

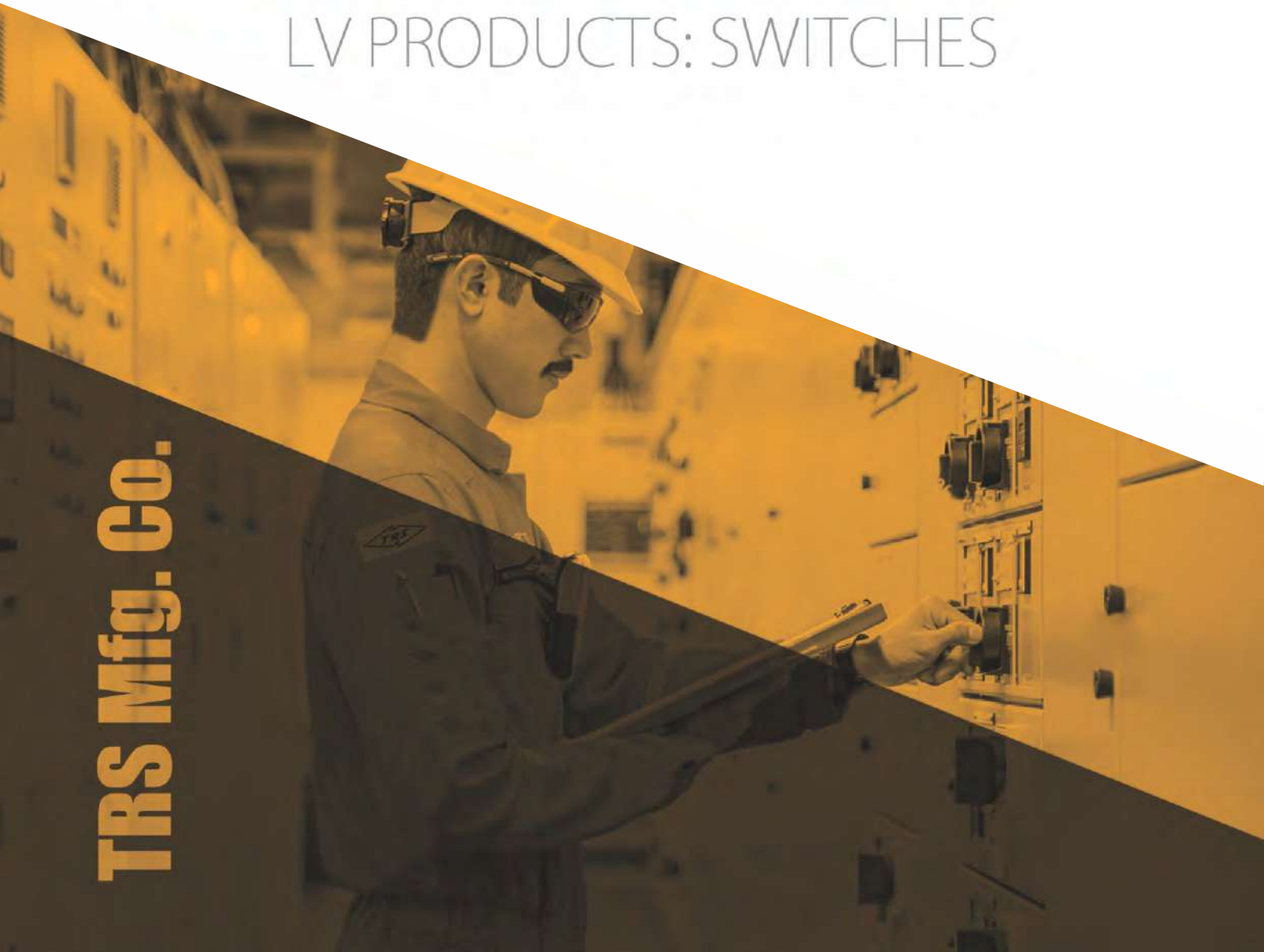


**TAVAN RAHE SANAT**  
(TRS) Manufacturing Company

# GENERAL CATALOGUE

LV PRODUCTS: SWITCHES

**TRS Mfg. Co.**







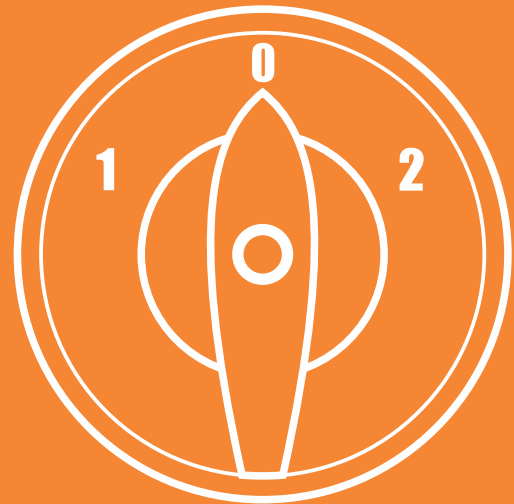
# Tavan Rahe Sanat

(TRS) Manufacturing Company

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## GENERAL CATALOGUE

LV Products: Switches



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## Brief Introduction

Tavan Rahe Sanat (TRS) Manufacturing Company was founded in 1993 with the aim of manufacturing all types of Cam Switches.

Soon after, TRS Co. expanded its production range to Electrical contact rivets (solid & bimetal), electric terminals, various micro switches and compact selector switches for home appliances.

Recently TRS Co. has started Manufacturing MV Switchgears including:

- SF6 Gas insulated outdoor disconnectors 24 and 36 KV with/without RTU
- RTU for disconnectors
- SF6 Gas Ring Main Unit.

For more information about TRS MV Products please refer to our MV Product Catalogue.

Today TRS Co. has the annual capacity to manufacture:

- 2 million Cam operating Switches
- 1.5 billion pieces of electric contact rivets
- 0.5 million pieces of micro switches
- 4000 units of different MV switchgears

## Company Facilities and Info

- ▶ Plant ground area: 5000 sqm
- ▶ Roofed area: 7000 sqm
- ▶ Head quarters in Tehran: 470 sqm
- ▶ Total number of employees: 200
- ▶ Approx. annual turnover: 20 million USD
- ▶ Modern state of the art machinery
- ▶ In-factory accredited standard laboratories
- ▶ Export to more than 10 countries



TRS Co. is considered as the leading manufacturer and supplier to the domestic markets as well as some other countries mainly due to its high quality products that are distributed into the markets in high volumes.



## Quality Certificates

ISIRI



ISO 9001:2008



CE



Gost-R







- ▶ Production quality in accordance to International standards:  
EN60947, IEC9471, EN60529, IEC529, UL/CSA
- ▶ Short delivery time
- ▶ Reasonable prices
- ▶ Technical support
- ▶ Ability to manufacture special and customized orders of all products based on customer requirements





## Cam Switches

T Series G Series R Series Customized Series

07-62

Cam Switches



## Enclosed Cam Switches

63-70

Enclosed  
Cam Switches



## Discrepancy Switches (D Series)

71-82

Discrepancy Switches  
(D Series)



## Compact Selector Switches (S Series)

83-88

Compact Selector  
Switches (S Series)



## Enclosed Push buttons

89-92

Enclosed  
Push buttons

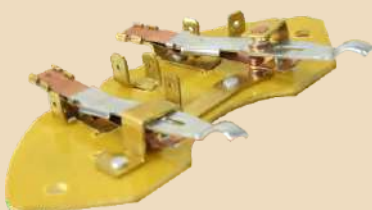


## Micro Switches

MA Series MB Series

93-104

Micro  
Switches



## Centrifugal Switches

105-107

Centrifugal  
Switches

# CAM SWITCHES

T Series / G Series / R Series

## T Series

12-40 A

Model **RY/BY**  
Model **RK/BK**  
Model **RM/BM**  
Model **RT/BT**  
Model **RP/BP**  
Model **RQ/BQ**

## G Series

12-630 A

Model **GL**  
Model **DI**  
Model **LK**  
Model **IK**  
Model **TL**  
Model **LL1**  
Model **KS**  
Model **CO**

## R Series

12-25 A

Model **RY/BY**  
Model **RK/BK**  
Model **GL**  
Model **LL1**  
Model **TL**  
Model **LK**







We recommend you to follow these simple steps to choose the best cam switch that suits your needs.

## STEP 1:

### Choose Series (T,G,R)

According to the General features sections (Pages 20,31 & 47), and also your general requirements and economical considerations choose your desired series.

**T Series**

- ▶ Current Rating from 1
- ▶ IP65 degree protection
- ▶ Highest Technical Spe
- ▶ Attractive appearance
- ▶ High variety of functio

T Series: Page 20

**G Series**

- ▶ Complete current rati
- ▶ Conformity with Intern
- ▶ Wide range of switch
- ▶ Made of best material
- ▶ Fast and easy installa

G Series: Page 31

**R Series**

- ▶ Current rating from 12
- ▶ New rectangular desig
- ▶ IP65 protection degree
- ▶ IP20 protection degree
- ▶ Fast and easy installat

R Series: Page 47

## STEP 2:

### Choose the 3 Digit Amp Code

Keeping into account the load nature (resistive, inductive or mixed) and the load value and in accordance with the technical data tables (Pages 22,35 & 48) you can choose the 3 digit Amp code of the suitable switch, for instance 063 stands for 63 Amperes.

T Series: Page 22    G Series: Page 35    R Series: Page 50

## STEP 3:

### Choose the switch function code

Based on your requested function, number of poles and steps, external and internal connections of the cam switch, (according to pages 11 to 18) Choose the function code of your switch, which is a 4 character code. For instance 0010 stands for 3 pole Stardelta switch.

Internal diagram	Function code	Stages / Contacts arrangement
	0005	

Page 11 to 18

## STEP 4:

### Choose the model code

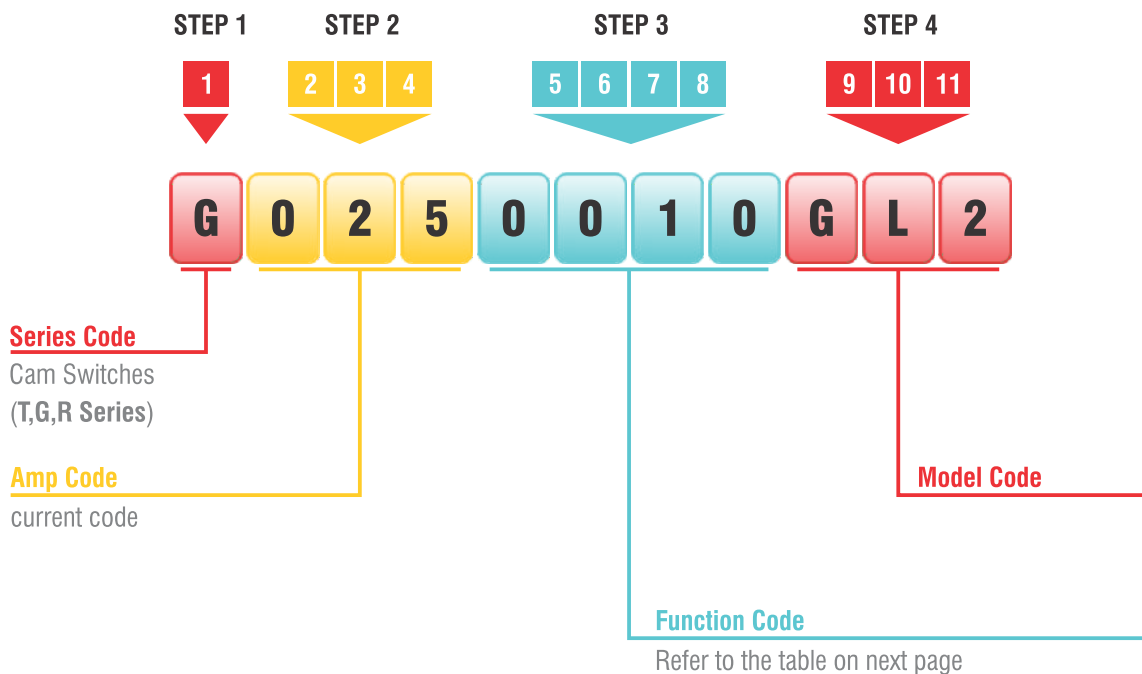
Finally according to the mounting method of the switch (front mounting, surface mounting, interlocking with panel's door or enclosure), required degree of protection (IP), type and color of plate and knob, choose the appropriate version of the switch this is a 3 character code which is shown in Model selection tables and in the page of each model.

	Model Code	Front panel Dimensions	IP20
	B Y 1	45x45	✓
	R Y 1	45x45	✓
	B Y 2	67x67	✓
	R Y 2	67x67	✓

T Series: Page 23    G Series: Page 37    R Series: Page 51



Each Cam switch is defined using a unique 11 digit code:



**Example:**

part number **G.025.0010.GL2** stands for G series Three poles 25A star-delta switch with black plate & knob in 75x75 mm size.

**Note:**

If your requested switch function is not present on the common functions table on pages 11 to 18 or you would like to fully configure your cam switch, you may order a custom made cam switch using our special ordering forms designed for this purpose on pages 60 & 61. TRS Co. is always ready to manufacture your special orders. TRS Co. factory has over 5000 custom made cam switch designed in its archives.

Rotary Cam Switches can be offered in a wide variety of functions. The most commonly used functions are introduced in the following table.

On each row one function is described, rotation angle, internal circuit diagram, function code, number of stages and contacts, terminal symbols are illustrated.

If your desired function is not present on this list, please refer to the customized switch ordering forms on pages (60 & 61). Our tech dept. will always be ready to assist customers regarding their desired products.

Function code	Positions & Rotation Angles	Internal circuit diagram	Stages and Contacts arrangement																									
0 0 0 1	 60°	 ON/OFF Switch-Single Pole	<table border="1"> <tr> <td rowspan="2">Position</td> <td>1</td> <td>X</td> <td></td> </tr> <tr> <td>0</td> <td></td> <td></td> </tr> <tr> <td>Stage</td> <td></td> <td>1</td> <td></td> </tr> <tr> <td>Contact</td> <td></td> <td>1-2</td> <td>3-4</td> </tr> </table>	Position	1	X		0			Stage		1		Contact		1-2	3-4										
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Contact		1-2	3-4																									
0 0 0 2	 60°	 ON/OFF Switch-2 Poles	<table border="1"> <tr> <td rowspan="2">Position</td> <td>1</td> <td>X</td> <td>X</td> </tr> <tr> <td>0</td> <td></td> <td></td> </tr> <tr> <td>Stage</td> <td></td> <td>1</td> <td></td> </tr> <tr> <td>Contact</td> <td></td> <td>1-2</td> <td>3-4</td> </tr> </table>	Position	1	X	X	0			Stage		1		Contact		1-2	3-4										
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Contact		1-2	3-4																									
0 0 0 3	 60°	 ON/OFF Switch-3 Poles	<table border="1"> <tr> <td rowspan="2">Position</td> <td>1</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>0</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Stage</td> <td></td> <td>1</td> <td></td> <td>2</td> </tr> <tr> <td>Contact</td> <td></td> <td>1-2</td> <td>3-4</td> <td>5-6</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>7-8</td> </tr> </table>	Position	1	X	X	X	0				Stage		1		2	Contact		1-2	3-4	5-6					7-8	
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0 0 0 4	 60°	 ON/OFF Switch-4 Poles	<table border="1"> <tr> <td rowspan="2">Position</td> <td>1</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>0</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Stage</td> <td></td> <td>1</td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>Contact</td> <td></td> <td>1-2</td> <td>3-4</td> <td>5-6</td> <td>7-8</td> </tr> </table>	Position	1	X	X	X	X	0					Stage		1			2	Contact		1-2	3-4	5-6	7-8		
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# Cam Switch Functions Code Table



Function code	Positions & Rotation Angles	Internal circuit diagram	Stages and Contacts arrangement																																																																																																								
0005	 60°	 Change-Over Switch-Single Pole	<table border="1"> <tr><td rowspan="3">Position</td><td>2</td><td></td><td>X</td></tr> <tr><td>0</td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td></tr> <tr><td>Stage</td><td>1</td><td>1</td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td></td></tr> </table>	Position	2		X	0			1	X		Stage	1	1		Contact	1-2	3-4																																																																																							
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0006	 60°	 Change-Over Switch-2 Poles	<table border="1"> <tr><td rowspan="3">Position</td><td>2</td><td></td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td>X</td><td></td></tr> <tr><td>Stage</td><td>1</td><td>1</td><td>2</td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td></tr> </table>	Position	2		X	X	0				1	X		X		Stage	1	1	2		Contact	1-2	3-4	5-6	7-8																																																																																
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0007	 60°	 Change-Over Switch-3 Poles	<table border="1"> <tr><td rowspan="3">Position</td><td>2</td><td></td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td>X</td><td></td><td>X</td></tr> <tr><td>Stage</td><td>1</td><td>1</td><td>2</td><td>3</td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>11-12</td></tr> </table>	Position	2		X	X	X	0					1	X		X		X	Stage	1	1	2	3		Contact	1-2	3-4	5-6	7-8	9-10						11-12																																																																					
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0008	 60°	 Reversing Switch-3 Poles	<table border="1"> <tr><td rowspan="3">Position</td><td>2</td><td></td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td>X</td><td></td><td>X</td></tr> <tr><td>Stage</td><td>1</td><td>1</td><td>2</td><td>3</td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>11-12</td></tr> </table>	Position	2		X	X	X	0					1	X		X		X	Stage	1	1	2	3		Contact	1-2	3-4	5-6	7-8	9-10						11-12																																																																					
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0009	 60°	 Pole Changing Switch (Dahlander)	<table border="1"> <tr><td rowspan="3">Position</td><td>2</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td>X</td></tr> <tr><td>Stage</td><td>1</td><td>1</td><td>2</td><td>3</td><td>4</td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td><td>11-12</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>13-14</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>15-16</td></tr> </table>	Position	2	X	X	X	X	X	0						1	X		X	X		X	Stage	1	1	2	3	4		Contact	1-2	3-4	5-6	7-8	9-10	11-12							13-14							15-16																																																								
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0010	 60°	 Y-Δ Starter	<table border="1"> <tr><td rowspan="3">Position</td><td>Δ</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>λ</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td>1</td><td>2</td><td>3</td><td>4</td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td><td>11-12</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>13-14</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>15-16</td></tr> </table>	Position	Δ	X	X	X	X	X	λ	X	X	X	X	X	0						Stage	1	1	2	3	4		Contact	1-2	3-4	5-6	7-8	9-10	11-12							13-14							15-16																																																									
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0011	 45°	 Pole Change and Reversing Switch-3 Poles	<table border="1"> <tr><td rowspan="6">Position</td><td>2</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td>X</td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>2</td><td>X</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>Stage</td><td>1</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td><td>11-12</td><td>13-14</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>15-16</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>17-18</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>19-20</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>21-22</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>23-24</td></tr> </table>	Position	2	X	X	X	X	X	X	0							1	X	X		X	X		X	0								1	X		X	X	X	X	X	2	X		X	X	X	X	X	Stage	1	1	2	3	4	5	6	Contact	1-2	3-4	5-6	7-8	9-10	11-12	13-14								15-16								17-18								19-20								21-22								23-24	
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0017	 45°	 Voltmeter Switch with 3 (Ph-Ph)+off position for 2 systems	<table border="1"> <tr><td>Position</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td><td>TR2</td></tr> <tr><td>Position</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td><td>ST2</td></tr> <tr><td>Position</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td><td>RS2</td></tr> <tr><td>Position</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Position</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td><td>TR1</td></tr> <tr><td>Position</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td><td>ST1</td></tr> <tr><td>Position</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td><td>RS1</td></tr> <tr><td>Position</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td><td>11-12</td><td>13-14</td><td>15-16</td><td>17-18</td><td>19-20</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	Position	TR2	TR2	TR2	TR2	TR2	TR2	TR2	TR2	TR2	TR2	TR2	TR2	TR2	TR2	TR2	TR2	TR2	TR2	TR2	TR2	Position	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	Position	RS2	RS2	RS2	RS2	RS2	RS2	RS2	RS2	RS2	RS2	RS2	RS2	RS2	RS2	RS2	RS2	RS2	RS2	RS2	RS2	Position	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Position	TR1	TR1	TR1	TR1	TR1	TR1	TR1	TR1	TR1	TR1	TR1	TR1	TR1	TR1	TR1	TR1	TR1	TR1	TR1	TR1	Position	ST1	ST1	ST1	ST1	ST1	ST1	ST1	ST1	ST1	ST1	ST1	ST1	ST1	ST1	ST1	ST1	ST1	ST1	ST1	ST1	Position	RS1	RS1	RS1	RS1	RS1	RS1	RS1	RS1	RS1	RS1	RS1	RS1	RS1	RS1	RS1	RS1	RS1	RS1	RS1	RS1	Position	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Stage	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Contact	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20											 	
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0018	 45°	 Voltmeter Switch with 3 (Ph-N) and 3 (Ph-Ph)+off position	<table border="1"> <tr><td>Position</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td><td>TN</td></tr> <tr><td>Position</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td><td>SN</td></tr> <tr><td>Position</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td><td>RN</td></tr> <tr><td>Position</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Position</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td><td>TR</td></tr> <tr><td>Position</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td><td>ST</td></tr> <tr><td>Position</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td><td>RS</td></tr> <tr><td>Position</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td><td>11-12</td><td>13-14</td><td>15-16</td><td>17-18</td><td>19-20</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	Position	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	Position	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	Position	RN	RN	RN	RN	RN	RN	RN	RN	RN	RN	RN	RN	RN	RN	RN	RN	RN	RN	RN	RN	Position	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Position	TR	TR	TR	TR	TR	TR	TR	TR	TR	TR	TR	TR	TR	TR	TR	TR	TR	TR	TR	TR	Position	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	Position	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	Position	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Stage	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Contact	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20											 
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# Cam Switch Functions Code Table



Cam Switches

Function code	Positions & Rotation Angles	Internal circuit diagram	Stages and Contacts arrangement																																																																																		
0019	<p>45°</p>	<p>Voltmeter Switch with 3 (Ph-Ph) and 1 (Ph-N) +off position</p>	<table border="1"> <tr><td>Position</td><td>TR</td><td>X</td><td></td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>0</td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>ST</td><td></td><td>X</td><td></td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>RS</td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RN</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td><td>11-12</td><td></td><td></td></tr> </table>	Position	TR	X		X					0			X	X					ST		X		X					RS			X	X					0									RN	X						X		0									Stage	1	2	3	4	5	6	7	8	Contact	1-2	3-4	5-6	7-8	9-10	11-12			<p>U  V</p>
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0020	<p>90°</p>	<p>Single Pole Ammeter Switch-1CT</p>	<table border="1"> <tr><td>Position</td><td>R</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td>X</td><td>X</td><td>X</td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td></td><td></td></tr> </table>	Position	R	X	X	X	0		X	X	X	Stage	1	2	3	4	Contact	1-2	3-4			<p>1  3</p>																																																													
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0021	<p>90°</p>	<p>Single Pole Ammeter Switch-2CT</p>	<table border="1"> <tr><td>Position</td><td>S</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>R</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td></td></tr> </table>	Position	S	X	X	X	X	0		X	X	X	X	R		X	X	X	X	Stage	1	2	3	4	5	Contact	1-2	3-4	5-6	7-8		<p>6  4</p>																																																			
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0022	<p>90°</p>	<p>Single Pole Ammeter Switch-3CT</p>	<table border="1"> <tr><td>Position</td><td>T</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>S</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>R</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td><td>11-12</td></tr> </table>	Position	T	X	X	X	X	X	S		X	X	X	X	X	R		X	X	X	X	X	0		X	X	X	X	X	Stage	1	2	3	4	5	6	Contact	1-2	3-4	5-6	7-8	9-10	11-12	<p>11  9</p>																																							
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0023	<p>90°</p>	<p>Single Pole Ammeter Switch-4CT</p>	<table border="1"> <tr><td>Position</td><td>N</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>T</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>S</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>R</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td><td>11-12</td><td>13-14</td></tr> </table>	Position	N	X	X	X	X	X	X	T		X	X	X	X	X	X	S		X	X	X	X	X	X	R		X	X	X	X	X	X	0		X	X	X	X	X	X	Stage	1	2	3	4	5	6	7	Contact	1-2	3-4	5-6	7-8	9-10	11-12	13-14	<p>13  5</p>																									
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0029	<p>45°</p>	<p>Change-Over Switch contactor with self return A to M</p>	<table border="1"> <tr><td>Position</td><td>A</td><td>X</td><td>X</td></tr> <tr><td>M</td><td></td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td></td><td></td></tr> <tr><td>M</td><td></td><td>X</td><td>X</td></tr> <tr><td>A</td><td>X</td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td></td></tr> </table>	Position	A	X	X	M		X	X	0				M		X	X	A	X			Stage	1	2	3	Contact	1-2	3-4																																																							
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0030	<p>45°</p>	<p>Reversing Change-Over Switch contactor with self return A to M</p>	<table border="1"> <tr><td>Position</td><td>A</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>M</td><td></td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td></tr> <tr><td>M</td><td></td><td>X</td><td>X</td><td>X</td></tr> <tr><td>A</td><td>X</td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td></tr> </table>	Position	A	X	X	X	M		X	X	X	0					M		X	X	X	A	X				Stage	1	2	3	4	Contact	1-2	3-4	5-6	7-8																																															
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Function code	Positions & Rotation Angles	Internal circuit diagram	Stages and Contacts arrangement																																																	
0 0 3 1	 45°	 Starter for Single phase motor with Auxiliary phase	<table border="1"> <tr><td>Position</td><td>ST</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>1</td><td>X</td><td></td><td></td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td></td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td></tr> </table>	Position	ST	X	X	X	1	X				0					Stage	1	2			Contact	1-2	3-4	5-6	7-8																								
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0 0 3 2	 45°	 Reversing Starter for Single phase motor with Auxiliary phase	<table border="1"> <tr><td>Position</td><td>ST</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>2</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>ST</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td></td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td></tr> <tr><td></td><td></td><td></td><td></td><td>11-12</td><td></td></tr> </table>	Position	ST	X	X	X	X	2	X					0						1	X					ST	X					Stage	1	2	3			Contact	1-2	3-4	5-6	7-8	9-10					11-12		
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0 0 3 3	 45°	 Pole changing switch for Single phase motor with Auxiliary phase, to start on the first speed	<table border="1"> <tr><td>Position</td><td>2</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>ST</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td></td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td></tr> <tr><td></td><td></td><td></td><td></td><td>11-12</td><td></td></tr> </table>	Position	2	X	X	X	X	0	X					1	X					ST	X					Stage	1	2	3			Contact	1-2	3-4	5-6	7-8	9-10					11-12								
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				11-12																																																
0 0 3 4	 45°	 Reversing Switch for single phase motor	<table border="1"> <tr><td>Position</td><td>2</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td></td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td></tr> <tr><td></td><td></td><td></td><td></td><td>11-12</td><td></td></tr> </table>	Position	2	X	X	X	X	0	X					1	X					Stage	1	2	3			Contact	1-2	3-4	5-6	7-8	9-10					11-12														
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0 0 3 5	 45°	 Three pole Switch with self return	<table border="1"> <tr><td>Position</td><td>1</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td></td><td></td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td></td></tr> </table>	Position	1	X	X	X	X	0	X					Stage	1	2				Contact	1-2	3-4	5-6	7-8																										
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0 0 3 6	 45°	 Reversing Switch for with self return	<table border="1"> <tr><td>Position</td><td>2</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td></td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td></tr> <tr><td></td><td></td><td></td><td></td><td>11-12</td><td></td></tr> </table>	Position	2	X	X	X	X	0	X					1	X					Stage	1	2	3			Contact	1-2	3-4	5-6	7-8	9-10					11-12														
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				11-12																																																
0 0 3 9	 60°	 Change-Over Switch - 4 Poles	<table border="1"> <tr><td>Position</td><td>2</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td>4</td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td></tr> <tr><td></td><td></td><td></td><td></td><td>11-12</td><td>13-14</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>15-16</td></tr> </table>	Position	2	X	X	X	X	0	X					1	X					Stage	1	2	3	4		Contact	1-2	3-4	5-6	7-8	9-10					11-12	13-14						15-16							
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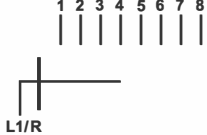
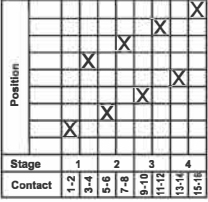



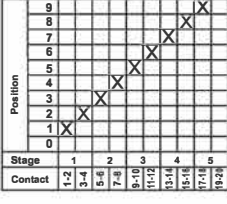
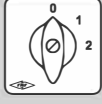
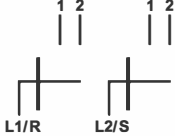
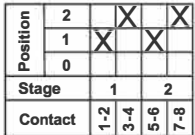
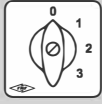
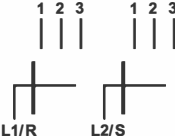
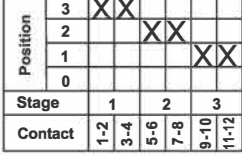
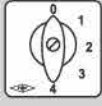
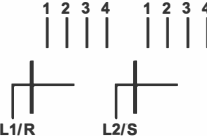
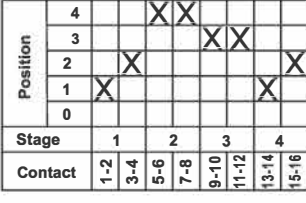
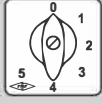
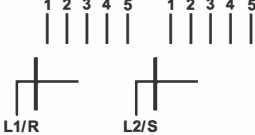
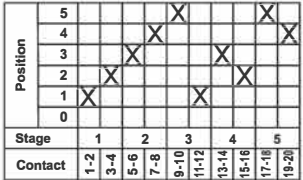

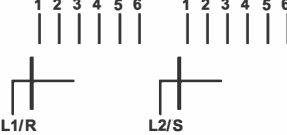
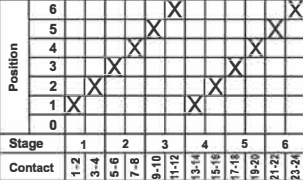
# Cam Switch Functions Code Table



Function code	Positions & Rotation Angles	Internal circuit diagram	Stages and Contacts arrangement																																																																																	
<b>0 0 6 0</b>	<p>90°</p>	<p>Ammeter Voltmeter</p>	<table border="1"> <tr><td>Position</td><td>3</td><td>X</td><td>X</td><td>X</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>2</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td></td><td></td><td></td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td><td>11-12</td><td>13-14</td><td>15-16</td><td>17-20</td></tr> </table>	Position	3	X	X	X	X					2	X	X	X	X	X					1	X	X	X	X	X					0						X	X	X	X	Stage	1	2	3	4	5					Contact	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-20																					
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<b>M Z 1 2*</b>	<p>45°</p>	<p>L1/R</p> <p>1 Pole-2 Ways Selector Switch With "0" position</p>	<table border="1"> <tr><td>Position</td><td>2</td><td>X</td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td></td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td></td><td></td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td></td><td></td></tr> </table>	Position	2	X			1	X				0					Stage	1				Contact	1-2	3-4																																																										
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<b>M Z 1 3</b>	<p>45°</p>	<p>L1/R</p> <p>1 Pole-3 Ways Selector Switch With "0" position</p>	<table border="1"> <tr><td>Position</td><td>3</td><td></td><td></td><td>X</td></tr> <tr><td>2</td><td>X</td><td></td><td></td><td></td></tr> <tr><td>1</td><td></td><td></td><td>X</td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td></td><td>2</td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td></tr> </table>	Position	3			X	2	X				1			X		0					Stage	1		2		Contact	1-2	3-4	5-6	7-8																																																			
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<b>M Z 1 4</b>	<p>45°</p>	<p>L1/R</p> <p>1 Pole-4 Ways Selector Switch With "0" position</p>	<table border="1"> <tr><td>Position</td><td>4</td><td></td><td>X</td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td><td></td><td>X</td><td></td></tr> <tr><td>2</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td></td><td></td><td></td><td>X</td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td></td><td>2</td><td></td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td></td></tr> </table>	Position	4		X			3				X		2	X					1				X		0						Stage	1		2			Contact	1-2	3-4	5-6	7-8																																								
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<b>M Z 1 5</b>	<p>45°</p>	<p>L1/R</p> <p>1 Pole-5 Ways Selector Switch With "0" position</p>	<table border="1"> <tr><td>Position</td><td>5</td><td></td><td></td><td>X</td><td></td></tr> <tr><td>4</td><td></td><td>X</td><td></td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td><td>X</td><td></td><td></td></tr> <tr><td>2</td><td></td><td></td><td></td><td>X</td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td>1</td><td>2</td><td>3</td><td></td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td>9-10</td></tr> </table>	Position	5			X		4		X				3			X			2				X		1	X					0						Stage	1	2	3			Contact	1-2	3-4	5-6	7-8	9-10																																	
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\*. Function codes beginning with "MZ" start at "0" position. If you change "MZ" to "MN" The positions will start from "1"


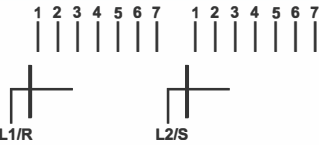
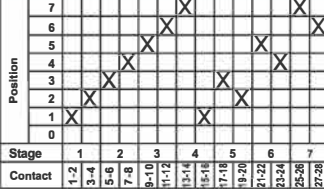

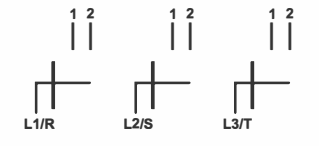
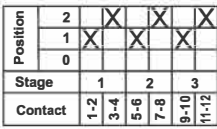

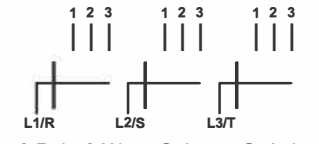
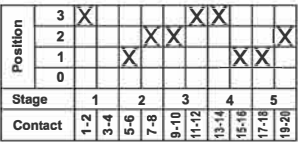

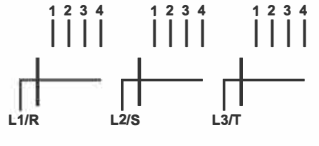
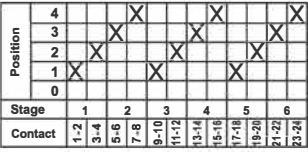

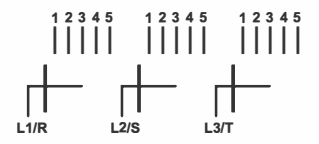
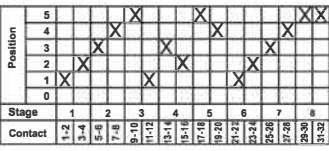

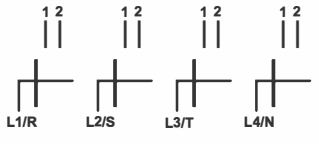
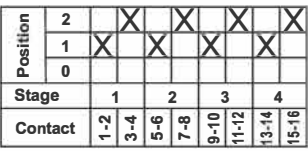
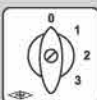
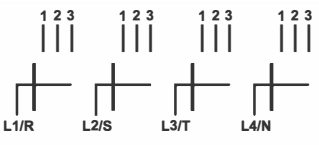
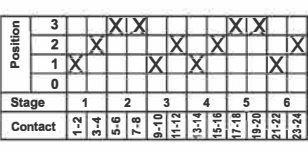

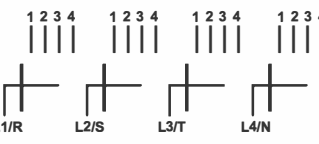
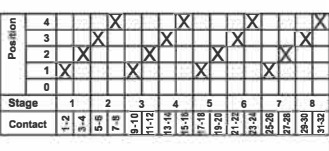


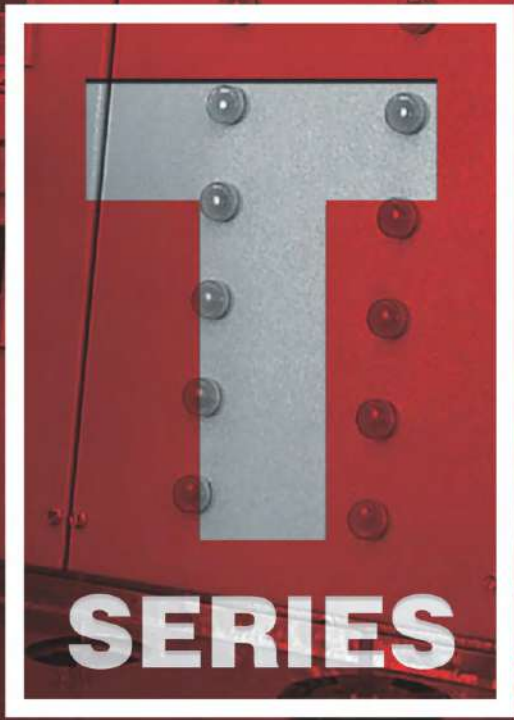
Function code	Positions & Rotation Angles	Internal circuit diagram	Stages and Contacts arrangement	L1 L2 L3
M Z 1 8	 30°	 1 Pole-8 Ways Selector Switch With "0" position		
M Z 1 9	 30°	 1 Pole-9 Ways Selector Switch With "0" position		
M Z 2 2	 45°	 2 Pole-2 Ways Selector Switch With "0" position		
M Z 2 3	 45°	 2 Pole-3 Ways Selector Switch With "0" position		
M Z 2 4	 45°	 2 Pole-4 Ways Selector Switch With "0" position		
M Z 2 5	 45°	 2 Pole-5 Ways Selector Switch With "0" position		
M Z 2 6	 45°	 2 Pole-6 Ways Selector Switch With "0" position		



# Cam Switch Functions Code Table



Function code	Positions & Rotation Angles	Internal circuit diagram	Stages and Contacts arrangement	L1 L2 L3	R S T
<b>M Z 2 7</b>	 45°	 2 Pole-7 Ways Selector Switch With "0" position			
<b>M Z 3 2</b>	 45°	 3 Pole-2 Ways Selector Switch With "0" position			
<b>M Z 3 3</b>	 45°	 3 Pole-3 Ways Selector Switch With "0" position			
<b>M Z 3 4</b>	 45°	 3 Pole-4 Ways Selector Switch With "0" position			
<b>M Z 3 5</b>	 45°	 3 Pole-5 Ways Selector Switch With "0" position			
<b>M Z 4 2</b>	 45°	 4 Pole-2 Ways Selector Switch With "0" position			
<b>M Z 4 3</b>	 45°	 4 Pole-3 Ways Selector Switch With "0" position			
<b>M Z 4 4</b>	 45°	 4 Pole-4 Ways Selector Switch With "0" position			



**SERIES**

Cam Switches

12-40 A

# T Series



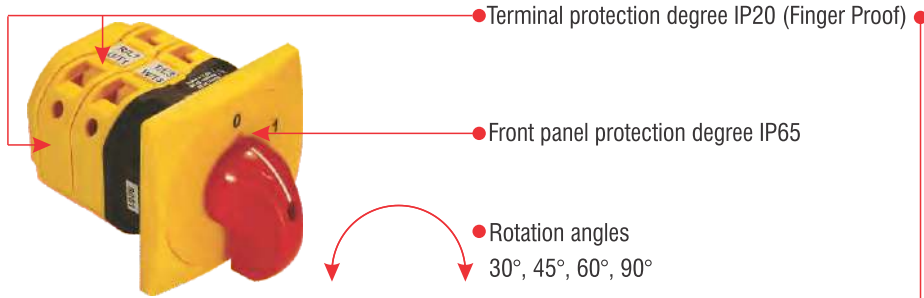
- ▶ Current Rating from 12A to 40A
- ▶ IP65 degree protection of front panel
- ▶ Highest Technical Specifications
- ▶ Attractive appearance & Modular design
- ▶ High variety of functions & models

- Model **RY** / **BY**
- Model **RK** / **BK**
- Model **RM** / **BM**
- Model **RT** / **BT**
- Model **RP** / **BP**
- Model **RQ** / **BQ**

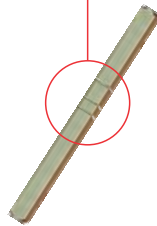
Cam Switches  
T Series



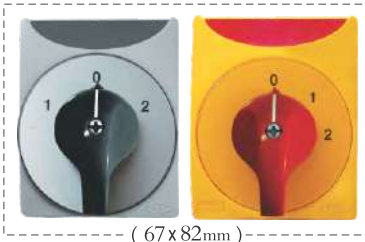
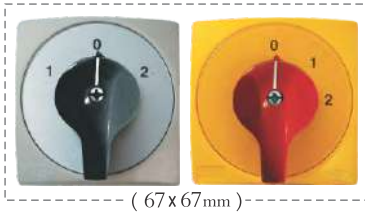
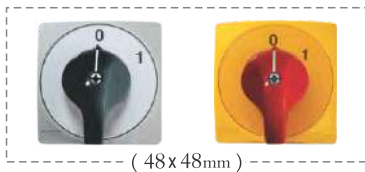
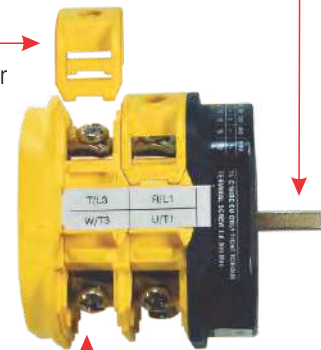




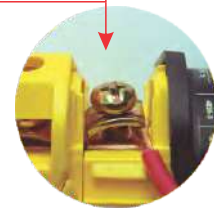
The length of the shaft that comes out of the cam switch is adjustable without any need to disassemble the switch. Using a simple mechanism, the shaft can be released to stay out 7mm more, or 4mm less, from its original position.



Removable Terminal Cover



Terminal screws equipped with self-raising washers to facilitate wiring.



Front panel knob and plate are available in two colors and three sizes; normal or with padlock holes.

Double-break bimetal contacts made of silver alloy and copper.









Non-electrical parts of cam switch are manufactured by reinforced flame retardant class V-0 polyamide with UL94 flammability safety and high mechanical and electrical resistance.

# Technical data table







Amper Code		012	016	025	032	040
Rated insulation voltage	Ui V	690	690	690	690	690
Rated operating voltage	Ue V	690	690	690	690	690
Rated impulse withstand voltage	Uimp KV	6	6	6	6	6
Rated thermal current for open switch	Ith A	16	20	32	32	40
Rated thermal current for enclosed switch	Ithe A	16	20	32	32	40
Rated operating frequency	Hz	50	50	50	50	50
Rated dissipation for each pole	W	0.27	0.5	1	1	1.3
<b>Rated operating current</b>						
AC-21A Switching resistive loads, including moderate overloads	Ie A	12	16	25	32	40
AC-22A Switching of mixed resistive and inductive loads, including moderate overloads	Ie A	12	16	20	25	32
AC-20A Connecting and disconnecting under no load conditions		—	—	—	—	—
<b>Rated operating power</b>						
AC-23A Switching of motor loads or other highly inductive loads 3 phase-3pole	230V Kw(A)	3(9)	4(14)	7.5(24)	8.5(27)	10(32)
	400V Kw(A)	4(9)	7.5(14)	11(20)	15(27)	18.5(30)
	500V Kw(A)	—	—	11(15)	15(22)	18.5(27)
AC-23A Switching of motor loads or other highly inductive loads 1 phase-2pole	690V Kw(A)	—	—	11(11)	15(16)	18.5(19)
	110V Kw(A)	0.75(8.5)	1.1(12)	2.2(25)	2.2(25)	3(34)
	230V Kw(A)	1.5(8.5)	2.2(14)	3.7(20)	3.7(20)	5.5(30)
AC-3 Squirrel cage motors: Starting, switching off motors during running 3 phase-3 pole	230V Kw(A)	22(7)	3.7(12)	5.5(17)	5.5(17)	7.5(24)
	400V Kw(A)	3.5(7)	5.5(10)	9.5(16)	10(17)	15(27)
	500V Kw(A)	—	—	9.5(12.5)	10(14)	15(22)
AC-3 Squirrel cage motors: Starting, switching off motors during running 1 phase-2 pole	690V Kw(A)	—	—	8.5(10)	10(10)	16(16)
	110V Kw(A)	0.37(4)	0.75(9)	1.5(17)	1.5(17)	2.2(25)
	230V Kw(A)	1.1(6)	1.5(8)	3(17)	3(17)	4.5(25)
AC-4 Squirrel cage motors: Starting, plugging, inching	400V Kw(A)	—	—	—	—	—
	230V Kw(A)	—	—	22(7)	22(7)	3(10)
	400V Kw(A)	—	—	3(5.5)	3(5.5)	5.5(10)
AC-15 Control of AC electromagnetic loads	230V A	4	6	8	8	10
	400V A	3	4	6	6	8
Rated breaking capability in category in AC-23A (cos <sup>φ</sup> =0.45)	230V A	72	112	192	216	256
	400V A	72	112	160	216	240
<b>Short circuit protection</b>						
Rated short time withstand current	Icw A	150	240	400	400	500
Rated short-circuit make capacity	Icm A	—	—	2000	2000	2000
Rated conditional short-circuit current	KA	4	4	10	10	10
With fuses class gG	500v A	16	20	35	35	50
Protection against short circuit		NDZ	NDZ	NDZ	NDZ	DZ
Maximum current rapid and Time-delay fuses for open version	A	16	20	35	35	50
Maximum current for Time-delay fuses for version in box	A	—	16	25	25	40
Rated interruption power	A	96	128	260	260	400
	V <sub>ac</sub>	418	418	660	660	660
	CoS(φ)	0.65	0.65	0.35	0.35	0.35
Electrical life	Cycles×10 <sup>6</sup>	0.5	0.8	1	1	0.3
Mechanical life	Cycles×10 <sup>9</sup>	2	2	2	2	2
	Cycles/hour	120	120	120	120	120
Rated insulation voltage	UL V	600	600	600	600	600
Rated operating voltage	UL V	600	600	600	600	600
General Use Current	UL A	12	16	25	32	40
<b>Rated operating power</b>						
1 phase - 2 pole	120V Hp (A)	0.5	1	2	2	3
	240V Hp (A)	1.5	2	3	3	5
3 phase - 3 pole	200V Hp (A)	1.5	2	5	5	7.5
	240V Hp (A)	2	3	5.5	7.5	10
	480V Hp (A)	3	7.5	10	10	15
	600V Hp (A)	5	7.5	15	15	20
<b>Connections according to IEC 9471-1 AND EN 60947-1</b>						
Connecting capability with flexible wires	Min-Max mm <sup>2</sup>	2x1.5-4	2x1.5-4	2x2.5-10	2x2.5-10	2x2.5-10
	Min-Max AWG	16-10	16-10	16-8	16-8	16-8
Connecting capability with solid wires	Min-Max mm <sup>2</sup>	2x1.5-2.5	2x1.5-2.5	2x2.5-6	2x2.5-6	2x2.5-6
Connecting terminal screw dimensions	Type	M3.5x7	M3.5x7	M5x16	M5x10	M5x10
Screw tightening torque	Nm	1.0	1.0	1.7	1.7	1.7
<b>Protection degree IEC 529 EN 60529</b>						
Terminal	IP	00				
<b>Ambient conditions</b>						
Operating ambient temperature	°C	-25~+55				
Storage ambient temperature	°C	-30~+70				
Withstand to constant humid according to IEC 60068		2-78				
Withstand to cyclic humid according to IEC 60068		2-30				
Altitude	m	Max:2000m				
Humidity	Percent	Max:90%				
Pollution degree		3				
Installation Group		III				

Picture	Model Code	Front panel Dimensions	Amp Code					Ref. to Page	Short Description		
			012	016	025	032	040				
	<b>B Y 1</b> <b>R Y 1</b>	48x48	✓	✓				25	Ip65 General use Attractive design Front & base mounting options DIN rail mounting option (optional adapter)		
	<b>B Y 2</b> <b>R Y 2</b>	67x67	✓	✓	✓	✓	✓				
	<b>B Y 3</b> <b>R Y 3</b>	67x82	✓	✓	✓	✓	✓				
	<b>B K 2</b> <b>R K 2</b>	67x67	✓	✓	✓	✓	✓			26	All RY/BY models Specifications + Lockable with a padlock
	<b>B K 3</b> <b>R K 3</b>	67x82	✓	✓	✓	✓	✓				
	<b>B M 2</b> <b>R M 2</b>	67x67			✓	✓	✓	27	All RY/BY models Specifications + Panel door interlocking mechanism		
	<b>B M 3</b> <b>R M 3</b>	67x82			✓	✓	✓				
	<b>B T 1</b> <b>R T 1</b>	48x48	✓	✓				28	All RY/BY models Specifications + Snap-on 22mm mounting hole Designed to be easily installable by hand only		
	<b>B T 2</b> <b>R T 2</b>	67x67	✓	✓	✓	✓	✓				
	<b>B T 3</b> <b>R T 3</b>	67x82	✓	✓	✓	✓	✓				

# Model Selection Table



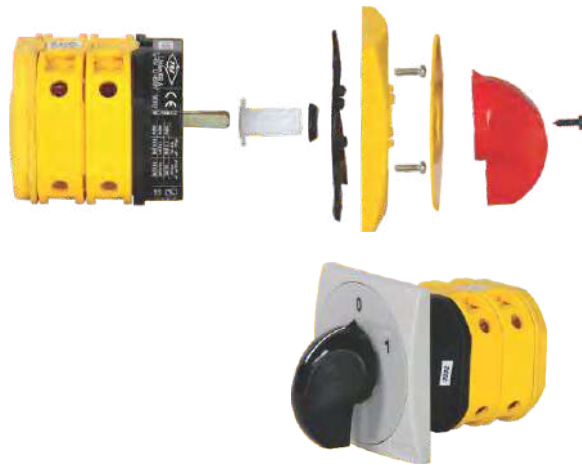
Picture	Model Code	Front panel Dimensions	Amp Code					Ref. to Page	Short Description
			012	016	025	032	040		B: Black knob & Gray rectangular plate R: Red knob & Yellow rectangular plate
 	B P 2 R P 2	67x67			✓	✓	✓	29	All RY/BY models Specifications + Lockable with a padlock Panel door interlocking mechanism
	B P 3 R P 3	67x82			✓	✓	✓		
 	B Q 3 R Q 2	67x67	✓	✓	✓	✓	✓	30	All RY/BY models Specifications + Lockable with a padlock Snapp-on 22mm mountin holes Easy to connect wires by hand only
	B Q 3 R Q 3	67x82	✓	✓	✓	✓	✓		

Cam Switches  
T Series







## RY-BY Model

### Features

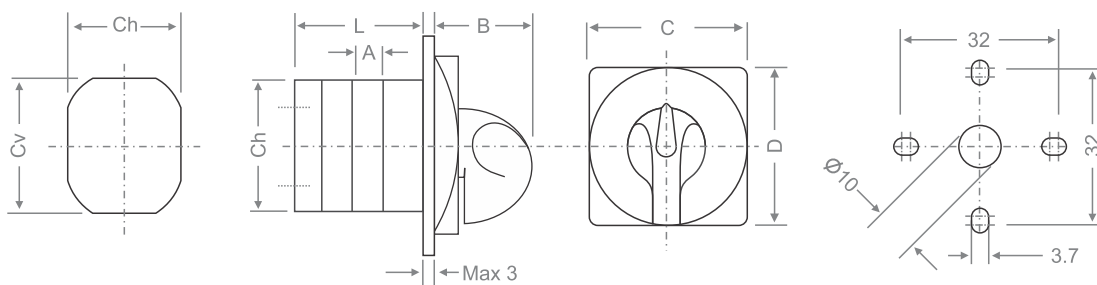
- ▶ Most generally used model
- ▶ IP65 degree of protection against dust and water
- ▶ Attractive design
- ▶ Front & base mounting options
- ▶ DIN rail mounting option (optional adapter)
- ▶ **BY:** Black knob & Gray rectangular front plate
- ▶ **RY:** Red knob & Yellow rectangular front plate
- ▶ In comparison with BY2/Ry2 model, the BY3/Ry3 model, has an additional area for label stand, with a transparent protection cover



## RY-BY Model Selection Table

Picture	Model Code	Front panel Dimensions	Amp Code				
			0 1 2	0 1 6	0 2 5	0 3 2	0 4 0
<p>B: Black knob &amp; Gray rectangular plate R: Red knob &amp; Yellow rectangular plate</p>  	<p><b>B Y 1</b> <b>R Y 1</b></p>	48x48	✓	✓			
 	<p><b>B Y 2</b> <b>R Y 2</b></p>	67x67	✓	✓	✓	✓	✓
 	<p><b>B Y 3</b> <b>R Y 3</b></p>	67x82	✓	✓	✓	✓	✓

## Technical drawings & drilling guide:



RY&BY							
Switch Amp Code	Cv	Ch	NO.Of Stages				
			1	2	3	4	5
0 1 2	53	43	39	51	63	75	87
0 1 6	53	43	39	51	63	75	87
0 2 5	64	54	44	60	76	92	108
0 3 2	64	54	44	60	76	92	108
0 4 0	64	54	44	60	76	92	108
Model Code		A	B	C	D		
<b>R Y 1</b>	<b>B Y 1</b>	12	37	48	48		
<b>R Y 2</b>	<b>B Y 2</b>	16	39	68	68		
<b>R Y 3</b>	<b>B Y 3</b>	16	39	68	83		

\*. For stages more than 5, please add one "A" for each stage, to the "L" of the cam switch.

LX=L1+(X-1)xA

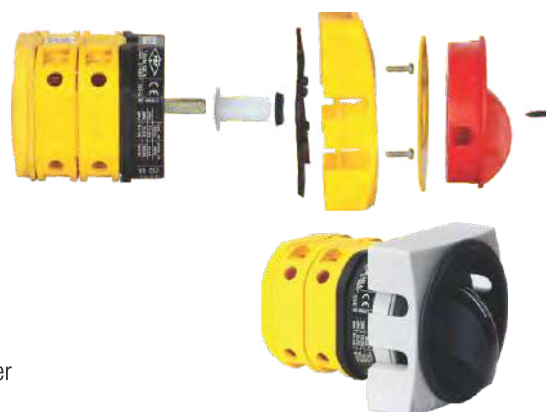
L1=L of a one-stage cam switch, X=Number of Stages, LX=L of a cam switch with X stages.



## RK-BK Model

### Features

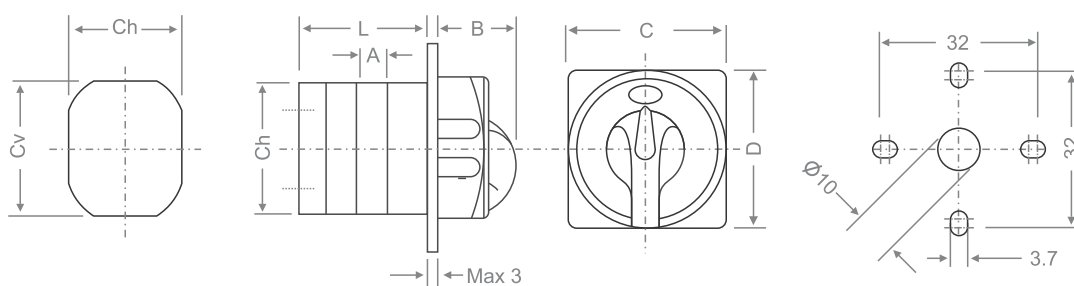
- ▶ Lockable with a small padlock in three positions
- ▶ IP65 degree of protection against dust and water
- ▶ Attractive design
- ▶ Front & base mounting options
- ▶ DIN rail mounting option (optional adapter)
- ▶ **BK**: Black knob & Gray rectangular front plate
- ▶ **RK**: Red knob & Yellow rectangular front plate
- ▶ In comparison with BK2/RK2 model, the BK3/RK3 model, has an additional area for label stand, with a transparent protection cover



## RK-BK Model Selection Table

Picture	Model Code	Front panel Dimensions	Amp Code				
			0 1 2	0 1 6	0 2 5	0 3 2	0 4 0
	<div style="display: flex; flex-direction: column; gap: 5px;"> <div style="border: 1px solid black; padding: 2px;">B K 2</div> <div style="border: 1px solid black; padding: 2px;">R K 2</div> </div>	67x67	✓	✓	✓	✓	✓
	<div style="display: flex; flex-direction: column; gap: 5px;"> <div style="border: 1px solid black; padding: 2px;">B K 3</div> <div style="border: 1px solid black; padding: 2px;">R K 3</div> </div>	67x82	✓	✓	✓	✓	✓

## Technical drawings & drilling guide:



RK&BK							
Switch Amp Code	Cv	Ch	NO.Of Stages				
			1	2	3	4	5
0 1 2	53	43	39	51	63	75	87
0 1 6	53	43	39	51	63	75	87
0 2 5	64	54	44	60	76	92	108
0 3 2	64	54	44	60	76	92	108
0 4 0	64	54	44	60	76	92	108
Model Code			A**	B	C	D	
R K 2	B K 2		16	39	68	68	
R K 3	B K 3		16	39	68	83	

\*. For stages more than 5, please add one "A" for each stage, to the "L" of the cam switch.  
 $LX=L1+(X-1)xA$        $L1=L$  of a one-stage cam switch,  $X$ =Number of Stages,  $LX=L$  of a cam switch with  $X$  stages.

\*\*For T012 & T016 dimension "A" is 12 mm..

## RM-BM Model

### Features

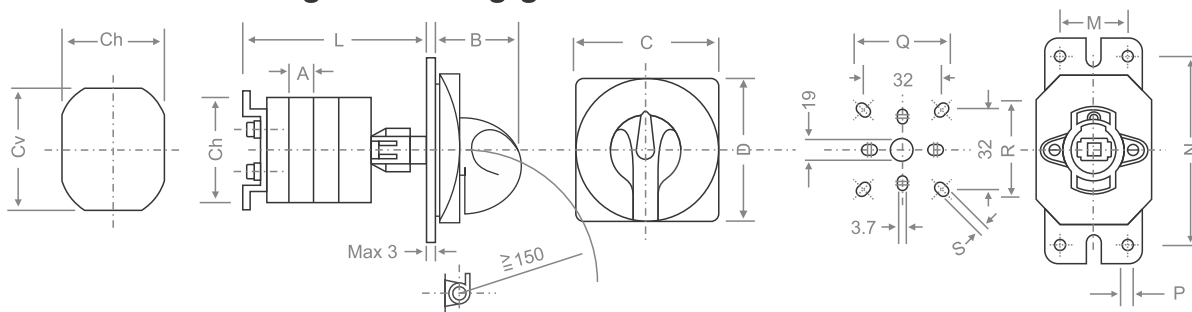
- ▶ In order to maintain safety, this model has an extended shaft and interlocking mechanism with the panel/box door, so it can be opened only when the cam switch is set to OFF position.
- ▶ IP65 degree of protection against dust and water
- ▶ Attractive design
- ▶ Front & base mounting options
- ▶ DIN rail mounting option (optional adapter)
- ▶ **BM**: Black knob & Gray rectangular front plate
- ▶ **RM**: Red knob & Yellow rectangular front plate
- ▶ In comparison with BM2/RM2 model, the BM3/RM3 model, has an additional area for label stand, with a transparent protection cover



## RM-BM Model Selection Table

Picture	Model Code	Front panel Dimensions	Amp Code				
			0 1 2	0 1 6	0 2 5	0 3 2	0 4 0
	<b>B M 2</b> <b>R M 2</b>	67x67			✓	✓	✓
	<b>B M 3</b> <b>R M 3</b>	67x82			✓	✓	✓

## Technical drawings & drilling guide:



RM&BM											
Switch Amp Code	Cv	Ch	M	N	P	NO.Of Stages					
						1	2	3	4	5	
0 2 5	64	54	18	72	4.3	96	112	128	144	160	
0 3 2	64	54	18	72	4.3	96	112	128	144	160	
0 4 0	64	54	18	72	4.3	96	112	128	144	160	
Model Code					A	B	C	D	Q	R	S
<b>R M 2</b>	<b>B M 2</b>				16	39	68	68	36-38	36-38	3.5
<b>R M 3</b>	<b>B M 3</b>				16	39	68	83	36-48	36-48	3.7

\*. For stages more than 5, please add one "A" for each stage, to the "L" of the cam switch.

LX=L1+(X-1)xA

L1=L of a one-stage cam switch, X=Number of Stages, LX=L of a cam switch with X stages.

## RT-BT Model

### Features

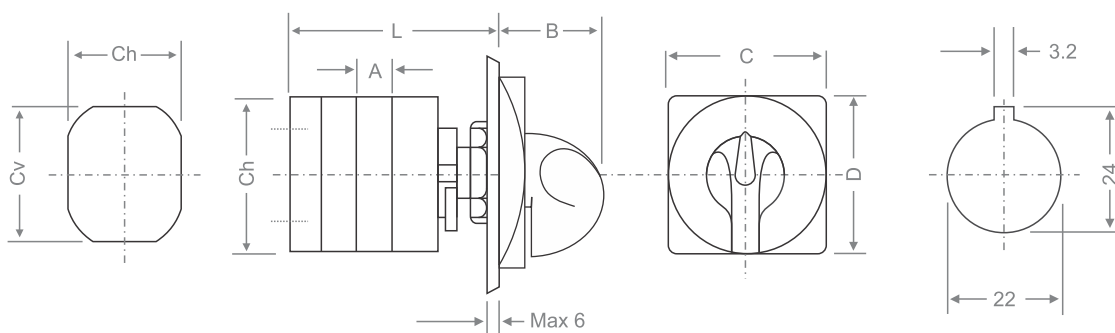
- ▶ Snap-on 22mm mounting hole
- ▶ Designed to be easily installable by hand only
- ▶ IP65 degree of protection against dust and water
- ▶ Attractive design
- ▶ Front & base mounting options
- ▶ DIN rail mounting option (optional adapter)
- ▶ **BT**: Black knob & Gray rectangular front plate
- ▶ **RT**: Red knob & Yellow rectangular front plate
- ▶ In comparison with BT2/RT2 model , the BT3/RT3 model, has an additional area for label stand, with a transparent protection cover



## RT-BT Model Selection Table

Picture	Model Code	Front panel Dimensions	Amp Code				
			0 1 2	0 1 6	0 2 5	0 3 2	0 4 0
	<b>B T 1</b> <b>R T 1</b>	48x48	✓	✓			
	<b>B T 2</b> <b>R T 2</b>	67x67	✓	✓	✓	✓	✓

## Technical drawings & drilling guide:



RT&BT							
Switch Amp Code	Cv	Ch	NO.Of Stages				
			1	2	3	4	5
0 1 2	53	43	65	77	89	102	Max 6
0 1 6	53	43	65	77	89	102	Max 6
Model Code			A	B	C	D	
<b>R T 1</b>	<b>B T 1</b>		12	37	48	48	
<b>R T 2</b>	<b>B T 2</b>		12	39	68	68	
<b>R T 3</b>	<b>B T 3</b>		12	39	68	83	

\*. For stages more than 5, please add one "A" for each stage, to the "L" of the cam switch.

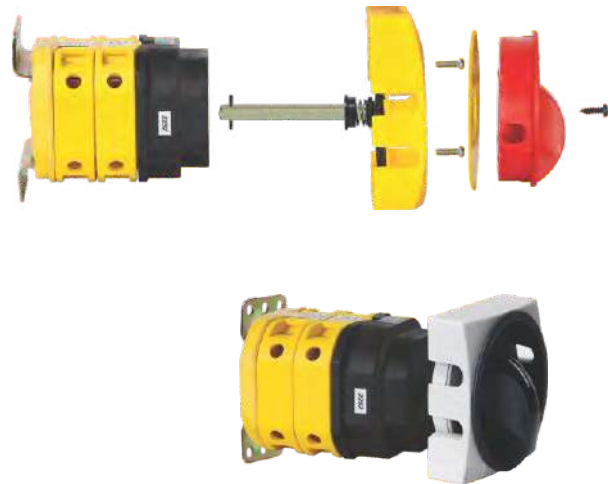
LX=L1+(X-1)xA

L1=L of a one-stage cam switch, X=Number of Stages, LX=L of a cam switch with X stages.

## RP-BP Model

### Features

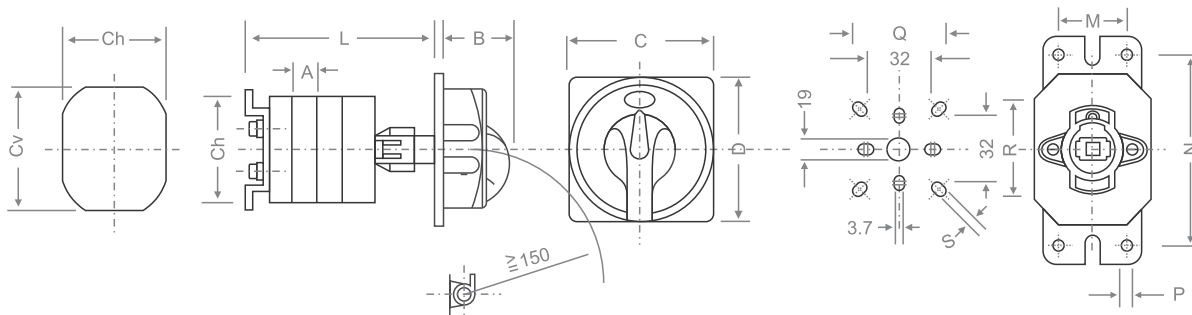
- ▶ In order to maintain safety, this model has an interlocking mechanism with the panel/box door, so it can be opened only when the cam switch is set to OFF position.
- ▶ Lockable with a small padlock in three positions
- ▶ IP65 degree of protection against dust and water
- ▶ Attractive design
- ▶ Front & base mounting options
- ▶ DIN rail mounting option (optional adapter)
- ▶ **BP**: Black knob & Gray rectangular front plate
- ▶ **RP**: Red knob & Yellow rectangular front plate
- ▶ In comparison with BP2/RP2 model, the BP3/RP3 model, has an additional area for label stand, with a transparent protection cover



## RP-BP Model Selection Table

Picture	Model Code	Front panel Dimensions	Amp Code				
			0 1 2	0 1 6	0 2 5	0 3 2	0 4 0
	<b>B P 2</b> <b>R P 2</b>	67x67			✓	✓	✓
	<b>B P 3</b> <b>R P 3</b>	67x82			✓	✓	✓

## Technical drawings & drilling guide:



RP&BP												
Switch Amp Code	Cv	Ch	M	N	P	NO.Of Stages						
						1	2	3	4	5		
0 2 5	64	54	18	72	4.3	96	112	128	144	160		
0 3 2	64	54	18	72	4.3	96	112	128	144	160		
0 4 0	64	54	18	72	4.3	96	112	128	144	160		
<b>Model Code</b>						A	B	C	D	Q	R	S
<b>R P 2</b>	<b>B P 2</b>					16	39	68	68	36-38	36-38	3.5
<b>R P 3</b>	<b>B P 3</b>					16	39	68	83	36-48	36-48	3.7

\*. For stages more than 5, please add one "A" for each stage, to the "L" of the cam switch.

LX=L1+(X-1)xA

L1=L of a one-stage cam switch, X=Number of Stages, LX=L of a cam switch with X stages.

## RQ-BQ Model

### Features

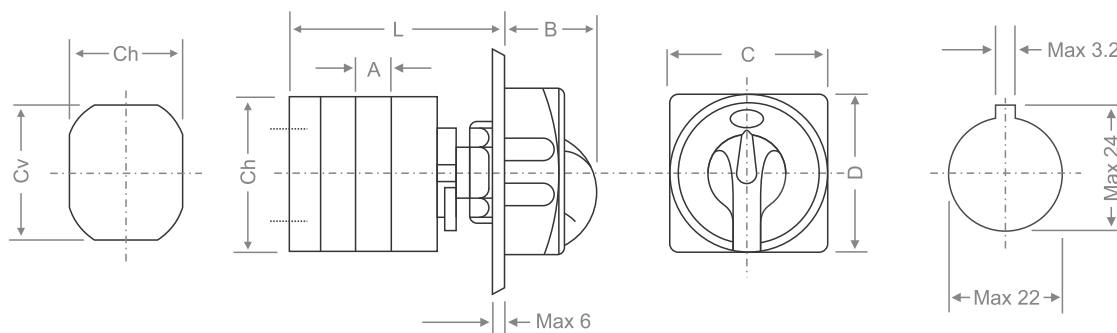
- ▶ In order to maintain safety, this model has an interlocking mechanism with the panel/box door, so it can be opened only when the cam switch is set to OFF position.
- ▶ Snap-on 22mm mounting holes
- ▶ Easy to connect wires by hand only
- ▶ IP65 degree of protection against dust and water
- ▶ Attractive design
- ▶ Front & base mounting options
- ▶ DIN rail mounting option (optional adapter)
- ▶ **BQ:** Black knob & Gray rectangular front plate
- ▶ **RQ:** Red knob & Yellow rectangular front plate
- ▶ In comparison with BQ2/RQ2 model, the BQ3/RQ3 model, has an additional area for label stand, with a transparent protection cover



## RQ-BQ Model Selection Table

Picture B: Black knob & Gray rectangular plate R: Red knob & Yellow rectangular plate	Model Code	Front panel Dimensions	Amp Code				
			0 1 2	0 1 6	0 2 5	0 3 2	0 4 0
	<b>B Q 3</b> <b>R Q 2</b>	67x67	✓	✓	✓	✓	✓
	<b>B Q 3</b> <b>R Q 3</b>	67x82	✓	✓	✓	✓	✓

## Technical drawings & drilling guide:



RQ&BQ							
Switch Amp Code	Cv	Ch	NO.Of Stages				
			1	2	3	4	5
0 1 2	53	43	65	77	89	102	Max 6
0 1 6	53	43	65	77	89	102	Max 6
<b>Model Code</b>			A	B	C	D	
<b>R Q 2</b>	<b>B Q 2</b>		12	39	68	68	
<b>R Q 3</b>	<b>B Q 3</b>		12	39	68	83	

\*. For stages more than 5, please add one "A" for each stage, to the "L" of the cam switch.  
 $LX=L1+(X-1)xA$        $L1=L$  of a one-stage cam switch,  $X$ =Number of Stages,  $LX=L$  of a cam switch with  $X$  stages.





Cam Switches

12-630 A



# G Series



Cam Switches  
G Series

- ▶ Complete current rating range from 12A to 630A
- ▶ Conformity with International standards IEC60947-1,3 & ISIRI48350-1,3
- ▶ Wide range of switch functions for resistive, inductive or capacitive loads
- ▶ Made of best material, with high mechanical, electrical & thermal resistance
- ▶ Fast and easy installation

Model **GL**  
Model **DI**  
Model **LK**  
Model **IK**  
Model **TL**  
Model **LL1**  
Model **KS**  
Model **CO**



**DI Model**



**TL Models**



**GL Model**



**LL1 Model**



**IK Models**



**LK Models**



**CO Model**



**CO Model**



**KS Model**





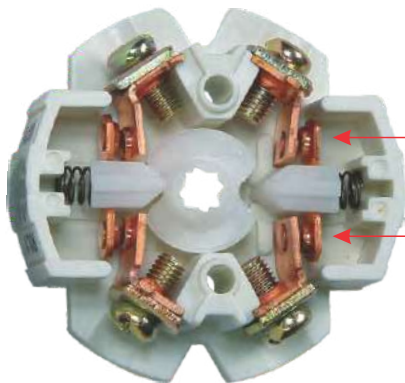


- Degree of protection for the operating handle is IP40 (\*)
- Fixing the contact stages by means of long bolts and nuts.
- For 12A up to 100A Cam Switches, terminals are equipped with cable clamps  
For 125A and above, terminals have proper connections for cable shoes
- Degree of protection for the terminal is IP00(\*)

**Different Switching angles**  
30°, 45°, 60°, 90°



- Manufactured from heat resistant and self flame extinguishing materials, which have long mechanical and electrical life.
- Available in ratings from 12 to 630 A



- Double-break bimetal contacts made of silver alloy and copper.

\* The degree of protection can be increased by means of optional protective parts.

Amper Code			012	016	025	032
Rated insulation voltage	Ui	V	690	690	690	690
Rated operating voltage	Ue	V	690	690	690	690
Rated impulse withstand voltage	Uimp	KV	6	6	6	6
Rated thermal current for open switch	Ith	A	16	20	32	32
Rated thermal current for enclosed switch	Ithe	A	16	20	32	32
Rated operating frequency		Hz	50	50	50	50
Rated dissipation for each pole		W	0.27	0.5	0.4	1
<b>Rated operating current</b>						
AC-21A Switching resistive loads, including moderate overloads	Ie	A	12	16	25	32
AC-22A Switching of mixed resistive and inductive loads, including moderate overloads	Ie	A	12	16	20	25
AC-20A Connecting and disconnecting under no load conditions			—	—	—	—
<b>Rated operating power</b>						
AC-23A Switching of motor loads or other highly inductive loads 3 phase-3pole	230V	Kw(A)	3(9)	4(14)	7.5(24)	8.5(27)
	400V	Kw(A)	4(9)	7.5(14)	11(20)	15(27)
	500V	Kw(A)	—	—	11(15)	15(22)
	690V	Kw(A)	—	—	11(11)	15(16)
AC-23A Switching of motor loads or other highly inductive loads 1 phase-2pole	110V	Kw(A)	0.75(8.5)	1.1(12)	2.2(25)	2.2(25)
	230V	Kw(A)	1.5(8.5)	22(14)	3.7(20)	3.7(20)
AC-3 Squirrel cage motors: Starting, switching off motors during running 3 phase-3 pole	230V	Kw(A)	22(7)	3.7(12)	5.5(17)	5.5(17)
	400V	Kw(A)	3.5(7)	5.5(10)	9.5(16)	10(17)
	500V	Kw(A)	—	—	9.5(12.5)	10(14)
	690V	Kw(A)	—	—	8.5(10)	10(10)
AC-3 Squirrel cage motors: Starting, switching off motors during running 1 phase-2 pole	110V	Kw(A)	0.37(4)	0.75(9)	1.5(17)	1.5(17)
	230V	Kw(A)	1.1(6)	1.5(8)	3(17)	3(17)
	400V	Kw(A)	—	—	—	—
AC-4 Squirrel cage motors: Starting, plugging, inching	230V	Kw(A)	—	—	22(7)	22(7)
	400V	Kw(A)	—	—	3(5.5)	3(5.5)
AC-15 Control of AC electromagnetic loads	230V	A	4	6	8	8
	400V	A	3	4	6	6
Rated breaking capability in category in AC-23A (cos $\phi$ =0.45)	230V	A	72	112	192	216
	400V	A	72	112	160	216
<b>Short circuit protection</b>						
Rated short time withstand current	Icw	A	150	240	400	400
Rated short-circuit make capacity	Icm	A	—	—	2000	2000
Rated conditional short-circuit current		KA	4	4	10	10
With fuses class gG	500v	A	16	20	35	35
Protection against short circuit			NDZ	NDZ	NDZ	NDZ
Maximum current rapid and Time-delay fuses for open version		A	16	20	35	35
Maximum current for Time-delay fuses for version in box		A	—	16	25	25
Rated interruption power		A	96	128	260	260
		V <sub>ac</sub>	418	418	660	660
Electrical life		Cos( $\phi$ )	0.65	0.65	0.35	0.35
		Cyclesx10 <sup>6</sup>	0.5	0.8	1	1
Mechanical life		Cyclesx10 <sup>6</sup>	2	2	1.5	1.5
		Cycles/hour	120	120	120	120
Rated insulation voltage	Ui	UL/CSA V	600/ -	600/ -	600/600	600/600
Rated operating voltage	Ue	UL/CSA V	600/ -	600/ -	600/600	600/600
General Use Current	Ie	UL/CSA A	12	16	25/25	35/25
Short Circuit Rating@600Vac		Arms	5000	5000	—	—
Fuse size (Class RK5, 600Vac, 200kA A.I.C.)		A	60	25 (30)	—	—
<b>Rated operating power</b>						
1 phase - 2 pole	120V	Hp (A)	0,5 (9,8)	1 (16)	2/ -	2/ -
	240V	Hp (A)	1,5 (10)	2 (12)	3/ 6	5/ -
	200V	Hp (A)	1,5 (6,9)	2 (7,8)	5/ -	7,5/5
3 phase - 3 pole	240V	Hp (A)	2 (6,8)	3 (9,6)	7,5/ -	10/ -
	480V	Hp (A)	3 (4,8)	7,5 (11)	10/ -	15/ -
	600V	Hp (A)	5 (6,1)	7,5 (9)	10/15	15/ 17
<b>Connections according to IEC 9471-1 AND EN 60947-1</b>						
Connecting capability with flexible wires	Min-Max	mm <sup>2</sup>	2x1.5-4	2x1.5-4	2x2.5-10	2x2.5-10
	Min-Max	AWG	16-10	16-10	16-8	16-8
Connecting capability with solid wires	Min-Max	mm <sup>2</sup>	2x1.5-6	2x1.5-6	2x2.5-16	2x2.5-16
Connecting terminal screw dimensions		Type	M3.5x7	M3.5x7	M5x10	M5x10
Screw tightening torque		Nm	1.0	1.0	1.0	1.0
<b>Protection degree IEC 529 EN 60529</b>						
Terminal		IP				
<b>Ambient conditions</b>						
Operating ambient temperature		°C				
Storage ambient temperature		°C				
Withstand to constant humid according to IEC 60068						
Withstand to cyclic humid according to IEC 60068						
Altitude		m				
Humidity		Percent				
Pollution degree						
Installation Group						

# Technical data table



Cam Switches  
G Series

040	050	063	080	100	125	200	250	400	500	630
690	690	690	690	690	690	690	690	690	690	690
690	690	690	690	690	690	690	690	690	690	690
6	6	6	6	6	6	6	6	6	6	6
40	50	75	80	115	125	200	250	400	500	630
40	50	50	60	100	115	160	—	—	—	—
50	50	50	50	50	50	50	50	50	50	50
1.3	1.6	2.5	3	3.7	5	7	11	15	25	30
40	50	75	100	115	130	160	190	—	—	—
32	40	63	80	110	125	160	190	—	—	—
—	—	—	—	—	—	—	—	400	500	630
10(32)	15(48)	18.5(58)	22.3(74)	30(95)	35(113)	40(125)	—	—	—	—
18.5(30)	25(45)	30(54)	39(78)	40(85)	51(96)	59(106)	—	—	—	—
18.5(27)	32(48)	22(32)	27(38)	30(40)	54(81)	75(108)	—	—	—	—
18.5(19)	22(23)	—	—	—	—	—	—	—	—	—
3(34)	3.7(42)	5.5(63)	7.4(82)	9(102)	10(112)	11(125)	—	—	—	—
5.5(30)	7.5(40)	10(32)	13(55)	15(82)	18(103)	22(120)	—	—	—	—
7.5(24)	11(35)	15(47)	19(59)	22(70)	26(82)	30(95)	—	—	—	—
15(27)	18(33)	22(40)	31(53)	37(67)	40(72)	45(82)	—	—	—	—
15(22)	22(32)	22(32)	26(36)	30(40)	48(65)	59(85)	—	—	—	—
16(16)	20(20)	—	—	—	—	—	—	—	—	—
22(25)	3.7(42)	4(45)	6.2(65)	7.5(85)	8.3(94)	9(102)	—	—	—	—
4.5(25)	7.5(40)	7.5(40)	9.2(50)	11(60)	13(72)	15(82)	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
3(10)	3.7(12)	5.5(17)	6.5(52)	7.5(85)	—	—	—	—	—	—
5.5(10)	6(11)	7.5(14)	9.5(18)	11(20)	—	—	—	—	—	—
10	—	—	—	—	—	—	—	—	—	—
8	—	—	—	—	—	—	—	—	—	—
256	384	464	612	760	890	1000	—	—	—	—
240	360	432	580	680	720	848	—	—	—	—
500	600	800	1200	1500	1800	2000	2500	—	—	—
2000	2000	2500	2500	3000	3000	3000	3000	—	—	—
10	15	15	15	15	15	15	15	—	—	—
50	50	63	90	125	160	200	250	—	—	—
DZ	DZ	DZ	DZ	ZH	ZH	ZH	ZH	—	—	—
50	50	80	80	125	125	200	200	—	—	—
40	40	63	63	100	100	200	200	—	—	—
400	400	600	600	720	720	720	720	—	—	—
660	660	660	660	660	660	660	660	—	—	—
0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	—	—	—
0.3	0.3	0.3	0.3	0.05	0.05	0.05	0.05	0.05	0.05	0.05
1.5	1.5	1	1	0.3	0.3	0.1	0.1	0.2	0.2	0.2
120	120	120	120	30	30	30	30	30	30	30
600/600	600/600	600/600	600/600	600/600	600/600	600/-	600/-	600/-	600/-	600/-
600/600	600/600	600/600	600/600	600/600	600/600	600/-	600/-	600/-	600/-	600/-
40/32	60/40	85/63	125/100	180/150	240/-	320/-	320/-	400/-	500/-	630/-
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
3/ 2,5	5/ -	7,5/ -	10/5	12/5	—	—	—	—	—	—
7,5/ 4,5	10/ -	10/ -	15/12	15/12	—	—	—	—	—	—
10/ -	15/ -	20/ -	20/-	20/-	—	—	—	—	—	—
15/ 9,5	20/ -	20/ -	25/24	25/24	—	—	—	—	—	—
20/ 20	30/ -	30/ -	40/50	40/50	—	—	—	—	—	—
20/ 25	30/32,5	40/50	50/65	50/65	—	—	—	—	—	—
2x2.5-10	2x2.5-6	6-16	6-16	10-25	10-25	50-70	50-70	—	—	—
16-8	14-8	10-6	10-6	10-3	10-3	1/0-2/0	1/0-2/0	—	—	—
2x2.5-16	2x4-10	10-25	10-25	10-25	10-25	16-35	16-35	—	—	—
M5x12	M5x12	M5x14	M5x14	M8x20	M8x20	M10x16	M10x16	M12x20	M12x20	M16x25
2.8	2.8	2.8	2.8	2.8	2.8	23	23	40	40	98

00

-25 ~ +55

-30 ~ +70

2-78

2-30

Max:2000m

Max:90%

3

III

Picture	Model Code	Front panel Dimensions
	GL 1	52x52
	GL 2	75x75
	GL 3	105x105
	GL 4	130x130
	GL 5	130x130
	DI 2	75x75
	DI 3	105x105
	DI 4	130x130
	DI 5	130x130
	LK 2	75x75
	LK 3	105x105
	LK 4	130x130
	IK 2	75x75
	IK 3	105x105
	IK 4	130x130
	TL 1	52x52
	TL 2	75x75
	LL 1	52x70
	KS	75x75
	CO	

# Model Selection Table



Cam Switches  
G Series

Amp Code														Ref. to Page	Short Description		
012	016	025	032	040	050	063	080	100	125	200	250	400	500			630	
✓	✓															39	IP 40 General application Full amp range Front & base mounting options
✓	✓	✓	✓	✓													
			✓	✓	✓	✓	✓		✓	✓	✓	✓					
													✓	✓	✓	40	IP 40 General application Panel door interlocking mechanism
		✓	✓	✓													
			✓	✓	✓	✓	✓		✓	✓	✓	✓					
✓	✓	✓	✓	✓												41	IP 54 General application Full amp range Lockable with a padlock
			✓	✓	✓	✓	✓										
								✓	✓	✓	✓	✓	✓	✓	✓		
		✓	✓	✓												42	IP 54 General application Lockable with a padlock Panel door interlocking mechanism
			✓	✓	✓	✓	✓										
								✓	✓	✓	✓						
✓	✓															43	Same as GL1 & GL2 with a different knob design
✓	✓	✓	✓	✓													
✓	✓															44	Same as GL1 with protected label area on front plate
✓	✓															45	Control switch panel mount Mountable on standard 22mm hole Key control switch can be taken out only at "0" position IP65 protection degree KS Model
Configuration based on request														46	A combination of co-axial cam switches with Power & Signal contacts together. Best economical & technical solution instead of two signal and power cam switches.		



## GL Model

### Features

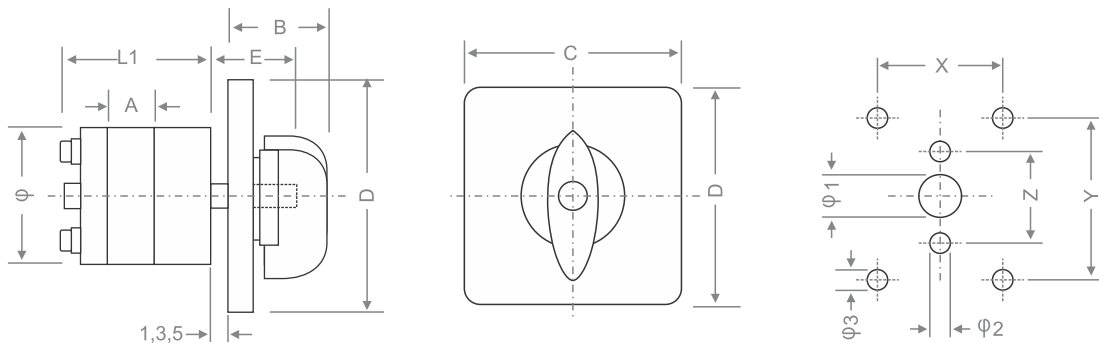
- ▶ General use and application
- ▶ Full amp range
- ▶ IP40 degree protection of front panel against dust and water
- ▶ Front & base mounting options
- ▶ DIN rail mounting option (optional adapter)



## GL Model Selection Table

Picture	Model Code	Front panel Dimensions	Amp Code															
			012	016	025	032	040	050	063	080	100	125	200	250	400	500	630	
	<b>GL 1</b>	52x52	✓	✓														
	<b>GL 2</b>	75x75	✓	✓	✓	✓	✓											
	<b>GL 3</b>	105x105				✓	✓	✓	✓	✓								
	<b>GL 4</b>	130x130									✓	✓	✓	✓				
	<b>GL 5</b>	130x130														✓	✓	✓

## Technical drawings & drilling guide:



GL														
Model Code	Amp. Code	Φ	L1*	A	B	C	D	E	Φ <sub>1</sub>	Φ <sub>2</sub>	Φ <sub>3</sub>	X	Y	Z
<b>GL 1</b>	0 1 2	40	40	12	30	52.5	52.5	22	10	3.7	—	—	—	28
	0 1 6	40	40	12	30	52.5	52.5	22	10	3.7	—	—	—	28
	0 1 2	40	40	12	32	75	75	22	10	3.7	—	—	—	28
<b>GL 2</b>	0 1 6	40	40	12	32	75	75	22	10	3.7	—	—	—	28
	0 2 5	58	48	17	32	75	75	26	10	3.7	—	—	—	28
	0 3 2	58	48	17	32	75	75	26	10	3.7	—	—	—	28
<b>GL 3</b>	0 4 0	74	53	19	44	105.5	105.5	33	14	5.5	—	—	—	40
	0 5 0	74	53	19	44	105.5	105.5	33	14	5.5	—	—	—	40
	0 6 3	84	62	25	44	105.5	105.5	33	14	5.5	—	—	—	40
	0 8 0	84	62	25	44	105.5	105.5	33	14	5.5	—	—	—	40
<b>GL 4</b>	1 0 0	110	81	30	62	130	130	44	20	—	5.5	30	90	—
	1 2 5	110	81	30	62	130	130	44	20	—	5.5	30	90	—
	2 0 0	110	90	39	62	130	130	44	20	—	5.5	30	90	—
	2 5 0	110	90	39	62	130	130	44	20	—	5.5	30	90	—
<b>GL 5</b>	4 0 0	110	129	78	72	130	130	54	20	—	5.5	30	90	—
	5 0 0	110	129	78	72	130	130	54	20	—	5.5	30	90	—
	6 3 0	110	168	117	84	130	130	67	20	—	5.5	30	90	—

\*. L1 is the length of a one stage cam switch. For more stages, please add one "A" for each stage, to the "L1" of the cam switch.  
 $LX = L1 + (X-1) \times A$        $X = \text{Number of Stages, } LX = L \text{ of a cam switch with } X \text{ stages.}$

## DI Model

### Features

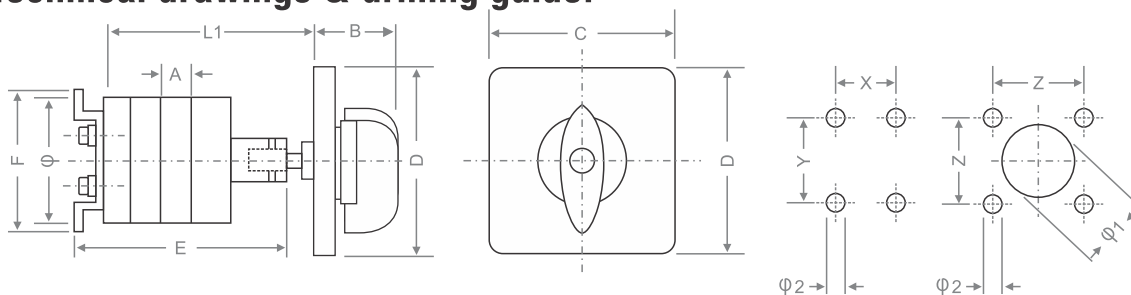
- ▶ In order to maintain safety, this model has an interlocking mechanism with the panel/box door, so it can be opened only when the cam switch is set to OFF position.
- ▶ General use and application
- ▶ IP40 degree protection of front panel against dust and water
- ▶ Front & base mounting options
- ▶ DIN rail mounting option (optional adapter)



## DI Model Selection Table

Picture	Model Code	Front panel Dimensions	Amp Code															
			012	016	025	032	040	050	063	080	100	125	200	250	400	500	630	
	<b>DI 2</b>	75x75			✓	✓	✓											
	<b>DI 3</b>	105x105				✓	✓	✓	✓	✓								
	<b>DI 4</b>	130x130										✓	✓	✓	✓			
	<b>DI 5</b>	130x130														✓	✓	✓

## Technical drawings & drilling guide:



DI														
Model Code	Amp. Code	F	L1*	A	B	C	D	E	Φ	Φ <sub>1</sub>	Φ <sub>2</sub>	X	Y	Z
<b>DI 2</b>	<b>025</b>	73.5	103	17	32	75	75	95.5	58	27	4.3	18	61	58-60
	<b>032</b>	73.5	103	17	32	75	75	95.5	58	27	4.3	18	61	58-60
	<b>040</b>	100	120	19	44	105.5	105.5	108	74	40	5.3	26	87	65-85
<b>DI 3</b>	<b>050</b>	100	120	19	44	105.5	105.5	108	74	40	5.3	26	87	65-85
	<b>063</b>	100	130	25	44	105.5	105.5	123	84	40	5.3	26	87	65-85
	<b>080</b>	100	130	25	44	105.5	105.5	123	84	40	5.3	26	87	65-85
<b>DI 4</b>	<b>100</b>	124-130	150	30	62	130	130	150	110	50	5.3	94-110	94-110	94-110
	<b>125</b>	124-130	150	30	62	130	130	150	110	50	5.3	94-110	94-110	94-110
	<b>200</b>	124-130	159	39	62	130	130	167	110	50	5.3	94-110	94-110	94-110
	<b>250</b>	124-130	159	39	62	130	130	167	110	50	5.3	94-110	94-110	94-110
<b>DI 5</b>	<b>400</b>	124-130	—	78	72	130	130	244	110	50	5.3	94-110	94-110	94-110
	<b>500</b>	124-130	—	78	72	130	130	244	110	50	5.3	94-110	94-110	94-110
	<b>630</b>	124-130	—	117	72	130	130	321	110	50	5.3	94-110	94-110	94-110

\*. L1 is the length of a one stage cam switch. For more stages, please add one "A" for each stage, to the "L1" of the cam switch.  
LX=L1+(X-1)xA      X=Number of Stages, LX=L of a cam switch with X stages.

## ■ LK Model

### Features

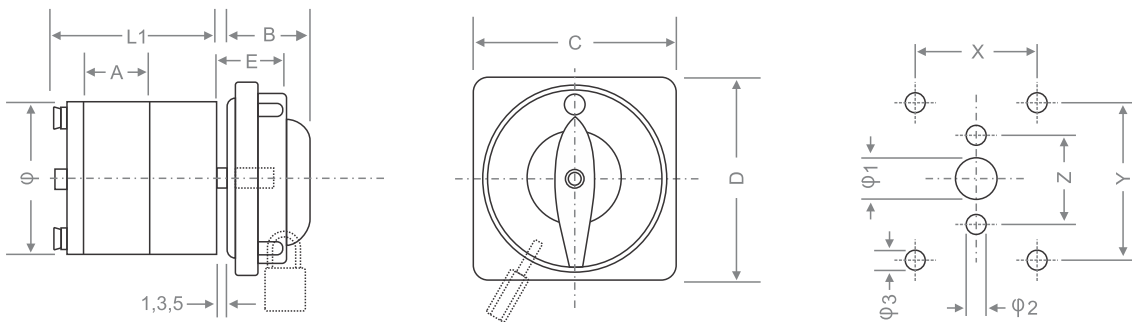
- ▶ Lockable with a small padlock in three positions
- ▶ General use and application
- ▶ Full amp range
- ▶ IP54 degree protection of front panel against dust and water
- ▶ Front & base mounting options
- ▶ DIN rail mounting option (optional adapter)



## ■ LK Model Selection Table

Picture	Model Code	Front panel Dimensions	Amp Code														
			012	016	025	032	040	050	063	080	100	125	200	250	400	500	630
	<b>L K 2</b>	75x75	✓	✓	✓	✓	✓										
	<b>L K 3</b>	105x105				✓	✓	✓	✓	✓							
	<b>L K 4</b>	130x130									✓	✓	✓	✓	✓	✓	✓

## ■ Technical drawings & drilling guide:



LK														
Model Code	Amp. Code	Φ	L1*	A	B	C	D	E	Φ <sub>1</sub>	Φ <sub>2</sub>	Φ <sub>3</sub>	X	Y	Z
<b>L K 2</b>	<b>0 1 2</b>	40	40	12	32	75	75	21	10	3.7	—	—	—	28
	<b>0 1 6</b>	40	40	12	32	75	75	21	10	3.7	—	—	—	28
	<b>0 2 5</b>	58	48	17	32	75	75	24	10	3.7	—	—	—	28
	<b>0 3 2</b>	58	48	17	32	75	75	24	10	3.7	—	—	—	28
<b>L K 3</b>	<b>0 4 0</b>	74	53	19	44	105.5	105.5	32	14	5.5	—	—	—	40
	<b>0 5 0</b>	74	53	19	44	105.5	105.5	32	14	5.5	—	—	—	40
	<b>0 6 3</b>	84	62	25	44	105.5	105.5	32	14	5.5	—	—	—	40
	<b>0 8 0</b>	84	62	25	44	105.5	105.5	32	14	5.5	—	—	—	40
<b>L K 4</b>	<b>1 0 0</b>	110	81	30	62	130	130	43	20	—	5.5	30	90	—
	<b>1 2 5</b>	110	81	30	62	130	130	43	20	—	5.5	30	90	—
	<b>2 0 0</b>	110	90	39	62	130	130	43	20	—	5.5	30	90	—
	<b>2 5 0</b>	110	90	39	62	130	130	43	20	—	5.5	30	90	—

\*. L1 is the length of a one stage cam switch. For more stages, please add one "A" for each stage, to the "L1" of the cam switch.  
 LX=L1+(X-1)xA                      X=Number of Stages, LX=L of a cam switch with X stages.

## ■ IK Model

### Features

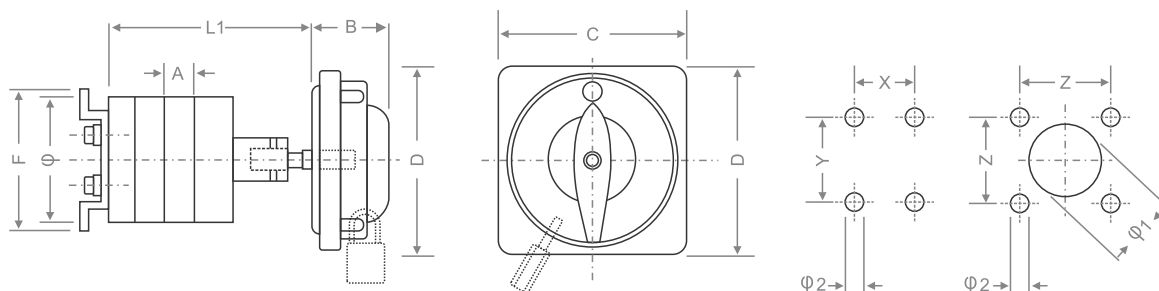
- ▶ Lockable with a small padlock in three positions  
In order to maintain safety, this model has an interlocking mechanism with the panel/box door, so it can be opened only when the cam switch is set to OFF position.
- ▶ General use and application
- ▶ IP54 degree protection of front panel against dust and water
- ▶ Front & base mounting options
- ▶ DIN rail mounting option (optional adapter)



## ■ IK Model Selection Table

Picture	Model Code	Front panel Dimensions	Amp Code														
			012	016	025	032	040	050	063	080	100	125	200	250	400	500	630
	<b>I K 2</b>	75x75			✓	✓	✓										
	<b>I K 3</b>	105x105				✓	✓	✓	✓	✓							
	<b>I K 4</b>	130x130										✓	✓	✓	✓		

## ■ Technical drawings & drilling guide:



IK															
Version	Amp. Code	Φ	L1*	A	B	C	D	E	F	Φ <sub>1</sub>	Φ <sub>2</sub>	Φ <sub>3</sub>	X	Y	Z
<b>I K 2</b>	<b>0 2 5</b>	58	103	17	32	75	75	24	73.5	27	4.3	—	18	61	58-60
	<b>0 3 2</b>	58	103	17	32	75	75	24	73.5	27	4.3	—	18	61	58-60
	<b>0 4 0</b>	74	120	19	44	105.5	105.5	32	100	40	5.3	—	26	87	65-85
<b>I K 3</b>	<b>0 5 0</b>	74	120	19	44	105.5	105.5	32	100	40	5.3	—	26	87	65-85
	<b>0 6 3</b>	84	130	25	44	105.5	105.5	32	100	40	5.3	—	26	87	65-85
	<b>0 8 0</b>	84	130	25	44	105.5	105.5	32	100	40	5.3	—	26	87	65-85
<b>I K 4</b>	<b>1 0 0</b>	110	150	30	62	130	130	43	124-130	50	5.3	—	94-110	94-110	94-110
	<b>1 2 5</b>	110	150	30	62	130	130	43	124-130	50	5.3	—	94-110	94-110	94-110
	<b>2 0 0</b>	110	159	39	62	130	130	43	124-130	50	5.3	—	94-110	94-110	94-110
	<b>2 5 0</b>	110	159	39	62	130	130	43	124-130	50	5.3	—	94-110	94-110	94-110

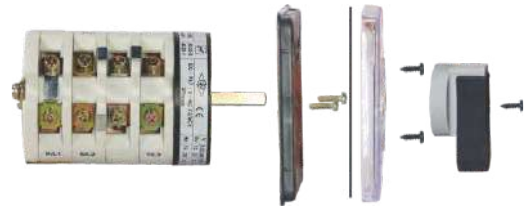
\*. L1 is the length of a one stage cam switch. For more stages, please add one "A" for each stage, to the "L1" of the cam switch.  
LX=L1+(X-1)xA      X=Number of Stages, LX=L of a cam switch with X stages.




## TL Model

### Features

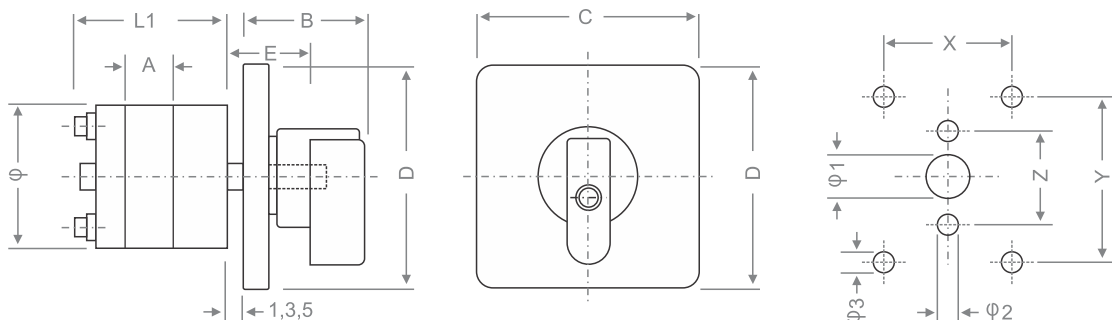
- ▶ Same as GL1 & GL2 with a different knob design
- ▶ IP40 degree protection of front panel against dust and water
- ▶ Front & base mounting options
- ▶ DIN rail mounting option (optional adapter)



## TL Model Selection Table

Picture	Model Code	Front panel Dimensions	Amp Code																
			012	016	025	032	040	050	063	080	100	125	200	250	400	500	630		
	<b>T L 1</b>	52x52	✓	✓															
	<b>T L 2</b>	75x75	✓	✓	✓	✓	✓												

## Technical drawings & drilling guide:



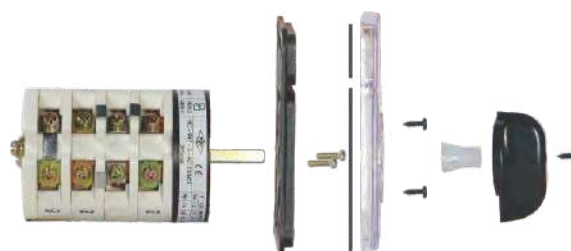
TL														
Model Code	Amp. Code	Φ	L1*	A	B	C	D	E	Φ <sub>1</sub>	Φ <sub>2</sub>	Φ <sub>3</sub>	X	Y	Z
<b>T L 1</b>	<b>0 1 2</b>	40	40	12	33	52.5	52.5	22	10	3.7	—	—	—	28
	<b>0 1 6</b>	40	40	12	33	52.5	52.5	22	10	3.7	—	—	—	28
	<b>0 1 2</b>	40	40	12	34.5	75	75	22	10	3.7	—	—	—	28
<b>T L 2</b>	<b>0 1 6</b>	40	40	12	34.5	75	75	22	10	3.7	—	—	—	28
	<b>0 2 5</b>	58	48	17	34.5	75	75	26	10	3.7	—	—	—	28
	<b>0 3 2</b>	58	48	17	34.5	75	75	26	10	3.7	—	—	—	28

\*. L1 is the length of a one stage cam switch. For more stages, please add one "A" for each stage, to the "L1" of the cam switch.  
 $LX = L1 + (X-1) \times A$        $X = \text{Number of Stages, } LX = L \text{ of a cam switch with } X \text{ stages.}$



## LL1 Model

### Features

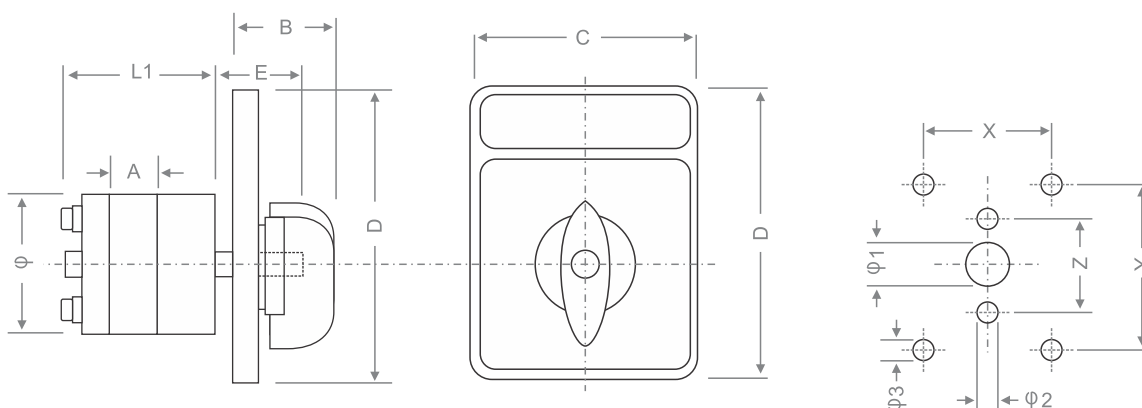
- ▶ Same as GL1 model with protected label area on front plate
- ▶ General use and application
- ▶ IP40 degree protection of front panel against dust and water
- ▶ Front & base mounting options
- ▶ DIN rail mounting option (optional adapter)



## LL1 Model Selection Table

Picture	Model Code	Front panel Dimensions	Amp Code															
			012	016	025	032	040	050	063	080	100	125	200	250	400	500	630	
 	<b>L L 1</b>	52x52	✓	✓														

## Technical drawings & drilling guide:



LL1														
Model Code	Amp. Code	$\phi$	L1*	A	B	C	D	E	$\phi_1$	$\phi_2$	$\phi_3$	X	Y	Z
<b>L L 1</b>	<b>0 1 2</b>	40	40	12	30	52.5	70.5	22	10	3.7	—	—	—	28
	<b>0 1 6</b>	40	40	12	30	52.5	70.5	22	10	3.7	—	—	—	28

\*. L1 is the length of a one stage cam switch. For more stages, please add one "A" for each stage, to the "L1" of the cam switch.  
 $LX=L1+(X-1) \times A$       X=Number of Stages,  $LX=L$  of a cam switch with X stages.


## ■ KS Model

### Features

- ▶ Control switch panel mount
- ▶ Mountable on standard 22mm hole
- ▶ Key control switch can be taken out only at "0" position
- ▶ IP65 protection degree



## ■ KS Model Selection Table

Picture	Model Code	Front panel Dimensions	Amp Code														
			012	016	025	032	040	050	063	080	100	125	200	250	400	500	630
	<b>K S</b>	75x75	✓	✓													


## ■ CO Model

### Features

In some applications, the user needs to be able to control signal contacts along with power contacts in one cam switch. Using extra power contacts for signal is not an economic way and makes the cam switch unnecessarily heavier and rather not economic. At TRS Mfg Co. we have developed the CO model cam switch in which signal contacts can be combined with power contacts. Therefore the user will be able to control signal and power contacts in one economical and technically appropriate cam switch. For any combination you require, please contact us and our technical dept. will help you with the best possible solutions.



## ■ CO Model Selection Table

Picture	Model Code	Front panel Dimensions	Amp Code
	<b>C O</b>	Configuration based on request	Configuration based on request





# R SERIES

Cam Switches  
12-25 A



# R Series



Cam Switches  
R Series

- ▶ Current rating from 12 to 25 A
- ▶ New rectangular design of selected models of G & T series
- ▶ IP65 protection degree of front panel
- ▶ IP20 protection degree of terminals section
- ▶ Fast and easy installation
- ▶ High variety of functions for resistive, inductive or capacitive loads
- ▶ Made of best material, with high mechanical, electrical & thermal resistance

Model **RY** / **BY**

Model **RK** / **BK**

Model **GL**

Model **LL1**

Model **TL**

Model **LK**





## Cam Switches(R Switches)

### ■ General features

- ▶ New rectangular design of selected models from G & T series The new design allows the connected wire terminals to be hold firmly in place and connected easily without the terminal neck being bent
- ▶ Terminal Screws have fixed serrated washers that eases the wire & terminal connection significantly
- ▶ Current rating from 12A to 25A
- ▶ IP65 protection of front panel and IP20 protection degree of terminals section
- ▶ High variety of functions for resistive, inductive or capacitive loads
- ▶ Made of best material, with high mechanical, electrical & thermal resistance
- ▶ Fast and easy installation

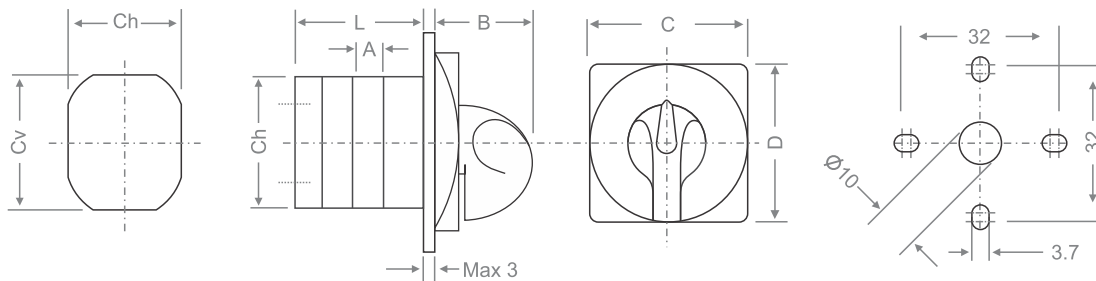


Amper Code		012	016	025
Rated insulation voltage	Ui V	690	690	690
Rated operating voltage	Ue V	690	690	690
Rated impulse withstand voltage	Uimp KV	6	6	6
Rated thermal current for open switch	Ith A	16	20	32
Rated thermal current for enclosed switch	Ithe A	16	20	32
Rated operating frequency	Hz	50	50	50
Rated dissipation for each pole	W	0.27	0.5	1
<b>Rated operating current</b>				
AC-21A Switching resistive loads, including moderate overloads	Ie A	12	16	25
AC-22A Switching of mixed resistive and inductive loads, including moderate overloads	Ie A	12	16	20
AC-20A Connecting and disconnecting under no load conditions		—	—	—
<b>Rated operating power</b>				
AC-23A Switching of motor loads or other highly inductive loads 3 phase-3pole	230V Kw(A)	3(9)	4(14)	7.5(24)
	400V Kw(A)	4(9)	7.5(14)	11(20)
	500V Kw(A)	—	—	11(15)
	690V Kw(A)	—	—	11(11)
AC-23A Switching of motor loads or other highly inductive loads 1 phase-2pole	110V Kw(A)	0.75(8.5)	1.1(12)	2.2(25)
	230V Kw(A)	1.5(8.5)	22(14)	3.7(20)
AC-3 Squirrel cage motors: Starting, switching off motors during running 3 phase-3 pole	230V Kw(A)	22(7)	3.7(12)	5.5(17)
	400V Kw(A)	3.5(7)	5.5(10)	9.5(16)
	500V Kw(A)	—	—	9.5(12.5)
	690V Kw(A)	—	—	8.5(10)
AC-3 Squirrel cage motors: Starting, switching off motors during running 1 phase-2 pole	110V Kw(A)	0.37(4)	0.75(9)	1.5(17)
	230V Kw(A)	1.1(6)	1.5(8)	3(17)
	400V Kw(A)	—	—	—
AC-4 Squirrel cage motors: Starting, plugging, inching	230V Kw(A)	—	—	22(7)
	400V Kw(A)	—	—	3(5.5)
AC-15 Control of AC electromagnetic loads	230V A	4	6	8
	400V A	3	4	6
Rated breaking capability in category in AC-23A ( $\cos\phi=0.45$ )	230V A	72	112	192
	400V A	72	112	160
<b>Short circuit protection</b>				
Rated short time withstand current	Icw A	150	240	400
Rated short-circuit make capacity	Icm A	—	—	2000
Rated conditional short-circuit current	KA	4	4	10
With fuses class gG	500v A	16	20	35
Protection against short circuit		NDZ	NDZ	NDZ
Maximum current rapid and Time-delay fuses for open version	A	16	20	35
Maximum current for Time-delay fuses for version in box	A	—	16	25
Rated interruption power	A	96	128	260
	Vac	418	418	660
	Cos( $\phi$ )	0.65	0.65	0.35
Electrical life	Cycles $\times 10^6$	0.5	0.8	1
Mechanical life	Cycles $\times 10^6$	2	2	2
	Cycles/hour	120	120	120
Rated insulation voltage	UL V	600	600	600
Rated operating voltage	UL V	600	600	600
General Use Current	UL A	12	16	25
<b>Rated operating power</b>				
1 phase - 2 pole	120V Hp (A)	0.5	1	2
	240V Hp (A)	1.5	2	3
3 phase - 3 pole	200V Hp (A)	1.5	2	5
	240V Hp (A)	2	3	5.5
	480V Hp (A)	3	7.5	10
	600V Hp (A)	5	7.5	15
<b>Connections according to IEC 9471-1 AND EN 60947-1</b>				
Connecting capability with flexible wires	Min-Max mm <sup>2</sup>	2x1.5-4	2x1.5-4	2x2.5-10
	Min-Max AWG	16-10	16-10	16-8
Connecting capability with solid wires	Min-Max mm <sup>2</sup>	2x1.5-2.5	2x1.5-2.5	2x2.5-6
Connecting terminal screw dimensions	Type	M3.5x7	M3.5x7	M5x16
Screw tightening torque	Nm	1.0	1.0	1.7
<b>Protection degree IEC 529 EN 60529</b>				
Terminal	IP		00	
<b>Ambient conditions</b>				
Operating ambient temperature	°C		-25~+55	
Storage ambient temperature	°C		-30~+70	
Withstand to constant humid according to IEC 60068			2-78	
Withstand to cyclic humid according to IEC 60068			2-30	
Altitude	m		Max:2000m	
Humidity	Percent		Max:90%	
Pollution degree			3	
Installation Group			III	



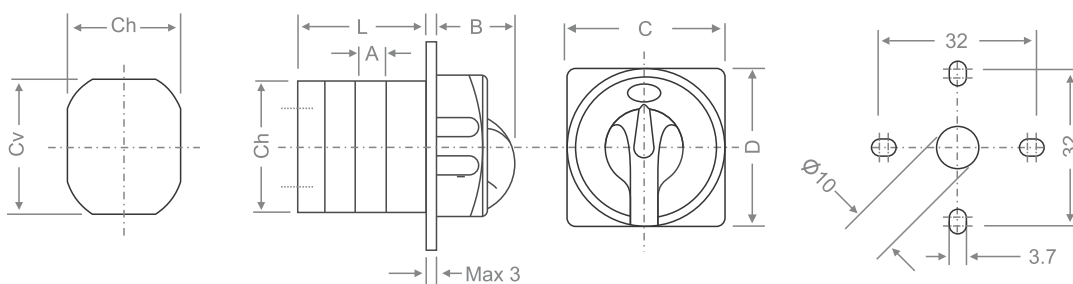
Picture	Model Code	Front panel Dimensions	Amp Code			Ref. to Page	Short Description
			0 1 2	0 1 6	0 2 5		
	<b>B Y 1</b> <b>R Y 1</b>	48x48	✓	✓		52	Ip65 General use Attractive design Front & base mounting options DIN rail mounting option (optional adapter)
	<b>B Y 2</b> <b>R Y 2</b>	67x67	✓	✓	✓		
	<b>B K 2</b> <b>R K 2</b>	67x67	✓	✓	✓	52	All RY/BY models Specs + Lockable with a padlock
	<b>B K 3</b> <b>R K 3</b>	67x82	✓	✓	✓		
	<b>G L 1</b>	52x52	✓	✓		53	Ip40 General application Full amp range Front & base mounting options
	<b>G L 2</b>	75x75	✓	✓	✓		
	<b>L L 1</b>	52x70	✓	✓		53	Same as GL1 with protected label area on front plate
	<b>T L 1</b>	52x52	✓	✓		54	Same as GL1 & GL2 with a different knob design
	<b>T L 2</b>	75x75	✓	✓	✓		
	<b>L K 2</b>	75x75	✓	✓	✓	54	Ip54 General application Full amp range Lockable with a padlock

## RY, BY



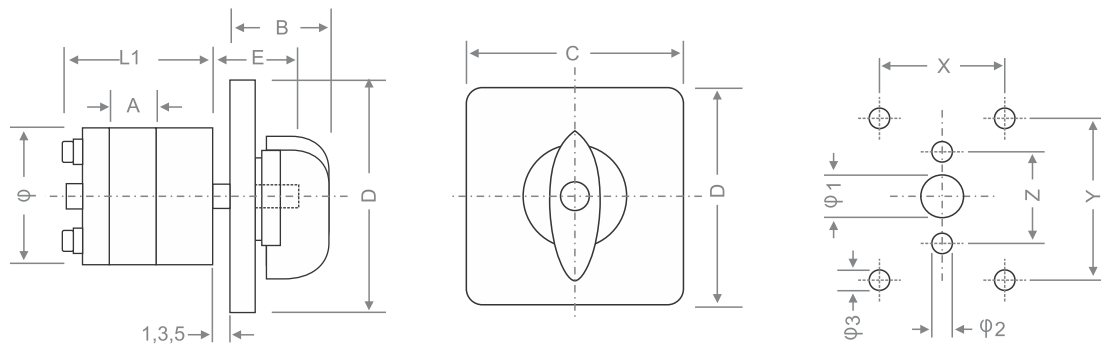
RY&BY							
Switch Amp Code	Cv	Ch	NO.Of Stages				
			1	2	3	4	5
0 1 2	47	45	L				
0 1 6	47	45	37	49	61	73	85
0 2 5	47	45	37	49	61	73	85
Model Code			A	B	C	D	
R Y 1	B Y 1		12	37	48	48	
R Y 2	B Y 2		12	39	68	68	

## RK, BK



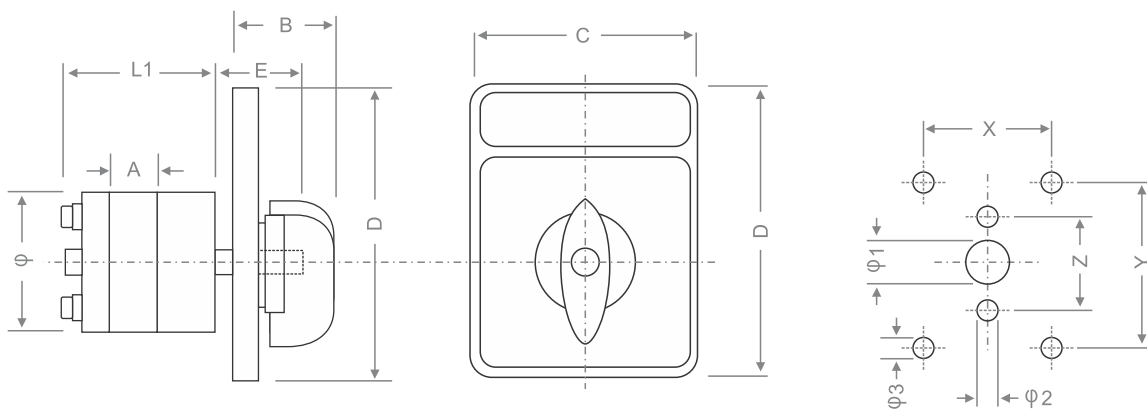
RK, BK							
Switch Amp Code	Cv	Ch	NO.Of Stages				
			1	2	3	4	5
0 1 2	47	45	L				
0 1 6	47	45	37	49	61	73	85
0 2 5	47	45	37	49	61	73	85
Model Code			A	B	C	D	
R K 2	B K 2		12	39	68	68	
R K 3	B K 3		12	39	68	83	

## GL



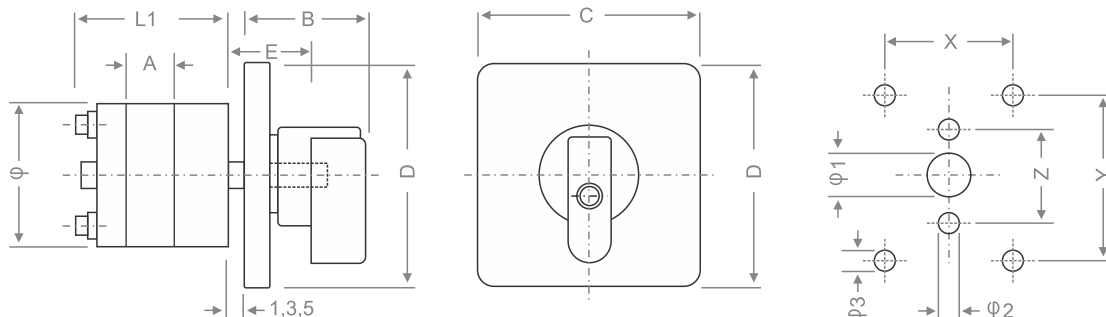
GL									
Model Code	Amp. Code	Cv	Ch	L	A	B	C	D	E
GL 1	0 1 2	47	45	37	12	30	52.5	52.5	22
	0 1 6	47	45	37	12	30	52.5	52.5	22
GL 2	0 1 2	47	45	37	12	32	75	75	22
	0 1 6	47	45	37	12	32	75	75	22
	0 2 5	47	45	37	12	32	75	75	22

## LL1



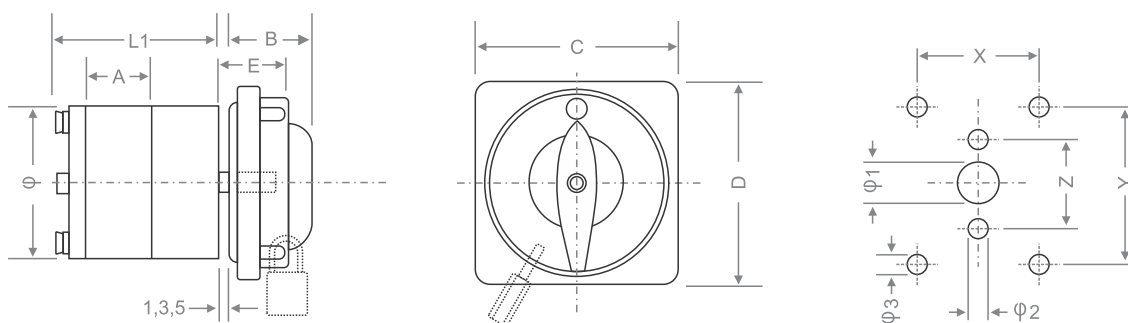
LL1									
Model Code	Amp. Code	Cv	Ch	L	A	B	C	D	E
LL 1	0 1 2	47	45	37	12	30	52.5	70.5	22
	0 1 6	47	45	37	12	30	52.5	70.5	22
	0 2 5	47	45	37	12	30	52.5	70.5	22

## TL



TL									
Model Code	Amp. Code	Cv	Ch	L	A	B	C	D	E
TL 1	0 1 2	47	45	37	12	33	52.5	52.5	22
	0 1 6	47	45	37	12	33	52.5	52.5	22
TL 2	0 1 2	47	45	37	12	34.5	75	75	26
	0 1 6	47	45	37	12	34.5	75	75	26
	0 2 5	47	45	37	12	34.5	75	75	26

## LK



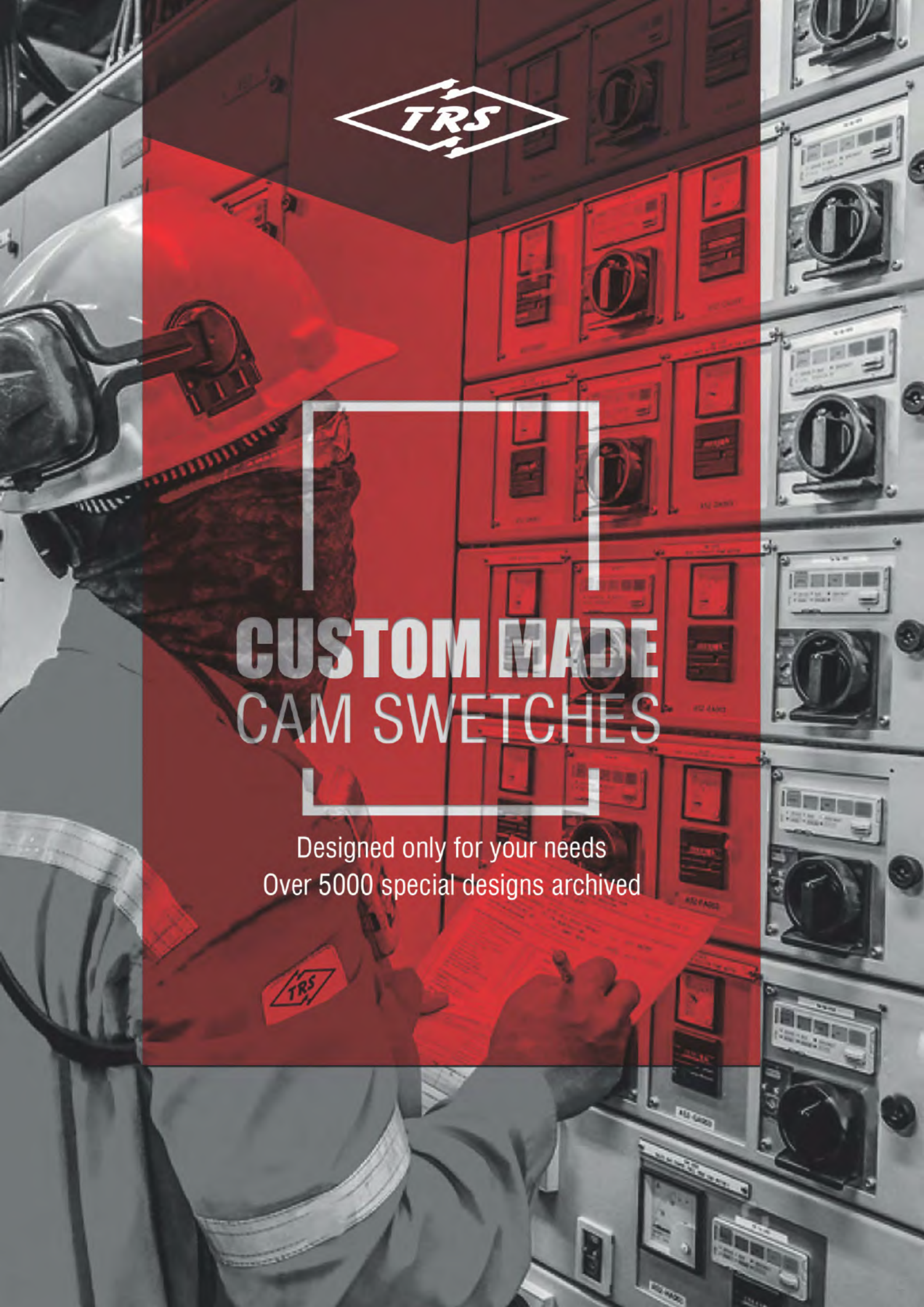
LK									
Model Code	Amp. Code	Cv	Ch	L	A	B	C	D	E
LK 2	0 1 2	47	45	37	12	32	75	75	21
	0 1 6	47	45	37	12	32	75	75	21
	0 2 5	47	45	37	12	32	75	75	21





# CUSTOM MADE CAM SWITCHES

Designed only for your needs  
Over 5000 special designs archived



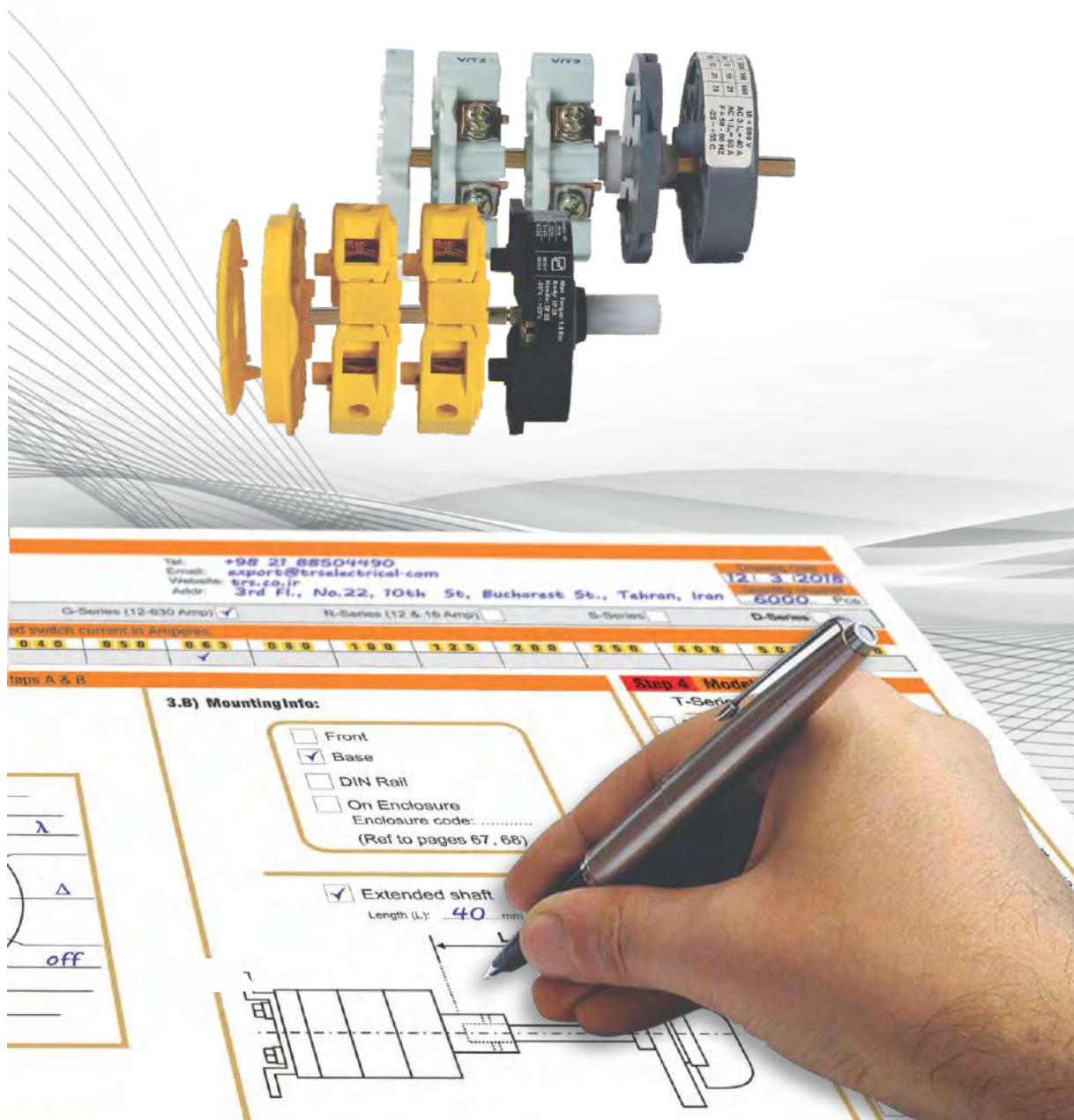


## ■ How to Order a Special Cam Switch?

Modular structure and unique design of TRS Mfg. Co. Cam Switches along with having various types of accessories, enables TRS Mfg. Co. to manufacture any type of Cam Switches based on customer's requirements. These customized types have a high variety in number of poles, positions, rotation angles, internal & external connection, functions and methods of installation. These Cam Switches are called Special or Customized Cam Switches, which no function codes mentioned in this catalogue are related to them.

Customers who need Special Cam Switches have to fill out the Order sheet on next page which is arranged and designed specially for this purpose, and then send it to TRS Mfg. Co.

Engineering department of TRS Mfg. Co. is always ready to offer helpful guides to customers in this regard to finalize the "Order sheet" according to our company capabilities. After getting customer's technical points, the best design will be prepared and a "Function Code" will be assigned to that case. It makes it faster & easier to order that Cam Switch by referring to that "Function Code" in the future.



■ This form is also available at the end of this catalogue. You may detach those pages without losing any other catalogue pages.

## Customized Order Form

### Customer Info

Name: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Position: \_\_\_\_\_  
 Customer No.: \_\_\_\_\_

Tel: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Website: \_\_\_\_\_  
 Addr: \_\_\_\_\_

Drawing Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 Quantity required: \_\_\_\_\_ Pcs

**Step 1 Series:** T-Series (12-40 Amp)  G-Series (12-630 Amp)  R-Series (12 & 16 Amp)  S-Series  D-Series

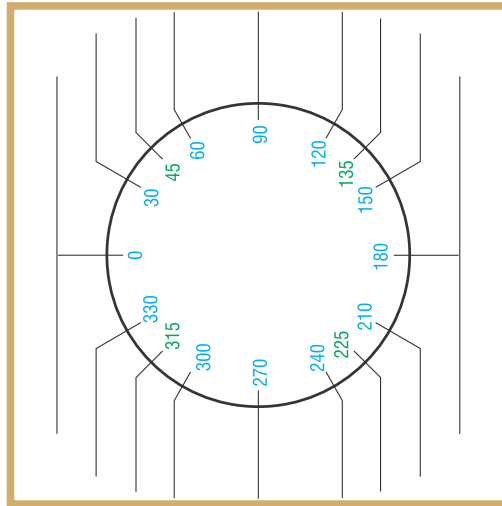
**Step 2 Amp Code:** Please select your required switch current in Amperes.

<input type="checkbox"/> 012	<input type="checkbox"/> 016	<input type="checkbox"/> 025	<input type="checkbox"/> 032	<input type="checkbox"/> 040	<input type="checkbox"/> 050	<input type="checkbox"/> 063	<input type="checkbox"/> 080	<input type="checkbox"/> 100	<input type="checkbox"/> 125	<input type="checkbox"/> 200	<input type="checkbox"/> 250	<input type="checkbox"/> 400	<input type="checkbox"/> 500	<input type="checkbox"/> 630
------------------------------	------------------------------	------------------------------	------------------------------	------------------------------	------------------------------	------------------------------	------------------------------	------------------------------	------------------------------	------------------------------	------------------------------	------------------------------	------------------------------	------------------------------

### Step 3 Mounting: Please complete below steps A & B

#### 3.A) Front plate:

Position angles and position text (1 to 3 letters)  
 Rotation steps must be 30,45,60 or 90 degrees.

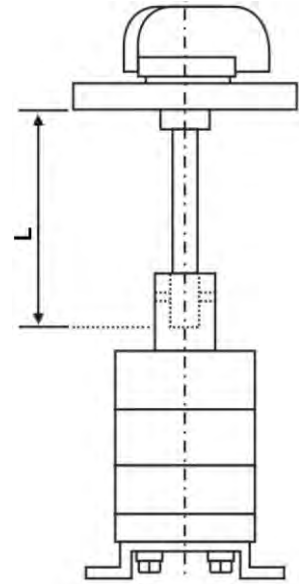


#### 3.B) Mounting Info:

Front  
 Base  
 DIN Rail  
 On Enclosure  
 Enclosure code: .....

(Ref to pages 67, 68)

Extended shaft  
 Length (L): .....mm



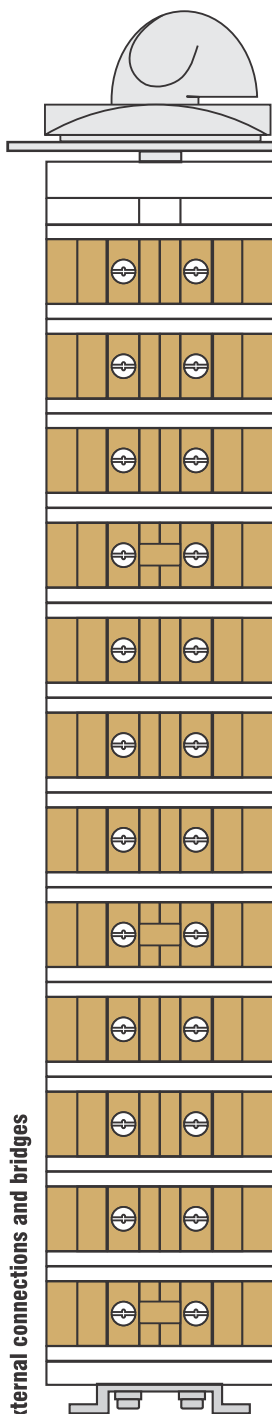
### Step 4 Model Selection

T-Series		G-Series	
<input type="checkbox"/> BY1	<input type="checkbox"/> RY1	<input type="checkbox"/> Knob	<input type="checkbox"/> Black
<input type="checkbox"/> BY2	<input type="checkbox"/> RY2	<input type="checkbox"/> Plate	<input type="checkbox"/> Red
<input type="checkbox"/> BY3	<input type="checkbox"/> RY3	<input type="checkbox"/> TL	<input type="checkbox"/> Black
<input type="checkbox"/> BK2	<input type="checkbox"/> RK2	<input type="checkbox"/> TL2	<input type="checkbox"/> Yellow
<input type="checkbox"/> BK3	<input type="checkbox"/> RK3	<input type="checkbox"/> LK2	<input type="checkbox"/> GL1
<input type="checkbox"/> BM2	<input type="checkbox"/> RM2	<input type="checkbox"/> LK3	<input type="checkbox"/> GL2
<input type="checkbox"/> BM3	<input type="checkbox"/> RM3	<input type="checkbox"/> LK4	<input type="checkbox"/> GL3
<input type="checkbox"/> BT1	<input type="checkbox"/> RT1	<input type="checkbox"/> D/2	<input type="checkbox"/> GL4
<input type="checkbox"/> BT2	<input type="checkbox"/> RT2	<input type="checkbox"/> D/3	<input type="checkbox"/> GL5
<input type="checkbox"/> BT	<input type="checkbox"/> RT	<input type="checkbox"/> D/4	<input type="checkbox"/> LL1
<input type="checkbox"/> BP2	<input type="checkbox"/> RP2	<input type="checkbox"/> D/5	<input type="checkbox"/> IK2
<input type="checkbox"/> BP3	<input type="checkbox"/> RP3		<input type="checkbox"/> IK3
<input type="checkbox"/> BQ2	<input type="checkbox"/> RQ2		<input type="checkbox"/> IK4
<input type="checkbox"/> BQ3	<input type="checkbox"/> RQ3		

**LL1 Label:**  
 In case you have chosen LL1 model above, we can print your required text on the label area.  
 .....

## Step 5: Switch Function

### B.1) External connections and bridges



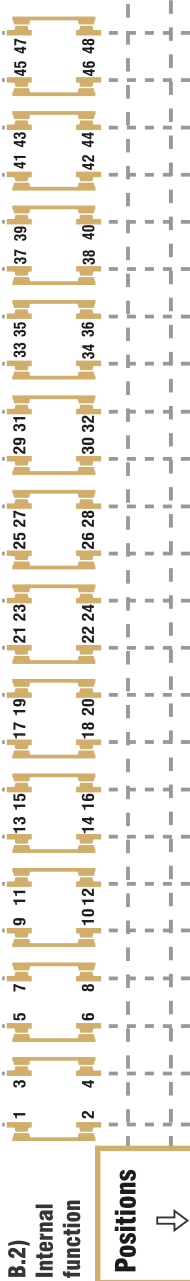
Sometimes customer drawings are not 100% correct or not technically possible to manufacture. The drawings corrected and confirmed by TRS Co. Technical department will be effective.

#### Drawing code:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

This field will be filled by TRS Co. Technical Department.

### B.2) Internal function



#### Positions



Positions	1	2	3	4	5	6	7	8	9	10	11	12
1-2												47-48
3-4												45-56
5-6												43-44
7-8												41-42
9-10												39-40
11-12												37-38
13-14												35-36
15-16												33-34
17-18												31-32
19-20												29-30
21-22												27-28
23-24												25-26
25-26												23-24
27-28												21-22
29-30												19-20
31-32												17-18
33-34												15-16
35-36												13-14
37-38												11-12
39-40												9-10
41-42												7-8
43-44												5-6
45-56												3-4
47-48												1-2

- Self-Return Contact
- Make before Break
- Early-Make Contact
- Late-Break Contact
- Open Contact
- Closed Contact
- Break before Make
- No Interruption during change over

#### Additional notes:

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....



### Customer Info

Name: Sam Ava  
Company: TRS Mfg Co.  
Position: Procurement Dept. officer  
Customer No.: 354217-IR

Tel: +98 21 88504490  
Email: export@trselectrical.com  
Website: trs.co.ir  
Addr: 3rd Fl., No.22, 10th St., Bucharest St., Tehran, Iran

Drawing Date  
12 / 3 / 2018  
Quantity required  
...6000.. Pcs

**Step 1 Series:** T-Series (12-40 Amp)  G-Series (12-630 Amp)  R-Series (12 & 16 Amp)  S-Series  D-Series

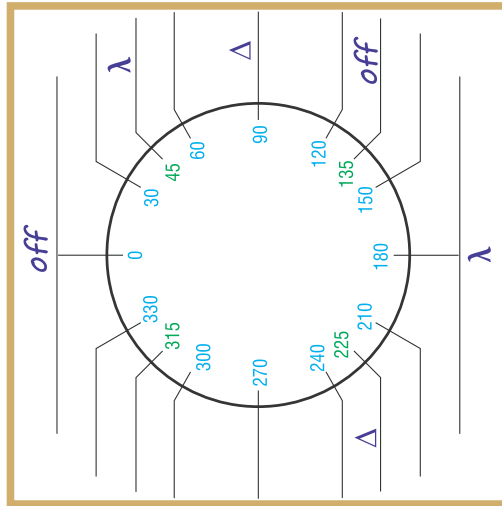
**Step 2 Amp Code:** Please select your required switch current in Amperes.

012	016	025	032	040	050	063	080	100	125	200	250	400	500	630
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

### Step 3 Mounting: Please complete below steps A & B

#### 3.A) Front plate:

Position angles and position text (1 to 3 letters)  
Rotation steps must be 30,45,60 or 90 degrees.

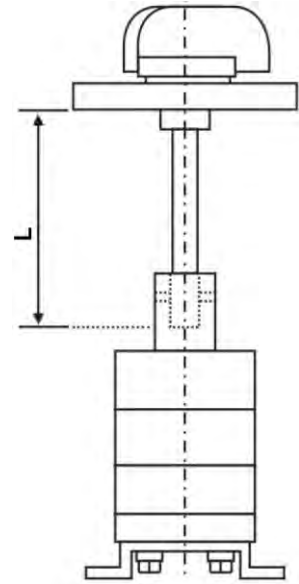


#### 3.B) Mounting Info:

Front  
 Base  
 DIN Rail  
 On Enclosure  
Enclosure code: .....

(Ref to pages 67, 68)

Extended shaft  
Length (L): ...40...mm



### Step 4 Model Selection

T-Series		G-Series	
<input type="checkbox"/> BY1	<input type="checkbox"/> RY1	Knob	<input checked="" type="checkbox"/> Black <input type="checkbox"/> Red
<input type="checkbox"/> BY2	<input type="checkbox"/> RY2	Plate	<input checked="" type="checkbox"/> Black <input type="checkbox"/> Yellow
<input type="checkbox"/> BY3	<input type="checkbox"/> RY3	<input type="checkbox"/> TL	<input type="checkbox"/> GL1
<input type="checkbox"/> BK2	<input type="checkbox"/> RK2	<input type="checkbox"/> TL2	<input type="checkbox"/> GL2
<input type="checkbox"/> BK3	<input type="checkbox"/> RK3	<input type="checkbox"/> LK2	<input type="checkbox"/> GL3
<input type="checkbox"/> BM2	<input type="checkbox"/> RM2	<input type="checkbox"/> LK3	<input type="checkbox"/> GL4
<input type="checkbox"/> BM3	<input type="checkbox"/> RM3	<input type="checkbox"/> LK4	<input type="checkbox"/> GL5
<input type="checkbox"/> BT1	<input type="checkbox"/> RT1	<input type="checkbox"/> DI2	<input type="checkbox"/> LL1
<input type="checkbox"/> BT2	<input type="checkbox"/> RT2	<input checked="" type="checkbox"/> DI3	<input type="checkbox"/> IK2
<input type="checkbox"/> BT	<input type="checkbox"/> RT	<input type="checkbox"/> DI4	<input type="checkbox"/> IK3
<input type="checkbox"/> BP2	<input type="checkbox"/> RP2	<input type="checkbox"/> DI5	<input type="checkbox"/> IK4
<input type="checkbox"/> BP3	<input type="checkbox"/> RP3		
<input type="checkbox"/> BQ2	<input type="checkbox"/> RQ2		
<input type="checkbox"/> BQ3	<input type="checkbox"/> RQ3		

**LL1 Label:**  
In case you have chosen LL1 model above, we can print your required text on the label area.  
.....



## ■ DC Switching

### Making & Breaking of DC (Direct Current)

All of the information and specifications about Cam Switches in this catalogue are concerned with AC (Alternating Current). But TRS Mfg. Co. Cam Switches can be used for DC switching in battery charges DC motors, DC relays, Solenoids and Magnets as well, with some consideration.

Since in DC supply, voltage does not pass through the zero point, in a long period the arc between moving & fixed contacts will heat up the metals of contacts and would result in permanent contact damage. Connecting contacts in series, using Snap Action Latching Mechanism to reduce the time taken for contacts to reach fully opened position, having wide contact distance are factors which can effectively reduce the arc intensity. Electrical life of contact in DC switching is shorter than its electrical life in AC switching. One of the most important factors to choose the appropriate Cam Switch, is maximum number of making & breaking per hour. As the number of making & breaking per hour increases the contacts of the Cam Switch must be stronger.

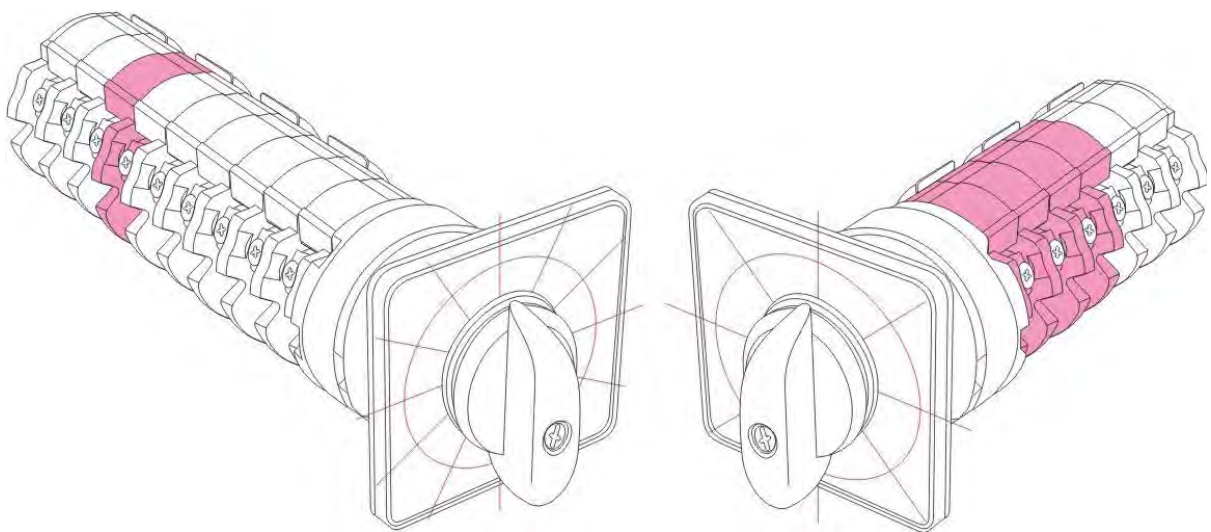
In order to select an appropriate Cam Switch for DC loads, it is important to determine the usage:

1. Only for making of DC loads.
2. Only for breaking of DC loads.
3. For both making and breaking of DC loads.

The DC making capacity is independent from DC voltage value and is much higher than the DC breaking capacity . If the Cam Switch is used for making of DC loads, under no circumstances can be used for breaking of DC loads. Breaking of the circuit must be done by other disconnectors or contactors.

For these Cam Switches which are used for making DC loads there is no necessity to Break DC loads, and as a result ,their contacts should not be connected in series. The DC breaking capacity of a Cam Switch depends on the DC voltage supply, DC load current and the type of load. However in low voltage breaking capacity for DC loads is generally the same as breaking capacity for AC loads. Obviously as the DC voltage increases, the DC breaking capacity decreases.Using Snap Action Latching Mechanism and increasing the distance of contacts in open position are effective factors in breaking capacity of Cam Switches.

Please don't hesitate to contact us in case you need more information about DC switching and choosing the best Cam Switch for DC applications.



Many spare parts can be supplied as accessories for cam switches. Followings are a few:

### Fixing plates:

Metal & plastic fixing plates are suitable for cam switches base mounting.  
DIN adapters are for fixing on standard 35mm DIN rails.



**MK2**



**MK3**



**MK4**



**PK4**



**DK1**

### Shafts:

Extended Shafts in various lengths for interlocking switches.  
Lengths: 175, 300, 500 mm



### Wheel handle:

Black steering wheel for operating G series cam switches.



**GL5**

### Other:

All Knobs and plates introduced in all models can be supplied.



The background of the entire page is a photograph of a factory worker. The worker is wearing safety glasses and is focused on inspecting a component. The scene is filled with rows of similar components, which are cam switches, arranged on a workbench. The lighting is industrial, and the overall color palette is dominated by blues and greys, with a semi-transparent white overlay for the text.

# ENCLOSED CAM SWITCHES

12-630 A



# | Enclosed | Cam Switches

Enclosed  
Cam Switches



## Enclosed Cam Switches

### ■ General features

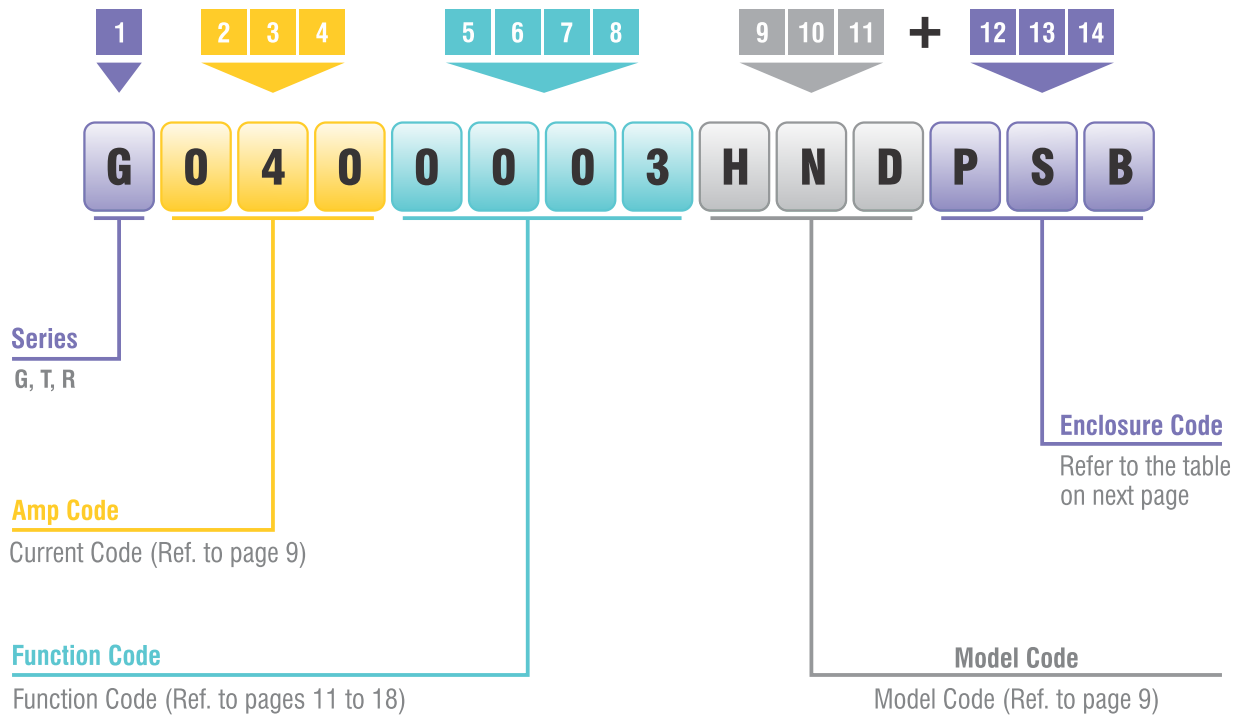
TRS Co. provides many types of enclosed cam switches. These products are very common in operational areas in factories, workshops & etc. and are often used as load break switches, machine controllers or generally as main control switches. In some areas, TRS enclosed switches are used to connect/disconnect, local power/diesel generators to the consumption area in case of network power failure or black out. The general features of these products are:

- ▶ Wide range of application in Industrial facilities
- ▶ Wide range of 12 – 630 A
- ▶ Any TRS cam switch can be used with enclosures
- ▶ Easy and quick installation
- ▶ Water & dust protection: IP40, IP54, IP65
- ▶ Enclosures made of ABS or Metal
- ▶ Glands & grommet installation on any side
- ▶ Other necessary circuitry can be installed inside the enclosure



Each Enclosed cam switch can be defined using a **14 letter code** which is the combination of the Cam switch code and the enclosure code required for it. Enclosure codes are shown in the “Enclosure selection table” on next page.

**Enclosed cam switch code:**                      **Cam switch code (page 10)**                      +                      **Enclosure code (next page)**



Enclosed Cam Switches

**One Exception:**

If you require handle operated cam switch, you have to write “HND” in the above “Model” field.

**Example 1:**

The code **G.032.0003.GL3.PTA** belongs to a G.032.0003.GL3 cam switch mounted on a code “PTA” enclosure.



**Example 2:**

The code **G.040.0003.HND.PSB** belongs to a handle operated G.040.0003 cam switch, mounted on a code “PSB” enclosure.



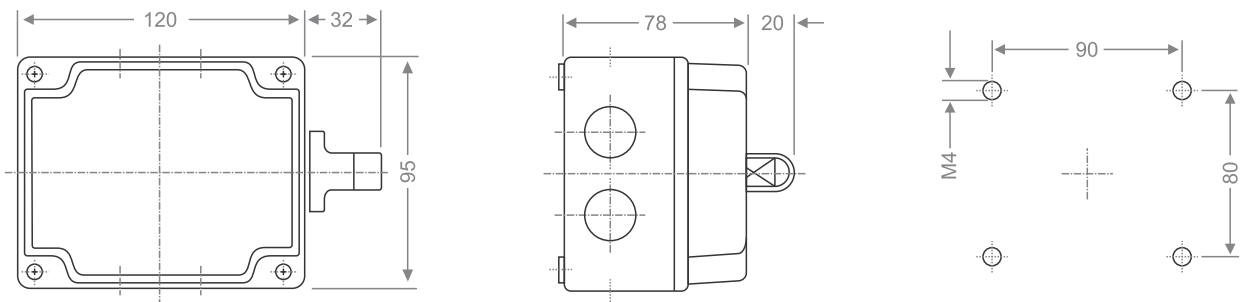
Enclosure Code	Dimensions(mm)	Description	Examples of final products
<b>P S A</b>	120x95x78	ABS Plastic IP 65	
<b>P T A</b>	120x95x78	ABS Plastic IP 65	
<b>P S B</b>	155x117x104	ABS Plastic IP 65	
<b>P S C</b>	184x130x122	ABS Plastic IP 65	



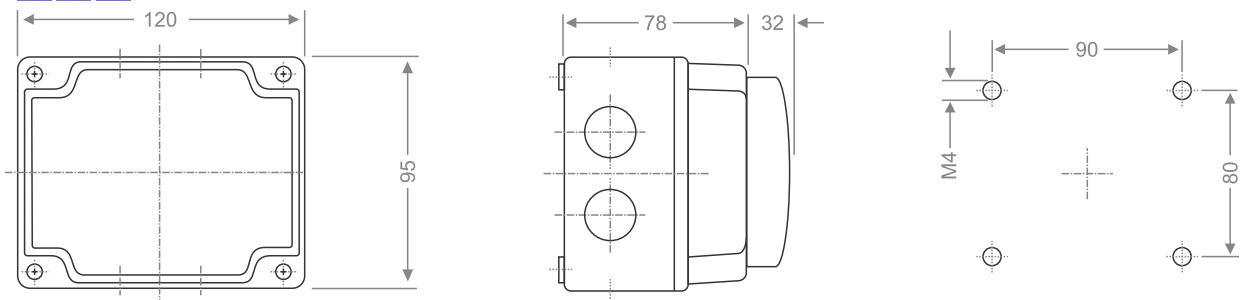
Enclosure Code	Dimensions(mm)	Description	Examples of final products
<p><b>P T C</b></p>	<p>184x130x122</p>	<p><b>ABS Plastic IP 65</b></p>	
<p><b>M S D</b></p>	<p>350x250x190</p>	<p><b>Metal enclosure IP 54</b></p>	
<p><b>M S E</b></p>	<p>520x400x220</p>	<p><b>Metal enclosure IP 54</b></p>	

Enclosed  
Cam Switches

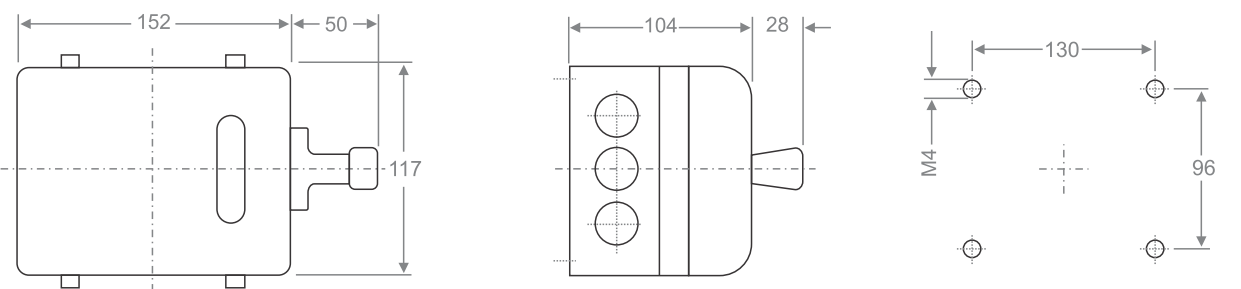
**P S A**



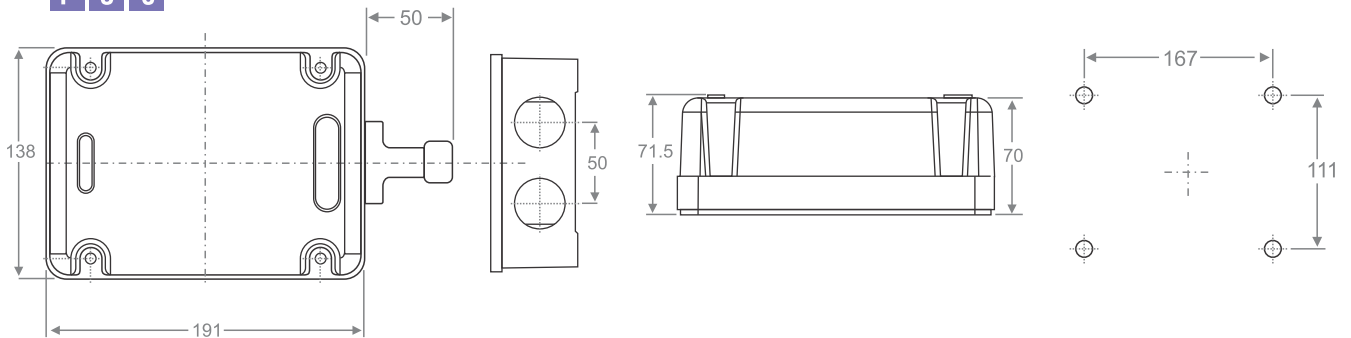
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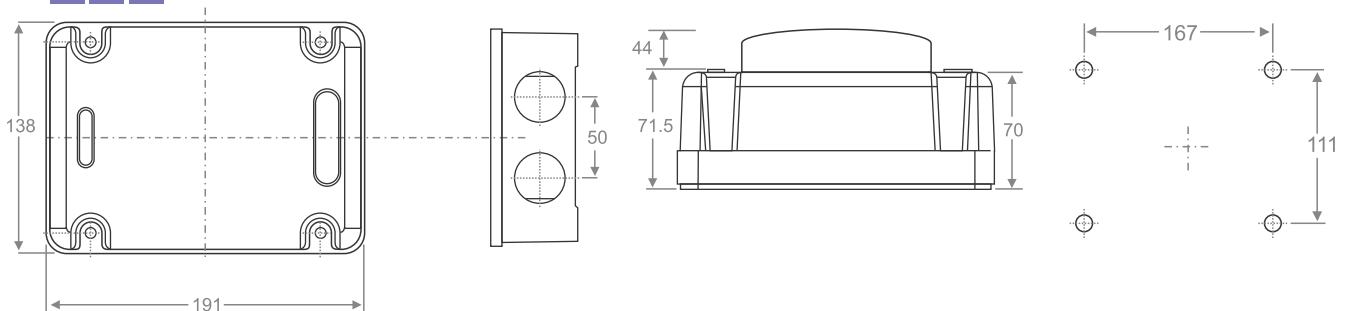
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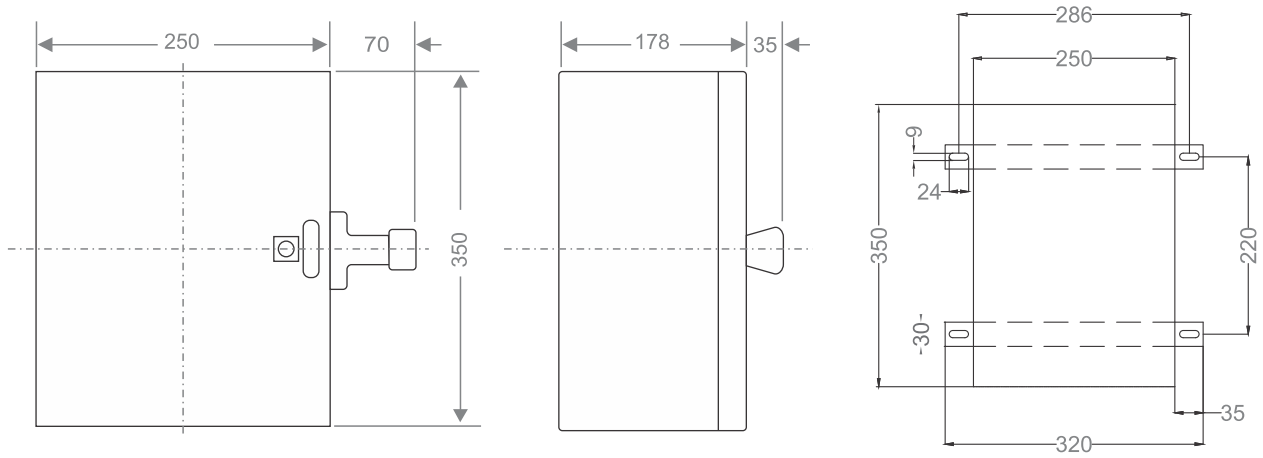
**P S C**



**P T C**

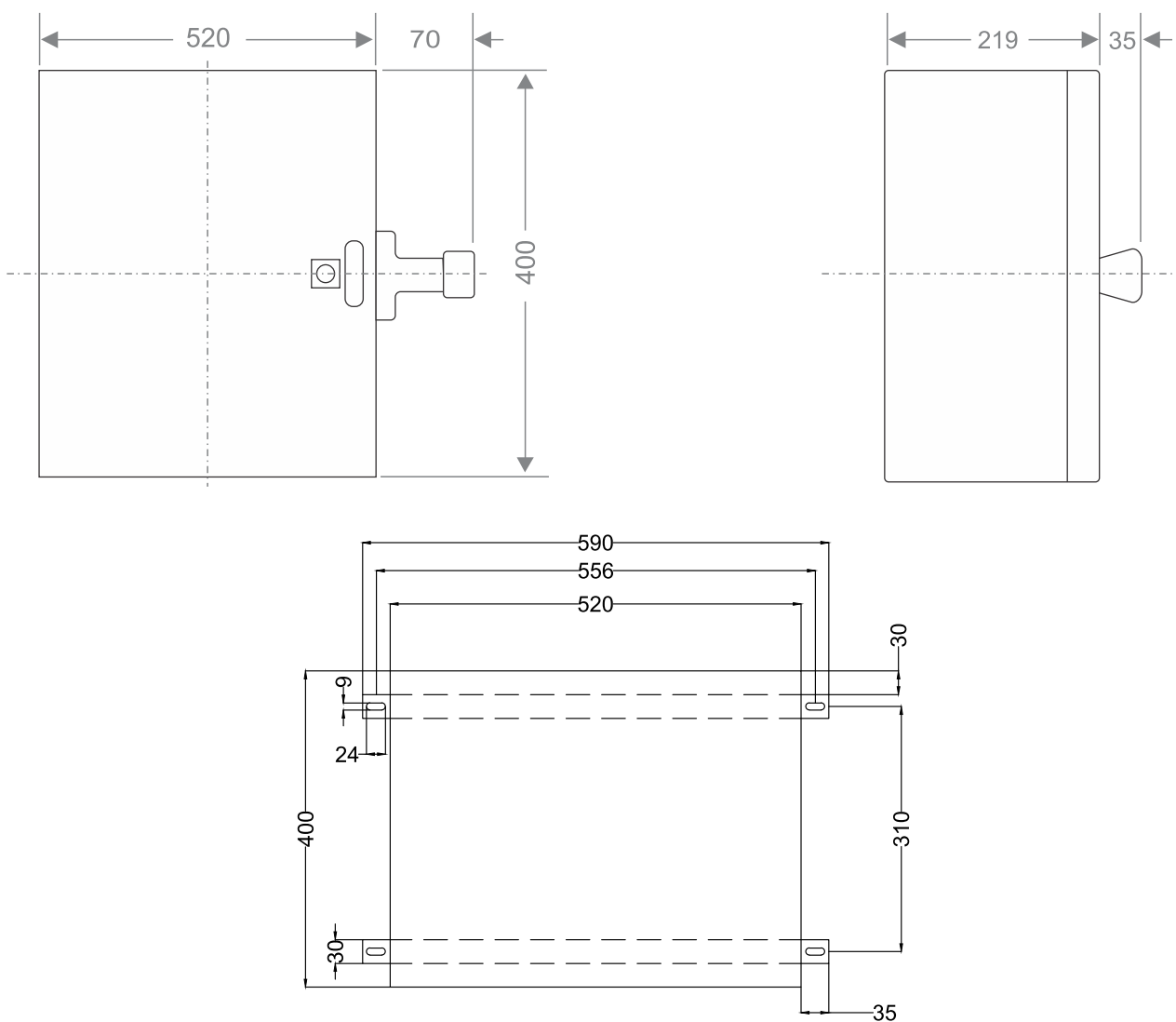


M S D



Enclosed  
Cam Switches

M S E





**SERIES**

**DISCREPANCY**  
Cam Switches





# Discrepancy Cam Switches (D Series)



## Discrepancy Switches (D Series)

### General features

The discrepancy control switch is used in switch gear installations for controlling circuit breakers and isolating switches as well as for displaying and monitoring their switching positions in mimic diagrams. When the switch symbol lights up, it is indicated that the position of the control discrepancy switch does not coincide with that of the associated circuit breaker or isolating switch.

Discrepancy switches are also used to control and monitor the trip indicators of switches and circuit breakers equipped with remote control as well as to send short impulses, especially for the remote control of meters, solenoid valves etc. These switches are widely used in MV switchgear installations and in railway transportation control systems.

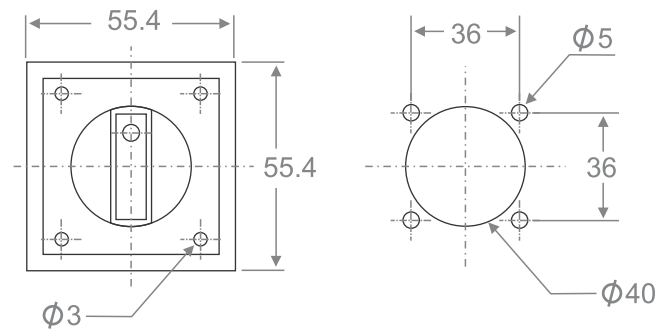
**TRS Co. is the first and only manufacturer of discrepancy cam switch in Iran**

- ▶ Modular design makes it easy to extend switch stages
- ▶ Body made of anti-flame polyamide (VL94 degree class V-0)
- ▶ Electrical terminal section protection degree: IP20
- ▶ Enclosure and switch plate section protection degree: IP40
- ▶ Conformity with IEC60947/EN60947
- ▶ Tested and confirmed by NRI\*.
- ▶ Double break bimetal contacts made of copper and silver alloy.
- ▶ Silver alloy-copper contacts
- ▶ Terminal screw are equipped with self raising washers to facilitate wiring
- ▶ Easy installation and wiring
- ▶ Optional lockable switch plate (Using switch key or release button)
- ▶ Compatible with operation voltage ratings: 24,48, 110, 220
- ▶ Compact design and proper dimensions
- ▶ Reasonable price
- ▶ Fast delivery
- ▶ Possibility to modify or customize the switch design and function based on customer needs. Please contact us for customized designs.

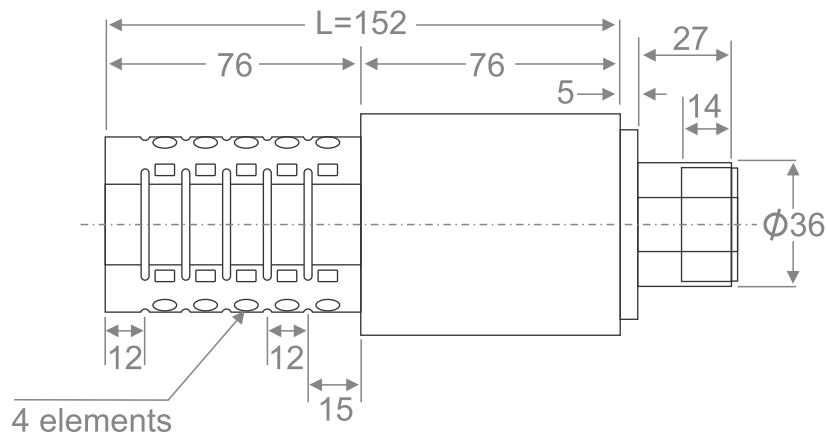
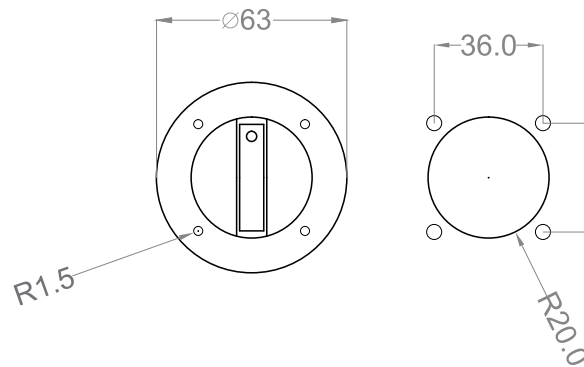




**Square Type:**



**Round Type:**



D Series								
No. of Stages	1	2	3	4	5	6	7	8
L (mm)	116	128	140	152	164	176	188	200

## Specifications

Rated insulation voltage (Ui)	690 V
Rated current-carrying capacity (Ith)	20 A
Max wire size	5.5 mm <sup>2</sup>
Screw size	M4x9
Withstand voltage	2,500 Vac / 1 min
Rated impulse withstand voltage	4 kV
Contact resistance	50 m ohm max.
Mechanical life	500,000 operations or more
Electrical life	100,000 operations or more
Shock resistance	500m/s <sup>2</sup> or more (in 6 directions) (Contact part: 300m/s <sup>2</sup> )
Vibration resistance	Vibration range: 10 to 150Hz, Acceleration: 20m/s <sup>2</sup> , Time: 1 hour (in 3 directions)
Min, applicable load	5V AC / 500mA, 5V DC / 100mA (in suitable operating conditions)
Operating temperature	- 20 to 60°C
Storing temperature	- 40 to 70°C
Altitude	2,000 m max.

AC			DC				
Rated operating voltage (V)	Rated operating current Resistance load (A)	Rated operating current Inductive load (A)	Rated operating voltage (V)	Rated operating current Resistance load (A)	Rated operating current Inductive load (A)	2 contacts in series connection Rated operating current Resistance load (A)	2 contacts in series connection Rated operating current Inductive load (A)
110	20	15	24	15	10	20	20
220	15	10	48	10	6	18	15
440	4	3	110	3	1.5	4.5	4
-	-	-	220	1.2	0.8	2	1.5

\*Inductive load AC: power factor 0.6 to 0.7  
DC: Time constant 40±6ms

## EN60947 / IEC60947 STANDARD CONFORMABLE RATINGS

### (1) Standard operating conditions

No.	Item	Condition	Remarks
1	Ambient temperature	-5 to 40°C	IEC60947-1 6.1.1
2	Humidity	50% (at maximum temperature 40°C), Less than 90% (at other temperature 20°C)	IEC60947-1 6.1.3
3	Altitude	2000 m max.	IEC60947-1 6.1.2

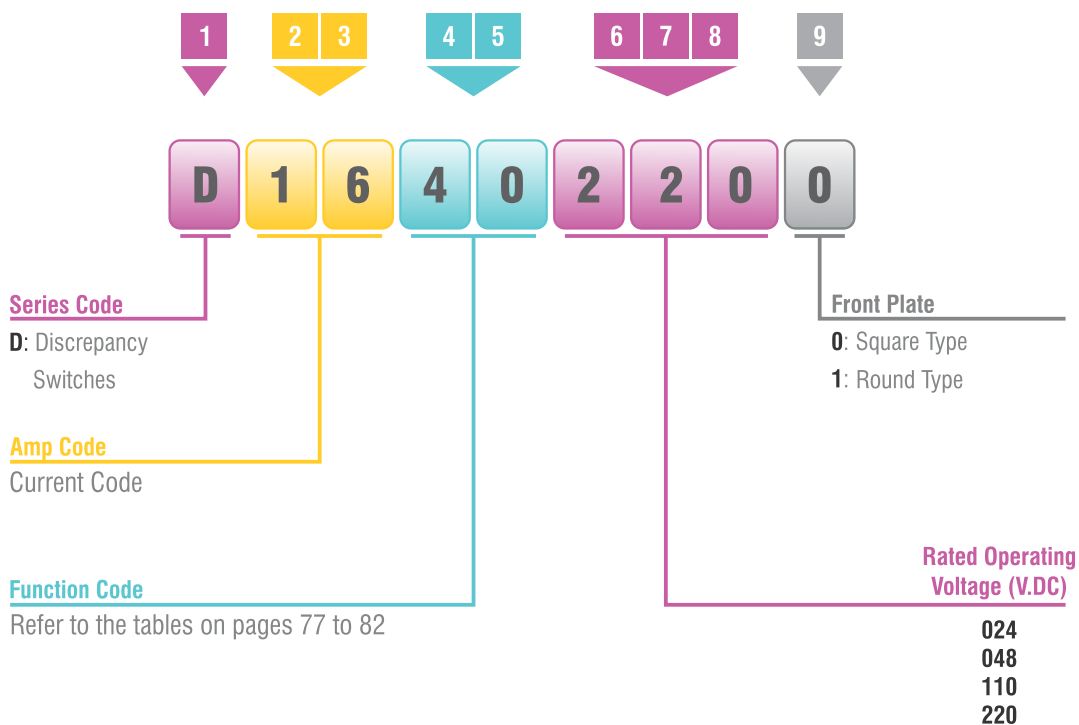
### (2) Rating

No.	Item	Condition	Remarks
1	Overvoltage class	III	IEC60664-1 2.2.2.1.1
2	Pollution degree	Level 3	IEC60947-5-1 6.1.3.2
3	Rated insulation voltage (Ui)	690 V	IEC60947-1 4.3.1.2
4	Rated impulse withstand voltage (Uimp)	4 kV	IEC60947-1 4.3.1.3
5	Operating load class Rated operating current (Ie) Rated operating voltage (Ue) *Electrical durability	Name	IEC60947-5-1 Annex A
		Operating load class	
		Ue(V)	
		Ie(A)	
6	Rated frequency	50 / 60 Hz	IEC60947-5-1 4.3.3
7	Customary free air heat current (Ith)	20 A	IEC60947-1 4.3.2.1
8	Maximum rating of short-circuit protection device	20 A	IEC60947-5-1 8.3.4.3
9	Short-circuit current under rated conditions	1,000 A (cosphi=1)	IEC60947-5-1 4.3.6.4
10	Mechanical durability	100,000 operation or more	60947-5-1 Annex1C C.2



## ■ discrepancy cam switches (D Series) Code

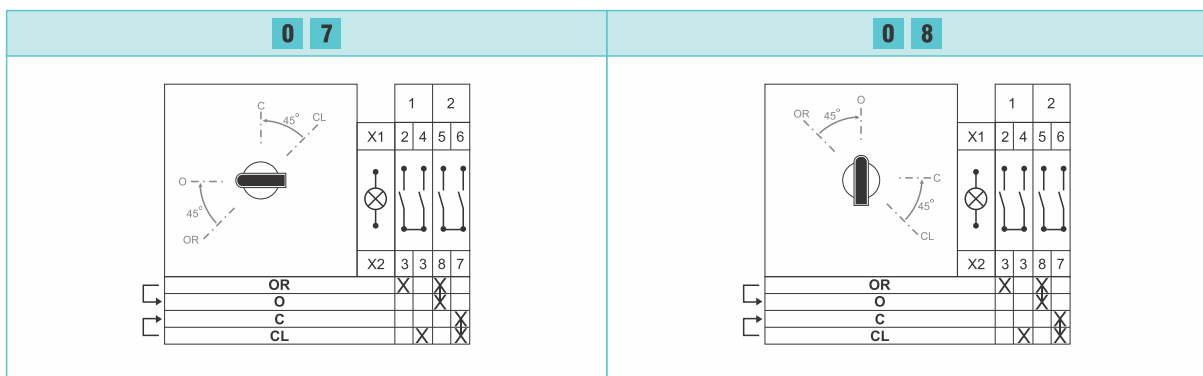
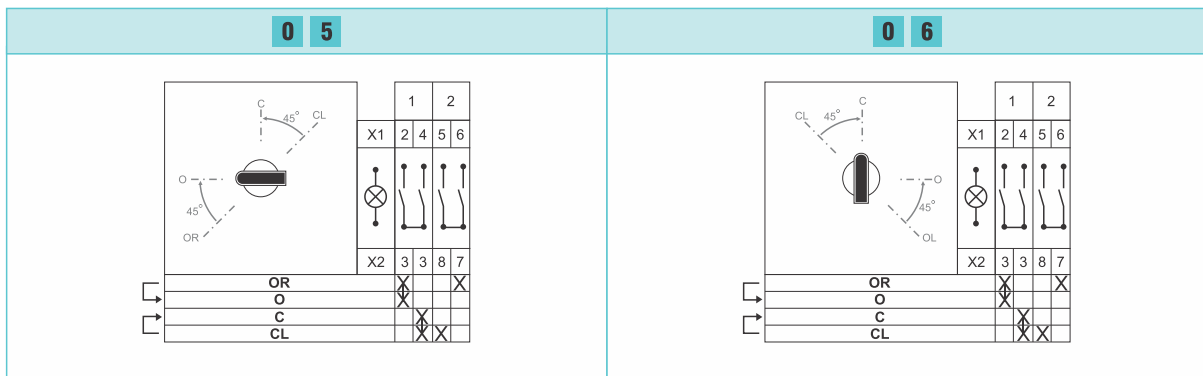
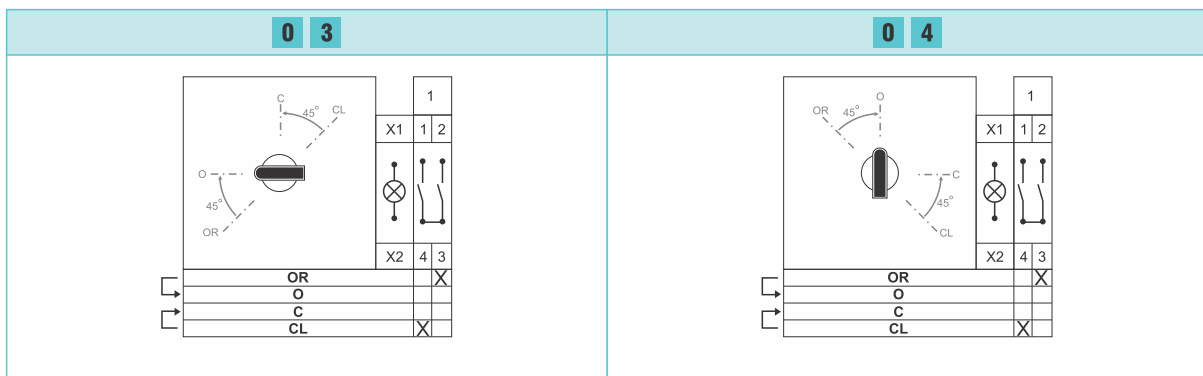
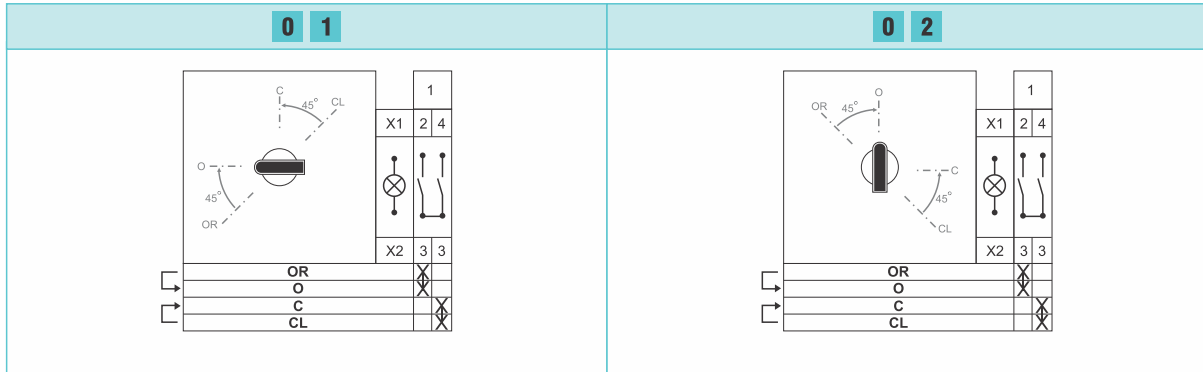
Each discrepancy cam switch is defined using a unique 9 digit code:



Discrepancy Switches (D Series)

### Example:

The code, **D.16.40.220.0** belongs to a Discrepancy Switch with 16 Amp rated current, 220 volt rated DC voltage with a square type front plate and functioning according to function diagram no. 040.



0 9		1 0																			
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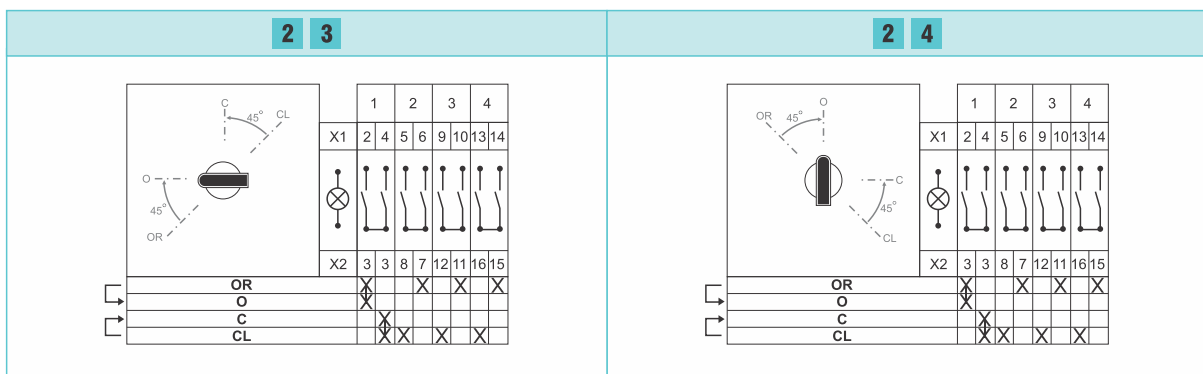
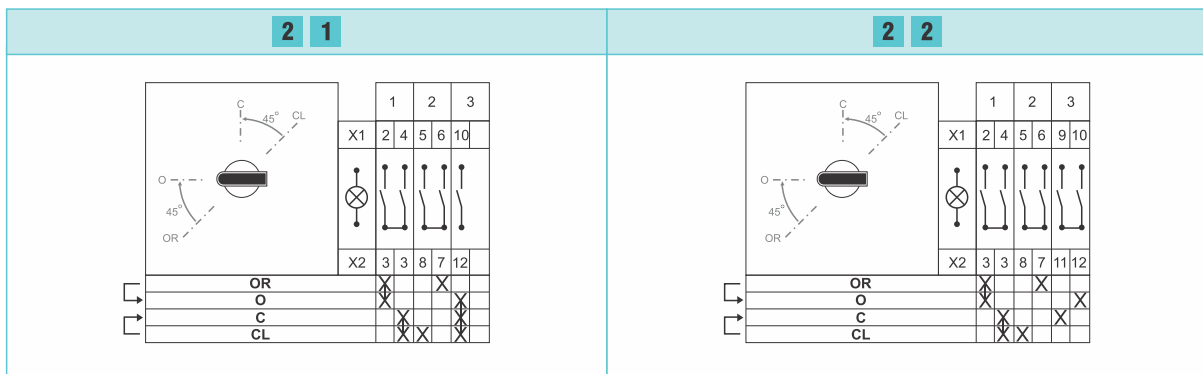
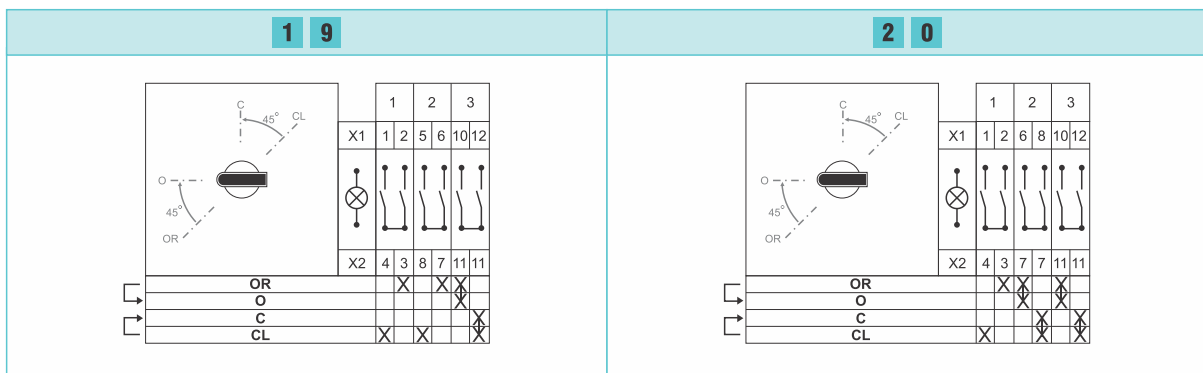
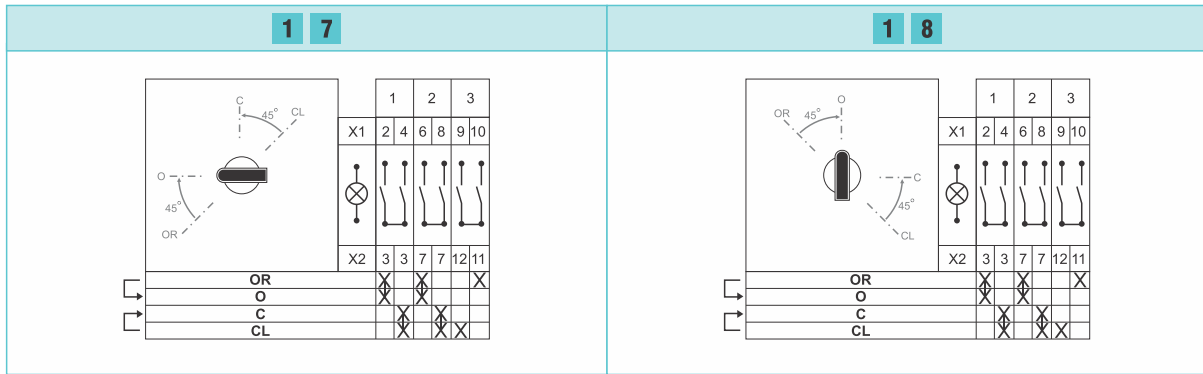
  

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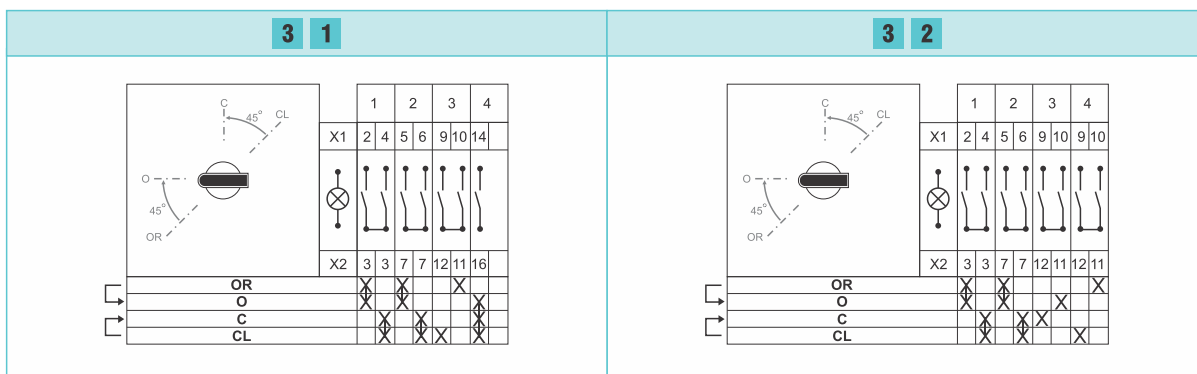
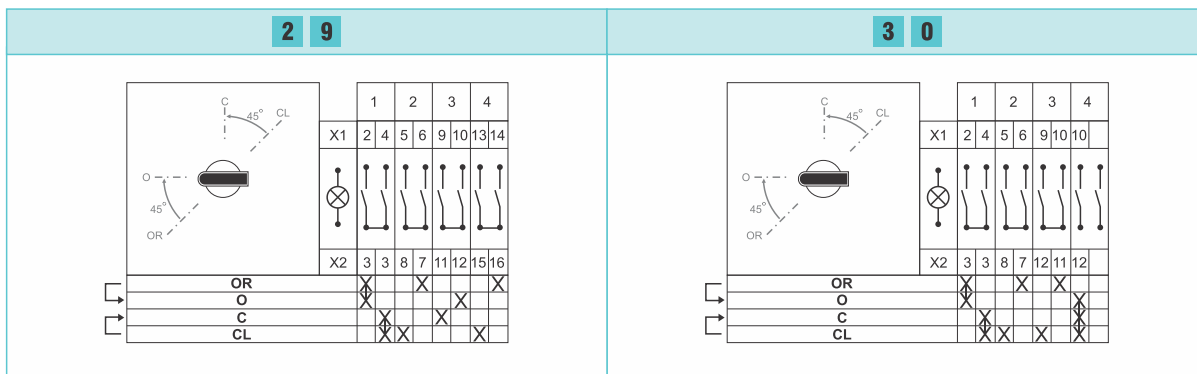
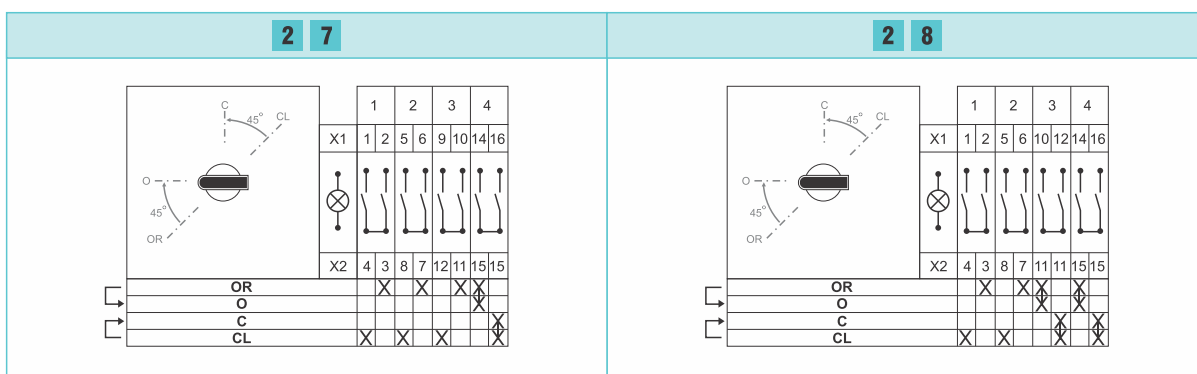
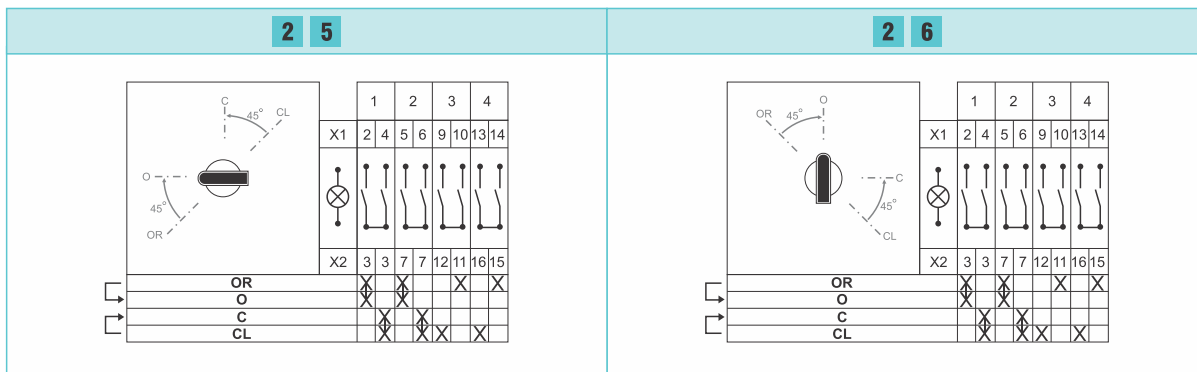
  

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O	X																						
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Discrepancy Switches (D Series)

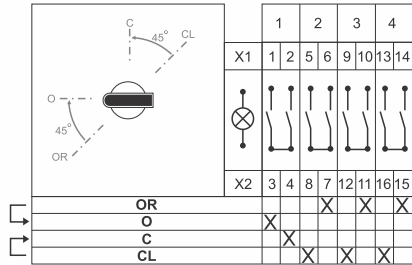




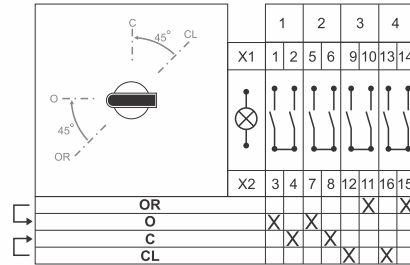


Discrepancy Switches (D Series)

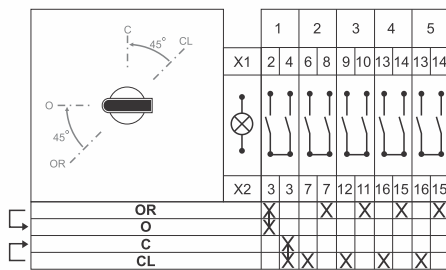
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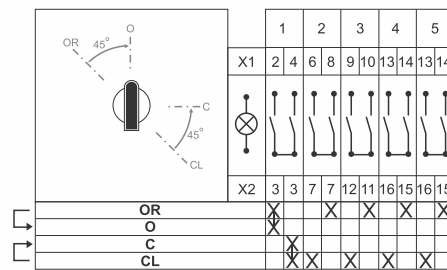
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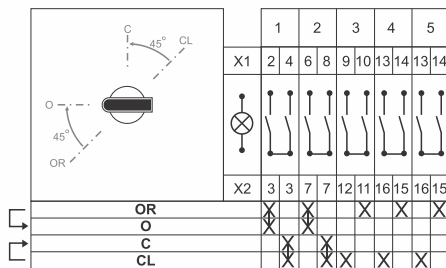
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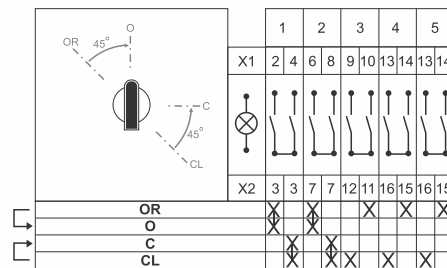
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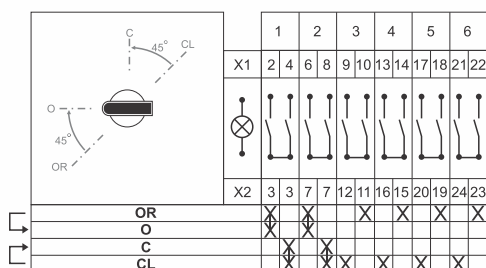
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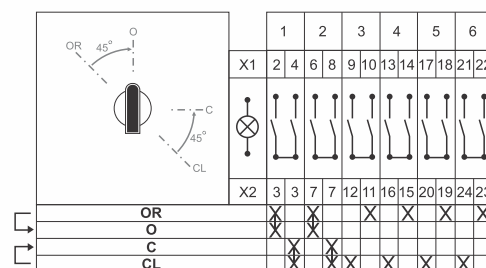
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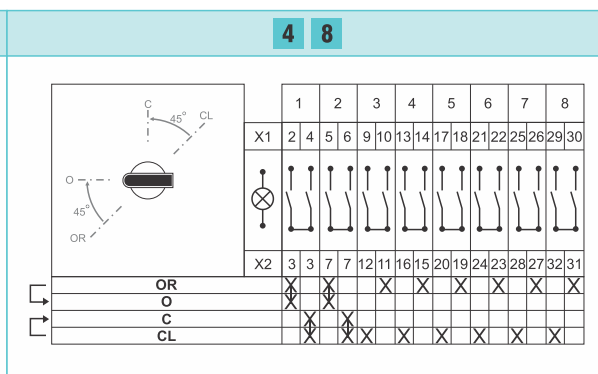
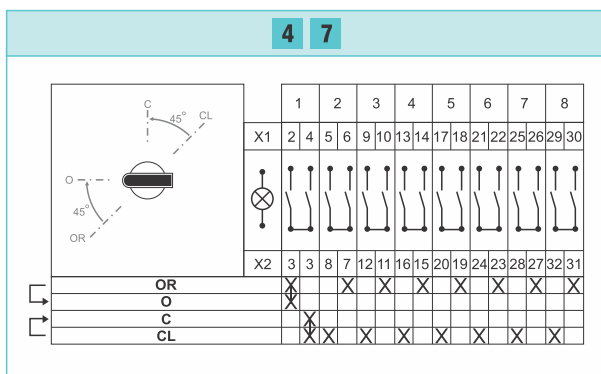
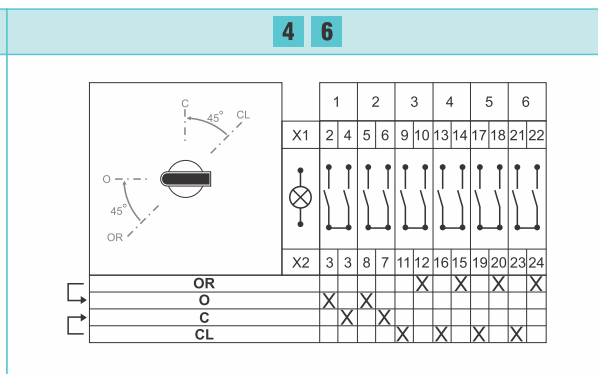
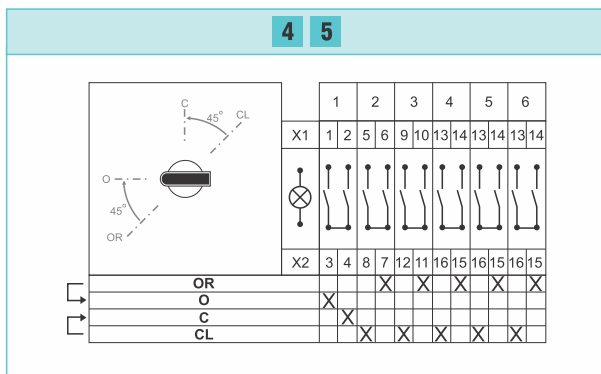
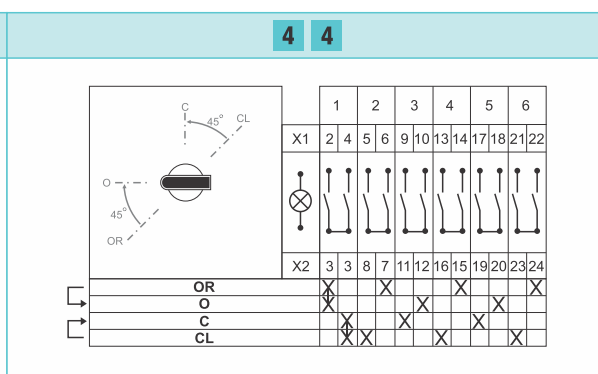
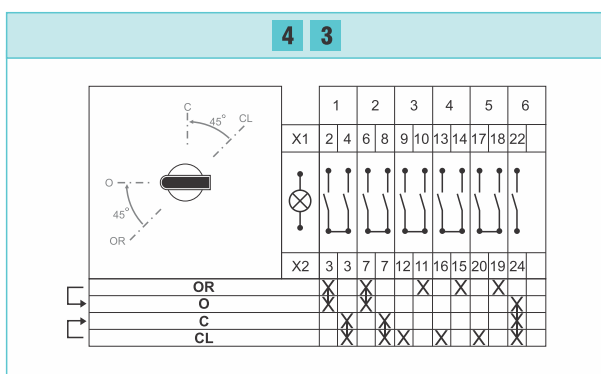
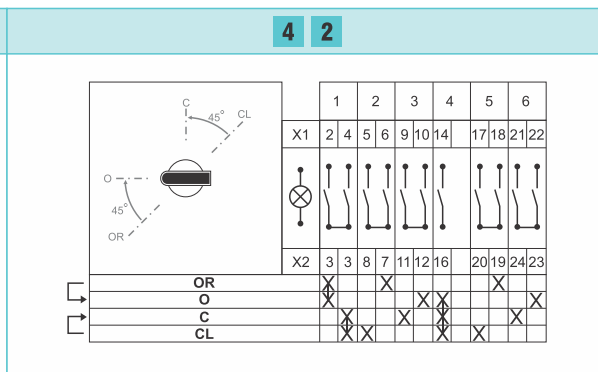
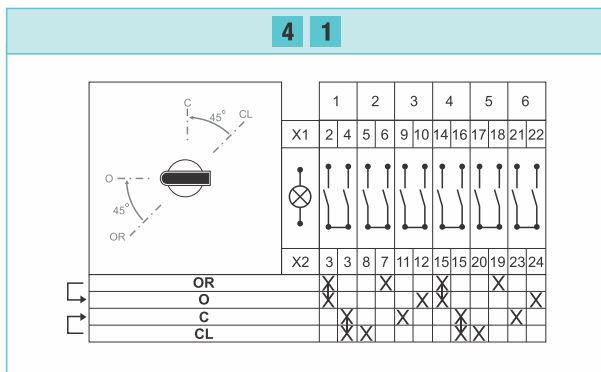


**3 9**



**4 0**







**SERIES**

**COMPACT**  
Selector Switches





# Compact Selector Switches (S Series)





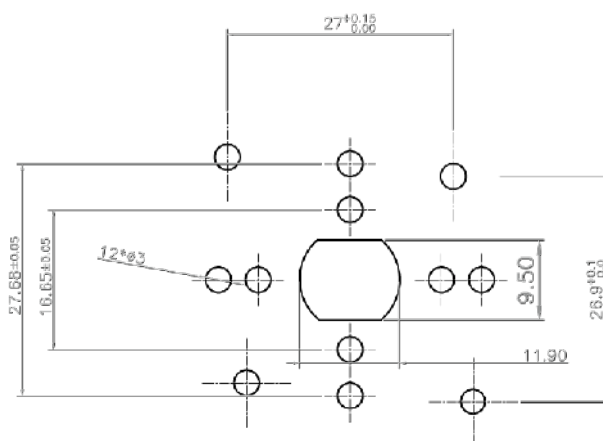
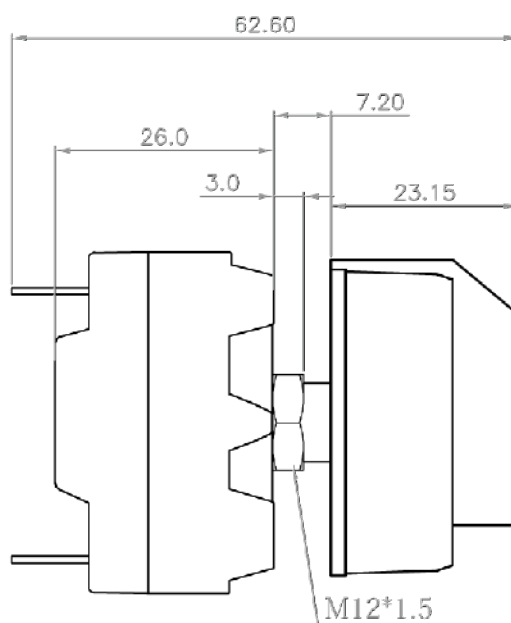
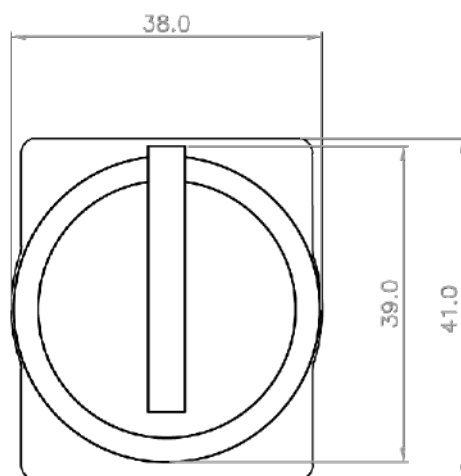
## Compact Selector Switches (S Series)

### ■ General features

These series of cam switches are suitable for home appliances such as ovens, fans, chicken roasters, etc. This product is designed to be compact and easy for installation and wiring. Other features of these products are:

- ▶ Body material is fibered reinforced polyamide with high mechanical, electrical and thermal resistance
- ▶ Bimetal (copper-silver alloy) contact rivets
- ▶ Terminals made of Tin coated brass
- ▶ Conformity with IEC947-2 (AC3 16A & AC1 25A)
- ▶ Installable by side or front using screws
- ▶ Clock Wise and Counter Clock Wise functions
- ▶ Plastic or metal shaft based on customer request
- ▶ Highly customizable based on customer requirements
- ▶ Possibility to modify or customize the switch design and function based on customer needs. Please contact us for customized designs.

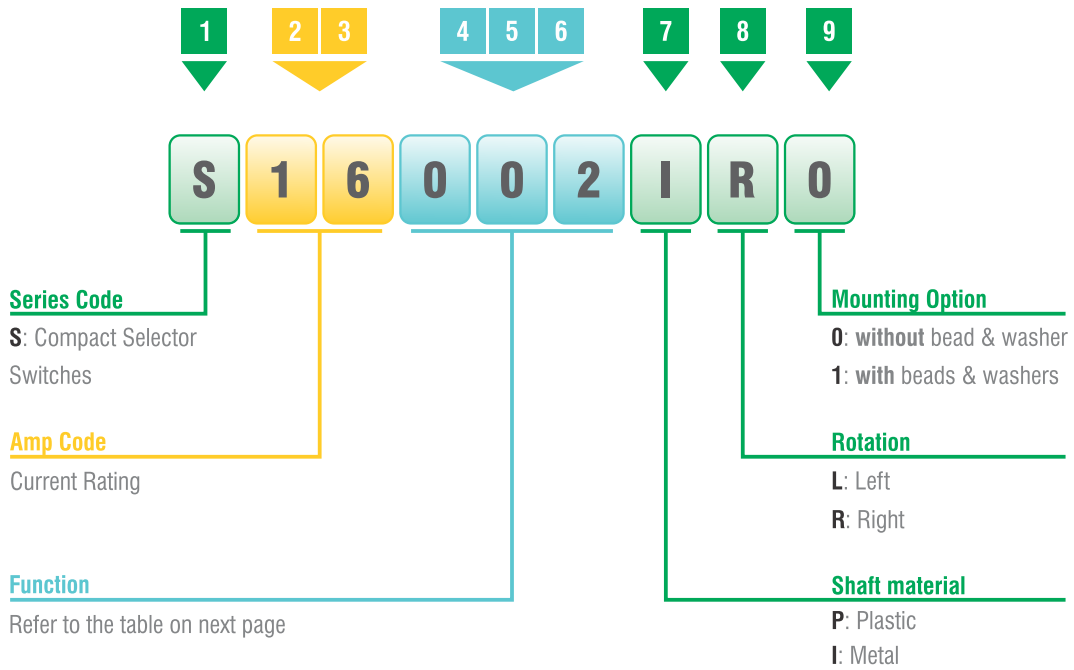




Compact Selector  
Switches (S Series)

## Compact selector switch coding system:

Each Compact selector switch is defined using a unique 9 digit code:



### Example:

The code **S.16.002.I.R.0** belongs to a compact selector switch with 16 ampere current, 002 function, metal shaft, right side rotating handle without bead and washer



# Most common models



No.	Product Code	Positions and rotation characteristics	Stages and Contacts arrangement	Current (A)	Function Code	Shaft	Mounting with bead & washer																																																																																
1	S.016.0001.I.R.0		<table border="1"> <tr><td>Position</td><td>1</td><td>X</td><td></td><td></td><td></td></tr> <tr><td></td><td>0</td><td></td><td></td><td></td><td></td></tr> <tr><td>Stage</td><td></td><td>1</td><td></td><td>2</td><td></td></tr> <tr><td>Contact</td><td>1-2</td><td>3-4</td><td>5-6</td><td>7-8</td><td></td></tr> </table>	Position	1	X					0					Stage		1		2		Contact	1-2	3-4	5-6	7-8		1.6	001	Metal	NO																																																								
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Compact Selector Switches (S Series)





# ENCLOSED PUSH BUTTONS





# ENCLOSED PUSH BUTTONS



Enclosed  
Push buttons

## Enclosed Push buttons

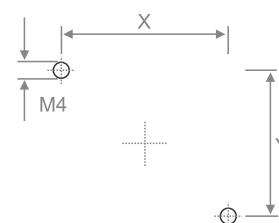
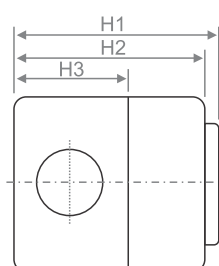
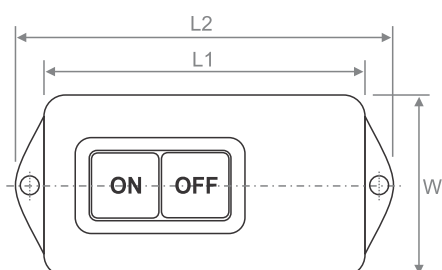
### ■ General features

- ▶ Enclosed push buttons for 10, 15, 30 Amps, 2 poles or 3 poles, 380 VAC, 50 Hz
- ▶ Best economic solution for connecting/disconnecting various loads of 1 or 3 phase, up to 30 Amps.
- ▶ Suitable for resistive loads, motor loads, homes, workshops, lighting switches, and so on.
- ▶ ISIRI standard in AC21 utilization category (No. 4835-1 & 4835-3) and CE
- ▶ Two glanded areas for cable on two sides
- ▶ Proper dimensions and easy to install
- ▶ Enclosure made of fiber reinforced polyamide and resistant to flames
- ▶ No relays used
- ▶ IP54 enclosure protection against dust and water
- ▶ Double contacts using bimetal (Copper-Silver alloy) contact rivets



## Technical Specifications:

All technical specifications, mechanical drawings, ordering codes are included below:



Part No.		380VAC AC21	Dimensions(mm)							
2 Pole	3 Pole		L1	L2	W	H1	H2	H3	X	Y
PB2P10	PB3P10	10A	86	102	48	51	47	24	70	30
PB2P15	PB3P15	15A	86	102	54	57	53	30	70	36
PB2P30	PB3P30	30A	103	123	63	58	54	32	85	43

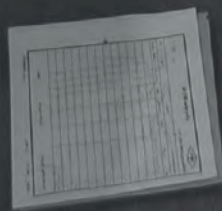
Enclosed Push buttons





# MICRO SWITCHES

MA Series  
MB Series



# Micro Switches MA & MB Series

## MB Series

Dimensions: 50x20x17 mm

13 Models



## MA Series

Dimensions: 28x16x10 mm

8 Models



## Micro Swithes(MA Series)

### General features

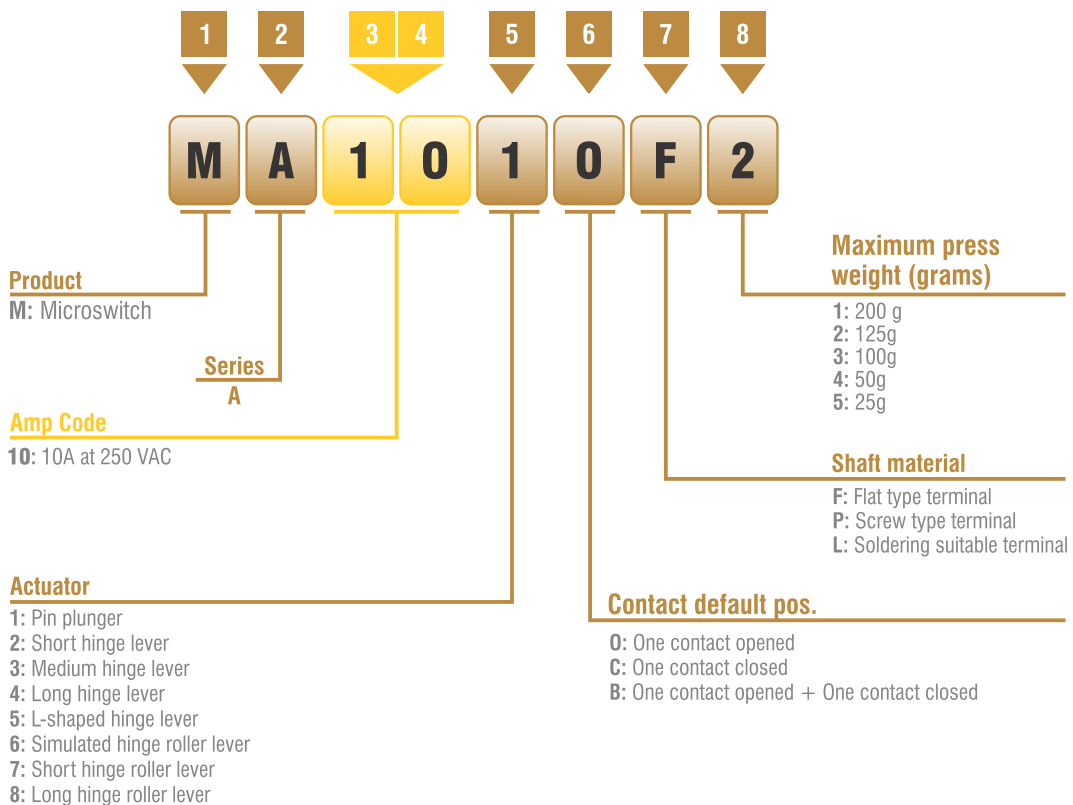
- ▶ Approx. Dimensions: 28x16x10 mm
- ▶ 8 Various models witch different actuator models
- ▶ Self cleansing contacts made of Copper-Silver alloy
- ▶ Body made of anti flame polyamide with high electrical, thermal and mechanical resistivity
- ▶ Tin coated brass terminals
- ▶ Two installation possibilities, Side and Top
- ▶ Easy installation, suitable packing, quick delivery

	Technical data
Operating frequency*	0.5 to 1.0 (mm/sec)
Breaking capacity	600 ops. per min. without load. 30 ops. Per min. with load.
Contacts resistance (Initial value)	Max 50 mΩ (125gr operation press weight) (Resistance increases with lower operation press weight in models.)
Dielectric Strength	1000VAC, 50 Hz, between terminals of same polarity 200VAC, 50Hz, Between current carrying metal parts and ground 200VAC, Between each terminal and non-current carrying metal part
Shock resistance	Destruction at 400 m/sec <sup>2</sup> Malfunction at 100 m/sec <sup>2</sup> Correct operation at lower shock acceleration
Electrical shock protection	Class A
Life	10,000,000 breakings without load 100,000 breakings with load
Degree of Protection	Ip40
Ambient operating temperature	-28 to +85 degrees Celsius degrees
Ambient operation humidity	Max 85% (+5 to +35 degrees Celsius degrees)
Weight* (Gram)	6.2

\*. For models with pin plunger actuator

In order to understand the product model numbers, please view the bellow guide.

**Each model is defined by an eight letter code described below:**



# MA Series Most common models

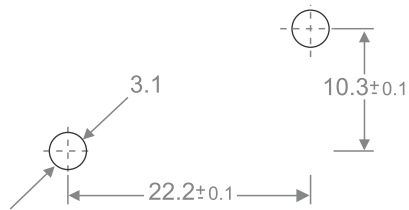


Picture	Model number	Product Description				Model Symbol
		Contacts no.	Actuator	Terminal type	Current (A)	
	MA-10 1-OF2	1 NO	Pin plunger	Flat	1 0	
	MA-10 1-CF2	1 NC				
	MA-10 1-BF2	1 NO + 1 NC				
	MA-10 2-OF2	1 NO	Short hinge lever	Flat	1 0	
	MA-10 2-CF2	1 NC				
	MA-10 2-BF2	1 NO + 1 NC				
	MA-10 3-OF2	1 NO	Medium hinge lever	Flat	1 0	
	MA-10 3-CF2	1 NC				
	MA-10 3-BF2	1 NO + 1 NC				
	MA-10 4-OF2	1 NO	Long hinge lever	Flat	1 0	
	MA-10 4-CF2	1 NC				
	MA-10 4-BF2	1 NO + 1 NC				
	MA-10 5-OF2	1 NO	L-shaped hinge lever	Flat	1 0	
	MA-10 5-CF2	1 NC				
	MA-10 5-BF2	1 NO + 1 NC				
	MA-10 6-OF2	1 NO	Simulated hinge roller lever	Flat	1 0	
	MA-10 6-CF2	1 NC				
	MA-10 6-BF2	1 NO + 1 NC				
	MA-10 7-OF2	1 NO	Short hinge roller lever	Flat	1 0	
	MA-10 7-CF2	1 NC				
	MA-10 7-BF2	1 NO + 1 NC				
	MA-10 8-OF2	1 NO	Long hinge roller lever	Flat	1 0	
	MA-10 8-CF2	1 NC				
	MA-10 8-BF2	1 NO + 1 NC				

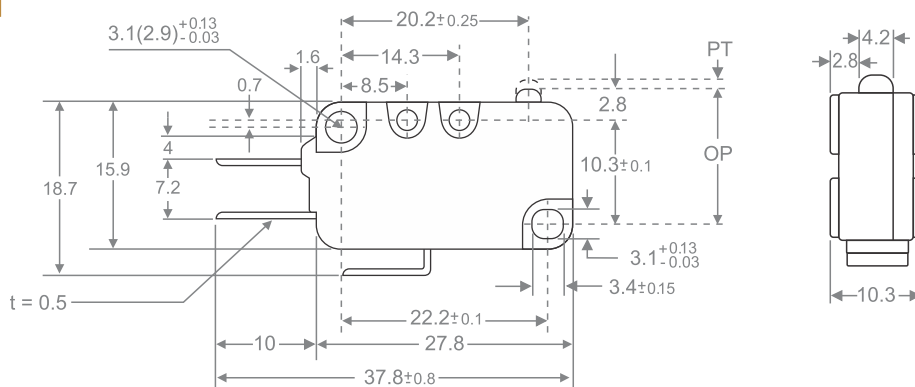
Models introduced above have 16A contacts and 125 g press weight which is the most commonly used configuration. If you desire a special design, please contact us.

## ■ Drilling Guide

Two 3.1mm holes suitable for M3 size screw.  
**(For all MA series)**  
 Screw tightening torque is approx. 4 to 6 N/m.

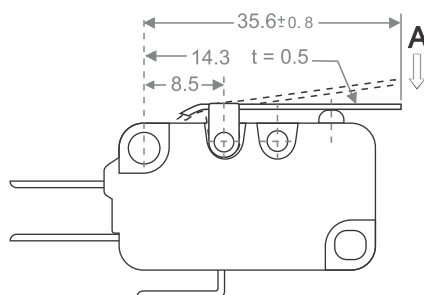


### MA 10 1 xxx

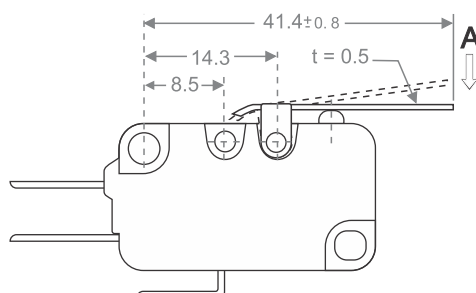


For the rest of the models the switch body dimensions are the same and only the actuator dimensions are shown.

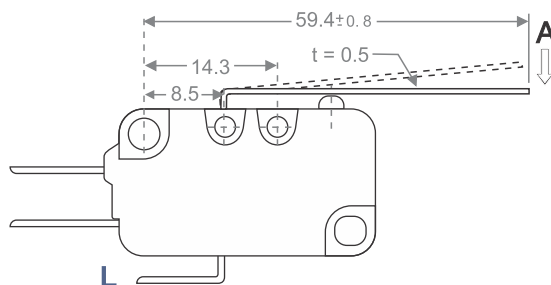
### MA 10 2 xxx



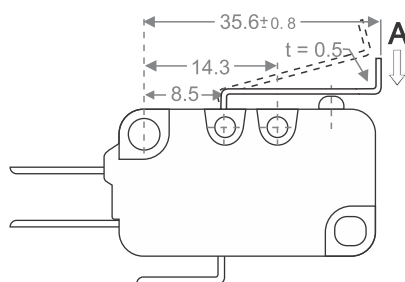
### MA 10 3 xxx



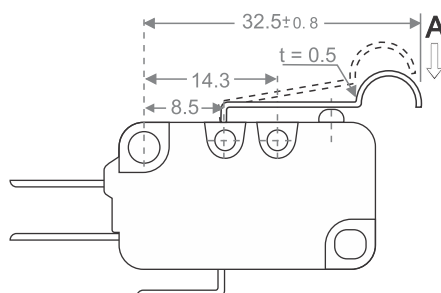
**MA 10 4 xxx**



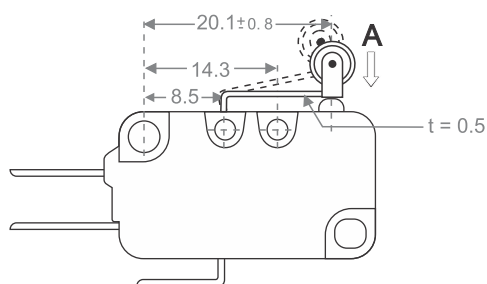
**MA 10 5 xxx**



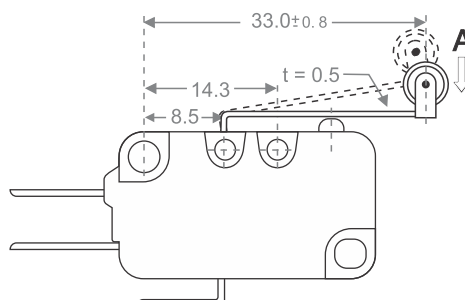
**MA 10 6 xxx**



**MA 10 7 xxx**



**MA 10 8 xxx**





## Micro Swithes(MB Series)

### General features

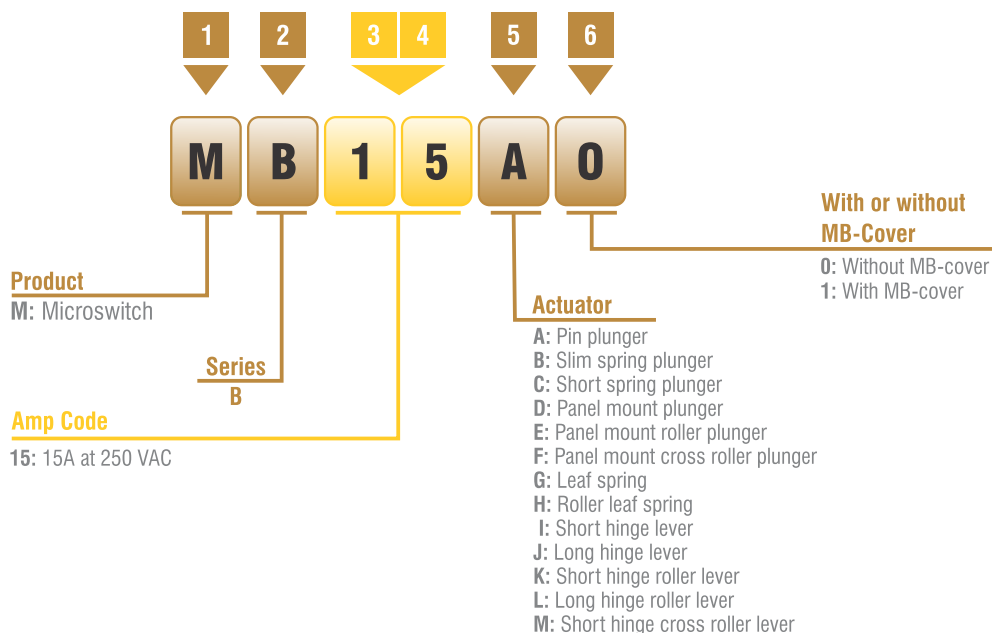
- ▶ Approx. Dimensions: 50x20x17 mm
- ▶ 13 Various models witch different actuator models
- ▶ Copper-Silver alloy contacts. Can also be delivered witch Gold coated contacts.
- ▶ Body made of Thermoset material (Bakelite) with high electrical, thermal and mechanical resistivity
- ▶ Screw-type terminals
- ▶ Two installation possibilities, Side and Top (suitable for panel mounting)
- ▶ Easy installation, suitable packing, quick delivery
- ▶ Optional Terminal Cover (MB-Cover, Ref. to page 104) to raise protection degree to IP62

	Technical data
Operating frequency*	1 to 1000 (mm/sec)
Breaking capacity	120 ops. per min. without load. 20 ops. Per min. with load.
Contacts resistance (Initial value)	Max 15 m $\Omega$ (125gr operation press weight) (Resistance increases with lower operation press weight in models.)
Dielectric Strength	1000VAC, 50 Hz, between terminals of same polarity
Shock resistance	Destruction at 1000 m/sec <sup>2</sup> Malfuction at 50 m/sec <sup>2</sup> Correct operation at lower shock acceleration
Electrical shock protection	Class A
Life	1,000,000 breakings without load 100,000 breakings with load
Degree of Protection	IP00 IP62 (with MB-Cover)
Ambient operating temperature	-25 to 80 Celsius degrees -15 to 80 Celsius degrees (with MB-cover)
Ambient operation humidity	max 85% (-25 to 80 Celsius degrees) max 95% (-15 to 80 Celsius degrees) (with MB-cover)
Weight* (Gram)	42-48

\*. For models with pin plunger actuator

In order to understand the product model numbers, please view the bellow guide.

**Each model is defined by a six letter code described below:**



# MB Series Model Selection Table



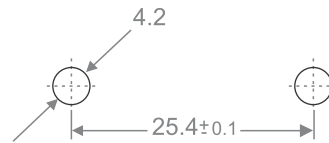
Picture	Model number	Product Description				Model Symbol
		Contacts no.	Actuator	Terminal type	Current (A)	
	<b>MB15A0</b>	1 NO + 1 NC	Pin plunger	Flat	<b>1 5</b>	
	<b>MB15A1</b>					
	<b>MB15B0</b>	1 NO + 1 NC	Slim spring plunger	Flat	<b>1 5</b>	
	<b>MB15B1</b>					
	<b>MB15C0</b>	1 NO + 1 NC	Short spring plunger	Flat	<b>1 5</b>	
	<b>MB15C1</b>					
	<b>MB15D0</b>	1 NO + 1 NC	Panel mount plunger	Flat	<b>1 5</b>	
	<b>MB15D1</b>					
	<b>MB15E0</b>	1 NO + 1 NC	Panel mount roller plunger	Flat	<b>1 5</b>	
	<b>MB15E1</b>					
	<b>MB15F0</b>	1 NO + 1 NC	Panel mount cross roller plunger	Flat	<b>1 5</b>	
	<b>MB15F1</b>					
	<b>MB15G0</b>	1 NO + 1 NC	Leaf spring	Flat	<b>1 5</b>	
	<b>MB15G1</b>					
	<b>MB15H0</b>	1 NO + 1 NC	Roller leaf spring	Flat	<b>1 5</b>	
	<b>MB15H1</b>					
	<b>MB15I0</b>	1 NO + 1 NC	Short hinge lever	Flat	<b>1 5</b>	
	<b>MB15I1</b>					
	<b>MB15J0</b>	1 NO + 1 NC	Long hinge lever	Flat	<b>1 5</b>	
	<b>MB15J1</b>					
	<b>MB15K0</b>	1 NO + 1 NC	Short hinge roller lever	Flat	<b>1 5</b>	
	<b>MB15K1</b>					
	<b>MB15L0</b>	1 NO + 1 NC	Long hinge roller lever	Flat	<b>1 5</b>	
	<b>MB15L1</b>					
	<b>MB15M0</b>	1 NO + 1 NC	Short hinge cross roller lever	Flat	<b>1 5</b>	
	<b>MB15M1</b>					

Micro Switches  
(MB Series)

## ■ Drilling Guide

### A. Side Mount (all models)

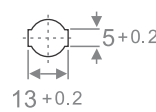
Two 4.2 mm holes suitable for M4 size screw.  
Screw tightening torque is approx. 1.18 to 1.47 N/m.



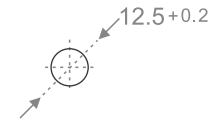
M4

### B. Top Mount (below types only) For panel mounting.

Tightening torque is approx. 2.94 to 4.9 N/m.



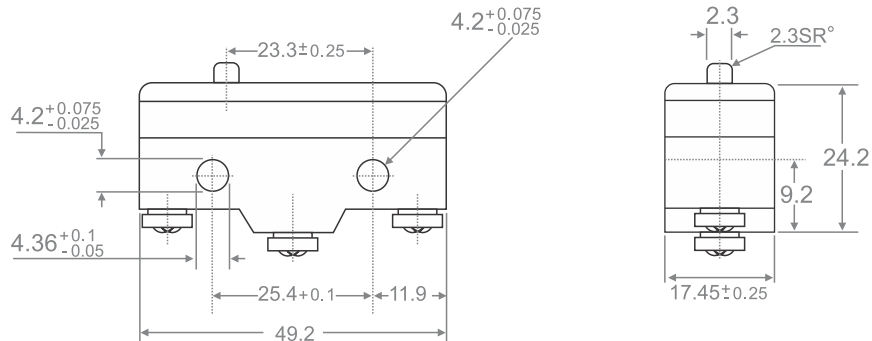
**MB15Ex**  
**MB15Fx**



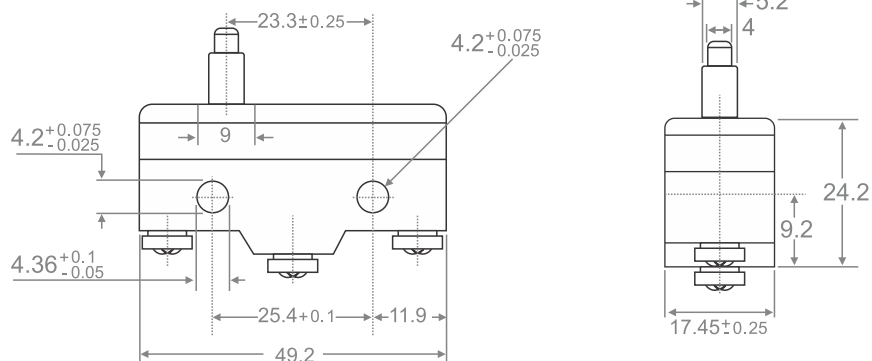
**MB15Dx**

**Attention:** Please do not install the switch using both above methods at the same time, as it will result in switch damage.

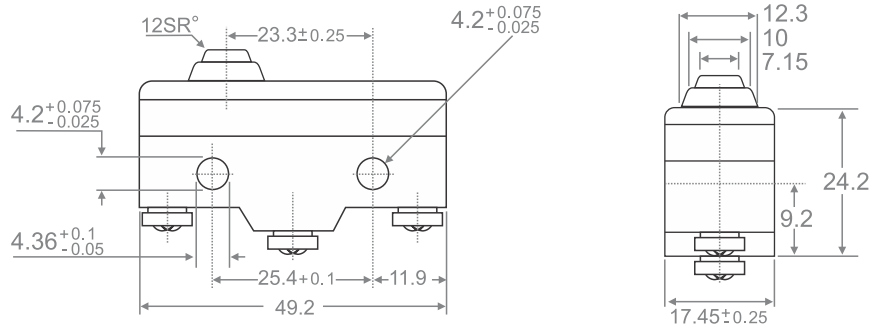
### MB 15 A xx



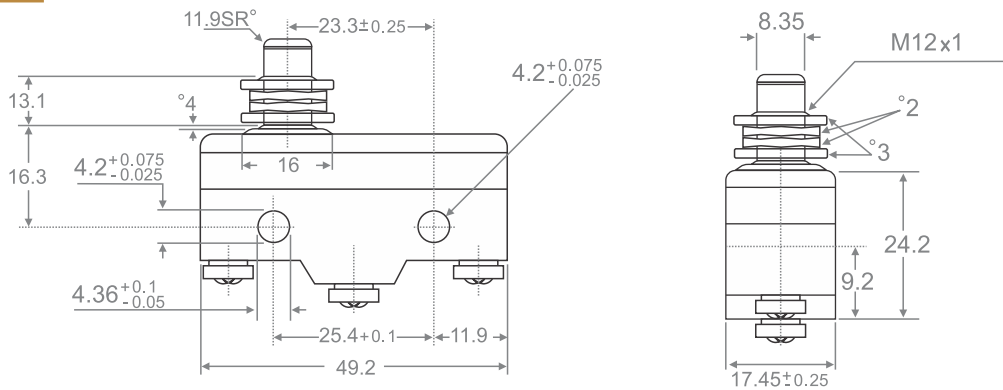
### MB 15 B xx



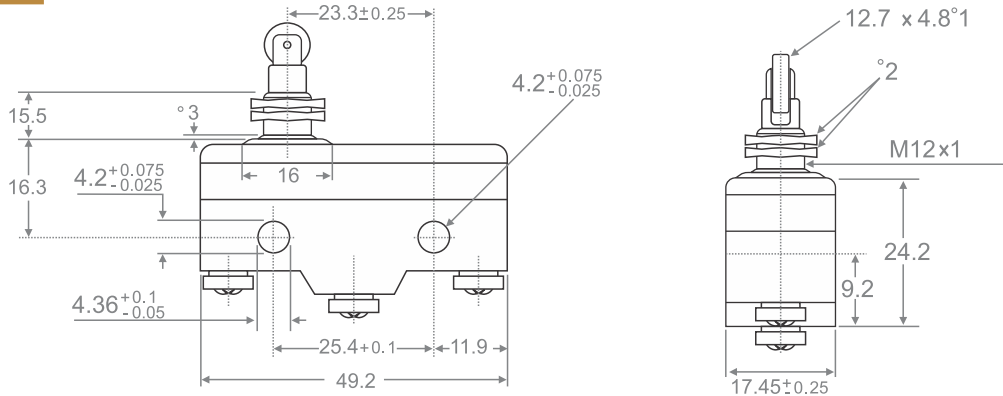
## MB 15 C xx



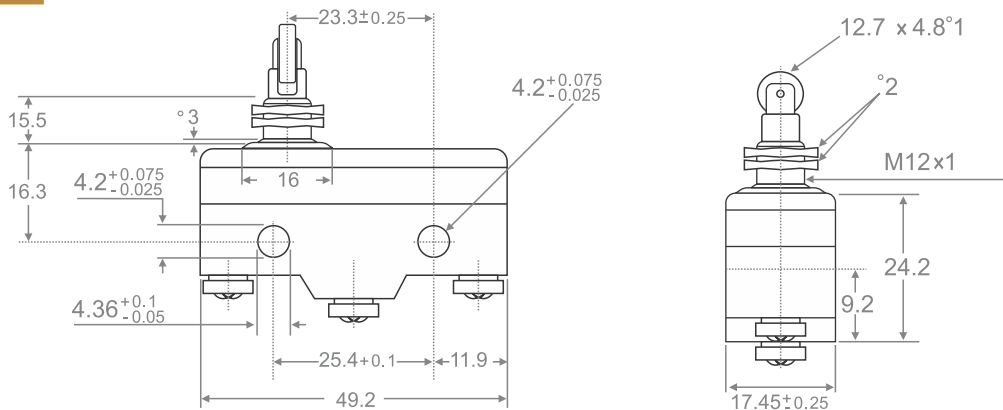
## MB 15 D xx



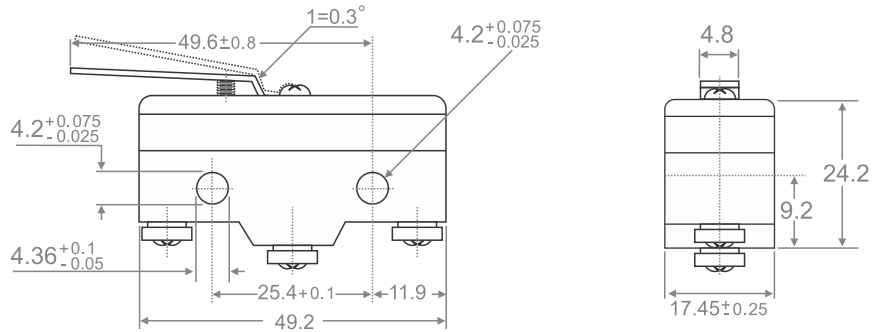
## MB 15 E xx



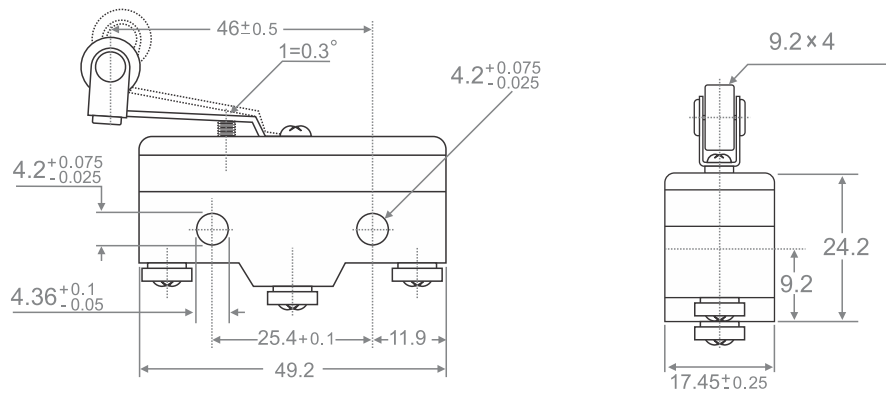
## MB 15 F xx



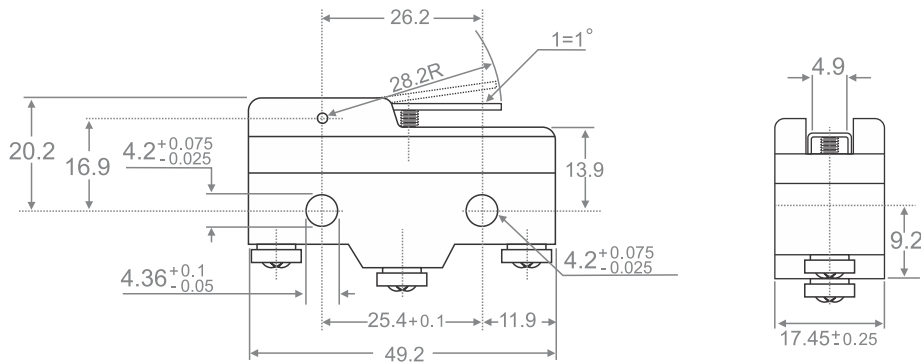
## MB 15 G xx



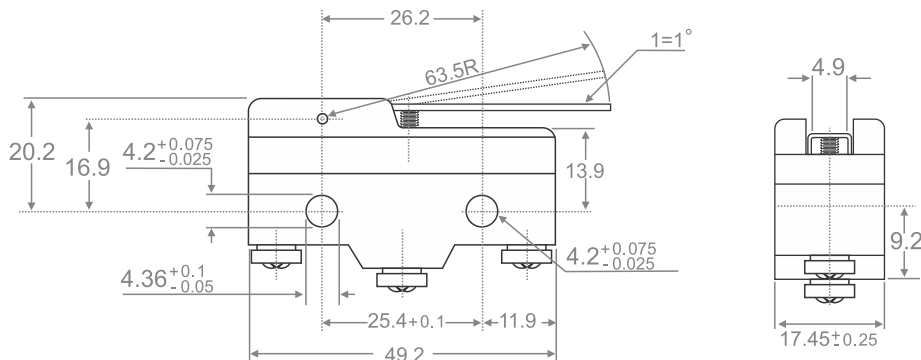
## MB 15 H xx



## MB 15 I xx

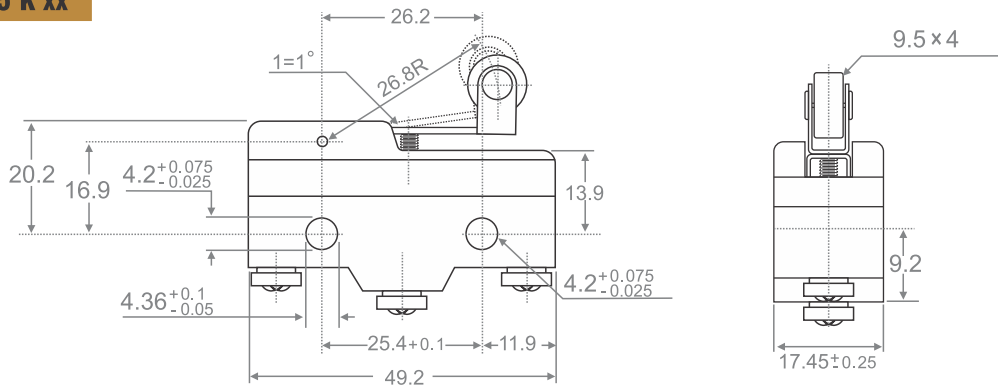


## MB 15 J xx

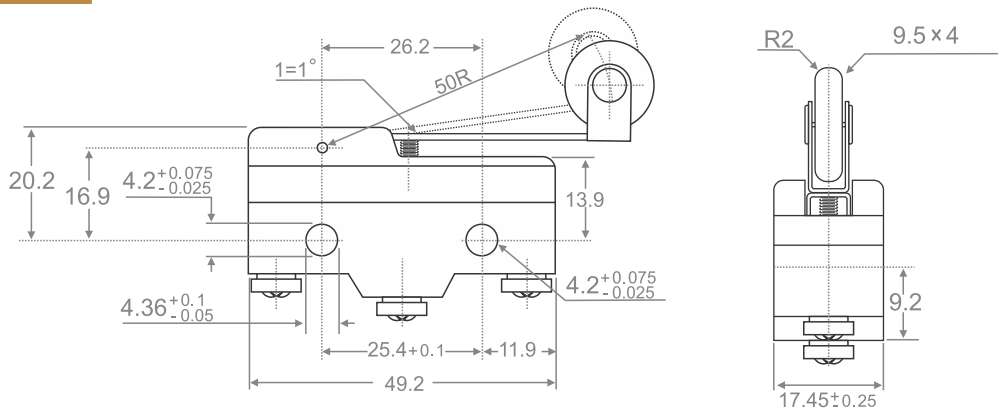




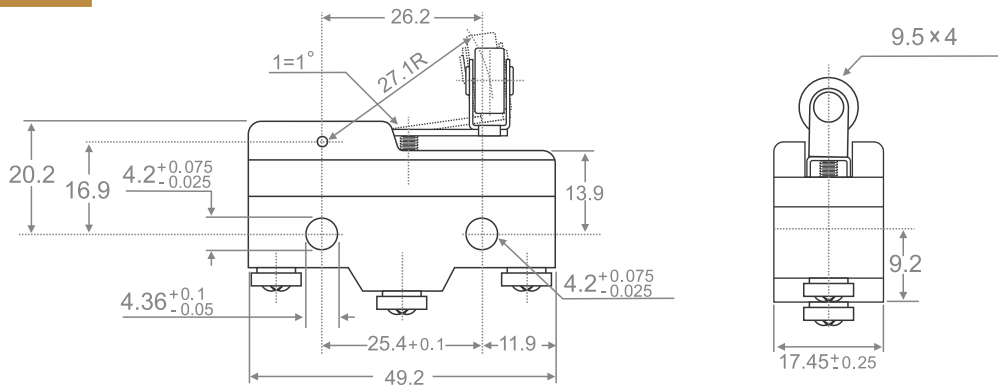
## MB 15 K xx



## MB 15 L xx

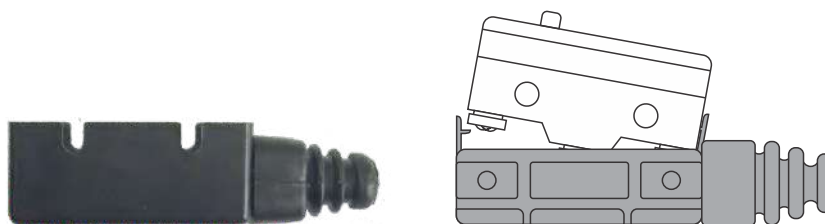


## MB 15 M xx



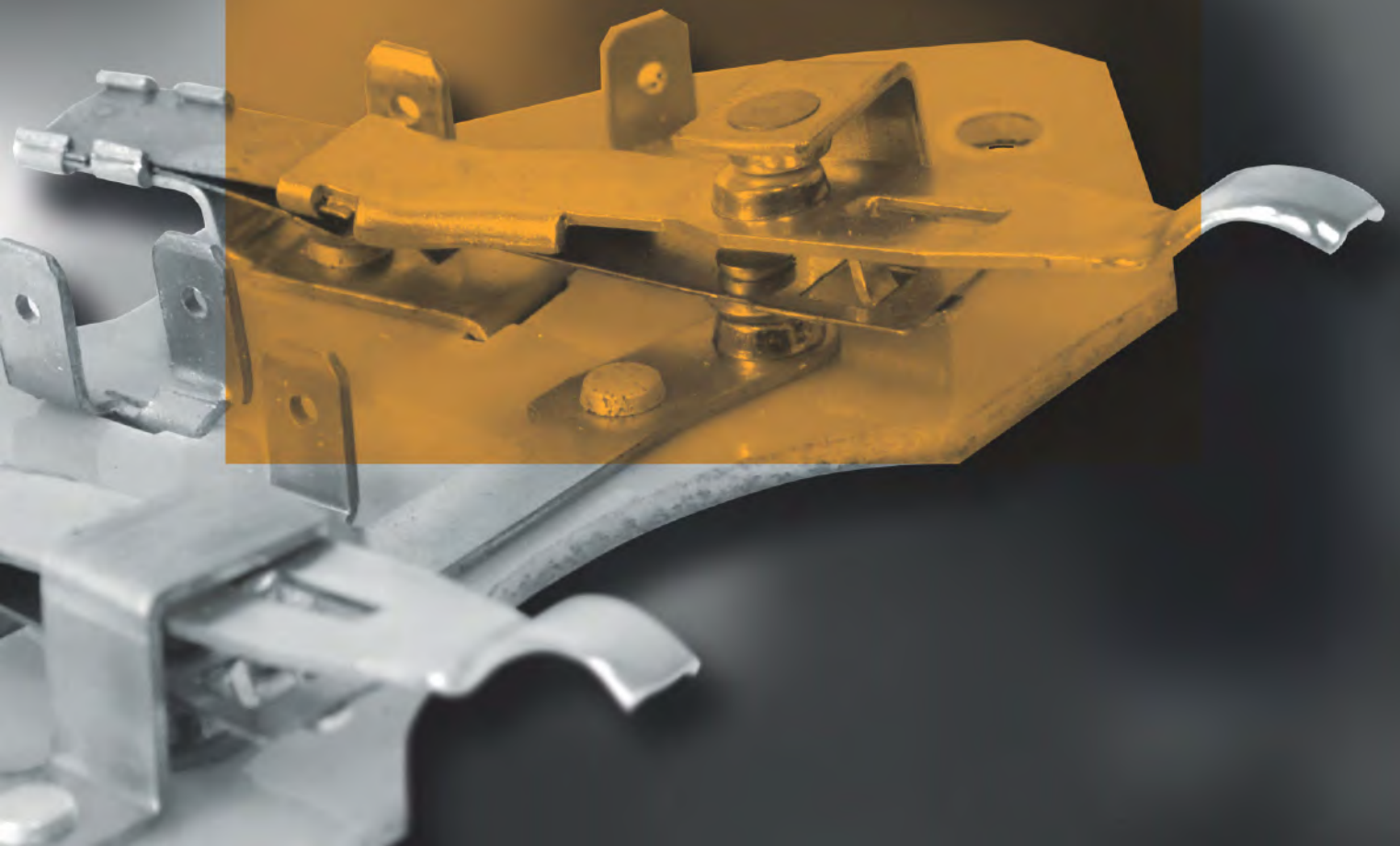
## MB-Cover

This Rubber packing improves the sealing of switch housing and the switch terminals to protection degree IP62. This item can be ordered separately by order code "MB-Cover".

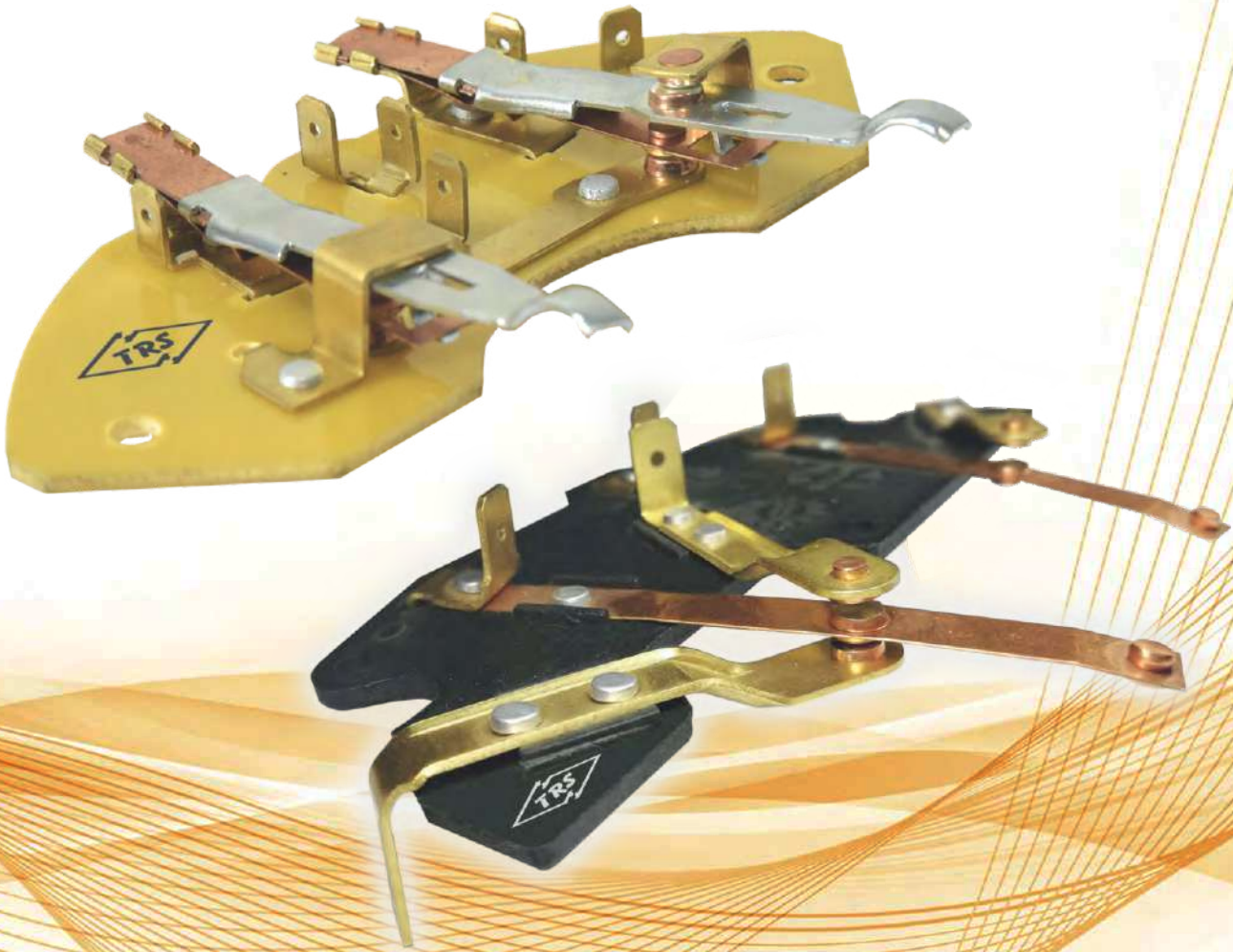




# CENTRIFUGAL SWITCHES



# | Centrifugal Switches |





## Centrifugal Switches

### ■ Applications:

The centrifugal switch is an electric switch that operates using the centrifugal force created from a rotating shaft of an electric induction motor. This switch is designed to activate or de-activate as a function of the rotational speed of the shaft in single-phase and split-phase induction AC motors.

In the process of starting, a single-phase appliance motor is too weak to overcome friction and inertia. The capacitor and coil boost the motor's torque and get it started, but become a power drain once the motor is up to speed. As the motor reaches a certain speed, a mechanism in the switch responds to the centrifugal force, pulling against it. This opens the switch and breaks the electrical connection, as the motor no longer needs the boost. So once the motor comes up to its operating speed, the switch turns off the boost circuit, and the motor runs efficiently. When the motor stops, a spring pulls the switch mechanism closed again.

### ■ Models:

The centrifugal switches can be manufactured according to your required specifications. Here are two frequently manufactured models :



	CS 20	CS 30
<b>Base Material</b>	Reinforced Polyamide (PA66)	Special fiber sheet with phenolic resin.
<b>Blades</b>	Copper-Zinc and Phosphor-Bronze	
<b>Contacts</b>	Bimetal contact rivets (Copper and Silver-Alloy)	

# Tavan Rahe Sanat (TRS) Mfg. Co. Customized Order Form

## Customer Info

Name: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Position: \_\_\_\_\_  
 Customer No.: \_\_\_\_\_

Tel: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Website: \_\_\_\_\_  
 Addr: \_\_\_\_\_

Drawing Date

Quantity required

Pcs

**Step 1 Series:** T-Series (12-40 Amp)

G-Series (12-630 Amp)

R-Series (12 & 16 Amp)

S-Series

D-Series

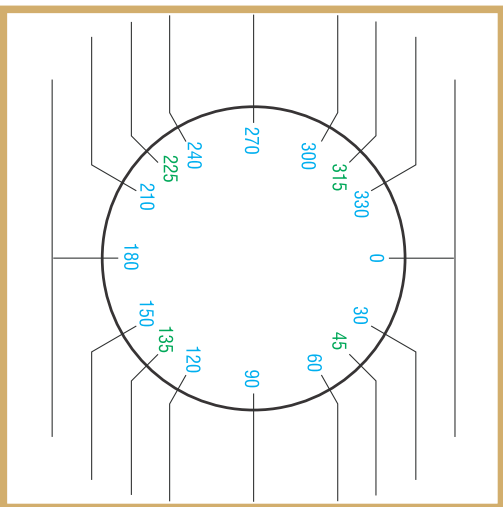
**Step 2 Amp Code:** Please select your required switch current in Amperes.

<b>0 1 2</b>	<b>0 1 6</b>	<b>0 2 5</b>	<b>0 3 2</b>	<b>0 4 0</b>	<b>0 5 0</b>	<b>0 6 3</b>	<b>0 8 0</b>	<b>1 0 0</b>	<b>1 2 5</b>	<b>2 0 0</b>	<b>2 5 0</b>	<b>4 0 0</b>	<b>5 0 0</b>	<b>6 3 0</b>
--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------

**Step 3 Mounting:** Please complete below steps A & B

### 3.A) Front plate:

Position angles and position text (1 to 3 letters)  
 Rotation steps must be 30,45,60 or 90 degrees.

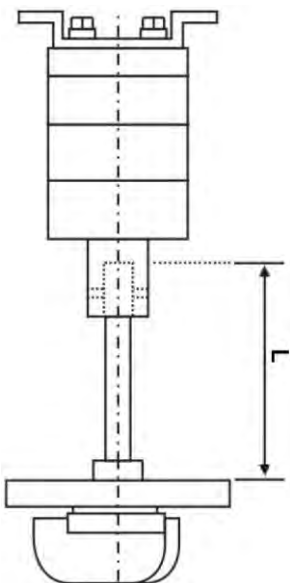


### 3.B) Mounting Info:

- Front
- Base
- DIN Rail
- On Enclosure
- Enclosure code: .....
- (Ref to pages 67, 68)

Extended shaft

Length (L): .....mm



### Step 4 Model Selection

T-Series				G-Series			
<input type="checkbox"/> BY1	<input type="checkbox"/> RY1	<input type="checkbox"/> Knob	<input type="checkbox"/> Black	<input type="checkbox"/> TL	<input type="checkbox"/> GL1	<input type="checkbox"/> Plate	<input type="checkbox"/> Black
<input type="checkbox"/> BY2	<input type="checkbox"/> RY2	<input type="checkbox"/> BY2	<input type="checkbox"/> Red	<input type="checkbox"/> LK2	<input type="checkbox"/> GL2	<input type="checkbox"/> Black	<input type="checkbox"/> Black
<input type="checkbox"/> BY3	<input type="checkbox"/> RY3	<input type="checkbox"/> BY3	<input type="checkbox"/> Yellow	<input type="checkbox"/> LK3	<input type="checkbox"/> GL3	<input type="checkbox"/> Yellow	<input type="checkbox"/> Yellow
<input type="checkbox"/> BK2	<input type="checkbox"/> RK2	<input type="checkbox"/> BK2		<input type="checkbox"/> LK4	<input type="checkbox"/> GL4		
<input type="checkbox"/> BK3	<input type="checkbox"/> RK3	<input type="checkbox"/> BK3		<input type="checkbox"/> GL5			
<input type="checkbox"/> BM2	<input type="checkbox"/> RM2	<input type="checkbox"/> BM2					
<input type="checkbox"/> BM3	<input type="checkbox"/> RM3	<input type="checkbox"/> BM3					
<input type="checkbox"/> BT1	<input type="checkbox"/> RT1	<input type="checkbox"/> BT1		<input type="checkbox"/> LL1			
<input type="checkbox"/> BT2	<input type="checkbox"/> RT2	<input type="checkbox"/> BT2		<input type="checkbox"/> IK2			
<input type="checkbox"/> BT	<input type="checkbox"/> RT	<input type="checkbox"/> BT		<input type="checkbox"/> IK3			
<input type="checkbox"/> BP2	<input type="checkbox"/> RP2	<input type="checkbox"/> BP2		<input type="checkbox"/> IK4			
<input type="checkbox"/> BP3	<input type="checkbox"/> RP3	<input type="checkbox"/> BP3					
<input type="checkbox"/> BQ2	<input type="checkbox"/> RQ2	<input type="checkbox"/> BQ2					
<input type="checkbox"/> BQ3	<input type="checkbox"/> RQ3	<input type="checkbox"/> BQ3					

#### LL1 Label:

In case you have chosen LL1 model above, we can print your required text on the label area:

.....







# Tavan Rahe Sanat (TRS) Mfg. Co. Customized Order Form

## Customer Info

Name: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Position: \_\_\_\_\_  
 Customer No.: \_\_\_\_\_

Tel: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Website: \_\_\_\_\_  
 Addr: \_\_\_\_\_

Drawing Date

Quantity required

Pcs

**Step 1 Series:** T-Series (12-40 Amp)

G-Series (12-630 Amp)

R-Series (12 & 16 Amp)

S-Series

D-Series

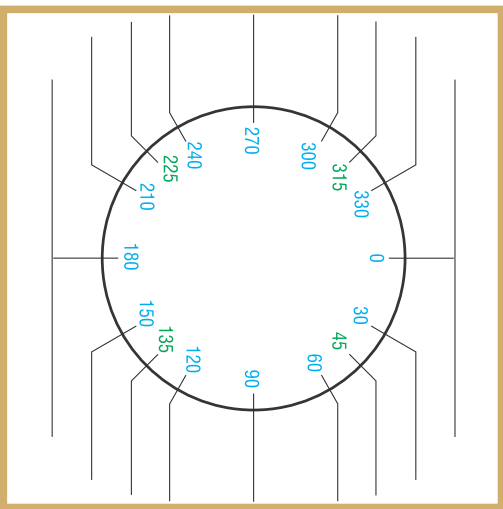
**Step 2 Amp Code:** Please select your required switch current in Amperes.

<b>0 1 2</b>	<b>0 1 6</b>	<b>0 2 5</b>	<b>0 3 2</b>	<b>0 4 0</b>	<b>0 5 0</b>	<b>0 6 3</b>	<b>0 8 0</b>	<b>1 0 0</b>	<b>1 2 5</b>	<b>2 0 0</b>	<b>2 5 0</b>	<b>4 0 0</b>	<b>5 0 0</b>	<b>6 3 0</b>
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**Step 3 Mounting:** Please complete below steps A & B

### 3.A) Front plate:

Position angles and position text (1 to 3 letters)  
 Rotation steps must be 30,45,60 or 90 degrees.

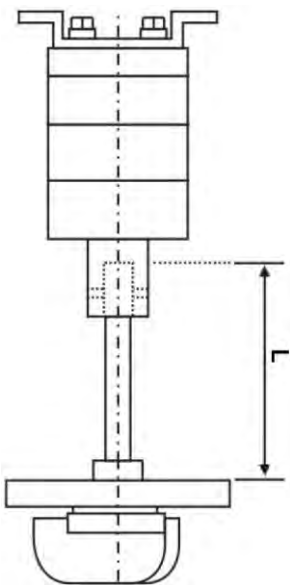


### 3.B) Mounting Info:

- Front
- Base
- DIN Rail
- On Enclosure
- Enclosure code: .....
- (Ref to pages 67, 68)

Extended shaft

Length (L): .....mm



### Step 4 Model Selection

T-Series			G-Series		
<input type="checkbox"/> BY1	<input type="checkbox"/> RY1	<input type="checkbox"/> Black	<input type="checkbox"/> TL	<input type="checkbox"/> GL1	<input type="checkbox"/> Red
<input type="checkbox"/> BY2	<input type="checkbox"/> RY2	<input type="checkbox"/> Plate	<input type="checkbox"/> TL2	<input type="checkbox"/> GL2	<input type="checkbox"/> Black
<input type="checkbox"/> BY3	<input type="checkbox"/> RY3	<input type="checkbox"/> Yellow	<input type="checkbox"/> LK2	<input type="checkbox"/> GL3	<input type="checkbox"/> Yellow
<input type="checkbox"/> BK2	<input type="checkbox"/> RK2	<input type="checkbox"/> LK3	<input type="checkbox"/> LK3	<input type="checkbox"/> GL4	
<input type="checkbox"/> BK3	<input type="checkbox"/> RK3	<input type="checkbox"/> LK4	<input type="checkbox"/> LK4	<input type="checkbox"/> GL5	
<input type="checkbox"/> BM2	<input type="checkbox"/> RM2	<input type="checkbox"/> D12	<input type="checkbox"/> LK4	<input type="checkbox"/> LL1	
<input type="checkbox"/> BM3	<input type="checkbox"/> RM3	<input type="checkbox"/> D13	<input type="checkbox"/> RT1	<input type="checkbox"/> LL2	
<input type="checkbox"/> BT1	<input type="checkbox"/> RT1	<input type="checkbox"/> D14	<input type="checkbox"/> RT2	<input type="checkbox"/> IK2	
<input type="checkbox"/> BT2	<input type="checkbox"/> RT2	<input type="checkbox"/> D15	<input type="checkbox"/> BT	<input type="checkbox"/> IK3	
<input type="checkbox"/> BP2	<input type="checkbox"/> RP2		<input type="checkbox"/> BP3	<input type="checkbox"/> IK4	
<input type="checkbox"/> BP3	<input type="checkbox"/> RP3				
<input type="checkbox"/> BQ2	<input type="checkbox"/> RQ2				
<input type="checkbox"/> BQ3	<input type="checkbox"/> RQ3				

#### LL1 Label:

In case you have chosen LL1 model above, we can print your required text on the label area:







[WWW.TRS.CO.IR](http://WWW.TRS.CO.IR)

The TRS logo is centered within a diamond-shaped frame. The letters 'TRS' are rendered in a bold, sans-serif font. The background of the entire page is a repeating pattern of interlocking diamond shapes, each containing a stylized lightning bolt or zigzag line.

📍 Head Office: 3rd Fl., No. 22, 10th St., Bucharest St., Tehran, Iran

☎ Tel: +9821-88504490 📠 Fax: +9821-88733048 🌐 [www.trs.co.ir](http://www.trs.co.ir) ✉ [export@trselectrical.com](mailto:export@trselectrical.com)