

Load break switching
Motorised changeover switches





Motorised changeover switches from 250 to 3200 A

A wide selection of remote on load transfer switches covering a wide range from 250 to 3200 A, with the option of combine with a modular transfer controller for automatic changeover operation.

Functions

The 56MAC series motorised changeover switches are three-phase with neutral power transfer units, enabled with remote control and positive break indication.

They perform the load switching of 2 power supplies via potential-free contacts with incoming signal from an external automatism, using a logic of impulses or of maintained contacts. They contain watchdog relays to verify product availability and auxiliary contacts to inform about the switch position.

According to standards:

- IEC 60947-3
- IEC 60947-6-1

General characteristics

- Wide range of currents (250 - 3200 A) in 5 compact sizes.
- Emergency manual operation.
- Lockable (by padlock) for maintenance
- Usage categories AC-22/AC-23 and AC-31/33B.
- Modular controller for automatic transfer. Module for double supply.
- Multiple accessories for installation and safety enhancement.

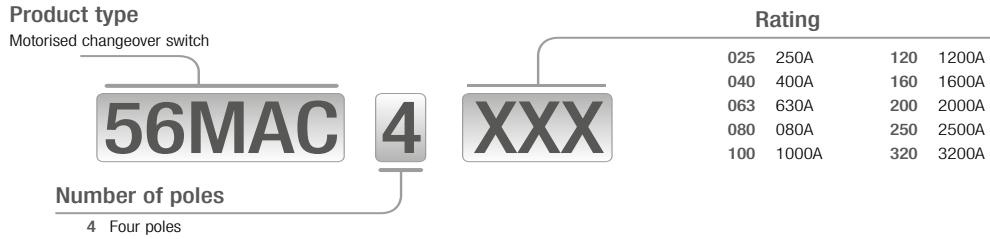
Applications

The 56MAC switches can be used for load transfers between two sources in industrial plants or commercial applications.

Design

The entire product selection is based on a system of back to back switch blocks with mechanical interlocking. The motor block is easy to replace, even under on load conditions. The contacts are of the double break per pole type, with stable positions not affected by voltage fluctuations or vibrations. The device can be operated locally by emergency handle. A manual/automatic mode selector allows you to easily and intuitively set the mode of operation. A wide variety of accessories allows for easy adaptation to all types of applications.

Reference system



Technical characteristics

		Size B4		Size B5	Size B6
		250A	400A	630A	800A
Thermal rating	Ith A	250	400	630	800
Insulating voltage	Ui (V)	1000	1000	1000	1000
Impulse voltage	Uimp (kV)	12	12	12	12
Operating ratings	A				
AC23A/B - 500 VAC		250/250	400/400	630/630	800/800
AC31B - 415 VAC		250	400	630	800
DC23A - 440VDC (devices 4P - 2 poles in series per polarity)		250/250	400/400	630/630	800/800
AC33B - 415 VAC		200	200	400	400
Prospective shortcircuit current	(kA rms)	50	100	70	50
Rated short-time withstand current 1s	Icw (kA)	10	13	13	35
Minimum Cu cable cross-section	mm ²	95	185	2x105	2x185
Minimum Cu busbar cross-section	mm ²	-	-	2x30x5	2x40x5
Maximum Cu cable cross-section	mm ²	150	240	2x300	2x300
Maximum Cu busbar width	mm ²	32	40	50	63
Min/max tightening torque	Nm	20/-	20/-	20/-	40/45
Min/max motor power supply		166/332	166/332	166/332	166/332

		Size B6		Size B7	Size B8		
		1000A	1250A	1600A	2000A	2500A	3200A
Thermal rating	Ith A	1000	1250	1600	2000	2500	3200
Insulating voltage	Ui (V)	1000	1000	1000	1000	1000	1000
Impulse voltage	Uimp (kV)	12	12	12	12	12	12
Operating ratings	A	1000/1000	1250/1250				
AC23A/B - 500 VAC		1000/1000	1250/1250	1600/1600	2000/2000	2500/2500	3200/3200
AC31B - 415 VAC		1000	1250	1600	2000	2500	3200
DC23A - 440VDC (devices 4P - 2 poles in series per polarity)		1000	1250	1600	2000	2500	3200
AC33B - 415 VAC		800	1000	1000	1250	1250	1250
Prospective shortcircuit current	(kA rms)	100	100				
Rated short-time withstand current 1s	Icw (kA)	35	35				
Minimum Cu cable cross-section	mm ²	2x240	-	-	-	-	-
Minimum Cu busbar cross-section	mm ²	2x50x5	2x60x5	3x100x5	3x100x5	4x100x5	4x100x5
Maximum Cu cable cross-section	mm ²	4x185	4x185	6x185	-	-	-
Maximum Cu busbar width	mm ²	63	100	100	100	100	100
Min/max tightening torque	Nm	40/45	40/45	40/45	40/45	40/-	40/-
Min/max motor power supply		166/332	166/332	166/332	166/332	166/332	166/332

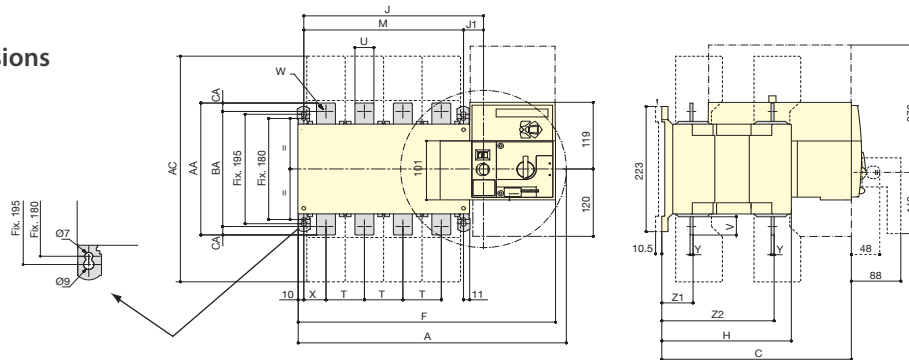
References and dimensions



Size B4 and B5

References	Rating	Weight (kg)	Size	Connection
56MAC4025	250A	7,4	B4	
56MAC4040	400A	7,8	B4	
56MAC4063	630A	14	B5	

Dimensions



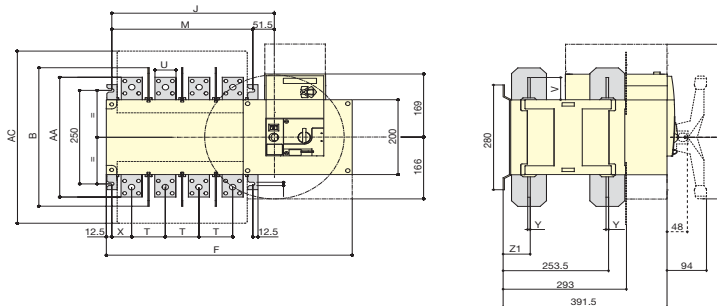
	Exterior		Terminal shrouds	Switch body				Mounting	Connection										
	A4P	C	AC	F4P	H	J4P	J1	M4P	T	U	V	W	X4P	Y	Z1	Z2	AA	BA	CA
250	395	244	288	378	152	245	35	210	50	25	30	11	33	3,5	39,5	133,5	160	130	15
400	395	244	288	378	152	245	35	210	50	35	35	11	33	3,5	39,5	133,5	170	140	15
630	454	320,5	402	437	221	304	34	270	65	45	50	13	37,5	5	53	190	260	220	20



Size B6 and B7

References	Rating	Weight (kg)	Size	Connection
56MAC4080 ①	800A	32,2	B6	
56MAC4100 ①	1000A	32,9	B6	
56MAC4120 ②	1250A	33,6	B6	
56MAC4160 ③	1600A	39,4	B7	

Dimensions



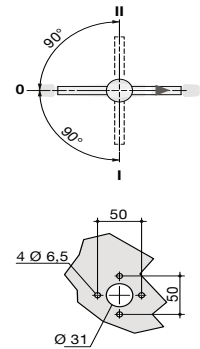
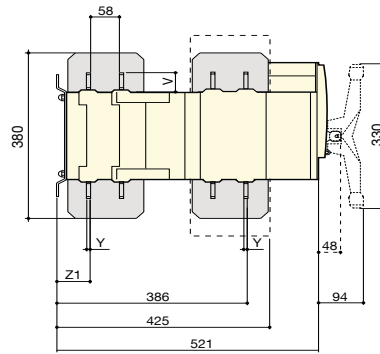
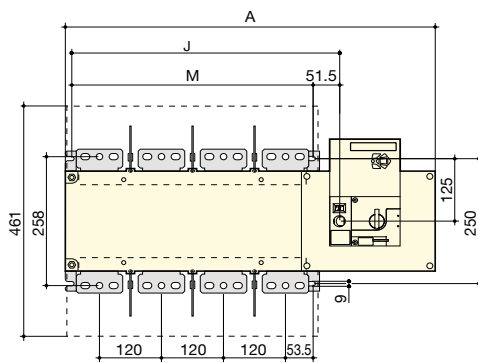
	Exterior	Terminal shrouds	Switch body		Mounting	Connection						
	B	AC	F 4P	J 4P	M 4P	T	U	V	X	Y	Z1	AA
800-1000	370	461	584	386,5	335	80	50	60,5	47,5	7	66,5	321
1250	370	461	584	386,5	335	80	60	65	47,5	7	66,5	330
1600	380	531	716	518,5	467	120	90	44	53	8	67,5	288



Size B8

References	Rating	Weight (kg)	Size	Connection
56MAC4200	2000A	61,6	B8	
56MAC4250	2500A	61,6	B8	
56MAC4320	3200A	75,3	B8	

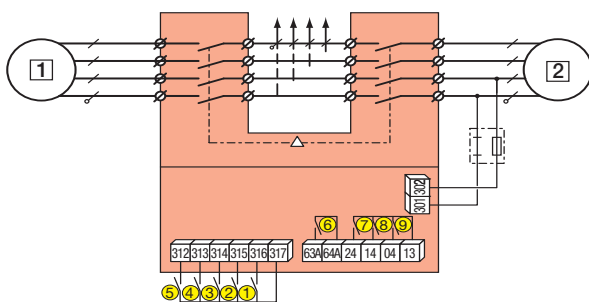
Dimensions



	Terminal shrouds	Switch body		Mounting	Connection			
	AC	A4P	J4P	M4P	V	Y	Z1	AA
2000 ... 3200	531	716	519	467	44	8	67,5	288

CONNECTION

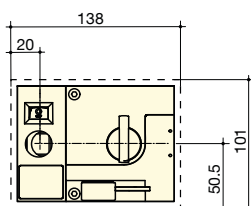
Terminal connections for 56MAC changeover switches



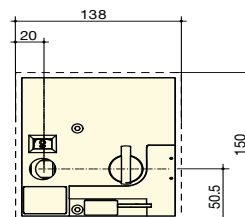
- 1 Primary source
- 2 Backup source
- 1. Position 0 control
- 2. Position I control
- 3. Position II control
- 4. Primary control position 0
- 5. Closing this contact allows position control commands.
- 6. Product availability relay
- 7. Auxiliary contact - closed when the switch is in position II
- 8. Auxiliary contact - closed when the switch is in position I
- 9. Auxiliary contact - closed when the switch is in position 0

DOOR CUTOUT

from 250 to 630 A / B4 to B5



from 800 to 1600 A / B6 to B7



Accessories scheme

Switch type	Bridging bars	Terminal shrouds	Protection screens	Double supply module	Modular controller
250 A / B4	1P S041 0025	4P S07 4B4 ⁽¹⁾	4P S06 4B4C	DPS	CM30
400 A / B5	1P S041 0040		4P S06 4B5C		
630 A / B5	1P S041 0063	4P S06 4B6C	4P S06 4B7C		
800 A / B6	1P S041 0080				
1000 A / B6	1P S041 0120	from origin	from origin		
1250 A / B7	1P S041 0160				
1600 A / B7	(see table)	from origin	from origin		
1800 A / B7					
2000 A / B8					
2500 A / B8	(see table)	from origin	from origin		
3200 A / B8					

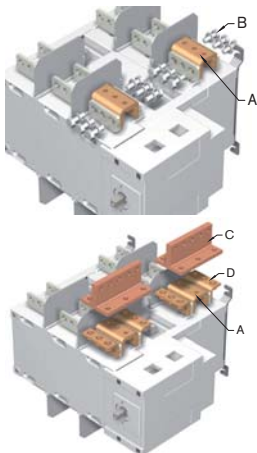
⁽¹⁾Supplied with 1 auxiliary contact NO for each position.

Accessories



Bridging bars

References	Rating	Poles
S0410025	250A	1P
S0410040	400A	
S0410063	630A	
S0410080	800 a 1000A	
S0410120	1250A	
S0410160	1600A	



Bridging bars

References	Rating	Poles	Part	Description
S04A1200	2000 a 2500A	2P	A	Connection bar
S04B1200		2P	B	Bolt kit 35 mm
S04C1200		2P	C	T bar + Bolt kit
S04D1200		2P	D	Bracket +bolt kit
de origen	3200A	2P	A	Connection bar
S04B1200		2P	B	Bolt kit 35 mm
S04C1200			C	T bar + Bolt kit
S04D1200			D	Bracket +bolt kit

Accessories



Terminal shrouds

References	Rating	Position
S074B4	250 a 400A	Top or bottom
S074B5	630A	Top or bottom



Protection screens

References	Rating	Position
S064B4C	250 a 400A	Top or bottom
S064B5C	630A	Top or bottom
S064B6C	800 a 1250A	Top or bottom
S064B7C	1600A	Top or bottom



Double supply module

References	Scheme	Characteristics															
DPS		<p>Internal protection: each input is fuse protected (3,15A). Connection on terminals: max. 6mm². Modular device: 4 module width.</p> <table border="1"> <thead> <tr> <th>Input 1</th> <th>Input 2</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>230 VAC</td> <td>0 VAC</td> <td>230 VAC (input 1)</td> </tr> <tr> <td>0 VAC</td> <td>230 VAC</td> <td>230 VAC (input 2)</td> </tr> <tr> <td>230 VAC</td> <td>230 VAC</td> <td>230 VAC (input 1)</td> </tr> <tr> <td>0 VAC</td> <td>0 VAC</td> <td>0 VAC</td> </tr> </tbody> </table>	Input 1	Input 2	Output	230 VAC	0 VAC	230 VAC (input 1)	0 VAC	230 VAC	230 VAC (input 2)	230 VAC	230 VAC	230 VAC (input 1)	0 VAC	0 VAC	0 VAC
Input 1	Input 2	Output															
230 VAC	0 VAC	230 VAC (input 1)															
0 VAC	230 VAC	230 VAC (input 2)															
230 VAC	230 VAC	230 VAC (input 1)															
0 VAC	0 VAC	0 VAC															



Modular controller

References	Scheme	Characteristics
CM30		<p>Inputs for auxiliary contact position information. 3U measurement on network 1 and 1U on network 2. 2 programmable inputs for the following functions: test on/off load, manual retransfer, start/stop transfer cycle. Up to 2 programmable outputs for the following functions: source availability information and circuit breaker control. 1 relay output for genset control.</p>

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