Kit motorized unit for switch or changeover switch

Motorized units to automate the drive system of the switch-disconnectors, changeover switches and by-pass changeover switches, with a high level of reliability, safety and ease of operation even in extreme situations.

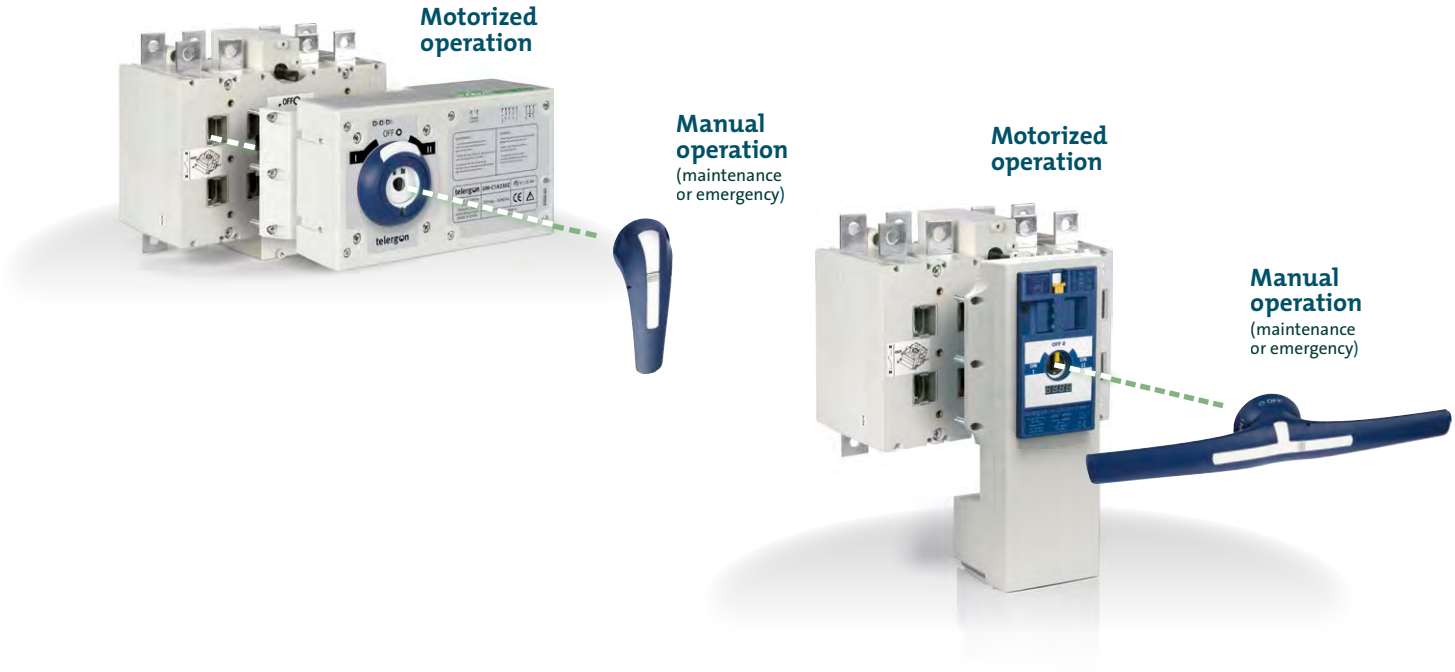
KIT UM

The motorized unit kits are manufactured with high safety self-extinguishing materials, providing an excellent level of electrical insulation, low smoke emission and high resistance to electromechanical stress.

They comply with environmental requirements and undergo strict quality controls for a reliable product that meets the most demanding requirements.

They consist of a body housing the motor, gears, electronics to command and control. They are equipped with a selector for automatic-manual-lock operating modes.

The kit concept simplifies both logistics and maintenance, for easy and simple assembly on the changeover switch or switch - disconnector as required.



- IEC60947-1 & 3. Low voltage devices. General part and switch - disconnectors.
- According to European Standard 2014/35/UE.
- According to European standard 2014/30/UE of EMC.

According to:
IEC 60947-1 & 3
RoHS

Testing and approvals:

series UM-S

1 2 3 4 5 6
U M - S

Supply voltage
230 Vac *(1)

For switch - disconnectors:

S5 Sizes 1-2 | 3P - 3P+N ready to motorize (250A... 800A)
S6 Sizes 1-2 | 2P - 3P - 3P+N ready to motorize (200A... 800A)
S6N Size 1 | 6P - 8P ready to motorize (125A... 400A)

*(1) For DC values, consult please

series UM-S

1 2 3 4 5 6
U M - S

Supply voltage
120 - 230 Vac *(1)
with MODBUS MB

For switch - disconnectors:

S5 Sizes 3-4 | 3P - 3P+N ready to motorize (800A... 2000A)
S5N Size 5 | 3P - 3P+N ready to motorize (2000A... 3150A)
S6N Size 2 | 6P - 8P ready to motorize (500A... 630A)
S5M Size 3 | 6P - 8P ready to motorize (800A... 1000A)
S5N Size 4 | 6P - 8P ready to motorize (1250A... 2000A)

*(1) For DC values, consult please

series UM-C

1 2 3 4 5 6
U M - C

Supply voltage
230 Vac *(1)

For changeover switches:

S5F Size 0 | 3P - 3P+N standard (125A... 200A)
CCF Sizes 1-2 | 3P - 3P + N standard (200A... 800A)
S5B Size 0 | 3P - 3P +N standard (125A... 200A)
S5B Size 1 | 3P - 3P +N ready to motorize (250A... 400A)

*(1) For DC values, consult please

series UM-C

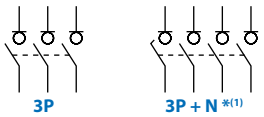
1 2 3 4 5 6
U M - C

Supply voltage
120 - 230 Vac *(1)
with MODBUS MB

For changeover switches:

CCF Sizes 2-3 | 3P - 3P+N standard (500A... 1250A)
S5F Sizes 4-5 | 3P - 3P+N standard (1600A... 3150A)
S5B Sizes 2-3 | 3P - 3P+N ready to motorize (500A... 1000A)
S5B Size 4 | 3P - 3P+N standard (1250A... 2000A)

*(1) For DC values, consult please



S5 S5N — S5 switches 3 & 4 poles (O-I) ready to motorize

UM-S Motorized unit kit (O - I) *(2)


S5

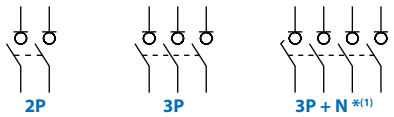

S5N


UM

UM (MODBUS) MB

Amp.	Size	Connection	3 pole (3P) Code	4 pole (3P + N) *(1) Code	120Vac *(3) Code	230Vac *(3) Code	Full details in page
250	1		S5-02503PRC	S5-02503NRC	-	UM-S1A230Z	196
315			S5-03153PRC	S5-03153NRC			
400			S5-04003PCC	S5-04003NCC			
500	2		S5-05003PRC	S5-05003NRC	-	UM-S2A230Z	196
630			S5-06303PRC	S5-06303NRC			
800			S5-08003PCC	S5-08003NCC			
800	3		S5-08003PRC	S5-08003NRC	MB UM-S31120M	MB UM-S31230M	198
1000			S5-10003PCC	S5-10003NCC			
1250			S5-12503PCC	S5-12503NCC			
1000	4		S5-10003PSC	S5-10003NSC	MB UM-S41120M	MB UM-S41230M	198
1250			S5-12503PSC	S5-12503NSC			
1600			S5-16003PSC	S5-16003NSC			
1800			S5-18003PSC	S5-18003NSC			
2000			S5-20003PDC	S5-20003NDC			
2000	5 (S5N)		S5N20003PPC	S5N20003NPC	-	MB UM-S56230M	198
2500			S5N25003PPC	S5N25003NPC			
3150			S5N31503PPC	S5N31503NPC			

UM + S5 sizes 1 - 2 normal mounting
UM + S5 size 3 normal mounting
UM + S5 size 4 normal mounting
UM + S5N size 5 normal mounting



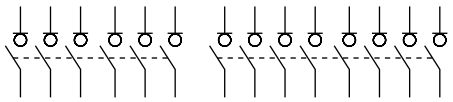
S6 — S6 switches 2, 3 & 4 poles (O-I) ready to motorize

UM-S Motorized unit kit (O - I) *(2)


S6


UM

Amp.	Size	Connection	Bipolar (2P) Code	3 pole (3P) Code	4 pole (3P + N) *(1) Code	230Vac *(3) Code	Full details in page
200	1		S6-02002PSC	S6-02003PSC	S6-02003NSC	UM-S1A230Z	196
250			S6-02502PSC	S6-02503PSC	S6-02503NSC		
315			S6-03152PSC	S6-03153PSC	S6-03153NSC		
400			S6-04002PDC	S6-04003PDC	S6-04003NDC		
500	2		S6-05002PSC	S6-05003PSC	S6-05003NSC	UM-S2A230Z	196
630			S6-06302PSC	S6-06303PSC	S6-06303NSC		
800			S6-08002PDC	S6-08003PDC	S6-08003NDC		



S5M S5N | S6N — S5 switches 6 & 8 poles (O-I) ready to motorize

UM-S Motorized unit kit (O - I) *(2)


S6N


S5M


S5N


UM

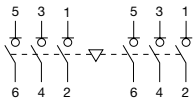
UM (MODBUS) MB

Amp.	Size	Connec-tion	6 pole (6P) Code	8 pole (8P) Code	120Vac *(3) Code	230Vac *(3) Code	Full details in page
125	1 (S6N)		S6N01256PSC	S6N01258PSC	-	UM-S2A230Z	196
160			S6N01606PSC	S6N01608PSC			
200			S6N02006PSC	S6N02008PSC			
250			S6N02506PSC	S6N02508PSC			
315			S6N03156PSC	S6N03158PSC			
400			S6N04006PDC	S6N04008PDC			
500	2 (S6N)		S6N05006PRC	S6N05008PRC	MB UM-S26120M	MB UM-S26230M	200
630			S6N06306PRC	S6N06308PRC			
800	3 (S5M)		S5M08006PRC	S5M08008PRC	MB UM-S35120M	MB UM-S35230M	200
1000			S5M10006PCC	S5M10008PCC			
1250	4 (S5N)		S5N12506PSC	S5N12508PSC	-	MB UM-S56230M	200
1600			S5N16006PSC	S5N16008PSC			
1800			S5N18006PSC	S5N18008PSC			
2000			S5N20006PDC	S5N20008PDC			

UM + S6N normal mounting
UM + S5M size 3 normal mounting
UM + S5N size 4 normal mounting
UM + S5M size 3 inverted mounting (please consult UM codes)

*(1) Neutral pole early make-late break - Versions 4P with "simultaneous contacts" are also available, please consult.
*(2) 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.
*(3) For DC values, please consult.

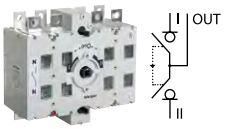
For all solutions, please indicate in your order the switch code and the UM Kit code, as these both products are managed separately.



S5F CC — S5 changeover switches
3 & 4 poles (I - O - II) ready to motorize *(5)

UM-C Motorized unit kit (I - O - II) *(6)


S5F



CCF

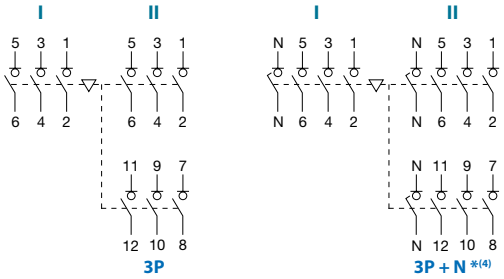

UM

UM (MODBUS) MB

Amp.	Size	Connection	Series	3 pole (3P) Code	4 pole (3P + N) *(4) Code	120Vac *(8) Code	230Vac *(8) Code	Full details in page
125	0		S5F	S5F01253PS0	S5F01253NS0	-	UM-C0A230Z	202
160			S5F	S5F01603PS0	S5F01603NS0			
200			S5F	S5F02003PS0	S5F02003NS0			
200	1		CCF	CCF02003PS0	CCF02003NS0	-	UM-C1A230Z	202
250			CCF	CCF02503PS0	CCF02503NS0			
315			CCF	CCF03153PS0	CCF03153NS0			
400			CCF	CCF04003PS0	CCF04003NS0			
500	2		CCF	CCF05003PS0	CCF05003NS0	MB UM-C21120M	UM-C2A230Z	202
630			CCF	CCF06303PS0	CCF06303NS0			
800			CCF	CCF08003PS0	CCF08003NS0		MB UM-C21230M	204
1000	3		CCF	CCF10003PS0	CCF10003NS0	MB UM-C31120M	MB UM-C31230M	204
1250			CCF	CCF12503PS0	CCF12503NS0			
1600	4		S5F	S5F16003PS0	S5F16003NS0	MB UM-C45120M	MB UM-C45230M	204
1800			S5F	S5F18003PS0	S5F18003NS0			
2000			S5F	S5F20003PD0	S5F20003ND0			
2000	5		S5F	S5F20003PP0	S5F20003NP0	-	MB UM-C55230M	204
2500			S5F	S5F25003PP0	S5F25003NP0			
3150			S5F	S5F31503PP0	S5F31503NP0			

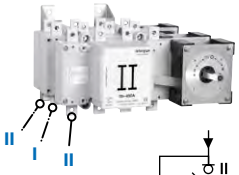
UM + S5F size 0 normal mounting
UM + CCF sizes 1 - 2 normal mounting
UM + CCF size 3 normal mounting

UM + S5F sizes 4 - 5 normal mounting
UM + CCF size 3 inverted mounting (please consult UM codes)
UM + S5F sizes 4 - 5 inverted mounting (please consult UM codes)

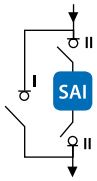


S5B — S5 bypass changeover switches
3 & 4 poles (I - O - II) ready to motorize *(7)

UM-C Motorized unit kit (I - O - II) *(6)



S5B




UM


UM (MODBUS) MB

Amp.	Size	Connection	3 pole (3P) Code	4 pole (3P + N) *(4) Code	120Vac *(8) Code	230Vac *(8) Code	Full details in page
125	0		S5B01253PS0	S5B01253NS0	-	UM-C0A230Z	202
160			S5B01603PS0	S5B01603NS0			
200			S5B02003PS0	S5B02003NS0			
250	1		S5B02503PRC	S5B02503NRC	-	MB UMC14230Z	202
315			S5B03153PRC	S5B03153NRC			
400			S5B04003PCC	S5B04003NCC			
500	2		S5B05003PRC	S5B05003NRC	MB UM-C24120M	MB UM-C24230M	206
630			S5B06303PRC	S5B06303NRC			
800	3		S5B08003PRC	S5B08003NRC	MB UM-C34120M	MB UM-C34230M	206
1000			S5B10003PCC	S5B10003NCC			
1250	4		S5B12503PS0	S5B12503NS0	-	MB UM-C44230M	206
1600			S5B16003PS0	S5B16003NS0			
1800			S5B18003PS0	S5B18003NS0			
2000			S5B20003PD0	S5B20003ND0			

UM + S5B sizes 0 - 1 normal mounting
UM + S5B sizes 2 - 3 - 4 normal mounting

UM + S5B sizes 2 - 3 - 4 inverted mounting (please consult UM codes)

*(4) Neutral pole early make-late break - Versions 4P with "simultaneous contacts" are also available, please consult.
*(5) There are versions of changeover switch without 0 - OFF position:
S5F (I - II) = S5D _ _ _ _ _.
CCF "overlapped" (I - I+II - II) = CCS _ _ _ _ _.
Please consult.
*(6) UM Kit code is related to the code of changeover from its section depending on size and it is for normal mounting.
For different type of mounting or different code of changeover or UM kit, please consult.
*(7) There are versions of bypass changeover switch without 0 - OFF position "overlapped":
S5B "overlapped" (I - I + II - II) = S5S _ _ _ _ _.
Please consult.
*(8) For DC values, please consult.

Please indicate in your order the changeover switch code and the UM Kit code, as these both products are managed separately.

series UM-S

UM-S
Motorized unit kit for base mounting switches 2P - 3P - 3P+N | 6P - 8P

S5 Sizes 1-2 ready to motorize (250A... 800A)
S6 Sizes 1-2 ready to motorize (200A... 800A)
S6N Size 1 ready to motorize (125A... 400A)

		CODE - 2P *(1)	CODE - 3P *(1)	CODE - 3P+N *(1)	CODE - 230 Vac *(1)
Size 1 | S5	250A	-	S5-02503PRC	S5-02503NRC	UM-S1A230Z
	315A	-	S5-03153PRC	S5-03153NRC	
	400A	-	S5-04003PCC	S5-04003NCC	
Size 2 | S5	500A	-	S5-05003PRC	S5-05003NRC	UM-S2A230Z
	630A	-	S5-06303PRC	S5-06303NRC	
	800A	-	S5-08003PCC	S5-08003NCC	

Size 1 | S6	200A	S6-02002PSC	S6-02003PSC	S6-02003NSC	UM-S1A230Z
	250A	S6-02502PSC	S6-02503PSC	S6-02503NSC	
	315A	S6-03152PSC	S6-03153PSC	S6-03153NSC	
	400A	S6-04002PDC	S6-04003PDC	S6-04003NDC	
Size 2 | S6	500A	S6-05002PSC	S6-05003PSC	S6-05003NSC	UM-S2A230Z
	630A	S6-06302PSC	S6-06303PSC	S6-06303NSC	
	800A	S6-08002PDC	S6-08003PDC	S6-08003NDC	

		CODE - 6P *(1)	CODE - 8P *(1)	
Size 1 | S6N	125A	S6N01256PSC	S6N01258PSC	UM-S2A230Z
	160A	S6N01606PSC	S6N01608PSC	
	200A	S6N02006PSC	S6N02008PSC	
	250A	S6N02506PSC	S6N02508PSC	
	315A	S6N03156PSC	S6N03158PSC	
	400A	S6N04006PDC	S6N04008PDC	

UM + S5|S6|S6N normal mounting

* Auxiliary manual handle supplied with the UM

Technical information

According to IEC 60947-3

UM

		UM for S5|S6 size 1	UM for S5|S6 size 2	UM for S6N size 1
Operational torque	Nm	20	30	30
Voltage supply	V	230 Vac *(2)	230 Vac *(2)	230 Vac *(2)
Operating voltage range *(3)	ΔV	0,95*V a 1,10*V	0,95*V a 1,10*V	0,95*V a 1,10*V
Operating voltage range according to IEC 60947-6	ΔV	0,95*V a 1,10*V	0,95*V a 1,10*V	0,95*V a 1,10*V
Cable section of voltage supply	mm^2	1,5 - 2,5	1,5 - 2,5	1,5 - 2,5
Cable section area Input Signals	mm^2	0,5 - 1,5	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	0,5 - 1,5
Inrush Current	A	1,1	1,5	1,5
Use current (Irms)	mA	45	45	45
Use current (Imax)	mA	137	137	137
Protective Fuse | Reference F1AL250 V (Littelfuse)	A	1	1	1
Operating angle		0-90° (0 - I)	0-90° (0 - I)	0-90° (0 - I)
Number of UM operations	Cycles	8000	5000	8000
Operation rate (0 - I)	Cycles/hour	120	60/120	120
Working temperature range		- 25°C ... + 55°C	- 25°C ... + 55°C	- 25°C ... + 55°C
Transportation and storage temperature		- 40°C ... + 70°C	- 40°C ... + 70°C	- 40°C ... + 70°C
UM weight	Kg	1,8	1,8	1,8

Pos.	Direction	Pos.	Operating time *(3)
0	→	I	750 ms
I	→	0	750 ms

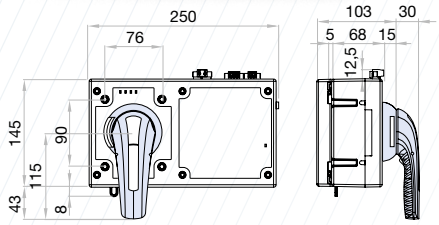
*(1) UM Kit code is related to the code of switch from its section depending on size and it is for normal mounting. For different type of mounting or different code of switch or UM kit please consult.

*(2) For DC values, consult please.

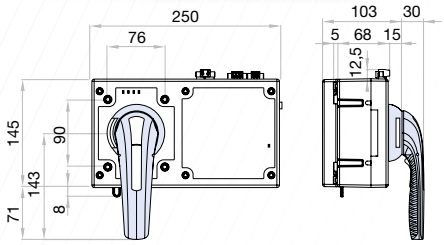
*(3) Based in our own tests.

Dimensions (mm)

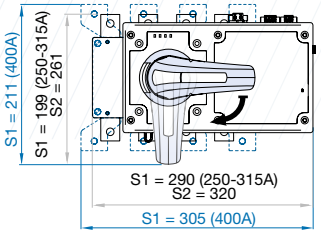
UM for size 1



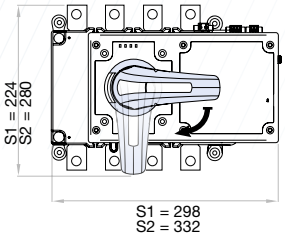
UM for size 2



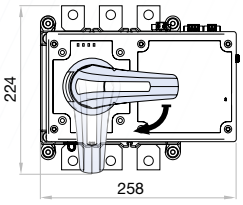
S5 size 1-2 + UM



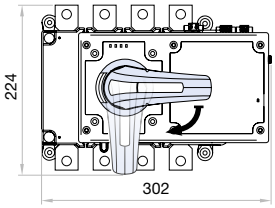
S6 size 1-2 + UM

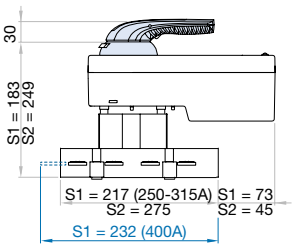


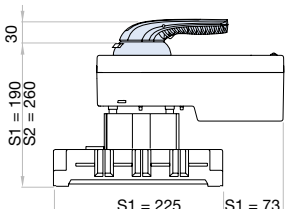
S6N 6P size 1 + UM

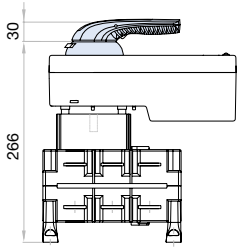


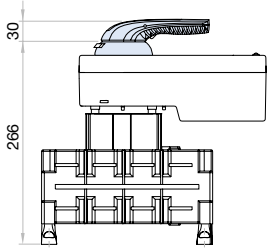
S6N 8P size 1 + UM











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

series UM-S

UM-S (MODBUS)
Motorized unit kit for base mounting switches 3P - 3P+N

S5 Sizes 3-4 ready to motorize (800A... 2000A)
S5N Size 5 ready to motorize (2000A... 3150A)

* Auxiliary manual handle supplied with the UM

		CODE - 3P *(1)	CODE - 3P+N *(1)		CODE - 120 Vac *(1)	CODE - 230 Vac *(1)
Size 3 | S5	800A	S5-08003PRC	S5-08003NRC	UM	UM-S31120M	UM-S31230M
	1000A	S5-10003PCC	S5-10003NCC			
	1250A	S5-12503PCC	S5-12503NCC			
Size 4 | S5	1000A	S5-10003PSC	S5-10003NSC	UM	UM-S41120M	UM-S41230M
	1250A	S5-12503PSC	S5-12503NSC			
	1600A	S5-16003PSC	S5-16003NSC			
	1800A	S5-18003PSC	S5-18003NSC			
	2000A	S5-20003PDC	S5-20003NDC			
Size 5 | S5N	2000A	S5N20003PPC	S5N20003NPC	UM	-	UM-S56230M
	2500A	S5N25003PPC	S5N25003NPC			
	3150A	S5N31503PPC	S5N31503NPC			

UM + S5 size 3 normal mounting
UM + S5 size 4 normal mounting
UM + S5N size 5 normal mounting

Technical information

According to IEC 60947-3

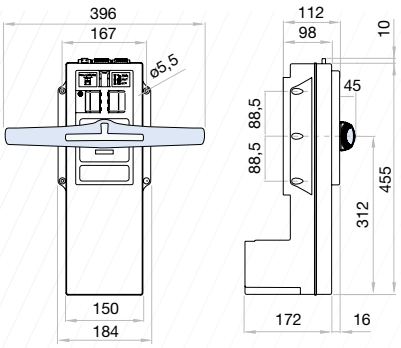
UM

Voltage supply		120Vac *(2)	230Vac *(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	-	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	0,275	0,275
Number of UM operations S5/3 - S5/4	Cycles	3000	3000
Operation rate (0-I-0) *(4)	Cycles/hour	20	20
Number of UM operations S5N/5	Cycles	600	600
Operation rate (0-I-0) *(4)	Cycles/hour	20	20
Working temperature range	Tª 85%Un	- 25ºC ... + 55ºC	
	Tª Un	- 25ºC ... + 55ºC	
	Tª 115%Un	- 25ºC ... + 55ºC	
Transportation and storage temperature		- 40ºC ... + 70ºC	
UM weight	Kg	4,4	

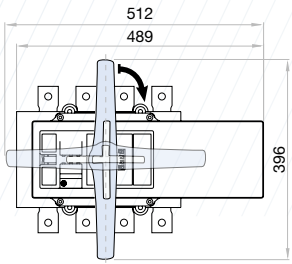
*(1) UM Kit code is related to the code of switch from its section depending on size and it is for normal mounting. For different type of mounting or different code of switch or UM Kit please consult.
*(2) For DC values, consult please.
*(3) Operating voltage range for the reference UM-S56230M is 0,9*Vn to 1,1*Vn
*(4) According to IEC 60947-3.

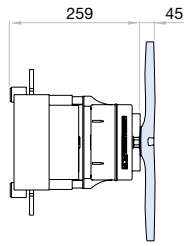
Dimensions (mm)

UM

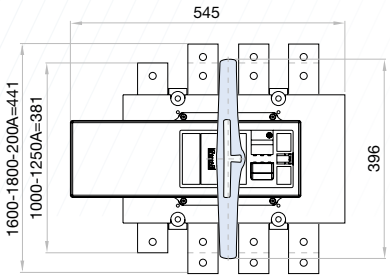


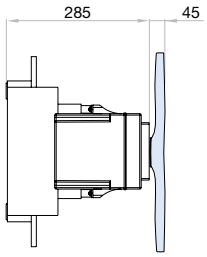
S5 size 3 + UM



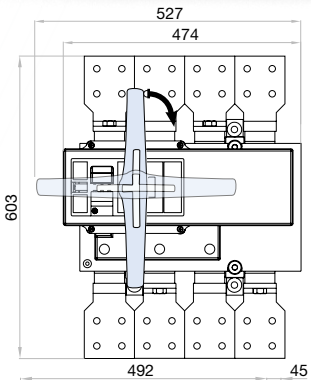


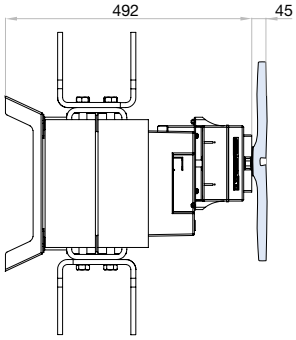
S5 size 4 + UM





S5N 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

series UM-S

UM-S (MODBUS)
Motorized unit kit for base mounting switches 6P - 8P

S6N Size 2 ready to motorize (500A... 630A)
S5M Size 3 ready to motorize (800A... 1000A)
S5N Size 4 ready to motorize (1250A... 2000A)

		CODE - 6P *(1)	CODE - 8P *(1)		CODE - 120 Vac *(1)	CODE - 230 Vac *(1)
Size 2 | S6N	500A	S6N05006PRC	S6N05008PRC	UM	UM-S26120M	UM-S26230M
	630A	S6N06306SC	S6N06308PSC			
Size 3 | S5M	800A	S5M08006PRC	S5M08008PRC	UM	UM-S35120M	UM-S35230M
	1000A	S5M10006PCC	S5M10008PCC			
Size 4 | S5N	1250A	S5N12506PSC	S5N12508PSC	UM	-	UM-S56230M
	1600A	S5N16006PSC	S5N16008PSC			
	1800A	S5N18006PSC	S5N18008PSC			
	2000A	S5N20006PDC	S5N20008PDC			

UM + S6N normal mounting
UM + S5M normal mounting
UM + S5N normal mounting

UM + S5M 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	S6N	A	6,3	5,5
	S5M|S5N	A	11	11
Nominal Current during operation	S6N	A	3	3
	S5M|S5N	A	-	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	S6N	s	0,25	0,25
	S5M|S5N	s	0,275	0,275
Number of UM operations S6N/2		Cycles (category B)	1000	1000
Operation rate (0-I-0) *(4)		Cycles/hour	60	60
Number of UM operations S5M/3		Cycles	3000	3000
Operation rate (0-I-0) *(4)		Cycles/hour	20	20
Number of UM operations S5N/4		Cycles	600	600
Operation rate (0-I-0) *(4)		Cycles/hour	20	20
Working temperature range		Tª 85%Un	- 25°C ... + 55°C	
		Tª Un	- 25°C ... + 55°C	
		Tª 115%Un	- 25°C ... + 55°C	
Transportation and storage temperature			- 40°C ... + 70°C	
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.

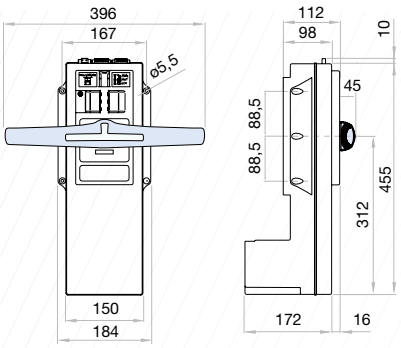
*(3) Operating voltage range for the reference UM-S56230M is 0,9*Vn to 1,1*Vn

*(4) According to IEC 60947-3.

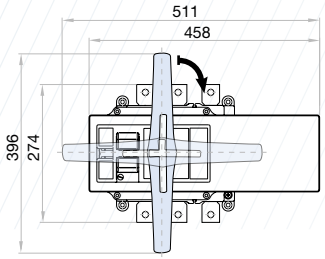
*(5) For inverted mounting there are references for UM with inverted frontal plates. Supply under request.

Dimensions (mm)

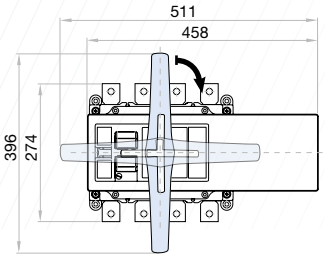
UM



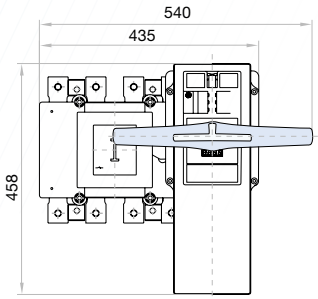
S6N 6P size 2 + UM



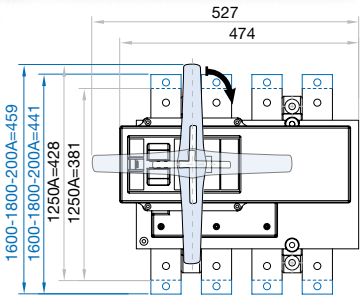
S6N 8P size 2 + UM

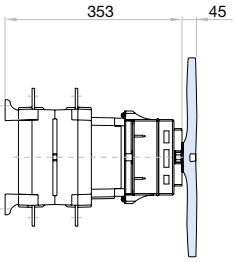


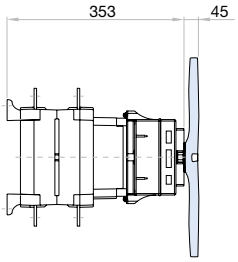
S5M size 3 + UM

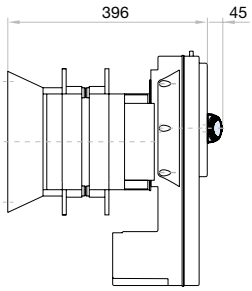


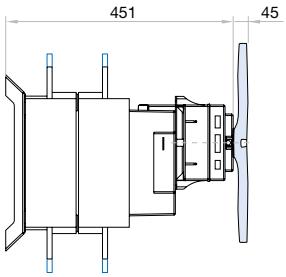
S5N size 4 + UM











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

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

Technical information

According to IEC 60947-3

UM

		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	0,95*V to 1,10*V	0,95*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

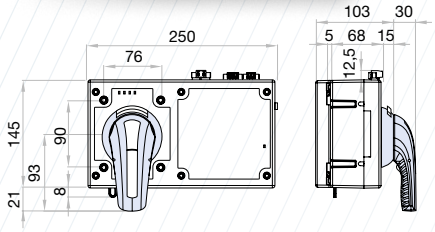
*(1) UM Kit code is related to the code of switch from its section depending on size and it is for normal mounting.
For different type of mounting or different code of switch or UM Kit please consult.

*(2) For DC values, consult please.

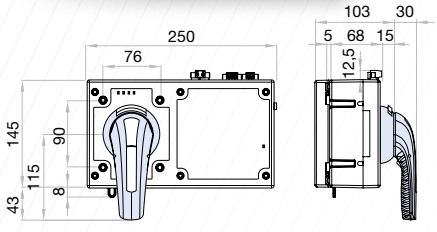
*(3) Based in our own tests.
There are changeover switch versions without 0 - OFF position:
S5F (I - II) = S5D_ _ _ _ _.
CCF "overlapped" (I - I+II - II) = CCS_ _ _ _ _.
CCP "overlapped" (I - I+II - II) = CCT_ _ _ _ _.
S5B "overlapped" (I - I + II - II) = S5S_ _ _ _ _. Consult.

Dimensions (mm)

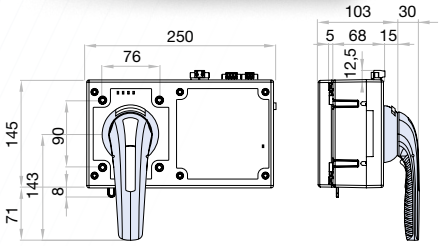
UM for size 0



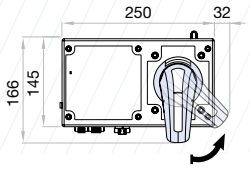
UM for size 1



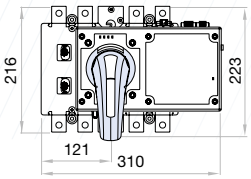
UM for size 2



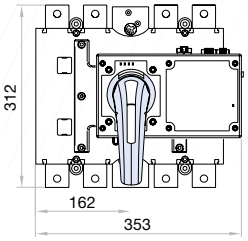
S5F size 0 + UM



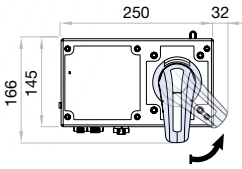
CCF size 1 + UM



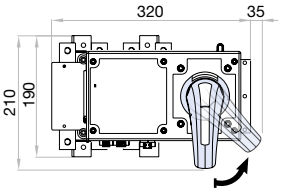
CCF size 2 + UM

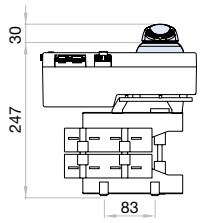


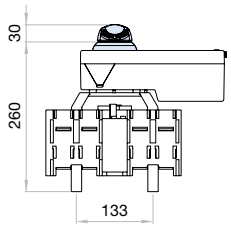
S5B size 0 + UM

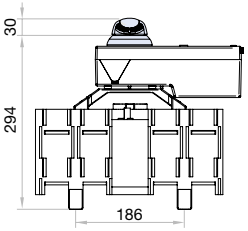


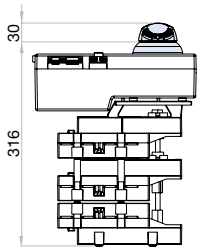
S5B size 1 + UM

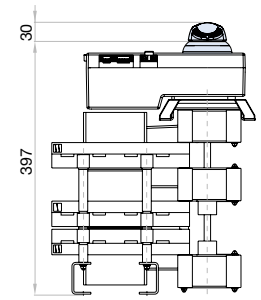












EMC table (Electromagnetic compatibility)

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

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	- 25°C ... + 55°C	
	Tª 115%Un	- 25°C ... + 55°C	
Transportation and storage temperature		- 40°C ... + 70°C	
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.

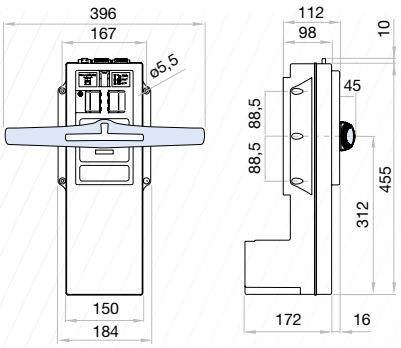
*(3) Operating voltage range for the reference UM-C55230M is 0,9*V to 1,10*V.

*(4) According to IEC 60947-3.

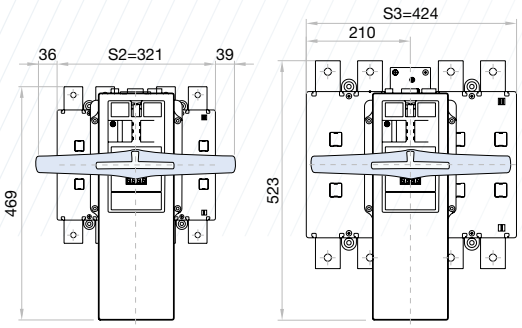
*(5) For inverted mounting there are references for UM with inverted frontal plates.
Supply under request. There are changeover switchs versions without 0 - OFF position:
S5F (I - II) = S5D_ _ _ _ _.
CCF "overlapped" (I - I+II - II) = CCS_ _ _ _ _.
CCP "overlapped" (I - I+II - II) = CCT_ _ _ _ _. Consult.

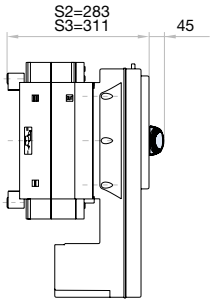
Dimensions (mm)

UM

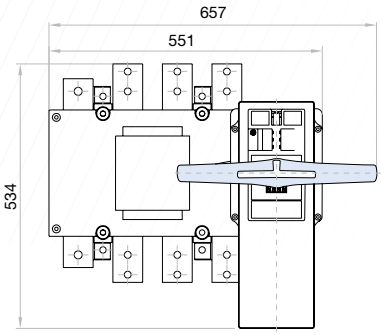


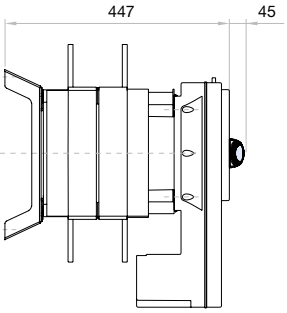
CCF sizes 2-3 + UM



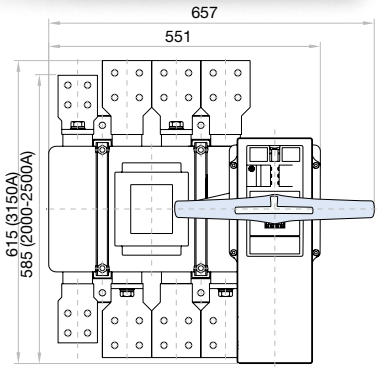


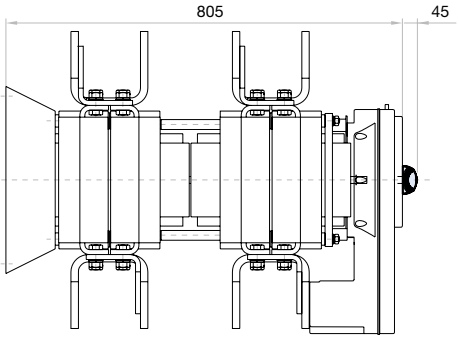
S5F size 4 + UM





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

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

Technical information

CE IEC

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 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.

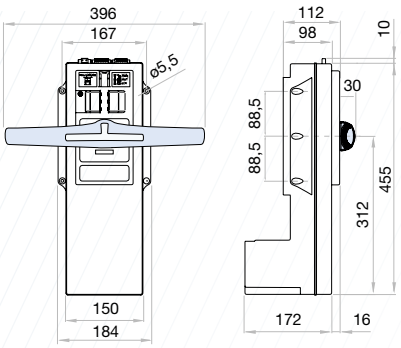
*(3) Operating voltage range for the reference UM-C44230M is 0,9*V to 1,10*V.

*(4) According to IEC 60947-3.

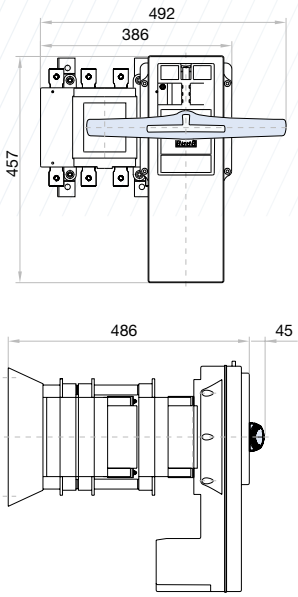
*(5) For inverted mounting there are references for UM with inverted frontal plates. Supply under request.
There are by-pass S5B versions without 0 - OFF "overlapped":
S5B "overlapped" (I - I + II - II) = S5S_ _ _ _. Consult.

Dimensions (mm)

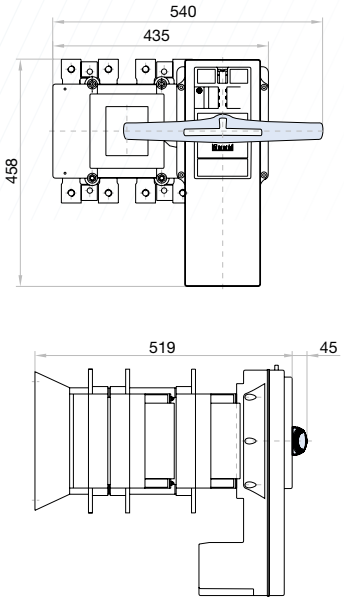
UM



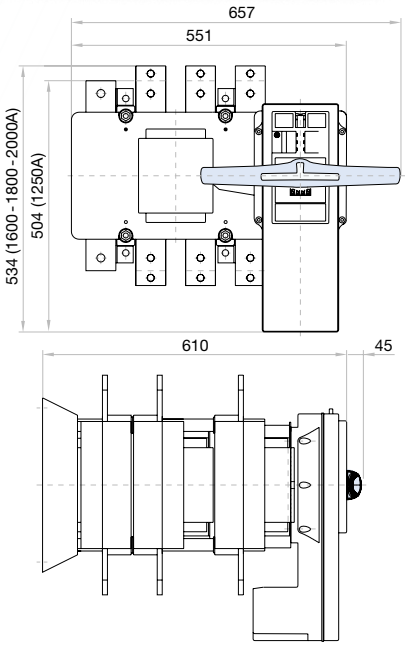
S5B size 2 + UM



S5B size 3 + UM



S5B size 4 + 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