

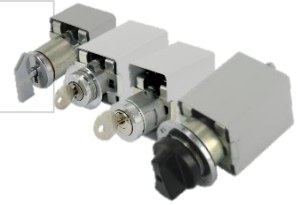
TYPE C HANDLE AND KEY SWITCHES



CONTROL AND SIGNALING SOLUTIONS FOR HARSH ENVIRONMENTS



TYPE C HANDLE AND KEY SWITCHES



Robust

Long life durability :

- A reliability recognized for more than 40 years
- Qualified according to nuclear standards IEEE 323 & 344
- A foolproof mechanical and electrical robustness
- Applications in harsh environments

Configurable

Adaptable to your applications :

- Very numerous available functions:
 - Turn with handle
 - Turn with key
- Up to 30 Turn contacts
- Many key combinations available
- Many special adaptation and possibility to realize diagrams on request

APPLICATION

> Electrical equipment's control.

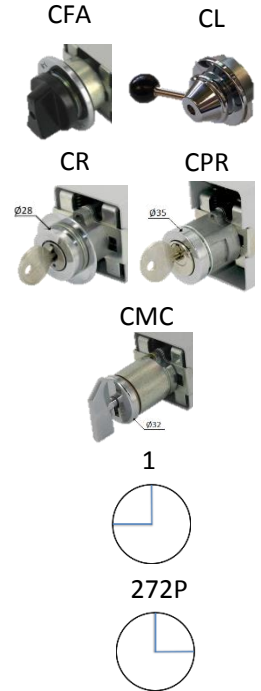
- These switches have a particularly strong design which allows them very numerous applications in severe environments (shocks, vibrations, temperature, radiations, earthquakes).
- This range of product is a reference for more than 40 years in control room of nuclear power plants worldwide. It also equips very numerous electrical distribution plants and railways electrical dispatch.
- This range allows to realize all your functions of control switches.

Codification of products

Types	Special assembly	Contacts ans scheme	Accessories	Signaling and lamps	Handle type	Key number	Escutcheon plate or special accessories
Eg1 : CFA1 /	- /	F3-O3+73160	/45X45+PD /	- /	MN /	- /	PRC //
Eg2 : CR272P /	- /	F2-O2+73081	/45X45+PD /	- /	- /	2122E /	PRC //

Types

- CFA** | Black handle Ø 34 (Drilling Ø 25)
 - CL** | Ball handle with long lever (Drilling Ø 25)
 - CR** | Ronis key command (Drilling Ø 22,5)
 - CPR** | Ronis key (piston barrel) command (Drilling Ø 29,5)
 - CMC** | ENTRELEC key (Drilling Ø 25)
 - 1** | Presentation is followed by the function number.
Eg1 : function 1 = Handle switch with 2 fixed positions (9h-12h)
 - 272P** | Eg2 : function 272P = Key switch with 2 fixed positions (12h-15h)
Key free in position 3 only
- (Cf. currently used diagrams, function numbers tables)*



Special assembly

- 1-3** | Indication of a special positioning different from the standard of the function
eg = position 1-3 in replacement of position 3-5 for 272P function

Contacts and scheme

Example of reference construction

F3-O3
Turn function contact configuration

73160
MAFELEC scheme number
corresponding this function

F3-O3+73160

POSITIONS	TOURNER					
	20 020	21 021	22 022	23 023	24 024	25 025
1		←	X	X		X
3		↑	X	X	X	

F : Number of Normally Open contacts (NO)
O : Number of Normally Close contacts (NC)

If the switch have more than 2 positions only the MAFELEC scheme number is indicated in this section

Codification of products

Types	Special assembly	Contacts ans scheme	Accessories	Signaling and lamps	Handle type	Key number	Escutcheon plate or special accessories
Eg1: CFA1	-	F3-O3+73160	/45X45+PD	-	MN	-	PRC
Eg2: CR272P	-	F2-O2+73081	/45X45+PD	-	-	2122E	PRC

Accessories

45X45 or
70X45

Plastic contacts cover (Included in standard)
Dimension 45X45 up to 8 contacts and 70X45 beyond

PD

Rear plate cutted to allow rear cable outlet *(Included in standard)*

ST

Metallic cable support for rear cable outlet

CF

Protective cover split on one side to allow an easy placement after wiring

Z

Use of contacts in alloy Gold-Silver in replacement of contacts in alloy Silver/Nickel
(Recommended for low current level applications)

45X45



PD



ST

Z



Signaling and lamps

- Not applicable : Only TPL or TL switches (CM and CP) can be equipped with lamps

Handle type

- Not applicable :
 - CL switches are always equipped with chromed handle with lever and black ball
 - This section is not applicable for key switches

MN

CFA switches are always equipped with a black handle

CL



CFA



Codification of products

Types	Special assembly	Contacts ans scheme	Accessories	Signaling and lamps	Handle type	Key number	Escutcheon plate or special accessories
Eg1: CFA1	-	F3-O3+73160	/45X45+PD	-	MN	-	PRC
Eg2: CR272P	-	F2-O2+73081	/45X45+PD	-	-	2122E	PRC

Key number

- Not applicable : This section is not applicable for handle switches

2122E Example of standard key number for a CR switch (*many others key combination on request, eg : 2131A 2312E*)



N23443 Example of standard key number for a CPR switch (piston barrel) (*many others key combination on request, eg : N22312*)

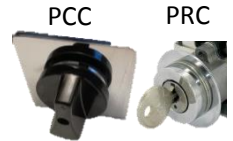


CLE1 Example of standard key number for a CMC switch (hammer keys) (*16 different profiles of keys, CLE1 to CLE16 available on request*)



Escutcheon plate and accessories

PCC Square chromed escutcheon (for engraving) : □ 58 for CFA or CL ;
□ 40 for CR ; □ 47 for CPR



PRC Round chromed escutcheon (for engraving) : Ø 50 for CFA or CL ;
Ø 40 for CR ; Ø 47 for CPR

PRCG



G « G » in complement of PCC or PRC indicate that product is engraved
Possibility of engraving on request

CG Bezel of CMC switches can be engraved
Possibility of engraving on request

CG



- Product without escutcheon plate



Currently used diagrams : CFA or CL switches



- **Function 1** : 2 fixed positions at 90° or 45°

73160 is a multi types schemes used for positions 1-3 and for contacts configurations from F1-O1 to F15-O15 (Up to 15 normally open contacts and 15 normally close contacts)

Eg: CFA1 or CL1.../F3-O3+73160/ ...

POSITIONS		TOURNER					
		20 020	21 021	22 022	23 023	24 024	25 025
1			X		X		X
3		X		X		X	

78848 is a multi types schemes used for positions 1-3 and for contacts configurations from O2 à O30 (Up to 30 normally close contacts)

Eg: CFA1 or CL1.../O6+78848/ ...

POSITIONS		TOURNER					
		20 020	21 021	22 022	23 023	24 024	25 025
1		X	X	X	X	X	X
3							

73081 is a multi types schemes used for positions 3-5 and for contacts configurations from F1-O1 to F15-O15 (Up to 15 normally open contacts and 15 normally close contacts)

Eg: CFA1 or CL1.../F6-O6+73081/ ...

POSITIONS		TOURNER											
		20 020	21 021	22 022	23 023	24 024	25 025	26 026	27 027	28 028	29 029	30 030	31 031
3			X		X		X		X		X		X
5		X		X		X		X		X		X	

73266 is a multi types schemes used for positions 3-5 and for contacts configurations from O2 à O30 (Up to 30 normally close contacts)

Eg: CFA1 or CL1.../O6+73266/ ...

POSITIONS		TOURNER					
		20 020	21 021	22 022	23 023	24 024	25 025
3		X	X	X	X	X	X
5							

Currently used diagrams : CFA or CL switches

- **Function 1 : 2 fixed positions at 90° or 45°**



73363 is a multi types schemes used for positions 3-4 and for contacts configurations from F1-O1 to F15-O15 (Up to 15 normally open contacts and 15 normally close contacts)

Eg: CFA1 or CL1.../F3-O3+73363/ ...

POSITIONS			TOURNER					
			20	21	22	23	24	25
			020	021	022	023	024	025
3			X		X		X	
4		X		X		X		

73111 is a multi types schemes used for positions 3-4 and for contacts configurations from F2 à F30 (Up to 30 normally open contacts)

Eg: CFA1 or CL1.../F6+73111/ ...

POSITIONS			TOURNER					
			20	21	22	23	24	25
			020	021	022	023	024	025
3								
4		X	X	X	X	X	X	

74469 is a multi types schemes used for positions 3-5 and for contacts configurations from F2 à F30 (Up to 30 normally open contacts)

Eg: CFA1 or CL1.../F12+74469/ ...

POSITIONS			TOURNER											
			20	21	22	23	24	25	26	27	28	29	30	31
			020	021	022	023	024	025	026	027	028	029	030	031
3														
5		X	X	X	X	X	X	X	X	X	X	X	X	

We are able to realize all others diagrams on request in the limit of 30 Turn contacts.

We can realize your 2 positions switch for the positioning variants below :



Currently used diagrams : CFA or CL switches

- **Functions 16A and 16B : 1 fixed position + 1 impulse position at 90° or 45°**



CFA16B or CL16B.../2-4/CM21015/ ...

POSITIONS		TOURNER	
		20 020	21 021
2			
4	i	X	X

i We are able to realize all others diagrams on request in the limit of 10 Turn contacts

We can realize your switch for the positioning variants below :

16A

16B



- **Function 31 : 3 fixed positions at 90° or 45°**

CFA31 or CL31.../83760/ ...

POSITIONS		TOURNER									
		20 020	21 021	22 022	23 023	24 024	25 025	26 026	27 027	28 028	29 029
1		X	X	X							
3					X	X	X				
5								X	X	X	X

CFA31 or CL31.../70466/ ...

POSITIONS		TOURNER	
		20 020	21 021
1			
3		X	
5			X

i We are able to realize all others diagrams on request in the limit of 30 Turn contacts

We can realize your switch for the positioning variants below :



Currently used diagrams : CFA or CL switches

- **Functions 316A and 316B** : 2 fixed positions at 90° or 45° + 1 impulse position at 45°



CFA316A or CL316A.../81906/ ...

POSITIONS		TOURNER			
		20 020	21 021	22 022	23 023
2	i		X		X
3				X	X
5				X	

CFA316B or CL316B.../CM21026/ ...

POSITIONS		TOURNER	
		20 020	21 021
2			
3			X
4	i		X X

i We are able to realize all others diagrams on request in the limit of 10 Turn contacts

We can realize your switch for the positioning variants below :

316A

316B



- **Function 36** : 1 fixed position + 2 impulse positions at 90° or 45°

CFA36 or CL36.../CM21020/ ...

POSITIONS		TOURNER	
		20 020	21 021
2	i		X
3			
4	i		X

i We are able to realize all others diagrams on request in the limit of 10 Turn contacts

We can realize your switch for the positioning variants below :



Currently used diagrams : CFA or CL switches



- **Function 41 : 4 fixed positions at 45°**

CFA41 or CL41.../80529/ ...

POSITIONS		TOURNER			
		20 020	21 021	22 022	23 023
3		X			
4			X		
5				X	
6					X



We are able to realize all others diagrams on request in the limit of 10 Turn contacts

- **Function 51 : 5 fixed positions at 45°**

CFA51 or CL51.../70058/ ...

POSITIONS		TOURNER				
		20 020	21 021	22 022	23 023	24 024
1		X				
2			X			
3				X		
4					X	
5					X	X



We are able to realize all others diagrams on request in the limit of 30 Turn contacts



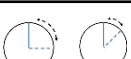



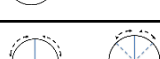








We are able to realize turn switches :

- 6 fixed positions (function 61) or 7 fixed positions (function 71) or 8 fixed positions (function 81)



Turn with handle functions summary table



CFA or CL switches			
Positions	examples	Functions*	Number of contacts maximum
2 Fixed positions	1 	1	30
2 positions including 1 impulse	16A  16B 	16A 16B	10
3 fixed positions	31 	31	30
3 positions including 1 impulse	316A  316B 	316A 316B	10
3 positions including 2 impulse	36 	36	10
4 fixed positions	41 	41	30
4 positions including 1 impulse	416A  416B 	416A 416B	20
5 fixed positions	51 	51	30
4 positions including 2 impulse	516C 	516C	10
6,7,8 positions	61  71  81 	61 71 81	30

i For handle switches , the initial reference position is the position 1 (9h).

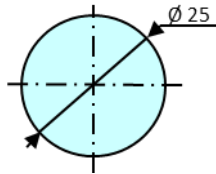
**Others realization on request*

Dimensions

Drillings



Handle switches type CFA or CL



i Refer to installation guide for type C switches for installation and maintenance

Rear length

Total rear length = **A** + 12 **x**

A = Fixed dimensions in the table below

x = number of Turn stages (2 contacts per stage)

CFA or CL switches		
Functions	Number of contacts less or equal to:	Fixed dimension A mm
1	20	46
	30	67
16A or 16B	10	75
31	20	46
	30	67
316A or 316B	10	92
36	10	75
41	20	46
	30	67
416A or 416B	10	63
51	20	46
	30	67
516C	10	80
61 or 71 or 81	20	46
	30	67

* The specifications and drawings given are subject to change and are not binding unless confirmed by our specialists.

Currently used diagrams : CR or CPR switches



- **Function 272P or 272L : 2 fixed positions at 90° or 45°**

i Refer to function summary table to determinate key release positions

73081 is a multi types schemes used for positions 3-5 and for contacts configurations from F1-O1 to F10-O10 (Up to 10 normally open contacts and 10 normally close contacts)

Eg: CR272P or CPR272P.../F6-O6+73081/ ...

POSITIONS	TOURNER											
	20 020	21 021	22 022	23 023	24 024	25 025	26 026	27 027	28 028	29 029	30 030	31 031
3			X		X		X		X		X	
5		X		X		X		X		X		X

73266 is a multi types schemes used for positions 3-5 and for contacts configurations from O2 à O20 (Up to 20 normally close contacts)

Eg: CR272P or CPR272P.../O6+73266/ ...

POSITIONS	TOURNER					
	20 020	21 021	22 022	23 023	24 024	25 025
3		X	X	X	X	X
5						

73111 is a multi types schemes used for positions 3-4 and for contacts configurations from F2 à F20 (Up to 20 normally open contacts)

Eg: CR272P or CPR272P.../F6+73111/ ...

POSITIONS	TOURNER					
	20 020	21 021	22 022	23 023	24 024	25 025
3						
4	X	X	X	X	X	X

74469 is a multi types schemes used for positions 3-5 and for contacts configurations from F2 à F20 (Up to 20 normally open contacts)

Eg: CR272P or CPR272P.../F12+74469/ ...

POSITIONS	TOURNER											
	20 020	21 021	22 022	23 023	24 024	25 025	26 026	27 027	28 028	29 029	30 030	31 031
3												
5	X	X	X	X	X	X	X	X	X	X	X	X

i We are able to realize all others diagrams on request in the limit of 10 Turn contacts (possibility to refer also on a multi types schemes for a 2 positions handle switch)

We can realize your switch for the positioning variants below :



Currently used diagrams : CR or CPR switches



- **Functions 16A and 16B : 1 fixed position + 1 impulse position at 90° or 45°**

CM20786 is a multi types schemes used for positions 2-3 and for contacts configurations from F2 à F10 (Up to 10 normally open contacts)

Eg: CR16A or CPR16A.../F4+CM20786/ ...

POSITIONS		TOURNER				
		20 020	21 021	22 022	23 023	
2	i		X	X	X	X
3						

Eg: CR16B or CPR16B.../71894/ ...

POSITIONS		TOURNER				
		20 020	21 021	22 022	23 023	
3						
5	i		X	X	X	X

i We are able to realize all others diagrams on request in the limit of 10 Turn contacts

We can realize your switch for the positioning variants below :

16A

16B

- **Function 273P or 273L : 3 fixed positions at 90° or 45°**

CR273P or CPR273P.../84391/ ...

POSITIONS		TOURNER													
		20 020	21 021	22 022	23 023	24 024	25 025	26 026	27 027	28 028	29 029	30 030	31 031	32 032	33 033
3			X	X	X	X									
5						X	X	X	X	X					
7											X	X	X	X	X

CR273L or CPR273L.../83494/ ...

POSITIONS		TOURNER			
		20 020	21 021	22 022	23 023
1					X
3			X	X	X
5			X	X	X

i We are able to realize all others diagrams on request in the limit of 20 Turn contacts

We can realize your switch for the positioning variants below :

Currently used diagrams : CR or CPR switches



- **Functions 279A and 279B : 2 fixed positions at 90° + 1 impulse position at 45°**

CR279A or CPR279A.../84358/ ...

POSITIONS			TOURNER			
			20 020	21 021	22 022	23 023
2	i		X		X	
3						X
5			X	X		

CR279B or CPR279B.../83980/ ...

POSITIONS			TOURNER			
			20 020	21 021	22 022	23 023
1				X		
3			X	X		X
4	i		X		X	

i We are able to realize all others diagrams on request in the limit of 10 Turn contacts

We can realize your switch for the positioning variants below :



- **Function 36 : 1 fixed position + 2 impulse positions at 90° or 45°**

CR36 or CPR36.../80607/ ...

POSITIONS			TOURNER						
			20 020	21 021	22 022	23 023	24 024	25 025	
2	i					X	X		
3									
4	i		X	X	X			X	

CR36 or CPR36.../71992/ ...

POSITIONS			TOURNER						
			20 020	21 021	22 022	23 023	24 024	25 025	26 026
1	i			X	X	X			
3								X	X
5	i		X	X	X				

i We are able to realize all others diagrams on request in the limit of 10 Turn contacts

We can realize your switch for the positioning variants below :



Currently used diagrams : CR or CPR switches



- **Function 274P or 274L : 4 fixed positions at 90° or 45°**

CR274P or CPR274P.../82420/ ...

POSITIONS	TOURNER			
	20 020	21 021	22 022	23 023
1		X		
3			X	
5				X
7				X

i We are able to realize all others diagrams on request in the limit of 20 Turn contacts

We can realize your switch for the positioning variants below :



- **Function 289A or 289B : 3 fixed positions at 90° + 1 impulse position at 45°**

CR289B or CPR289B.../80294/ ...

POSITIONS	TOURNER					
	20 020	21 021	22 022	23 023	24 024	25 025
1			X			
3		X				X
4	i	X		X		
7		X			X	

i We are able to realize all others diagrams on request in the limit of 10 Turn contacts

We can realize your switch for the positioning variants below :



- **Function 275P, 276P, 277P, 278P : 5,6,7,8 fixed positions at 45°**

i We are able to realize all others diagrams on request in the limit of 20 Turn contacts

We can realize your switch for the positioning variants below :



Turn with Ronis key functions summary table



CR or CPR switches				
Positions	examples	Functions	observations	Number of contacts maximum
2 fixed positions	272P	272P	Key free in position 3 only	20
	272L	272L	Key free in positions 3 and 5 at 90°	20
2 positions including 1 impulse	16A 16B	16A 16B	Key free in position 3 only	10
3 fixed positions	273P	273P	Key free in position 3 only	20
	273L	273L	Key free in all positions	10
3 positions including 1 impulse	279A 279B	279A 279B	Key can be free only in fixed positions	10
3 positions including 2 impulse	36	36	Key free in position 3 only	10
4 fixed positions	274P	274P	Key free in position 3 only*	20
	274L	274L	Key free in the 4 positions at 90°	20
3 positions including 1 impulse	289A 289B	289A 289B	Key can be free only in fixed positions	10
5,6,7,8 positions	275P 276P 277P 278P	275P 276P 277P 278P	Key can be free only in the position 3	20

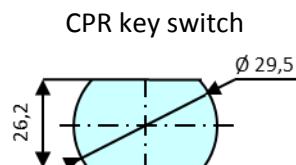
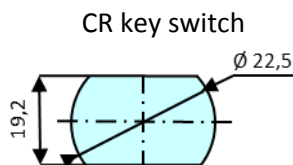


For key switches, the initial reference position is the position 3 (12h).

*Others combinations with key free on request

Dimensions

Drilling



i Refer to installation guide for type C switches for installation and maintenance

Rear length

Rear length : Total rear length = $A + 12 \times x$

A = Fixed dimensions in the table below

x = number of Turn stages (2 contacts per stage)

CR and CPR switches			
Functions	Number of contacts maximum	Fixed dimensions A in mm	
		CR	CPR
272P	20	47	56
272L	20	47	-
16A or 16B	10	91,5	100,5
273P	20	47	56
273L	20	47	-
279A or 279B	10	64	-
36	10	91,5	100,5
274P	20	47	56
274L	20	47	-
289A or 289B	10	64	-
275P or 276P or 277P or 278P	20	47	56

Currently used diagrams : CMC switches



- **Function 272P or 272L** : 2 fixed positions at 90° or 45°

i Refer to function summary table to determinate key release positions

73081 is a multi types schemes used for positions 3-5 and for contacts configurations from F1-O1 to F10-O10 (Up to 10 normally open contacts and 10 normally close contacts)

Eg: CMC272P.../F6-O6+73081/ ...

POSITIONS	TOURNER											
	20 020	21 021	22 022	23 023	24 024	25 025	26 026	27 027	28 028	29 029	30 030	31 031
3		X		X		X		X		X		X
5		X	X	X	X	X	X	X	X	X	X	X

73266 is a multi types schemes used for positions 3-5 and for contacts configurations from O2 à O20 (Up to 20 normally close contacts)

Eg: CMC272P.../O6+73266/ ...

POSITIONS	TOURNER					
	20 020	21 021	22 022	23 023	24 024	25 025
3		X	X	X	X	X
5						

73111 is a multi types schemes used for positions 3-4 and for contacts configurations from F2 à F20 (Up to 20 normally open contacts)

Eg: CMC272P .../F6+73111/ ...

POSITIONS	TOURNER					
	20 020	21 021	22 022	23 023	24 024	25 025
3						
4		X	X	X	X	X

74469 is a multi types schemes used for positions 3-5 and for contacts configurations from F2 à F20 (Up to 20 normally open contacts)

Eg: CMC272P .../F12+74469/ ...

POSITIONS	TOURNER											
	20 020	21 021	22 022	23 023	24 024	25 025	26 026	27 027	28 028	29 029	30 030	31 031
3												
5		X	X	X	X	X	X	X	X	X	X	X

i We are able to realize all others diagrams on request in the limit of 20 Turn contacts for function 272P and 30 Turn contacts for function 273L.

(possibility to refer also on a multi types schemes for a 2 positions handle switch)

We can realize your switch for the positioning variants below :



Currently used diagrams : CMC switches



- **Functions 16A et 16B** : 1 fixed position + 1 impulse position at 90° or 45°

CM20786 is a multi types schemes used for positions 2-3 and for contacts configurations from F2 à F10 (Up to 10 normally open contacts)

Eg: CMC16A.../F4+CM20786/ ...

POSITIONS		TOURNER			
		20 020	21 021	22 022	23 023
2	i		X	X	X
3					

Eg: CMC16B.../70785/ ...

POSITIONS		TOURNER				
		20 020	21 021	22 022	23 023	24 024
3			X		X	X
5	i		X	X	X	

i We are able to realize all others diagrams on request in the limit of 10 Turn contacts

We can realize your switch for the positioning variants below :

16A



16B



- **Function 273P or 273L** : 3 fixed positions at 90° or 45°

CMC273L.../73116/ ...

POSITIONS		TOURNER									
		20 020	21 021	22 022	23 023	24 024	25 025	26 026	27 027	28 028	29 029
1			X		X	X					
3							X	X	X	X	X
5		X		X			X		X	X	

CMC273L.../84255/ ...

POSITIONS		TOURNER													
		20 020	21 021	22 022	23 023	24 024	25 025	26 026	27 027	28 028	29 029	30 030	31 031	32 032	33 033
1			X		X	X				X				X	X
3							X	X	X		X		X	X	
5		X		X			X		X		X	X	X		

i We are able to realize all others diagrams on request in the limit of 20 Turn contacts for function 273P and 30 Turn contacts for function 273L.

We can realize your switch for the positioning variants below :



Currently used diagrams : CMC switches



- **Functions 279A et 279B** : 2 fixed positions at 90° + 1 impulse position at 45°

i We are able to realize all others diagrams on request in the limit of 10 Turn contacts

We can realize your switch for the positioning variants below :



- **Function 36** : 1 fixed position + 2 positions à impulsion at 90° or 45°

CMC36.../74577/ ...

POSITIONS		TOURNER									
		20 020	21 021	22 022	23 023	24 024	25 025	26 026	27 027	28 028	29 029
1	i				X	X		X		X	
3			X	X							
5	i			X	X		X		X		

i We are able to realize all others diagrams on request in the limit of 10 Turn contacts

We can realize your switch for the positioning variants below :



Function 274P or 274L : 4 fixed positions at 90° or 45°

CMC274P.../83906/ ...

POSITIONS		TOURNER													
		20 020	21 021	22 022	23 023	24 024	25 025	26 026	27 027	28 028	29 029	30 030	31 031		
2			X				X			X			X		
3															
4				X	X		X			X					
5				X	X		X			X			X		

i We are able to realize all others diagrams on request in the limit of 20 Turn contacts

We can realize your switch for the positioning variants below :



Currently used diagrams : CMC switches



- **Function 289A or 289B : 3 fixed positions at 90° + 1 position à impulsion at 45°**

CMC289A.../83118/ ...

POSITIONS	TOURNER												
	20 020	21 021	22 022	23 023	24 024	25 025	26 026	27 027	28 028	29 029	30 030	31 031	
2	i									X	X	X	X
3													
5			X		X		X		X				
7			X		X		X						

i We are able to realize all others diagrams on request in the limit of 10 Turn contacts

We can realize your switch for the positioning variants below :



- **Function 275P: 5 fixed positions at 45°**

CMC289A.../CM21115/ ...

POSITIONS	TOURNER												
	20 020	21 021	22 022	23 023	24 024	25 025	26 026	27 027	28 028	29 029	30 030	31 031	
1			X			X				X			
2				X			X				X		
3													
4					X			X				X	
5						X			X				X

i We are able to realize all others diagrams on request in the limit of 20 Turn contacts

We can realize your switch for the positioning variants below :



Turn with Entrelec key functions summary table



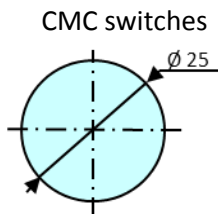
CMC switches				
Positions	examples	Functions	observations	Number of contacts maximum
2 fixed positions	272P	272P	Key free in position 3 only	20
	272L	272L	Key free in the 2 positions 3 et 5 at 90°	30
2 positions including 1 impulse	16A 16B	16A 16B	Key free in position 3 only	10
3 fixed positions	273P	273P	Key free in position 3 only	20
	273L	273L	Key free in all the positions	30
3 positions including 1 impulse	279A 279B	279A 279B	Key can be free only in fixed positions	10
2 positions including 2 impulse	36	36	Key free in position 3 only	10
4 fixed positions	274P	274P	Key free in position 3 only or in 1 and 3 or in 3 and 5	20
4 positions including 1 impulse	289A 289B	289A 289B	Key free in position 3 only	10
5 fixed positions	275P	275P	Key free in position 3 only or 1-3-5 maxi	20

i For key switches, the initial reference position is the position 3 (12h).

NOTE : for 3 or more positions, the operations can be effected to the right or to the left with the same key or with different keys.

Dimensions

Drilling



i Refer to installation guide for type C switches for installation and maintenance

Rear length

Rear length : Total rear length = $A + 12 \times x$

A = Fixed dimensions in the table below

x = number of Turn stages (2 contacts per stage)

CMC switches			
Functions	Number of contacts maximum	Fixed dimensions A in mm	
		Clé I to VI	Clé VII to XVI
272P	20	65	71
272L	30	86	92
16A or 16B	10	109,5	115,5
273P	20	65	71
273L	30	86	92
279A or 279B	10	82	88
36	10	109,5	115,5
274P	20	65	71
289A or 289B	10	82	88
275P	20	65	71

Electrical, mechanical, environmental characteristics



Electrical characteristics

Rated thermal current (I_{th})

10A

Dielectric strength

2500V-50Hz-1min

Rated alternate current (I_e) (AC)

Standard silver contacts	Turn	
Rated working voltages (V)	220	380
AC-11 (A)	7	5
AC-21 (A)	10	10
AC-22 (A)	10	10
AC-23 (A)	8	6

Rated direct current (I_e) (DC)

Standard silver contacts	Turn					
Rated working voltages (V)	24	48	60	110	127	220
DC-11 (A)	10	5,5	4	1,2	0,8	0,25
DC-21 (A)	10	10	10	3,5	2,5	0,8
DC-22 (A)	10	6	4,5	1,2	0,8	0,25
DC-23 (A)	10	4,5	3	1	0,7	0,2

Minimum utilization characteristics

Standard silver contacts

5V-50mA

Special Gold/Silver contacts

1V-10mA

Maximum connection (Cu only)

Rigid or flexible cable
Screw/clamp

2 X 2,5 mm² max

Electrical, mechanical, environmental characteristics



Mechanical and environmental characteristics

Mechanical strength	1 000 000 cycles of semi-intensive operation
Fixing	By central nut on a 2 to 5mm panel thick (with escutcheon) and 5 to 8mm (without escutcheon) The device does not have to support the weight of the cables
Tightening torque for terminals (Recommended screwdriver : \varnothing 4mm)	0,5-0,8 N.m
Terminals protection level	IP00 (without cover) – IP2X (with cover)