



COMELETRIC

Specialized rotary and control switches

S e r i e s F R M C 6 -
F R M M 6 I P 2 0

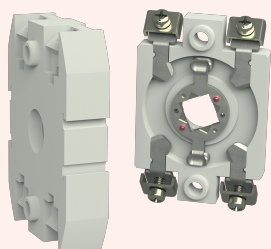




FRMC 6- FRMM 6 IP20 General Information	
FRMC 6- FRMM 6 IP20 Informazioni Generali	3-4
A701 Model	
Modello A701	5
A702 Model	
Modello A702	6
C708 Model	
Modello C708	7
C714 Model	
Modello C714	8
Switch functions and configuration	
Funzioni e configurazioni commutatori	11-27
Front dimensions	
Dimensioni frontali	31-32
D701 Model	
Modello D701	33
M704 Model	
Modello M704	34
DS functions and configurations	
Funzioni e configurazioni manipolatori	35-39
Accessories	
Accessori	40
Technical data	
Dati tecnici	41-42
Custom made models	
Modelli speciali	43

FRMC6-IP20

ECONOMIZE YOUR SPACE



Double bridge Rotor contact Knife type.
Fixed contacts with self-cleaning action.
Contatto mobile a doppio ponte contatti
fissi a coltello con azione strisciante
autopulente.



Geometric body insulation allows closed
mounting of switches (side by side).
La geometria dell'isolante permette il
montaggio ravvicinato dei commutatori
(side by side).

- The miniature witches/discrepancy switches "FRMC 6 - FRMM 6" are ideal solution for many industrial applications and are mainly used in Auxiliary Circuits for connection or disconnection of Relays, measuring instruments, etc... They have particular characteristics that distinguish them by common switches present on the market. Listed below are some of the many advantages they provide.

- Contact system with self-cleaning action on both sides of contact, suitable for being used in highly aggressive environments, with presence of high percentage of saline dust and corrosive agents.

- Notching mechanism designed for high-frequent switching; thanks to the layout and the special materials, longlasting life and reliability are guaranteed.

- High mechanical strength, shaft and main structure in zinc plated steel, suitable for tropical climates.

- High resistance to shock and vibration, due to the clip and blade contact design.

- Low contact resistance 5mΩ suitable for electronic circuits with low currents and voltages.

FRMC6-IP20

ECONOMIZE YOUR SPACE

- I microcommutatori / micromanipolatori serie "FRMC 6 - FRMM 6" sono la soluzione ideale per innumerevoli applicazioni industriali e vengono prevalentemente utilizzati in Circuiti Ausiliari per l'inserzione e la disinserzione di Relay, strumenti di misura, ecc... Essi presentano particolari caratteristiche che li distinguono dai comuni commutatori presenti sul mercato. Elenchiamo qui di seguito quali sono i vantaggi che offrono.

- Sistema a contatto strisciante con effetto autopulente su entrambe le superfici di contatto, particolarmente idonei ad essere utilizzati in ambienti altamente aggressivi, con presenza di polvere, alto tasso salino ecc....

- Gruppo scatto progettato per alta frequenza di commutazione; grazie al layout ed ai materiali speciali, la lunga durata ed affidabilità sono garantiti negli anni.

- Elevata robustezza meccanica, albero e struttura portante interamente in acciaio zincato elettroliticamente, idoneo ad essere montato anche in zone tropicali.

- Elevata resistenza a shock e vibrazioni grazie alla chiusura ed al design delle lame di contatto

- Bassa resistenza di contatto 5mΩ idonei in circuiti per elettronica con bassi valori di corrente e bassissimi voltaggi.

■ Insulating discs of IP20 models in technopolymer with high mechanical strength, high electrical features and self-extinguishing UL94V0.

■ Contacts thickly silver (standard) or gold plated on request.

■ Wide range of switching schemes.

■ Geometric body insulation allows economizing on space allowing close mounting of switches.

■ Numbered plastic cover, customizable and replaceable in case of failure without removing the wires to the switch.

■ 2/3 positions switch with the possibility of an internal common point (avoids external bridges).

■ Elementi isolanti dei modelli IP20 in tecnopolimero di ultima generazione con elevate caratteristiche elettriche e meccaniche, autoestinguente UL94V0.

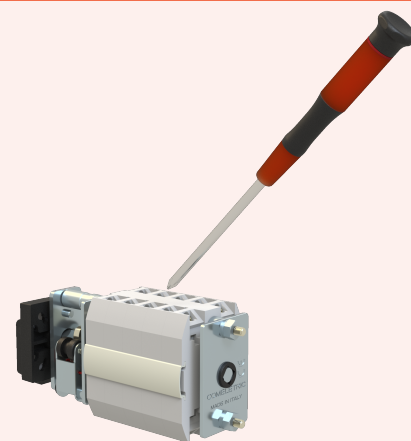
■ Contatti argentati (standard) o dorati su richiesta.

■ Ampia gamma di schemi elettrici realizzabili.

■ Geometria dell'isolante permette economizzazione degli spazi e di conseguenza un montaggio ravvicinato dei commutatori.

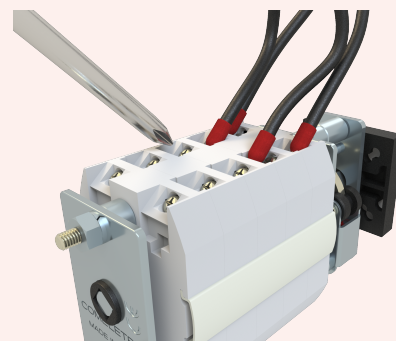
■ Tegolino con numerazione morsetti personalizzabile e sostituibile in caso di errore senza scablare il commutatore.

■ Commutatori a 2/3 posizioni con possibilità di comune interno (evita di eseguire ponticelli esterni).



Terminals with screws at 40° tilt angle, facilitating the access to the terminals from the rear of the switch.

Morsetti con viti inclinate a 40°. Agevola l'accesso ai terminali dal retro del commutatore.



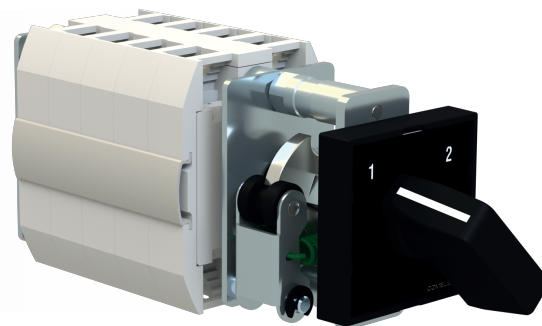
IP20 Finger proof Terminals. Protezione contro i contatti accidentali IP20.

A 7 0 1 Model:

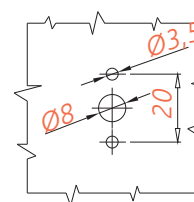
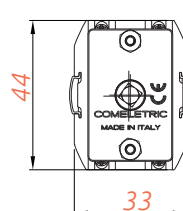
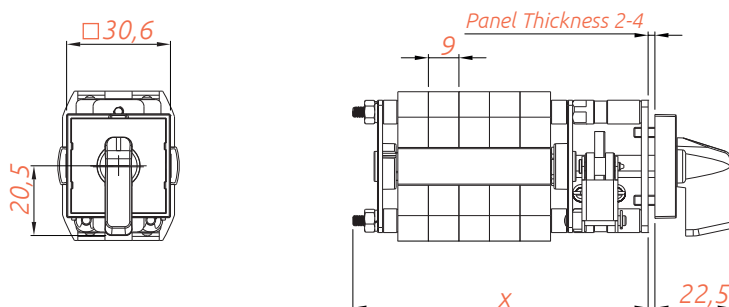
Can have from 2 to 8 positions, 45°-90°, up to max 12 packets of contacts. Captive screws. Suitable for wiring with forks/pins with cable lug size 1,5 mm. It is supplied with frontplate 30x30mm.

Realizza da 2 a 8 posizioni con spostamenti di 45° o 90°, fino ad un massimo di 12 pacchi di contatti.

Morsetti con cavaliere auto sollevante e vite anticaduta, idonei ad accogliere puntali/forcelle per cavo diametro 1,5 mm. Fornito con mostrina frontale 30x30mm.



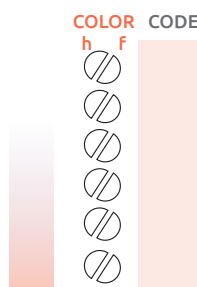
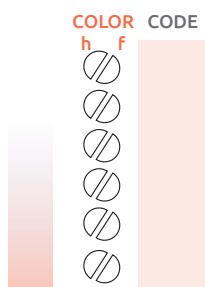
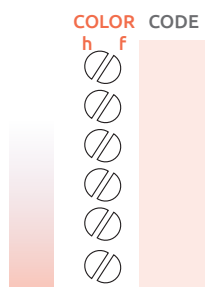
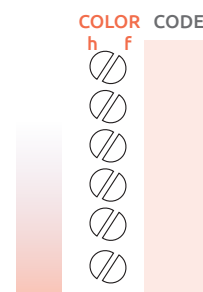
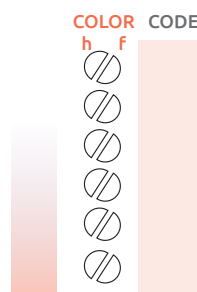
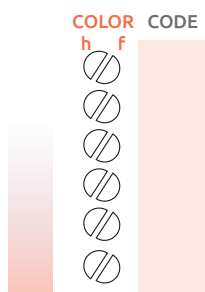
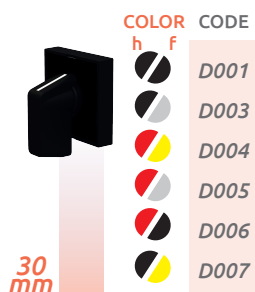
Dimensions



Panel Drilling

N° of packets	1	2	3	4	5	6	7	8	9	10	11	12
Length (mm)	60	69	78	87	96	105	114	123	132	141	150	159

A701 Frontplates A701 Mostrine



h=handle; f=frontplate
h=manopola; f=mostrina
Frontplate dimension on page 31/32
Dimensioni frontali a pag. 31/32

A 7 0 2 Model:

Key Operated switch, from 2 to 8 positions.

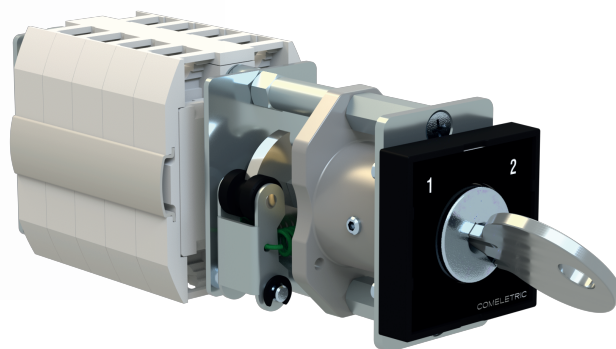
The RONIS key can be removed in different positions as per specific needs. It can be supplied with fixed positions or with spring return, the keys can be supplied all similar, all different or different in groups. Each switch supplied with two Keys.

Realizza da 2 a 8 posizioni, azionabile tramite chiave RONIS con estrazione in una o più posizioni.

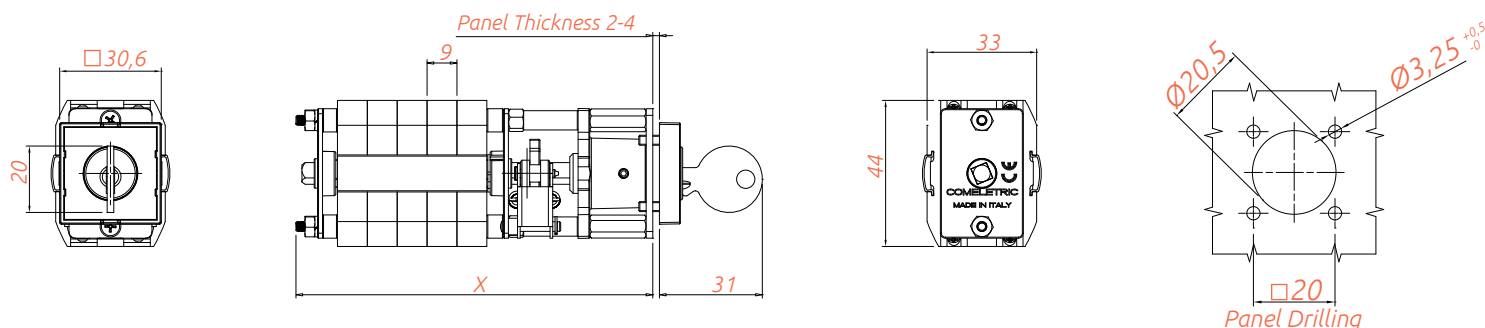
Disponibile a scatto fisso o con molla di ritorno.

Le chiavi possono essere tutte uguali, tutte diverse o diverse a gruppi.

Ogni commutatore viene fornito con 2 Chiavi.

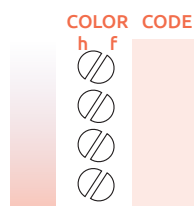
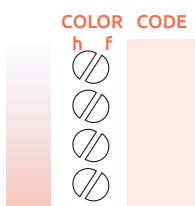
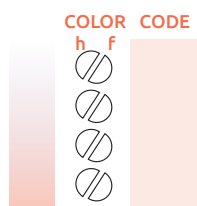
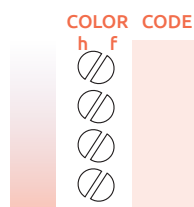
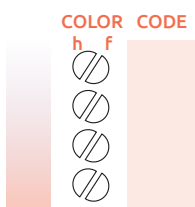


Dimensions



N° of packets	1	2	3	4	5	6	7	8	9	10	11	12
Length (mm)	79	88	97	106	115	124	133	142	151	160	169	178

A702 Frontplates A702 Mostrine



h=handle; f=frontplate
h=manopola; f=mostrina
Frontplate dimension on page 31/32
Dimensioni frontali a pag. 31/32

C 7 0 8 Model:

Can have from 2 to 8 positions, 45°-90°, up to max 12 packets of contacts.

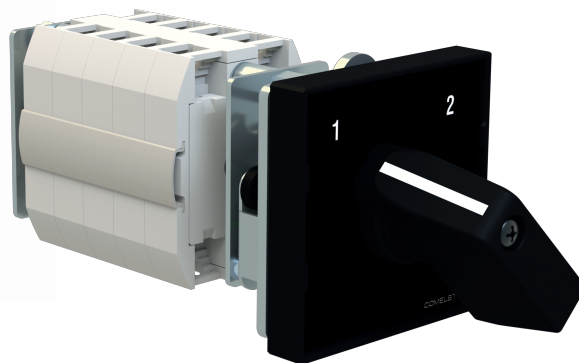
Captive screws. Suitable for wiring with forks/pins with cable lug size 1,5 mm.

It is supplied with frontplate 48x48mm.

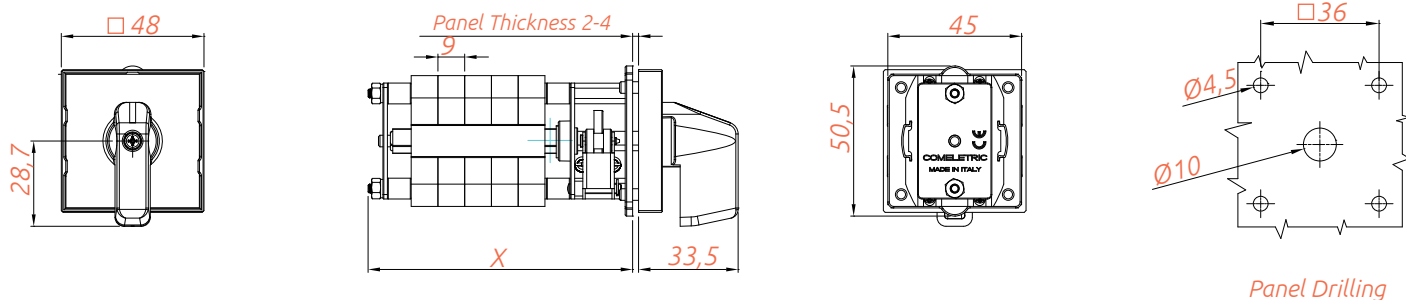
Realizza da 2 a 8 posizioni con spostamenti di 45° o 90°, fino ad un massimo di 12 pacchi di contatti.

Morsetti con cavaliere auto sollevante e vite anticaduta, ideali ad accogliere puntalini/forcelle per cavo diametro 1,5 mm.

Fornito con mostrina frontale 48x48mm



Dimensions



Panel Drilling

N° of packets	1	2	3	4	5	6	7	8	9	10	11	12
Length (mm)	62	71	80	89	98	107	116	125	134	143	152	161

C708 Frontplates C708 Mostrine

COLOR	CODE
	W002
	W006
	W042
	W022
	W018

48 mm

COLOR	CODE
	N002
	N006
	N033
	N022
	N018

48 mm

COLOR	CODE
	Y002
	Y006

	Y022
	Y018

48 mm

COLOR	CODE
	L011
	L017
	L018
	L019
	L020

48 mm

COLOR	CODE
	L002
	L013
	L014
	L015
	L016

48 mm

COLOR	CODE
	V002
	V006
	V035
	V022
	V018

48 mm

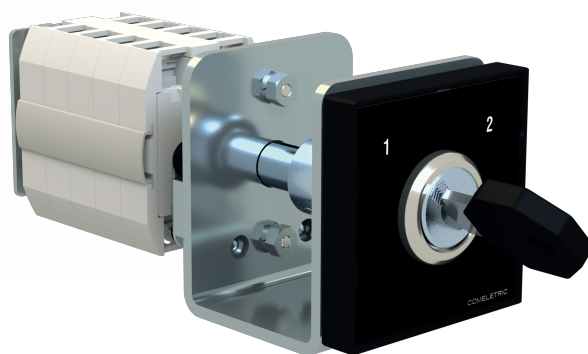
COLOR	CODE

h=handle; f=frontplate
h=manopola; f=mostrina
Frontplate dimension on page 31/32
Dimensioni frontali a pag. 31/32

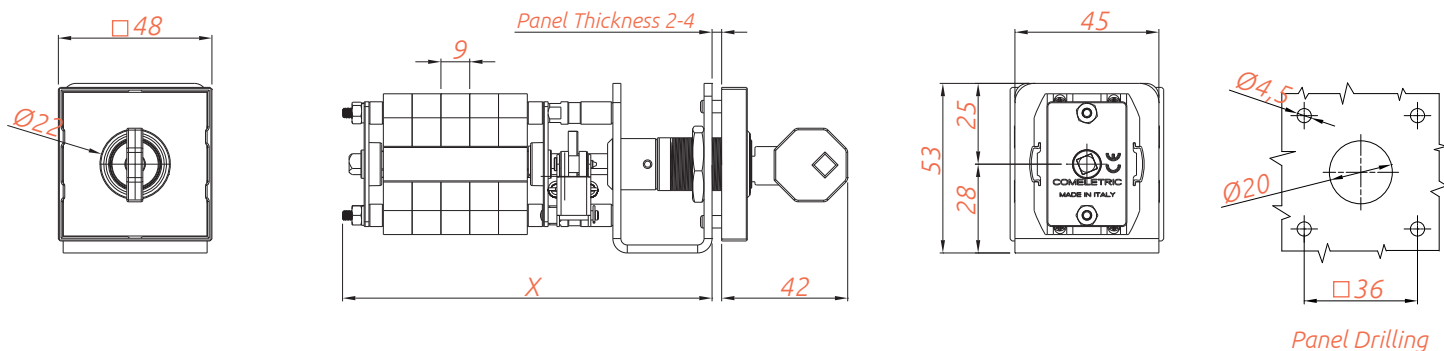
C 7 1 4 Model:

Key Operated rotary switch.
Available with keys equal to each other or up to 200 different combinations, different in groups and Master Key.
Each switch is supplied with two keys.
Model with 48x48mm escutcheon plate.

Commutatore con chiave di comando.
Disponibile con chiavi uguali tra loro o fino a 200 combinazioni diverse tra loro, diverse a gruppi e con Master Key.
Ogni commutatore viene fornito con 2 Chiavi.
Versione con mostrina frontale 48x48mm.



Dimensions



N° of packets	1	2	3	4	5	6	7	8	9	10	11	12
Length (mm)	89	98	107	116	125	134	143	152	161	170	179	188

C714 Frontplates C714 Mostrine



COLOR	CODE
h f	K001
h f	K003
h f	K004
h f	K005
h f	K006

COLOR	CODE
h f	
h f	
h f	
h f	
h f	

COLOR	CODE
h f	
h f	
h f	
h f	
h f	
h f	

COLOR	CODE
h f	
h f	
h f	
h f	
h f	
h f	

COLOR	CODE
h f	
h f	
h f	
h f	
h f	

COLOR	CODE
h f	
h f	
h f	
h f	
h f	

COLOR	CODE
h f	
h f	
h f	
h f	
h f	

h=handle; f=frontplate
h=manopola; f=mostrina
Frontplate dimension on page 33/34
Dimensioni frontali a pag. 33/34

Metodo di ordinazione commutatori FRMC6-IP20

In questo Catalogo si possono trovare alcuni schemi e le istruzioni per comporre autonomamente i codici d'ordinazione dei commutatori Serie FRMC6-IP20 standard.
Per schemi Speciali o schemi non presenti in questo catalogo utilizzare il form. a pag. 30.
Gli schemi del presente catalogo ed il loro utilizzo nei codici sono applicabili esclusivamente alle serie di commutatori FRMC6-IP20 e non per le altre Serie.

Codice prodotto

Esempio commutatore a manopola	A701	-	202002	-	D001
Esempio commutatore con chiave	A702	-	202002	07 D	- G001
	└──┘		└──┘	└──┘ └──┘	└──┘
	①		②	③ ④	⑤

- ① Modello del Commutatore.

Come n° di Modello si intende il montaggio e la forma costruttiva univoca di ogni commutatore
questo riferimento identifica la specifica costruzione meccanica del commutatore .

Questo n° di Modello viene indicato nel catalogo insieme al relativo disegno di ingombro e della foratura del pannello.
- ② Schema elettrico.

Questo numero rappresenta l'indicazione dello schema del commutatore richiesto.
Esso comprende lo schema elettrico ed il movimento della manopola , in riferimento agli schemi di seguito rappresentati.
- ③ Programma Bloccaggio/Estrazione chiave o altro.

Questo numero viene utilizzato solamente nei commutatori con chiave di comando , serratura di blocco, commutatore lucchettabile e commutatori con manopola estraibile.
Esso rappresenta la posizione in cui il commutatore può essere bloccato.
Il bloccaggio dei commutatori con chiave di comando o serratura di blocco avviene mediante l'estrazione della chiave dallo stesso.
Nei modelli con manopola estraibile la posizione il bloccaggio è la medesima di quelli a chiave , nei modelli lucchettabili il riferimento è invece la posizione dove viene data la possibilità di inserire il lucchetto.
La tabella di riferimento per il N° di programma di bloccaggio è presente a pag. 29 del presente catalogo e deve essere conforme allo spostamento della manopola previsto nello schema di riferimento del commutatore.
- ④ Chiave uguali tra di loro o chiavi differenti tra di loro.

Questo numero viene utilizzato solamente nei commutatori con chiave di comando , serratura di blocco.
Esso rappresenta se le chiavi dei commutatori devono essere uguali tra loro o Differenti tra loro.
La lettera "D" è l'indicazione di chiavi diverse tra di loro , quindi ogni commutatore ordinato avrà una chiave unica , quindi non è possibile manovrare altri commutatori con la medesima chiave.
Se non indicata i commutatori vengono forniti tutti con medesima chiave .
- ⑤ Tipo dimensione e colore Finitura (parte frontale)

Questo numero indica il tipo la dimensione ed il colore delle manopole e Finiture frontali del commutatore

Method for coding of FRMC6-IP20 switches

In the present catalogue you will find examples of diagrams and the instruction enabling you to the creation by yourself of the ordering codes of FRMC6-IP20 switches (standard).
For all the other special diagrams or any scheme which is not present in this catalogue, please use the form on page 30.
The diagrams represented in this catalogue and their use in the codes are strictly related to FRMC6-IP20 switches and not to all the others.

Switch code

Example Switch with Knob	A701	-	202002		-	D001
Example Switch with Key	A702	-	202002	07	D	G001
	①		②	③	④	⑤

① Switch model

As switch model it is meant the kind of fitting and the mechanical structure of each specific switch.

This reference is mentioned in the catalogue along with the dimensional drawing and the cutout of the panel.

② Electrical diagram

This reference is referred to the electrical diagram of the switch.

It includes the diagram and the movement of the knob, with reference to diagrams present in the following pages of the catalogue.

③ Locking/extraction program of keys or any other locking facility.

This reference is not used in those switches key operated, with Key lock, padlockable or with removable knob.

It gives the positions where the switch must be blocked.

The locking of any type of key switch is done by removing the key in the required position, the same for the switches with removable handle.

On the contrary, for switches with padlockable devices, this code reference will state where the padlockable could be inserted and blocking the rotation of the knob.

The table with locking references is on page 29 of this catalogue and it must be conform to the switching positions foreseen in the electrical diagram referred to the switch.

④ Alike or different key references.

This reference is present only in codes of switches with a key device.

It states if the switches must be equipped with keys with same references or all different ones.

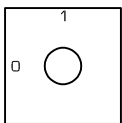
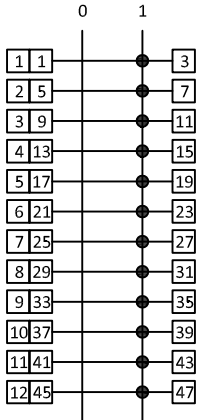
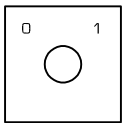
Letter "D" at the end of the code means all different key references, so each switch will be provided with a unique key, the key of one switch could not be used for operating any other switch of the same supply.

If not clearly mentioned in the order, the switches will be provided keys all alike.

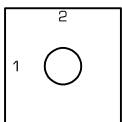
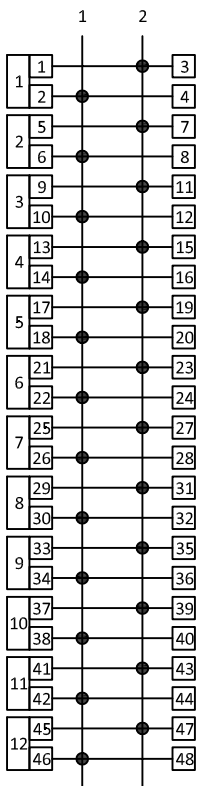
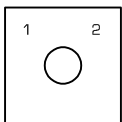
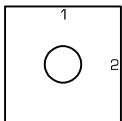
⑤ Dimension and front colour

This is referred to the dimension of the frontplate and its and knob's colour.

Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
On/Off Switches				
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole 9 pole 10 pole 11 pole 12 pole		1 2 3 4 5 6 7 8 9 10 11 12	201019 202019 203019 204019 205019 206019 207019 208019 209019 210019 211019 212019	
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole 9 pole 10 pole 11 pole 12 pole		1 2 3 4 5 6 7 8 9 10 11 12	201020 202020 203020 204020 205020 206020 207020 208020 209020 210020 211020 212020	

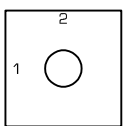
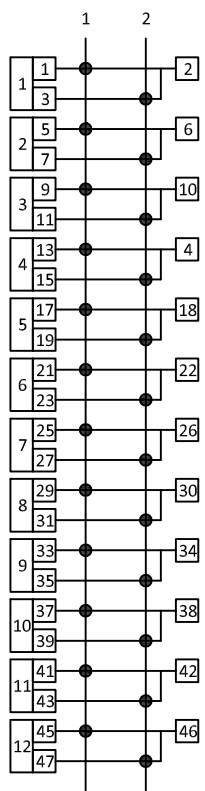
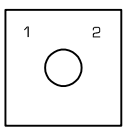
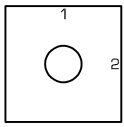
Double Trow Switch Without "0" position.

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole 9 pole 10 pole 11 pole 12 pole		1 2 3 4 5 6 7 8 9 10 11 12	201001 202001 203001 204001 205001 206001 207001 208001 209001 210001 211001 212001	
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole 9 pole 10 pole 11 pole 12 pole		1 2 3 4 5 6 7 8 9 10 11 12	201002 202002 203002 204002 205002 206002 207002 208002 209002 210002 211002 212002	
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole 9 pole 10 pole 11 pole 12 pole		1 2 3 4 5 6 7 8 9 10 11 12	201003 202003 203003 204003 205003 206003 207003 208003 209003 210003 211003 212003	

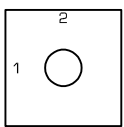
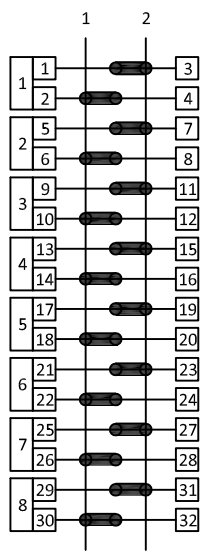
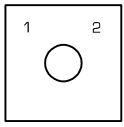
Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

2 Positions switch with 1 input & 2 Output in each deck

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole 9 pole 10 pole 11 pole 12 pole		1 2 3 4 5 6 7 8 9 10 11 12	201007 202007 203007 204007 205007 206007 207007 208007 209007 210007 211007 212007	
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole 9 pole 10 pole 11 pole 12 pole		1 2 3 4 5 6 7 8 9 10 11 12	201008 202008 203008 204008 205008 206008 207008 208008 209008 210008 211008 212008	
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole 9 pole 10 pole 11 pole 12 pole		1 2 3 4 5 6 7 8 9 10 11 12	201009 202009 203009 204009 205009 206009 207009 208009 209009 210009 211009 212009	

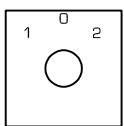
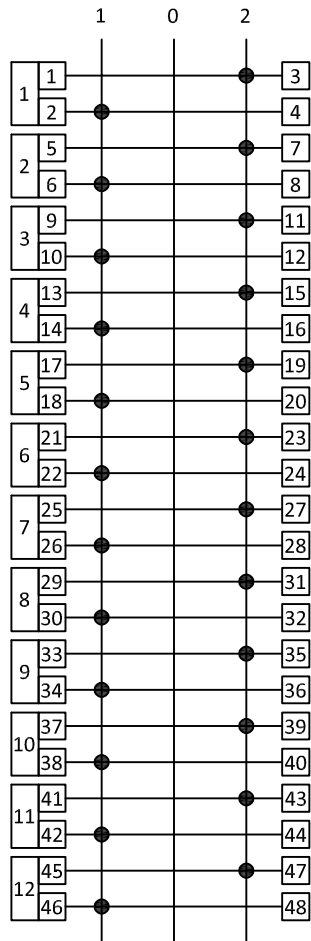
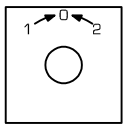
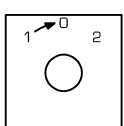
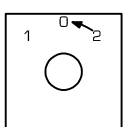
2 Positions switch with Make before Break Contacts

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		1 2 3 4 5 6 7 8	201055 202055 203055 204055 205055 206055 207055 208055	
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		1 2 3 4 5 6 7 8	201056 202056 203056 204056 205056 206056 207056 208056	

Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

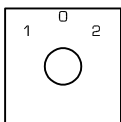
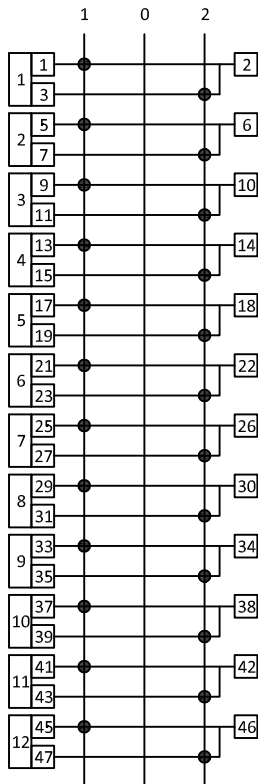
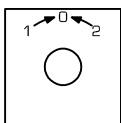
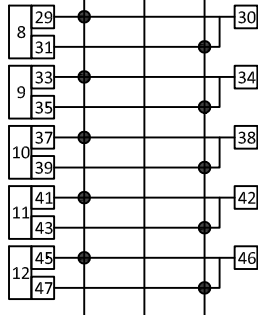
3 pos. switch with "0" Position with electrically isolated contacts

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole 9 pole 10 pole 11 pole 12 pole		1 2 3 4 5 6 7 8 9 10 11 12	301001 302001 303001 304001 305001 306001 307001 308001 309001 310001 311001 312001	
With Spring return to "0" position from pos."1" & pos."2". 1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		1 2 3 4 5 6 7 8	M301001 M302001 M303001 M304001 M305001 M306001 M307001 M308001	
With Spring return to "0" position from pos."1". 1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		1 2 3 4 5 6 7 8	301012 302012 303012 304012 305012 306012 307012 308012	
With Spring return to "0" position from pos."2". 1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		1 2 3 4 5 6 7 8	301020 302020 303020 304020 305020 306020 307020 308020	

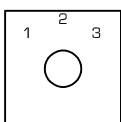
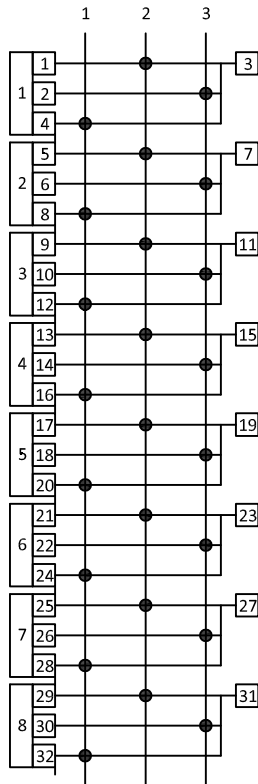
Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

3 pos. switch with "0" Position with 1 input and 2 output in each deck.

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole 9 pole 10 pole 11 pole 12 pole		1 2 3 4 5 6 7 8 9 10 11 12	301003 302003 303003 304003 305003 306003 307003 308003 309003 310003 311003 312003	
With Spring return to "0" position from pos. "1" & pos. "2". 1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		1 2 3 4 5 6 7 8	M301003 M302003 M303003 M304003 M305003 M306003 M307003 M308003	

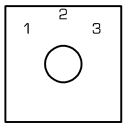
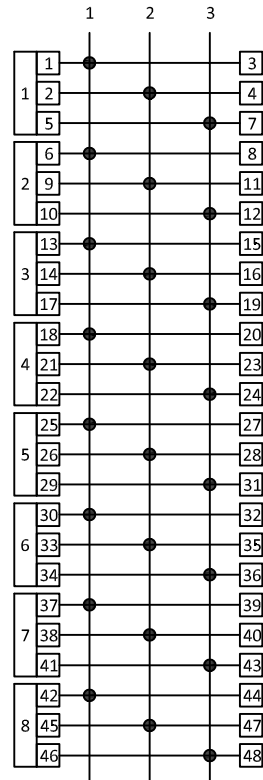
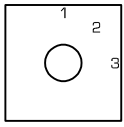
3 pos. switch without "0" Position with 1 input and 3 output in each deck.

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole 9 pole 10 pole 11 pole 12 pole		1 2 3 4 5 6 7 8 9 10 11 12	301004 302004 303004 304004 305004 306004 307004 308004 309004 310004 311004 312004	
---	---	---	--	---

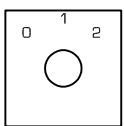
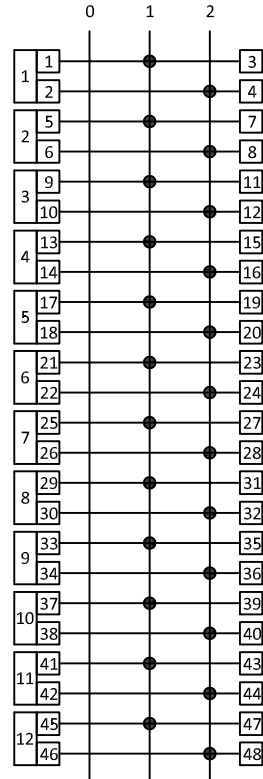
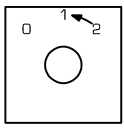
Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

3 pos. switch Without "0" Position, with electrically isolated contacts.

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		2 3 5 6 8 9 11 12	302078 303078 305078 306078 308078 309078 311078 312078	
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		2 3 5 6 8 9 11 12	302134 303134 305134 306134 308134 309134 311134 312134	

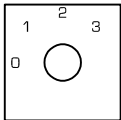
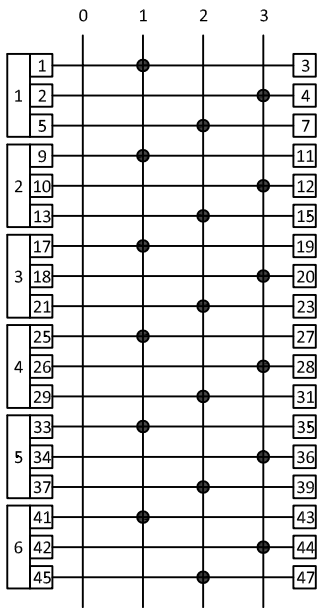
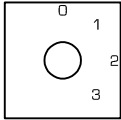
3 pos. switch with "0" Position, with electrically isolated contacts.

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole 9 pole 10 pole 11 pole 12 pole		1 2 3 4 5 6 7 8 9 10 11 12	301016 302016 303016 304016 305016 306016 307016 308016 309016 310016 311016 312016	
With Spring return to "0" position from pos. "2". 1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		1 2 3 4 5 6 7 8	301048 302048 303048 304048 305048 306048 307048 308048	

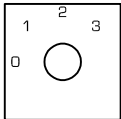
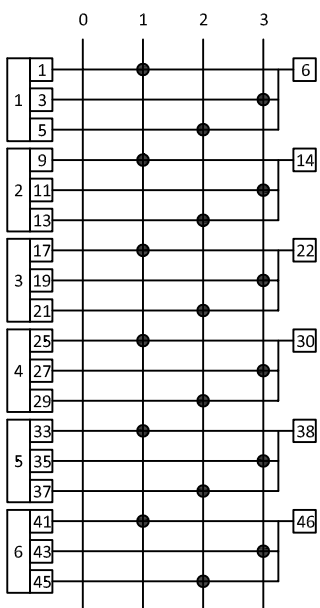
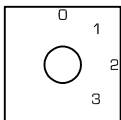
Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

4 pos. switch With "0" Position, with electrically isolated contacts.

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole		2 4 6 8 10 12	402008 404008 406008 408008 410008 412008	
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole		2 4 6 8 10 12	402087 404087 406087 408087 410087 412087	

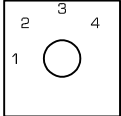
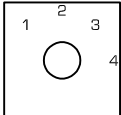
4 pos. switch with "0" Position, with 1 Input and 3 output per Pole.

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole		2 4 6 8 10 12	402011 404011 406011 408011 410011 412011	
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole		2 4 6 8 10 12	402088 404088 406088 408088 410088 412088	

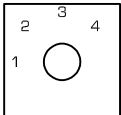
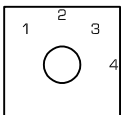
Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

4 pos. switch Without "0" Position, with electrically isolated contacts.

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole		2 4 6 8 10 12	402003 404003 406003 408003 410003 412003	
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole		2 4 6 8 10 12	402017 404017 406017 408017 410017 412017	

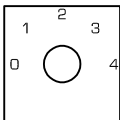
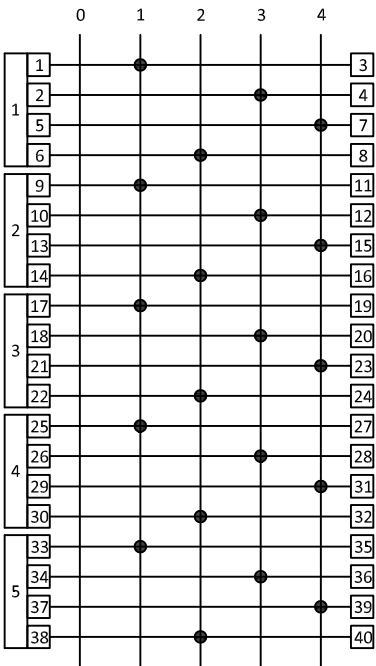
4 pos. switch without "0" Position, with 1 Input and 4 output per Pole.

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole		2 4 6 8 10 12	402007 404007 406007 408007 410007 412007	
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole		2 4 6 8 10 12	402089 404089 406089 408089 410089 412089	

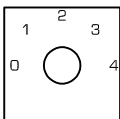
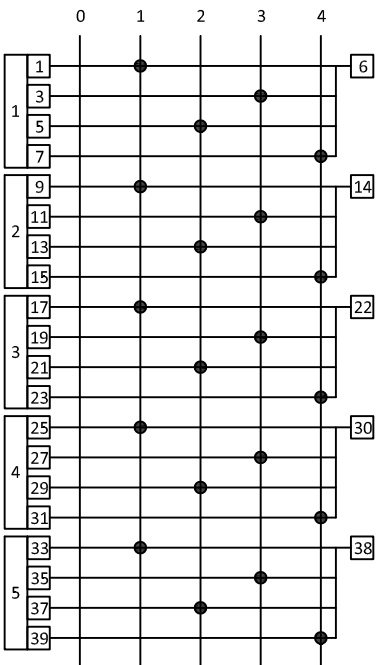
Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

5 pos. switch With "0" Position, with electrically isolated contacts.

1 pole 2 pole 3 pole 4 pole 5 pole		2 4 6 8 10	502020 504020 506020 508020 510020	
--	---	------------------------	--	--

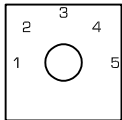
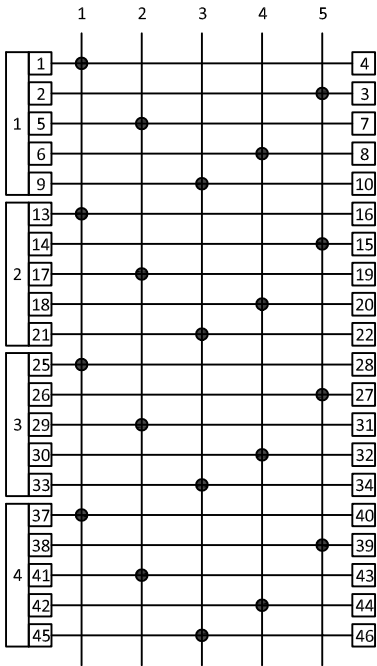
5 pos. switch with "0" Position, with 1 Input and 4 output per Pole.

1 pole 2 pole 3 pole 4 pole 5 pole		2 4 6 8 10	502010 504010 506010 508010 510010	
--	---	------------------------	--	---

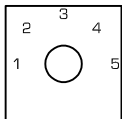
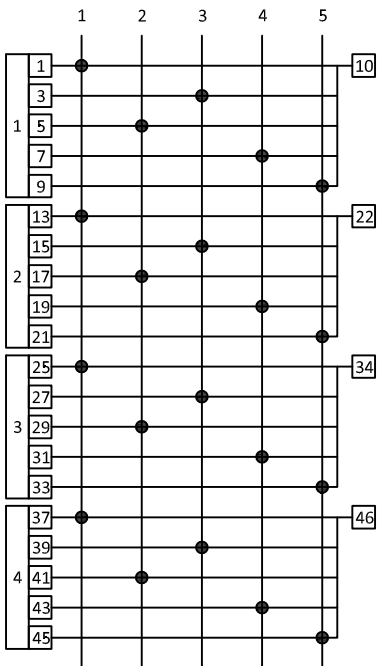
Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

5 pos. switch Without "0" Position, with electrically isolated contacts.

1 pole 2 pole 3 pole 4 pole		3 6 9 12	503018 506018 509018 512018	
--------------------------------------	---	-------------------	--------------------------------------	--

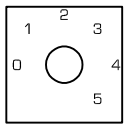
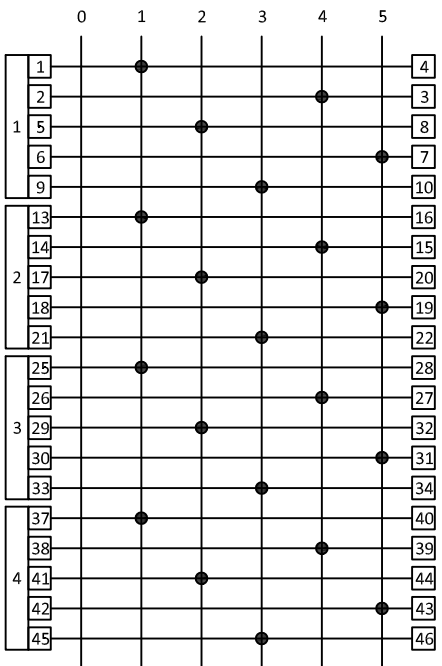
5 pos. switch without "0" Position, with 1 Input and 5 output per Pole.

1 pole 2 pole 3 pole 4 pole		3 6 9 12	503013 506013 509013 512013	
--------------------------------------	---	-------------------	--------------------------------------	---

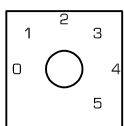
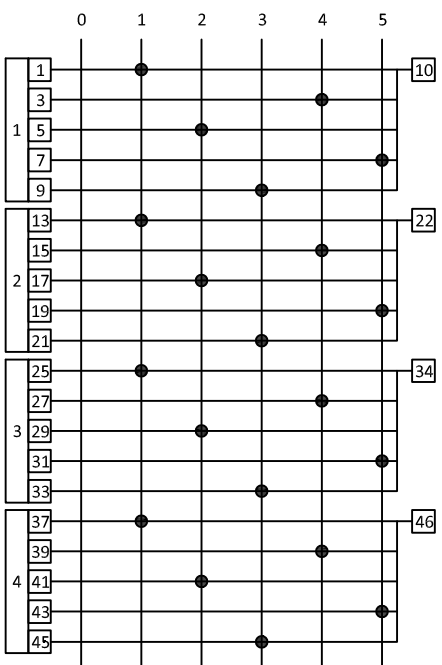
Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

6 pos. switch With "0" Position, with electrically isolated contacts.

1 pole 2 pole 3 pole 4 pole		3 6 9 12	603009 606009 609009 612009	
--------------------------------------	---	-------------------	--------------------------------------	---

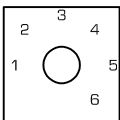
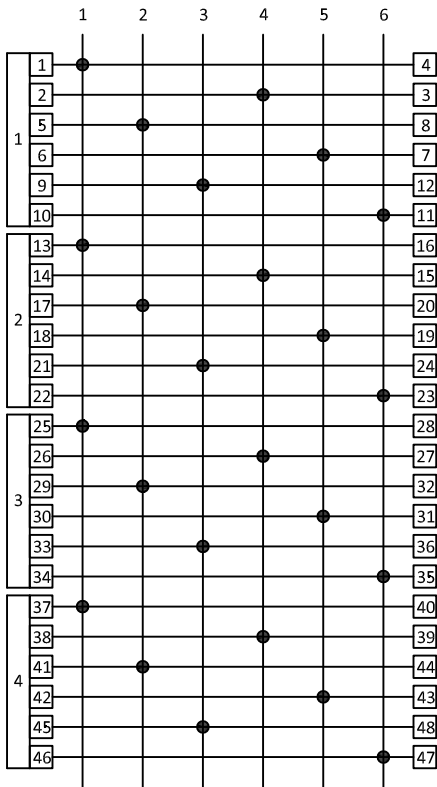
6 pos. switch with "0" Position, with 1 Input and 5 output per Pole.

1 pole 2 pole 3 pole 4 pole		3 6 9 12	603003 606003 609003 612003	
--------------------------------------	---	-------------------	--------------------------------------	--

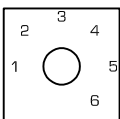
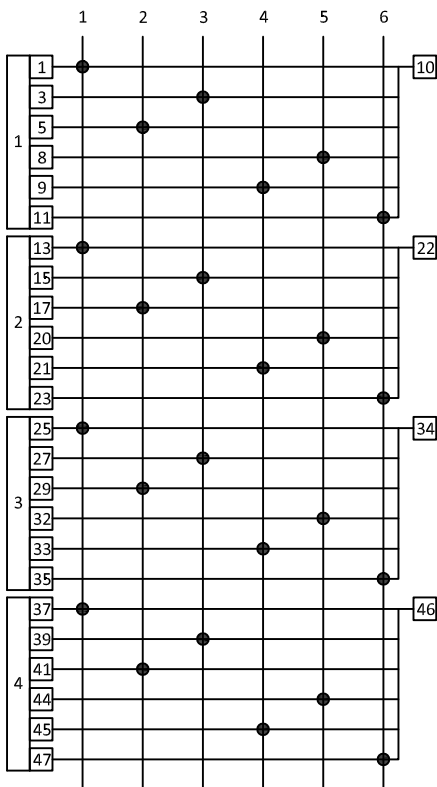
Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

6 pos. switch Without "0" Position, with electrically isolated contacts.

1 pole 2 pole 3 pole 4 pole		3 6 9 12	603008 606008 609008 612008	
--------------------------------------	---	-------------------	--------------------------------------	---

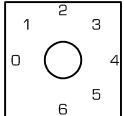
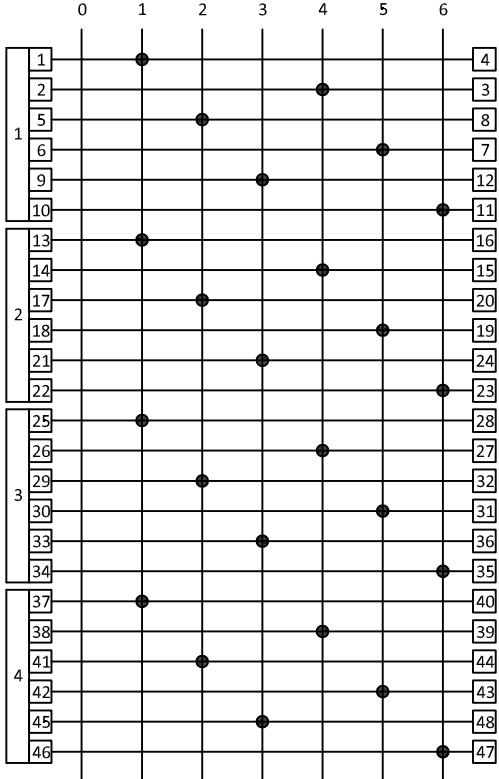
6 pos. switch without "0" Position, with 1 Input and 6 output per Pole.

1 pole 2 pole 3 pole 4 pole		3 6 9 12	603004 606004 609004 612004	
--------------------------------------	---	-------------------	--------------------------------------	--

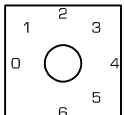
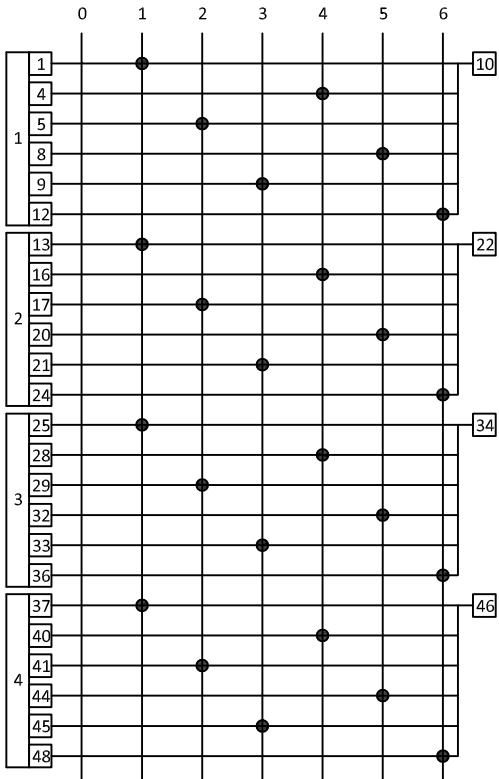
Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

7 pos. switch With "0" Position, with electrically isolated contacts.

1 pole 2 pole 3 pole 4 pole		3 6 9 12	703012 706012 709012 712012	
--------------------------------------	---	-------------------	--------------------------------------	---

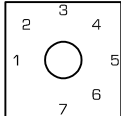
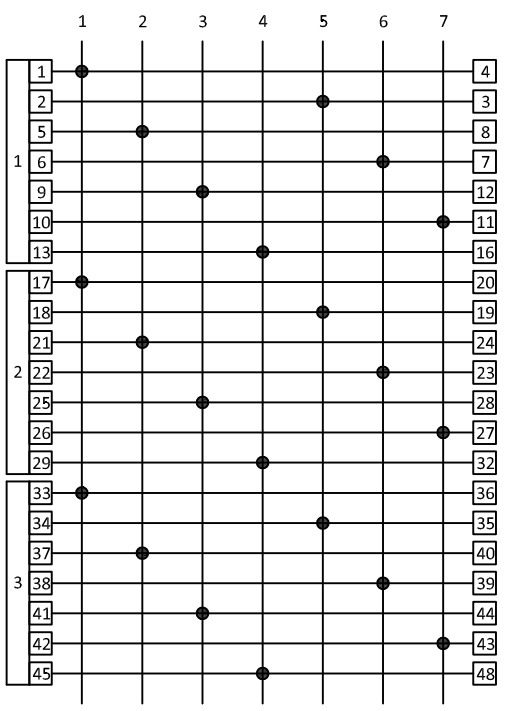
7 pos. switch with "0" Position, with 1 Input and 6 output per Pole.

1 pole 2 pole 3 pole 4 pole		3 6 9 12	703006 706006 709006 712006	
--------------------------------------	---	-------------------	--------------------------------------	--

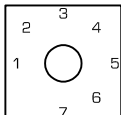
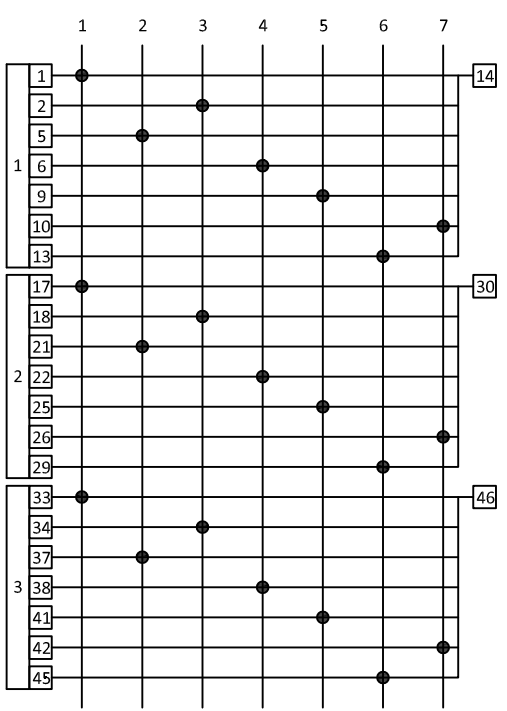
Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

7 pos. switch Without "0" Position, with electrically isolated contacts.

1 pole 2 pole 3 pole		4 8 12	704001 708001 712001	
----------------------------	---	--------------	----------------------------	---

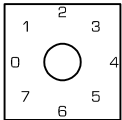
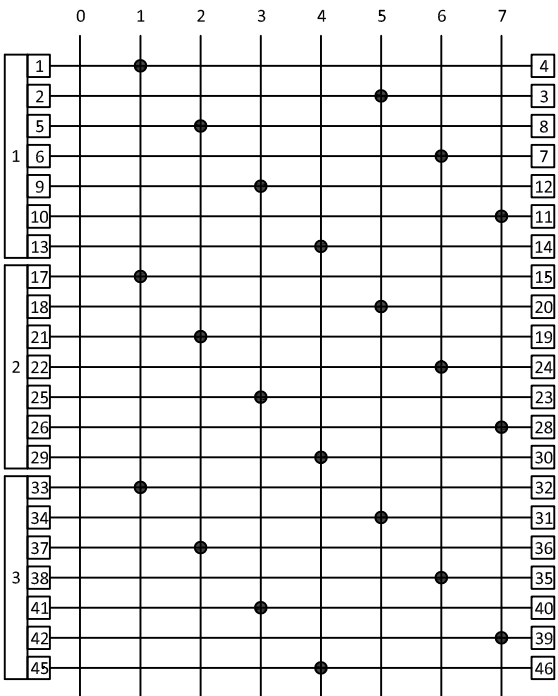
7 pos. switch without "0" Position, with 1 Input and 7 output per Pole.

1 pole 2 pole 3 pole		4 8 12	704013 708013 712013	
----------------------------	---	--------------	----------------------------	--

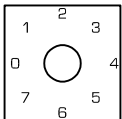
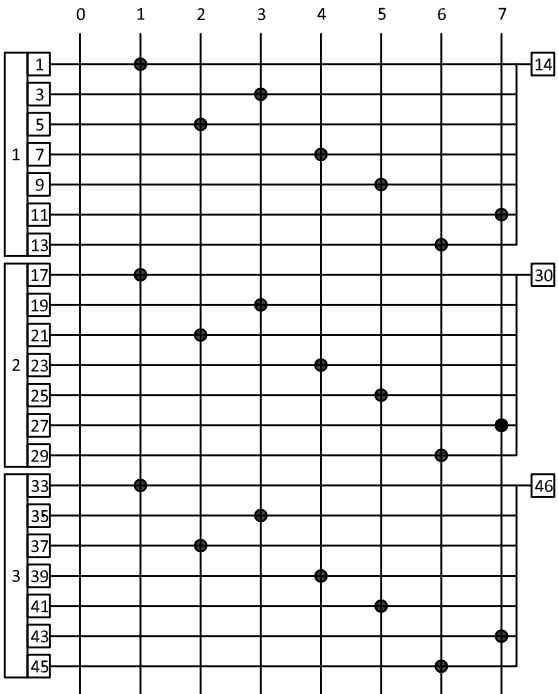
Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

8 pos. switch With "0" Position, with electrically isolated contacts.

1 pole 2 pole 3 pole		4 8 12	804003 808003 812003	
----------------------------	---	--------------	----------------------------	---

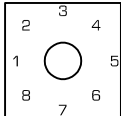
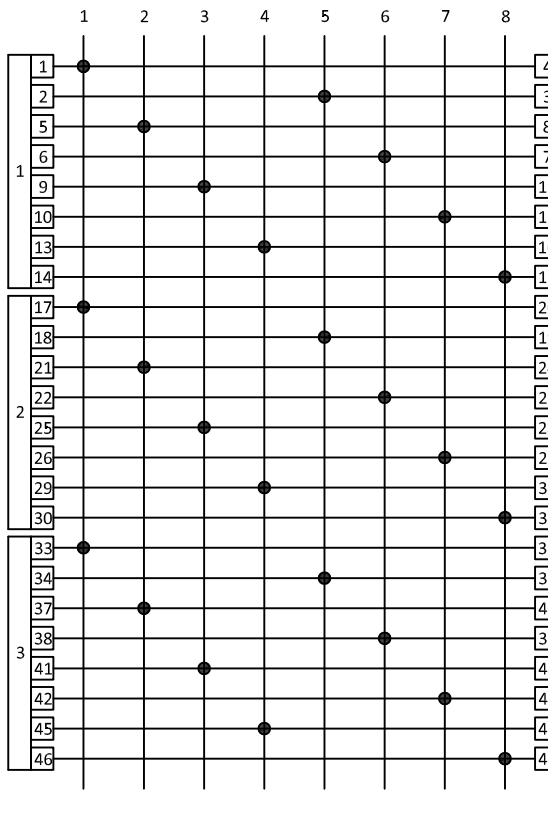
8 pos. switch with "0" Position, with 1 Input and 7 output per Pole.

1 pole 2 pole 3 pole		4 8 12	804005 808005 812005	
----------------------------	---	--------------	----------------------------	--

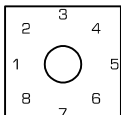
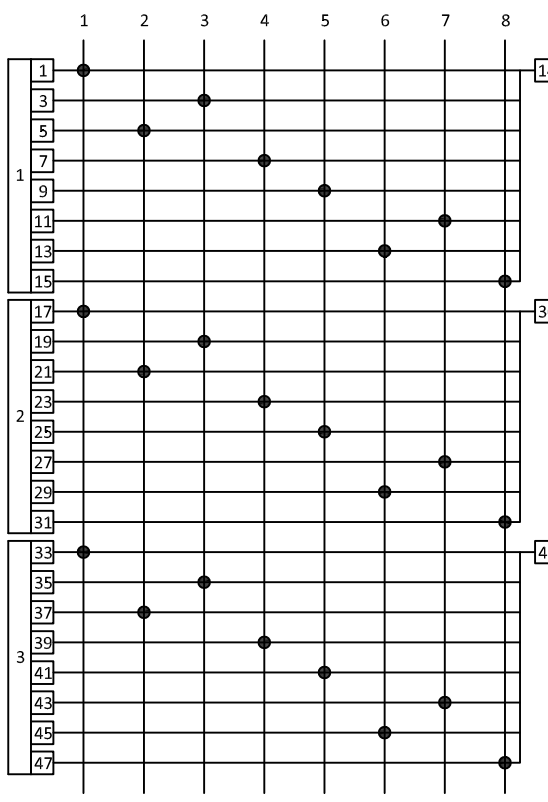
Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

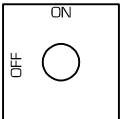
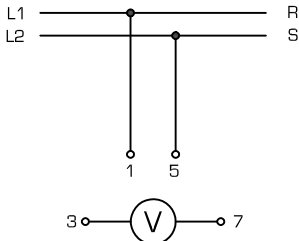
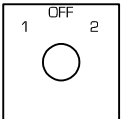
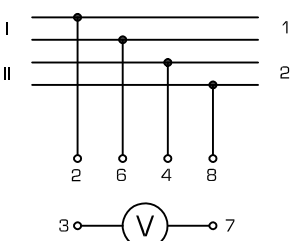
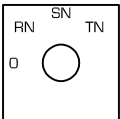
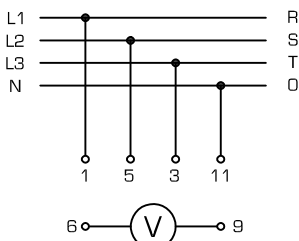
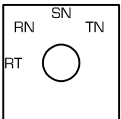
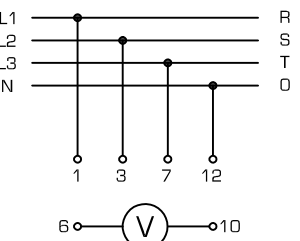
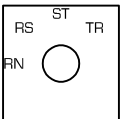
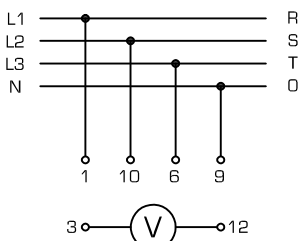
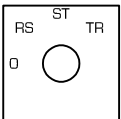
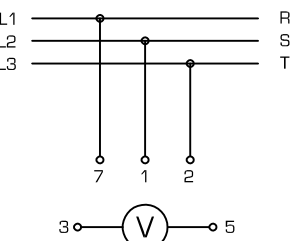
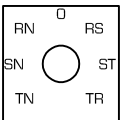
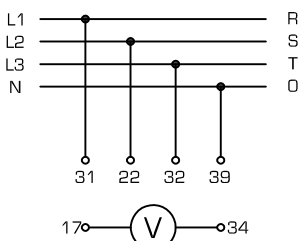
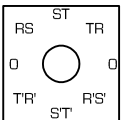
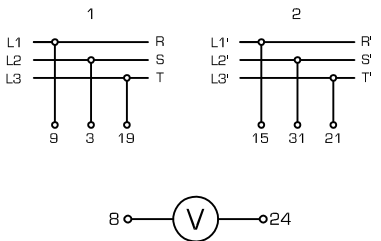
8 pos. switch Without "0" Position, with electrically isolated contacts.

1 pole 2 pole 3 pole		4 8 12	804001 808001 812001	
----------------------------	---	--------------	----------------------------	---

8 pos. switch without "0" Position, with 1 Input and 8 output per Pole.

1 pole 2 pole 3 pole		4 8 12	804002 808002 812002	
----------------------------	---	--------------	----------------------------	--

Switch Function and Configuration

Diagram n° 202V	VOLTMETER SWITCH: 2 wire Single Phase or DC	Diagram n° 302V10	VOLTMETER SWITCH: 4 wire two Phases or two separate DC circuits
			
Diagram n° 403V15	VOLTMETER SWITCH: 3 Phase Voltage	Diagram n° 403V16	VOLTMETER SWITCH: 1 Phase to Phase and 3 phases Voltage.
			
Diagram n° 403V17	VOLTMETER SWITCH: 1 Phase Voltage and 3 Phase to Phase	Diagram n° 402V09	VOLTMETER SWITCH: 3 Phase to Phase
			
Diagram n° 705V12	VOLTMETER SWITCH: 3 Phase and 3 Phase to Phase	Diagram n° 8S08	VOLTMETER SWITCH: 3 Phase to Phase in two 3 Phase circuits.
			

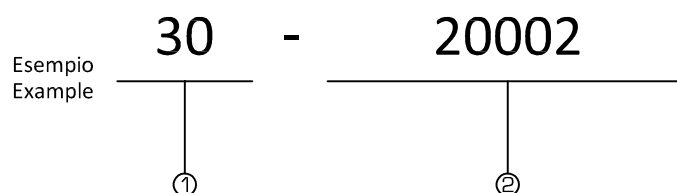
Switch Function and Configuration

Diagram n° 2G02	AMMETER SWITCH: 1 phase Current Transformer with "0" Pos.	Diagram n° 302A01	AMMETER SWITCH: 3 Current Measurements with 2 CT without "0"
Diagram n° 303A11	AMMETER SWITCH: 3 Current Measurements with 3 CT without "0"	Diagram n° 402A06	AMMETER SWITCH: 3 Current Measurements with 2 CT with "0"
Diagram n° 403A08	AMMETER SWITCH: 3 Current Measurements with 3 CT with "0"	Diagram n° 405A02	AMMETER SWITCH: 3 Current Measurements with 3 CT with "0" crossing Currents.
Diagram n° 407AV01	VOLT-AMMETER SWITCH: 3 Current Measurements with 3 CT with "0" For Voltages and Currents Measurements		

Standard Escutcheon Plate Ordering

La mostrina si intende parte integrante del commutatore in quanto necessaria per il fissaggio al pannello dello stosso, se non specificata nessuna incisione essa verrà fornita Neutra, codice 00000.

The Escutcheon plate is strictly necessary for fitting the switch to the panel, if none engraving is specified, the frontplate will be supplied Blank, code 00000. The engraving listed below, are only a little part of those available, require the code of the needed one if not present.



① Dimensions of the Escutcheon Plate.

30= 30x30mm
48= 48x48mm

②

2 Positions

1 O 20002	AUT. MAN. O 20004	MAN. AUT. O 20006	AUT. MAN. O 20007	1 2 O 20008	INCL. O 20010	DIST. O 20012	1 2 O 20013	REMOTE LOCAL O 20016	1 O 20022	L R O 20028	LOC. REM. O 20030	TE TI O 20035	OFF ON O 20036
R L O 20037	REM. LOC. O 20041	ON OFF O 20050	AUTO O 20054	MAN. O 20055	LOC. DIST. O 20059	OFF ON O 20068	AUT. O 20070	PROVA SERV. O 20106	LOC. SUPV. O 20187	EMERGENCY NORMAL O 20160	B A O 20065	SHIP SHORE O 20085	HAND AUTO O 20184
PARALLEL INDIVIDUAL O 20116	REM. SUPV. O 20404	MANUAL O 20231	IN OUT O 20322	TRIP ALARM O 20505	MANUAL AUTO O 20463	SERV. O 20058	NORMAL O 20138	TR1 TR2 O 20174	ATA ATB O 20196	MAIN A O 20277	WINTER SUMMER O 20289	LOC. SCADA O 20429	OUTBOARD O 20341
NORMAL TRANSFER O 20346	REM. SUPV. O 20404	GS L O 20161	BYPASS SERVICE O 20510	M A O 20021	O 1 O 20001	OUT IN O 20464	TRIP NORMAL O 20553	DG1 DG2 O 20279	HAND AUTO O 20152	AUTO MANUAL O 20205			

3 Positions

MAN. O AUT. O 30003	AUT. O MAN. O 30004	M O A O 30005	CH. O AP. O 30010	DIR. O ALUM. O 30011	AP. O CH. O 30012	1 O 2 O 30013	TEST O TRIP O 30014	O 1 2 O 30015	LOC. O DIST. O 30016	1 2 3 O 30017	ALUM. O DIR. O 30019	OPEN O CLOSE O 30024	CLOSE O OPEN O 30031
A O B O 30032	START O STOP O 30050	TRIP O CLOSE O 30052	LOC. O REM. O 30057	LOC. O AUT. O 30060	2 1 O 3 O 30082	O MAN. AUT. O 30083	O O 30084	O O 30085	TRIP O CLOSE O 30085	TEST O STOP O 30086	EM. LOC. REM. O 30078	ON OFF TEST O 30079	RAISE O LOWER O 30087
DCS SCADA SCS O 30088	INCR. O DECR. O 30089	COLD O HEAT O 30090	G1 O G2 O 30040	A A/B B O 30047	OFF O ON O 30055	L O R O 30062	O 1 1+3 O 30172	TRIP NEUTRAL O 30120	1 OFF 2 O 30561	RS ST TR O 30630	RY YB BR O 30631	R S T O 30632	R Y B O 30633
TEST LOC. REM. O 30025	A B C O 30114	TEST TRIP N.O. O 30371	AUTO OFF MAN. O 30080	LOWER OFF RAISE O 30113	OUVER O FERME O 30154	LOC. REM. SUPV. O 30165	SHORE OFF GEN. O 30634	IN O OUT O 30626	AUTO O HAND O 30635	LOC. OFF REM. O 30467	TRIP PARALL. TR2 O 30476	T1 T1+T2 T2 O 30486	MAN. LOC. REM. O 30192
IN NORMAL OUT O 30609	BYPASS OFF CHECK O 30608	O L1 L2 O 30183	S P M O 30526	AUTO O MAN. O 30108									

4 Positions

40001	40348	40457	40458	40459	40128	40460	40461	40009	40010	40011	40462	40463	40464	
40465	40027	40017	40015	40018	40019	40021	40466	30015	40177	40023	40072	40029	40071	
40235	40019	40230	40237	40037	40056	40137	40223	40231						

5 Positions

50001	50002	50005	50006	50048	50005	50061	50051	50062	50063	50014	50010	50064	

6 Positions

60001	60002	60015	60019	60016	60020

7 Positions

70001	70002	70007	70010	70037	70008	70029	70036

8 Positions

80004	80005	80002

Blank

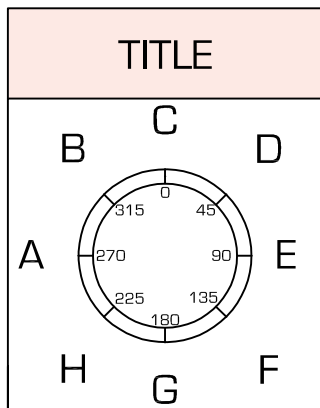
00000

Locking Programs

The reference line shows where the switch is blocked and the key is withdrawn.

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
27	28																	

Form for special diagram



Lock in Pos.							
Spring Return	▼	▼	▼	▼	▼	▼	▼
Positions							
A	B	C	D	E	F	G	H

Contacts							
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							

Position Engraving	
Position	Engraving
TITLE	
A	
B	
C	
D	
E	
F	
G	
H	

Switch Action :		
Stayput ☐	Spring return ☐	Stayput and Spring return ☐
Specification:.....		

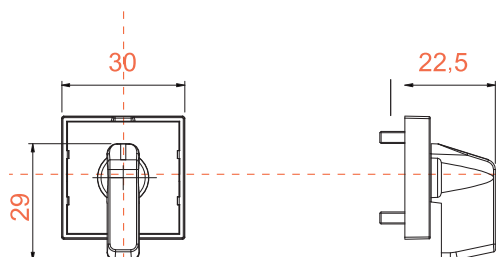
Model number:

Ordering Code : (it will provided by COMELETRIC)
--

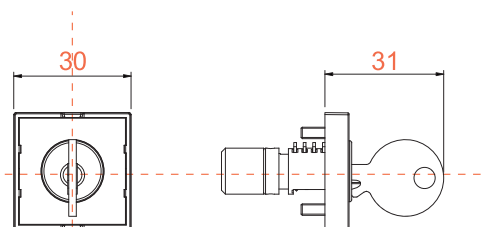
Accessories / Informations:		
Panel Mounting ☐	Pistol Grip Handle ☐	Key Operated (Different Keys) ☐
Base Mounting ☐	Padlockable ☐	☐
Gilded Contacts ☐	Master Key ☐	☐

Legenda Symbols			
	Closed Contact		Spring Return
	Closed Contact Two consecutive Positions		Spring Return from Left and Right
	Make Before Break Contacts		

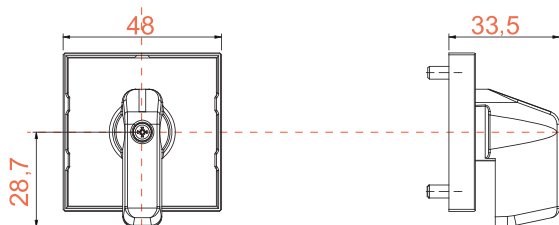
Wing Handle 30x30
Manopola Wing 30x30



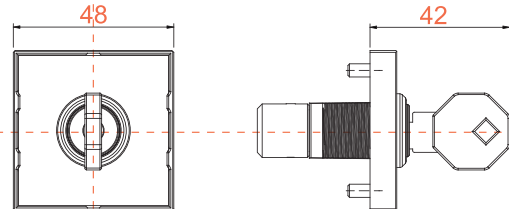
Key Operated 30x30
Operatore a Chiave 30x30



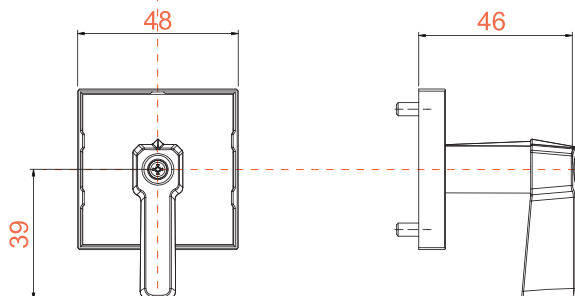
Wing Handle 48x48
Manopola Wing 48x48



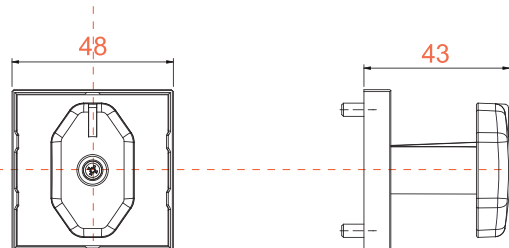
Key Operated 48x48
Operatore a Chiave 48x48



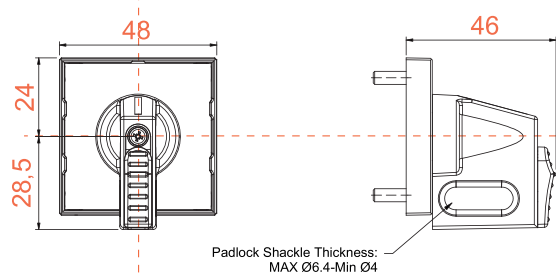
Pistol Grip Handle 48x48
Manopola a Pistola 48x48



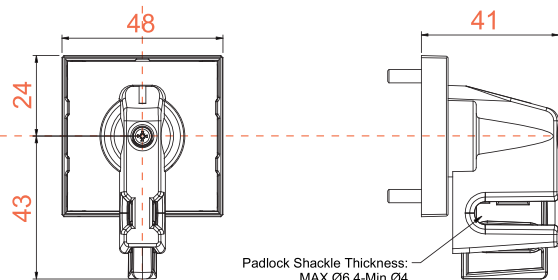
Small Oval Handle 48x48
Manopola Ovale Piccola 48x48



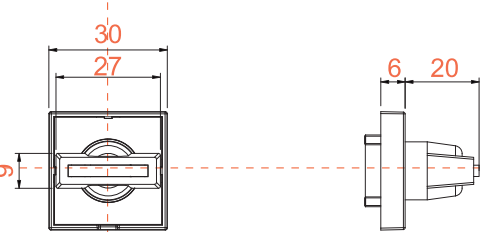
Small Padlockable 48x48
Lucchettabile Piccola 48x48



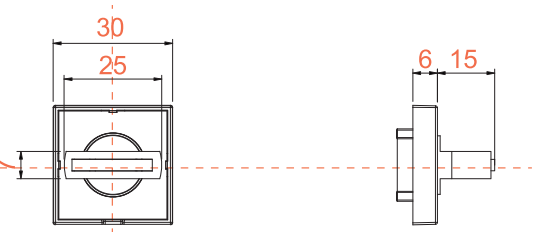
Padlockable 48x48
Manopola Lucchettabile 48x48



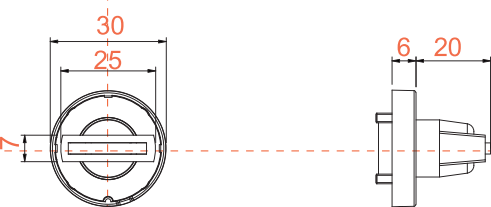
Discrepancy Switch Handle 30x30
Manopola Discrepancy 30x30



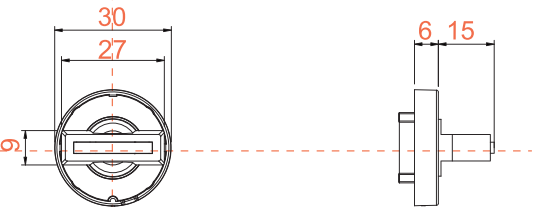
Discrepancy Switch Handle 30x30
Manopola Discrepancy 30x30



Discrepancy Switch Handle Ø30
Manopola Discrepancy Ø30



Discrepancy Switch Handle Ø30
Manopola Discrepancy Ø30

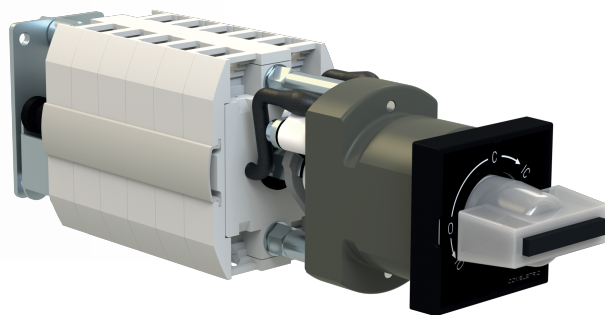


D 7 0 1 Model:

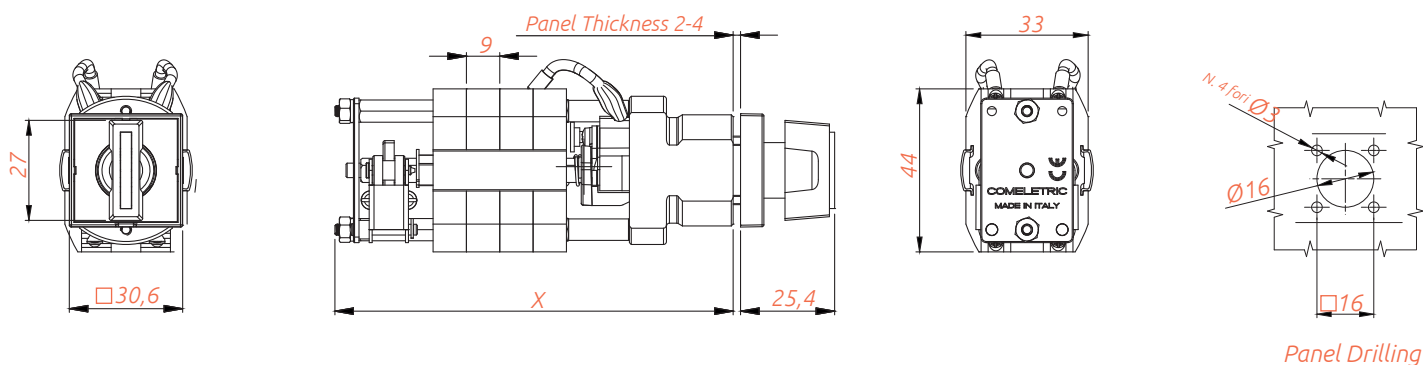
Discrepancy switch.
They are mainly used to monitor and visualize the status of disconnect switches and circuit breakers on mimic panels.

The luminous signal is provided by a led lamp bayonet type BA7S in different colours and Voltages.

Manipolatore comando e conferma.
Essi vengono prevalentemente utilizzati per controllare e visualizzare lo stato dei sezionatori ed interruttori sui quadri sinottici. Il segnale luminoso è realizzato mediante lampada led con attacco a baionetta BA7S disponibile in diversi colori e tensioni.



Dimensions



N° of packets	1	2	3	4	5	6	7	8	9
Length (mm)	100	109	118	127	136	145	154	163	172

M710 Frontplates M710 Mostrine

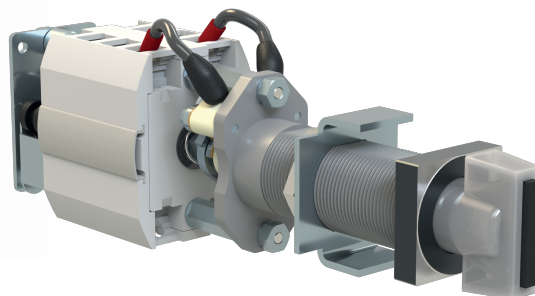
30 mm	COLOR			CODE		Ø30 mm	COLOR			CODE		30 mm	COLOR			CODE		Ø30 mm	COLOR			CODE		Ø30 mm
	h	s	f				h	s	f				h	s	f				h	s	f			
				H001						R001						H002						R002		
				H003						R003						H010						R010		
				H004						R004						H011						R011		
				H005						R005						H012						R012		
				H006						R006						H013						R013		
				H007						R007						H014						R014		
				H008						R008						H015						R015		
				H009						R009						H016						R016		

h=handle; f=frontplate
h=manopola; f=mostrina
Frontplate dimension on page 31/32
Dimensioni frontali a pag. 31/32

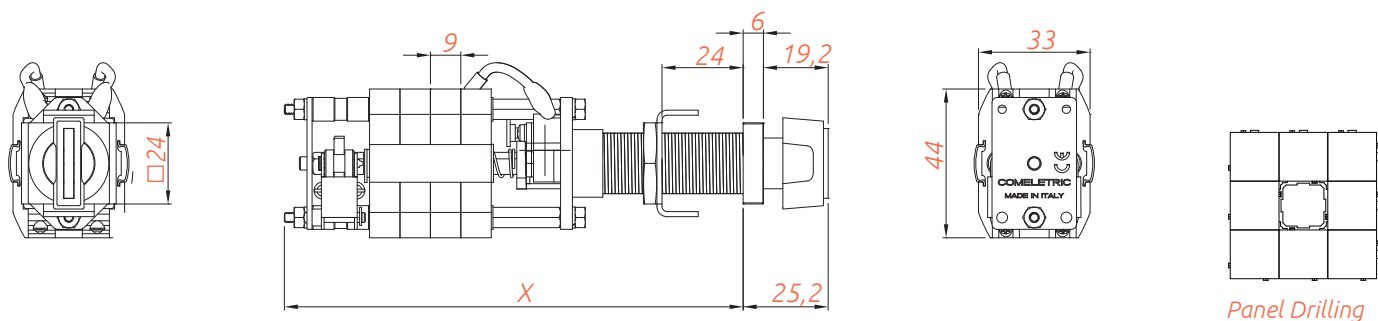
M 7 0 4 Model:

Thanks to the prolonged frontal body, the switch can be easily fitted also in a wide range of Mosaic Tile Systems. Frontplate 24x24mm.

Grazie al corpo frontale prolungato il manipolatore può essere adattato facilmente anche su vari sistemi mosaico. Mostrina frontale 24x24mm.



Dimensions



N° of packets	1	2	3	4	5	6	7	8
Length (mm)	127	136	145	154	163	172	181	190

M704 Frontplates M704 Mostrine

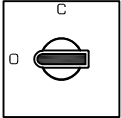
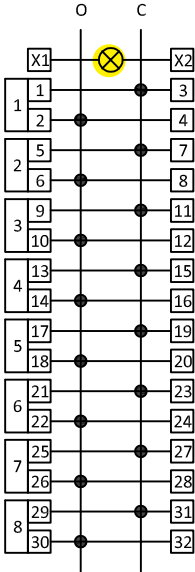
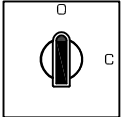
24 mm	COLOR			CODE
	h	s	f	
				A003
				A010
				A011
				A012
				A017
				A018
				A019
				A020
				A001
				A013
				A014
				A015
				A021
				A022
				A023
				A024

h=handle; f=frontplate
h=manopola; f=mostrina
Frontplate dimension on page 31/32
Dimensioni frontali a pag. 31/32

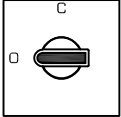
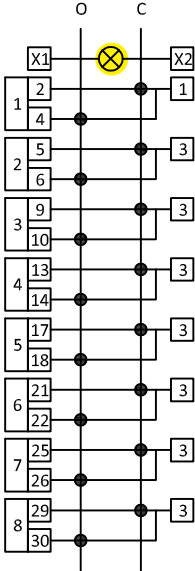
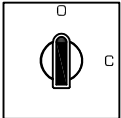
Discrepancy Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

Indication the position of the CB or DS

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		1 2 3 4 5 6 7 8	A01001 A02001 A03001 A04001 A05001 A06001 A07001 A08001	
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		1 2 3 4 5 6 7 8	A01003 A02003 A03003 A04003 A05003 A06003 A07003 A08003	

Indication the position of the CB or DS

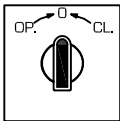
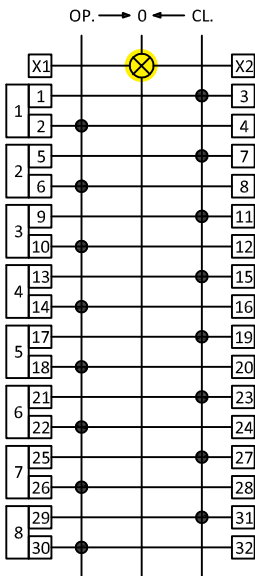
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		1 2 3 4 5 6 7 8	B01001 B02001 B03001 B04001 B05001 B06001 B07001 B08001	
1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		1 2 3 4 5 6 7 8	B01003 B02003 B03003 B04003 B05003 B06003 B07003 B08003	

Lorem ipsum

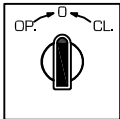
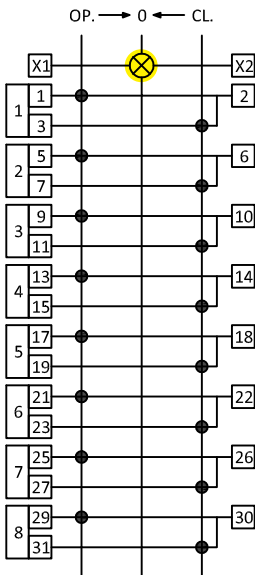
Discrepancy Switch Function and Configuration

Function	Handle Movements	Decks	Code	Connection Diagram
----------	------------------	-------	------	--------------------

Control and indication of CB or DS

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		1 2 3 4 5 6 7 8	C01001 C02001 C03001 C04001 C05001 C06001 C07001 C08001	
--	---	--------------------------------------	--	--

Control and indication of CB or DS

1 pole 2 pole 3 pole 4 pole 5 pole 6 pole 7 pole 8 pole		1 2 3 4 5 6 7 8	C01003 C02003 C03003 C04003 C05003 C06003 C07003 C08003	
--	---	--------------------------------------	--	---

Discrepancy Switch Function and Configuration

Principio di operazione Tipo : D ed E

I manipolatori con l'azionamento tipo D ed E sono tipicamente chiamati Manipolatori di comando e segnalazione di discordanza.

Questi Manipolatori Hanno 2pos. con spostamento di 90° e 2 extra impulsi di 45° per il comando di Apertura e di chiusura.

La manopola viene ruotata di 90° per comandare il relativo Interruttore /Sezionatore.

Questa tuttavia è solamente una fase di preselezione del comando , il comando viene confermato tramite la pressione della manopola e la relativa rotazione , una volta rilasciata la manopola essa ritorna automaticamente nella relativa posizione.

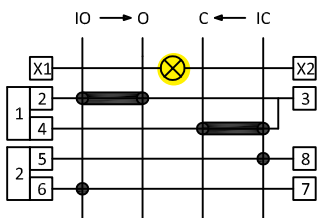
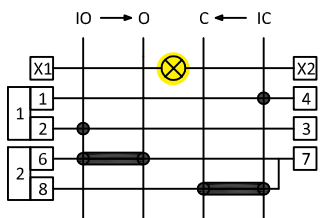
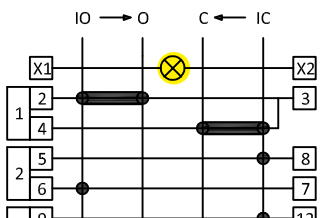
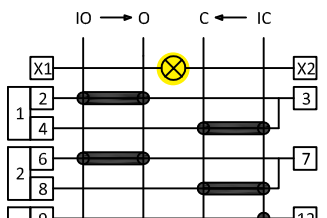
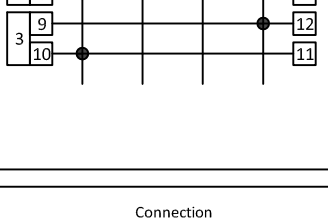
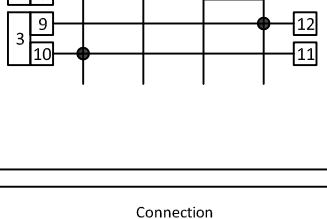
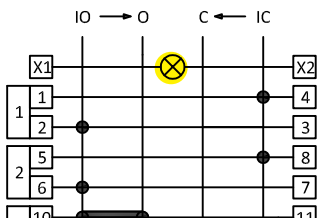
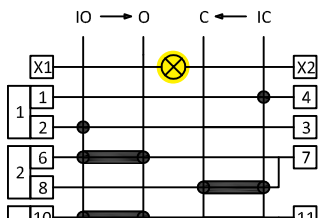
Principle of operation Type : D and E

The switches with the movements type D and E are basically called control discrepancy switches.

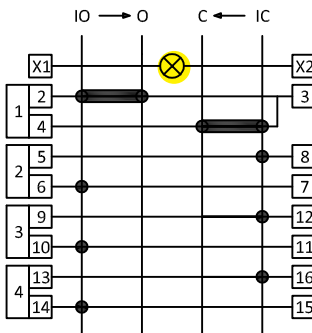
The control discrepancy switch has two fixed positions with a movement of 90° and two extra impulses of 45° on the positions of open and close.

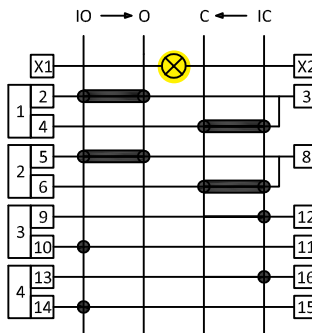
The knob is first rotated by 90° to command the relative Disconnecter Switch/Circuit Breaker.

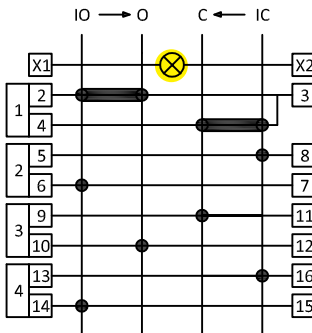
This is however, a "pre-selection" phase of the desired command , the operation is confirmed by pressing and rotating the knob by 45°, which, once released, will return automatically into position.

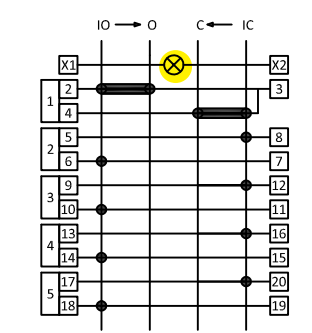
Handle Movements	Code	Connection Diagram	Handle Movements	Code	Connection Diagram
	D02001			D02006	
	D02008			D02009	
Handle Movements	Code	Connection Diagram	Handle Movements	Code	Connection Diagram
	D03001			D03002	
	D03008			D03015	
Handle Movements	Code	Connection Diagram	Handle Movements	Code	Connection Diagram
	D0300621			D0300612	
	D0301821			D0301812	

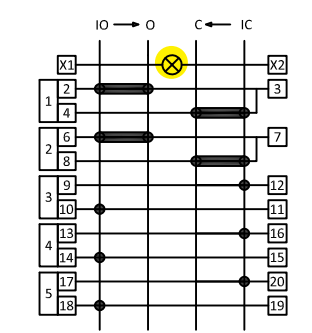
Discrepancy Switch Function and Configuration

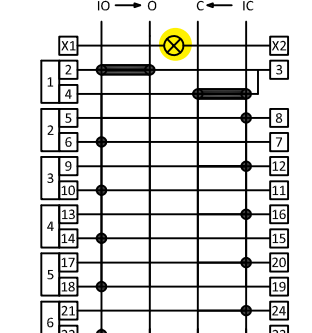
Handle Movements	Code	Connection Diagram
	D04001	
	D04008	

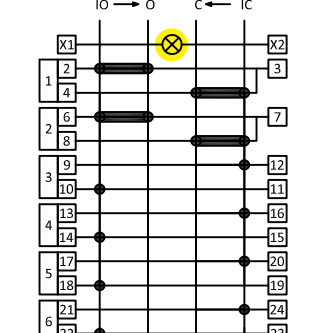
Handle Movements	Code	Connection Diagram
	D04002	
	D04015	

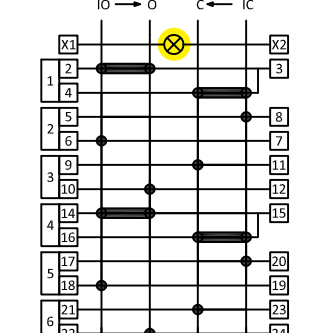
Handle Movements	Code	Connection Diagram
	E04001	
	XXXXX	

Handle Movements	Code	Connection Diagram
	D05001	
	D05008	

Handle Movements	Code	Connection Diagram
	D05002	
	D05015	

Handle Movements	Code	Connection Diagram
	D06001	
	D06008	

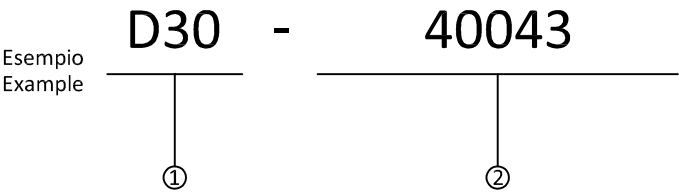
Handle Movements	Code	Connection Diagram
	D06002	
	D06015	

Handle Movements	Code	Connection Diagram
	E06001	
	XXXXXX	

Discrepancy Switches Escutcheon Plate Ordering

La mostrina si intende parte integrante del commutatore in quanto necessaria per il fissaggio al pannello dello stosso, se non specificata nessuna incisione essa verrà fornita Neutra, codice 00000.

The Escutcheon plate is strictly necessary for fitting the switch to the panel, if none engraving is specified, the frontplate will be supplied Blank, code 00000. The engraving listed below, are only a little part of those available, requir the code of the needed one if not present.



① Dimensions and shape of the Escutcheon Plate for Discrepancy Switches.

30= 30x30mm Square / Quadra

D30= 30mm Round / Tonda

②

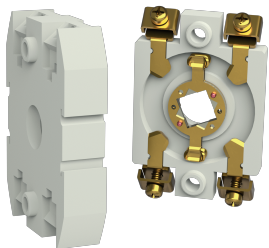
2 Positions

3 Positions

--	--	--	--	--	--	--	--	--	--

4 Positions

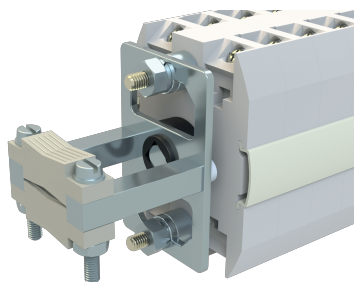
Gilded Contacts
Contatti Dorati



To Improve the reliability and the performances, even in the most aggressive environments, contacts can be supplied with special surface treatments, such as gold with thickness certificate.

Per migliorare l'affidabilità e le prestazioni anche negli ambienti più aggressivi, è possibile fornire i contatti con speciali trattamenti superficiali, con spessori certificati (es. oro).

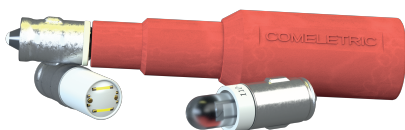
Wedge Buckle
Pressacavo Posteriore



The wedge buckle positioned on the rear of the switch is used to fit multipolar cables. Fitting them between the two plates gives as final result a wiring functional and well organized.

Il pressacavo posteriore viene spesso utilizzato per il cablaggio con cavi multipolari. I cavi si possono fare passare attraverso la speciale piastra sagomata rendendo la connessione ordinata.

LED Lamp and Extrator for Discrepancy Switch
LAMPADA LED ed Estrattore



Led lamps and extrator tool for discrepancy switches DR8, available at 24V-48V-110V-125V-130V-AC/DC

Lampade Led ed estrattore per manipolatore luminoso DR8, disponibili a 24V-48V-110V-125V-130V-AC/DC.

Legend Label
Mostrina addizionale Titolo



It shows the function of the switch. Available for frontplates sized 30x30mm and 48x48mm.
It does not require any extra drilling on the panel.

Indica la funzione specifica del singolo commutatore disponibile per mostrina mm.48x48 e 30x30mm.
Non necessita nessuna foratura pannello supplementare per il fissaggio.

STANDARD UTILIZATION CATEGORIES
CATEGORIE DI UTILIZZO NORMALIZZATE

Kind of current Tipo di corrente	Category Categoria	Typical applications Applicazioni tipiche
Alternative current Corrente alternata	AC14	Control of small electromagnetic load with rated power = 72VA Comando di piccoli carichi elettromagnetici con potenza = 72VA
	AC15	Control of electromagnetic load with rated power > 72VA Comando di carichi elettromagnetici con potenza > 72VA
Direct current Corrente continua	DC13	Control of electromagnets Comando di elettromagneti
	DC14	Control of electromagnetic loads having economy resistor in circuit Comando di carichi elettromagnetici aventi resistori economizzatori nel circuito

NORMAL CONDITIONS CONDIZIONI NORMALI				
Utilization category Categoria utilizzazione	Make Chiusura	Break Interruzione		
	I/I _e	I/I _e	U/U _e	cos Φ
AC14	6	1	1	0.3
AC15	10	1	1	0.3

				T _{0.95} [ms]
DC13	1	1	1	6xP
DC14	10	1	1	15

ABNORMAL CONDITIONS CONDIZIONI ANOMALE			
Make Chiusura	Break Interruzione		
I/I _e	I/I _e	U/U _e	cos Φ
6	6	1.1	0.7
10	10	1.1	0.3

				T _{0.95} [ms]
1.1	1.1	1.1		6xP
10	10	1.1		15

- I / I_e : Current to be made or broken and Rated operational current ratio.
Rapporto tra la corrente che l'apparecchiatura è in grado di stabilire o interrompere e la corrente d'impiego.
- U / U_e : Voltage before make and Rated operational voltage ratio.
Rapporto tra la tensione prima della chiusura e la tensione d'impiego.
- T_{0.95} : Time to reach 95% of the steady-state current.
Tempo per raggiungere il 95% della corrente di regime.
- P=U_e x I_e: Steady-state power consumption in W.
Potenza assorbita a regime in W.

The value "6xP" result from empirical relationship which is found to rapresent most d.c. magnetics loads to an upper limit of P =50W, i.e. 6 x P=300 ms. Load having power–consumption greater than 50W are assumed to consist of smaller loads in parallel. Therefore, 300 ms is to be an upper limits irrespective of the power. (REFERENCE STANDARD IEC 60947-5-1 tab. 5).

La relazione matematica "6xP" è valida per tutti carichi induttivi rappresentativi fino ad un massimo di P pari a 50W cioè 6xP =300ms. Si assume che i carichi aventi una potenza assorbita superiore a 50W siano costituiti da piccoli carichi collegati in parallelo, di conseguenza 300ms è il valore massimo a prescindere dalla potenza assorbita. (RIFERIMENTO NORMA IEC 60947-5-1 tab. 5)

**RATED ELECTRICAL CHARACTERISTICS
CARATTERISTICHE ELETTRICHE NOMINALI**

According to standards Conformità alle norme	IEC 60947-1 - IEC 60947-1/A1 - IEC60947-5-1 - IEC60947-5-1/A1 - EN 60947 -1/A1 - EN 60947-5-1 EN 60947-5-1/A1 - VDE 0660-100 - VDE 0660-200 - 2006/95/EC (LOW VOLTAGE DIRECTIVE), 2004/108/EC (EMC DIRECTIVE), 2011/65/EU (ROHS DIRECTIVE).	
Conventional free air thermal current Corrente convenzionale termica in aria	(Ith)	12A
Rated insulation voltage Tensione di isolamento nominale	(Ui)	690V
Rated impulse withstand voltage Tensione di tenuta ad impulso nominale	(Uimp)	4Kv
Frequency Frequenza di impiego		50/60Hz

**RELEVANT INFORMATION ABOUT THE ASSOCIATED SHORT CIRCUIT PROTECTIVE DEVICE
DATI RELATIVI AL DISPOSITIVO DI PROTEZIONE CONTRO IL CORTO CIRCUITO ASSOCIABILE**

Corrente di corto circuito condizionata nominale (Icc) Conditional short-circuit	1000A
Fuse Type Tipo fusibile	Gg 20A-400V
Contact resistance Resistenza di contatto	mΩ5

**MAKING AND BREAKING CAPACITIES
POTERI DI CHIUSURA ED INTERRUZIONE**

Categoria di utilizzazione Utilization Category	(Ue)	(Ie)
AC14	400V	10A
AC15	400V	6A
DC13 L/R 50 ms	220V	1,5A
DC13 L/R ≤ 1 ms	220V	3A

Vibration resistance
Resistenza alla vibrazione

Vibration Range: 5 to 150Hz, Acceleration: 5,72m/s², Time: 5h (in 3 directions)
Range di frequenza da 5 a 15Hz, Accelerazione: 5,72m/s², Tempo: 5h (in 3 direzioni)

Shock resistance
Resistenza agli urti

Acceleration: 50m/s² (in 6 directions) , Time: 30ms
Accelerazione: 50m/s² (in 6 direzioni) , Tempo: 30ms



Recommended tightening torque to avoid thread stripping
Don't exceed torque more than indicated.

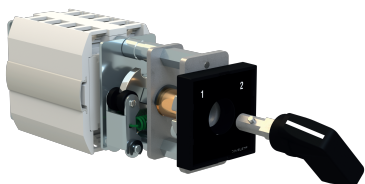
Coppia di serraggio consigliata per evitare di rovinare il filetto della vite
Non superare la coppia più di quanto indicato.

Conneting screw Vite di contatto terminale		2,3
Tightening torque Coppia serraggio viti	(Nm)	0,5
Permissible wire gage Sezione del conduttore		
Single - core or stranded wire cavo rigido o intrecciato	(mm ²)	2 x 1.5 2 x AWG15
Flexible wire Cavo flessibile	(mm ²)	2 x 1.5 2 x AWG15

**ENVIRONMENTAL DATA (IEC 60947-1 - CEI EN 60947-1)
DATI AMBIENTALI**

Temperature range Temperatura ambientale	
Operating temperature Esercizio	-25°C +60°C
Storage temperature Stoccaggio	-40°C +80°C
Pollution degree Grado di inquinamento	PLDG 2

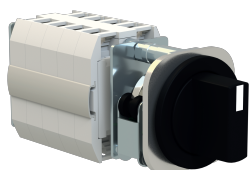
A703



Switch with removable handle is mainly used for Safety controls.

Commutatore con manopola asportabile adatto per comandi di sicurezza.

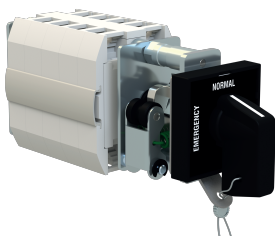
A710



Flat ring switch. This special design reduces the footprint of the front of the switch, with a single hole fitting diam. 30,5 mm. they are particularly used on control desk and on serigraph printed panels.

Il design filo ghiera provvede al minimo ingombro in sporgenza della manopola, fissaggio a foro unico diam. 30,5mm , particolarmente adatto per comandi cockpit e pannelli serigrafati.

A701-D002



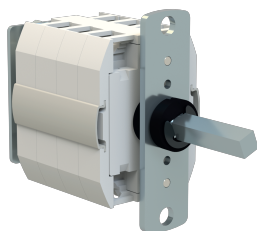
Plumb sealed switch.

Thanks to the hole in the knob, the switch is blocked in a certain position. This is to prevent to be operated by unauthorized personnel and only following restrictive safety procedures.

Commutatore piombabile.

Attraverso un foro posto nella manopola il selettore può essere facilmente bloccato nella sua posizione di modo tale che non possa essere manovrato se non da personale autorizzato nelle situazioni specifiche previste dalla procedura di sicurezza.

C703



Auxiliary switches are used to indicate the position of the main contacts- open or closed, as well as indicator lights, relays, and other accessories.

The switches feature self-cleaning contacts.

Each time the switch is operated, arc dust and other contaminants are removed. Additionally, this technology provides high resistance to vibrations and mechanical shocks.

The auxiliary switches can be customized by the user for number of switches/layers, and contact type/shape.

Gli interruttori ausiliari vengono utilizzati per indicare la posizione dei contatti principali, aperti o chiusi, nonché spie luminose, relè e altri accessori.

Gli interruttori sono dotati di contatti autopulenti.

Ogni volta che si aziona l'interruttore, la polvere dell'arco e altri contaminanti vengono rimossi.

Inoltre, questa tecnologia fornisce un'elevata resistenza alle vibrazioni e agli shock meccanici.

Gli interruttori ausiliari possono essere personalizzati dall'utente per numero di interruttori/strati e tipo/forma di contatto

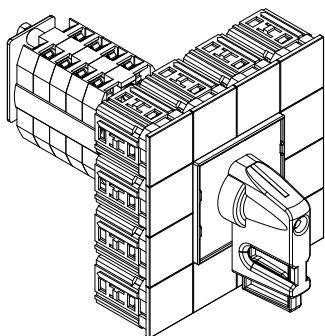
MOSAIC MIMIC MODELS

Switches and Discrepancy switches of the series FRMC 6 and FRMM 6 have a very flexible design which allows a very easy fitting in the most frequently used mosaic tile systems. Below you can find some examples. If the mosaic system you are interested in is not present in the list, do not hesitate to contact our Technical Department which will be pleased to submit you a customized solution meeting your specific needs. In this case the most important thing is to receive dimensions and features of tiles and main fitting grid.

I commutatori/manipolatori FRMC 6-FRMM 6 IP20 si adattano facilmente ad ogni sistema a mosaico presente sul mercato. Di seguito potete trovare alcuni dei modelli più utilizzati. Nel caso in cui il Vostro sistema non fosse presente nei nostri archivi, il nostro reparto tecnico sarà disponibile per fornirvi una soluzione personalizzata in base alle vostre esigenze. In questo caso sarà di fondamentale importanza fornirci tutte le dimensioni della griglia e delle tessere.

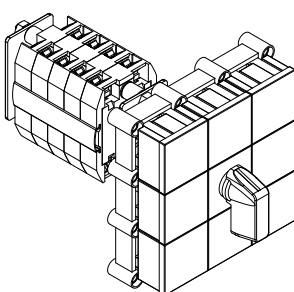
MIMIC TYLE SYSTEM
"DOMO"

C708K



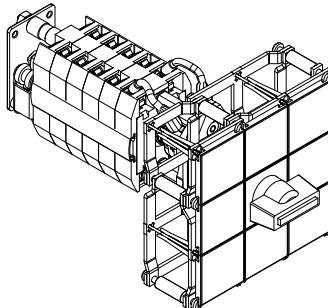
MIMIC TYLE SYSTEM
"SUBKLEW"

A708



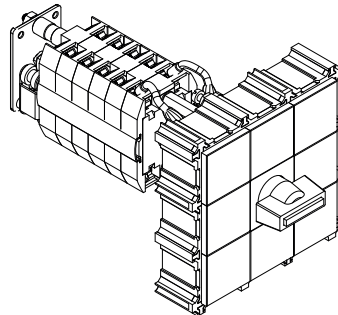
MIMIC TYLE SYSTEM
"MAUELL"

M793

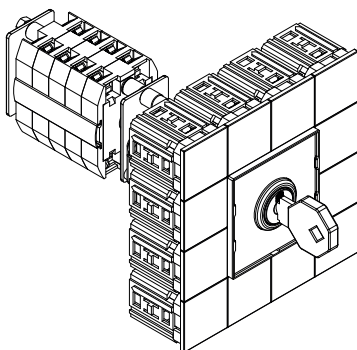


MIMIC TYLE SYSTEM
"MIMIC CRAFT"

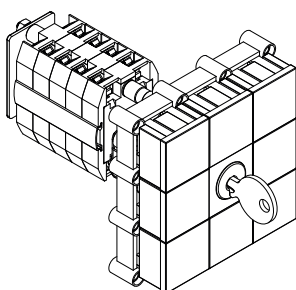
M701K



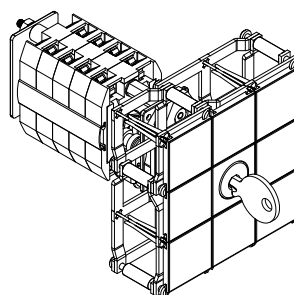
C714K1



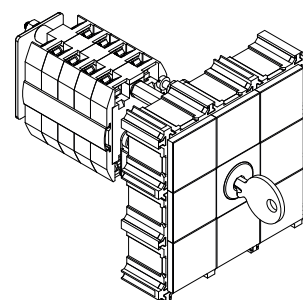
A709



C795



C702K



COMPANY PROFILE

After 60 years of activity, COMELETRIC has become expert in the design, production and sale of control switches, interlocking devices and Led indicators.

Our customers can take full advantage of our in-house engineering capabilities, receiving a tailor-made service on:

- Customization of products
- Fast response about feasibility of new solutions
- Technical support before, during and after the order processing

We serve customers all over the world through a global net of distributors in all continents and thanks to our flexible organization we support them in every need the customers may have.

What started in Milan in 1960 was a family-owned business company which never stopped looking into future preserving the handcraft tradition, but projected in a new age with a structured organization ensuring in the time durable high quality products.

Con oltre 60 anni di attività, COMELETRIC è diventata esperta nella progettazione, produzione e vendita di commutatori, interblocchi a chiave ed indicatori a Led.

I nostri clienti possono godere della nostra capacità di progettazione ricevendo un servizio completo per:

- Personalizzazione dei prodotti
- Reattività sulla possibilità o meno di realizzare un nuovo progetto
- Supporto tecnico prima, durante e dopo la realizzazione dell'ordine

La nostra attività si svolge in tutto il mondo grazie ad una rete di distributori presenti in tutti i continenti.

Grazie alla nostra flessibilità organizzativa, i nostri distributori sono certi di essere supportati in ogni momento e per qualsiasi necessità il cliente possa avere.

Quando COMELETRIC fu fondata a Milano nel 1960 era un'azienda a conduzione familiare che non ha mai smesso di guardare al futuro preservando però l'artigianalità del prodotto, rigorosamente fatto a mano.

Questa caratteristica non ha però impedito a COMELETRIC di proiettarsi al presente con una struttura organizzativa che assicurasse l'alta qualità dei prodotti nel tempo.



FRMC6-IP20 09/22

Via Ernesto Rizzi 13/H
20077 Melegnano (MI) Italia
T +39 02.98119791
info@comeletric.it
P iva 00868300153

COMELETRIC.IT