	BTBC42V40		BTM42V355
<b>TIS BAO OS OSD SB4</b>	BTFP42V160	BTBC42V50		BTM42V400
TIS80A		BTBC42V63		<b>C2 (TTM FF SH9)</b>
TIS100A		<b>B1 (TC CD SF5)</b>		BTTM42V500
TIS125A		BTC42V80		BTTM42V560
		BTC42V100		BTTM42V630
		<b>B2 (TF DD SF6)</b>		<b>C3 (TLM GF SH10)</b>
		BTF42V125		BTLM42V710
		BTF42V160		BTLM42V800
		BTF42V200		
		<b>B3 (TKF ED SF7)</b>		
		BTKF42V250		
		BTKF42V315		
		<b>B4 (TMF ED SF8)</b>		
		BTMF42V355		
		BTMF42V400		

Fuse Type	aM Motor Rated		
	TIA AA0 SB2 aM	TCP CEO SD5 aM	TC CD SF5 aM
BTIA42V32M40	BTCP42V100M125	BTC42V100M125	
BTIA42V32M50	BTCP42V100M160	BTC42V100M160	
BTIA42V32M63		<b>TF DD SF aM</b>	
<b>TIS BAO SB4 aM</b>		BTF42V200M250	
BTIS42V63M80		BTF42V200M315	
BTIS42V63M100			
<b>TIS OS OSD aM</b>		<b>TKF ED SF7 aM</b>	
TIS100M125		BTKF42V315M400	

Technical Specifications for Enclosed & Door Interlock Safe Switch Changeover Switches			Switch Types								
			LBC160	LBC200	LBC250	LBC315	LBC400	LBC630	LBC800	LBC1000	
Data	Range	Units	LBCD160	LBCD200	LBCD250	LBCD315	LBCD400	LBCD630	LBCD800	LBCD1000	
Rated thermal Ith current at 40°C	Amps	A	160	200	250	315	400	630	800	1000	
Rated insulation voltage Ui	Volts	V	1000	1000	1000	1000	1000	1000	1000	1000	
Rated dielectric strength	Volts	kV	4	5	5	6	6	8	8	8	
Rated impulse voltage Uimp	Volts	kV	8	8	8	8	8	12	12	12	
Rated operational current Ie at 400V AC-22	Amps	A	160	200	250	315	400	630	800	1000	
Rated operational current Ie at 400V AC-23	Amps	A	160	160	160	200	250	500	630	1000	
Rated operational power Pe at 400V AC-23	Watts	kW	89	89	89	100	125	250	315	501	
Rated breaking capacity	Amps	A	1280	1280	1280	1600	2000	4000	4000	8000	
Rated making capacity	Amps	A	1600	1600	1600	2000	2500	5000	5000	10,000	
Rated short circuit making capacity (peak value) Icm	Amps	kA	13	13	13	12	12	20	20	32	
Rated short-time withstand current (1 sec) rms Icw	Amps	kA	7	7	7	8	8	13	13	25	
Minimum number of mechanical operations	-	Cycles	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	
Minimum number of electrical operations @ 400V AC-22	-	Cycles	1,000	1,000	1,000	1,000	200	1,000	100	500	
Terminal Capacity (rigid copper cable)	-	mm <sup>2</sup>	95	120	120	240	240	2x240	2x240	2x300	
Lug bolt size	-	-	M10	M10	M10	M10	M10	M12	M12	M14	
Maximum size of busbar connection	-	mm	5x25	5x30	5x30	2x5x30	2x5x30	2x6x45	2x6x45	2x10x60	

160-1000A Changeover Switch Metal Enclosure Dimensions (mm)				
Switched Neutral	Height (mm)	Width (mm)	Depth (mm)	Depth inc. Handle (mm)
LBC1603PSNME	600	400	200	260
LBC2003PSNME				
LBC2503PSNME				
LBC3153PSNME	800	600	300	360
LBC4003PSNME				
LBC6303PSNME	1000	800	300	360
LBC8003PSNME				
LBC10003PSNME	1200			

160-400A Changeover Switch GRPC Enclosure Dimensions (mm)				
Switched Neutral	Height (mm)	Width (mm)	Depth (mm)	Depth inc. Handle (mm)
LBC1603PSNGP	600	400	210	270
LBC2003PSNGP				
LBC2503PSNGP				
LBC3153PSNGP	800	600	300	360
LBC4003PSNGP				

160-1000A Changeover Switch Accessory Selection Table XX = either ME / GP				
Part Number (Enclosed)	Input Terminal Shroud	Output Terminal Shroud	Aux. Contact 1N/O & 1N/C	Aux. Contact 2N/O & 2N/C
LBC1603PSNXX	LBTS230	LBTS230	LBAC030	LBAC040
LBC2003PSNXX	LBTS260	LBTS260		
LBC2503PSNXX				
LBC3153PSNXX	LBTS070	LBTS140	LBAC010	LBAC020
LBC4003PSNXX				
LBC6303PSNXX	LBTS100	LBTS150		
LBC8003PSNXX				
LBC10003PSNXX	LBTS130	LBTS170		

### Handle & Shaft Data for Safe Switch Range

Product Prefix	Blue & White Handle	Red & Yellow Handle	Shaft Section (mm)	L (mm)	P (mm)	S (mm)	D (mm)
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### Switch-Disconnecter Standard Handle and Shafts

Range	Amperage							
LB / LBD	160 - 250A	LBPBHW010	LBPBHW010	□ 7	177	87-197	94	45
LB / LBD	315 - 400A	LBPBHW020	LBPBHW020	□ 10	227	103-240	115	
LB / LBD	500 - 800A	LBPBHW030	LBPBHW030	□ 14	195	134-240	143	60
LB / LBD	1000 - 1250A	LBPBHW090	LBPBHW090		186	145-242	396	

### BS88 Switch Fuse Standard Handle and Shafts

LBF / LBFD	125A	LBPBHW100	LBPBHW100	□ 7	250	165-282	94	45
LBF / LBFD	160 - 200A	LBPBHW020	LBPBHW020	□ 10	227	180-292	115	
LBF / LBFD	315 - 400A	LBPBHW040	LBPBHW040	□ 14	239	216-286	176	60
LBF / LBFD	630A - 800A	LBPBHW050	LBPBHW050		186	235-286		

### Changeover Switch Standard Handle and Shafts

LBC / LBCD	160 - 250A	LBPBHW060	Not Available	□ 7	177	163-250	94	60
LBC / LBCD	315 - 400A	LBPBHW070		□ 10	227	166-293	143	69
LBC / LBCD	630 - 800A	LBPBHW080		□ 14	195	195-272	176	
LBC / LBCD	1000A	LBPBHW110			186	223-298	396	

### Extended Shaft Data for Enclosed and Door Interlocked Switch-Disconnecter BS88 Switch Fuses & Changeover Switches

Product Prefix	Extended Shaft Type 1	Shaft Section (mm)	L (mm)	P (mm)	Extended Shaft Type 2	L (mm)	P (mm)
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### Switch-Disconnecter Extended Shafts

LBD	160-250A	LBES010	□ 7	250	87-270	LBES020	387	87-407
LBD	315-400A	LBES030	□ 10	375	103-404	LBES040	536	103-565
LBD	500-800A	LBES050	□ 14	345	134-390	LBES060	535	134-580
LBD	1000A				145-401			145-591

### BS88 Switch Fuse Extended Shafts

LBFD	125A	LBES020	□ 7	387	165-419	Not Available		
LBFD	160-200A	LBES030	□ 10	375	180-440	LBES040	536	180-601
LBFD	315-400A	LBES050	□ 14	345	216-392	LBES060	535	216-582
LBFD	630A - 800A				235-445			235-635

### Changeover Switch Extended Shafts

LBCD	160-250A	LBES010	□ 7	250	163-323	LBES020	387	163-460
LBCD	315-400A	LBES030	□ 10	376	166-442	LBES040	536	166-602
LBCD	630-800A	LBES050	□ 14	345	195-422	LBES060	535	195-612
LBCD	100A				223-457			223-647

