

# Cam switches

series  
**T|TB|TF|TP**

Cam switches available in different construction models over a wide current range with a large variety of accessories.

According to:  
IEC 60947-3  
UL508 - CAN/CSA C22.2 N° 14  
RoHS

Testing and approvals:



Cam switches are manufactured in different series under strict quality controls to provide a reliable product that meets the most demanding requirements.

They consist of chambers, each containing up to two double break contacts of positive opening. These contacts silver alloy plated providing a long electromechanical life.

In sizes 0 - 1 and 2, the terminals are equipped with captive clamp screws to facilitate installation work, and all the connections themselves are covered to provide an IP20 protection rating.

The different configurations of contacts available provide flexible, faster and safer solutions for several electrical operations at a highly competitive cost.

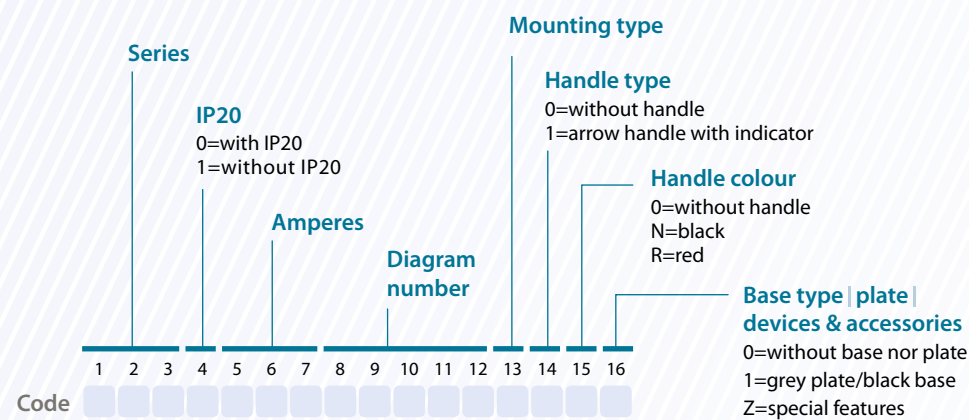
## Range codification:

### Standard products

They are listed in this section and are encoded according to the 16-digit bar logic explained below. This descriptive method will be used on all pages in the cam switches range for your convenience and better understanding.

### Special products

They are made according to customer specifications or to comply with a diagram or special scheme. In these cases, the code is formed by the corresponding series (T-TB-TF-TP), the amperage and an order number assigned to the scheme (see blank diagrams form).



Example **T-0010000012E1N1**  
T series | 100 amperes | 012 diagram | E fixing | Standard handle | Black colour | Grey plate/black base |

### series **T**



Wide range of sizes and ratings.  
Supplied with IP20 removable terminals protection on sizes 0 - 1 - 2 (except T175).  
Wide range of devices and accessories.

### series **TB**



Side access to all terminal screws (up and down).  
Two different bodies depending on mounting type: door or base mounting.  
Wide range of devices and accessories.

### series **TF**



Square body, smooth sides, axial access to terminal screws.  
Two different bodies depending on mounting type: door or base mounting.  
Wide range of devices and accessories.

### series **TP**



Reduce-sized body. Door mounting only.  
Wide range of devices and accessories.

### series | type **TIP**



- > Cam switch in plastic enclosure for gland entry.
- > From 12 up to 40 A.
- > Padlockable handle under request.

### series | type **T-TFIR**



- > Cam switch in plastic enclosure for gland entry.
- > From 25 up to 100 A.
- > Padlockable handle under request.

### series | type **T-TBIA-C**



- > Cam switch in metal enclosure of cast aluminium
  - <sup>4</sup>A From 12 up to 63 A.
- > In sheet steel enclosure
  - <sup>4</sup>C From 100 A upwards.
- > Gland entry.
- > Several enclosure sizes.
- > Padlockable handle under request.

>> Ask for more information about these applications with enclosure.

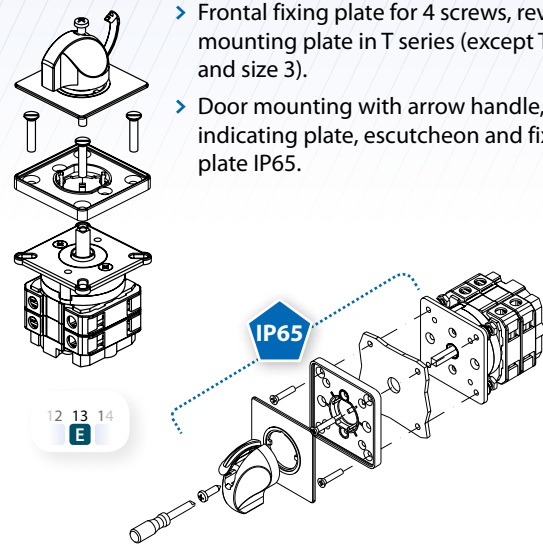
# TP | T | TB | TF

## Door mounting

### Fixing with screws | E type

For T - TB - TF - TP series

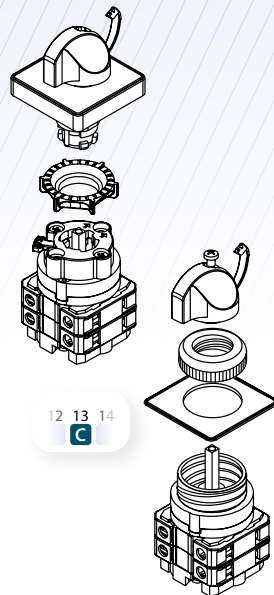
- > Frontal fixing plate for 4 screws, reversible mounting plate in T series (except T175 and size 3).
- > Door mounting with arrow handle, indicating plate, escutcheon and fixing plate IP65.



### Central quick fixing $\varnothing 22$ | C type

For T - TB - TF series

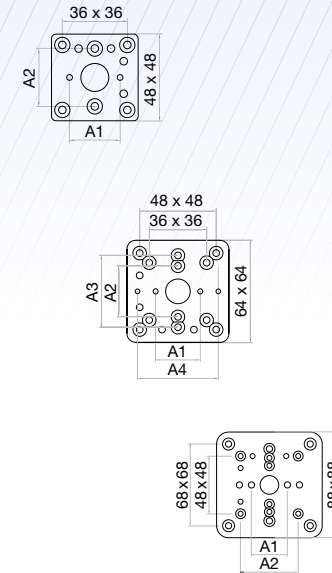
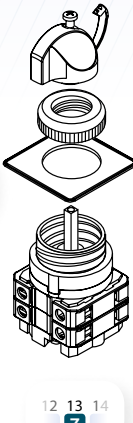
- > Door mounting for  $\varnothing 22$  mm available for sizes 0 and 1.
- > For arrow handle with indicator or padlockable handle.
- > Maximum number of chambers supported  
Size 0 = 6  
Size 1 = 4



### Central fixing with metal nut $\varnothing 22$ | Z type

For T - TF series

- > Door mounting for metal nut  $\varnothing 22$  mm available for sizes 0 and 1.  
(also  $\varnothing 30$  mm under request).



Size	Models		13
0	A1 = 28 mm	A2 = 32 mm	M
	A1 = 30 mm	A2 = 34 mm	N
	A1 = 35 mm	A2 = 38 mm	O
1	A1 = 28 mm A4 = 46 mm	A2 = 32 mm	M
	A1 = 33 mm A3 = 47 mm	A4 = 50 mm	N
	A1 = 32 mm A3 = 45 mm	A4 = 45 mm	P
2	A1 = 38 mm	A3 = 40 mm	M
	A1 = 30 mm	A2 = 50 mm	P

### Multi-distance fixing plates with screws

For T - TB - TF series

- > Multidrill plates for different fixing distances.
- > Fixing with two screws for mounting without base nor indicating plate.
- > Available for sizes 0 - 1 - 2.  
(size 0 also supports multi-fixing plate size 1).

## Base mounting

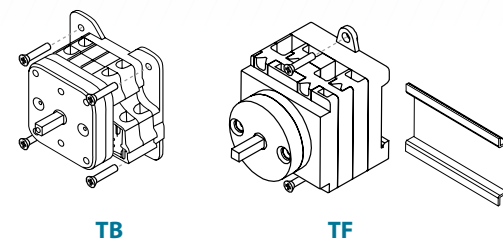
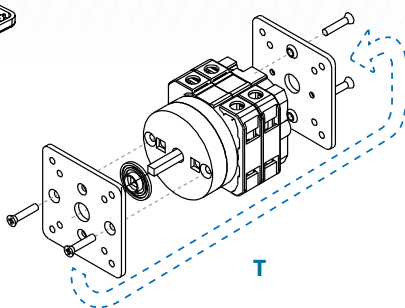
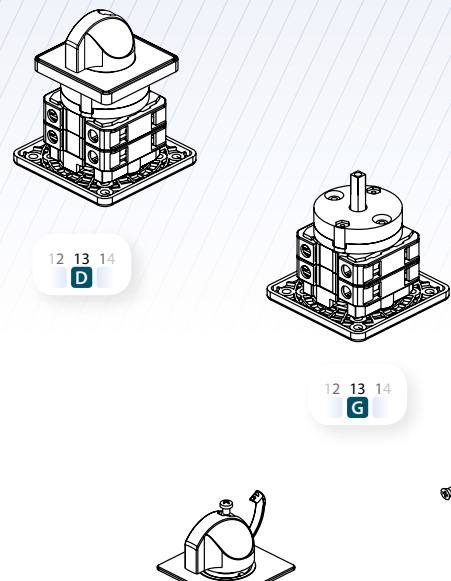
### Base mounting by screws with direct handle | D type Base mounting by screws without plate and handle | G type

For T series

- > Rear fixing plate for 4 screws, reversible mounting plate in T serie (except T175 and size 3).

For TB - TF series

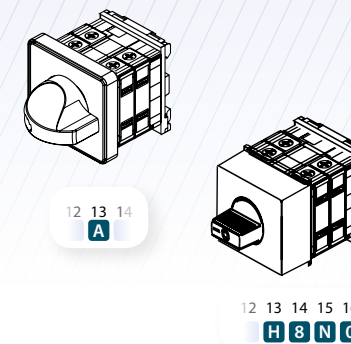
- > Fixed rear support plate as standard.
- > Serie TB for 4 screws.
- > Serie TF for two screws (also DIN rail).



### DIN rail mounting with direct handle | A type

For T series

- > Rear fixing support (D904) for T series sizes 0 and 1.
- > DIN rail is included in TF series.



### DIN rail mounting with modular handle | H type

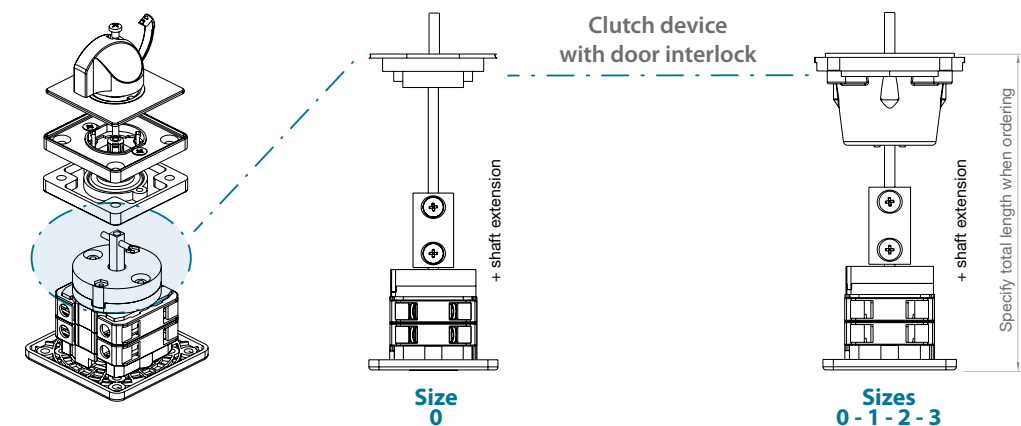
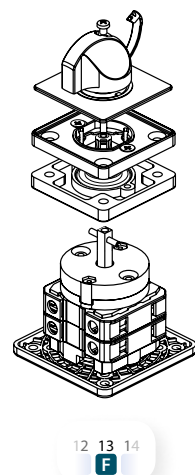
For TF series

- > Rear fixing support and modular handle tape (D905) for T - TF series size 0.

### Base mounting with clutch device and door handle | F type

For T - TB - TF series

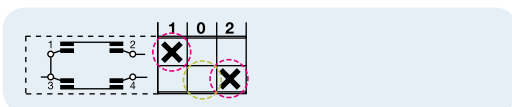
- > Rear fixing plate for 4 screws in T - TB series or two screws and DIN rail in TF serie.
- > With clutch device and door lock, according to series and sizes.
- > The clutch device (D501) for size 0, if it is combined with other accessory, must be size 1.
- > The clutch device (D501) and shaft extension are supplied separately (as accessories) or incorporated with the cam switch (size 3 is always incorporated with the cam switch).
- > Specify useful depth of the space available when ordering.





# TP | T | TB | TF Standard diagrams

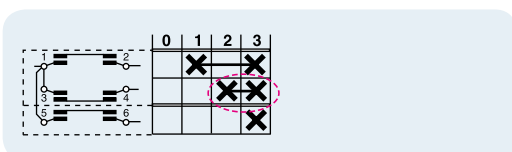
For many switching operations that can be resolved using cam switches, we have a number of standard schemes applicable to the most common applications in electrical installations, equipment, machinery, etc. If you do not find what you are looking for in this selection, or have a special switching requirement, you can use the blank diagrams form on the next page and send it to our sales department. The descriptive logic representing and interpreting the circuits are explained below.



**X** It represents "closed contact".

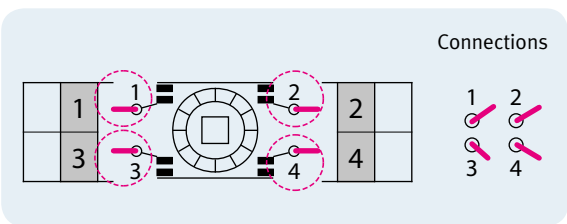
**□** It represents "opened contact".

The contact 1/2 is closed in position 1 and opened in positions 0 & 2.  
The contact 3/4 is closed in position 2 and opened in positions 0 & 1.

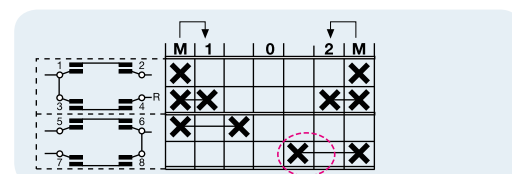


**X-X** It represents closed contact "without interruption".

The contact 1/2 closes in position 1, and remains closed in position 2 & 3.  
The contact 3/4 closes in position 2 and remains closed in position 3.  
When passing from one position to another there is no contact interruption in any cases.

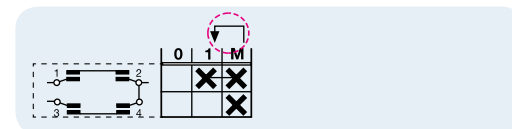


Connection point.



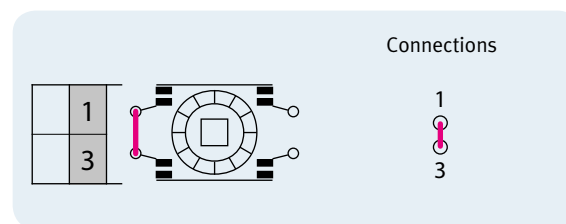
**X-X** They represent "late break contact" or "early-make contact" in relation to others.

The contacts 5/6 & 7/8 close before the contacts 3/4 & 1/2 and they will also open after these contacts.

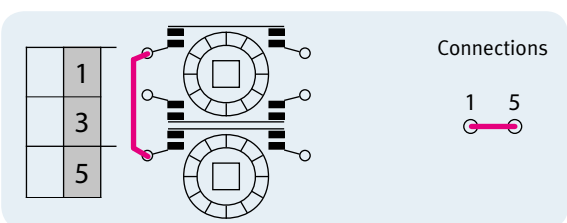


**↶** It represent "spring return" to previous position.

The M position is not fixed and it will return to position 1 when the handle is released.

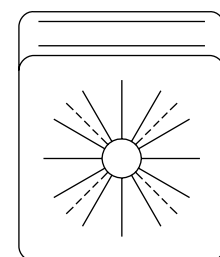


Vertical bridging link.



Horizontal bridging link.

Inscription plate  
Name plate



## ORDER SHEET FOR NON-STANDARD CAM SWITCHES 10 TO 315 AMP.



Series

Code

- Contact closed **X**
- Closed contact without interruption **X-X**
- Late break contact **X-**
- Early-make contact **-X**
- Return from 30° **↶**

Rev.

Number of switch positions

1		2	
3		4	
5		6	
7		8	
9		10	
11		12	
13		14	
15		16	
17		18	
19		20	
21		22	
23		24	
25		26	
27		28	
29		30	
31		32	
33		34	
35		36	
37		38	
39		40	
41		42	
43		44	
45		46	
47		48	

Connections

1	5	9	13	17	21	25	29	33	37	41	45
○	○	○	○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○	○	○	○
3	7	11	15	19	23	27	31	35	39	43	47
○	○	○	○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○	○	○	○
46	42	38	34	30	26	22	18	14	10	6	2
○	○	○	○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○	○	○	○
48	44	40	36	32	28	24	20	16	12	8	4

T series

0	12	20			
1	16	25	32	40	
2	50	63	80	100	125 175
3	200	250	315		

TB series

20	25	32	40
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TF series

12	16	25	32	40
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TP series

10
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Type

E	C	Z	D	G	H	F
---	---	---	---	---	---	---

Handle

Indicator arrow	Black	Shaft extension mm
Ball lever handle	Red	
Double handle	Yellow	
Key	Yellow	

Nameplate

Aluminium colour	Normal
Yellow colour	With inscription
Switching angle 30° -45° -60° -90°	

Materials

Chambers

Notes

Validity

Date

Signature

Special devices

On-Off switches

010 1 pole 1 chamber  
 010/5 5 poles  
 010/6 6 poles  
 010/7 7 poles  
 010/8 8 poles  
 010/9 9 poles

011 2 poles 1 chamber  
 010/10 10 poles  
 010/11 11 poles  
 010/12 12 poles  
 010/13 13 poles  
 010/14 14 poles

012 3 poles 2 chambers  
 010/15 15 poles  
 010/16 16 poles  
 010/17 17 poles  
 010/18 18 poles  
 010/19 19 poles

013 4 poles 2 chambers  
 010/20 20 poles  
 010/21 21 poles  
 010/22 22 poles  
 010/23 23 poles  
 010/24 24 poles

To view these wiring diagrams please visit our download area on [www.telergon.com](http://www.telergon.com)

On-Off switches with contacts leading when making

020 3 poles 1 preclosed pole 2 chambers  
 020/5 5 poles  
 020/6 6 poles  
 020/7 7 poles  
 020/8 8 poles  
 020/9 9 poles

021 4 poles 1 preclosed pole 2 chambers  
 020/10 10 poles  
 020/11 11 poles  
 020/12 12 poles  
 020/13 13 poles  
 020/14 14 poles

022 4 poles 3 preclosed poles 2 chambers  
 020/15 15 poles  
 020/16 16 poles  
 020/17 17 poles  
 020/18 18 poles  
 020/19 19 poles

Reversing switches

101 2 poles 2 chambers

Reversing switches

102 3 poles 3 chambers  
 102/5 5 poles  
 102/6 6 poles  
 102/7 7 poles  
 102/8 8 poles  
 102/9 9 poles

111 2 poles 2 chambers  
 102/10 10 poles  
 102/11 11 poles  
 102/12 12 poles  
 102/13 13 poles  
 102/14 14 poles

112 3 poles 2 chambers  
 102/15 15 poles  
 102/16 16 poles  
 102/17 17 poles  
 102/18 18 poles  
 102/19 19 poles

113 3 poles for use with reserving contactors 4 chambers  
 102/20 20 poles  
 102/21 21 poles  
 102/22 22 poles  
 102/23 23 poles  
 102/24 24 poles

Reversing switches with spring return

113 3 poles for use with reserving contactors 4 chambers

Control switches with spring return

201 Start switch 1 pole 1 chamber  
 201/5 5 poles  
 201/6 6 poles  
 201/7 7 poles  
 201/8 8 poles  
 201/9 9 poles

202 Stop switch 1 pole 1 chamber  
 202/5 5 poles  
 202/6 6 poles  
 202/7 7 poles  
 202/8 8 poles  
 202/9 9 poles

203 Start switch 2 poles 1 chamber  
 203/5 5 poles  
 203/6 6 poles  
 203/7 7 poles  
 203/8 8 poles  
 203/9 9 poles

204 Stop switch 2 poles 1 chamber  
 204/5 5 poles  
 204/6 6 poles  
 204/7 7 poles  
 204/8 8 poles  
 204/9 9 poles

Stop-Start switches

205 With contactor 1 chamber  
 205/5 5 poles  
 205/6 6 poles  
 205/7 7 poles  
 205/8 8 poles  
 205/9 9 poles

206 With contactor and spring return 1 chamber  
 206/5 5 poles  
 206/6 6 poles  
 206/7 7 poles  
 206/8 8 poles  
 206/9 9 poles

207 With spring return to run for 2 units 2 chambers  
 207/5 5 poles  
 207/6 6 poles  
 207/7 7 poles  
 207/8 8 poles  
 207/9 9 poles

Start delta switches

300 Normal type 4 chambers  
 300/5 5 poles  
 300/6 6 poles  
 300/7 7 poles  
 300/8 8 poles  
 300/9 9 poles

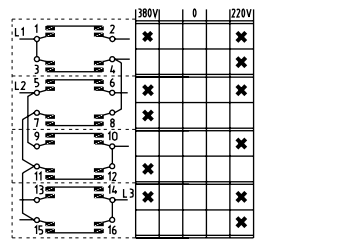
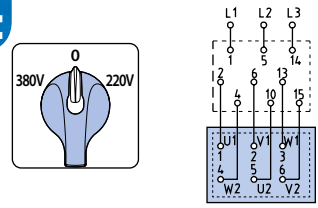
301 Auxiliary contact closed in "0" 5 chambers  
 301/5 5 poles  
 301/6 6 poles  
 301/7 7 poles  
 301/8 8 poles  
 301/9 9 poles

302 Reversing 5 chambers  
 302/5 5 poles  
 302/6 6 poles  
 302/7 7 poles  
 302/8 8 poles  
 302/9 9 poles

303 Rotary 0-λ-Δ-0-λ-Δ-0 5 chambers  
 304 Position λ return to 0 0-λ-Δ 4 chambers  
 305 Reversing. Return from λ to 0 Δ-λ-0-λ-Δ 5 chambers  
 308 Use with contactor 0-λ-Δ 4 chambers  
 309 Reversing for use with contactor Δ-λ-0-λ-Δ 7 chambers

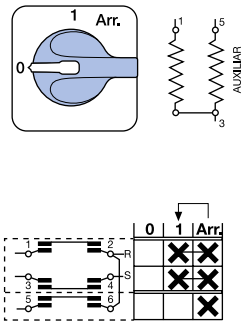
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Start delta switches

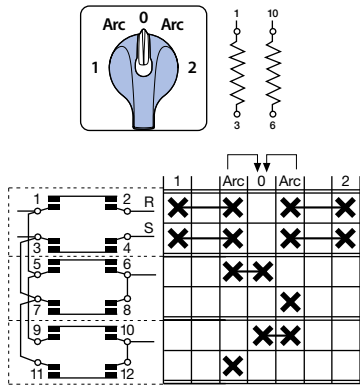


**310**  
Selector  $\lambda - \Delta$   
380 - 0 - 220  
4 chambers

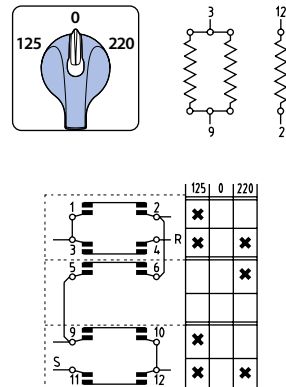
Split phase starting switches



**315**  
Start return to 1  
2 chambers

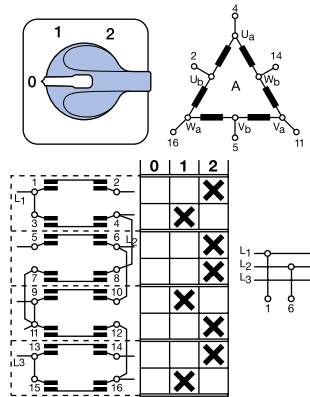


**316**  
Reversing type of T315  
1 - ARR - 0 - ARR - 2  
3 chambers

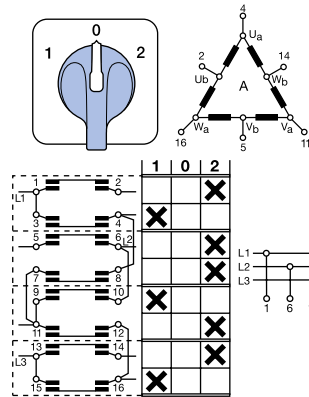


**317**  
Start single phase 2 voltages  
3 chambers

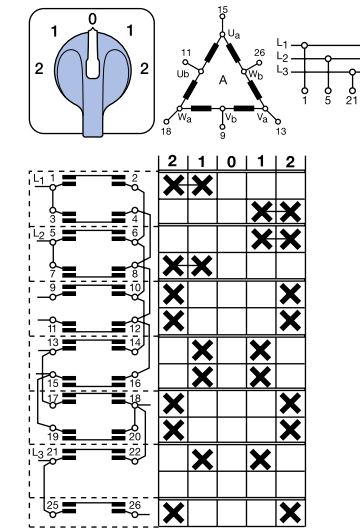
Dahlander multi-step switches



**330**  
Dahlander  $0 - \Delta_A - \lambda \lambda_A$   
4 chambers



**331**  
Dahlander  $\Delta_A - 0 - \lambda \lambda_A$   
4 chambers



**332**  
Reversing type of T330  
7 chambers

**333**  
Dahlander  $0 - \Delta_A - \lambda \lambda_A - 0 - \Delta_A - \lambda \lambda_A - 0$   
0 - 1 - 2 - 0 - 1 - 2  
5 chambers  
**334**  
For use with contactor  
0 - 1 - 2  
5 chambers  
**335**  
Selector Dahlander  
 $0 - \lambda - \Delta_A - \lambda \lambda_A$   
6 chambers  
**336**  
Reversing Dahlander  
 $\lambda \lambda_A - \Delta_A - \lambda - 0 - \lambda - \Delta_A - \lambda \lambda_A$   
2 - 1 -  $\lambda - 0 - \lambda - 1 - 2$   
8 chambers

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Separate winding to speed

**340**  
 $0 - \lambda_A - \Delta - \lambda_B$   
 $0 - \lambda - 1 - 2$   
6 chambers  
**341**  
 $0 - \Delta_A - \lambda_B$   
 $0 - 1 - 2$   
4 chambers

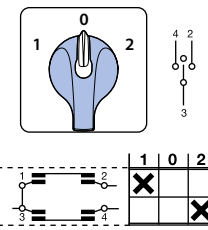
**342**  
 $0 - A - B$  en  $\lambda$  or  $\Delta$   
 $0 - 1 - 2$   
3 chambers  
**343**  
Reversing del 342  
 $2 - 1 - 0 - 1 - 2$   
5 chambers

**344**  
 $\Delta_B - \lambda_B - 0 - \lambda_A - \Delta_A$   
 $1 - \lambda - 0 - \lambda - 2$   
8 chambers  
**350**  
 $0 - \lambda_A - \Delta_B - \lambda \lambda_B$   
 $0 - 1 - 2 - 3$   
6 chambers

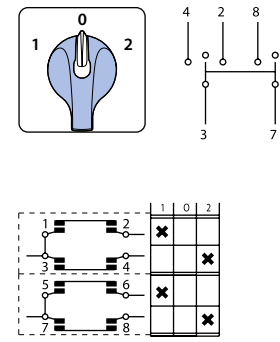
**351**  
Reversing type of T350  
 $3 - 2 - 1 - 0 - 1 - 2 - 3$   
9 chambers

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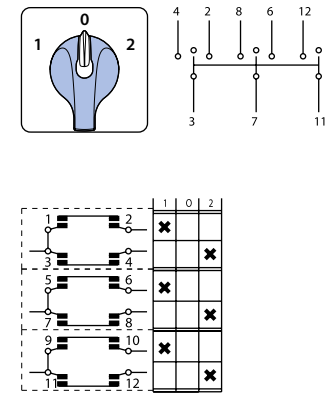
Changeover switches with center "Off"



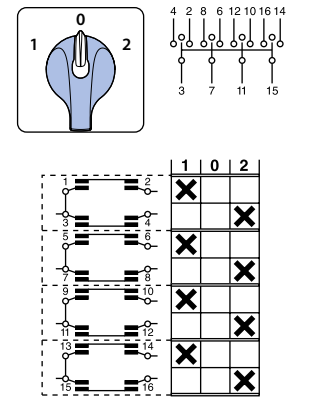
**400**  
1 pole  
1 chamber



**401**  
2 poles  
2 chambers



**402**  
3 poles  
3 chambers

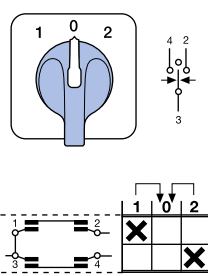


**403**  
4 poles  
4 chambers

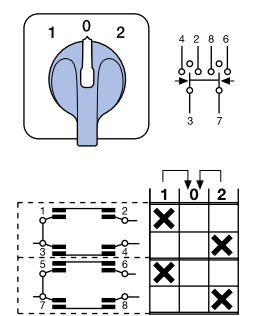
	Poles	Positions	Chambers		Poles	Positions	Chambers		Poles	Positions	Chambers		Poles	Positions	Chambers				
400/5	5	3	5	00400	400/7	7	3	7	00401	400/9	9	3	9	00402	400/11	11	3	11	00403
400/6	6	3	6	00310	400/8	8	3	8	00404	400/10	10	3	10	00405	400/12	12	3	12	00406

To view these wiring diagrams please visit our download area on [www.telergon.com](http://www.telergon.com)

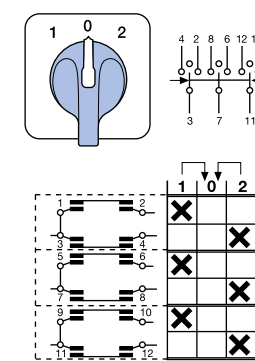
Changeover switches with spring return to center



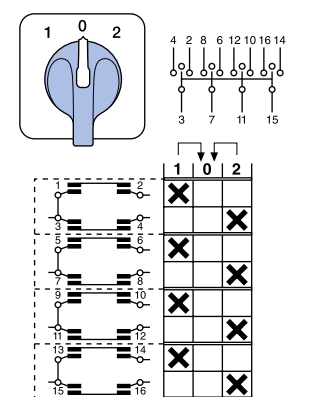
**405**  
1 pole  
1 chamber



**406**  
2 poles  
2 chambers

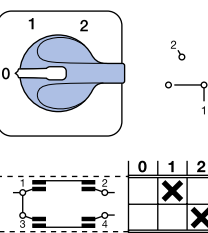


**407**  
3 poles  
3 chambers

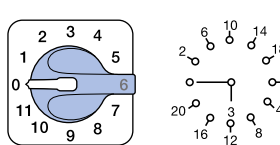


**408**  
4 poles  
4 chambers

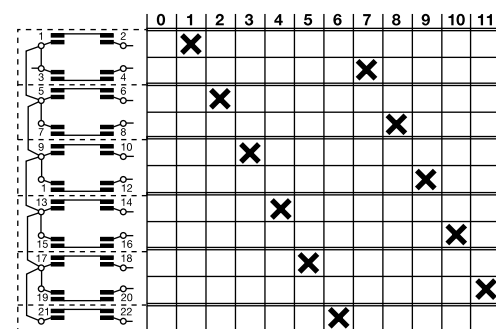
Multi-step switches with "Off" position



**410**  
1 pole 2 positions  
1 chamber



**419**  
1 pole 11 positions  
6 chambers



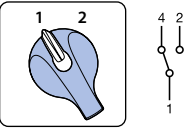
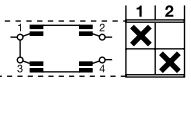


Multi-step switches with "Off" position

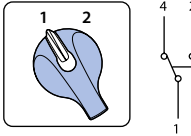
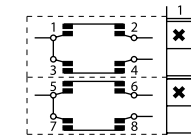
	Poles	Positions	Chambers		Poles	Positions	Chambers		Poles	Positions	Chambers		Poles	Positions	Chambers
411	1	3	2	422	2	4	4	432	3	4	6	452	5	4	10
412	1	4	2	423	2	5	5	433	3	5	9	460	6	2	6
413	1	5	3	424	2	6	7	434	3	6	12	461	6	3	9
414	1	6	4	425	2	7	8	435	3	7	12	462	6	4	12
415	1	7	4	426	2	8	9	440	4	2	4	470	7	2	7
416	1	8	5	427	2	9	10	441	4	3	6	471	7	3	11
417	1	9	5	428	2	10	11	442	4	4	8	480	8	2	8
418	1	10	6	429	2	11	12	443	4	5	10	481	8	3	12
420	2	2	2	430	3	2	3	450	5	2	5	490	9	2	9
421	2	3	3	431	3	3	5	451	5	3	8				

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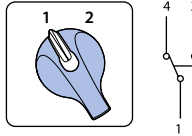

Changeover switches without "Off"

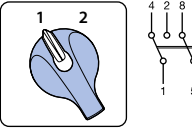
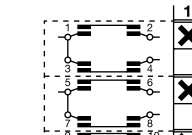
**500**  
1 pole  
1 chamber

**501**  
2 poles  
2 chambers

**502**  
3 poles  
3 chambers

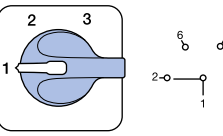
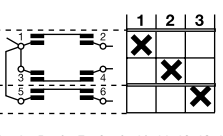



**503**  
4 poles  
4 chambers

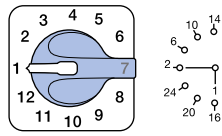

Poles	Positions	Chambers	Poles	Positions	Chambers	Poles	Positions	Chambers	Poles	Positions	Chambers				
500/5	5	2	5	500/7	7	2	7	500/9	9	2	9	500/11	11	2	11
500/6	6	2	6	500/8	8	2	8	500/10	10	2	10	500/12	12	2	12

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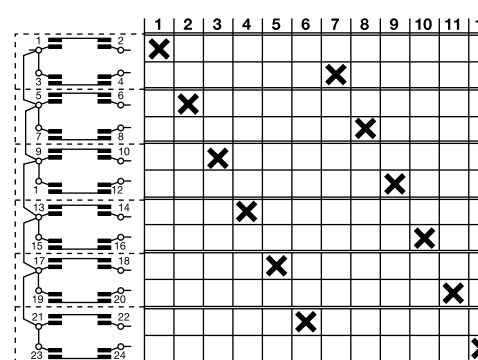
Multi-step switches without "Off" position

**510**  
1 pole 3 positions  
2 chambers

**519**  
1 pole 12 positions  
6 chambers

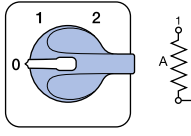
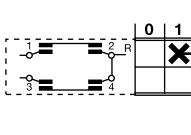


Multi-step switches without "Off" position

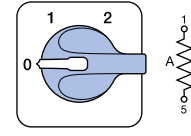
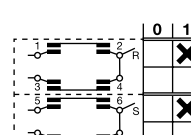
	Poles	Positions	Chambers		Poles	Positions	Chambers		Poles	Positions	Chambers		Poles	Positions	Chambers
511	1	4	2	521	2	4	4	530	3	3	5	543	4	6	12
512	1	5	3	522	2	5	5	531	3	4	6	550	5	3	8
513	1	6	3	523	2	6	6	532	3	5	8	551	5	4	10
514	1	7	4	524	2	7	7	533	3	6	9	552	5	5	13
515	1	8	4	525	2	8	8	534	3	7	11	560	6	3	9
516	1	9	5	526	2	9	9	535	3	8	12	561	6	4	12
517	1	10	5	527	2	10	10	540	4	3	6	570	7	3	11
518	1	11	6	528	2	11	11	541	4	4	8	580	8	3	12
520	2	3	3	529	2	12	12	542	4	5	10				

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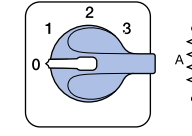
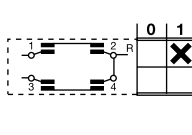
Gang switches

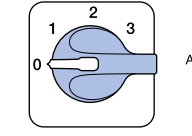
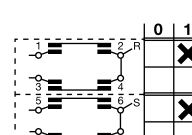
**601**  
1 pole switching sequence  
0 - A - (A+B)  
1 chamber

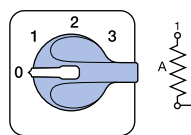
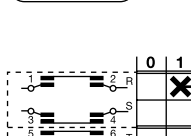
**602**  
2 poles switching sequence  
0 - A - B - (A+B)  
2 chambers

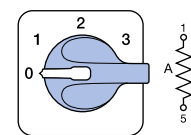
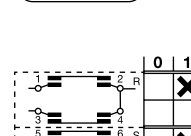
**603**  
1 pole switching sequence  
0 - A - B - (A+B)  
1 chamber

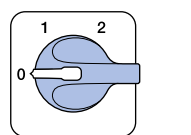
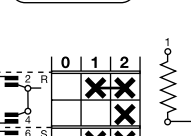
**604**  
2 poles switching sequence  
0 - A - B - (A+B)  
2 chambers

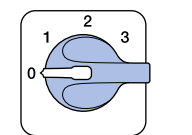
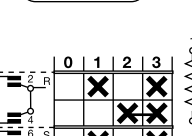
**605**  
1 pole switching sequence  
0 - A - (A+B) - (A+B+C)  
2 chambers

**606**  
2 poles switching sequence  
0 - A - (A+B) - (A+B+C)  
3 chambers

**607**  
3 poles switching sequence  
0 - A - (A+B)  
3 chambers

**608**  
3 poles switching sequence  
0 - A - B - (A+B)  
3 chambers

Gang switches

**609**  
3 poles switching sequence  
0 - A - (A+B) - (A+B+C)  
5 chambers

**610**  
Switching sequence  
 $\lambda$  0 - A - (A+B) - (A+B+C)  
2 chambers

**611**  
Switching sequence  
 $\Delta$  0 - A - (A+B) - (A+B+C)  
2 chambers

**612**  
Switching sequence 0 - A + B series  
A - B - (A + B) paralell  
2 chambers

Kitchen and heating switches

**613**  
3 positions switching sequence  
0-A+B paralell; A or B-A+B series -0  
3 chambers

**614**  
3 positions switching sequence  
0-A+B series; A or B-A+B paralell  
2 chambers

Resistance elimination switches

**620**  
3 phases, 3 points  
2 chambers

**621**  
3 phases, 3 points  
3 chambers  
With auxiliary contact

**622**  
3 phases, 4 points  
3 chambers

**624**  
3 phases, 5 points  
4 chambers

**626**  
3 phases, 6 points  
5 chambers

**630**  
Switching sequence  
0 - A - (A+B) - (A+B+C)  
2 chambers

**631**  
Switching sequence  
0 - A - (A+B) - (A+B+C) - (A+B+C+D)  
2 chambers

**632**  
Switching sequence  
0 - A - (A+B) - (A+B+C) - (A+B+C+D) - (A+B+C+D+E)  
3 chambers

Voltmeter switches

**700**  
2 phases C.A. or 2 poles C.C.  
2 chambers

**701**  
3 phases  
2 chambers

**702**  
3 phases to neutral  
2 chambers

**704**  
3 phases and 1 phase to neutral  
3 chambers

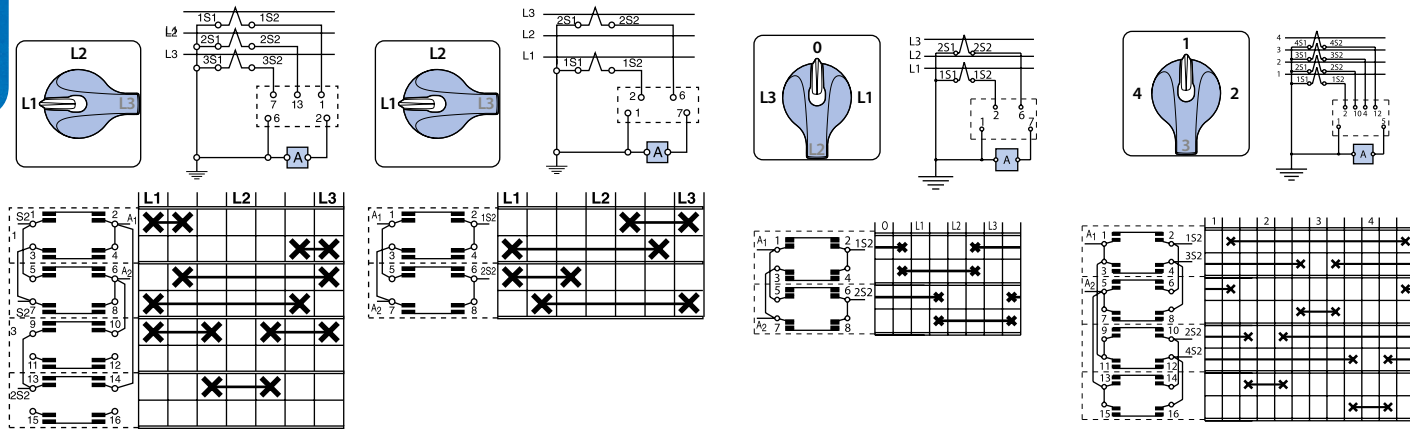
**703**  
4 lines with 2 wires C.A. o C.C.  
4 chambers

**705**  
3 phases to phase and 3 phases to neutral  
3 chambers

**706**  
2 three-phase lines (phase to phase)  
4 chambers/chambers

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**Ammeter switches**



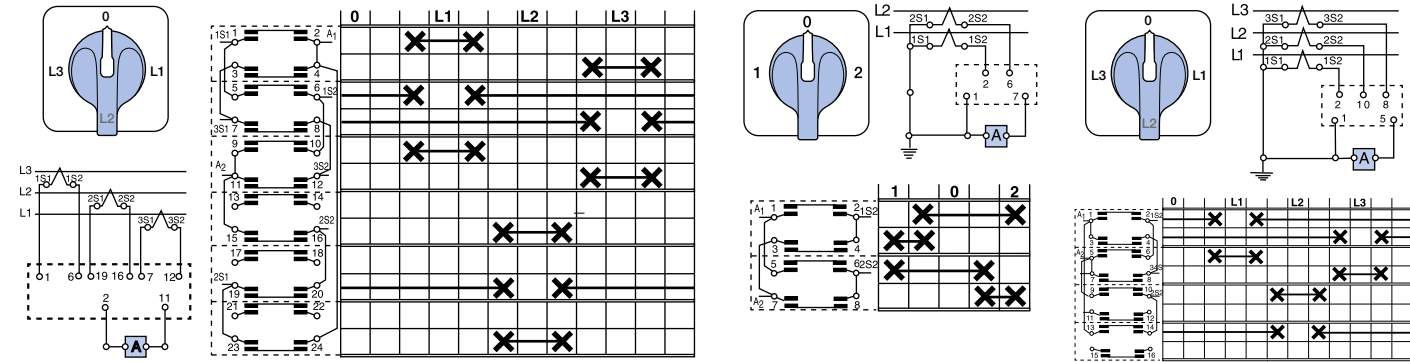
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00720

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00721

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00724

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00725

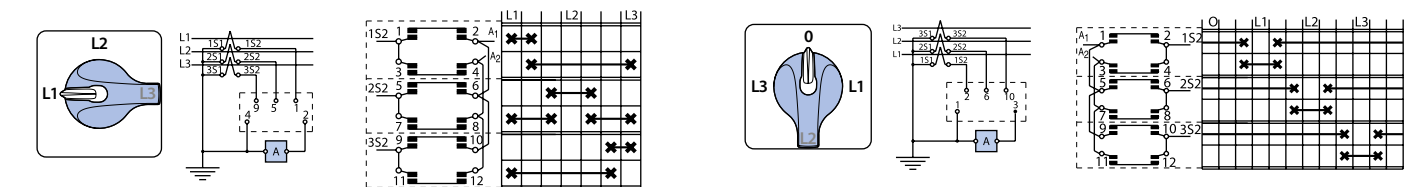
\* New diagram 732



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00727

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00730

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00731



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00732

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00733

722  
3 phases, 2 or 3 current transformers,  
1 pole  
5 chambers

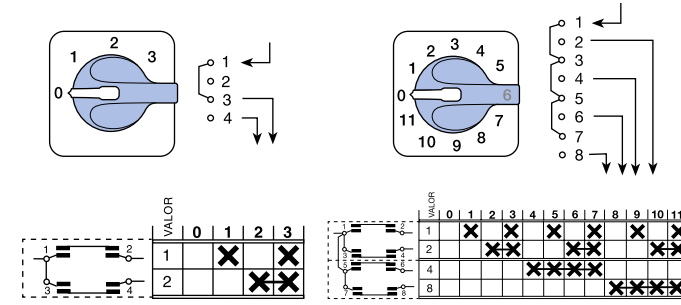
723  
2 lines, 2 current transformers,  
1 pole  
3 chambers

726  
2 lines, 2 current transformers,  
2 poles  
3 chambers

728  
4 lines, 4 current transformers,  
2 poles  
6 chambers

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**Switches for B.C.D. codification with "Off"**



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
0BCD3

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
0BCD11

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
0BCD4

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
0BCD5

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
0BCD6

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
0BCD7

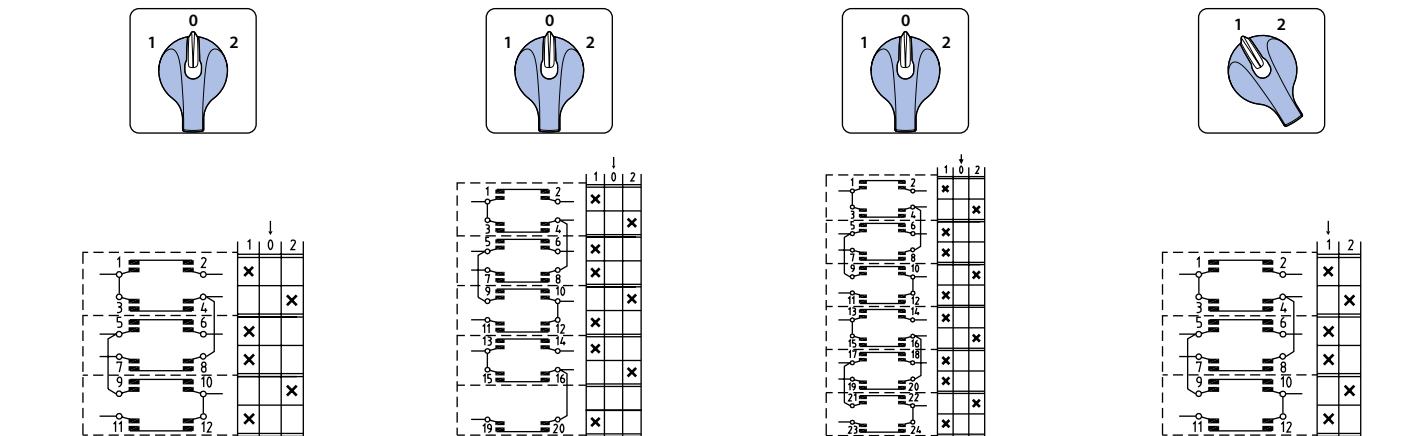
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
0BCD8

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
0BCD9

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
0BCD10

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**By-pass switches**

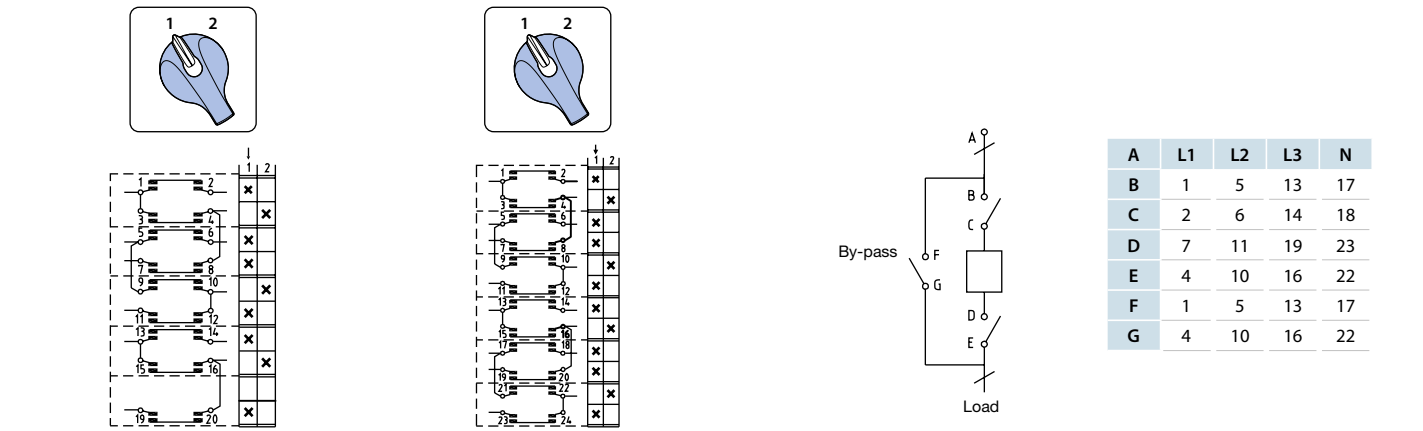


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00800

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00801

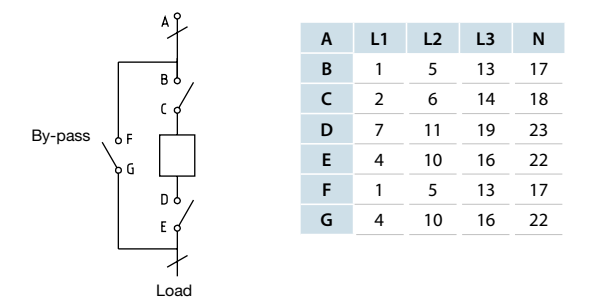
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00802

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00820



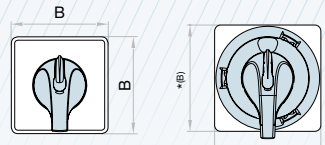
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00821

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
00822

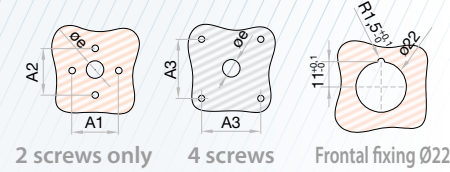




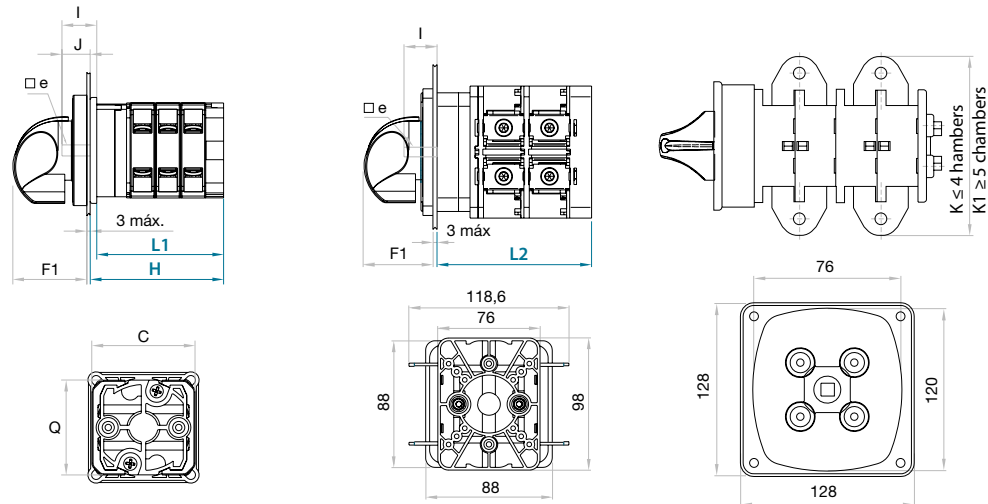
# T Door mounting



Door mounting drilling



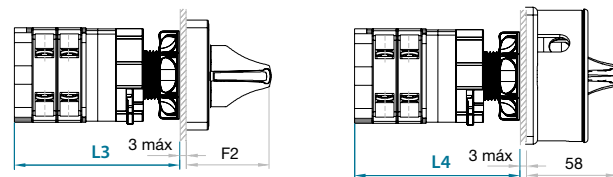
Note:  
The cam switches allow a construction up to 12 chambers (24 contacts).  
It's necessary to distribute in several columns (maximum three of 12 chambers each) when the number of contacts is higher than 24, so we use the tandem drives D200 or D201.  
Depending on the number of contacts to be switched simultaneously, it's possible to supply up to 14 chambers switches in size 0.



Size	Series	A1	øA1	A2	øA2	A3	øA3	B	C	øe	□e	Q	F1	I	J	K	K1
0	T12 T20	32	4,5	-	4,5	36	4,5	50	46,5	12	5	46	33,5	18	15	-	-
1	T16 T25 T32 T40	45	4,5	-	4,5	48	4,5	65	60,5	12	5	57,5 64,5	36	20	16,8	-	-
2	T50 T63 T80 T100 T125 T175	-	-	60	5,5	68	5,5	94	66 84,5	12	7	80 89	45	24,5	20,5	-	-
3	T200 T250 T315 T400 T500 T630 T800	-	-	-	-	108	6,5	128	76	16	10	120	67	-	40	150 176 218	-

Size	Series	Chambers														
		1□	2□	3□	4□	5□	6□	7□	8□	9□	10□	11□	12□	13□	14□	
0	T12 T20	L1	34,5	46	57,5	69	80,5	92	103,5	115	126,5	138	149,5	161	172,5	184
		H	37,5	49	60,5	72	83,5	95	106,5	118	129,5	141	152,5	164	175,5	187
1	T16 T25 T32 T40	L1	46,4	60,6	74,8	89	103,2	117,4	131,6	145,8	160	174,2	188,4	202,6	*(1)	*(1)
		H	49,6	63,8	78	92,2	106,4	120,6	134,8	149	163,2	177,4	191,6	205,8	*(1)	*(1)
2	T50 T63 T80 T100 T125 T175	L1	49,8	67,3	84,8	102,3	119,8	137,3	154,8	172,3	189,8	207,3	224,8	242,3	*(1)	*(1)
		H	53	70,5	88	105,5	123	140,5	158	175,5	193	210,5	228	245,5	*(1)	*(1)
3	T200 T250 T315 T400 T500 T630 T800	L1	58,5	78,5	98,5	118,5	138,5	158,5	178,5	198,5	218,5	238,5	258,5	278,5	*(1)	*(1)
		H	62,5	82,5	102,5	122,5	142,5	162,5	182,5	202,5	222,5	242,5	262,5	282,5	*(1)	*(1)
3	T200 T250 T315 T400 T500 T630 T800	L2	67	94	121	147,5	174	201	227,5	254	281	307,5	334	361	*(1)	*(1)
		H	71	98	125	151,5	178	205	231,5	258	285	311,5	338	365	*(1)	*(1)
3	T200 T250 T315 T400 T500 T630 T800	L2	80,8	114,8	148,8	182,8	216,8	250,8	284,8	318,8	352,8	386,8	420,8	454,8	*(1)	*(1)
		H	95	135	175	215	255	295	335	375	415	455	495	535	*(1)	*(1)
3	T400 T500 T630 T800	L	135	215	295	375	455	535	*(1)	*(1)	*(1)	*(1)	*(1)	*(1)	*(1)	*(1)
		H	175	295	415	535	*(1)	*(1)	*(1)	*(1)	*(1)	*(1)	*(1)	*(1)	*(1)	*(1)

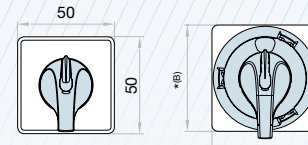
\*(1) Tandem drive D200/D201



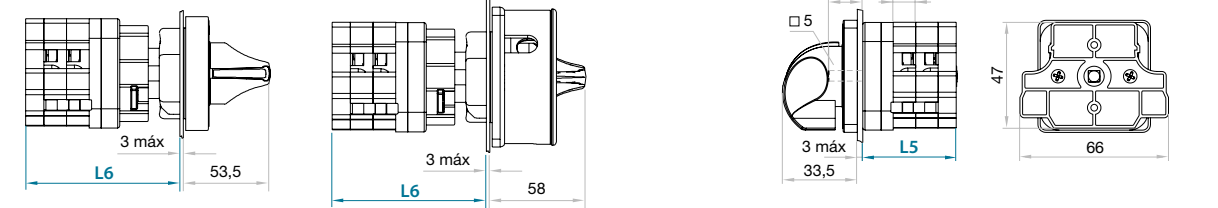
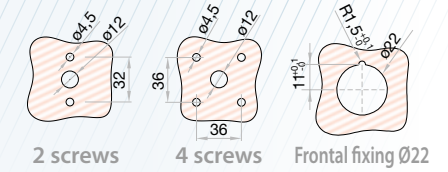
Size	Series	Chambers *(ch)							
		1□	2□	3□	4□	5□	6□	F2	
0	T12 T20	L3	63,5	75	86,5	98	109,5	121	53,5
1	T16 T25 T32 T40	L4	75,5	89,5	103,8	118	-	-	55,5
		H	78,8	96,3	116,8	131,3	-	-	55,5

\*(ch) Central quick fixing ø22 - maximum number of chambers supported.

# TB Door mounting

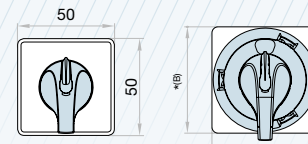


Door mounting drilling

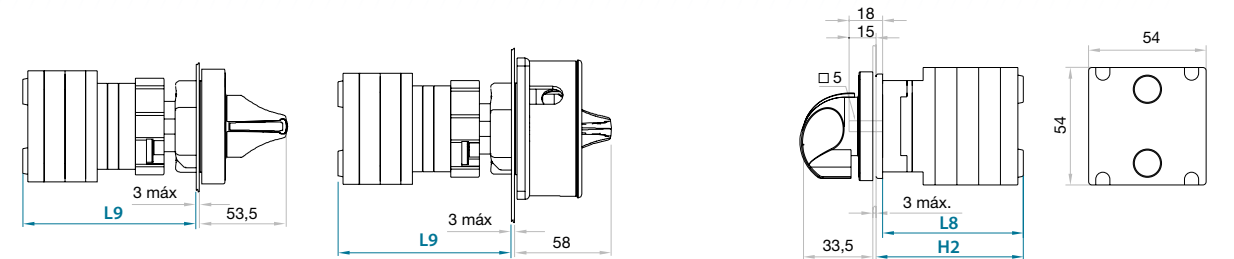
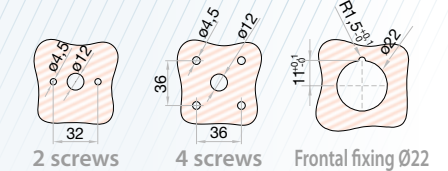


L5	Chambers											
	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□	11□	12□
L6	31,5	41,5	51,5	61,5	71,5	81,5	91,5	101,5	111,5	121,5	131,5	141,5
	60,5	70,5	80,5	90,5	100,5	110,5	-	-	-	-	-	-

# TF Door mounting

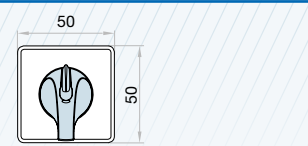


Door mounting drilling

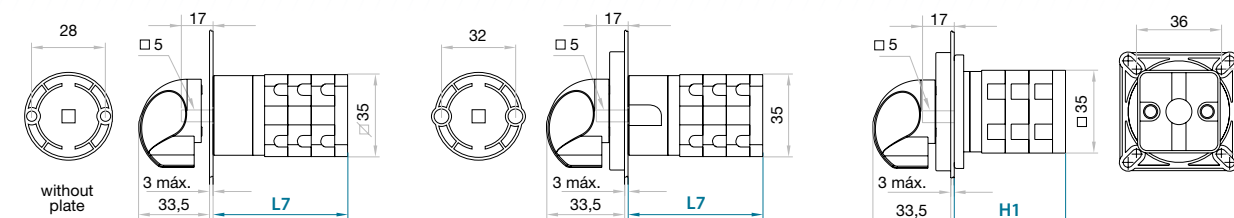
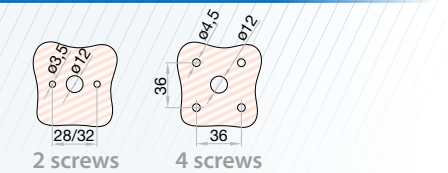


L8	Chambers											
	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□	11□	12□
L9	45	55	65	75	85	95	105	115	125	135	145	155
H2	73,5	83,5	93,5	103,5	113,5	123,5	-	-	-	-	-	-
	48	58	68	78	88	98	108	118	128	138	148	158

# TP Door mounting

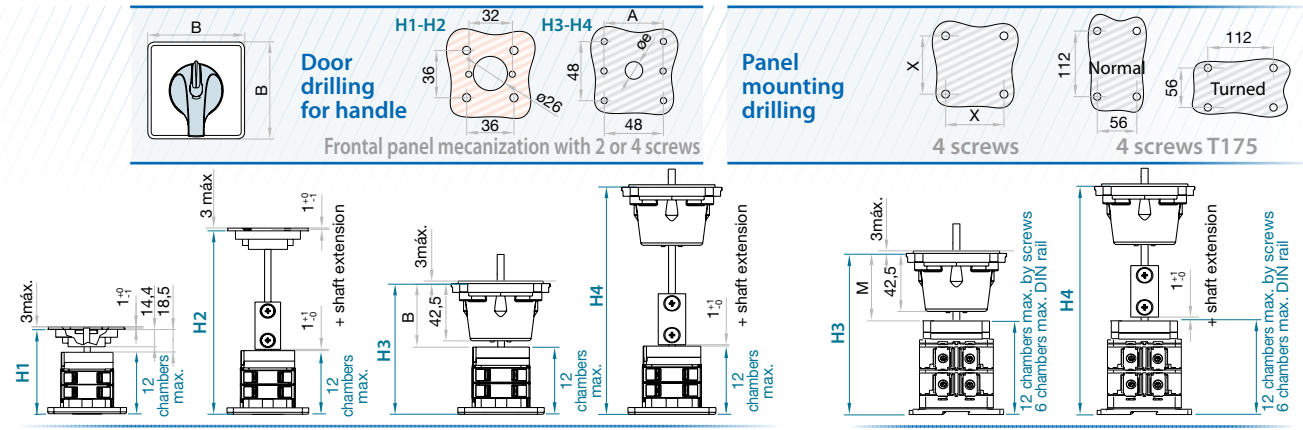


Door mounting drilling



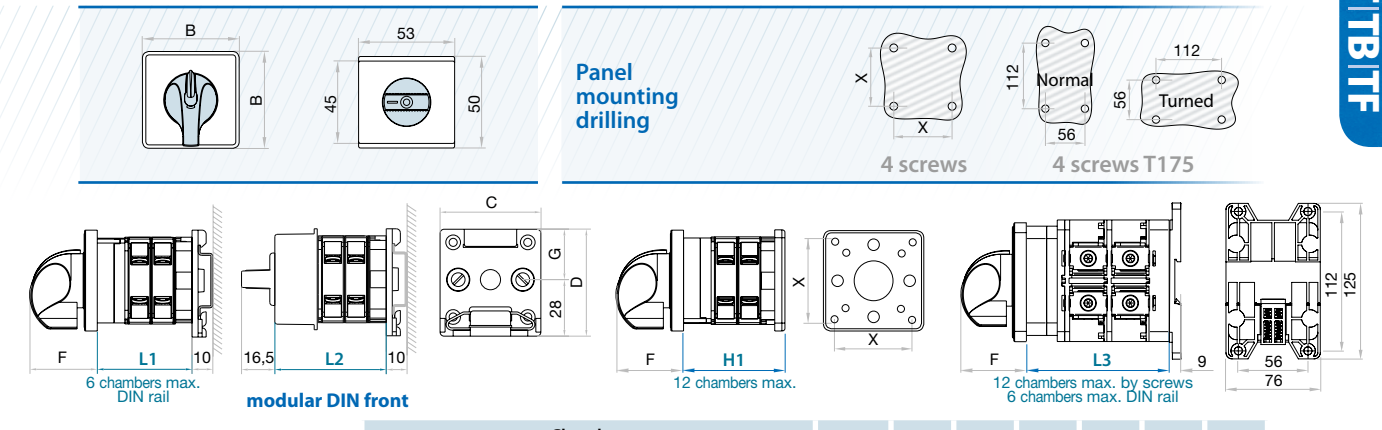
L7	Chambers											
	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□	11□	12□
H1	37,5	47	56,5	66	75,5	85	94,5	104	113,5	123	132,5	142
	26,5	36	45,5	55	64,5	74	83,5	93	102,5	112	121,5	131

### T Base mounting with clutch device



Size	Series	Chambers				A	B	øe	M	X	
		H1	H2	H3	H4						
0	T12 T20	min	56	+11,5	94	+11,5	32	50	12	45,5	36
		max	-	-	256	-	283	-	-	-	-
1	T16 T25	min	-	-	97,1	+14,2	32	65	12	47,5	48
		max	-	-	297,1	-	323	-	-	-	-
2	T32 T40	min	-	-	100,5	+17,5	32	65	12	47,5	48
		max	-	-	300,5	-	323	-	-	-	-
2	T50 T63 T80	min	-	-	114,5	+20	60	94	12	52	68
		max	-	-	314,5	-	323	-	-	-	-
2	T100 T125	min	-	-	123	+27	60	94	12	52	68
		max	-	-	323	-	341,8	-	-	-	-
2	T175	min	-	-	141,8	+34	60	94	12	52	-
		max	-	-	341,8	-	-	-	-	-	-
3	T200	-	-	-	162,5	+40	48	16	67,5	108	

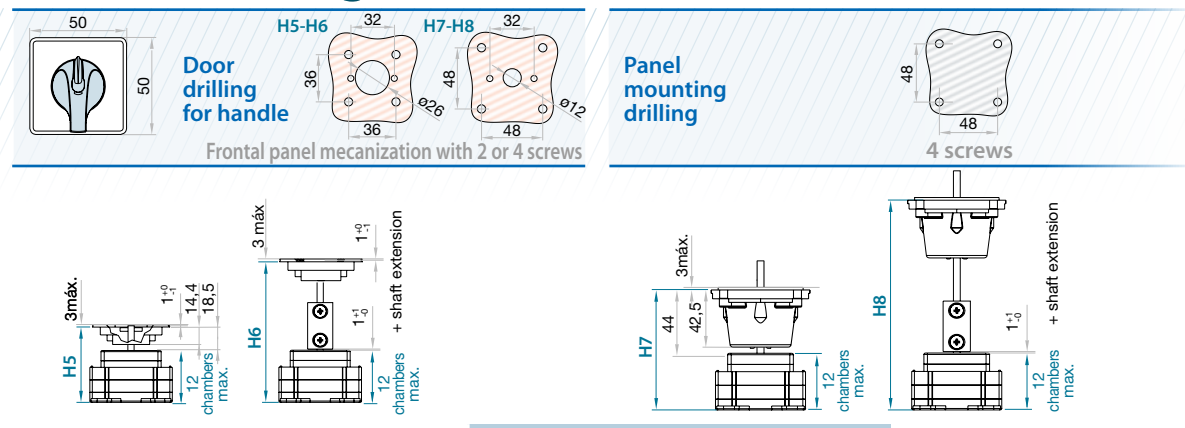
### T Base mounting with screws or DIN rail (direct handle)



Size	Series	Chambers						B	C	D	F	G	X		
		1	2	3	4	5	6								
0	T12 T20	L1	34,5	46	57,5	69	80,5	92	+11,5	50	50	53	33,5	25	-
		L2	-	53,5	65	76,5*	-	-	-	-	50	50	53	-	25
		H1	37,5	49	60,5	72	83,5	95	-	-	50	-	-	33,5	-
1	T16 T25	L1	46,4	60,6	74,8	89	-	-	+14,2	65	50	53	36	25	-
		H1	49,6	63,8	78	92,2	106,4	120,6	-	-	65	-	-	36	-
		L1	49,8	67,3	84,8	102,3	-	-	+17,5	65	-	-	36	-	-
1	T32 T40	H1	53	70,5	88	105,5	123	140,5	-	-	65	-	-	36	-
		L1	53	70,5	88	105,5	123	140,5	-	-	65	-	-	36	-
		H1	53	70,5	88	105,5	123	140,5	-	-	65	-	-	36	-
2	T50 T63 T80	H1	62,5	82,5	102,5	122,5	142,5	162,5	+20	94	-	-	45,5	-	68
		L1	62,5	82,5	102,5	122,5	142,5	162,5	+20	94	-	-	45,5	-	68
		H1	71	98	125	152	179	206	+27	94	-	-	45,5	-	68
2	T100 T125	L3	80,8	114,8	148,8	-	-	-	+34	94	-	-	45,5	-	-
		H1	80,8	114,8	148,8	-	-	-	+34	94	-	-	45,5	-	-
		L3	80,8	114,8	148,8	-	-	-	+34	94	-	-	45,5	-	-
3	T200	H1	95	135	175	215	255	295	+40	132	-	-	67	-	108

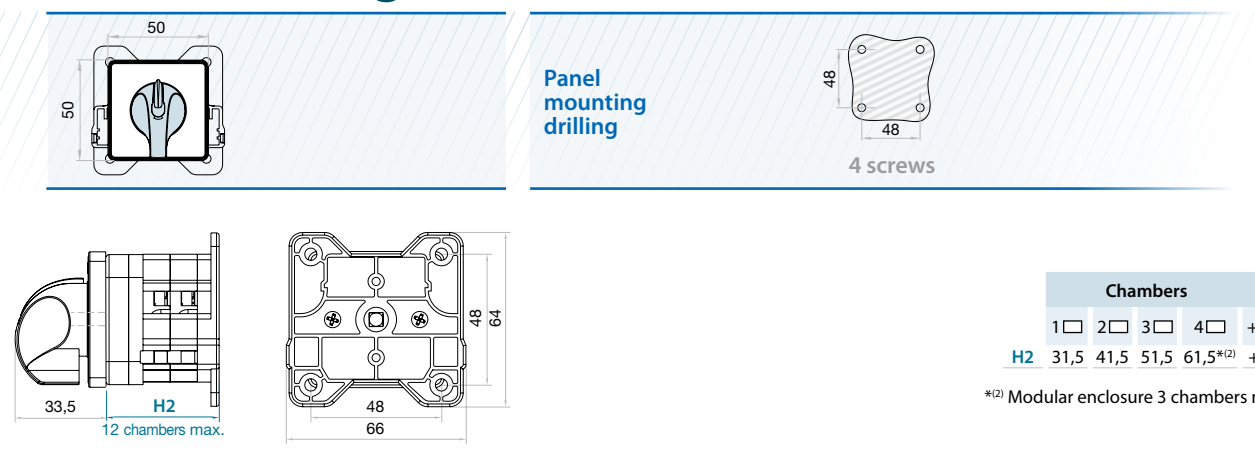
\*1) Modular enclosure 3 chambers max

### TB Base mounting with clutch device



Size	Series	Chambers				A	B	øe	M	X
		H5	H6	H7	H8					
0	TB20 TB25 TB32	min	46	+10	84	+10	75,5	+10	113	+10
		max	-	-	246	-	275,5	-	275,5	+10

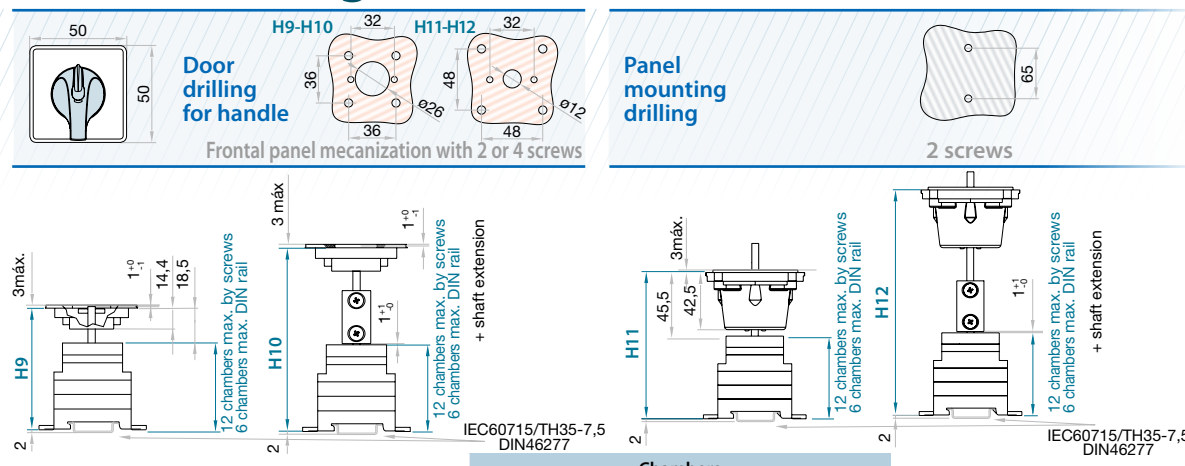
### TB Base mounting with screws (direct handle)



Chambers	Chambers				
	1	2	3	4	+0
H2	31,5	41,5	51,5	61,5*	+10

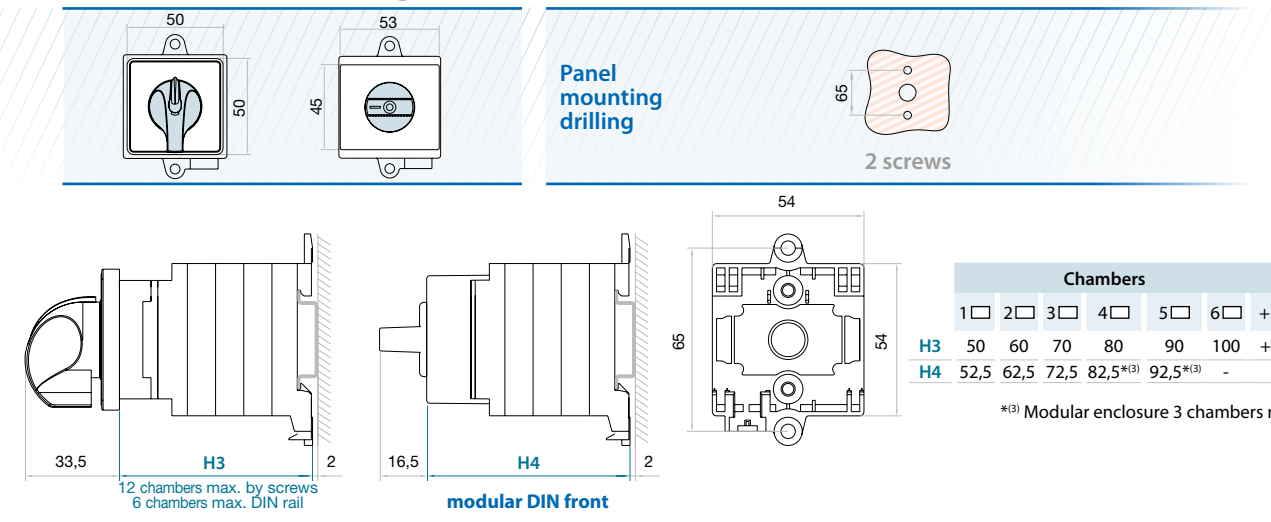
\*2) Modular enclosure 3 chambers max

### TF Base mounting with clutch device



Size	Series	Chambers				A	B	øe	M	X
		H9	H10	H11	H12					
0	TF12 TF16 TF25	min	65,5	+10	103,5	+10	92,5	+10	130,5	+10
		max	-	-	265,5	-	292,5	-	292,5	+10

### TF Base mounting with screws or DIN rail (direct handle)



Chambers	Chambers						
	1	2	3	4	5	6	+0
H3	50	60	70	80	90	100	+10
H4	52,5	62,5	72,5	82,5*	92,5*	-	-

\*3) Modular enclosure 3 chambers max



## Technical specifications

According to IEC 60947-3			Size 0				Size 1				Size 2				Size 3									
			T12	T20	T16	T25	T32	T40	T50	T63	T80	T100	T125	T175	T200	T250	T315	T400	T630	T800	T1250	T1600		
Rated thermal current	Ith	A	16	25	25	32	40	50	63	80	80	125	125	200	200	250	315	400	630	800	1000	1600		
Rated insulation voltage	Ui	V	500	500	690	690	690	690	690	690	690	690	690	1000	690	690	690	690	690	690	690	690		
Rated impulse withstand voltage	Uimp	kV	6	6	6	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8		
			Ue																					
AC rated operational current	Ie	Ue 415V AC21A	A	16	25	25	32	40	50	63	80	80	125	125	200	200	250	315	315	315	400	500	500	
		Ue 415V AC22A	A	16	20	25	32	40	50	63	80	80	115	115	200	200	250	315	250	315	315	315	400	400
AC rated operational power (Rated operational frequency 50/60 Hz)	Pe	3x240V AC23A	kW	4	4	5,5	7,5	11	15	18,5	22	22	30	30	55	55	67	75	55	55	55	55	55	
		3x240V AC3	kW	3	4	5,5	5,5	7,5	11	15	18,5	18,5	30	30	37	45	54	61	45	45	45	45	45	
		3x240V AC4	kW	1,1	1,5	2,2	3	4	4	5,5	7,5	7,5	11	11	15	15	18	20	15	15	15	15	15	
		1x240V AC3	kW	1,5	2,2	3	4	5,5	5,5	7,5	11	11	15	15	18,5	22	22	22	22	22	22	22	22	
		1x240V AC4	kW	0,37	0,55	0,75	1,1	1,5	2,2	3	3	3	4	4	5,5	7,5	9	10	7,5	7,5	7,5	7,5	7,5	
		3x415V AC23A	kW	5,5	7,5	11	11	15	18,5	30	37	37	45	45	90	90	115	130	90	90	90	90	90	90
		3x415V AC3	kW	4	5,5	7,5	7,5	11	15	22	30	30	37	37	75	75	95	108	75	75	75	75	75	75
		3x415V AC4	kW	2,2	3	4	5,5	5,5	7,5	11	11	11	15	15	18,5	22	28	31	22	22	22	22	22	22
		1x400V AC3	kW	2,2	3	4	5,5	7,5	7,5	15	18,5	18,5	18,5	20	37	47	53	37	37	37	37	37	37	37
		1x400V AC4	kW	0,75	1,1	1,5	1,5	2,2	3	4	5,5	5,5	7,5	7,5	11	11	14	16	11	11	11	11	11	11
Rated conditional short-circuit current	kA	10	10	10	10	10	10	15	15	15	15	15	15	15 <sup>(1)</sup>	25	15	15	15	10	10	10	10		
Rated maximum current	gL-gG	A	25	25	32	32	50	50	80	80	80	125	125	160	200	250	315	400	630	800	1000	2x800		
Rated breaking capacity	400V; cos φ=0,45	A	80	100	160	200	256	320	504	504	504	640	640	1600	1450	2000	2240	1450	1450	1450	1450	1450		
Rated short-time withstand current (1 sec)	A	240	400	500	650	725	800	1600	1600	1600	2500	2500	3500	4400	4400	4400	6000	7000	7600	8000	8200	8200		
Mechanical durability (thousand of operations)		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	-	-	-	-	-	-	-	-	-		
Mechanical durability (number of operations)		-	-	-	-	-	-	-	-	-	-	-	-	30000	30000	30000	30000	30000	30000	30000	30000	30000		
Maximum connection capacity																								
Rigid copper conductor	mm <sup>2</sup>	2x4	2x4	2x6	2x6	2x10	2x10	16/25 <sup>(2)</sup>	16/25 <sup>(2)</sup>	16/25 <sup>(2)</sup>	35/50 <sup>(2)</sup>	35/50 <sup>(2)</sup>	95	95	120	185	-	-	-	-	-	-		
Flexible copper conductors	mm <sup>2</sup>	2x2,5	2x2,5	2x4	2x4	2x6	2x6	10/16 <sup>(2)</sup>	10/16 <sup>(2)</sup>	10/16 <sup>(2)</sup>	16/35 <sup>(2)</sup>	16/35 <sup>(2)</sup>	95	95	120	185	-	-	-	-	-	-		

According to UL508 - CAN / CSA C22.2 N° 14			Size 0				Size 1				Size 2				Size 3							
			T12	T20	T16	T25	T32	T40	T50	T63	T80	T100	T125	T175	T200	T250	T315	T400	T630	T800	T1250	T1600
Rated thermal current	Ith	A	12	20	16	25	32	40	63	63	63	100	100	200	200	200	400	630	800	-	-	
General use rating		A	12	20	16	25	32	40	63	63	63	100	100	200	200	200	200	200	200	-	-	
		Vac	300	300	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	-	-
AC rated operational power	3x240V	HP	2	5	5	7,5	10	15	20	20	20	30	30	25	60	60	60	60	60	-	-	
	3x480V	HP	-	-	10	15	20	25	40	40	40	50	50	60	75	75	75	75	75	-	-	
	3x600V	HP	-	-	10	15	20	25	40	40	40	50	50	50	60	60	60	60	60	-	-	

\*<sup>(1)</sup> 500V size "0" \*<sup>(2)</sup> With extension terminals \*<sup>(3)</sup> With phase barriers

### Normal service conditions\*

- Ambient air temperature (°C): -5°...+40°.
- Maximum altitude: 2.000 m.
- Maximum humidity: 90%.
- Pollution degree: 3 (standard for industrial applications).
- Rated frequency at AC utilization categories: 50/60 Hz.

- Rated duties at utilization categories AC21A, AC22A y AC23A: Continuing (8 hours); uninterrupted.
- Rated duties at utilization categories AC3 and AC4: Intermittent; temporary
- Switching direct currents: For L/R<50msg, rated operational current (Ie) can be dealt with up to 30Vdc. With higher voltages, several contacts have to be connected in series.

\* Please consult for other service conditions.



According to IEC 60947-3			Size 0							
			TB20	TB25	TB32	TF12	TF16	TF25		
Rated thermal current	Ith	A	20	25	32	20	25	32		
Rated insulation voltage	Ui	V	500	500	500	690	690	690		
Rated impulse withstand voltage	Uimp	kV	6	6	6	6	6	6		
			Ue							
AC rated operational current	Ie	Ue 415V AC21A	A	20	25	32	20	25	32	
		Ue 415V AC22A	A	20	25	32	20	25	32	
		Ue 415V AC23A	A	20	25	32	-	-	-	
AC rated operational power (Rated operational frequency 50/60 Hz)	Pe	3x240V AC23A	kW	5,4	6,7	8,6	4	5,5	7,5	
		3x240V AC3	kW	3,7	4,6	5,9	4	5,5	5,5	
		3x240V AC4	kW	2,9	3,7	4,6	1,5	2,2	3	
		1x240V AC3	kW	2,1	2,7	4	2,2	3	4	
		1x240V AC4	kW	1	1,25	1,5	0,55	0,75	1,1	
		3x415V AC23A	kW	9,3	11,7	15	7,5	11	11	
		3x415V AC3	kW	6,4	8	10,3	5,5	7,5	7,5	
		3x415V AC4	kW	3,1	3,8	5,5	3	4	5,5	
		1x400V AC3	kW	3,6	4,5	5,7	3	4	5,5	
		1x400V AC4	kW	1,7	2,2	3	1,1	1,5	1,5	
Rated conditional short-circuit current	kA	5	5	5	5	5	5	5		
Rated maximum current	gL-gG	A	35	35	35	20	25	32		
Rated breaking capacity	400V; cos φ=0,45	A	160	200	256	100	160	200		
Rated short-time withstand current (1 sec)	A	240	400	500	350	400	500	500		
Mechanical durability (thousand of operations)		1000	1000	1000	1000	1000	1000	1000		
Maximum connection capacity										
Rigid copper conductor	mm <sup>2</sup>	1x10	2x6	1x10	2x6	1x10	2x6	1x10	1x10	1x10
Flexible copper conductors	mm <sup>2</sup>	1x6	2x4	1x6	2x4	1x6	2x4	1x6	1x6	1x6

According to UL508 - CAN / CSA C22.2 N° 14			Size 0					
			TF12	TF16	TF25			
Rated thermal current	Ith	A	-	-	-	16	20	25
General use rating		A	-	-	-	16	20	25
		Vac	-	-	-	600	600	600
AC rated operational power	3x240V	HP	-	-	-	2	5	7,5
	3x480V	HP	-	-	-	5	10	12
	3x600V	HP	-	-	-	5	10	15

Approvals TB:



Approvals TF:



Approvals TP:

