

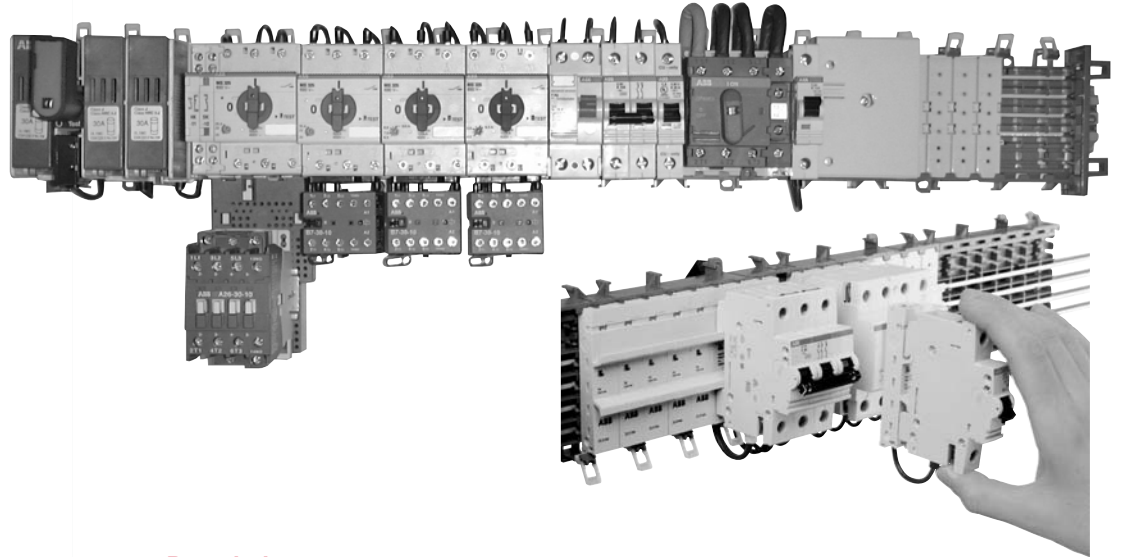
# Modular power distribution bus system

# smissline



**smissline**

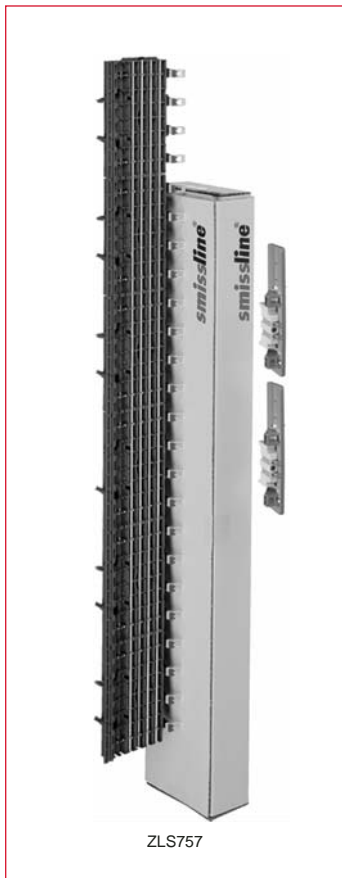
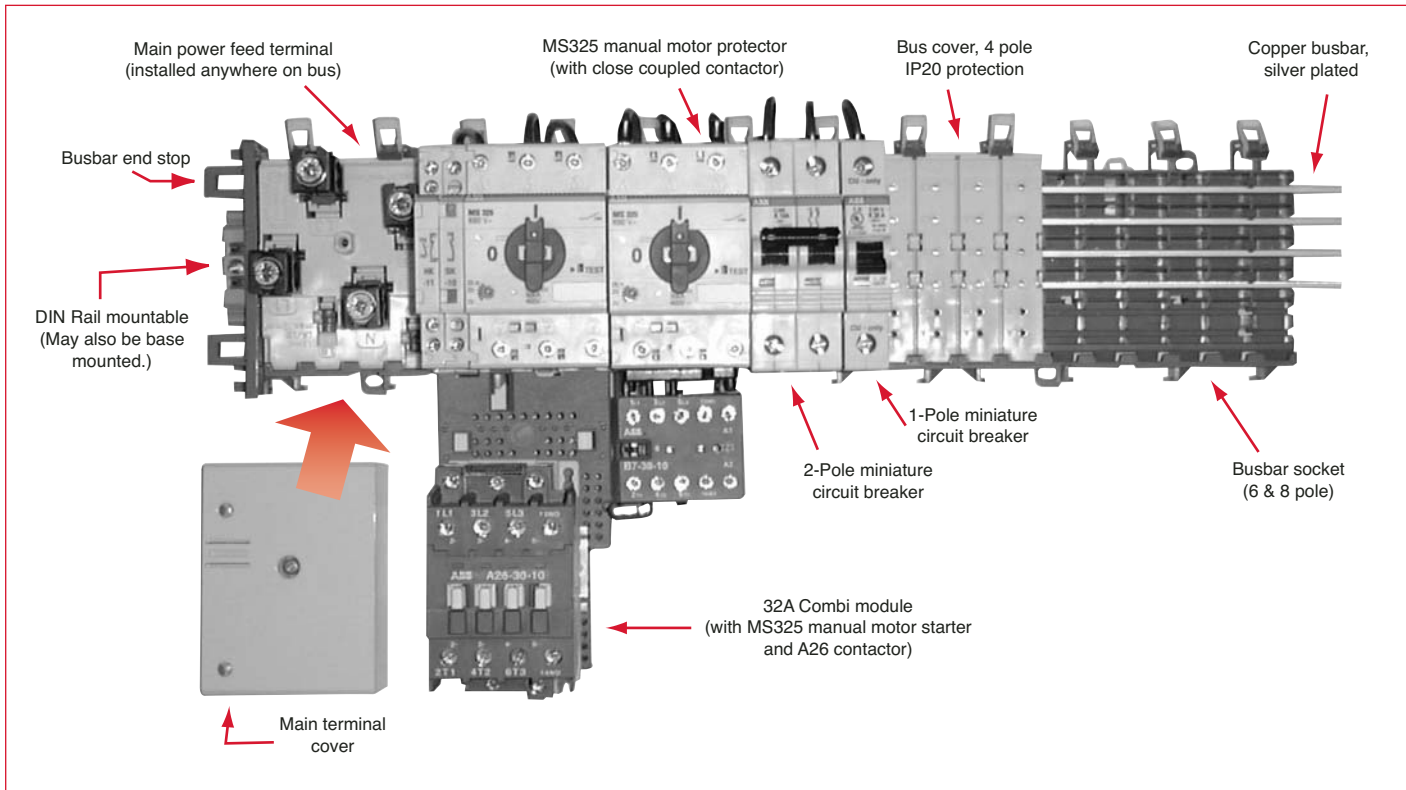
Modular power distribution bus system



## Description

- The smissline power distribution bus system provides a versatile and flexible means of distributing power to a wide variety of electrical devices. Ideal for group motor installations and ABB modular DIN rail products
- Hot swappable socket mounted components.
- Individual devices may be turned off and safely removed without turning off power to the whole bus.
- Bus system "Starter kits" available in various lengths, can also be easily cut down for custom installations.
- Busbar rated 100A when end fed and up to 200A when center fed. Main power feed terminals may be installed anywhere along the bus system.
- Individual bus stab adapters are available in L1, L2, L3 and N phase connections; they can be connected together to form multi-pole units. Unwired modules are available where bus connection is not required. 18mm width.
- Snap-on installation. No tools required to install or remove bus mounted components.
- System can be DIN rail or base mounted.
- Bus covers protect unused portions of the bus from accidental contact providing total bus isolation and IP20 finger safe protection.
- Reputable history of performance and reliability.
- UL508 Recognized, UL File No. E222110.

## Components



**Standard starter kits** — Each kit includes sockets, bus bar & end stops. Busbar is installed.

Number of modules (1 module is 0.71" or 18mm)	Assembly length (inches)	Phases	Catalog number	List price
24	17.0	3P	ZLS750	\$ 240
		3P+N	ZLS751	260
32	22.7	3P	ZLS752	290
		3P+N	ZLS753	320
40	28.4	3P	ZLS754	340
		3P+N	ZLS755	380
48	34.0	3P	ZLS756	390
		3P+N	ZLS757	430
64	45.4	3P	ZLS766	470
		3P+N	ZLS767	540
80	56.8	3P	ZLS758	590
		3P+N	ZLS759	660

**Custom starter kit configurator**

**ZLS - BSK 110 / 4**

smisline prefix

Bus starter kit

Phases

1 minimum, 4 maximum

Number of modules

6 minimum, 110 maximum

Please consult factory for price and availability. Sockets will come assembled with bus bars installed and end stops included.

# Components



## Sockets

Number of Modules	Length (inches)	Catalog number	List price
8	5.7	ZLS808	<b>\$ 30</b>
6	4.3	ZLS806	<b>28</b>

## Bus bar — 100A for L1, L2 L3, neutral and ground

	Length (inches)	Catalog number	List price
Cut to desired length	78.7	ZLS200	<b>\$ 95</b>

## End stops

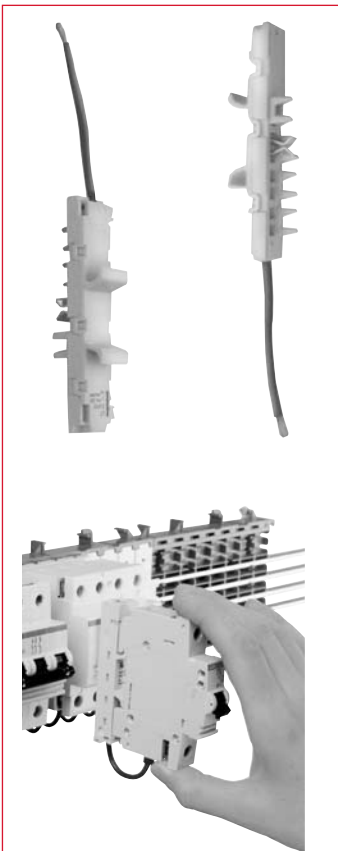
	Catalog number	List price
Left and right included	ZLS730	<b>\$ 30</b>

## Main power feed terminals

Width in modules	End feed (A)	Center feed (A)	Phases	Wire range AWG	Catalog number	List price
4	100	150	3P 3P+N	10-1/0	ZLS225	<b>\$ 110</b>
					ZLS224	<b>120</b>
2	100	200	N	8-4/0	ZLS250	<b>60</b>
			L1		ZLS251	
			L2		ZLS252	
			L3		ZLS253	





## Main power feed bus stab adaptor

Width in modules	End feed (A)	Center feed (A)	Phases	Catalog number	List price
4	100	100	3P	ZLS240	<b>\$ 110</b>
4	100	100	3P+N	ZLS241	<b>120</b>



Bus stab adapter being installed

## Bus stab adapters

	Current rating (A)	Phase	Catalog number	List price
<b>Top clip top fed</b> 	32	N	ZLS160	\$ 20
		L1	ZLS161	20
		L2	ZLS162	20
		L3	ZLS163	20
		L1, L2, L3	ZLS183TT	60
		L1, L2, L3	ZLS183TT	60
<b>Top clip bottom fed</b> 	32	N	ZLS176	20
		L1	ZLS177	20
		L2	ZLS178	20
		L3	ZLS179	20
		L1, L2, L3	ZLS183TB	60
		L1, L2, L3	ZLS183TB	60
<b>Bottom clip top fed</b> 	32	N	ZLS176	20
		L1	ZLS177	20
		L2	ZLS178	20
		L3	ZLS179	20
		L1, L2, L3	ZLS183BT	60
		L1, L2, L3	ZLS183BT	60
<b>Bottom clip bottom fed</b> 	32	N	ZLS160	20
		L1	ZLS161	20
		L2	ZLS162	20
		L3	ZLS163	20
		L1, L2, L3	ZLS183	60
		L1, L2, L3	ZLS183	60
	63	N	ZLS170	30
		L1	ZLS171	30
		L2	ZLS172	30
		L3	ZLS173	30
		L1, L2, L3	ZLS189TT	90
		L1, L2, L3	ZLS189TT	90
	—	Unwired	ZLS164	13
	—	Unwired	ZLS164	13
	—	Unwired	ZLS164	13
	—	Unwired	ZLS164	13

For connecting DIN rail accessories to busbar, single pole modules are 18mm wide. Each module is provided with wire pig tail for connection to mounted component.

## Multi-pole bus stab adapter connectors

Quantity	Catalog number	List price
1 bag	ZLS174	\$ 10

Connection pieces are used to join individual bus stab adapters into any multi-pole configuration desired (L1-L2, L1-N, L1-L2-L3, etc.). Each bag contains enough pieces to make 25 connections. For example, 25 2-pole bus stab adapters or 12 3-pole bus stab adapters.



Bus stab adapters and connectors

# Components



ZLS100



ZLS101



ZLS722



ZLS239

## Bus covers

	Quantity	Catalog number	List price
	5 pack	ZLS100	\$ 25

Covers unused portions of the busbar to protect from physical contact. Supplied as a 4-module unit, separable into 1-module units by snapping it apart.

## Bus cover DIN rail extensions

	Quantity	Catalog number	List price
	10 pack	ZLS101	\$ 20

Snaps on to ZLS100 and provides 18mm wide mounting position for any DIN rail mounted device.

## Bus covers — High profile

Width in modules	Quantity	Catalog number	List price
1 module	5 pack	ZLS722	\$ 30

## Bus divider

Width in modules	Quantity	Catalog number	List price
1 module	1	ZLS239	\$ 10

Allows a single smissline assembly to be divided into two isolated busbar systems.

## Components

### Neutral and ground



#### Neutral and ground sockets

Number of modules	Length (inches)	Catalog number	List price
8	5.7	ZLS811	<b>\$ 17</b>
6	4.3	ZLS810	<b>15</b>

Use ZLS200, 100A busbar from page 20.5.

#### Neutral terminals

Width in modules	Wire range		Catalog number	List price
	AWG	mm <sup>2</sup>		
1/2	14 - 8	10	ZLS812	<b>\$ 22</b>
1	10 - 1	50	ZLS813	<b>40</b>
2	8 - 3/0	95	ZLS254	<b>60</b>

#### Ground terminals

Width in modules	Wire range		Catalog number	List price
	AWG	mm <sup>2</sup>		
1/2	14 - 8	10	ZLS815	<b>\$ 22</b>
1	10 - 1	50	ZLS816	<b>40</b>
2	8 - 3/0	95	ZLS255	<b>60</b>

#### Neutral and ground bus covers

Description	Width in modules	Quantity	Catalog number	List price
With DIN rail top	1	10 pack	ZLS832	<b>\$ 25</b>
Flat top	8		ZLS833	<b>50</b>

#### Labels

Description	Quantity	Catalog number	List price
Self-adhesive, 6 x 17mm Paper (protective cover required) Cover	Sheet of 420	ZLS825	<b>\$ 90</b>
	Sheet of 160	ZLS821	<b>12</b>
	Bag of 100	ZLS820	<b>100</b>

## Applications with other ABB products

smisline



MS325-1.0

For more information on manual motor protectors, see Section 5.

### Manual motor protectors — Type MS325

Thermal setting range (Amps)	Single-phase horsepower ratings ①		3-phase horsepower ratings			Catalog number	List price
	120V	240V	240V	480V	600V		
0.10 – 0.16	—	—	—	—	—	MS325-0.16	<b>\$ 144</b>
0.16 – 0.25	—	—	—	—	—	MS325-0.25	
0.25 – 0.40	—	—	—	—	—	MS325-0.40	
0.40 – 0.63	—	—	—	—	—	MS325-0.63	
0.63 – 1.0	—	—	—	1/2	1/2	MS325-1.0	<b>165</b>
1.0 – 1.6	—	1/10	—	3/4	3/4	MS325-1.6	
1.6 – 2.5	—	1/6	1/2	1	1.5	MS325-2.5	
2.5 – 4.0	1/8	1/3	1	2	3	MS325-4.0	
4.0 – 6.3	1/4	1/2	1.5	3	5	MS325-6.3	
6.3 – 9.0	1/3	1	2.5	5	7.5	MS325-9.0	
9.0 – 12.5	1/2	2	3	7.5	10	MS325-12.5	
12.5 – 16	1	2.5	5	10	10	MS325-16	
16 – 20	1.5	3	5	10	15	MS325-20	<b>211.50</b>
20 – 25	2	3	7.5	15	20	MS325-25	<b>223.50</b>

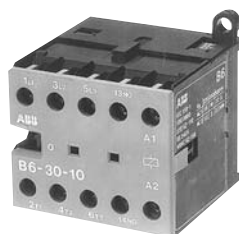
NOTE: Use Discount schedule MA

### Manual motor protector/contactor close coupling adapters

Device	Catalog number	List price
MS325 + B6/B7 contactor MS325 + VB6/VB7 reversing contactor	MS325-B7 MS325-VB7	<b>\$ 9</b>
MS325 + B6/B7 contactor MS325 + A9, A12, A16 contactor MS325 + A26 contactor	BEA7/325 BEA16/325 BEA26/325	<b>12</b> <b>13.50</b> <b>15</b>

NOTE: Use Discount schedule MA

### Miniature contactors — Non-reversing with screw connections



B6C-1

General purpose AC1	Maximum motor FLA AC3	3 Phase motor horsepower				Single phase		Number of power poles	Auxiliary contacts	Catalog number	List price
		208V	230V	460V	600V	120V	230V				
<b>AC operated</b>											
12	6.8	1	2	3	1	1/2	1	3 3 4	1 N.O. 1 N.C. —	B6C-★ B6C-★01 B6C4P-★	<b>\$ 51</b>
16	9.6	2	3	5	5	1	2	3 3 4	1 N.O. 1 N.C. —	B7C-★ B7C-★01 B7C4P-★	<b>72</b>
<b>DC operated</b>											
12	6.8	1	2	3	1	1/2	1	3 3	1 N.O. 1 N.C.	BC6C-★ BC6C-★01	<b>57</b>
16	9.6	2	3	5	5	1	2	3 3	1 N.O. 1 N.C.	BC7C-★ BC7C-★01	<b>78</b>

NOTE: Use Discount schedule AA

### Mechanically interlocked with screw connections



VB6M-1

General purpose AC1	Maximum motor FLA AC3	3 Phase motor horsepower				Single phase		Number of power poles	Auxiliary contacts	Catalog number	List price
		208V	230V	460V	600V	120V	230V				
<b>AC operated</b>											
12	6.8	1	2	3	1	1/2	1	3	1 N.O. 1 N.C.	VB6M-★ VB6M-★01	<b>\$ 104</b>
16	9.6	2	3	5	5	1	2	3	1 N.O. 1 N.C.	VB7M-★ VB7M-★01	<b>143</b>
<b>DC operated</b>											
12	6.8	1	2	3	1	1/2	1	3	1 N.O. 1 N.C.	VBC6M-★ VBC6M-★01	<b>105</b>
16	9.6	2	3	5	5	1	2	3	1 N.O. 1 N.C.	VBC7M-★ VBC7M-★01	<b>156</b>

NOTE: Use Discount schedule AA

### Coil voltage selection

★ Coil voltage suffix. Refer to Coil Voltage Selection Chart and substitute the desired coil voltage suffix for the ★.

### Coil voltage selection chart

	Volts								
	12	24	42	48	110/125	110/120	220	220/240	380/415
AC 40-450 Hz		F	L	G		1		2	M
DC	U	Y	V	W	P		R		

For more information on miniature controls, see Section 4



## Applications with other ABB products

### A9 - A26, AC operated A-Line contactors



General purpose current	UL motor switching current	Maximum motor horsepower ratings				Standard Aux. contacts		Non-reversing		Mechanically interlocked		Reversing	
		208V	240V	480V	575/600V	NO	NC	Catalog number	List price	Catalog number	List price	Catalog number	List price
AC1		<b>UL rated</b>											
21	9	2	2	5	7.5	1 0	0 1	A9-30-10-84 A9-30-01-84	<b>\$ 78</b>	A9M-30-10-84 A9M-30-01-84	<b>\$ 255</b>	A9R-30-10-84 A9R-30-01-84	<b>\$ 315</b>
25	11	3	3	7.5	10	1 0	0 1	A12-30-10-84 A12-30-01-84	<b>84</b>	A12M-30-10-84 A12M-30-01-84	<b>315</b>	A12R-30-10-84 A12R-30-01-84	<b>375</b>
30	17	5	5	10	15	1 0	0 1	A16-30-10-84 A16-30-01-84	<b>102</b>	A16M-30-10-84 A16M-30-01-84	<b>345</b>	A16R-30-10-84 A16R-30-01-84	<b>413</b>
40	28	7.5	10	20	25	1 0	0 1	A26-30-10-84 A26-30-01-84	<b>183</b>	A26M-30-10-84 A26M-30-01-84	<b>405</b>	A26R-30-10-84 A26R-30-01-8	<b>480</b>

#### Coil voltage selection

All AC operated catalog numbers include a 120VAC coil. To select other coil voltages, substitute the code from the Coil Voltage Selection Chart for the two digits after the last dash in the catalog number.

Ex.: A 240V coil is required for an A75 contactor: A75-30-11-80

#### Auxiliary contact blocks

For additional auxiliary contact blocks, see catalog number explanation on page 1.2. Add \$ 20 to list price for each additional auxiliary, and see page 1.18 for available combinations. Only side-mounted blocks are allowed to be factory installed. If auxiliary contacts are not required for A50 - A300, subtract \$ 40 from list price and change catalog number to "00" instead of "11."

#### Mechanical interlock

Mechanically interlocked contactors are designed for reversing, 2 speed, reduced voltage, etc. type starter applications. The complete assembly consists of two mechanically and electrically interlocked contactors mounted as follows with line and load terminals:

- A9 - A16 — mounted on 35mm DIN rail
- A26 - A300 — mounted on common baseplate

Power wiring is not included. The NC electrical interlock is provided with the mechanical interlock for A9 - A110 contactors.

#### Coil voltage selection chart

Hz	Cntr type	Volts															
		12	24	48	110	120	125	208	220	240	277	380	415	440	480	500	600
60	A		81	83	84	84		34	36	80	42		86	86	51	53	55
50	A		81	83	84					80			85	86			55

For other voltages, see page 1.26.

#### Reversing

Reversing contactors are designed for reversing type starter applications. The complete assembly consists of two mechanically and electrically interlocked contactors mounted as follows with line and load terminals:

- A9 - A16 — mounted on 35mm DIN rail
- A26 - A300 — mounted on common baseplate

The NC electrical interlock is provided with the mechanical interlock for A9 - A110 contactors.

For more information on  
across the line contactors  
see Section 1.



## Applications with other ABB products

### Pro M Miniature circuit breakers

smisline



S271-K10, 1 pole



S272-K10, 2 pole



S273-K10, 3 pole

For more information on Pro M miniature circuit breakers see Section 14.

Rated current (A)	1-Pole		2-Pole		3-pole	
	Catalog number	List price	Catalog number	List price	Catalog number	List price

#### K — 8 - 12 times magnetic trip threshold (S270)

0.5	S271-K0.5	\$ 42	S272-K0.5	\$ 96	S273-K0.5	\$ 138
1	S271-K1	42	S272-K1	96	S273-K1	138
1.6	S271-K1.6	42	S272-K1.6	96	S273-K1.6	138
2	S271-K2	42	S272-K2	96	S273-K2	138
3	S271-K3	42	S272-K3	96	S273-K3	138
4	S271-K4	42	S272-K4	96	S273-K4	138
5	S271-KS5 ①	42	S272-KS5 ①	96	S273-KS5 ①	138
6	S271-K6	42	S272-K6	96	S273-K6	138
8	S271-K8	42	S272-K8	96	S273-K8	138
10	S271-K10	42	S272-K10	96	S273-K10	138
13	S271-K13	42	S272-K13	96	S273-K13	138
15	S271-KS15 ①	42	S272-KS15 ①	96	S273-KS15 ①	138
16	S271-K16	42	S272-K16	96	S273-K16	138
20	S271-K20	42	S272-K20	96	S273-K20	138
25	S271-K25	46	S272-K25	106	S273-K25	156
30	S271-KS30 ①	48	S272-KS30 ①	106	S273-KS30 ①	158
32	S271-K32	48	S272-K32	106	S273-K32	158
40	S271-K40	52	S272-K40	116	S273-K40	174
50	S271-K50	60	S272-K50	136	S273-K50	200
60	S271-KS60 ①	68	S272-KS60 ①	152	S273-KS60 ①	228
63	S271-K63	68	S272-K63	152	S273-K63	228

#### B — 3 - 5 times magnetic trip threshold (S260)

6	S261-B6	\$ 36	S262-B6	\$ 78	S263-B6	\$ 118
10	S261-B10	36	S262-B10	78	S263-B10	118
13	S261-B13	36	S262-B13	78	S263-B13	118
16	S261-B16	36	S262-B16	78	S263-B16	118
20	S261-B20	38	S262-B20	86	S263-B20	130
25	S261-B25	38	S262-B25	88	S263-B25	132
32	S261-B32	40	S262-B32	94	S263-B32	142
40	S261-B40	42	S262-B40	98	S263-B40	148
50	S261-B50	48	S262-B50	112	S263-B50	170
63	S261-B63	56	S262-B63	128	S263-B63	194

#### C — 5 - 10 times magnetic trip threshold (S260)

0.5	S261-C0.5	\$ 42	S262-C0.5	\$ 96	S263-C0.5	\$ 138
1	S261-C1	42	S262-C1	96	S263-C1	138
1.6	S261-C1.6	42	S262-C1.6	96	S263-C1.6	138
2	S261-C2	42	S262-C2	96	S263-C2	138
3	S261-C3	42	S262-C3	96	S263-C3	138
4	S261-C4	42	S262-C4	96	S263-C4	138
6	S261-C6	42	S262-C6	96	S263-C6	138
8	S261-C8	42	S262-C8	96	S263-C8	138
10	S261-C10	42	S262-C10	96	S263-C10	138
13	S261-C13	42	S262-C13	96	S263-C13	138
16	S261-C16	42	S262-C16	96	S263-C16	138
20	S261-C20	42	S262-C20	96	S263-C20	138
25	S261-C25	46	S262-C25	106	S263-C25	156
32	S261-C32	48	S262-C32	106	S263-C32	158
40	S261-C40	52	S262-C40	116	S263-C40	174
50	S261-C50	60	S262-C50	136	S263-C50	200
63	S261-C63	68	S262-C63	152	S263-C63	228

① KS is for standard U.S. size.



## Applications with other ABB products

### Pro M Miniature circuit breakers



S261-D0.5, 1 pole



S262-D1, 2 pole



S263-D63, 3 pole

For more information on Pro M miniature circuit breakers see Section 14.

Rated current (A)	1-Pole		2-Pole		3-pole	
	Catalog number	List price	Catalog number	List price	Catalog number	List price

#### D — 10 - 20 times magnetic trip threshold (S260)

0.5	S261-D0.5	\$ 42	S262-D0.5	96	S263-D0.5	\$ 138
1	S261-D1	42	S262-D1	96	S263-D1	138
1.6	S261-D1.6	42	S262-D1.6	96	S263-D1.6	138
2	S261-D2	42	S262-D2	96	S263-D2	138
3	S261-D3	42	S262-D3	96	S263-D3	138
4	S261-D4	42	S262-D4	96	S263-D4	138
6	S261-D6	42	S262-D6	96	S263-D6	138
8	S261-D8	42	S262-D8	96	S263-D8	138
10	S261-D10	42	S262-D10	96	S263-D10	138
13	S261-D13	42	S262-D13	96	S263-D13	138
16	S261-D16	42	S262-D16	96	S263-D16	138
20	S261-D20	42	S262-D20	96	S263-D20	138
25	S261-D25	46	S262-D25	106	S263-D25	156
32	S261-D32	48	S262-D32	106	S263-D32	158
40	S261-D40	52	S262-D40	116	S263-D40	174
50	S261-D50	60	S262-D50	136	S263-D50	200
63	S261-D63	68	S262-D63	152	S263-D63	228

#### Z — 2 - 3 times magnetic trip threshold (S280)

0.5	S281-Z0.5	\$ 70	S282-Z0.5	\$ 162	S283-Z0.5	\$ 244
1	S281-Z1	70	S282-Z1	162	S283-Z1	244
1.6	S281-Z1.6	70	S282-Z1.6	162	S283-Z1.6	244
2	S281-Z2	70	S282-Z2	162	S283-Z2	244
3	S281-Z3	70	S282-Z3	162	S283-Z3	244
4	S281-Z4	70	S282-Z4	162	S283-Z4	244
6	S281-Z6	70	S282-Z6	162	S283-Z6	244
8	S281-Z8	70	S282-Z8	162	S283-Z8	244
10	S281-Z10	70	S282-Z10	162	S283-Z10	244
16	S281-Z16	70	S282-Z16	162	S283-Z16	244
20	S281-Z20	70	S282-Z20	162	S283-Z20	244
25	S281-Z25	70	S282-Z25	184	S283-Z25	248
32	S281-Z32	74	S282-Z32	170	S283-Z32	254
40	S281-Z40	78	S282-Z40	176	S283-Z40	266
50	S281-Z50	88	S282-Z50	206	S283-Z50	306
63	S281-Z63	100	S282-Z63	232	S283-Z63	344

# Technical data

## Approximate dimensions

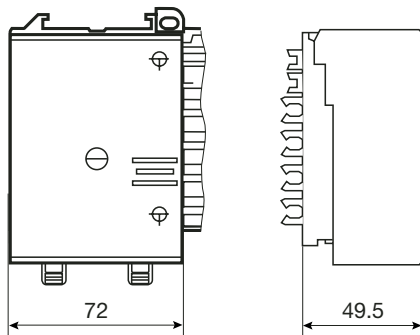


### Technical data

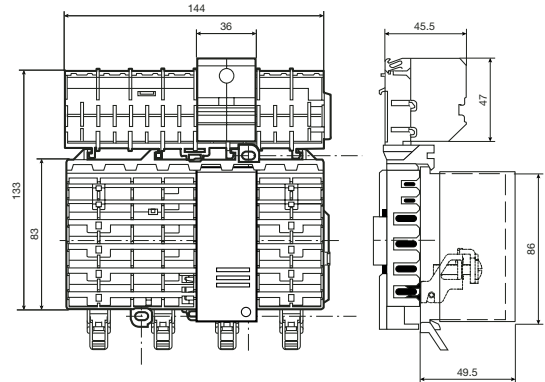
Item		Description
Rated voltage	VAC	600
Rated current	A	100 (end feed); up to 200A (center feed)
Short circuit rating	KAIC	50 when protected by 150A fuse
Approval		UL508 Recognized component
Power feed terminals wire range	AWG	10-1/0 & 8-3/0

### Approximate dimensions

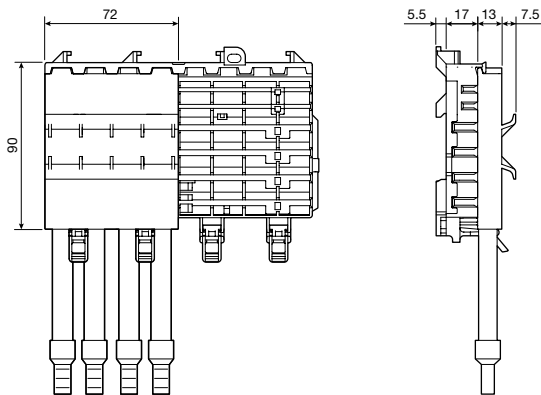
#### ZLS224 – Main power feed terminal



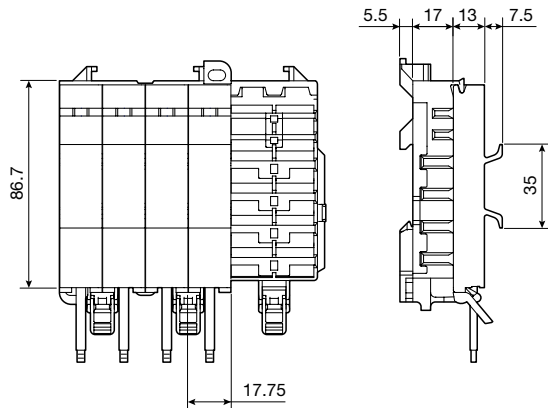
#### Incoming terminal components



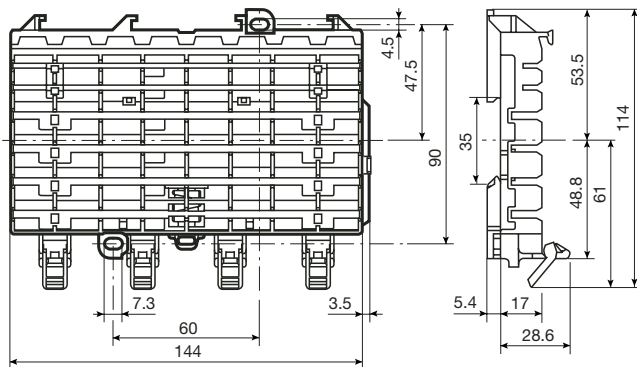
#### Adapter for non-smisline devices, 100A



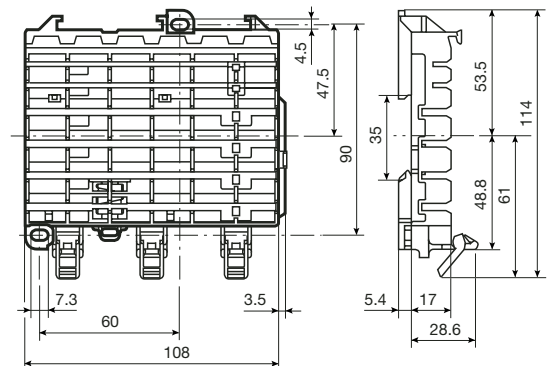
#### Adapter for foreign devices, 30A, 60A



#### ZLS808 – Socket base

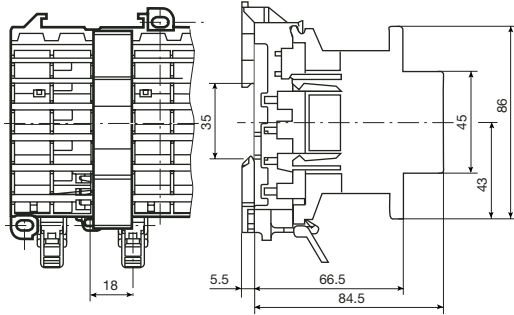


#### ZLS806 – Socket base

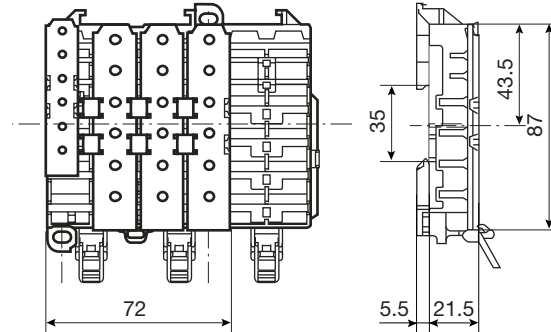


## Approximate dimensions

**ZLS239 – Busbar isolator**



**ZLS100 – Bus bar cover**



**ZLS101 – Extension adapter**

