



# MCOS

Motorised changeover switch  
from 125 to 1600 A

Changeover  
switches



cos\_003\_b

## The solution for

> AMF panel



## Strong points

- > Factory fitted auxiliary contacts
- > Stable positions
- > Large connection capabilities for aluminium connection

## Conformity to standards

> IS/IEC 60947-3



## Function

The **SOCOMEK Motorized Changeover Switch** is a motor operated 4 Pole changeover switch. It provides safe changeover giving two stable position I & II and help in changeover from one supply source to another remotely. In case of control supply failure, emergency handle arrangement is provided for manual operation of switch in "OFF" position or selecting the supply.

## General Characteristics

- 3 stable positions, mechanically interlocked (I 0 II)
- Optional overlapping contacts (I, I+II, II)
- High performance on load switching (AC-22 and AC-23)
- Fully apparent position through indicator
- Dry contact electrical position control
- Manual Emergency operation
- Locking feature available in all 3 positions
- Large Power control supply range: 230V +/- 15%

## Operations

"I"

Circuit I close and circuit II open (transformer supply "ON" and generator supply "OFF").

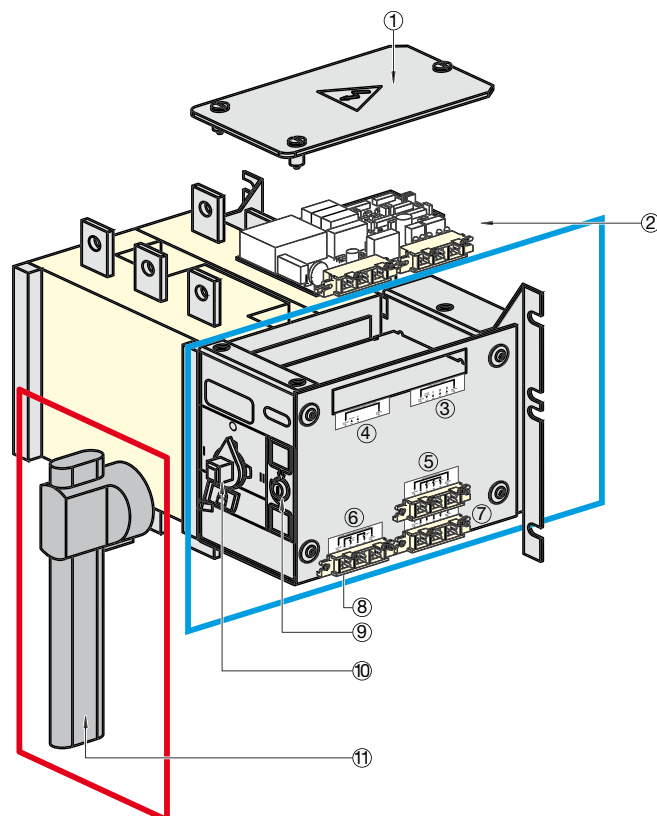
"II"

Circuit I open circuit II close ( generator supply "ON" and transformer supply "OFF").

"0"

Circuits I & II open. This position can only be achieved through manual operation and ensure a safe maintenance of the installation.

## Functional diagram



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## Characteristics

### 125 to 400 A

Reference	MCOS from 125 to 400 A				
	GMC01254POI	GMC02004POI	GMC02504POI	GMC03204POI	GMC04004POI
<b>Thermal current (I<sub>th</sub>) 40¼ C</b>	<b>125 A</b>	<b>200 A</b>	<b>250 A</b>	<b>320 A</b>	<b>400 A</b>
Max normal rating of fuses	125	200	250	315	400
Insulation voltage U <sub>i</sub> (V)	1000	1000	1000	1000	1000
Dielectric strength (V) 50 Hz 1 mn.	5000	5000	5000	5000	8000
Impulse voltage (kV)	6	6	8	8	12
<b>Rated operational current I<sub>e</sub>(A)</b>					
415 VAC-AC 23 A	125	200	250	320	400
500 VAC-AC 23 A	100	160	200	250	315
260 VDC-DC 21 A	125	200	250	320	400
260 VDC-DC 22 A	125	200	250	320	400
260 VDC-DC 23 A	125	160	200	250	400
440 VDC-DC 21 A	125	200	250	320	400
440 VDC-DC 22 A	125	160	200	250	400
440 VDC-DC 23 A	125	160	200	250	400
<b>Motor power (KW) 415V</b>					
415 V without pre-break auxiliary contact	63	80	132	160	200
500 V without pre-break auxiliary contact	63	63	140	220	220
690 V without pre-break auxiliary contact	55	55	90	150	150
415 V with pre-break auxiliary contact	63	80	132	160	220
500 V with pre-break auxiliary contact	80	80	160	220	280
690 V with pre-break auxiliary contact	110	110	110	220	220
Motor reactive 415 VAC (kVAR)	55	60	100	125	150
<b>Protection</b>					
Short-circuit current fuses (kA rms)	80	80	80	80	80
Fuse rating	125	200	250	315	400
Peak short-circuit making capacity (kA rms)	20	20	30	45	45
Admissible short time current 1 s. (kA rms)	7	7	9	13	13
<b>Making &amp; breaking charecteristics</b>					
Breaking capacity (A rms) 415 VAC pf-0.35	1000	1600	2000	2520	3200
Making capacity (A rms) 415 VAC pf-0.35	1250	2000	2500	3150	4000
<b>Endurance</b>					
Mechanical No. of operations	8000	8000	8000	5000	5000
Electrical No. of operations	1000	1000	1000	1000	1000
Operating force (Nm)	9.5	9.5	11	11	17
<b>Connection</b>					
Min Cu cable/bus bar size (mm <sup>2</sup> )	50	95	120	185	30 x 5 x 2
Min Al cable/bus bar size (mm <sup>2</sup> )	70	150	185	240	32 x 8 x 2

## Accessories

### Handle

Rating (A)	Reference
125...630	44990001GI
800...1600	44990002GI



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### Bridging bars

Rating (A)	Reference
125	41094013M-SA
200	41094020M-SA
250...320	41094032M-SA
400	41094040M-SA
630	41094063M-SA
800	41094080-SA
1000	41094100-SA
1250	41094120-SA
1600	41094160-SA



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### Phase barrier

Rating (A)	Type	Reference
800...1600	Small	G89B136GI
	Big	G89B143GI



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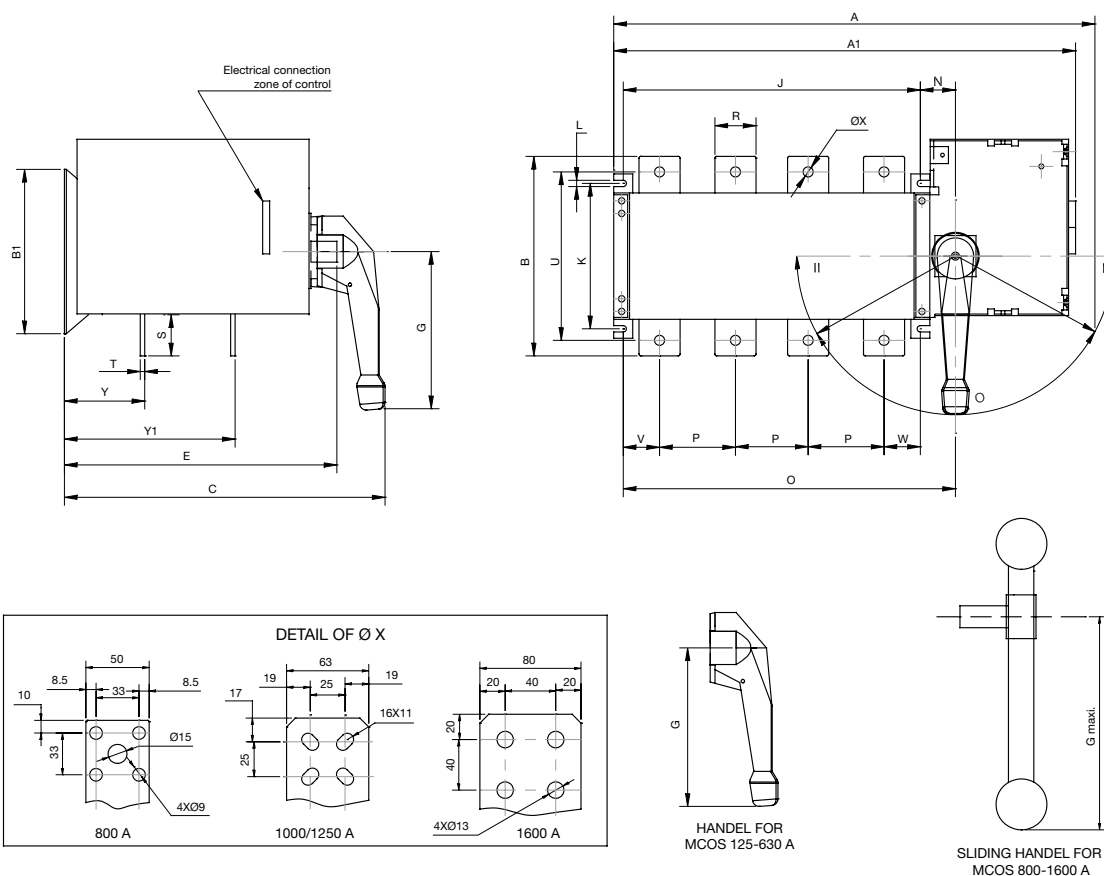
## Characteristics (continued)

630 to 1600 A

Reference	MCOS from 630 to 1600 A				
	GMC06304POI	GMC08004POI	GMC10004POI	GMC12504POI	GMC16004POI
<b>Thermal Current (I<sub>th</sub>) 40°C</b>	<b>630 A</b>	<b>800 A</b>	<b>1000 A</b>	<b>1250 A</b>	<b>1600 A</b>
Max normal rating of fuses	630	800	1000	1250	1250
Insulation voltage U <sub>i</sub> (V)	1000	1000	1000	1000	1000
Dielectric strength(V) 50Hz 1mn.	8000	8000	8000	10000	10000
Impulse voltage (kV)	12	12	12	12	12
<b>Rated Operational Current I<sub>e</sub>(A)</b>					
415 VAC-AC 23 A	630	800	1000	1000	1000
500 VAC-AC 23 A	315	630	1000	1000	1000
260 VDC-DC 21 A	630	800	1000	1250	1600
260 VDC-DC 22 A	500	800	1000	1250	1250
260 VDC-DC 23 A	500	800	1000	1250	1250
440 VDC-DC 21A	500	630	1000	1250	1600
440 VDC-DC 22 A	500	800	1000	1250	1250
440 VDC-DC 23 A	500	800	1000	1000	1000
<b>Motor Power (KW) 415V</b>					
415 V without pre-break auxiliary contact	220	450	560	560	560
500 V without pre-break auxiliary contact	220	450	560	560	710
690 V without pre-break auxiliary contact	150	185	400	400	475
415 V with pre-break auxiliary contact	355	450	560	710	710
500 V with pre-break auxiliary contact	355	550	710	710	900
690 V with pre-break auxiliary contact	295	475	600	600	750
Motor Reactive 415 VAC (kVAR)	2 x125	2 x150	3 x150	4 x125	5x150
<b>Overload Capacity</b>					
Short-circuit current fuses (kA rms)	80	80	80	80	80
Fuse rating	630	800	1000	1250	2 x800
Peak short-circuit making capacity (kA rms)	45	55	105	105	110
Admissible short time current 1 s. (kA rms)	13	26	50	50	50
<b>Making &amp; Breaking Characteristics</b>					
Breaking capacity (Arms) 415 VAC pf=0.35	5040	6400	8000	8000	8000
Making capacity (Arms) 415 VAC pf=0.35	6300	8000	10000	10000	10000
<b>Endurance</b>					
Mechanical No. of operations	5000	4000	4000	4000	3000
Electrical No. of operations	1000	500	500	500	500
Operating force (Nm)	17	40	40	40	40
<b>Connection</b>					
Min Cu cable/Bus bar size (mm)	40x5x2	50x5x2	60x5x2	80x5x2	100x5x2
Min Al cable/Bus bar size (mm)	40x8x2	50x8x2	50x10x2	63x12x2	100x8x2

### Dimensions (mm)

125 to 1600 A



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Rating (A)	Overall Dimensions											Connection Terminals										
	A	A1	B	B1	C	E	G	J	K	L	N	O	P	R	S	T	U	V	W	ØX	Y	Y1
4x125	402	320	135	115	263	220	212	159	95	7	30	181	36	20	25	3.5	115	20.5	22.5	9	80	146
4x200	402	320	145	115	263	220	212	159	95	7	30	181	36	20	30	4.0	115	20.5	22.5	11	80	146
4x250	462	380	160	130	285	233	212	212	111	7	30	241	50	25	30	3.5	130	27.5	33.5	11	80	156
4x320	462	380	160	130	285	233	212	212	111	7	30	241	50	25	30	3.5	130	27.5	33.5	11	80	157
4x400	538	455	235	200	325	270	212	271	180	9	45	316	65	32	38	5.0	205	38	38	11	80	190
4x630	538	455	260	200	325	270	212	271	180	9	45	316	65	40	50	6.0	220	38	38	13	80	190
4x800	820	525	320	250	395	338	420	340	220	11	51	391	80	50	60	6.0	253	48	48	x	108	252
4x1000	955	658	330	250	395	336	420	474	220	11	51	525	120	63	65	6.0	265	47	61	x	108	252
4x1250	955	658	330	250	395	336	420	474	220	11	51	525	120	63	65	7.0	265	47	61	x	108	252
4x1600	955	658	362	250	395	333	420	474	220	11	51	525	120	80	80	15.0	282	46	61	x	112	256