

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

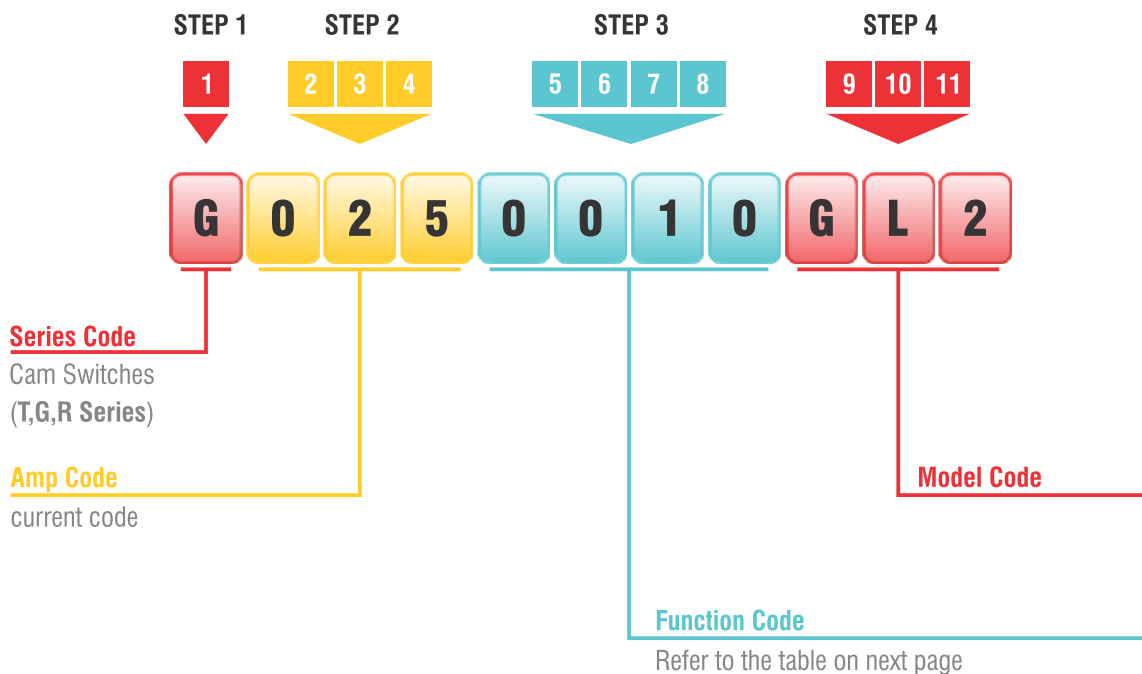
12-25 A

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





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																									
0001	 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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0002	 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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0003	 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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Cam Switch Functions Code Table



Function code	Positions & Rotation Angles	Internal circuit diagram	Stages and Contacts arrangement																																																																																																								
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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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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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0014	 60°	 Ammeter Switch for direct measurement (Without CT)	<table border="1"> <tr><td>Position</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td><td>T</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>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td></tr> <tr><td>Position</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</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	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	Position	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Position	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	Position	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	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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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											<p>1</p> <p>2</p> 	
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Cam Switch Functions Code Table



Cam Switches

Function code	Positions & Rotation Angles	Internal circuit diagram	Stages and Contacts arrangement																																																																																		
0019	 45°	 Voltmeter Switch with 3 (Ph-Ph) and 1 (Ph-N) +off position	<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>X</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>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			
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0020	 90°	 Single Pole Ammeter Switch-1CT	<table border="1"> <tr><td>Position</td><td>R</td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td>X</td><td>X</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	R	X	X	0		X	X	Stage	1	2	3	Contact	1-2	3-4		 																																																																	
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0029	 45°	 Change-Over Switch contactor with self return A to M	<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	 45°	 Reversing Change-Over Switch contactor with self return A to M	<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>↓</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	↓				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>↓</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>↑</td><td></td><td></td><td></td><td></td></tr> <tr><td>ST</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></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	↓					0						1	↑					ST	↓	X	X	X	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></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>↑</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>ST</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></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						1	↑	X	X	X	X	ST	↓	X	X	X	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 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></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</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></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						1	↓	X	X	X	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>↓</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	↓					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></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</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></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						1	↓	X	X	X	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 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></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</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></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						1	↓	X	X	X	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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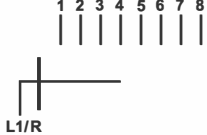
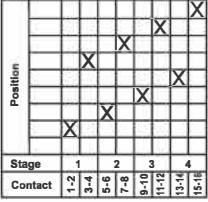



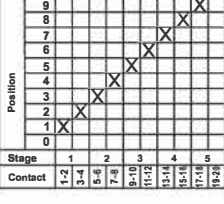

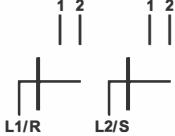
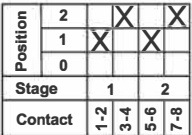

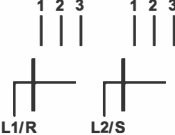
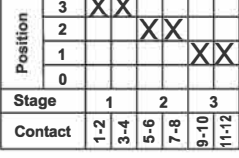
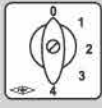
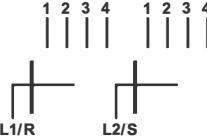
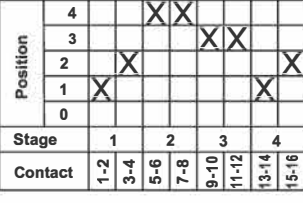
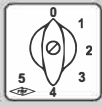
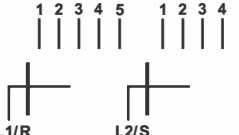
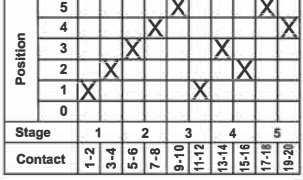

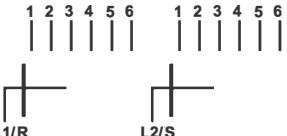
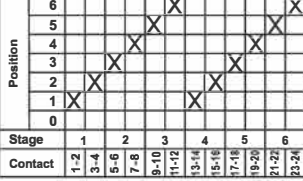
Cam Switch Functions Code Table



Cam Switches

Function code	Positions & Rotation Angles	Internal circuit diagram	Stages and Contacts arrangement																																																																																											
0 0 6 0	<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><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><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><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><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><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>17-18</td><td>19-20</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	X	Stage	1	2	3	4	5						Contact	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20																									
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M Z 1 2*	<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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M Z 1 6	<p>45°</p>	<p>L1/R</p> <p>1 Pole-6 Ways Selector Switch With "0" position</p>	<table border="1"> <tr><td>Position</td><td>6</td><td></td><td></td><td></td><td>X</td><td></td><td></td></tr> <tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td></tr> <tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td></tr> <tr><td>3</td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td></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><td></td><td></td></tr> <tr><td>0</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></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></td></tr> </table>	Position	6				X			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	11-12																				
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M Z 1 7	<p>45°</p>	<p>L1/R</p> <p>1 Pole-7 Ways Selector Switch With "0" position</p>	<table border="1"> <tr><td>Position</td><td>7</td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td></tr> <tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td></tr> <tr><td>5</td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td></tr> <tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td></td><td>X</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><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>Stage</td><td>1</td><td>2</td><td>3</td><td>4</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></tr> </table>	Position	7					X			6							X		5		X							4								X	3									2			X						1	X								0									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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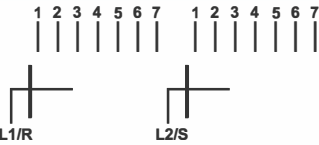
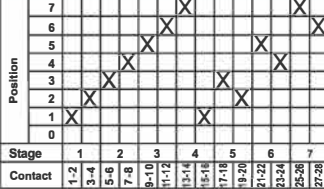

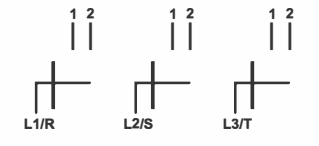
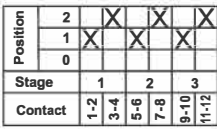

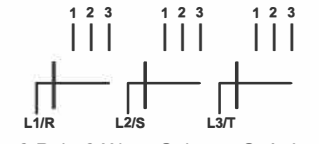
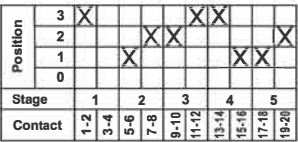

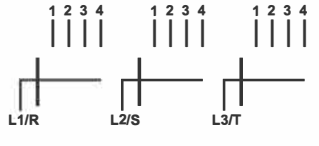
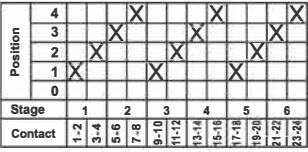

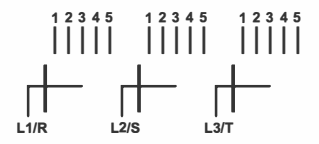
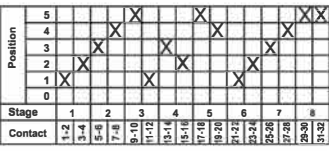

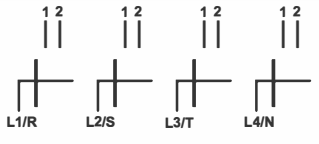
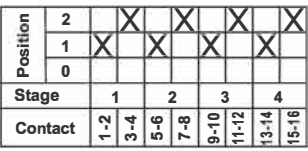
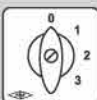
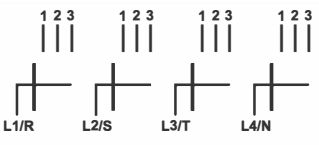
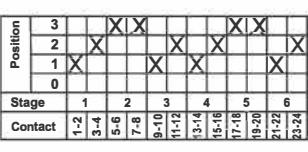

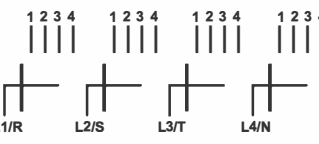
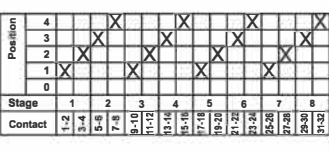
*. Function codes beginning with "MZ" start at "0" position. If you change "MZ" to "MN" The positions will start from "1"

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



Cam Switches

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



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


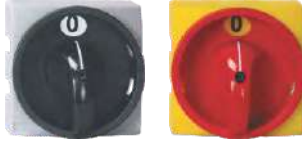





- ▶ New rectangular design of selected models from G & T series The new design allows the connected wire terminals to be hold firmly in place and connected easily without the terminal neck being bent
- ▶ Terminal Screws have fixed serrated washers that eases the wire & terminal connection significantly
- ▶ 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



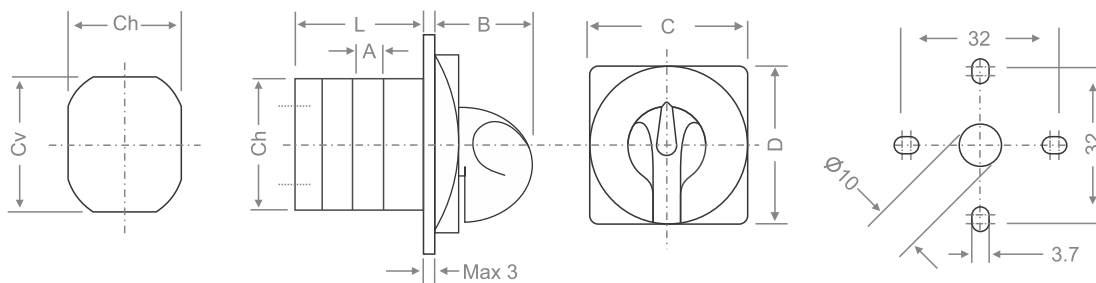
Technical data table



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	
Rated operating current					
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		—	—	—	
Rated operating power					
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	
Short circuit protection					
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(ϕ)	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	
Rated operating power					
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	
Connections according to IEC 9471-1 AND EN 60947-1					
Connecting capability with flexible wires	Min-Max mm ²	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 ²	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	
Protection degree IEC 529 EN 60529					
Terminal	IP		00		
Ambient conditions					
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		

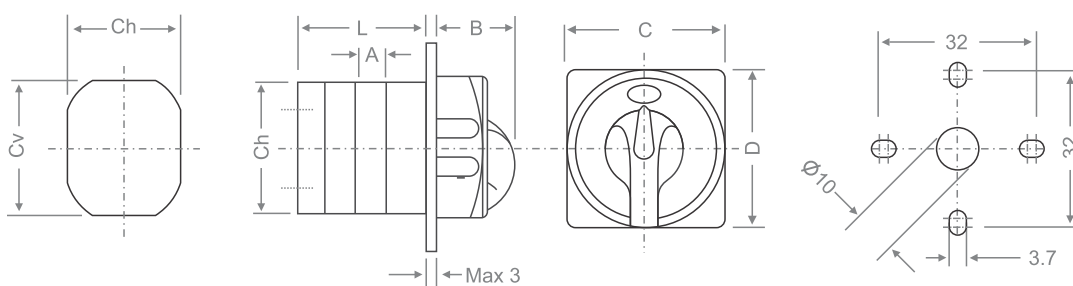
Picture	Model Code	Front panel Dimensions	Amp Code		Ref. to Page	Short Description B: Black knob & Gray rectangular plate R: Red knob & Yellow rectangular plate
			0 1 2	0 1 6		
	B Y 1 R Y 1	48x48	✓	✓	52	Ip65 General use Attractive design Front & base mounting options DIN rail mounting option (optional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

RY, BY



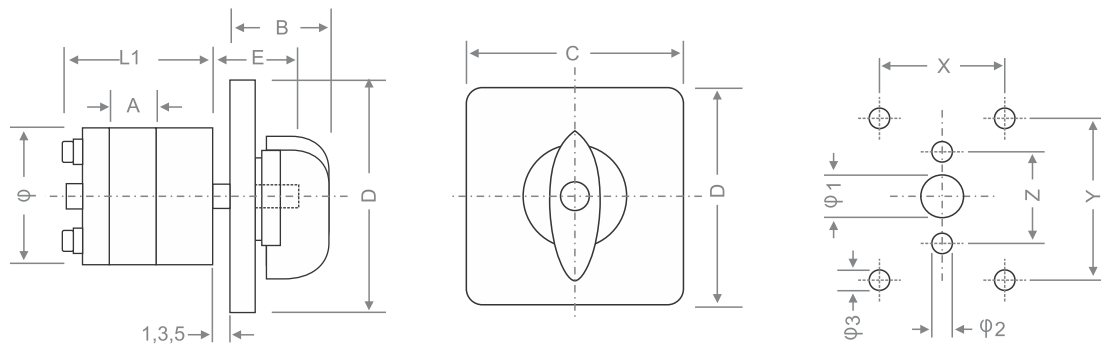
RY&BY							
Switch Amp Code	Cv	Ch	NO.Of Stages				
			1	2	3	4	5
0 1 2	47	45	L				
0 1 6	47	45	37	49	61	73	85
Model Code			A	B	C	D	
R Y 1	B Y 1		12	37	48	48	
R Y 2	B Y 2		12	39	68	68	

RK, BK



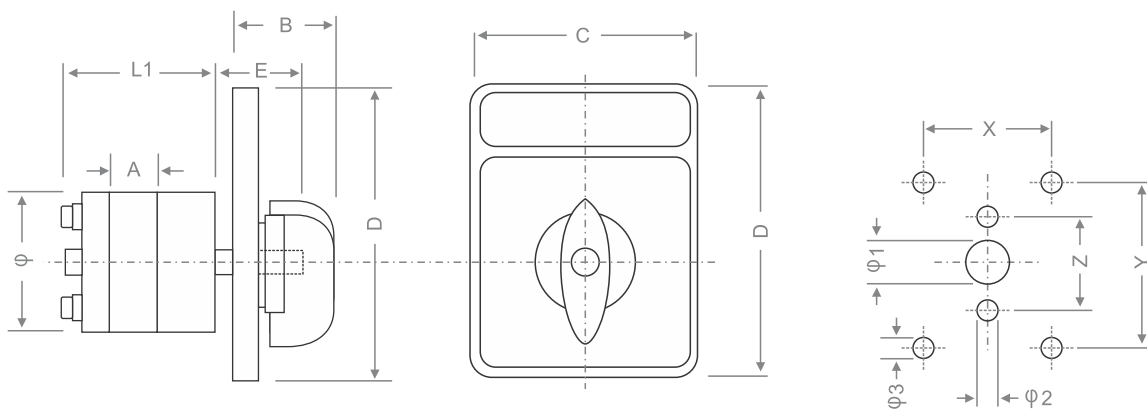
RK, BK							
Switch Amp Code	Cv	Ch	NO.Of Stages				
			1	2	3	4	5
0 1 2	47	45	L				
0 1 6	47	45	37	49	61	73	85
Model Code			A	B	C	D	
R K 2	B K 2		12	39	68	68	
R K 3	B K 3		12	39	68	83	

GL



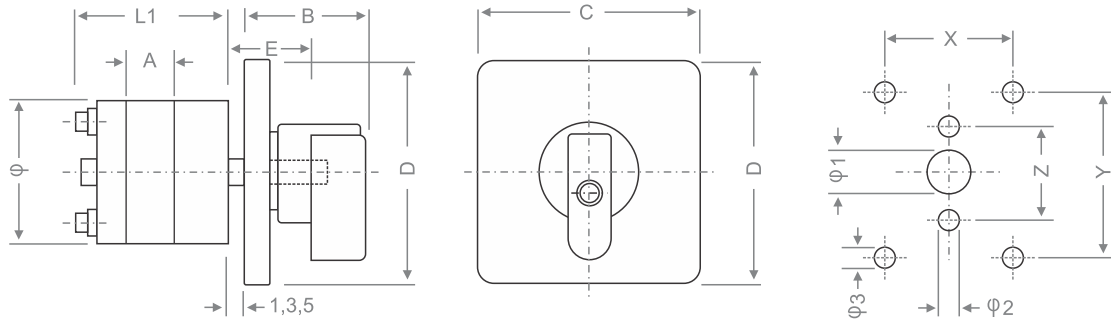
GL									
Model Code	Amp. Code	Cv	Ch	L	A	B	C	D	E
GL 1	0 1 2	47	45	37	12	30	52.5	52.5	22
	0 1 6	47	45	37	12	30	52.5	52.5	22
GL 2	0 1 2	47	45	37	12	32	75	75	22
	0 1 6	47	45	37	12	32	75	75	22

LL1



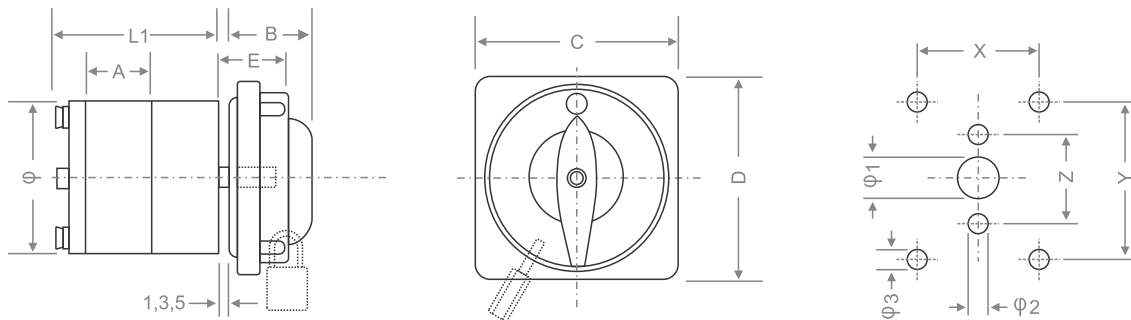
LL1									
Model Code	Amp. Code	Cv	Ch	L	A	B	C	D	E
LL 1	0 1 2	47	45	37	12	30	52.5	70.5	22
	0 1 6	47	45	37	12	30	52.5	70.5	22

TL



GL									
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

LK



LL1									
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