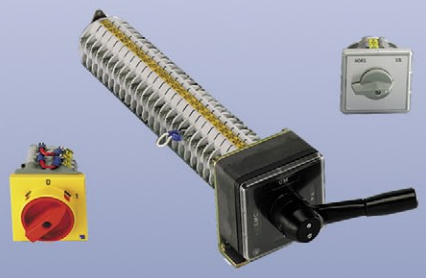
# C800 & CBN 800 Switches



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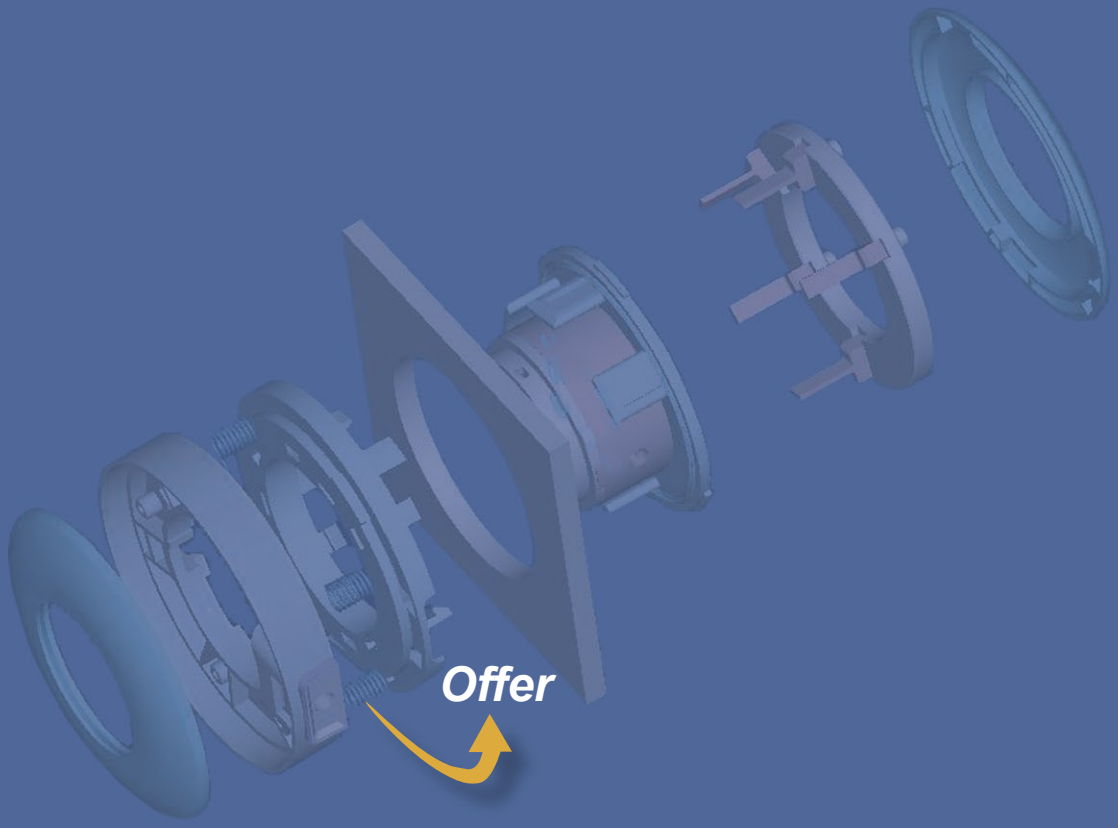


*Offer*

# *Standard C800 16A Switches*
## *& CBN800 Switches from 10 mA*

## General Characteristics

These switches are designed for currents ranging from 10 mA to 16 mA, and voltages from 12 V to 500 V, depending on the type, standard C800, or low level with self-cleaning contacts CBN800, even in agressive and contaminating industrial environments.
However, their breaking power with direct or rectified current is naturally lower than that when used alternating current.

Particularities:

**Mechanism**
- 4 or 8 positions for the normal versions.
- 4 positons for the reinforced versions designed for severe operating and handling conditions, and especially where the number of tiers is high.

**Electrical tiers**
- 2 independent "double-break" type contacts per tier, each activated by a cam.
- From 10 W for the standard C800 version.
- From 10 mA to 16 A and from 1 V to 500 V in the CBN800 version with self-cleaning contacts.
- Standard mechanism : up to 8 tiers i.e. 16 contacts, from 8 to 12 tiers contact us (beyond 12 tiers, a double mechanism is possible)
- Reinforced mechanism : up to 40 tiers i.e. 80 contacts.

## Environmental Characteristics

**Compliance with standards** — IEC & NF EN 60 947-1
IEC & NF EN 60 947-3

**Protective finish** — Tropicalisation (operation at + 65°C with 95 % humidity).

**Degree of protection** — IEC & NF EN 60 529 IP 65 (on request)

**Temperature** — Storage: - 40°C to +70°C
Operating: -25°C to +70°C (- 40°C on request).

**Vibration resistance** — 5g from 25 to 250Hz

**Shock resistance** — 30g (1/2 sine waveform, for 11ms)

## Characteristics of the contacts

**Mechanical life expectancy** — Standard mechanism $10^5$ to $6x10^5$
Reinforced mechanism $3x10^5$

**Electrical durality** — Rated thermal current 16 A.
Rated insulation voltage 500 V.

## Change in contact Resistance : CBN800

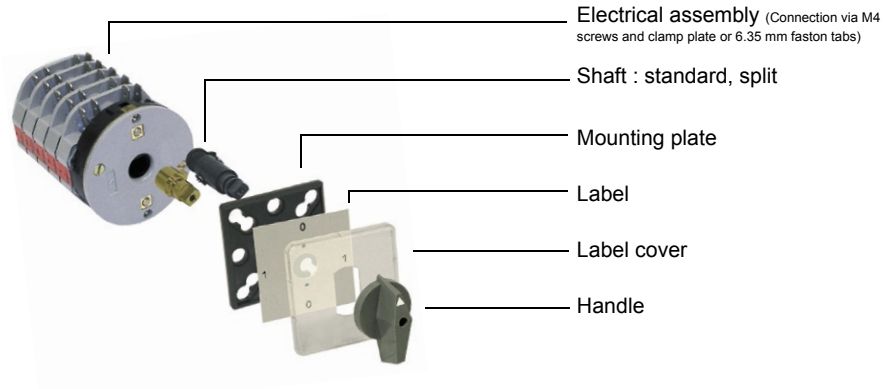
| I in mA | U in V | Contact resistance when new | Contact resistance after $3x10^5$ switching ops. |
|---|---|---|---|
| 10 | 72 | ≤30 mΩ | ≤30 mΩ |
| 400 | 72 | ≤30 mΩ | ≤30 mΩ |
| 2000 | 72 | ≤30 mΩ | ≤30 mΩ |

## Composition

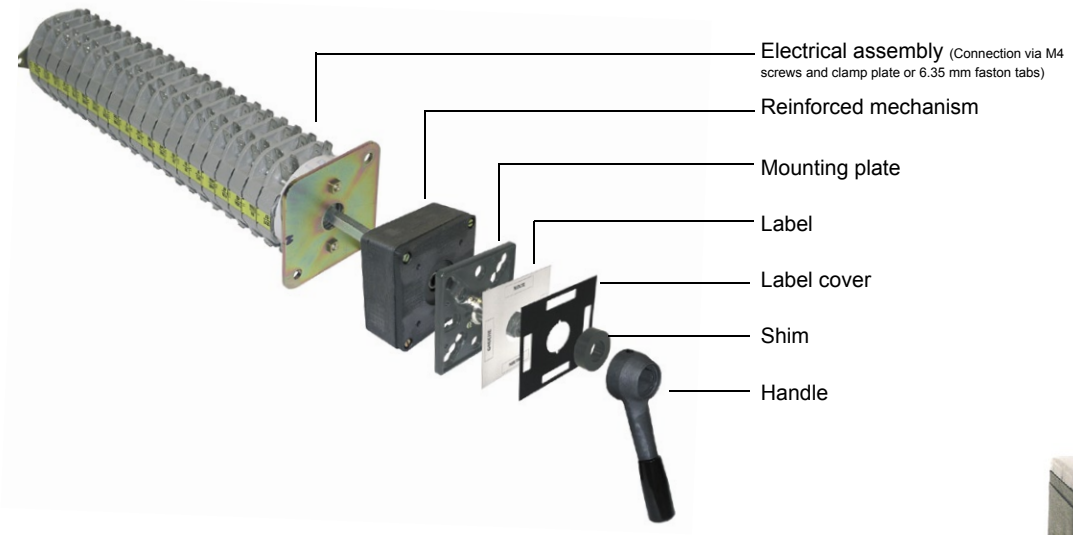
| Example of Part number: | SWITCH: | | | HANDLE: | | | | |
|---|---|---|---|---|---|---|---|---|
| | C800 | 8202 | AR | CN | P1 | E1 | M1 | ET |

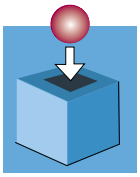
- Rating
- Schematic number
- Mounting (From the front AV, From the rear AR )
- P/N suffix for waterproof versions
- Handle
- Label
- Mounting plate
- Shaft (Standard, Split)

## Standard C800 and CBN800 switches




## C800 et CBN800 switches with reinforced mechanism

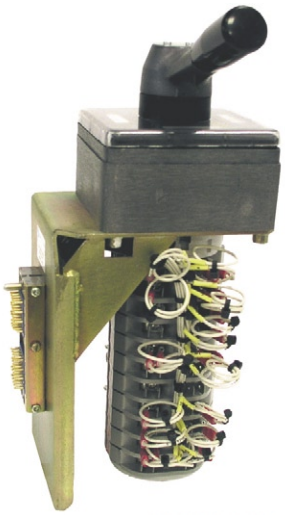


**Options**
- inhibition: stops prevent switching from one position to the next or to several consecutive positions.
- locking: mechanism using a key or a padlock.
- switch with automatic return.

**Specific units**
- locking: electric locking (electro-magnet).
- controlled via a geared motor.
- interlocked switch mounted on a chassis.
- switch with double columns.

**Contact us.**



## Control devises

### Handles

| Description | Colour | Part number | Weight kg |
|---|---|---|---|
| Standard plastic paddle<br>45 x 22 | Grey<br>Black | **M 1**<br>**M 1 N** | 0.005 |
| Standard plastic paddle<br>60 x 30 | Grey<br>Black | **M 2**<br>**M 2 N** | 0.010 |
| Ball-end lever<br>Steel stem | | **M5** | 0.130 |
| Plastic handle | Grey<br>Black | **M4**<br>**M4 N** | 0.020 |
| Plastic handle<br>locking device : standard 620 key<br>(for other keys, contact us) | Grey | **M6** | 0.150 |
| Plastic handle<br>with plunger for locking<br>with 1,2,3 padlocks | Grey | **M7** | |
| Lever for reinforced mechanism | Grey<br>Black | **MXQ 068A1**<br>**MXQ 068A0** | 0.104 |



### Control shafts

| Description | Part number | Weight kg |
|---|---|---|
| Standard shaft (CN)<br>for projecting or flush mounting | **CN** | 0.020 |
| Split shaft (CR)<br>for mounting the handle on a moving support<br>(door, removable front panel, ...) | **CR** | 0.015 |

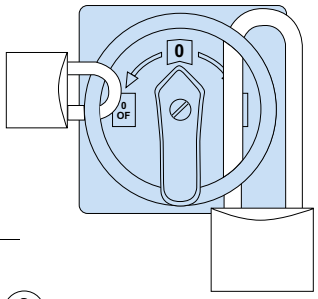
### Mounting plates

| Description | Colour | Part number | Weight kg |
|---|---|---|---|
| Plastic mounting plate 70x70 mm and<br>transparent label cover 75x75 mm | Grey<br>Black | **P1**<br>**P1 N** | 0.035 |
| Plastic mounting plate 85x85 mm and<br>transparent label cover 90x90 mm | Grey<br>Black | **P3**<br>**P3 N** | 0.055 |
| Metal label cover<br>for P/N P3 only | Black | **J5** | 0.060 |

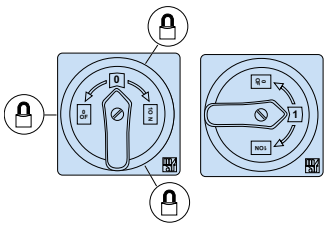
## Control devices

### Padlockable mounting plate and paddle

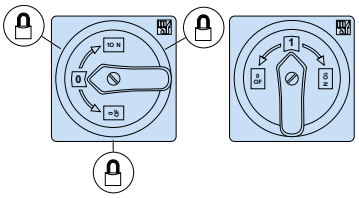
| Description | Part number | Weight kg |
|---|---|---|
| Mounting plate and paddle can be padlocked in 1 or 2 positions, in standard IP409 or waterproof IP699 version (add **ET** to the P/N). Positions visible both from the front and from the side.<br>Plastic material. | | |
| **1 padlockable position**<br>Standard shaft | **QCN PJ 31MR**<br>**QCN PJ 33MR**<br>**QCN PJ 61MR** | 0.56 |
| **2 padlockable positions**<br>Standard shaft | | |



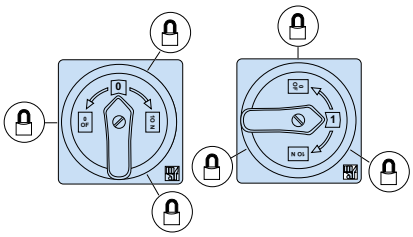
Type **PJ 31**



Type **PJ 33**

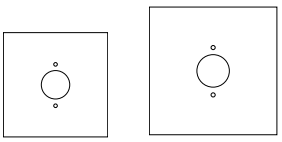


Type **PJ 61**



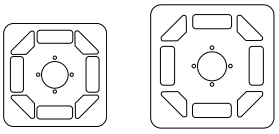
### PVC Labels

| Description | Colour | Part number | Weight kg |
|---|---|---|---|
| Blank label (to be engraved) 63 x 63 (P1 mounting plate) | Grey | **E.100** | 0.001 |
| Blank label (to be engraved) 77 x 77 (P3 mounting plate) | Grey | **E.200** | 0.002 |



### Aluminium Labels

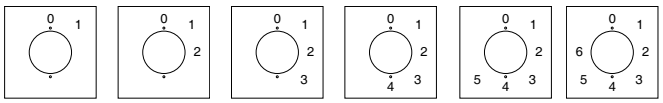
| Description | Colour | Part number | Weight kg |
|---|---|---|---|
| Blank label 63 x 63 (P1 mounting plate) | Grey | **E.300** | 0.002 |
| Blank label 77 x 77 (P3 mounting plate) | Grey | **E.400** | 0.003 |



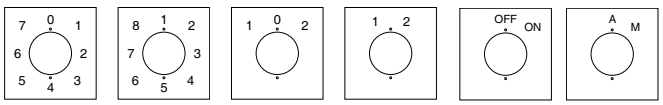
Label with standard markings

Grey background black text

Use the P/N root as follows:
**E1**.. for P1 mounting plate
**E2**.. for P3 mounting plate



**E110 E210** | **E111 E211** | **E112 E212** | **E113 E213** | **E114 E214** | **E115 E215**



**E116 E216** | **E117 E217** | **E118 E218** | **E119 E219** | **E120 E220** | **E121 E221**



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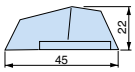
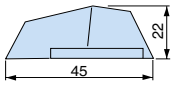
## Dimensions

### Handles

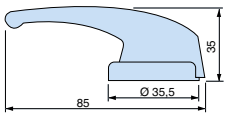
M1



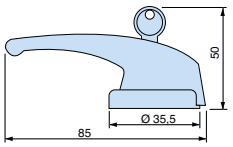

M2



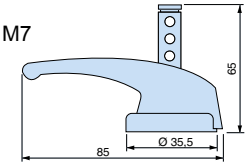

M4



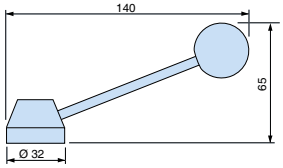

M6



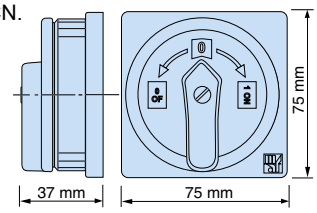

M7



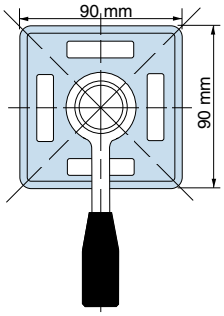

M5




QCN.

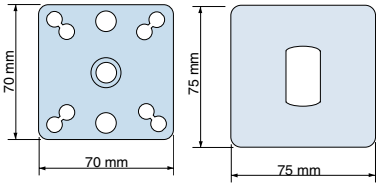



CBN.

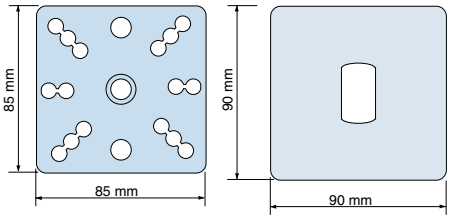



### Mounting plate and label cover

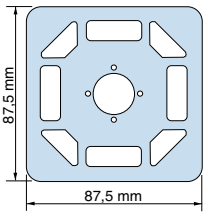
P1




P3




J5



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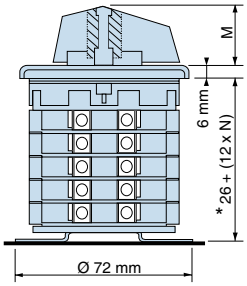
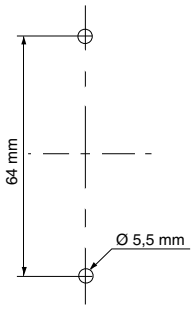
## Dimensions and panel cut-outs: C800 switch

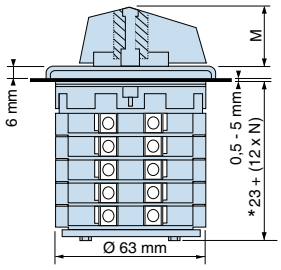
### Projecting mounting (device attached via the rear plate) : AR

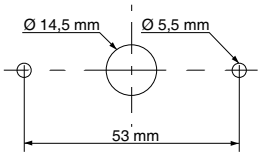


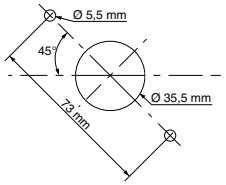

*Where AR attachment is used with M6 or M7 lockable handles :
The 26 mm dimensions becomes 38 mm.

### Flush-mounted (device attached via the front panel, from the front) : AV

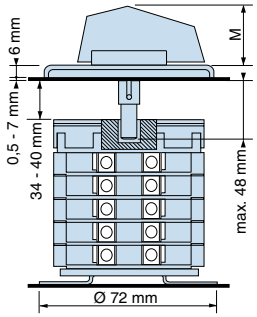


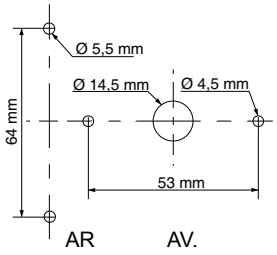




*Where AV attachment is used with M6 or M7 lockable handles:
The 23 mm dimension becomes 35 mm.

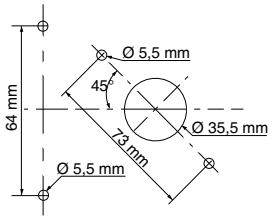



### Split mounting (unit attached via the rear plate and mounting plate/handle on mobile front panel) : CR



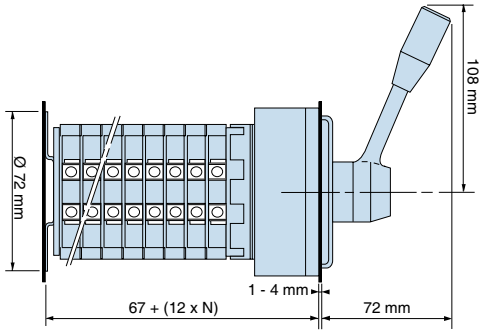

Panel cut-out where AV attachment is used with M6 or M7 lockable handles.

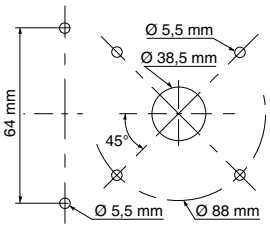



## Dimensions and panel cut-outs : CBN800 switch

### Units with a reinforced mechanism

Where there are more than 16 tiers (i.e. 32 contacts) or where the operating conditions are particularly severe, the unit is fitted with a reinforced mechanism (housing moulded in light alloy, cams and positioning stops in heat-treated steel).



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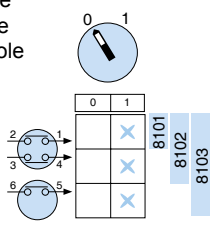
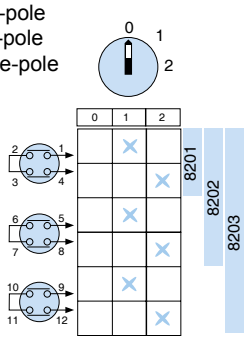
## Standardised schematics (See our "Control components" catalogue for other standardised schematics)

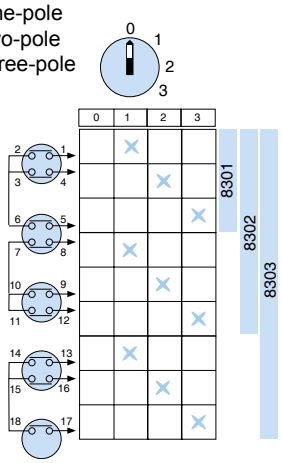
2 positions On-Off switch
one-pole
two-pole
three-pole



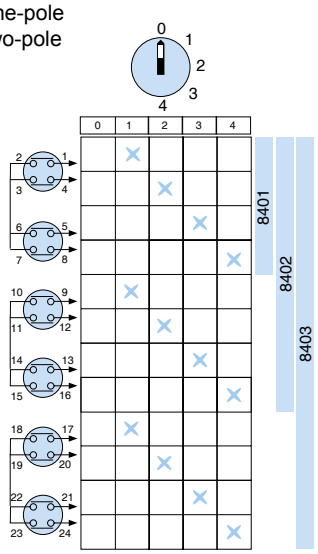

3 positions switch
one-pole
two-pole
three-pole



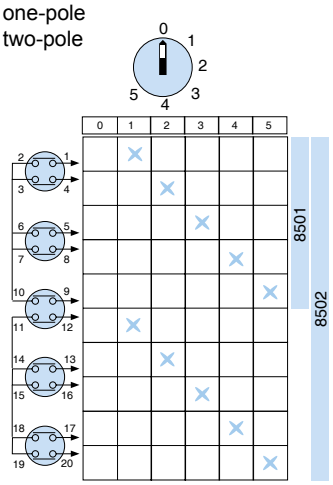

4 positions switch
one-pole
two-pole
three-pole



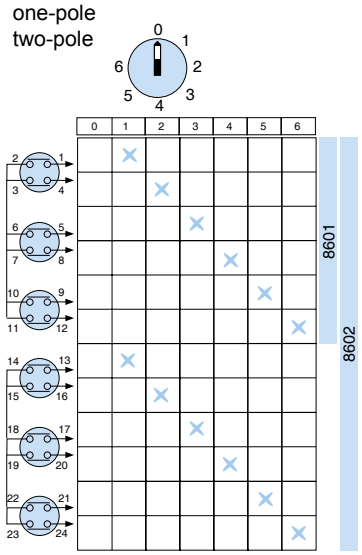

5 positions switch
one-pole
two-pole



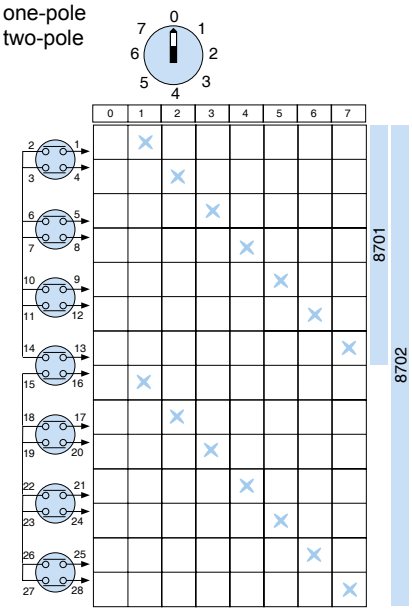

6 positions switch
one-pole
two-pole



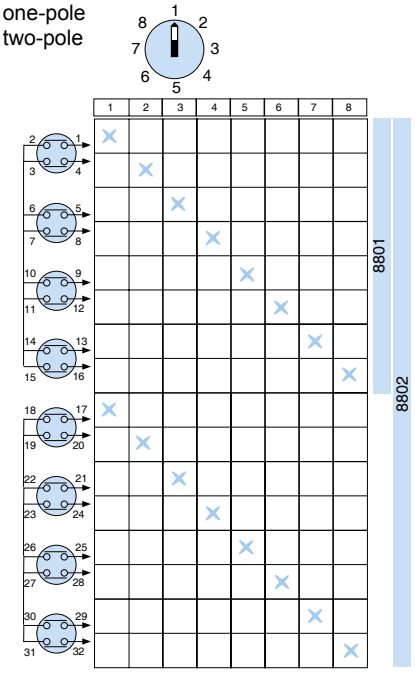

7 positions switch
one-pole
two-pole



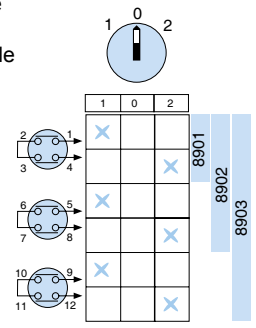

8 positions switch
one-pole
two-pole



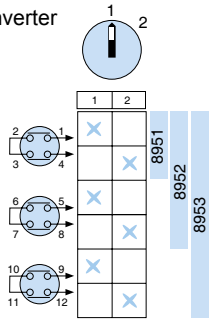

8 positions switch
one-pole
two-pole




3 positions inverter (with intermediate stop)
one-pole
two-pole
three-pole




2 positions inverter
one-pole
two-pole
three-pole



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## Example of electrical schematic

**"X"** indicates that the contact is closed

**"X——X"** indicates contacts which overlap two positions.

| | | Mechanism and position | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 90° | 1 | | 2 | | 3 | | 4 | |
| | 45° | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | contact | | | | | | | | |
| Tier 1 | 2 ___ 1 | X | | | | | | | |
| | 3 ___ 4 | | | X | —— | X | | | |
| Tier 2 | 6 ___ 5 | | | | | | X | X | |
| | 7 ___ 8 | | | | | X | X | | |

- Choice of the 90° positions (1.2.3.4)

- **X** Contact 1.2. closed in position 1
- **X——X** Contact 3.4. closed in 2 and 3
- **X——X** Contact 5.6. closed in 4
- **X——X** Contact 7.8. closed in 3 and overlapping each other. (Only possible with 90° positions)

## Switches with special schematics (definition chart)

**Electrical schematic**

**1** - Tick the selector type.

. Strike out the unused mechanism positions.

. Used the symbol **"X"** to show closed contacts and fill in the chart opposite

. Used the symbol **"X——X"** to show contacts overlapping two positions.

⚠ 80 contacts max.

**2** - Indicate the label engraving.

**3** - Tick the type of connection

| | | Mechanism and position | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 90° | 1 | | 2 | | 3 | | 4 | |
| | 45° | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | contact | | | | | | | | |
| Tier 1 | 2 ___ 1 | | | | | | | | |
| | 3 ___ 4 | | | | | | | | |
| Tier 2 | 6 ___ 5 | | | | | | | | |
| | 7 ___ 8 | | | | | | | | |
| Tier 3 | 10 ___ 9 | | | | | | | | |
| | 11 ___ 12 | | | | | | | | |
| Tier 4 | 14 ___ 13 | | | | | | | | |
| | 15 ___ 16 | | | | | | | | |
| Tier 5 | 18 ___ 17 | | | | | | | | |
| | 19 ___ 20 | | | | | | | | |
| Tier 6 | 22 ___ 21 | | | | | | | | |
| | 23 ___ 24 | | | | | | | | |
| Tier 7 | 26 ___ 25 | | | | | | | | |
| | 27 ___ 28 | | | | | | | | |
| Tier 8 | 30 ___ 29 | | | | | | | | |
| | 31 ___ 32 | | | | | | | | |

**2 - Label marking**

| Position | Text to be engraved |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |

**3 - Connection type**

☐ M4 screw and clamp plate

☐ 6.35 faston tabs