> RXD SERIES Auxiliary Switches

Overviews

>It is mainly applicable for closing, opening, interlocking, signal loop control of circuit breakers, earth switches, isolating switches and other operating mechanisms in high-voltage electrical equipment. It can also be used as rotary switch and combination switches.

Advantages

>Fully copper clamping structure for long-term protection in hostile environments such as humidity, salt spray.

>High wiring efficiency and reliable connection owing to clamping yoke system

>Wide wiring range: 0.5-4 sqmm

>Sliver alloy contacts for strong arc resistance and low contact resistance

>Set arc extinguishing device, strong breaking ability

>Thin stage, compact structure, small size

>The switches adopt multi-stage structure and the stage no. can be customized

>The timing sequence can be customized by clients' needs.

>Excellent electrical and mechanical properties

Excellent Electrical and Mechanical Properties

>The insulator made of modified PA66 has excellent electrical and mechanical properties and the flame retardant rating reaches UL94 V0. The material complys with RoHS requirements. PA66 have good resistance to termites, anaerobes, funguses because it does not provide oxygen and other biological elements for microorganisms.

PA 66 Electrical Parameters	
Resistivity（Ω×cm）	$>10^{12}$（VDE0303T.30）
Dielectric strength（kV/mm）	30（VDE0303T.2）
Comparative tracking index CTI（V）	600（VDE0303T.1）
Min static service temperature（℃）	−50
Flame retardant rating(V0)	UL 94

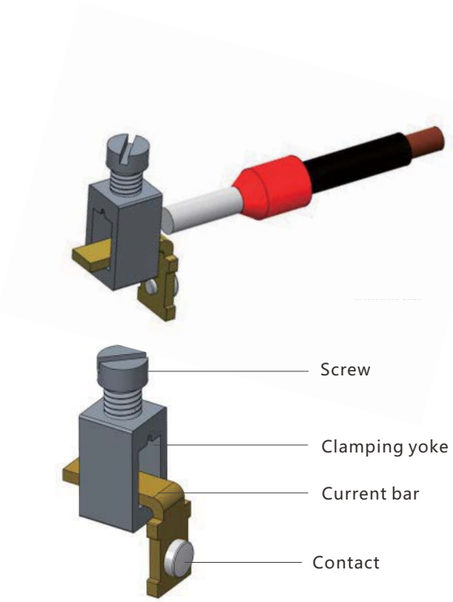
Fully copper clamping structure/High wiring efficiency Resistance to harsh environments

>Fully copper clamping structure for long-term protection in hostile environments such as humidity, salt spray.

>The current bar with regular striated design could cut through the possible oxide layer on wire surface to guarantee good electrical connection.

>The clamping yoke can prevent the screws from loosing by using “Reakdyn Principle”. The self-locking of the screw is achieved by “Reakdyn Gap” in the upper part of the clamping yoke. During the tightening of the screw, the lifting cylinder is elastically deformed to make frictional force of the thread gradually increased, so that the screw and the wire are reliably connected without loosening.

>The screws are made of high-strength copper alloy, the clamping yoke are made of copper alloy resistant to stress cracking, and the surfaces of these metal parts are plated by nickel. Fully copper clamping structure can avoid battery effect of steel parts and copper wires in wet conditions to prevent the electrical corrosion of the auxiliary switch in long-term use.



Sliver alloy contacts for strong arc resistance/ low contact resistance

>Dynamic and static contacts are made of silver-nickel alloy material, which has low contact resistance, excellent anti-welding performance and arc-burning resistance. When working for a long time, the electrical performance is reliable.

>It can guarantee low contact resistance for long-term operation.

>The contact has a special surface treatment to prevent surface oxidation or corrosion. The contacts are vacuum packed for transportation and sealed in an incubator for storage in factory, and assembled dust-free workshop. The moving contact is assembled in the closed insulator to prevent dust and ensure reliable electrical contact.

Set arc extinguishing device, strong breaking ability

>Based on installation environment, the switch is equipped with an arc extinguishing device to accelerate arc extinguishing by magnetic blowout between the moving and static contacts. The contact ablation and material transfer are alleviated, and the breaking capacity of the auxiliary switch is improved. It makes the life of the auxiliary switch longer.

>The arc self-cleaning effect under the magnetic blowing ensures a low voltage drop between the contacts, so that the contact resistance value is small in long-term use.

Thin stage, compact structure, small size

>The switches adopt multi-stage structure and the stage no. can be customized. The stages of the switches could reach 40 to control 80 loops.

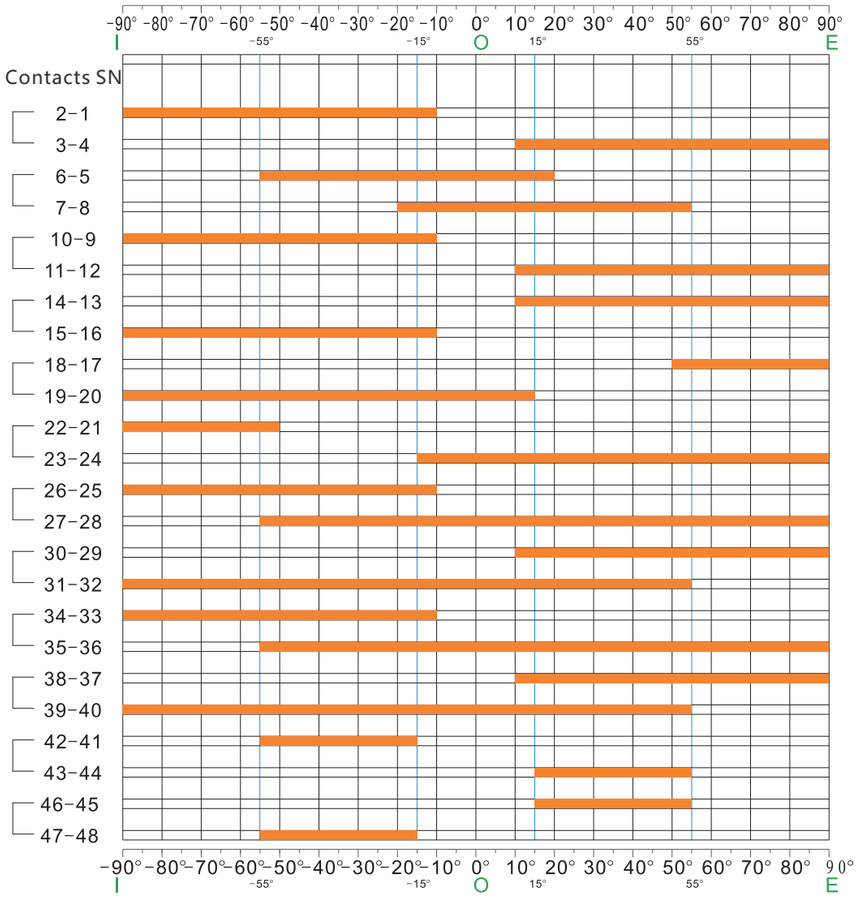
Various wiring way/Wide wiring range

>Solid copper wires
>Stranded copper wires
>Stranded copper wires with ferrules
>Wide wiring range: 0.5-4 sqmm

> Customized timing sequence and contacts

- Two pairs of dynamic and static contacts on each stage can form two independent circuits. The NO/NC contacts no. is twice of switches stages no. and the contacts can be customized when the operating angle is within 180 degree.
- The timing sequence can be customized per client's requirement. The operating angle can be set as "0-90 degree", "0-180 degree", "-90-90 degree".

Customized timing sequence case:



- The switching accuracy of rotary switch is 5°

> Ordering notes

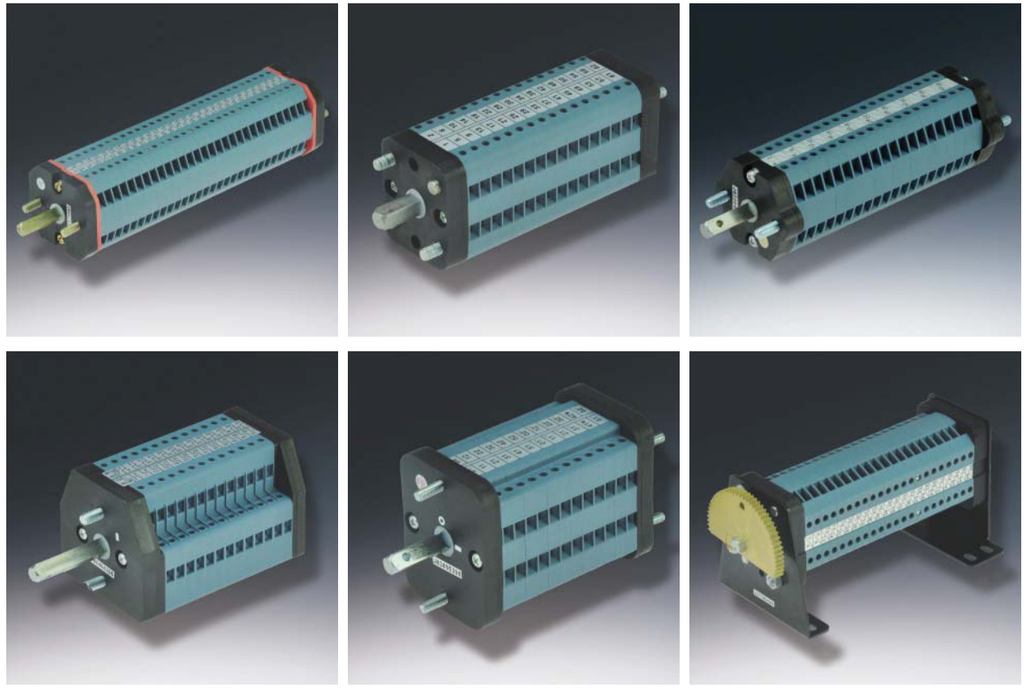
Please confirm the following information:

- Overall dimension of the switches
- The initial position and rotation direction of the switches
- The timing sequence requirement
- The rotating speed of the switches

> Patents

- GB 2451621 Ultra-thin rotary switch (International invention patent
- ZL 200710049339.0 One rotary switch
- ZL 200520036253.0 Ultra-thin rotary switch
- ZL 200720079971.5 A rotation shaft of the rotary switch
- ZL 200720079972.X A contact box of the rotary switch
- ZL 200820140518.5 A splitlevel rotary switch
- ZL 201120046596.0 An auxiliary switch that easily breaks the current
- ZL 201220378613.5 An auxiliary switch, easy to install
- ZL 201220376981.6 A feed-through auxiliary switch
- ZL 201220377059.9 A quick connecting cam switch
- ZL 201220677547.1 A cam switch, easy to install
- ZL 201220677344.2 A cam switch, easy to install

Product pictures



> Model Implication and Standard

Model Implication

RXD□ A / □□ (□□NO □□NC) □

① ② ③ ④ ⑤ ⑥

① Switch Series Code Including 10、20、25、30、60

② Serial No(A,B,C,D,E.....)

③ Switch Stage No. (≤40)

④ NO Contact No.

⑤ NC Contact No.

⑥ T refers to timing sequence requirement and timing diagram is needed.
Note: NC contact No.+NO contact No. ≤switch stage no.X2

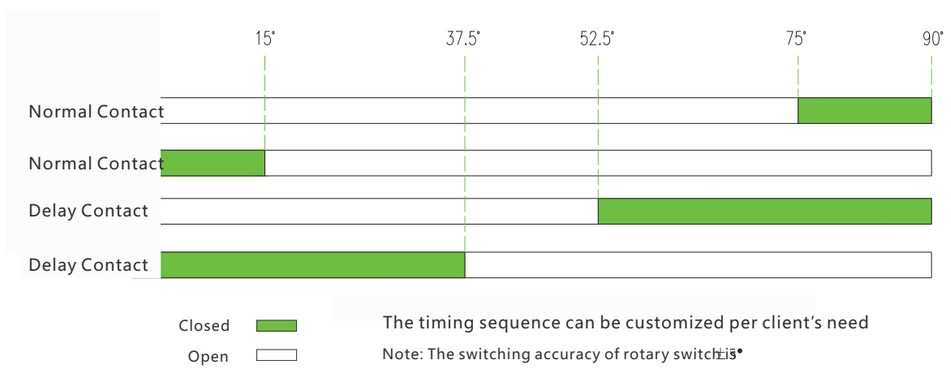
Using Condition

- Ambient temperature: −25℃~+55℃
- Altitude: ⩽3000M
- Pollution level: 3
- Air relative humidity: ⩽ 90%
- Installation category: Ⅲ
- Vibration acceleration: no more than 15m/s

Carried Standards

GB/T14048.1 GB/T14048.3 GB/T14048.5
IEC60947-3 IEC337-1

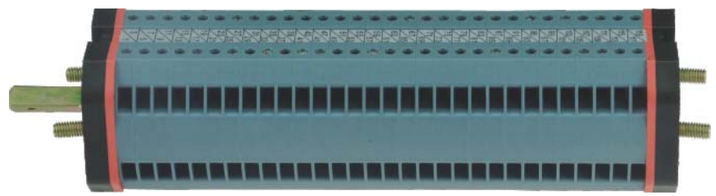
Contact Diagram



The timing sequence can be customized per client's need

Note: The switching accuracy of rotary switch is ±5°

> RXD10 Series Auxiliary Switches



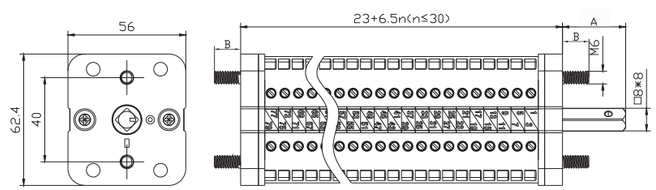
Overviews

>RXD10 series auxiliary switches are mainly applicable for circuit breakers, earth switches, isolating switches and other operating mechanisms in high-voltage electrical equipment. The switches stages can reach 40. The switches has built-in arc extinguishing device which has big advantage for breaking DC inductive loop. The silver-nickel alloy contacts with gold plate can be customized per client's requirement.

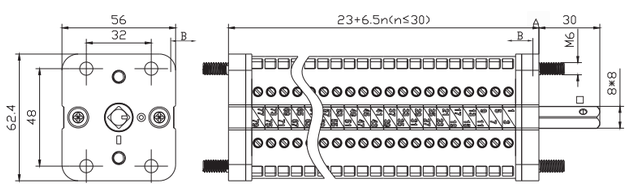
Technical Data

Rated insulation voltage	690V	Mechanical life	200,000 times
Conventional thermal current (Ith)	20A	Electrical life	10,000 times, 220VDC, 3A, L/R=20ms
			10,000 times, 110VDC, 6A, L/R=20ms
Rated impulse voltage	4000V	Connection section	4mm2
Use Catagory	Voltage level	Breaking capacity	
AC-15	220V	cosφ=0.4，10A	
	110V	cosφ=0.4，20A	
DC-13	220V	L/R=20ms，3A	
	110V	L/R=20ms，6A	

Overall dimension and installation



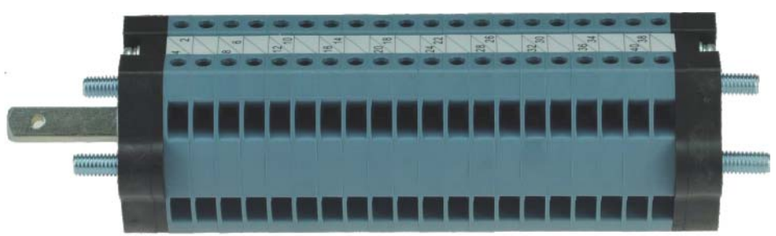
Two holes installation



Four holes installation

Size A, B can be customized per client's need. The switch stage no. can reach 40.

> RXD20 Series Auxiliary Switches



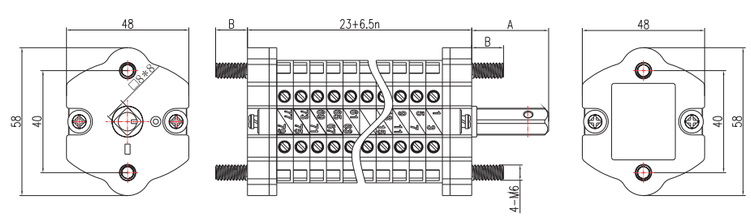
Overviews

>RXD20 series auxiliary switches are mainly applicable for circuit breakers, earth switches, isolating switches and other operating mechanisms in high-voltage electrical equipment. The switches stages can reach 22. The switches has thin stage, compact structure, small size and can be used in small mechanism.

Technical Data

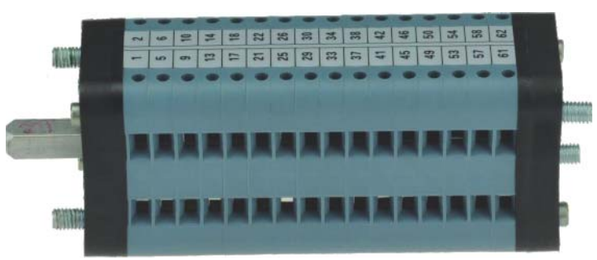
Rated insulation voltage	690V	Mechanical life	200,000 times
Conventional thermal current (Ith)	20A	Electrical life	10,000 times，220VDC，1A，L/R=20ms
			10,000 times，110VDC，2A，L/R=20ms
Rated impulse voltage	4000V	Connection section	4mm2
Use Catagory	Voltage level	Breacking capacity	
AC-15	220V	cosφ=0.4，8A	
	110V	cosφ=0.4，16A	
DC-13	220V	L/R=20ms，1A	
	110V	L/R=20ms，2A	

Overall dimension and installation



Size A, B can be customized per client's need. The switch stage no. can reach 22.

> RXD25 Series Auxiliary Switches



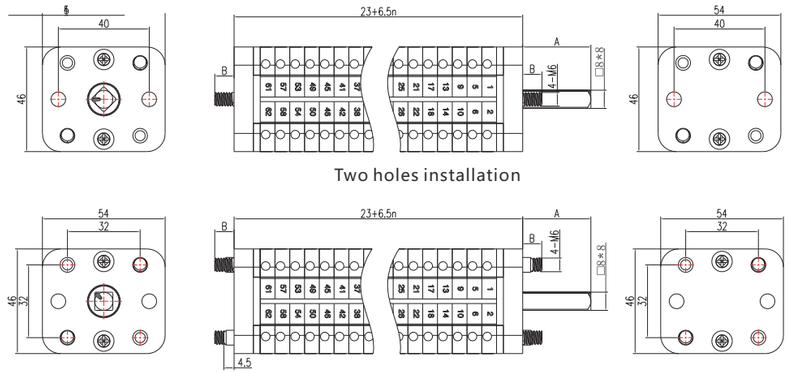
Overviews

>RXD25 series auxiliary switches are mainly applicable for circuit breakers, earth switches, isolating switches and other operating mechanisms in high-voltage electrical equipment. The switches stages can reach 40. The switches has thin stage, compact structure, small size and can be used in small mechanism.

Technical Data

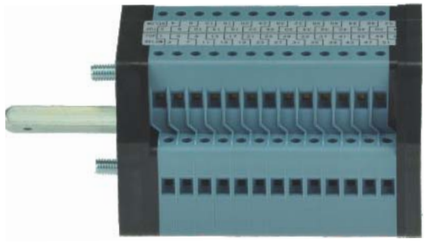
Rated insulation voltage	690V	Mechanical life	200,000 times
Conventional thermal current (Ith)	20A	Electrical life	10,000 times，220VDC，1A，L/R=20ms
			10,000 times，110VDC，2A，L/R=20ms
Rated impulse voltage	4000V	Connection section	4mm2
Use Catagory	Voltage level	Breacking capacity	
AC-15	220V	cosφ=0.4，8A	
	110V	cosφ=0.4，16A	
DC-13	220V	L/R=20ms，1A	
	110V	L/R=20ms，2A	

Overall dimension and installation



Size A, B can be customized per client's need. The switch stage no. can reach 40.

> RXD30 Series Auxiliary Switches



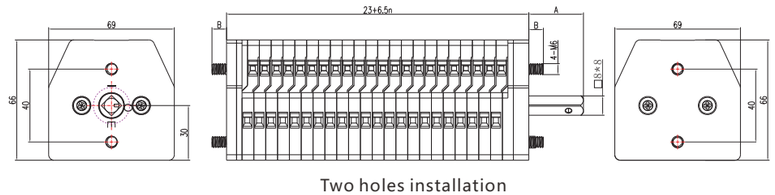
Overviews

>RXD30 series auxiliary switches are mainly applicable for circuit breakers, earth switches, isolating switches and other operating mechanisms in high-voltage electrical equipment. The switches stages can reach 30. To use the tool from the same side, convenient wiring and high efficiency.

Technical Data

Rated insulation voltage	690V	Mechanical life	200,000 times
Conventional thermal current (Ith)	20A	Electrical life	10,000 times，220VDC，3A，L/R=20ms
			10,000 times，110VDC，6A，L/R=20ms
Rated impulse voltage	4000V	Connection section	4mm2
Use Catagory	Voltage level	Breaking capacity	
AC-15	220V	cosφ=0.4，10A	
	110V	cosφ=0.4，20A	
DC-13	220V	L/R=20ms，3A	
	110V	L/R=20ms，6A	

Overall dimension and installation



Size A, B can be customized per client's need. The switch stage no. can reach 30.

> RXD60 Series Auxiliary Switches

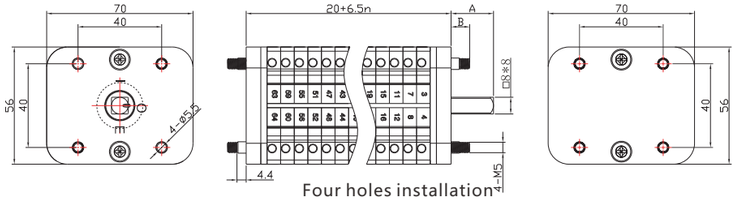
Overviews

>RXD60 series auxiliary switches are mainly applicable for circuit breakers, earth switches, isolating switches and other operating mechanisms in high-voltage electrical equipment. The switches stages can reach 40.
The switches has built-in arc extinguishing device which has big advantage for breaking DC inductive loop.

Technical Data

Rated insulation voltage	690V	Mechanical life	200,000 times
Conventional thermal current (Ith)	20A	Electrical life	10,000 times，220VDC，4A，L/R=20ms
			10,000 times，110VDC，8A，L/R=20ms
Rated impulse voltage	4000V	Connection section	4mm2
Use Catagory	Voltage level	Breaking Capacity	
AC-15	220V	cosφ=0.4，10A	
	110V	cosφ=0.4，20A	
DC-13	220V	L/R=20ms，4A	
	110V	L/R=20ms，8A	

Overall dimension and installation



Size A, B can be customized per client's need. The switch stage no. can reach 40.

CAM SWITCHES

General Information

>RUS and RCS series cam switches have the advantages of compact structure, easy installation and maintenance,various types and etc.

>Different contact designs, contact materials and terminals allow for their use as control switches, instrumentation switches and motor control switches, as well as in electronic circuit with 50Hz (or 60Hz), AC 690V and DC 440V. The switches are widely used in CNC lathe, machinery, power, telecommunications, ships, metallurgy, chemicals, locomotives, public buildings industries and etc.

Using Conditions

>Ambient temperature:-25℃~+55℃
>Air relative humidity:≤90%
>Altitude:≤2000m
>Installation category:III
>Pollution level: 3 (not including the environment with corrosive medium)

Carried Standards

>GB 14048.1 >GB 14048.3 >GB 14048.5
>IEC60947-1 >IEC60947-3 >IEC60947-5

Technical Data

Description		Type		
		RUS20	RCS2	RCS4
Rated insulation voltage Ui	V	690	690	690
Conventional thermal current Ith	A	20	20	40
Power frequency withstand voltage	V	2500/min	2500/min	2500/min
Impulse withstand voltage	V	4000	4000	4000
Mechanical life	10,000 Times	30	30	100
Electrical life (AC) AC-15 cosφ=0.8	10,000 Times	20	20	20
Electrical life (DC) DC-13 τ=2ms	10,000 Times	10	10	20
AC breaking capacity				
AC-21 (Resistive load)	A	20	20	40
AC-15 cosφ=0.3 Electromagnet load				
24V	A	20	20	/
48V	A	14	14	32
110V	A	10	10	14
220V	A	6	6	10
380V	A	4	4	8
cosφ=0.8 (Electromagnet load) 600V	A	/	/	32
AC-3 squirrel-cage motor (switch on, switch off during operation)	KW	3KW	3KW	15KW
AC-4 squirrel-cage motor (switch on, brake, Reverse, jog)	KW	3KW	3KW	7.5KW
DC breaking capacity				
DC-21 Resistive load				
Contacts in Series 1 2 3 4				
24 48 72 95	A	12	12	/
48 60 95 110	A	7	7	/
110 220 300	A	3	3	11
220 440	A	1.3	1.3	6.5
440	A	0.6	0.6	3.2
DC-13 τ=20ms Electromagnet load				
Contacts in Series 1 2 3 4				
24 48 72 95	A	8	8	/
48 60 95 110	A	5	5	/
110 220 300	A	2	2	6.5
220 440	A	0.8	0.8	3.2
440	A	0.3	0.3	1.5

Advantages

>RUS20 series cam switches obtain many invention patents at home and abroad.
>Compact size. The thickness of one stage is 6.5mm which is 50% thinner than the traditional switches.
>Copper clamping structure for high contact pressure, strong anti-vibration performance, long-term protection in hostile environments such as humidity, salt spray.
>High connection efficiency. There is no need for ferrules.
>Sliver alloy contacts for excellent electrical conductivity, strong arc resistance and corrosion resistance.
>The insulator made of modified PA66 has excellent electrical and mechanical properties and the flame retardant rating reaches UL94 V0. The material complys with RoHS requirements. PA66 have good resistance to termites, anaerobes, funguses because it does not provide oxygen and other biological elements for microorganisms.
>Excellent electrical performance, strong contact breaking ability.
>The stage no. of the switches can reach 20.

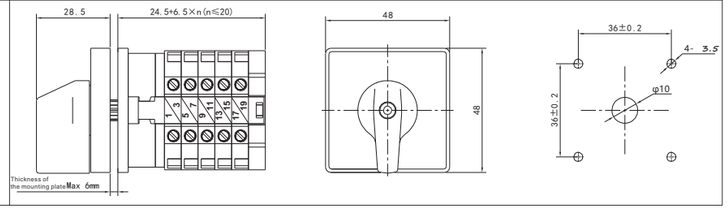
Model Implication

R	US	20A	□	□	□□ / □	□	□□–□□□–□□□
1	2	3	4	5	6 7	8	9 10 11

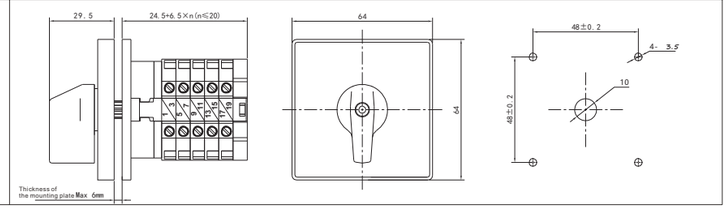
1. Reliance
2. Product name
3. Series code
4. Angle code
5. Feature code
6. Panel style
7. Stage no.
8. B refers to the panel size 64x64mm. If there is blank, it refers to the panel size 48x48mm.
9. HL refers to “with lock”
10. Contacts feature
11. LED refers to “with indicator”

RUS20 Overall Dimension and Installation

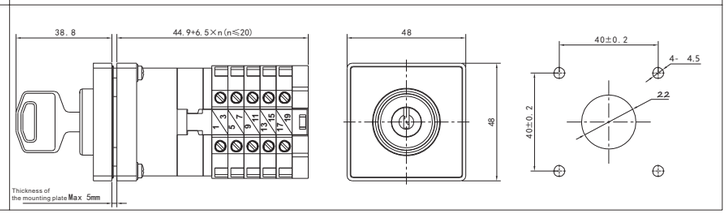
> Ordinary model

Appearance	The thickness of one stage is 6.5mm and the max. stage no. is 20.
	

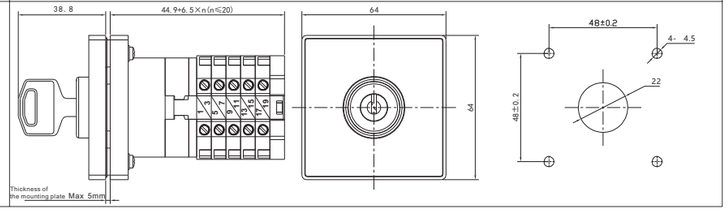
> Ordinary model with big panel

Appearance	The thickness of one stage is 6.5mm and the max. stage no. is 20.
	

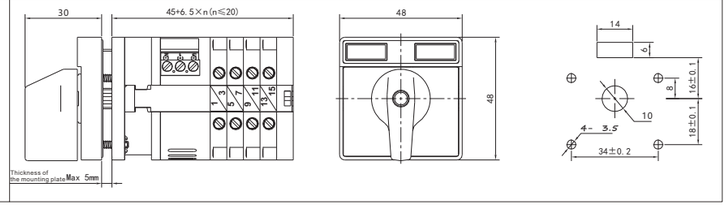
> The model with lock

Appearance	The thickness of one stage is 6.5mm and the max. stage no. is 20.
	

> The model with big panel and lock

Appearance	The thickness of one stage is 6.5mm and the max. stage no. is 20.
	

> The Model with indicator

Appearance	The thickness of one stage is 6.5mm and the max. stage no. is 20.
	

RCS2 Series Advantages

>Combination screw clamping structure for easy observing connecting status. Self-locking function for high connecting strength.

>The switch has anti-touch function which is safe and reliable.

>Sliver alloy contacts for excellent electrical conductivity, strong arc resistance and corrosion resistance.

>The insulator made of modified PA66 has excellent electrical and mechanical properties and the flame retardant rating reaches UL94 V0. The material complys with RoHS requirement. PA66 have good resistance to termites, anaerobes, funguses because it does not provide oxygen and other biological elements for microorganisms.

>Excellent electrical performance, strong contact breaking ability.

>The thickness of each stage is 10mm and the stage no. of the switches can reach 12.

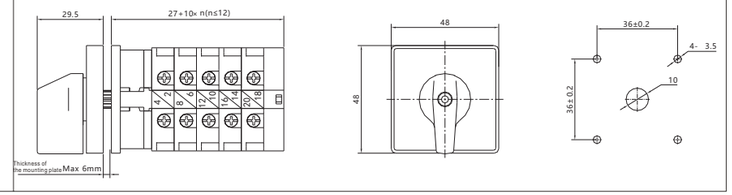
Model Implication

R	CS	□	□	□	□□ / □	□	□□–□□□–□□□		
1	2	3	4	5	6	7	8	9	10	11

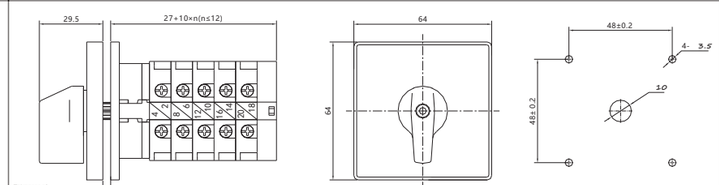
1. Reliance
2. Product name
3. Series No. 2 refers to Ith 20A, 4 refers to Ith 40A
4. Angle code
5. Feature code
6. Panel style
7. Stage no.
8. B refers to the panel size 64x64mm. If there is blank, it refers to the panel size 48x48mm.
9. HL refers to “with lock”
10. Contacts feature
11. LED refers to “with indicator”

RCS2 Overall Dimension and Installation

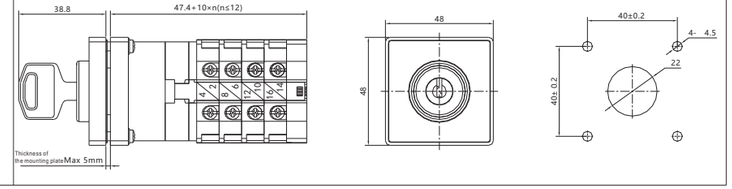
> Ordinary model

Appearance	The thickness of one stage is 10mm and the max. stage no. is 12.
	

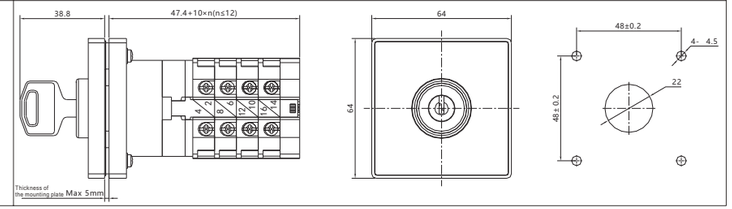
> Ordinary model with big panel

Appearance	The thickness of one stage is 10mm and the max. stage no. is 12.
	

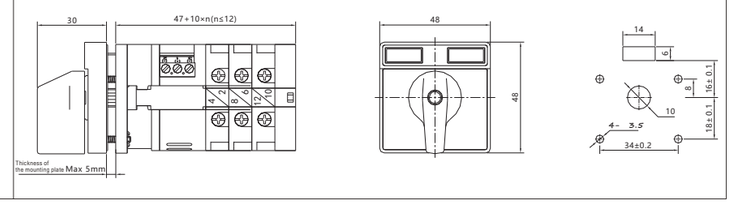
> The model with lock

Appearance	The thickness of one stage is 10mm and the max. stage no. is 12.
	

> The model with big panel and lock

Appearance	The thickness of one stage is 10mm and the max. stage no. is 12.
	

> The Model with indicator

Appearance	The thickness of one stage is 10mm and the max. stage no. is 12.
	

RCS4 Series Advantage

>Combination screw clamping structure for easy observing connecting status. Self-locking function for high connecting strength.

>The switch shaft is made of metal to ensure the reliability of the switch transmission and the accuracy of the contact action.

>The switch has anti-touch function which is safe and reliable.

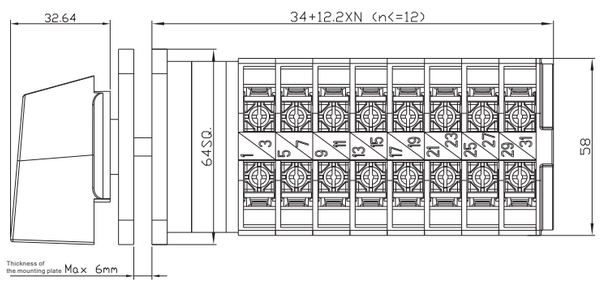
>Sliver alloy contacts for excellent electrical conductivity, strong arc resistance and corrosion resistance.

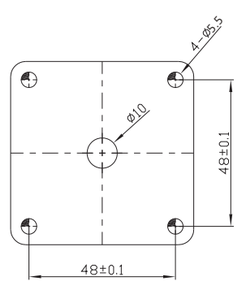
>The insulator made of modified PA66 has excellent electrical and mechanical properties and the flame retardant rating reaches UL94 V0. The material complys with RoHS requirement. PA66 have good resistance to termites, anaerobes, funguses because it does not provide oxygen and other biological elements for microorganisms.

>Excellent electrical performance, strong contact breaking ability.

The thickness of each stage is 12.2mm and the stage no. of the switches can reach 12.

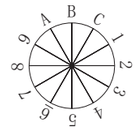
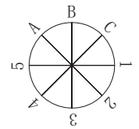
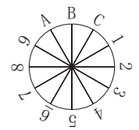
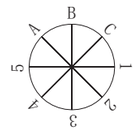
RCS4 Overall Dimensions and Installation



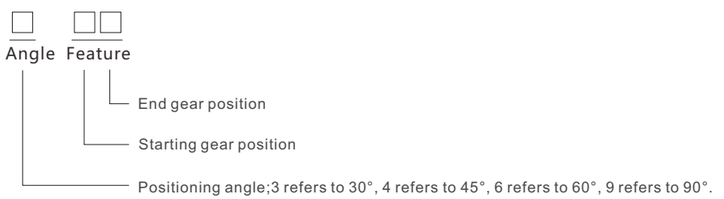


Positioning Feature Code

>The positioning feature code refers to the gear feature of the cam switches. It includes positioning and self-resetting RCS and RUS series cam switches provide various positioning angles such as 30 ° 45 °, 60 °, 90 °, to meet customers' different requirement.

Positioning angles	Angle code	Feature diagram	Angle code example
30°	3		"3A4" means 30 degree positioning. Starting from Position A, clockwise to the end of position 4. "A, B, C, 1, 2, 3, 4" 7 gear positions in total.
45°	4		"451" means 45 degree positioning. Starting from Position 5, clockwise to the end of position 1. "5、A、B、C、1" 5 gear positions in total.
60°	6		"6A4"means 60 degree positioning. Starting from Position A, clockwise to the end of position 4. "A、C、2、4" 4 gear positions in total.
90°	9		"9A2" means 90 degree positioning. Starting from Position A, clockwise to the end of position 2. A C 2" 3 gear positions in total.

Model Implication



Note: If the switch is not 360° rotating limited, the end gear code is the same as the start gear code. For example: 9BB indicates that the switch positioning angle is 90°. When the switches are ready to ship out, the starting position is "B", and the total position is 4 gears, which is not limited.

>The self-resetting cam switch refers to the switch which has one or several gear positions and has the function of automatically returning to the adjacent gear position when the operating handle loses the external force. The following are various options for common self-recovery. If you have further need, please consult the technical department directly.

Feature code	Self-recovery operation position (angle)
FA	0° 45°
FB	-45° 0° 45°
FC	-45° 0° 45°
FD	-45° 0° 45°
FE	-90° 0° 45°
FF	-45° 0° 90°
FG	-90° -45° 0° 45° 90°
FH	-90° -45° 0° 45° 90°
FI	-45° 0° 90° -135°
FJ	-135° -90° 0° 45°
FK	-135° -90° 0° 45°
FL	-90° -45° 0° 45° 90°
FM	-90° 0° 45° 0° -90° -135°
FN	-30° 0° 90°

Model Implication

□ □□
Angle Feature

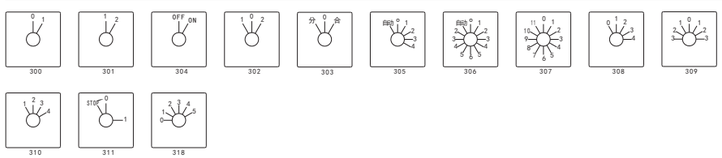
Feature code

Positioning angle 3 refers to 30°,4 refers to 45°,6 refers to 60°,9 refers to 90°.

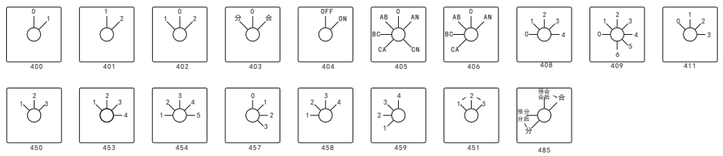
Panel Printing Code

>The panel printing code indicates the operation position and status requirements of the cam switch. The customer can refer to the common panel printing code for selection. It can also be customized per customer requirements.

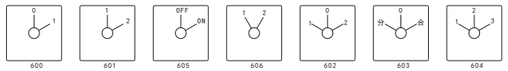
>Panel for positioning angle 30°



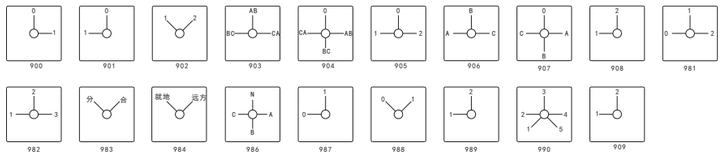
Panel for positioning angle 45°



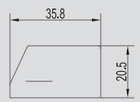
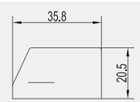
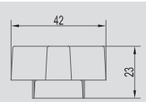
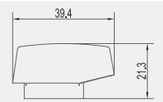
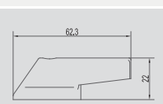
Panel for positioning angle 60°



Panel for positioning angle 90°



Handles

	Color	Type	Order No.	Overall dimension
	■	ROH1	817991	
	■	ROH2	817992	
	■	ROH3	817993	
	■	ROH5	817995	
	■	ROH7	817997	

Cam Switch Common Models

On-off Switches

45°On-off Switches

Panel marks		0	1	Type
Handle angle		0°	45°	
Handle direction		↑	↗	
Stage 1	1-2		×	R□□□ 4C40/1
	3-4		×	
Stage 2	5-6		×	R□□□ 4C40/2
	7-8		×	
Stage3	9-10		×	R□□□ 4C40/3
	11-12		×	
Stage 4	13-14		×	R□□□ 4C40/4
	15-16		×	
Stage 5	17-18		×	R□□□ 4C40/5
	19-20		×	
Stage 6	21-22		×	R□□□ 4C40/6
	23-24		×	
Stage 7	25-26		×	R□□□ 4C40/7
	27-28		×	
Stage 8	29-30		×	R□□□ 4C40/8
	31-32		×	
Stage 9	33-34		×	R□□□ 4C40/9
	35-36		×	
Stage 10	37-38		×	R□□□ 4C40/10
	39-40		×	
Stage 11	41-42		×	R□□□ 4C40/11
	43-44		×	
Stage 12	45-46		×	R□□□ 4C40/12
	47-48		×	

R□□□ indicates the switch series type. For example: RCS2 4C40/4 indicates RCS2 series, 4 stages, two gears, 45 degrees positioning, and the panel printing is 0 and 1.

90°On-off Switches

Panel marks		0	1	Type
Handle angle		90°	0°	
Handle direction		—	↑	
Stage 1	1-2		×	R□□□ 9C87/1
	3-4		×	
Stage 2	5-6		×	R□□□ 9C87/2
	7-8		×	
Stage3	9-10		×	R□□□ 9C87/3
	11-12		×	
Stage 4	13-14		×	R□□□ 9C87/4
	15-16		×	
Stage 5	17-18		×	R□□□ 9C87/5
	19-20		×	
Stage 6	21-22		×	R□□□ 9C87/6
	23-24		×	
Stage 7	25-26		×	R□□□ 9C87/7
	27-28		×	
Stage 8	29-30		×	R□□□ 9C87/8
	31-32		×	
Stage 9	33-34		×	R□□□ 9C87/9
	35-36		×	
Stage 10	37-38		×	R□□□ 9C87/10
	39-40		×	
Stage 11	41-42		×	R□□□ 9C87/11
	43-44		×	
Stage 12	45-46		×	R□□□ 9C87/12
	47-48		×	

R□□□ indicates the switch series type. For example: RCS2 9C87/4 indicates RCS2 series, 4 stages, two gears, 90 degrees positioning, and the panel printing is 0 and 1.

90°On-off Switches

Panel marks		0	1	Type
Handle angle		45°	45°	
Handle direction		↖	↗	
Stage 1	1-2		×	R□□□ 9U88/1
	3-4		×	
Stage 2	5-6		×	R□□□ 9U88/2
	7-8		×	
Stage3	9-10		×	R□□□ 9U88/3
	11-12		×	
Stage 4	13-14		×	R□□□ 9U88/4
	15-16		×	
Stage 5	17-18		×	R□□□ 9U88/5
	19-20		×	
Stage 6	21-22		×	R□□□ 9U88/6
	23-24		×	
Stage 7	25-26		×	R□□□ 9U88/7
	27-28		×	
Stage 8	29-30		×	R□□□ 9U88/8
	31-32		×	
Stage 9	33-34		×	R□□□ 9U88/9
	35-36		×	
Stage 10	37-38		×	R□□□ 9U88/10
	39-40		×	
Stage 11	41-42		×	R□□□ 9U88/11
	43-44		×	
Stage 12	45-46		×	R□□□ 9U88/12
	47-48		×	

R□□□ indicates the switch series type. For example: RUS20A 9U88/4 indicates RUS20A series, 4 stages, two gears, 90 degrees positioning, and the panel printing is 0 and 1.

90°On-off Switches

Panel marks		0	1	Type
Handle angle		0°	90°	
Handle direction		↑	—	
Stage 1	1-2		×	R□□□ 9C90/1
	3-4		×	
Stage 2	5-6		×	R□□□ 9C90/2
	7-8		×	
Stage3	9-10		×	R□□□ 9C90/3
	11-12		×	
Stage 4	13-14		×	R□□□ 9C90/4
	15-16		×	
Stage 5	17-18		×	R□□□ 9C90/5
	19-20		×	
Stage 6	21-22		×	R□□□ 9C90/6
	23-24		×	
Stage 7	25-26		×	R□□□ 9C90/7
	27-28		×	
Stage 8	29-30		×	R□□□ 9C90/8
	31-32		×	
Stage 9	33-34		×	R□□□ 9C90/9
	35-36		×	
Stage 10	37-38		×	R□□□ 9C90/10
	39-40		×	
Stage 11	41-42		×	R□□□ 9C90/11
	43-44		×	
Stage 12	45-46		×	R□□□ 9C90/12
	47-48		×	

R□□□ indicates the switch series type. For example: RCS4 9C90/4 indicates RCS4 series, 4 stages, two gears, 90 degrees positioning, and the panel printing is 0 and 1.

Double-throw Switches

No position "0", 45 positioning

Panel marks		1	2	Type
Handle angle		0°	45°	
Handle direction		↑	↗	
Stage 1	1-2	×		R□□□ 4C41/1
	3-4		×	
Stage 2	5-6	×		R□□□ 4C41/2
	7-8		×	
Stage3	9-10	×		R□□□ 4C41/3
	11-12		×	
Stage 4	13-14	×		R□□□ 4C41/4
	15-16		×	
Stage 5	17-18	×		R□□□ 4C41/5
	19-20		×	
Stage 6	21-22	×		R□□□ 4C41/6
	23-24		×	
Stage 7	25-26	×		R□□□ 4C41/7
	27-28		×	
Stage 8	29-30	×		R□□□ 4C41/8
	31-32		×	
Stage 9	33-34	×		R□□□ 4C41/9
	35-36		×	
Stage 10	37-38	×		R□□□ 4C41/10
	39-40		×	
Stage 11	41-42	×		R□□□ 4C41/11
	43-44		×	
Stage 12	45-46	×		R□□□ 4C41/12
	47-48		×	

R□□□ indicates the switch series type. For example: RCS2 4C41/8 indicates RCS2 series, 8 stages, two gears, 45 degrees positioning, and the panel printing is 1 and 2.

No position "0",odd number connection, 45 positioning

Panel marks		1	2	Type
Handle angle		0°	45°	
Handle direction		↑	↗	
Stage 1	1-2	×		R□□□ 4C41/1-001
	3-4		×	
Stage 2	5-6	×		R□□□ 4C41/2-001
	7-8		×	
Stage3	9-10	×		R□□□ 4C41/3-001
	11-12		×	
Stage 4	13-14	×		R□□□ 4C41/4-001
	15-16		×	
Stage 5	17-18	×		R□□□ 4C41/5-001
	19-20		×	
Stage 6	21-22	×		R□□□ 4C41/6-001
	23-24		×	
Stage 7	25-26	×		R□□□ 4C41/7-001
	27-28		×	
Stage 8	29-30	×		R□□□ 4C41/8-001
	31-32		×	
Stage 9	33-34	×		R□□□ 4C41/9-001
	35-36		×	
Stage 10	37-38	×		R□□□ 4C41/10-001
	39-40		×	
Stage 11	41-42	×		R□□□ 4C41/11-001
	43-44		×	
Stage 12	45-46	×		R□□□ 4C41/12-001
	47-48		×	

R□□□ indicates the switch series type. For example: RUS20A 4C41/5-001 indicates RUS2A series, 5 stages, two gears, 45 degrees positioning, and the panel printing is 1 and 2.

No position "0", 90 positioning

Panel marks		1	2	Type
Handle angle		45°	45°	
Handle direction		↖	↗	
Stage 1	1-2	×		R□□□ 9U92/1
	3-4		×	
Stage 2	5-6	×		R□□□ 9U92/2
	7-8		×	
Stage3	9-10	×		R□□□ 9U92/3
	11-12		×	
Stage 4	13-14	×		R□□□ 9U92/4
	15-16		×	
Stage 5	17-18	×		R□□□ 9U92/5
	19-20		×	
Stage 6	21-22	×		R□□□ 9U92/6
	23-24		×	
Stage 7	25-26	×		R□□□ 9U92/7
	27-28		×	
Stage 8	29-30	×		R□□□ 9U92/8
	31-32		×	
Stage 9	33-34	×		R□□□ 9U92/9
	35-36		×	
Stage 10	37-38	×		R□□□ 9U92/10
	39-40		×	
Stage 11	41-42	×		R□□□ 9U92/11
	43-44		×	
Stage 12	45-46	×		R□□□ 9U92/12
	47-48		×	

R□□□ indicates the switch series type. For example: RCS2 9U92/4 indicates RCS2 series, 4 stages, two gears, 90 degrees positioning, and the panel printing is 1 and 2.

No position "0", odd number connection, 90 positioning

Panel marks		1	2	Type
Handle angle		45°	45°	
Handle direction		↖	↗	
Stage 1	1-2	×		R□□□ 9U92/1-001
	3-4		×	
Stage 2	5-6	×		R□□□ 9U92/2-001
	7-8		×	
Stage3	9-10	×		R□□□ 9U92/3-001
	11-12		×	
Stage 4	13-14	×		R□□□ 9U92/4-001
	15-16		×	
Stage 5	17-18	×		R□□□ 9U92/5-001
	19-20		×	
Stage 6	21-22	×		R□□□ 9U92/6-001
	23-24		×	
Stage 7	25-26	×		R□□□ 9U92/7-001
	27-28		×	
Stage 8	29-30	×		R□□□ 9U92/8-001
	31-32		×	
Stage 9	33-34	×		R□□□ 9U92/9-001
	35-36		×	
Stage 10	37-38	×		R□□□ 9U92/10-001
	39-40		×	
Stage 11	41-42	×		R□□□ 9U92/11-001
	43-44		×	
Stage 12	45-46	×		R□□□ 9U92/12-001
	47-48		×	

R□□□ indicates the switch series type. For example: RCS4 9U92/5-001 indicates RCS4 series, 5 stages, two gears, 90 degrees positioning, and the panel printing is 1 and 2.

Double-throw Switches

With position "0", 45 positioning

Panel marks		1	0	2	Type
Handle angle		45°	0°	45°	
Handle direction		↖	↑	↗	
Stage 1	1-2	×			R□□□ 4D42/1
	3-4			×	
Stage 2	5-6	×			R□□□ 4D42/2
	7-8			×	
Stage3	9-10	×			R□□□ 4D42/3
	11-12			×	
Stage 4	13-14	×			R□□□ 4D42/4
	15-16			×	
Stage 5	17-18	×			R□□□ 4D42/5
	19-20			×	
Stage 6	21-22	×			R□□□ 4D42/6
	23-24			×	
Stage 7	25-26	×			R□□□ 4D42/7
	27-28			×	
Stage 8	29-30	×			R□□□ 4D42/8
	31-32			×	
Stage 9	33-34	×			R□□□ 4D42/9
	35-36			×	
Stage 10	37-38	×			R□□□ 4D42/10
	39-40			×	
Stage 11	41-42	×			R□□□ 4D42/11
	43-44			×	
Stage 12	45-46	×			R□□□ 4D42/12
	47-48			×	

R□□□ indicates the switch series type. For example: RCS2 4D42/4 indicates RCS2 series, 4 stages, three gears, 45 degrees positioning, and thepanel printing is 1, 0 and 2.

With position "0",odd number connection, 45 positioning

Panel marks		1	0	2	Type
Handle angle		45°	0°	45°	
Handle direction		↖	↑	↗	
Stage 1	1-2	×			R□□□ 4D42/1-001
	3-4			×	
Stage 2	5-6	×			R□□□ 4D42/2-001
	7-8			×	
Stage3	9-10	×			R□□□ 4D42/3-001
	11-12			×	
Stage 4	13-14	×			R□□□ 4D42/4-001
	15-16			×	
Stage 5	17-18	×			R□□□ 4D42/5-001
	19-20			×	
Stage 6	21-22	×			R□□□ 4D42/6-001
	23-24			×	
Stage 7	25-26	×			R□□□ 4D42/7-001
	27-28			×	
Stage 8	29-30	×			R□□□ 4D42/8-001
	31-32			×	
Stage 9	33-34	×			R□□□ 4D42/9-001
	35-36			×	
Stage 10	37-38	×			R□□□ 4D42/10-001
	39-40			×	
Stage 11	41-42	×			R□□□ 4D42/11-001
	43-44			×	
Stage 12	45-46	×			R□□□ 4D42/12-001
	47-48			×	

R□□□ indicates the switch series type. For example: RUS20A 4D42/4-001 indicates RUS20A series, 4 stages, three gears, 45 degrees positioning, and thepanel printing is 1, 0 and 2.

With position "0", 45 positioning

Panel marks		1	0	2	Type
Handle angle		45°	0°	45°	
Handle direction		↖	↑	↗	
Stage 1	1-2	×			R□□□ 4B42/1
	3-4			×	
Stage 2	5-6	×			R□□□ 4B42/2
	7-8			×	
Stage3	9-10	×			R□□□ 4B42/3
	11-12			×	
Stage 4	13-14	×			R□□□ 4B42/4
	15-16			×	
Stage 5	17-18	×			R□□□ 4B42/5
	19-20			×	
Stage 6	21-22	×			R□□□ 4B42/6
	23-24			×	
Stage 7	25-26	×			R□□□ 4B42/7
	27-28			×	
Stage 8	29-30	×			R□□□ 4B42/8
	31-32			×	
Stage 9	33-34	×			R□□□ 4B42/9
	35-36			×	
Stage 10	37-38	×			R□□□ 4B42/10
	39-40			×	
Stage 11	41-42	×			R□□□ 4B42/11
	43-44			×	
Stage 12	45-46	×			R□□□ 4B42/12
	47-48			×	

R□□□ indicates the switch series type. For example: RCS24B42/4 indicatesRCS2 series, 4 stages, four gears, 45 degrees positioning, and thepanel printing is 1, 0 and 2.

With position "0",odd number connection, 45 positioning

Panel marks		1	0	2	Type
Handle angle		45°	0°	45°	
Handle direction		↖	↑	↗	
Stage 1	1-2	×			R□□□ 4B42/1-001
	3-4			×	
Stage 2	5-6	×			R□□□ 4B42/2-001
	7-8			×	
Stage3	9-10	×			R□□□ 4B42/3-001
	11-12			×	
Stage 4	13-14	×			R□□□ 4B42/4-001
	15-16			×	
Stage 5	17-18	×			R□□□ 4B42/5-001
	19-20			×	
Stage 6	21-22	×			R□□□ 4B42/6-001
	23-24			×	
Stage 7	25-26	×			R□□□ 4B42/7-001
	27-28			×	
Stage 8	29-30	×			R□□□ 4B42/8-001
	31-32			×	
Stage 9	33-34	×			R□□□ 4B42/9-001
	35-36			×	
Stage 10	37-38	×			R□□□ 4B42/10-001
	39-40			×	
Stage 11	41-42	×			R□□□ 4B42/11-001
	43-44			×	
Stage 12	45-46	×			R□□□ 4B42/12-001
	47-48			×	

R□□□ indicates the switch series type. For example: RCS4 4B42/4-001 indicates RCS4 series, 4 stages, four gears, 45 degrees positioning, and thepanel printing is 1, 0 and 2.

Double-throw Switches

With position "0", 90 positioning

Panel marks		1	0	2	Type
Handle angle		90°	0°	90°	
Handle direction		←	↑	→	
Stage 1	1-2	×			R□□□ 9D95/1
	3-4			×	
Stage 2	5-6	×			R□□□ 9D95/2
	7-8			×	
Stage3	9-10	×			R□□□ 9D95/3
	11-12			×	
Stage 4	13-14	×			R□□□ 9D95/4
	15-16			×	
Stage 5	17-18	×			R□□□ 9D95/5
	19-20			×	
Stage 6	21-22	×			R□□□ 9D95/6
	23-24			×	
Stage 7	25-26	×			R□□□ 9D95/7
	27-28			×	
Stage 8	29-30	×			R□□□ 9D95/8
	31-32			×	
Stage 9	33-34	×			R□□□ 9D95/9
	35-36			×	
Stage 10	37-38	×			R□□□ 9D95/10
	39-40			×	
Stage 11	41-42	×			R□□□ 9D95/11
	43-44			×	
Stage 12	45-46	×			R□□□ 9D95/12
	47-48			×	

R□□□ indicates the switch series type. For example: RCS2 9D95/4 indicates RCS2 series, 4 stages, three gears, 90 degrees positioning, and the panel printing is 1, 0 and 2.

With position "0",odd number connection, 90 positioning

Panel marks		1	0	2	Type
Handle angle		90°	0°	90°	
Handle direction		←	↑	→	
Stage 1	1-2	×			R□□□ 9D95/1-001
	3-4			×	
Stage 2	5-6	×			R□□□ 9D95/2-001
	7-8			×	
Stage3	9-10	×			R□□□ 9D95/3-001
	11-12			×	
Stage 4	13-14	×			R□□□ 9D95/4-001
	15-16			×	
Stage 5	17-18	×			R□□□ 9D95/5-001
	19-20			×	
Stage 6	21-22	×			R□□□ 9D95/6-001
	23-24			×	
Stage 7	25-26	×			R□□□ 9D95/7-001
	27-28			×	
Stage 8	29-30	×			R□□□ 9D95/8-001
	31-32			×	
Stage 9	33-34	×			R□□□ 9D95/9-001
	35-36			×	
Stage 10	37-38	×			R□□□ 9D95/10-001
	39-40			×	
Stage 11	41-42	×			R□□□ 9D95/11-001
	43-44			×	
Stage 12	45-46	×			R□□□ 9D95/12-001
	47-48			×	

R□□□ indicates the switch series type. For example: RCS2 9D95/4 indicates RCS2 series, 4 stages, three gears, 90 degrees positioning, and the panel printing is 1, 0 and 2.

Muti-position switches

Without position "0",even number connection, 3 gears

Panel marks		1	2	3	Type
Handle angle		45°	0°	45°	
Handle direction		↖	↑	↗	
Stage 1	1-2	×			R□□□ 4D50/1
	3-4		×		
Stage 2	5-6			×	
	7-8	×			R□□□ 4D50/2
Stage3	9-10		×		
	11-12			×	
Stage 4	13-14	×			R□□□ 4D50/3
	15-16		×		
Stage 5	17-18			×	
	19-20	×			R□□□ 4D50/4
Stage 6	21-22		×		
	23-24			×	
Stage 7	25-26	×			R□□□ 4D50/5
	27-28		×		
Stage 8	29-30			×	
	31-32	×			R□□□ 4D50/6
Stage 9	33-34		×		
	35-36			×	
Stage 10	37-38	×			R□□□ 4D50/7
	39-40		×		
Stage 11	41-42			×	
	43-44	×			R□□□ 4D50/8
Stage 12	45-46		×		
	47-48			×	

R□□□ indicates the switch series type. For example: RCS4 4D50/2 indicates RCS2 series, 3 stages, three gears, 45 degrees positioning, and the panel printing is 1, 2 and 3.

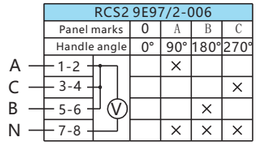
Without position "0",even number connection, 5 gears

Panel marks		1	2	3	4	5	Type
Handle angle		90°	45°	0°	45°	90°	
Handle direction		—	↖	↑	↗	—	
Stage 1	1-2	×					R□□□ 4F56/1
	3-4					×	
Stage 2	5-6		×				
	7-8			×			
Stage3	9-10				×		
	11-12		×				R□□□ 4F56/2
Stage 4	13-14			×			
	15-16				×		
Stage 5	17-18	×					
	19-20					×	
Stage 6	21-22	×					R□□□ 4F56/3
	23-24					×	
Stage 7	25-26		×				
	27-28			×			
Stage 8	29-30				×		
	31-32		×				R□□□ 4F56/4
Stage 9	33-34			×			
	35-36				×		
Stage 10	37-38	×					
	39-40					×	

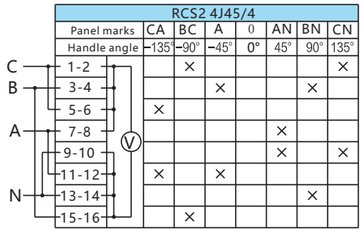
R□□□ indicates the switch series type. For example: RCS4 4F56/2 indicates RCS2 series, 5 stages, five gears, 45 degrees positioning, and the panel printing is 1, 2 ,3, 4 and 5.

Voltage measuring switches

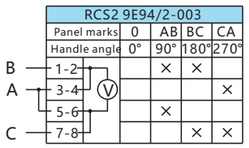
With position "0" and N wire.
Measuring 3 phase voltage



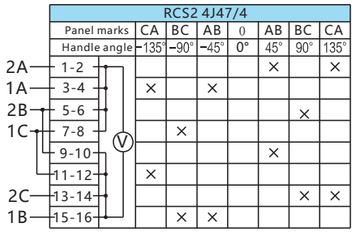
With position "0", N wire, Measuring 3-phase voltage



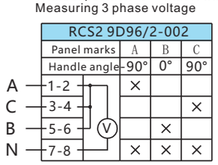
With position "0", Measuring
3 phase voltage



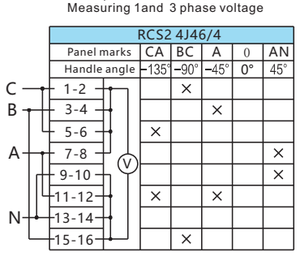
With position "0", Measuring 3 phase voltage of
2 power supplies



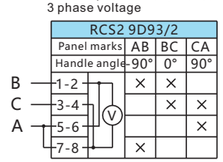
Without position "0" , with N wire.
Measuring 3 phase voltage



With position "0" and N wire.
Measuring 1and 3 phase voltage

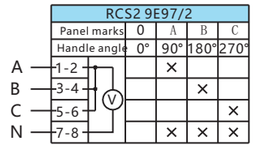


Without position "0" , Measuring
3 phase voltage

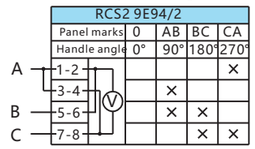


Voltage measuring Switches

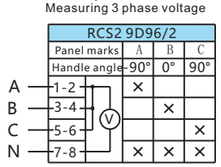
With position "0", N wire,
Measuring 3-phase voltage



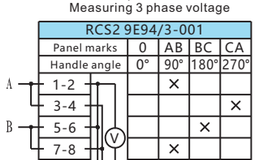
With position "0", Measuring 3
phase voltage



Without position "0", with N wire,
Measuring 3 phase voltage

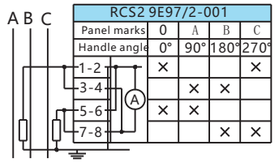


Without position "0"and
Measuring 3 phase voltage

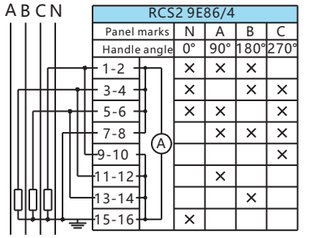


Current measuring Switches

With 2 transformers, with position "0"
and measuring 3-phase current



With 3 transformers, with N wire
and measuring A,B,C, N 3-phase current



With 3 transformers, position "0"
and measuring A,B,C 3-phase current