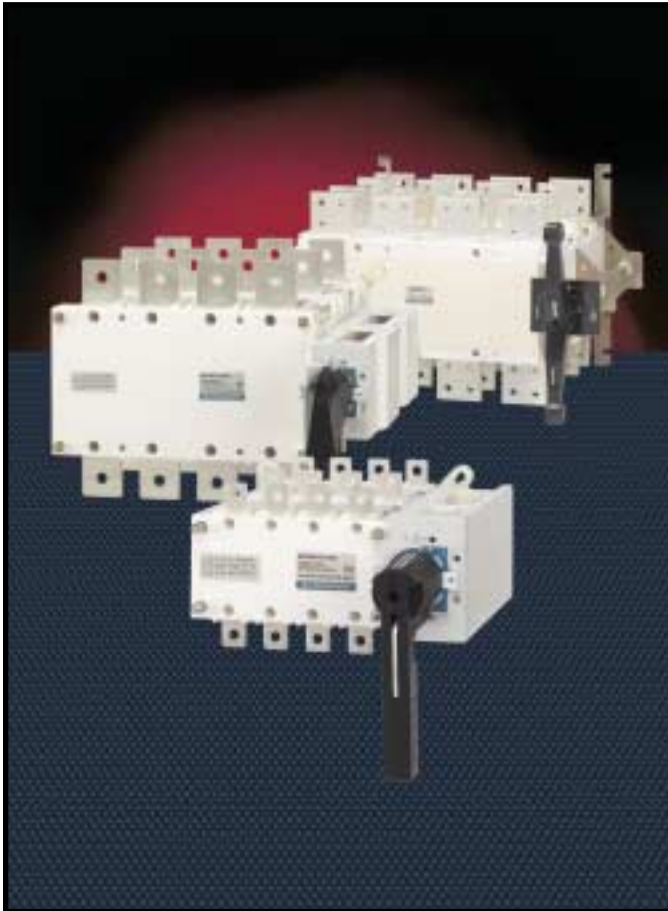


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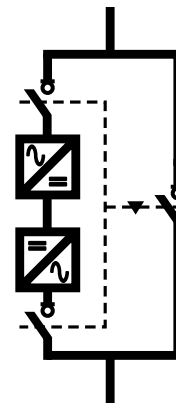
SIRCOVER BY-PASS MANUALLY OPERATED BY-PASS CHANGEOVER SWITCHES



SIRCOVER BY-PASS are manually operated multipolar changeover switches.

They are a combination of three interlocked switches for use with 3+6 poles or 4+8 poles. They insulate by providing simultaneous safety isolation upstream and downstream and by passing loads or low voltage circuits mainly during maintenance operations.

Application: UPS, SPEED VARIATOR



HIGHLIGHTS:

- Fully visualized breaking
- 3 stable positions (I-0-II) or on request overlapping contacts (I-I+II-II)

APPLICATIONS:

- Circuit by-pass

Ratings

- 125, 160, 200, 250, 400, 630, 800, 1250 and 1600 amperes

Approvals

- IEC 60947-3
- NF EN 60947-3
- VDE 0660 Teil 107 (1992)
- NBN EN 60947-3
- BS EN 60947-3

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SIRCOVER BY-PASS MANUALLY OPERATED BY-PASS CHANGEOVER SWITCHES

SIRCOVER BY-PASS RANGE: Changeover Switches from 125 to 1600 Amperes



SELECT A SWITCH

AMPERE RATING

CD 125A	CD 160A	CD 200A
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SIRCOVER FOR I-0-II OPERATION

CATALOG NUMBER: 3+6 POLE

CATALOG NUMBER: 4+8 POLE

4100 7013	4100 7016	4100 7019
4100 9013	4100 9016	4100 9019

EXTERNAL OPERATION



SELECT A HANDLE

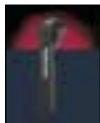
TO SUIT SWITCH	PADLOCK POSITION	IP RATING	COLOR	CATALOG NUMBER		
I-0-II By-pass	0	IP54	Black	4199 5032	4199 5032	4199 5032
I-0-II By-pass	0	IP65	Black	4199 5036	4199 5036	4199 5036
I-0-II By-pass	I-0-II	IP54	Black	4199 5015	4199 5015	4199 5015
I-0-II By-pass	I-0-II	IP65	Black	4199 5016	4199 5016	4199 5016



SELECT A SHAFT

SHAFT LENGTH (inches/mm)	CATALOG NUMBER		
7.9/200	3999 3004	3999 3004	3999 3004
12.6/320	3999 3013	3999 3013	3999 3013

DIRECT OPERATION



SELECT A HANDLE

TO SUIT SWITCH	PADLOCK POSITION	IP RATING	COLOR	CATALOG NUMBER		
I-0-II By-pass	I-0-II	—	Black	4199 5012	4199 5012	4199 5012



OPTIONS FOR I-0-II BY-PASS CHANGEOVER SWITCHES

		CATALOG NUMBER		
3-pole Terminal Shrouds Kit (IP20)	Line + load shroud side / front terminals	4194 3013	4194 3013	4194 3013
4-pole Terminal Shrouds Kit (IP20)	Line + load shroud side / front terminals	4194 4013	4194 4013	4194 4013
Bridging bars	For 1 pole ⁽¹⁾	4109 0019	4109 0019	4109 0019
Auxiliary contacts	1st NO.NC per position, 16A	4109 0021	4109 0021	4109 0021
	2nd NO.NC ⁽²⁾ per position, 16A	4109 0021	4109 0021	4109 0021



Note: Door interlocking feature in ON position for external front operation
 Overlapping by-pass changeover switches available, please consult us
 For any specific interlocking device (Ronis, Castell, Kirck), please consult us
 (1) One bridging bar required per pole
 (2) Mounted on the first aux. contact (part 4109 0021)

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SIRCOVER BY-PASS MANUALLY OPERATED BY-PASS CHANGEOVER SWITCHES



SELECT A SWITCH

AMPERE RATING

CD 250A	CD 400A	CD 630A
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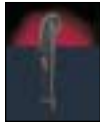
SIRCOVER FOR I-0-II OPERATION

CATALOG NUMBER: 3+6 POLE

CATALOG NUMBER: 4+8 POLE

4100 7025	4100 7039	4100 7063
4100 9025	4100 9039	4100 9063

EXTERNAL OPERATION



SELECT A HANDLE

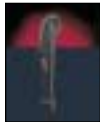
TO SUIT SWITCH	PADLOCK POSITION	IP RATING	COLOR	CATALOG NUMBER		
I-0-II By-pass	I-0-II	IP54	Black	4494 5125	4494 5125	4494 5125
I-0-II By-pass	I-0-II	IP65	Black	Consult us	Consult us	Consult us



SELECT A SHAFT

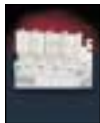
SHAFT LENGTH (inches/mm)	CATALOG NUMBER		
7.9/200	2799 3015	2799 3015	2799 3015
17.7/450	2799 3019	2799 3019	2799 3019

DIRECT OPERATION



SELECT A HANDLE

TO SUIT SWITCH	PADLOCK POSITION	IP RATING	COLOR	CATALOG NUMBER		
I-0-II By-pass	I-0-II	—	Black	2799 7052	2799 7052	2799 7052



OPTIONS FOR I-0-II BY-PASS CHANGEOVER SWITCHES		CATALOG NUMBER		
3-pole Terminal Shrouds Kit (IP20)	Line + load shroud side / front terminals	4194 3025	4194 3025	4194 3025
4-pole Terminal Shrouds Kit (IP20)	Line + load shroud side / front terminals	4194 4025	4194 4025	4194 4025
Bridging bars	For 1 pole ⁽¹⁾	4109 0025	4109 0039	4109 0063
Auxiliary contacts	1st NO.NC per position, 16A	4109 0021	4109 0021	4109 0021
	2nd NO.NC ⁽²⁾ per position, 16A	4109 0021	4109 0021	4109 0021

Note: Door interlocking feature in ON position for external front operation
 Overlapping by-pass changeover switches available, please consult us
 For any specific interlocking device (Ronis, Castell, Kirck), please consult us

- (1) One bridging bar required per pole
- (2) Mounted on the first aux. contact (part 4109 0021)

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SIRCOVER BY-PASS MANUALLY OPERATED BY-PASS CHANGEOVER SWITCHES



SELECT A SWITCH

AMPERE RATING

CD 800A	CD 1250A	1600A
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SIRCOVER FOR I-0-II OPERATION

CATALOG NUMBER: 3+6 POLE

CATALOG NUMBER: 4+8 POLE

4100 7080	4100 7120	4200 7160
4100 9080	4100 9120	4200 9160

EXTERNAL OPERATION



SELECT A HANDLE

TO SUIT SWITCH	PADLOCK POSITION	IP RATING	COLOR	CATALOG NUMBER		
I-0-II By-pass	I-0-II	IP65	Black	4199 7146	4199 7146	4199 7146



SELECT A SHAFT

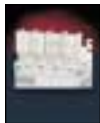
SHAFT LENGTH (inches/mm)	CATALOG NUMBER		
7.9/200	2799 3015	2799 3015	2799 3015
17.7/450	2799 3019	2799 3019	2799 3019

DIRECT OPERATION



SELECT A HANDLE

TO SUIT SWITCH	PADLOCK POSITION	IP RATING	COLOR	CATALOG NUMBER		
I-0-II By-pass	I-0-II	—	Black	2799 7012	2799 7012	2799 7012



OPTIONS FOR I-0-II BY-PASS CHANGEOVER SWITCHES

		CATALOG NUMBER		
3-pole Terminal Screen	Line + load shroud side / front terminals	2998 3080	2998 3080	2998 3120
4-pole Terminal Screen	Line + load shroud side / front terminals	2998 4080	2998 4080	2998 4120
Bridging bars	For 1 pole ⁽¹⁾	4109 0080	4109 0120	4409 0160
Auxiliary contacts	1st NO.NC per position, 16A	4109 0021	4109 0021	4409 0021
	2nd NO.NC ⁽²⁾ per position, 16A	4109 0021	4109 0021	4409 0022



Note: Door interlocking feature in ON position for external front operation

Overlapping by-pass changeover switches available, please consult us

For any specific interlocking device (Ronis, Castell, Kirck), please consult us

(1) One bridging bar required per pole

(2) Mounted on the first aux. contact (part 4109 0021 or 4409 0021)

SIRCOVER BY-PASS

MANUALLY OPERATED BY-PASS CHANGEOVER SWITCHES FROM 125 TO 1600 A

IEC 947-3 ELECTRICAL & MECHANICAL CHARACTERISTICS

Rating (Thermal current Ith at 40°C)	CD 125A	CD 160A	CD 200A	CD 250A	CD 400A	CD 630A
Rated insulation voltage Ui (V)	800	800	800	800	800	1000
Rated impulse withstand voltage Uimp (kV)	8	8	8	8	8	12
Dielectric strength (V) 50 Hz 1 min	5000	5000	5000	5000	5000	8000
Rated operational current Ie (A)⁽¹⁾	A/B	A/B	A/B	A/B	A/B	A/B
400 V AC AC 21A / AC 21B	125/125	160/160	200/200	250/250	400/400	630/630
AC 22A / AC 22B	125/125	160/160	200/200	250/250	400/400	630/630
AC 23A / AC 23B	125/125	160/160	160/160	250/250	250/250	500/500
690 V AC ⁽²⁾ AC 20A / AC 20B	125/125	160/160	200/200	250/250	400/400	630/630
AC 21A / AC 21B	125/125	160/160	160/160	200/250	200/250	500/500
AC 22A / AC 22B	125/125	125/125	125/125	125/160	125/160	315/315
AC 23A / AC 23B	63/80	63/80	63/80	100/125	100/125	160/200
220 V DC DC 20A / DC 20B	125/125	160/160	200/200	250/250	400/400	630/630
DC 21A / DC 21B	125/125	160/160	160/160	250/250	250/250	630/630
DC 22A / DC 22B	125/125	160/160	160/160	250/250	250/250	500/500
DC 23A / DC 23B	125/125	125/125	125/125	200/200	200/200	500/500
440 V DC DC 20A / DC 20B	125/125	160/160	200/200	250/250	400/400	630/630
DC 21A / DC 21B	125/125	125/125	125/125	200/200	200/200	500/500
DC 22A / DC 22B	125/125	125/125	125/125	200/200	200/200	500/500
DC 23A / DC 23B	125 ⁽³⁾ /80	125 ⁽³⁾ /125 ⁽³⁾	125 ⁽³⁾ /125 ⁽³⁾	200 ⁽³⁾ /200 ⁽³⁾	200 ⁽³⁾ /200 ⁽³⁾	500 ⁽³⁾ /500 ⁽³⁾
Motor Power (kW)⁽¹⁾	A/B	A/B	A/B	A/B	A/B	A/B
400 V AC without pre break auxiliary contact: AC 23	63/63	80/80	80/80	132/132	132/132	280/280
690 V AC without pre break auxiliary contact: AC 23	55/75	55/75	55/75	90/110	90/110	150/185
Overload capacity						
Fuse-protected short circuit withstand (kA rms prospective) with gG DIN fuse ⁽⁴⁾	100	100	50	50	18	70
Rating of DIN gG fuse (A)	125	160	200	250	400	630
Cut-off current (kA peak)	18	18	18	23	23	45
Rated short-time withstand current Icw (kA rms 1s)	7	7	7	9	9	13
Making & Breaking capacity characteristics (A rms)						
Breaking capacity: 400V AC 23A	1000	1280	1280	2000	2000	4000
Making capacity: 400V AC 23A	1250	1600	1600	2500	2500	5000
Rated short-circuit making capacity Icm (kA peak prospective)	11.9	11.9	11.9	15.3	15.3	26
Mechanical durability (number of operations)	10 000	10 000	10 000	10 000	10 000	5 000
Operating torque (Nm)	13	13	14	20	20	29
Connection (copper)						
Minimum section at Ith (mm ²) (Cu cables)	35	50	50	95	185	2 x 150
Maximum section (mm ²) (cables)	50	95	95	150	240	2 x 300
Minimum section at Ith (mm ²) (Cu busbar)						2 x 30 x 5
Maximum width (mm) (busbar)	25	25	25	32	32	50
Minimum tightening torque (Nm)	9	9	9	20	20	20
Weight (kg)						
3-pole switch	1.5	1.6	1.8	2.0	3.0	3.5
4-pole switch	1.6	1.7	1.9	2.1	3.5	4.0

(1) "A" indication=frequent operations

"B" indication=infrequent operations

(2) With terminal shrouds or separation shield between terminals

(3) 4 pole changeover switch with 2 poles in series per polarity

(4) For a rated operating voltage Ue=400 V AC

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SIRCOVER BY-PASS MANUALLY OPERATED BY-PASS CHANGEOVER SWITCHES FROM 125 TO 1600 A

IEC 947-3 ELECTRICAL & MECHANICAL CHARACTERISTICS

Rating (Thermal current I _{th} at 40°C)	CD 800A	CD 1250A	1600A
Rated insulation voltage U _i (V)	1000	1000	1000
Rated impulse withstand voltage U _{imp} (kV)	12	12	12
Dielectric strength (V) 50 Hz 1 min	—	—	10000
Rated operational current I_e (A)⁽¹⁾	A/B	A/B	A/B
400 V AC AC 21A / AC 21B	800/800	1250/1250	1600/1600
AC 22A / AC 22B	800/800	1250/1250	1250/1250
AC 23A / AC 23B	800/800	1250/1250	1000/1000
690 V AC ⁽²⁾ AC 20A / AC 20B	800/800	1250/1250	1600/1600
AC 21A / AC 21B	800/800	—	1600/1600
AC 22A / AC 22B	800/800	—	800/800
AC 23A / AC 23B	—	—	500/500
220 V DC DC 20A / DC 20B	800/800	1250/1250	1600/1600
DC 21A / DC 21B	800/800	1250/1250	1600/1600
DC 22A / DC 22B	800/800	1250/1250	1250/1250
DC 23A / DC 23B	800/800	1250 ⁽³⁾ /1250 ⁽³⁾	1250 ⁽³⁾ /1250 ⁽³⁾
440 V DC DC 20A / DC 20B	800/800	1250/1250	1600/1600
DC 21A / DC 21B	800 ⁽³⁾ /800 ⁽³⁾	1250 ⁽³⁾ /1250 ⁽³⁾	1250/1250
DC 22A / DC 22B	800 ⁽³⁾ /800 ⁽³⁾	1250 ⁽³⁾ /1250 ⁽³⁾	1250 ⁽³⁾ /1250 ⁽³⁾
DC 23A / DC 23B	800 ⁽³⁾ /800 ⁽³⁾	1250 ⁽³⁾ /1250 ⁽³⁾	1000 ⁽³⁾ /1000 ⁽³⁾
Motor Power (kW)⁽¹⁾	A/B	A/B	A/B
400 V AC without pre break auxiliary contact: AC 23	—	560/560	560/560
690 V AC without pre break auxiliary contact: AC 23	—	400/475	475/475
Overload capacity			
Fuse-protected short circuit withstand (kA rms prospective) with gG DIN fuse ⁽⁴⁾	50	100	100
Rating of DIN gG fuse (A)	800	1250	2 x 800
Cut-off current (kA peak)	—	—	86
Rated short-time withstand current I _{cw} (kA rms 1s)	—	—	50
Making & Breaking capacity characteristics (A rms)			
Breaking capacity: 400V AC 23A	—	—	8000
Making capacity: 400V AC 23A	—	—	10000
Rated short-circuit making capacity I _{cm} (kA peak prospective)	—	—	66
Mechanical durability (number of operations)	3000	3000	3000
Operating torque (Nm)	—	—	74
Connection (copper)			
Minimum section at I _{th} (mm ²) (Cu cables)	2 x 185	—	—
Maximum section (mm ²) (cables)	2 x 300	4 x 185	6 x 240
Minimum section at I _{th} (mm ²) (Cu busbar)	2 x 40 x 5	2 x 60 x 5	2 x 80 x 5
Maximum width (mm) (busbar)	63	100	100
Minimum tightening torque (Nm)	—	20	40
Weight (kg)			
3-pole switch	—	—	34
4-pole switch	—	—	42

(1) "A" indication=frequent operations

"B" indication=infrequent operations

(2) With terminal shrouds or separation shield between terminals

(3) 4 pole changeover switch with 2 poles in series per polarity

(4) For a rated operating voltage U_e=400 V AC

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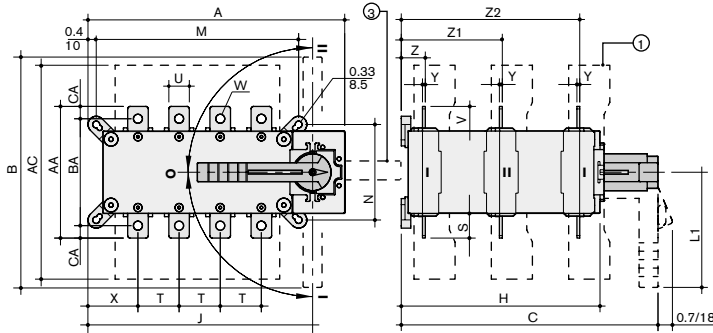
SIRCOVER BY-PASS MANUALLY OPERATED BY-PASS CHANGEOVER SWITCHES

DIMENSIONS (DUAL DIMENSIONS: IN/MM)

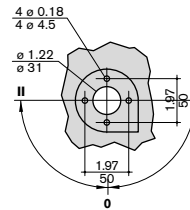
SIRCOVER BY-PASS CD 125-1250 A

Direct front operation

External front operation

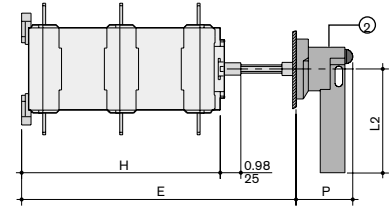


1. Terminal shrouds



2. Handle:

125 to 200 A: P = 2.75/70, L1 = 5.51/140, L2 = 4.98/126.5
 250 to 630 A: P = 4.17/106, L1 = 8.27/210, L2 = 8.27/210
 800 to 1600 A: P = 4.72/120, L1 = Ø 13/330, L2 = Ø 13/330



RATING (A)	OVERALL DIMENSIONS (in)						SWITCH MOUNTING (in)					CONNECTION TERMINALS (in)												
	A 3+6p	A 4+8p	C	E	AC	H	J 3+6p	J 4+8p	M 3+6p	M 4+8p	N	T	U	V	W	X 3+6p	X 4+8p	Y	Z	Z ₁	Z ₂	AA	BA	CA
125	8.7	9.9	12.3	12.5 to 13.2	9.3	9.6	7.2	8.3	6.1	7.3	4.0	1.4	0.8	1.0	0.3	2.2	2.0	0.1	1.1	4.9	8.6	5.3	4.5	0.4
160	8.7	9.9	12.3	12.5 to 13.2	9.3	9.6	7.2	8.3	6.1	7.3	4.0	1.4	0.8	1.0	0.3	2.2	2.0	0.1	1.1	4.9	8.6	5.3	4.5	0.4
200	8.7	9.9	12.3	12.5 to 13.2	9.3	9.6	7.2	8.3	6.1	7.3	4.0	1.4	0.8	1.0	0.3	2.2	2.0	0.1	1.1	4.9	8.6	5.3	4.5	0.4
250	10.3	12.3	12.3	13.7 to 20.0	11.0	9.6	8.8	10.7	7.7	9.7	4.6	2.0	1.0	1.2	0.4	2.4	2.4	0.1	1.2	4.9	8.6	6.3	5.1	0.4
400	10.3	12.3	12.3	13.7 to 20.0	11.0	9.6	8.8	10.7	7.7	9.7	4.6	2.0	1.4	1.4	0.4	2.4	2.4	0.1	1.2	4.9	8.6	6.7	5.5	0.6
630	12.6	14.9	17.0	18.8 to 25.1	15.7	14.3	10.7	13.1	9.7	12.0	6.9	2.6	1.8	2.0	0.5	2.8	2.6	0.2	1.7	7.1	12.5	10.2	8.7	0.8
800	13.3	18.3	22.0	22.4 to 24.3	—	18.9	12.1	15.2	10.0	13.2	9.8	3.1	2.0	2.4	0.6	1.9	1.9	0.3	2.6	10.0	17.3	12.6	—	1.0
1250	15.2	18.3	22.0	22.4 to 24.3	—	18.9	12.1	15.2	10.0	13.2	9.8	3.1	2.4	2.6	0.6/0.4	1.9	1.9	0.3	2.6	10.0	17.3	13.0	—	1.2

RATING (A)	OVERALL DIMENSIONS (mm)						SWITCH MOUNTING (mm)					CONNECTION TERMINALS (mm)												
	A 3+6p	A 4+8p	C	E	AC	H	J 3+6p	J 4+8p	M 3+6p	M 4+8p	N	T	U	V	W	X 3+6p	X 4+8p	Y	Z	Z ₁	Z ₂	AA	BA	CA
125	221	251	313	317 to 335	235	243	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	219	135	115	10
160	221	251	313	317 to 335	235	243	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	219	135	115	10
200	221	251	313	317 to 335	235	243	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	219	135	115	10
250	262	312	313	348 to 508	280	243	223	273	196	246	116	50	25	30	11	61	61	3.5	30	124	219	160	130	10
400	262	312	313	348 to 508	280	243	223	273	196	246	116	50	35	35	11	61	61	3.5	30	124	219	170	140	15
630	319	379	432	477 to 637	400	362	272	332	246	306	176	65	45	50	13	70.5	65.5	5	43	180	317	260	220	20
800	338	466	560	568 to 618	—	479	306.5	386.5	255	335	250	80	50	60.5	15	48	48	7	66.5	253.5	439.5	321	—	26.5
1250	386	466	560	568 to 618	—	479	306.5	386.5	255	335	250	80	60	65	16x11	48	48	7	66.5	253.5	439.5	330	—	29.25

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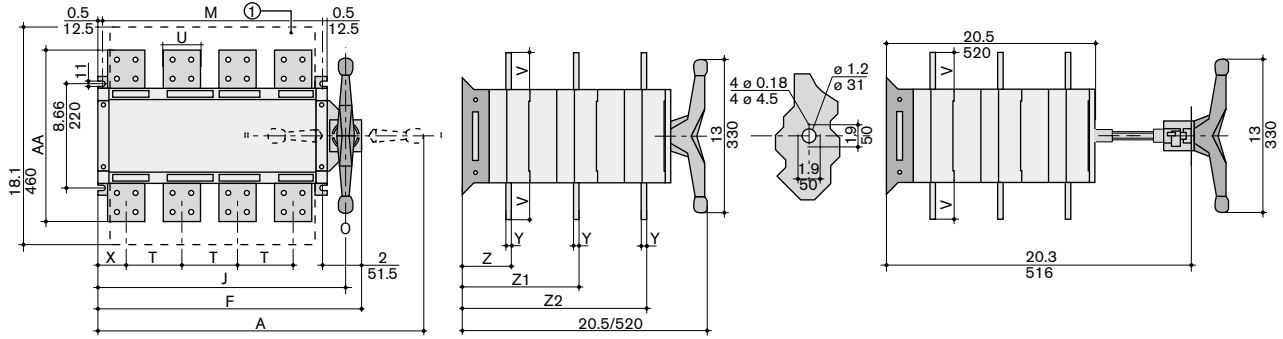
SIRCOVER BY-PASS MANUALLY OPERATED BY-PASS CHANGEOVER SWITCHES

DIMENSIONS (DUAL DIMENSIONS: IN/MM)

SIRCOVER BY-PASS 1600 A

Direct front operation

External front operation



1. Terminal screen

RATING (A)	OVERALL DIMENSIONS (in)				SWITCH MOUNTING		CONNECTION TERMINALS (in)										
	A 3+6p	A 4+8p	F 3+6p	F 4+8p	J 3+6p	J 4+8p	M 3+6p	M 4+8p	T	U	V	X	Y	Z	Z ₁	Z ₂	AA
1600	24.4	29.2	18.6	23.3	16.2	20.9	13.7	18.4	4.7	3.1	3.1	2.9	0.6	4.4	10.0	15.6	14.2

RATING (A)	OVERALL DIMENSIONS (mm)				SWITCH MOUNTING		CONNECTION TERMINALS (mm)										
	A 3+6p	A 4+8p	F 3+6p	F 4+8p	J 3+6p	J 4+8p	M 3+6p	M 4+8p	T	U	V	X	Y	Z	Z ₁	Z ₂	AA
1600	621	741	472	592	411	531	347	467	120	80	80	73	15	111	253	395	360

Notes: Mounting orientation: rotation of some devices may be limited. Please consult us.

CONNECTION TERMINALS

SIRCOVER BY-PASS CD 800 A

SIRCOVER BY-PASS CD 1250 A

SIRCOVER BY-PASS 1600 A

