MOTORIZED UNIT | CHANGEOVER SWITCHES I-O-II

series UM-C

UM-C
Motorized unit kit for base mounting changeover switches 3P - 3P+N

S5F Size 0 standard (125A... 200A)
CCF Sizes 1-2 standard (200A... 800A)
S5B Size 0 by-pass standard (125A... 200A)
S5B Size 1 by-pass ready to motorize (250A... 400A)

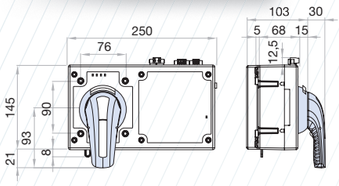
		CODE - 3P *(1)	CODE - 3P+N *(1)		CODE - 230 Vac *(1)
Size 0 | S5F	125A	S5F01253PS0	S5F01253NS0	UM	UM-C0A230Z
	160A	S5F01603PS0	S5F01603NS0		
	200A	S5F02003PS0	S5F02003NS0		
Size 1 | CCF	200A	CCF02003PS0	CCF02003NS0	UM	UM-C1A230Z
	250A	CCF02503PS0	CCF02503NS0		
	315A	CCF03153PS0	CCF03153NS0		
	400A	CCF04003PS0	CCF04003NS0		
Size 2 | CCF	500A	CCF05003PS0	CCF05003NS0	UM	UM-C2A230Z
	630A	CCF06303PS0	CCF06303NS0		
	800A	CCF08003PS0	CCF08003NS0		
Size 0 | S5B	125A	S5B01253PS0	S5B01253NS0	UM	UM-C0A230Z
	160A	S5B01603PS0	S5B01603NS0		
	200A	S5B02003PS0	S5B02003NS0		
Size 1 | S5B	250A	S5B02503PRC	S5B02503NRC	UM	UM-C14230Z
	315A	S5B03153PRC	S5B03153NRC		
	400A	S5B04003PCC	S5B04003NCC		

UM + S5F & UM + S5B normal mounting
UM + CCF normal mounting

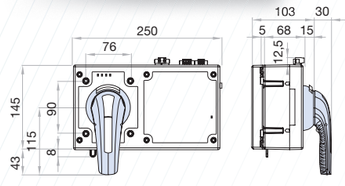
* Auxiliary manual handle supplied with the UM

Dimensions (mm)

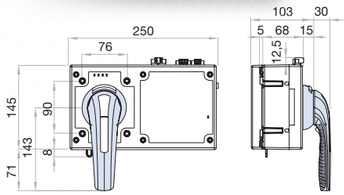
UM for size 0



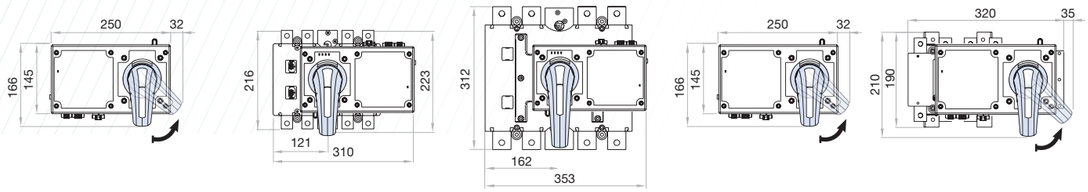
UM for size 1



UM for size 2



S5F size 0 + UM | CCF size 1 + UM | CCF size 2 + UM | S5B size 0 + UM | S5B size 1 + UM



Technical information

UM

According to IEC 60947-3

		UM for sizes 0-1	UM for size 2
Operational torque	Nm	20	30
Voltage supply	V	230 Vac *(2)	230 Vac *(2)
Operating voltage range *(3)	ΔV	0,85*V to 1,15*V	0,85*V to 1,10*V
Operating voltage range according to IEC 60947-6	ΔV	0,95*V to 1,10*V	0,95*V to 1,10*V
Cable section of voltage supply	mm^2	1,5 - 2,5	1,5 - 2,5
Cable section area Input Signals	mm^2	0,5 - 1,5	0,5 - 1,5
Cable section area Auto-Lock mode Outputs	mm^2	0,5 - 1,5	0,5 - 1,5
Inrush Current	A	1,1	1,1
Use current (Irms)	mA	45	45
Use current (Imax)	mA	137	137
Protective Fuse | Reference F1AL250 V (Littelfuse)	A	1	1
Operating angle		- 70° / 0° / +70° (I - 0 - II)	- 70° / 0° / +70° (I - 0 - II)
Number of UM operations	Cycles	8000	5000
Operation rate (0 - I - II - 0)	Cycles/hour	120	60
Working temperature range		- 25°C ... + 55°C	- 25°C ... + 55°C
Transportation and storage temperature		- 40°C ... + 70°C	- 40°C ... + 70°C
UM weight	Kg	1,8	1,8

Pos.	Direction	Pos.	Operating time *(3)
0	→	I	750 ms
I	→	0	750 ms
0	→	II	750 ms
II	→	0	750 ms
I	→	II	1,5 sec
II	→	I	1,5 sec

*(1) UM Kit code is related to the code of switch from its section depending on size and it is for normal mounting. For different type of mounting or different code of switch or UM Kit please consult.

*(2) For DC values, consult please.

*(3) Based in our own tests.
There are changeover switch versions without 0 - OFF position:
S5F (I - II) = S5D_ _ _ _ _.
CCF "overlapped" (I - I+II - II) = CCS_ _ _ _ _.
CCP "overlapped" (I - I+II - II) = CCT_ _ _ _ _.
S5B "overlapped" (I - I + II - II) = S5S_ _ _ _ _. Consult.

EMC table (Electromagnetic compatibility)

Inmunity

Test	Standard	According to standard UNE/EN 61000	According to standard IEC 60947-6	Results achieved	Values achieved in tests
Electrostatic discharges	EN 61000-4-2	Special, B	Special, A	Special, A	±8KV air discharge ±4KV equipment discharge
Electromagnetic H.F. field	EN 61000-4-3	Level 3, A	Level 3, A	Level 3, A	10V/m. from 80MHz to 1 GHz
Fast transients (Burst)	EN 61000-4-4	Level 3, B	Level 3, A	Level 4, A	±4KV power supply, freq. Rep. 2,5kHz ±2KV signal supply, freq. Rep 5kHz
Fast transient (surge discharge)	EN 61000-4-5	Level 3, B	Level 3, A	Special, A	±4KV power supply L1-L2 Generator impedance 2Ω (wave 1,2/50 ms)
Conducted disturbances	EN 61000-4-6	Level 3, A	Level 3, A	Level 3, A	10V supply and signal
Electromagnetic field, industrial frequency	EN 61000-4-8	Level 4, A	-	Level 4, A	Field intensity 30A/m
Voltage dips, interruptions and voltage variations	EN 61000-4-11	Criterion B	-	Criterion A	30% Un - 1000 ms
		Criterion C	-	Criterion A	60% Un - 1000 ms
		Criterion C	-	Criterion B	95% Un - 5000 ms

Emission

Test	Standard	According to standard UNE/EN 61000	According to standard IEC 60947-6	Results achieved	Values achieved in tests
Emission of harmonic current	EN 61000-3-2	Level 3	Level 3	Level 3	0,02A total current (manual mode)
		Level 3	Level 3	Level 3	0,04A total current (automatic mode)
Unwanted voltage	EN 55011	Level 3	Level 3	Level 3	Qualified
Radiated emission	EN 55011	Level 3	Level 3	Level 3	Qualified

NOTE: The installation of this device in a domestic environment can cause radiofrequency interference
EN 61000 is equivalent to IEC 61000 - EN 55011 is equivalent to CISPR11
CRITERION A: Normal service behaviour in determined limits
CRITERION B: Transient alteration of the service. The appliance gets back to the normal performing without the intervention of the operator
Test level 3: Typical industrial environment, without special installation measures
Test level 4: Severe industrial environment
Special level: Level of higher electromagnetic severe environment

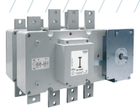
MOTORIZED UNIT | CHANGEOVER SWITCHES I-O-II

series UM-C

UM-C (MODBUS)

Motorized unit kit for base mounting changeover switches 3P - 3P+N

CCF Sizes 2-3 standard (500A... 1250A)
S5F Sizes 4-5 standard (1600A... 3150A)



		CODE - 3P *(1)	CODE - 3P+N *(1)		CODE - 120 Vac *(1)	CODE - 230 Vac *(1)
Size 2 | CCF	500A	CCF05003PS0	CCF05003NS0	UM	UM-C21120M	UM-C21230M
	630A	CCF06303PS0	CCF06303NS0			
	800A	CCF08003PS0	CCF08003NS0			
Size 3 | CCF	1000A	CCF10003PS0	CCF10003NS0	UM	UM-C31120M	UM-C31230M
	1250A	CCF12503PS0	CCF12503NS0			
Size 4 | S5F	1600A	S5F16003PS0	S5F16003NS0	UM	UM-C45120M	UM-C45230M
	1800A	S5F18003PS0	S5F18003NS0			
	2000A	S5F20003PD0	S5F20003ND0			
Size 5 | S5F	2000A	S5F20003PP0	S5F20003NP0	UM	-	UM-C55230M
	2500A	S5F25003PP0	S5F25003NP0			
	3150A	S5F31503PP0	S5F31503NP0			

UM + CCF size 3 normal mounting

UM + S5F sizes 4 - 5 normal mounting

UM + CCF size 3 inverted mounting *(5)

UM + S5F sizes 4 - 5 inverted mounting *(5)
(please consult UM codes)

* Auxiliary manual handle supplied with the UM

Technical information

According to IEC 60947-3

UM

Voltage supply		120 Vac *(2)	230 Vac *(2)
Operating voltage range *(3)	ΔV	0,95*V to 1,10*V	
Cable of voltage supply	mm²	1,5 - 2,5	1,5 - 2,5
Cable section area Input & MODBUS Signals	mm²	0,5 - 1,5	0,5 - 1,5
Cable section area Outputs	mm²	0,5 - 1,5	0,5 - 1,5
Inrush Current	A	11	11
Nominal Current during operation	A	7,5	3,9
Use current (Irms)	A	0,041	0,041
Use current (Imax)	A	0,275	0,275
Protection Fuse | Reference F4AL250V (Littelfuse)	A	4	4
Operating time	s	0,166	0,15
Number of MU operations + CCF Size 2	Cycles	5000	5000
Operations frecuency (0-I-0-II-0) *(4)	Cycles/hour	60	60
Number of UM operations + CCF size 3	Cycles	3000	3000
Operations frecuency (0-I-0-II-0) *(4)	Cycles/hour	20	20
Number of UM operations + S5F size 4	Cycles	3000	3000
Operations frecuency (0-I-0-II-0) *(4)	Cycles/hour	20	20
Number of UM operations + S5F size 5	Cycles	-	600
Operations frecuency (0-I-0-II-0) *(4)	Cycles/hour	-	20
Working temperature range	Tª 85%Un	- 25ºC ... + 55ºC	
	Tª 115%Un	- 25ºC ... + 55ºC	
Transportation and storage temperature		- 40ºC ... + 70ºC	
UM weight	Kg	4,4	

*(1) UM Kit code is related to the code of switch from its section depending on size and it is for normal mounting.
For different type of mounting or different code of switch or UM Kit please consult.

*(2) For DC values, consult please.

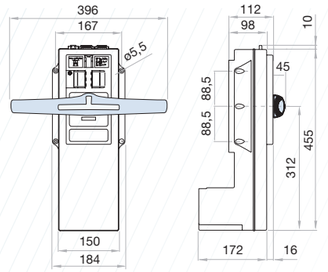
*(3) Operating voltage range for the reference UM-C55230M is 0,9*V to 1,10*V.

*(4) According to IEC 60947-3.

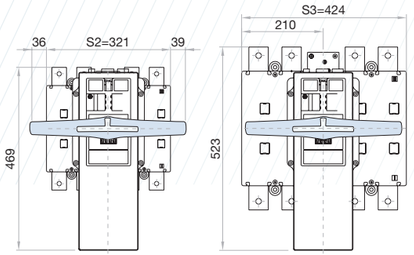
*(5) For inverted mounting there are references for UM with inverted frontal plates.
Supply under request. There are changeover switches versions without 0 - OFF position:
S5F (I - II) = S5D_ _ _ _ _.
CCF "overlapped" (I - I+II - II) = CCS_ _ _ _ _.
CCP "overlapped" (I - I+II - II) = CCT_ _ _ _ _. Consult.

Dimensions (mm)

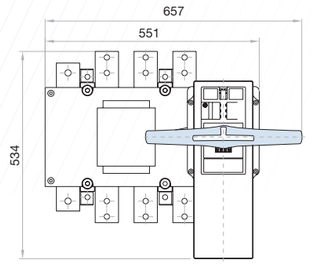
UM



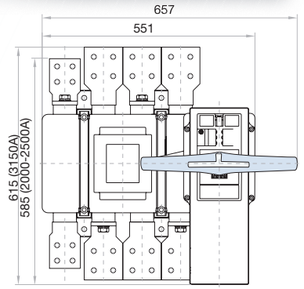
CCF sizes 2-3 + UM



S5F size 4 + UM



S5F size 5 + UM



EMC table (Electromagnetic compatibility)

Emission

Test	Standard	Frequency range	Level	According to criterion	Criterion (test)	Result
Unwanted voltage	EN 55011	150kHz-30MHz	N.A.	N.A.	N.A.	C
Radiated emission	EN 55011	30MHz-1GHz	N.A.	N.A.	N.A.	C
Emission of harmonic current	EN 61000-3-2	0,02A 0-2kHz	N.A.	N.A.	N.A.	C
Flicker	EN 61000-3-3	0-2kHz	N.A.	N.A.	N.A.	C

Inmunity

Test	Standard	Frequency range	Level	According to criterion	Criterion (test)	Result
Electrostatic discharges	EN 61000-4-2	Special, A +/- 8KV air discharge	SPECIAL	B	A	C
Electromagnetic H.F. field	EN 61000-4-3	10V/m De 80MHz a 2,7 Ghz	SPECIAL	A	A	C
Fast transients (Burst)	EN 61000-4-4	+/-2KV power supply +/- 1KV signal supply Rep 5kHz - 2min	3	B	A	C
Fast transient (surge discharge)	EN 61000-4-5	+/-4KV power supply Generator impedance 2Ω Wave 1,2/50µs	5	B	A	C
Conducted disturbances	EN 61000-4-6	10V supply and signal 0,15-80MHz	3	A	A	C
Electromagnetic field, industrial frequency	EN 61000-4-8	Field intensity 30A/m	4	A	A	C
Voltage dips, interruptions and voltage variations	EN 61000-4-11	N.A.	100% Un - 10ms	B	A	C
		N.A.	100% Un - 20ms	B	A	C
		N.A.	60% Un - 200ms	C	A	C
		N.A.	30% Un - 500ms	C	A	C
		N.A.	20% Un - 5000ms	C	A	C
		N.A.	100% Un - 5000ms	C	C	C

CRITERION A: Normal service behaviour in determined limits
CRITERION B: Transient alteration of the service. The appliance gets back to the normal performing without the intervention of the operator
Test level 3: Typical industrial environment, without special installation measures
Test level 4: Severe industrial environment
Special level: Level of higher electromagnetic severe environment

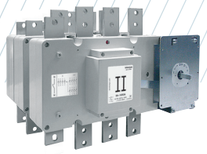
MOTORIZED UNIT | CHANGEOVER SWITCHES I-O-II

series UM-C

UM-C (MODBUS)

Motorized unit kit for base mounting by-pass changeover switches 3P - 3P+N

S5B Sizes 2-3 ready to motorize (500A... 1000A)
S5B Size 4 standard (1250A... 2000A)



		CODE - 3P *(1)	CODE - 3P+N *(1)		CODE - 120 Vac *(1)	CODE - 230 Vac *(1)
Size 2 | S5B	500A	S5B05003PRC	S5B05003NRC	UM	UM-C24120M	UM-C24230M
	630A	S5B06303PRC	S5B06303NRC			
Size 3 | S5B	800A	S5B08003PRC	S5B08003NRC	UM	UM-C34120M	UM-C34230M
	1000A	S5B10003PCC	S5B10003NCC			
Size 4 | S5B	1250A	S5B12503PS0	S5B12503NS0	UM	-	UM-C44230M
	1600A	S5B16003PS0	S5B16003NS0			
	1800A	S5B18003PS0	S5B18003NS0			
	2000A	S5B20003PD0	S5B20003ND0			

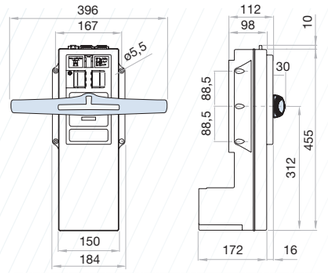
UM + S5B normal mounting

UM + S5B inverted mounting *(5)
(please consult UM codes)

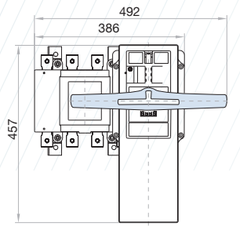
* Auxiliary manual handle supplied with the UM

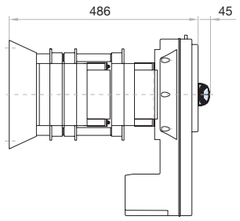
Dimensions (mm)

UM

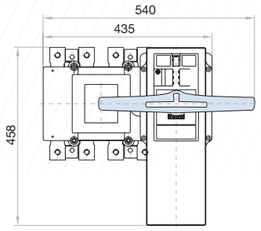


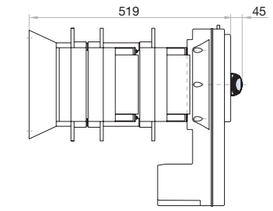
S5B size 2 + UM



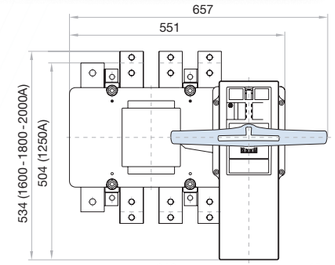


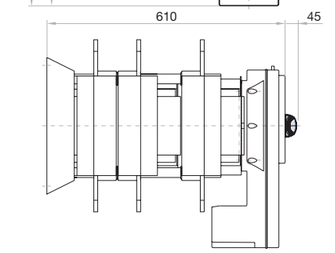
S5B size 3 + UM





S5B size 4 + UM





Technical information

CE IEC

According to IEC 60947-3

UM

Voltage supply		120Vac *(2)	230Vac *(2)
Operating voltage range *(3)	ΔV	0,85*V to 1,15*V	
Operating voltage range according to IEC 60947-6	ΔV	0,95*V to 1,10*V	
Cable of voltage supply	mm^2	1,5 - 2,5	1,5 - 2,5
Cable section area Input & MODBUS Signals	mm^2	0,5 - 1,5	0,5 - 1,5
Cable section area Outputs	mm^2	0,5 - 1,5	0,5 - 1,5
Inrush Current	A	11	11
Nominal Current during operation	A	7,5	3,9
Use current (Irms)	A	0,041	0,041
Use current (Imax)	A	0,275	0,275
Protection Fuse | Reference F4AL250V (Littelfuse)	A	4	4
Operating time	s	0,166	0,15
Number of UM operations S5B size 2	Cycles	Consult	Consult
Operations frecuency (0-I-0-II-0) *(4)	Cycles/hour	Consult	Consult
Number of UM operations S5B size 3	Cycles	Consult	Consult
Operations frecuency (0-I-0-II-0) *(4)	Cycles/hour	Consult	Consult
Number of UM operations S5B size 4	Cycles	-	600
Operations frecuency (0-I-0-II-0) *(4)	Cycles/hour	-	20
Working temperature range	Tª 85%Un	- 25ºC ... + 55ºC	
	Tª 115%Un	- 25ºC ... + 55ºC	
Transportation and storage temperature		- 40ºC ... + 70ºC	
UM weight	Kg	4,4	

*(1) UM Kit code is related to the code of switch from its section depending on size and it is for normal mounting. For different type of mounting or different code of switch or UM Kit please consult.

*(2) For DC values, consult please.

*(3) Operating voltage range for the reference UM-C44230M is 0,9*V to 1,10*V.

*(4) According to IEC 60947-3.

*(5) For inverted mounting there are references for UM with inverted frontal plates. Supply under request. There are by-pass S5B versions without 0 - OFF "overlapped": S5B "overlapped" (I - I + II - II) = S5S_____. Consult.

EMC table (Electromagnetic compatibility)

Emission

Test	Standard	Frequency range	Level	According to criterion	Criterion (test)	Result
Unwanted voltage	EN 55011	150kHz-30MHz	N.A.	N.A.	N.A.	C
Radiated emission	EN 55011	30MHz-1GHz	N.A.	N.A.	N.A.	C
Emission of harmonic current	EN 61000-3-2	0,02A 0-2kHz	N.A.	N.A.	N.A.	C
Flicker	EN 61000-3-3	0-2kHz	N.A.	N.A.	N.A.	C

Inmunity

Test	Standard	Frequency range	Level	According to criterion	Criterion (test)	Result
Electrostatic discharges	EN 61000-4-2	Special, A +/- 8KV air discharge	SPECIAL	B	A	C
Electromagnetic H.F. field	EN 61000-4-3	10V/m De 80MHz a 2,7 Ghz	SPECIAL	A	A	C
Fast transients (Burst)	EN 61000-4-4	+/-2KV power supply +/- 1KV signal supply Rep 5kHz - 2min	3	B	A	C
Fast transient (surge discharge)	EN 61000-4-5	+/-4KV power supply Generator impedance 2Ω Wave 1,2/50µs	5	B	A	C
Conducted disturbances	EN 61000-4-6	10V supply and signal 0,15-80MHz	3	A	A	C
Electromagnetic field, industrial frequency	EN 61000-4-8	Field intensity 30A/m	4	A	A	C
Voltage dips, interruptions and voltage variations	EN 61000-4-11	N.A.	100% Un - 10ms	B	A	C
		N.A.	100% Un - 20ms	B	A	C
		N.A.	60% Un - 200ms	C	A	C
		N.A.	30% Un - 500ms	C	A	C
		N.A.	20% Un - 5000ms	C	A	C
		N.A.	100% Un - 5000ms	C	C	C

CRITERION A: Normal service behaviour in determined limits
CRITERION B: Transient alteration of the service. The appliance gets back to the normal performing without the intervention of the operator
Test level 3: Typical industrial environment, without special installation measures
Test level 4: Severe industrial environment
Special level: Level of higher electromagnetic severe environment