YCHGL YCHGLZ1 series

Load isolation switch

OPERATION INSTRUCTION

Standard: IEC 60947-3

CNC Deliver Power For Better Life

⚠ Before installing and using this product, please read this manual carefully and pay more attention to safety.

Content

YCHGL YCHGLZ1

1. USAGE

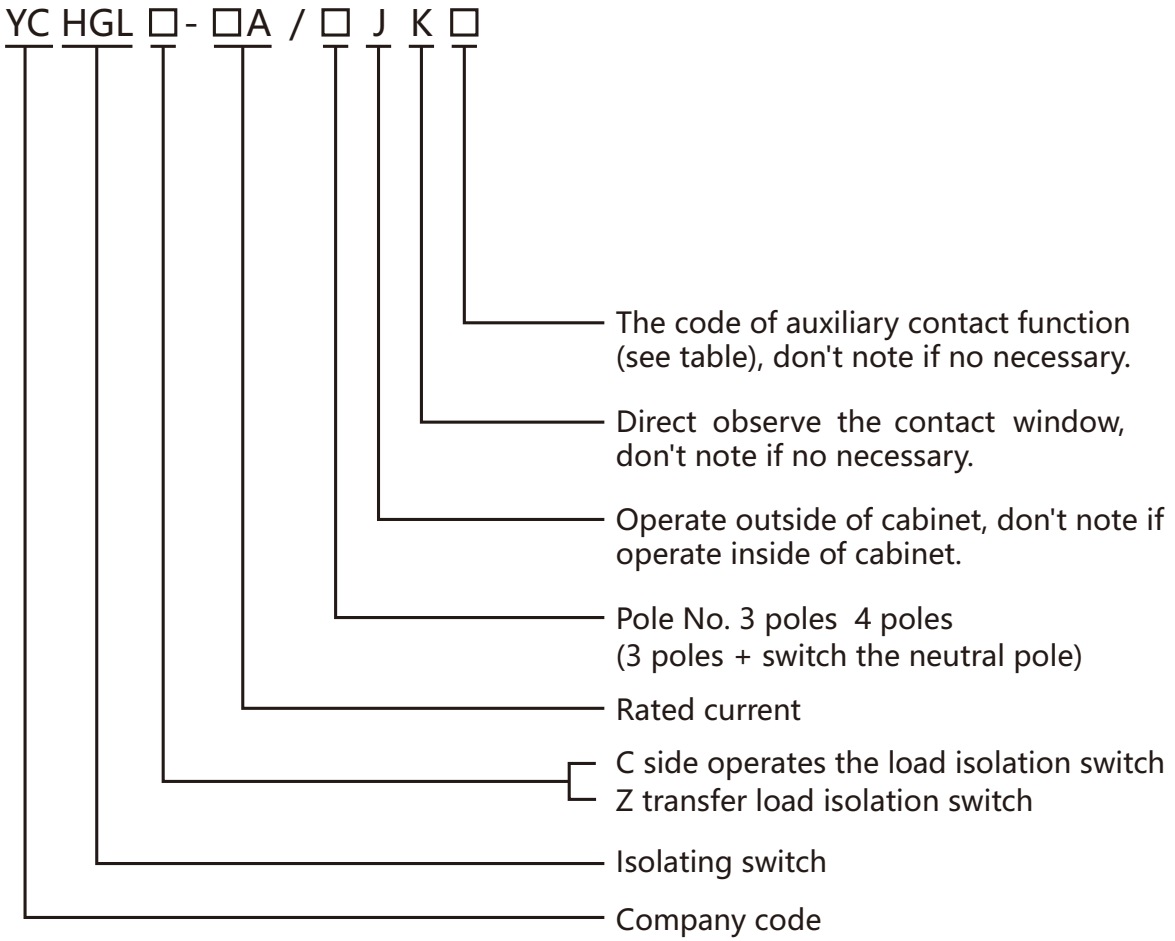
GL series Isolator(Load isolation switch) apply to AC 50Hz,rated voltage below 660V(690V),apply to DC,rated voltage below 440V. Rated current is 125A~3150A. It is suitable for connecting and breaking the infrequent electric circuit or electric isolation in power system. Above 1000A only suitable for electric isolation.

This product comply with IEC60947-3.

2. ENVIRONMENTAL CONDITIONS

- Altitude not exceed 2000m;
- Ambient air temperature is not higher than +40℃ and not lower than -5℃.And the average temperature value of 24 hours is not higher than +35℃;
- When the maximum temperature up to +40℃,air relative humidity should not larger than 50%. In the lower temperature,it allows to have a higher relative humidity,but should take measure when temperature occasionally change or turn the condensation;
- No explosion hazard medium environment;
- Pollution is 3 class.

3. TYPE DESIGNATION



One NO and one NC	11	NO+NC
Two NO and Two NC	22	2NO+2NC

Example for lecto type:

Rated current 630A,include neutral pole transferring load isolation switch, YCHGLZ-630A/4J for operating outside of cabinet

4. STRUCTURAL FEATURES

4.1 Switch adopt elastic-accumulating mechanism for instant release realizes the rapid making and breaking. Have no relationship with the speed of the operation handle and increasing greatly the capability of extinguishing electric arc.

4.2 The shell made of unsaturated polyester resin reinforced by fiberglass possess excellent performance of flame resistant,dielectric performance,safe operation,resist carbonic performance and resist impact performance.

4.3 Switch have 3P and 4P(3P+Neutral pole)

4.4 Mark window is set in the front side to indicate ON and OFF state of contact.

4.5 Operation handle can installed directly in the middle of the switch is inside operation. And also can additional longer handle installed outside of the distribution box door. It call outside operation.

4.6 According to the need,can supply normal open and normal closing auxiliary contact and install special base board,the front and behind connection type,to meet client need.

4.7 When in disconnect position "O",can use two or three locked the handle to avoid misoperation.

5. STRUCTURE AND CHARACTER

The Switch shell is manufactured with unsaturated polyester resin reinforced by fiberglass plastic (DMC).Spring energy storage and Speed institutions can quickly achieve connected with the breaker or disconnected with the break The structure of the contact is parallel double breakpoint two separate head, and ensure the contact pressure by shape spring ;Switch can automatically determine the limit position of on and off, and has the obvious On-off tag to indicate the on and off position.

6. TECHNICAL PARAMETER

6.1 HGL series isolation switch's technical parameter(See table 1).

6.2 Side operation,outside operation,behind box operation,behind board connection,directly observe contact window and isolation switch's technical parameter all meet relative GL.

6.3 HGLZ Manual changeover switch's technical parameter is meet relative GL.

7. BOUNDARY AND INSTALLATION DIMENSION

Table 1

Item			Data							
Conventional thermal current (A)			63A		100A		160A		250A	
Rated current In (A)			40	63	80	100	125	160	200	250
Rated insulation voltage Ui (V) (installation type IV)			690	690	690	690	690	690	690	690
Dielectric strength (V)			5000	5000	5000	5000	5000	5000	5000	5000
Rated surge-resistant voltage Uimp kV (installed category IV)			6	6	6	6	6	6	6	6
Rated working current Ie (A)	400V	AC-21B	40	63	80	80	125	160	200	250
		AC-22B	40	63	80	80	125	160	200	250
		AC-23B	40	50	80	80	125	160	200	250
	660V	AC-21B	40	50	80	80	125	160	200	250
		AC-22B	32	32	50	50	125	160	160	160
		AC-23B	25	25	40	40	80	80	100	125
Motor power P (kW)		400V	18.5	25	40	40	63	80	100	132
		660V	22	22	33	33	75	75	90	110
Rated short-time withstand current Icw (kA Rms) 0.1s/1s			2	2	2	2	8	8	12	12
Rated breaking capability Icn (A Rms) AC23 400V			320	504	640	800	1000	1000	1600	1600
Rated making capability Icm (A Rms) AC23 400V			400	630	800	1000	1250	1600	2000	2500
Rated short-current making capability Icm (kA peak value)			2.84	2.84	2.84	2.84	13.6	13.6	17	17
Mechanical durability 400V			1700	1700	1700	1700	1400	1400	1400	1400
Electrical curability 400V			300	300	300	300	200	200	200	200
Operation moment (Nm)			1.2	1.2	1.2	1.2	6.5	6.5	10	10

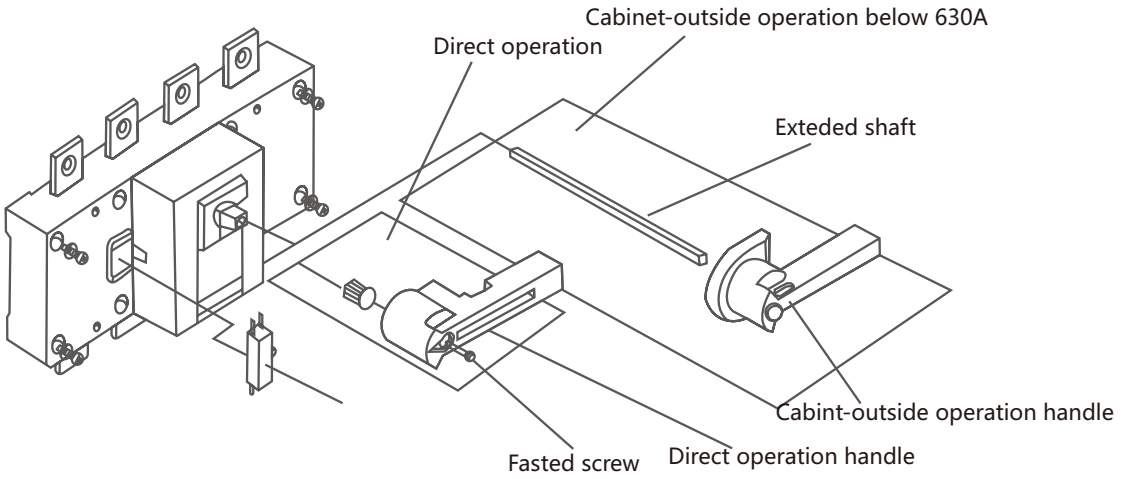
Table 2

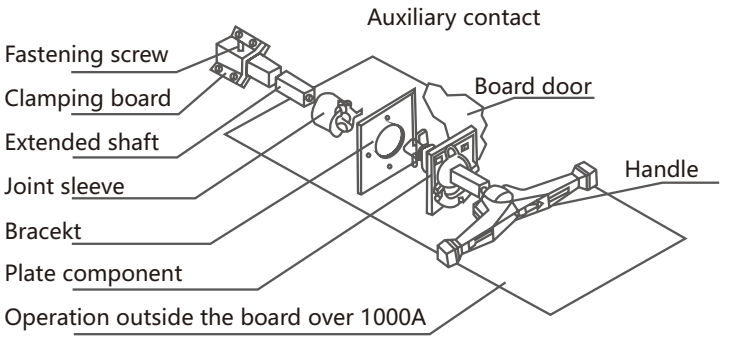
Item				Data									
Conventional thermal current (A)				630A				1600A			3150A		
Rated current In (A)				315	400	500	630	1000	1250	1600	2000	2500	3150
Rated insulation voltage Ui (V) (installation type IV)				1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Dielectric strength (V)				8000	8000	8000	8000	10000	10000	10000	10000	10000	10000
Rated surge-resistant voltage Uimp kV (installed category IV)				6	6	6	6	6	6	6	6	6	6
Rated working current Ie (A)	400V	AC-21B		315	400	500	630	1000	1250	1600	2000	2500	3150
		AC-22B		315	400	500	630	1000	1250	1600	2000	2500	3150
		AC-23B		315	400	500	630						
	660V	AC-21B		315	400	400	500	1000	1000	1600	2000	2500	2500
		AC-22B		315	315	315	315	800	800	800	1000	1250	1600
		AC-23B											
Motor power P (kW)		400V		160	220	280	315	560	560	560	710	710	710
		660V		185	185	185	185	475	475	475	750	750	750
Rated short-time withstand current Icw (kA Rms) 0.1s/1s				25	25	25	25	50	50	50	50	50	50
Rated breaking capability Icn (A Rms) AC23 400V				2520	3200	4000	5040	3000	3750	4800	6000	7500	9450
Rated making capability Icm (A Rms) AC23 400V				3150	4000	5000	6300	3000	3750	4800	6000	7500	9450
Rated short-current making capability Icm (kA peak value)				40	40	40	40	70	70	70	105	105	105
Mechanical durability 400V				800	800	800	800	500	500	500	300	300	300
Electrical duraility 400V				200	200	200	200	100	100	100	100	100	100
Operation moment (Nm)				14.5	14.5	14.5	14.5	37	37	60	60	60	60

YCHGL
Operation mode

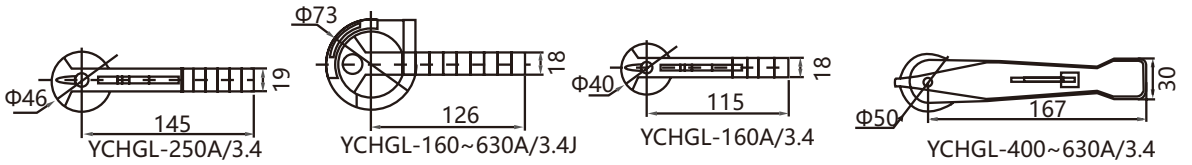
1. Direct operation: The handle is installed in the middle of the switch.

2. Operation outside the board: The handle is installed outside the door off distributing board.



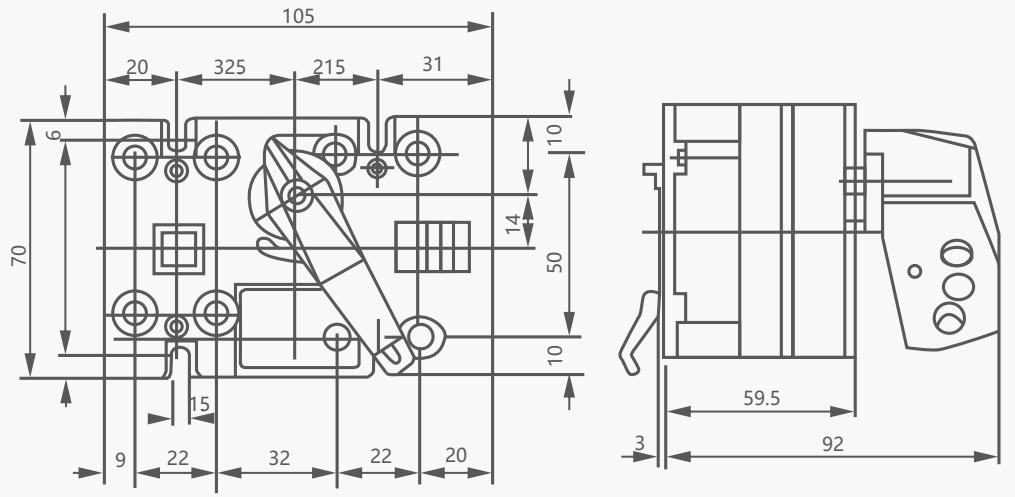


YCHGL-160A~3150A Load isolation switch
Note: Standard length of extended shaft is
160A~630A: 300mm
1000A~3150A: 330mm

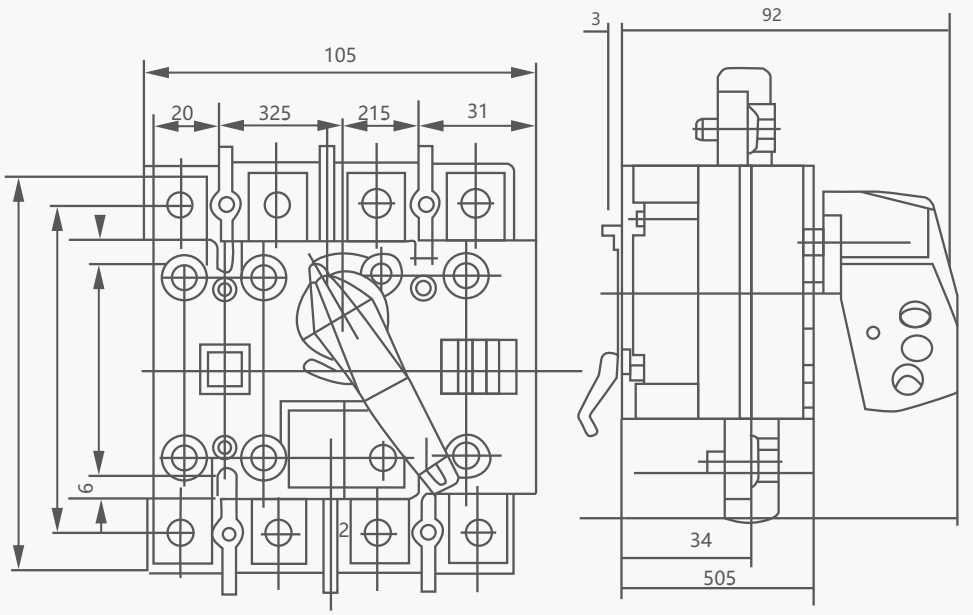


Overall and mounting dimensions(mm)

Load isolation switch side operation load isolation switch of YCHGL-63A~100A

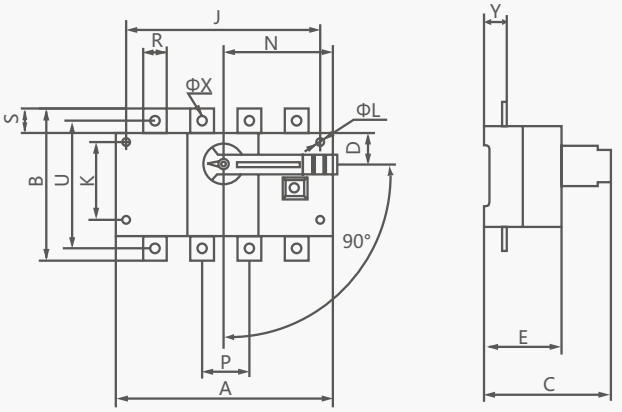


Direct operation of YCHGL 63 A

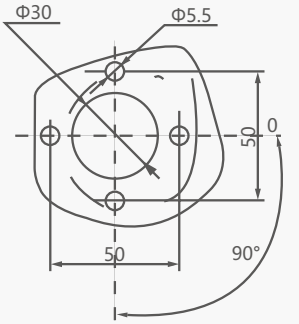


Direct operation of YCHGL 100 A

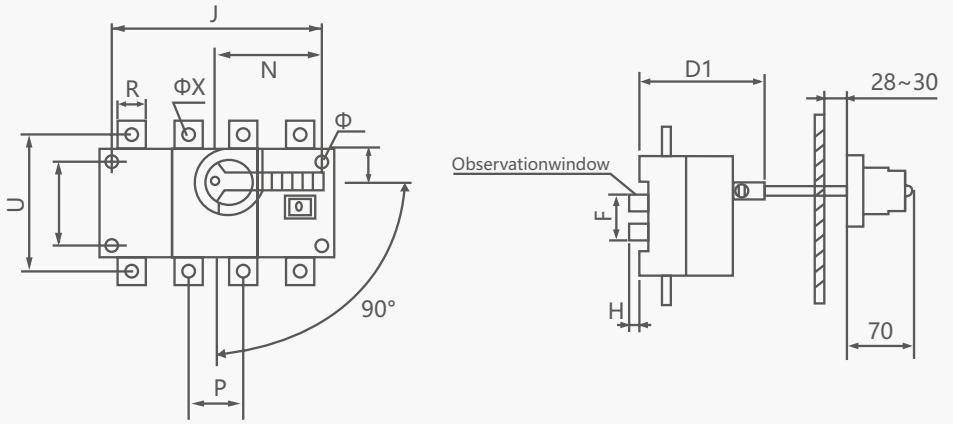
External dimension and installation dimension of YCHGL-160A~630A load isolation switch



Direct operation of YCHGL-160A~630A



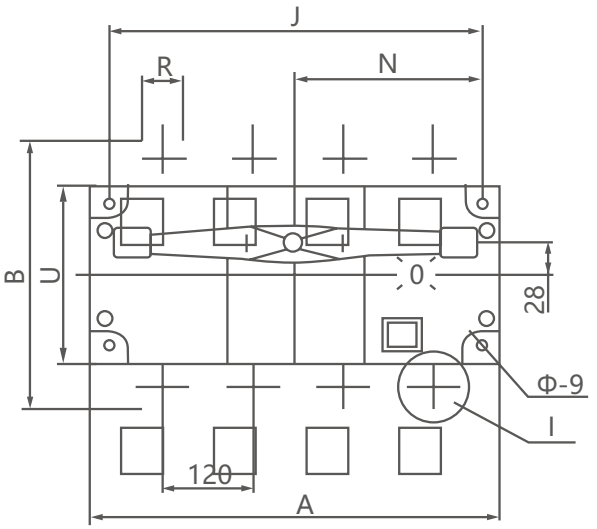
Installation size of handle seat outside board



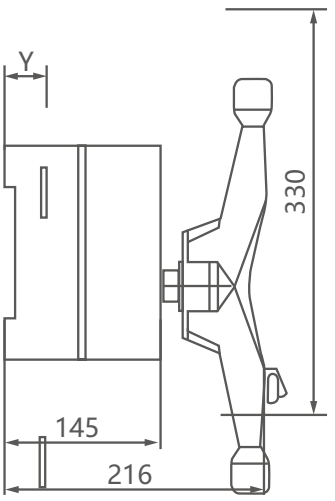
OperationoutsideYCHGL -160A~630A/JK

In	A	B	C	D	D1	E	ΦL	J	K	N	P	R	S	U	ΦX	Y	F	H
125A/3	140	135	121	27	93	71	55	120	65	75	36	20	25	115	9	24	50	10
125A/4	170	135	121	27	93	71	55	150	65	75	36	20	25	115	9	24	50	10
160A/3	140	135	121	27	93	71	55	120	65	75	36	20	25	115	9	24	50	10
160A/4	170	135	121	27	93	71	55	150	65	75	36	20	25	115	9	24	50	10
200A/3	180	170	144	35	104	84	55	160	90	105	50	25	30	140	11	25	79	15
200A/4	230	170	144	35	104	84	55	210	90	105	50	25	30	140	11	25	79	15
250A/3	180	170	144	35	104	84	55	160	90	105	50	25	30	140	11	25	79	15
250A/4	230	170	144	35	104	84	55	210	90	105	50	25	30	140	11	25	79	15
315A/3	230	240	179	50	137	115	7	210	140	135	65	32	40	206	11	37	95	20
315A/4	290	240	179	50	137	115	7	270	140	135	65	32	40	206	11	37	95	20
400A/3	230	240	179	50	137	115	7	210	140	135	65	32	40	206	11	37	95	20
400A/4	290	240	179	50	137	115	7	270	140	135	65	32	40	206	11	37	95	20
500A/3	230	260	179	50	137	115	7	210	140	135	65	40	50	220	13	375	95	20
500A/4	290	260	179	50	137	115	7	270	140	135	65	40	50	220	13	375	95	20
630A/3	230	260	179	50	137	115	7	210	140	135	65	40	50	220	13	375	95	20
630A/4	290	260	179	50	137	115	7	270	140	135	65	40	50	220	13	375	95	20

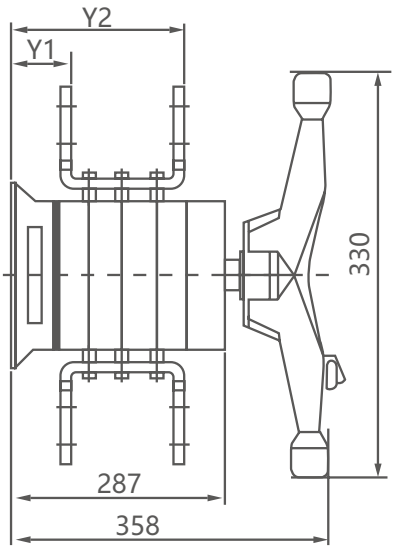
Direct operation



YCHGL-1600A~3150A

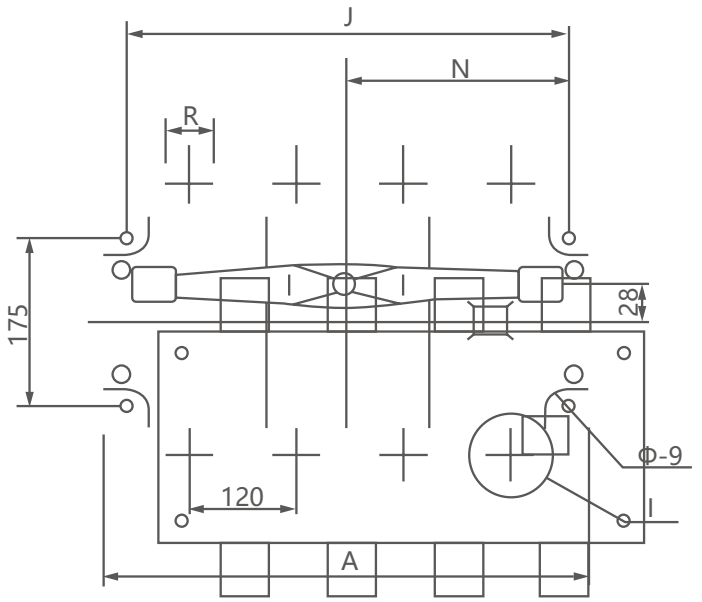


YCHGL-1000A~1600A

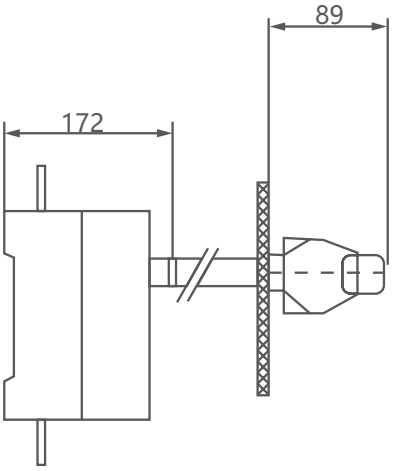


YCHGL-2000A~3150A

Operation outside

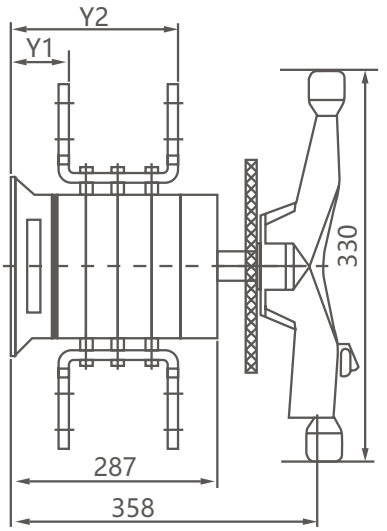


YCHGL-1600A~3150A/JK



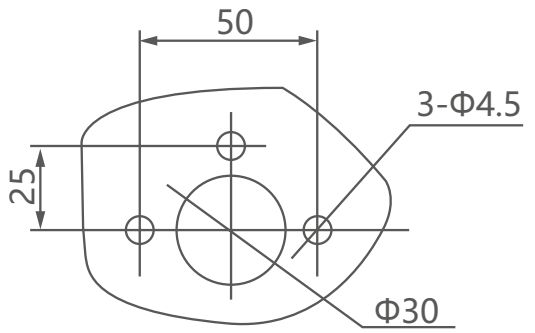
YCHGL-1000A~1600A/JK

DirectoperationofYCHGL-1600A/JK
(operationoutside)

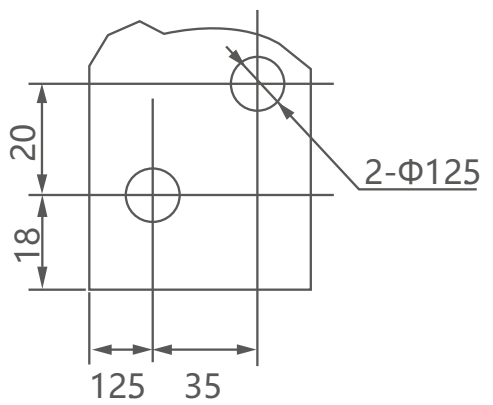


YCHGL-2000A~3150A/JK

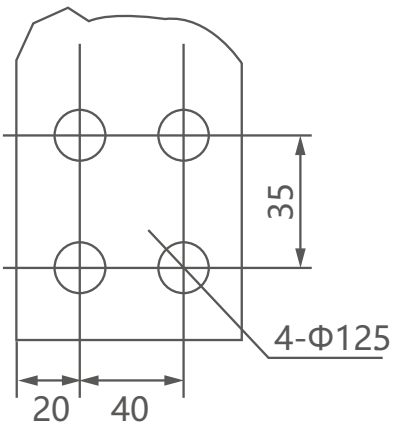
Installationbottomplatefor operationoutsidetheboard



1000A

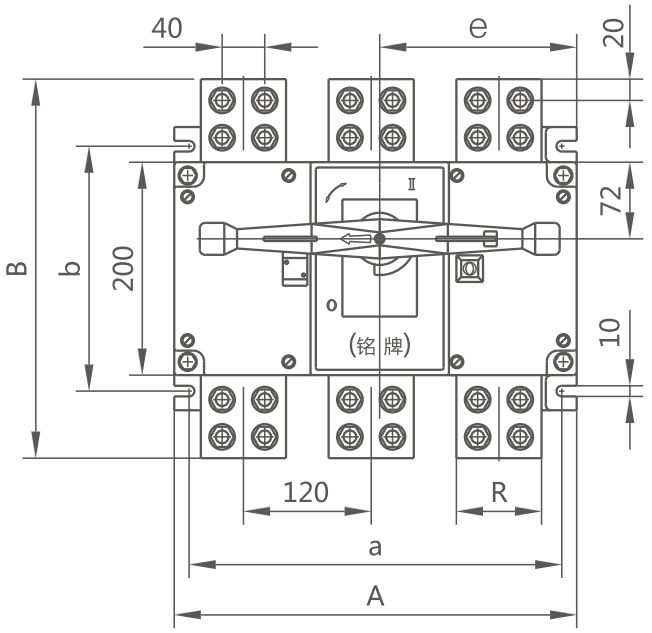


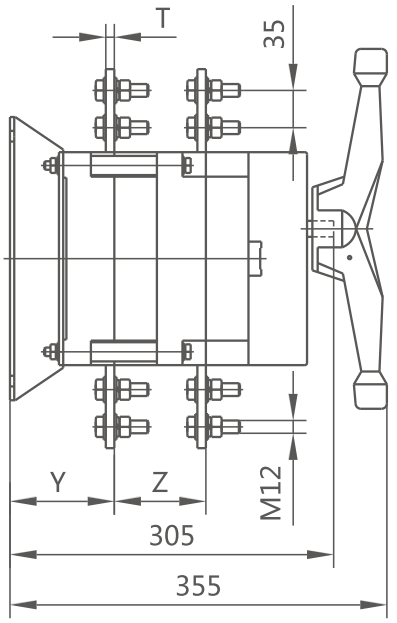
1250A~1600A

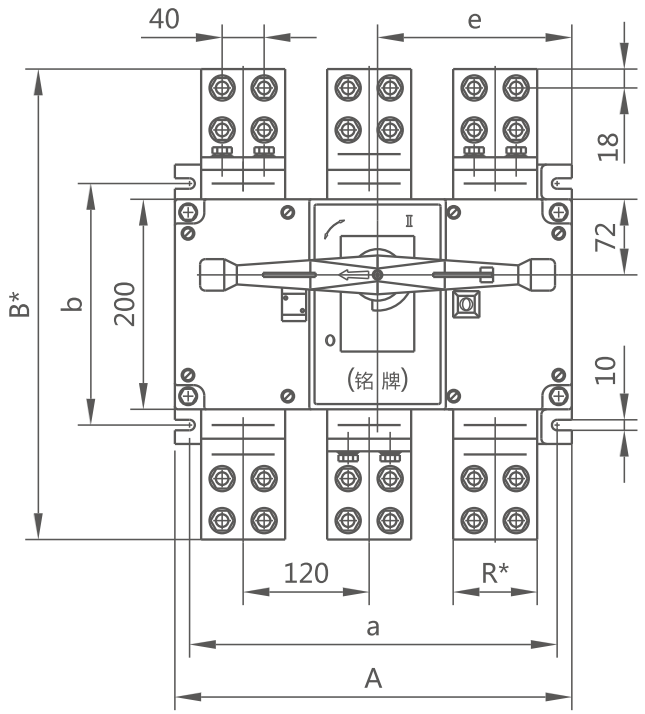


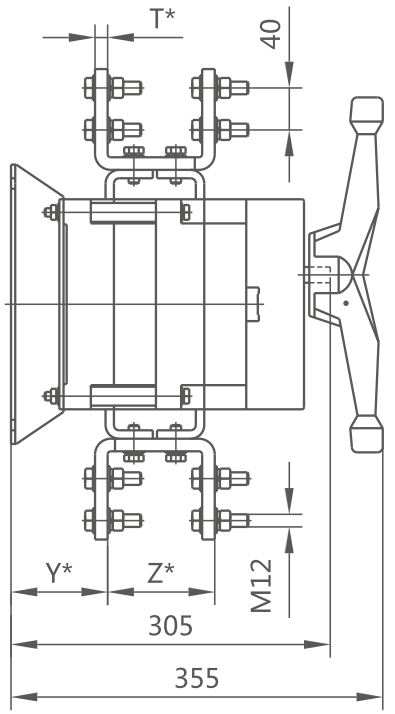
In	A	A1	B	J	N	R	U	Y	Y1	Y2
1000A/3	378	105	310	353	171	60	200	48		
1000A/4	498	105	310	473	231	60	200	48		
1250A/3	378	105	336	353	171	80	200	48		
1250A/4	498	105	336	473	231	80	200	48		
1600A/3	378	105	336	353	171	80	200	49		
1600A/4	498	105	336	473	231	80	200	49		

Load isolation switch side operation load isolation switch of YCHGL-2000A~3150A



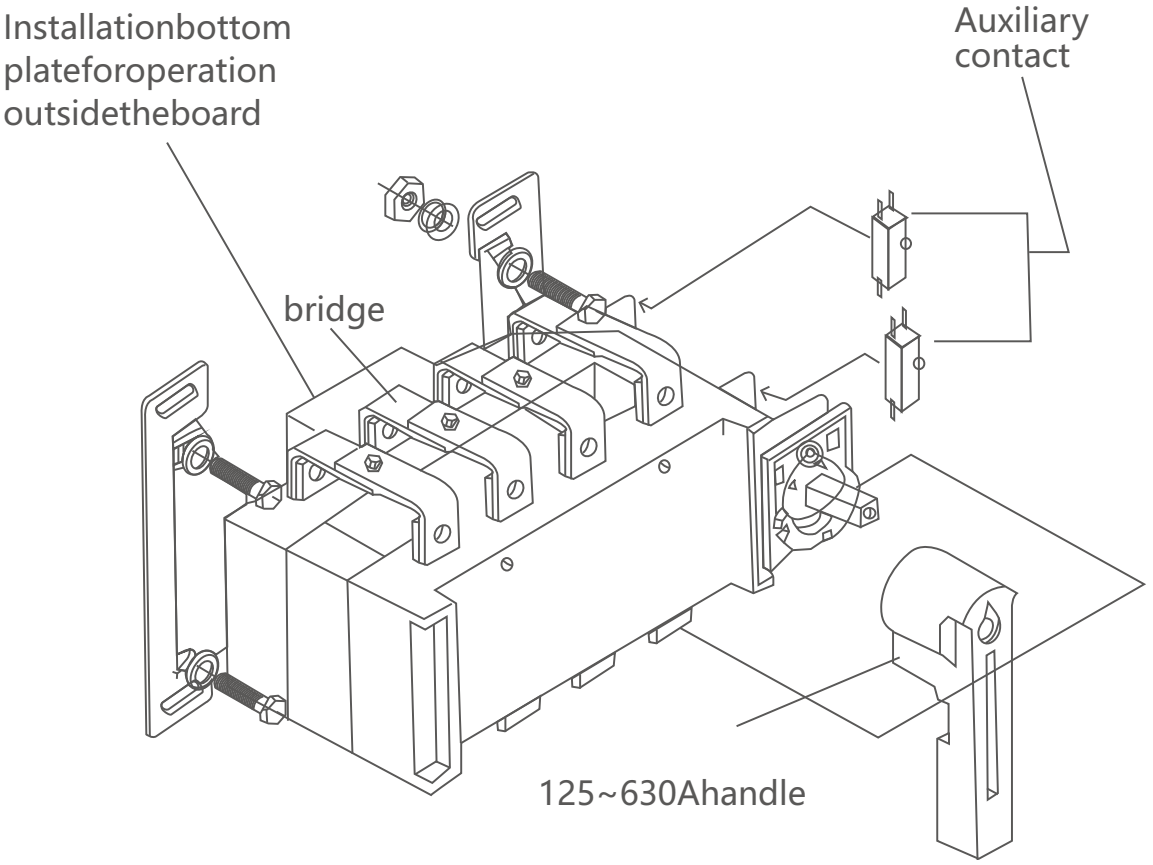




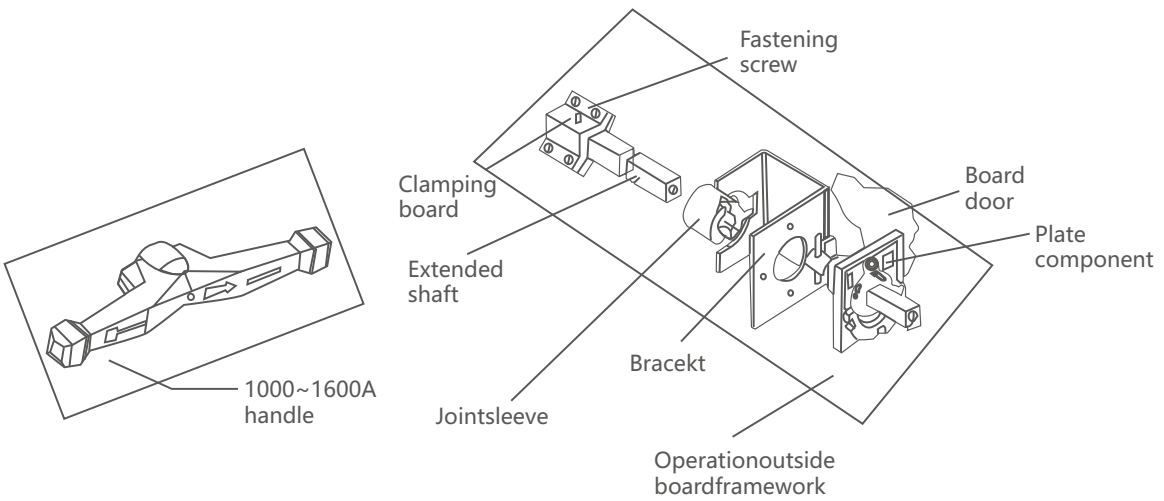


Specification	External Dimension and Installation Dimension								
	A	B/B*	a	b	e	R/R*	T/T*	Y/Y*	Z/Z*
YCHGL-2000A/3	378	356/502	350	230	185	80/80	8/10	98/85	88/115
YCHGL-2000A/4	498	356/502	470	230	249	80/80	8/10	98/85	88/115
YCHGL-2500A/3	378	356/502	350	230	185	80/80	8/12	98/85	88/115
YCHGL-2500A/4	498	356/502	470	230	249	80/80	8/12	98/85	88/115
YCHGL-3150A/3	378	356/502	350	230	185	80/100	10/15	99/83	88/120
YCHGL-3150A/4	498	356/502	470	230	249	80/100	10/15	99/83	88/120

YCHGLZ1

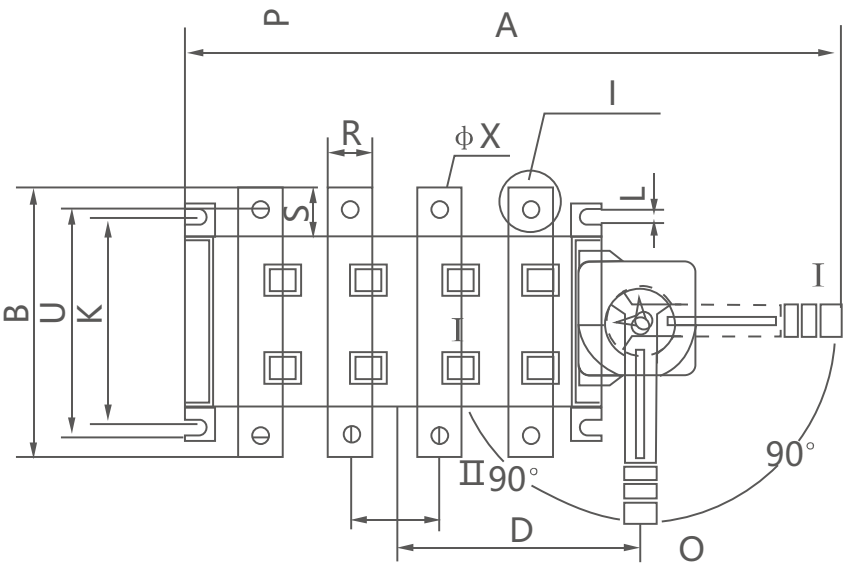


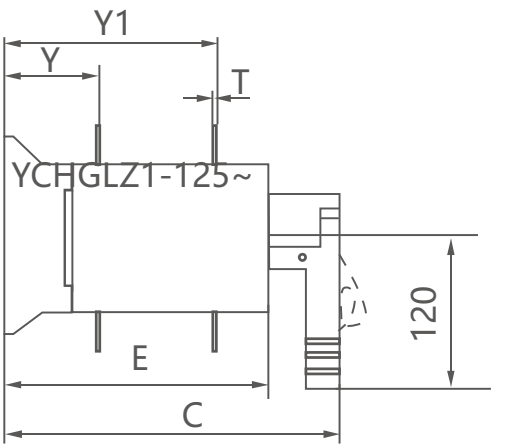
YCHGLZ1-125~3150A

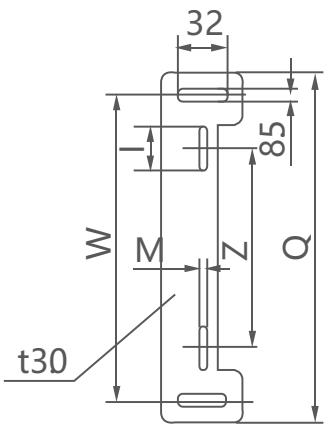


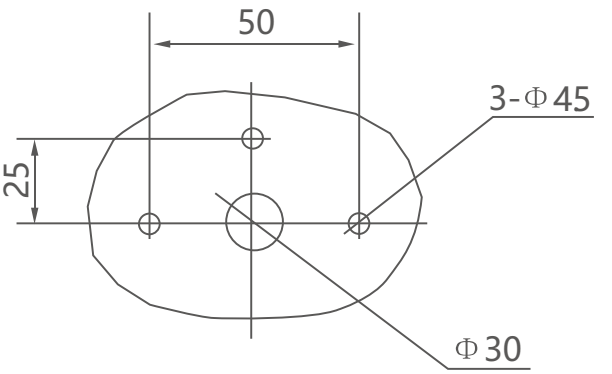
YCHGLZ1-125~630A

1600ADirectoperation



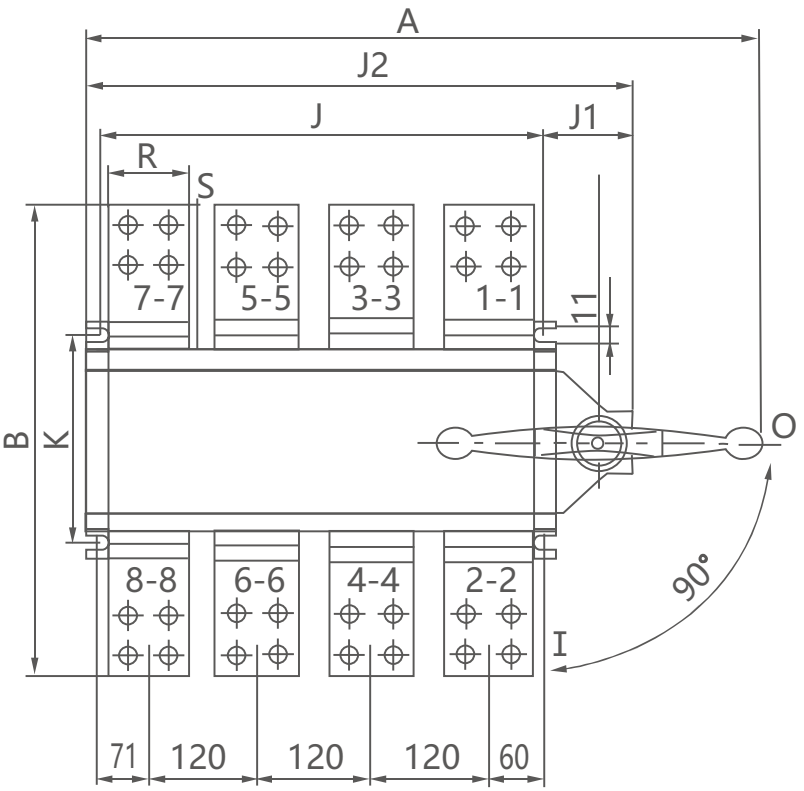


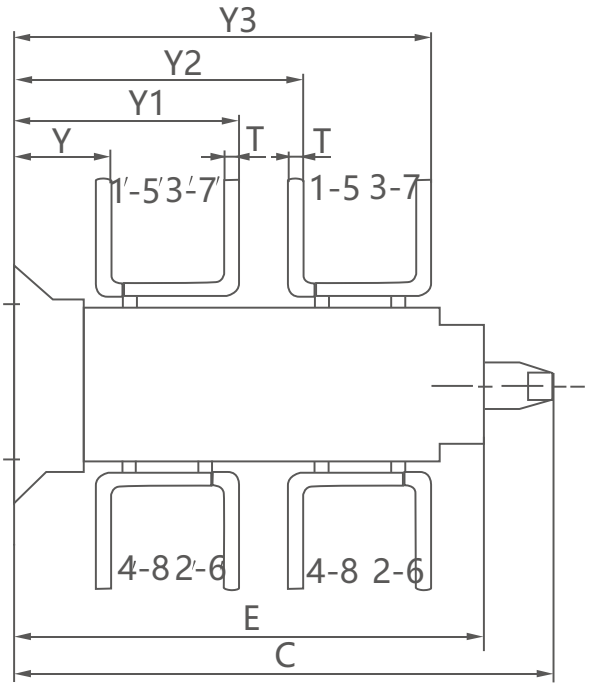




Installationsizeofhandle seatoutsideboard

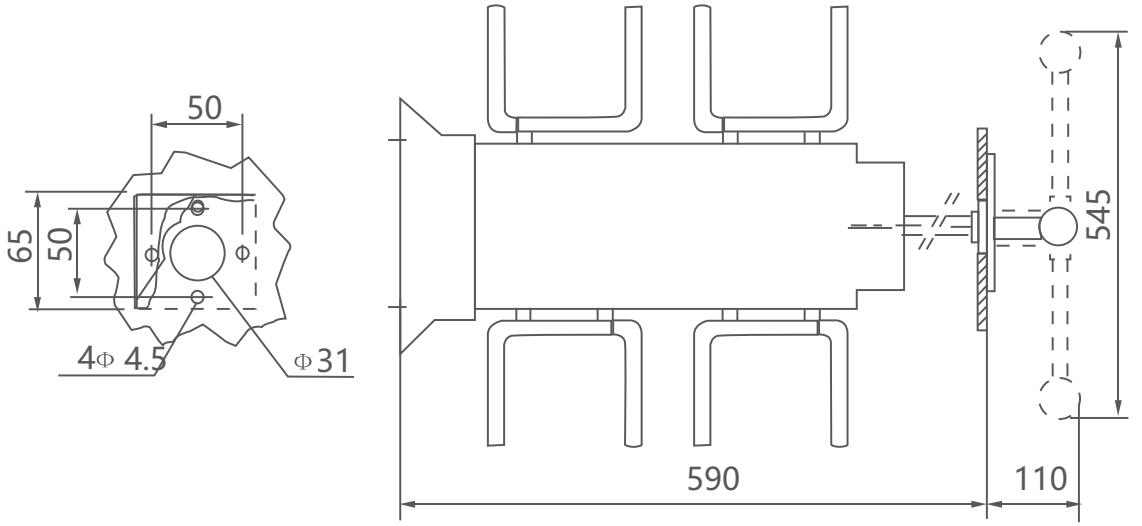
Specification	External Dimension and Installation Dimension																			
	A	B	C	D	D1	E	J	J1	J2	K	L	P	R	S	T	U	ΦX	Y	Y1	F
YCHGLZ1-125A-160A/3	300	135	228	89	190	160	120	37	195	95	7	36	20	25	35	115	9	555	1265	49
YCHGLZ1-125A-160A/4	330	135	228	104	190	160	150	37	225	95	7	36	20	25	35	115	9	555	1275	49
YCHGLZ1-200A-250A/3	340	165	250	110	215	180	160	37	235	115	9	50	25	28	35	140	105	63	145	76
YCHGLZ1-200A-250A/4	390	165	250	135	218	180	210	37	285	115	9	50	25	28	35	140	105	63	147	76
YCHGLZ1-315A-400A/3	410	234	340	150	278	241	211	445	198	175	10	65	32	37	5	205	105	83	193	94
YCHGLZ1-315A-400A/4	470	234	340	180	278	241	270	445	358	175	10	65	32	37	5	205	105	83	193	94
YCHGLZ1-500A-630A/3	410	250	340	150	278	241	211	445	298	175	10	65	40	45	6	215	125	835	1935	94
YCHGLZ1-500A-630A/4	470	250	340	180	278	241	270	445	358	175	10	65	40	45	6	215	125	835	1935	94



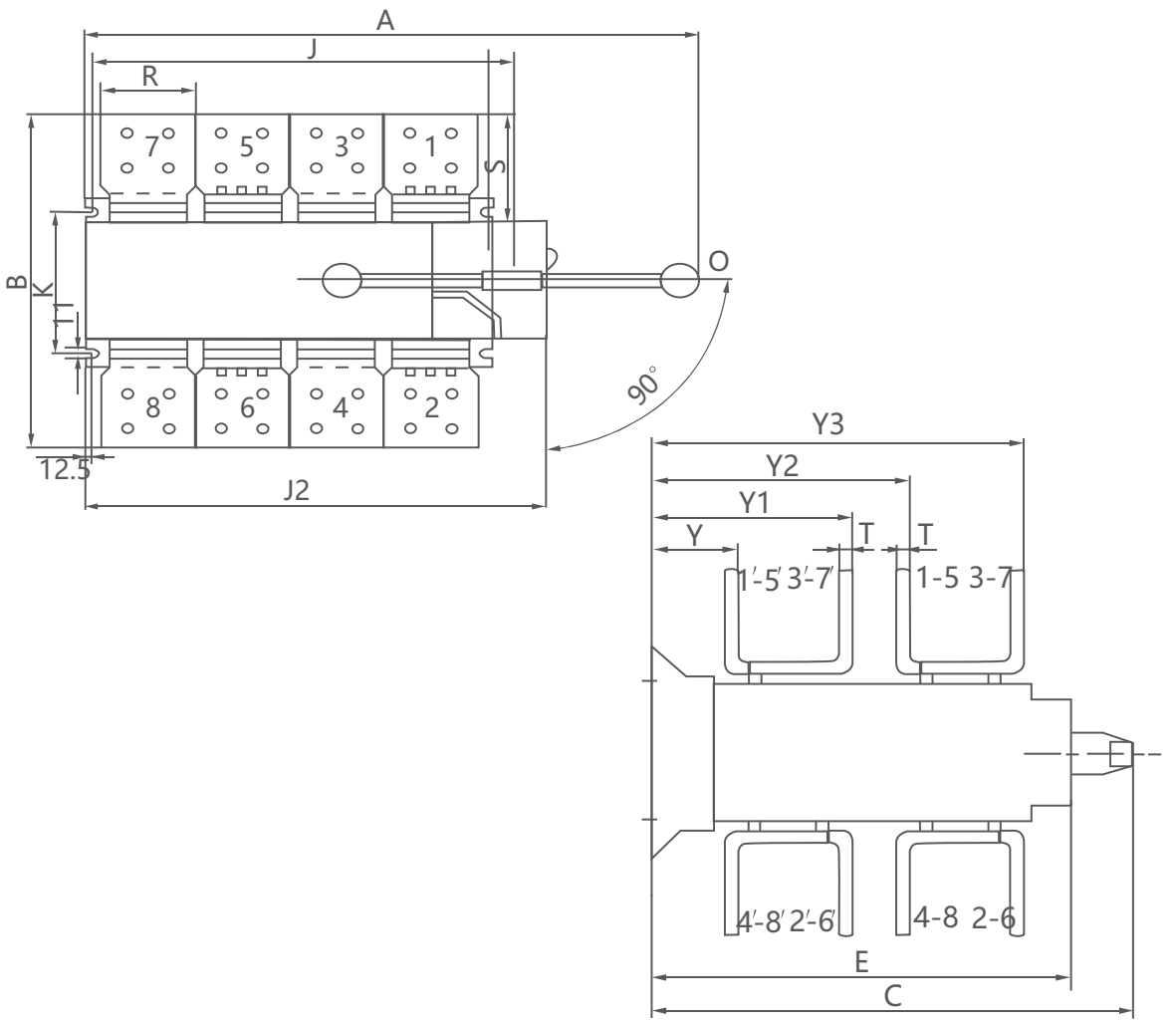


Direct operation on front face YCHGLZ1-2000~2500A

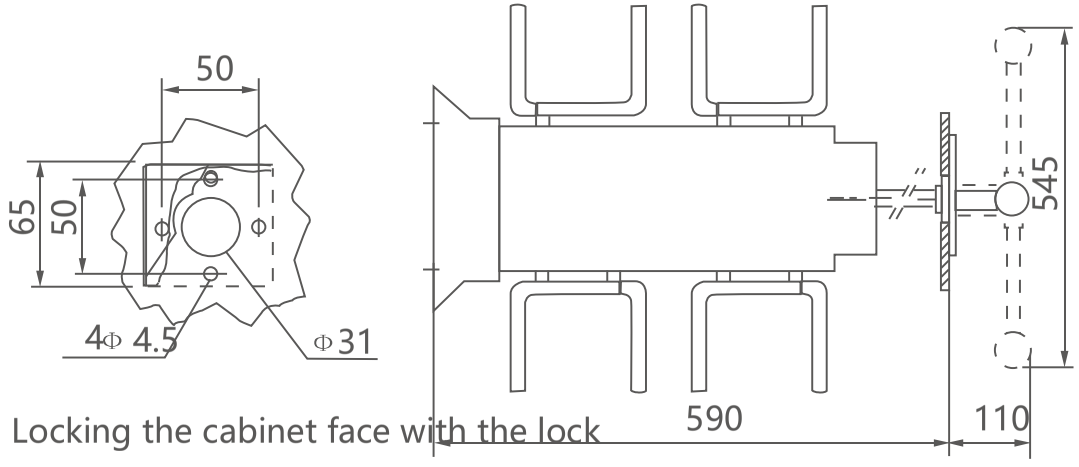
Operation outside YCHGLZ1-2000~2500A



Direct operation on front face YCHGZL1-3150



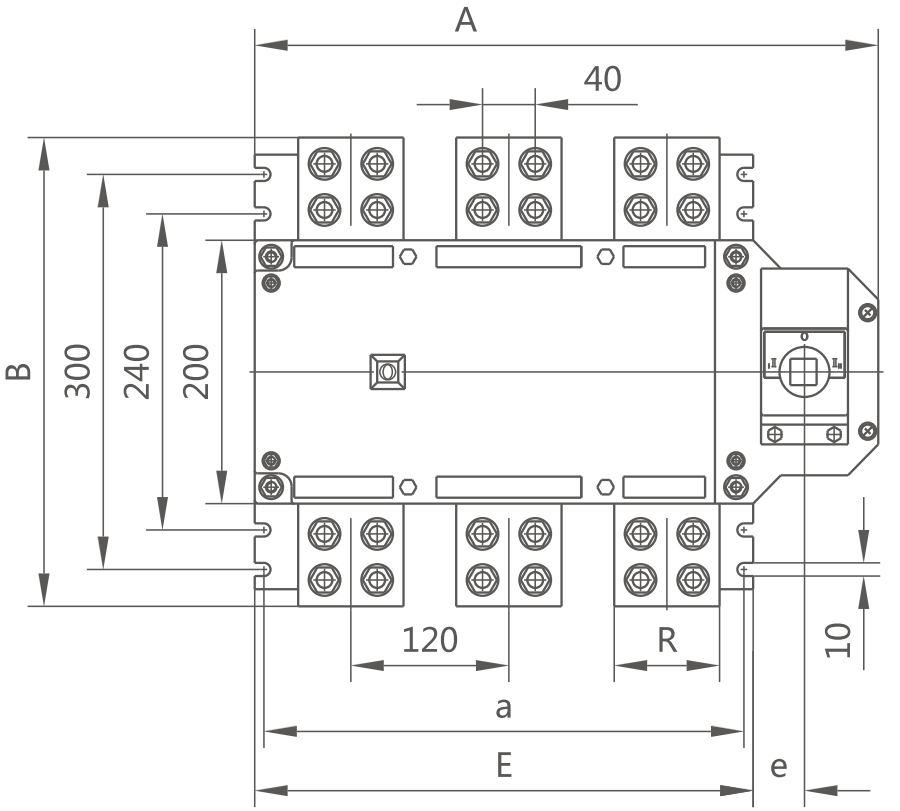
Operation outside YCHGLZ1-3150A

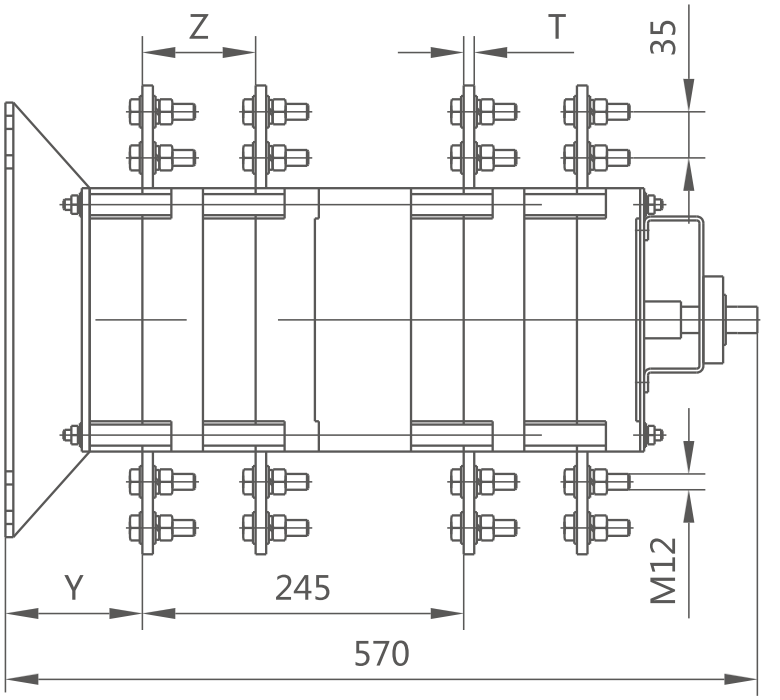


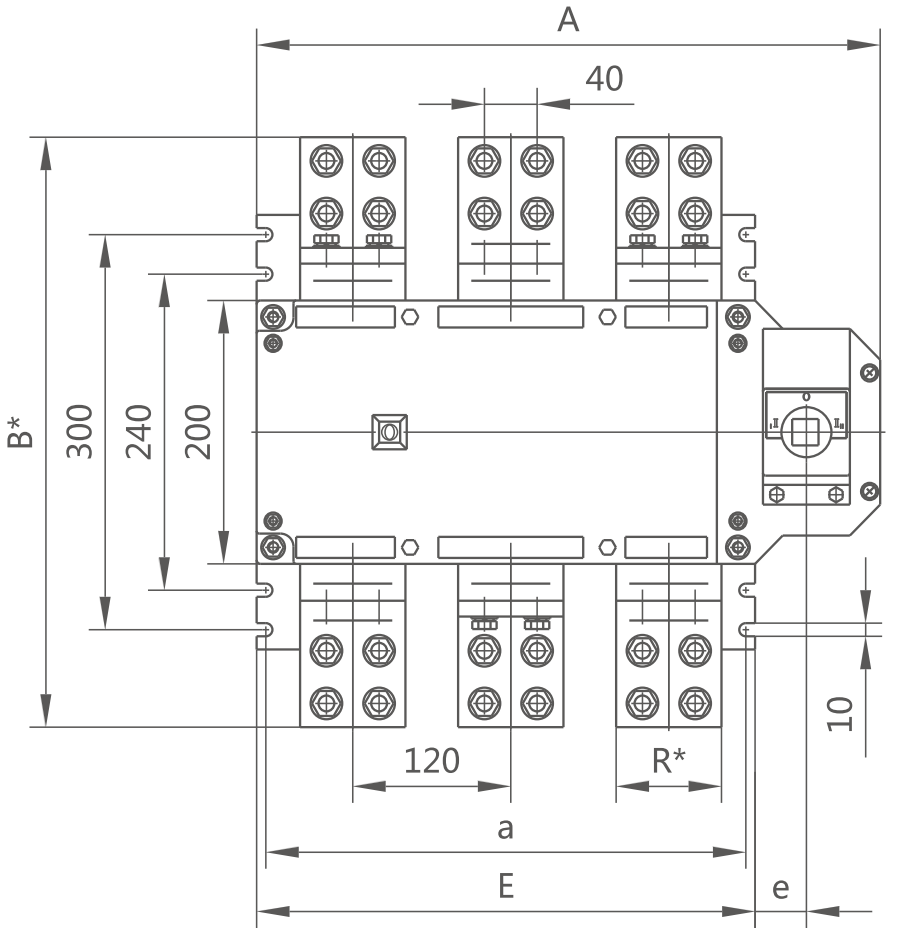
Locking the cabinet face with the lock

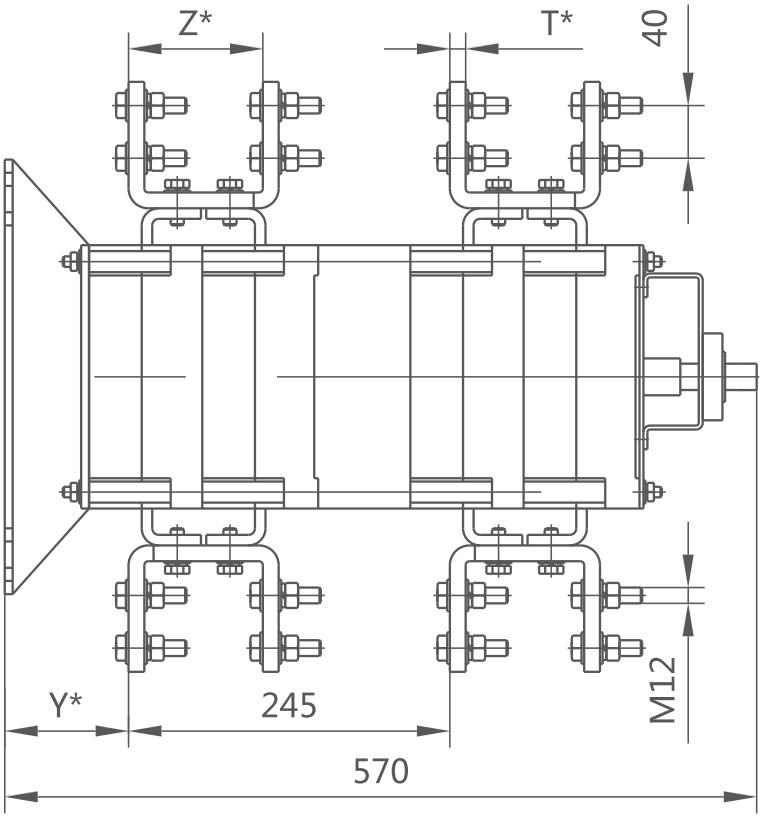
Specification	External Dimension and Installation Dimension																
	A	B	C	E	J	J1	J2	K	P	R	S	T	?X	Y	Y1	Y2	Y3
YCHGLZ1-1000A/3	590	328	390	300	354	53	450	220	120	60	64	8	12.5	110	259		
YCHGLZ1-1000A/4	704	328	390	300	467	53	565	220	120	60	64	8	12.5	110	259		
YCHGLZ1-1250A/3	590	336	390	300	354	53	450	220	120	80	68	8	12.5	110	259		
YCHGLZ1-1250A/4	704	336	390	300	467	53	565	220	120	80	68	8	12.5	110	259		
YCHGLZ1-1600A/3	590	336	390	300	354	53	450	220	120	80	68	10	12.5	111	260		
YCHGLZ1-1600A/4	704	336	390	300	467	53	565	220	120	80	68	10	12.5	111	260		

YCHGLZ1-2000~3150A






A
40
B*
300
240
200
10
120
R*
a
E
e


Z*
T*
40
M12
Y*
245
570

Specification	External Dimension and Installation Dimension								
	A	B/B*	E	a	e	R/R*	T/T*	Y/Y*	Z/Z*
YCHGLZ1-2000A/3	473	356/502	378	350	40	80/80	8/10	98/85	88/115
YCHGLZ1-2000A/4	593	356/502	498	470	40	80/80	8/10	98/85	88/115
YCHGLZ1-2500A/3	473	356/502	378	350	40	80/80	8/12	98/85	88/115
YCHGLZ1-2500A/4	593	356/502	498	470	40	80/80	8/12	98/85	88/115
YCHGLZ1-3150A/3	473	356/502	378	350	40	80/100	10/15	99/83	88/120
YCHGLZ1-3150A/4	593	356/502	498	470	40	80/100	10/15	99/83	88/120

8. INSTALLATION EXPLAIN

8.1 HGL-630A and below 630A inside operation switch instruction

As shown in Figure 1: Install the switch vertically inside of the switch cabinet and disconnect switch at "O" position. Insert the Up block to the hole of Square axis in the switch and the handle in horizontal position. Then use Self-tapping screw from the handle screw hole into the Up block.

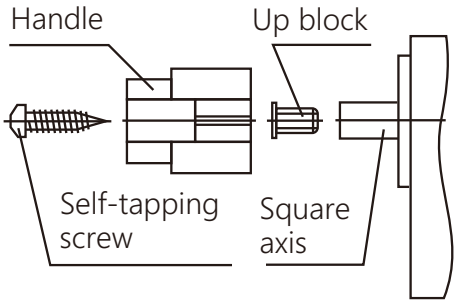


Figure 1

8.2 HGL-1000A and above 1000A inside operation switch instruction

As shown in Figure 2: Install the switch vertically inside of the switch cabinet and disconnect switch at "O" position. Set the handle into Square axis of the switch and the handle in horizontal position. Then fix Flat head screw in the switch side handle and then tighten the screw.

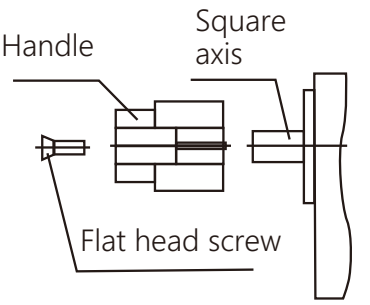


Figure 2

8.3 HGL-630A and below 630A outside operation switch instruction

As shown in Figure 3: Install the switch vertically inside of the switch cabinet and disconnect switch at "O" position. And then measure the distance "L" from door of cabinet tothe top of Square axis.

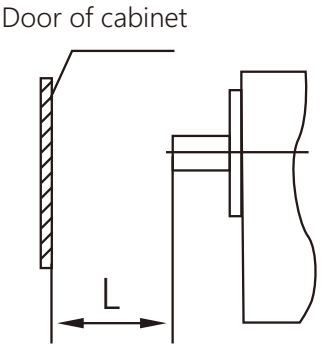


Figure 3

As shown in Figure 4: After measure thelength("L"+66) of the Extended shaft,saw off the extra parts.

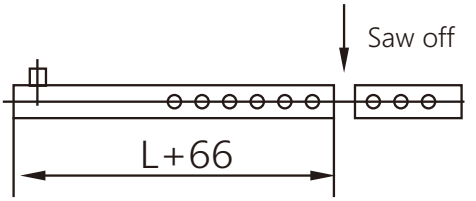


Figure 4

As shown in Figure 5: If no need door interlock(It means when switch closed,the door of cabinet could not open. When the door is open,the switch could not be closed),use vice to pull out the black Column pin that was inserted in a side of extended shaft. If need door interlock,no need to pull out the black Column pin. Then take the extended shaft insert into switch hole and insert to the end and then tighten the screw.

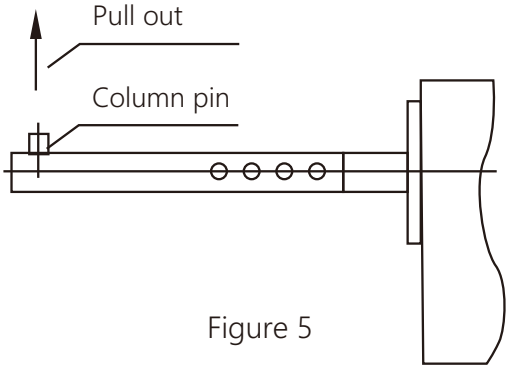


Figure 5

As shown in Figure 6: Using hammer from outside of cabinet to hit the door and the top of extended shaft gently to confirm the drill hole center. And in the inside door drilling center drilled out φ6 hole and then enlarge φ30.

As shown in Figure 7: Take the central part of bulge out of disc End cover clip in the door's φ30 hole. And according to the 4 small holes in the end cover for positioning,drill out 4-φ4.5 holes at the door around the horizontal
direction and vertical direction. Then use hammer to knock off the central part of bulge out of disc End cover.

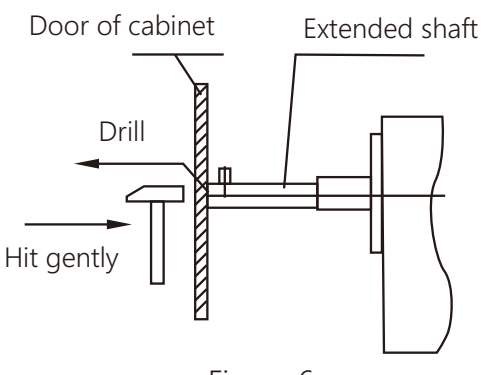


Figure 6

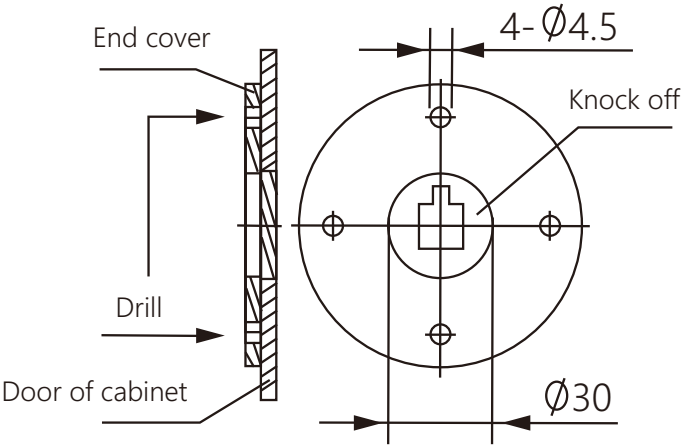


Figure 7

As shown in Figure 8: Using two self-tapping screws and flat pad of the enclosed accessory,put the disc Endcover(Installed inside of the door) and handle(Installed outside of the door) to fix at the hole in the door. In the installation,the handle should at the horizontal position. And directed "O".

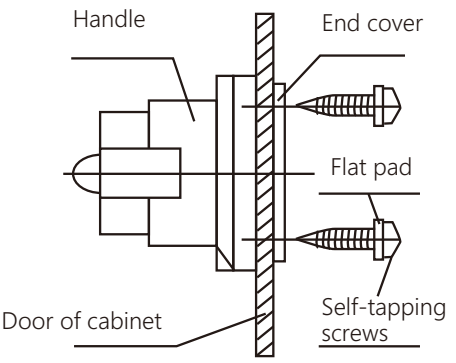


Figure 8

8.4 HGL-1000A and above 1000A outside operation switch instruction

As shown in Figure 9: Install the switch vertically inside of the switch cabinet and disconnect switch at "O" position. And then measure the distance "L" from door of cabinet to the top of Square axis.

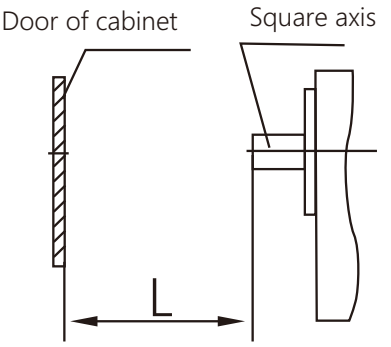


Figure 9

As shown in Figure 10: Twisting the Locating shaft into the threaded hole of Extended shaft and tightened in place. Measure the length "L" of the Extended shaft together with Locating shaft,saw off the extra parts.

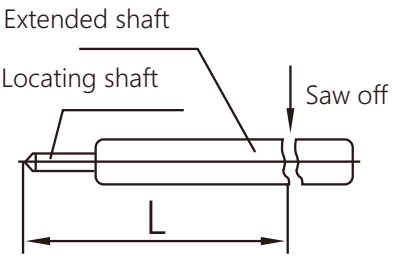


Figure 10

As shown in Figure 11: Using Locating clamping and enclosed Bolt to connect the Extended shaft with Square axis,and tighten the Fix screw.

Adjusting the Locating shaft to let the Locating shaft contact the door. Using hammer from outside of cabinet to hit the door and the top of Locating shaft gently to confirm the drill hole center. And then remove the Locating shaft and in the inside door drilling center drilled out φ6 hole and then enlarge φ30.

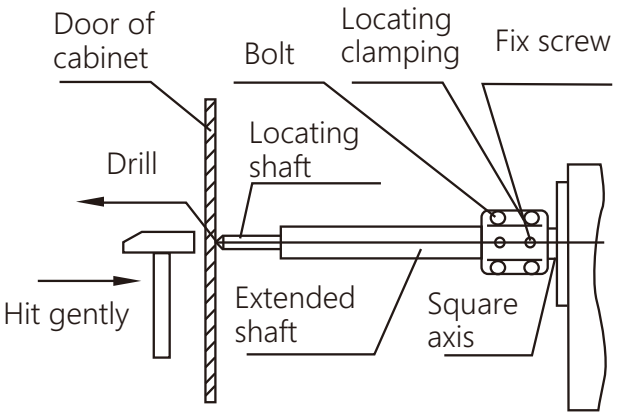


Figure 11

As shown in Figure 12: Using enclosed shorter flat head screw to connect the Joint sleeve to the Extended shaft,and point to the left level(It means switch at "O" position). Put Panel components into the φ30 door hole. Make sure that the position of Panel components'indicating part is same as switch position. Close the door. And according to the 3 small holes in the Panel components for positioning,drill out 3-φ5 holes at the door.

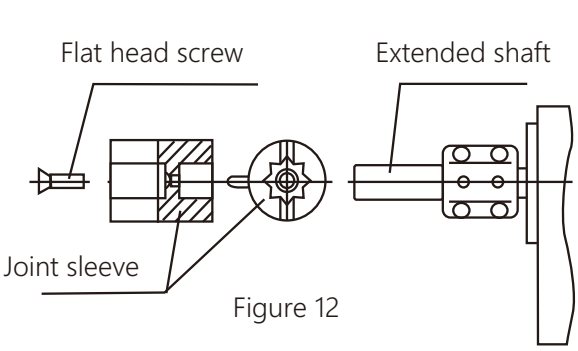
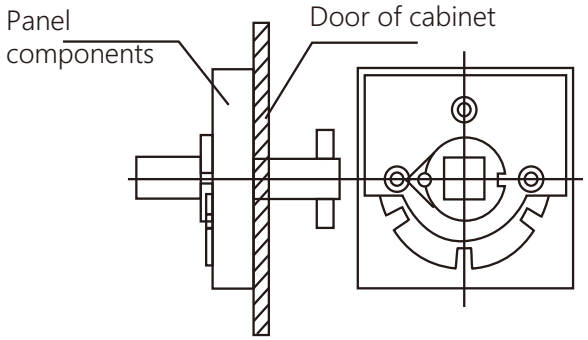


Figure 12



As shown in Figure 13: Using enclosed 3 longer flat head screws to connect the Panel components(Installed outside of the door) with U-bracket(Installed inside of the door),install at the 3-φ5 holes of the door. The mouth of Ubracket on the right hand towards the left door or on the left hand towards the right door.

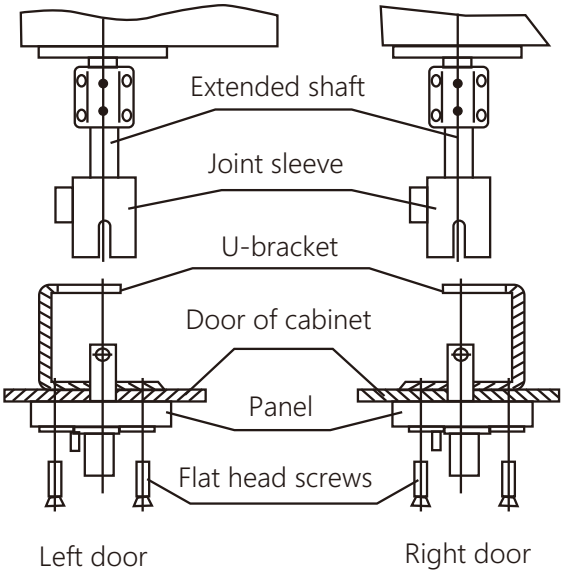


Figure 13

As shown in Figure 14: Stick the label on the front of panel. Set the handle into Square axis of panel and handle point marking "O". And then using flat head screws to fix the handle on the Square axis of panel. Tighten the screw.

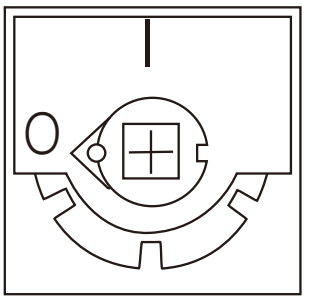


Figure 14

8.5 The installation of HGLC, HGLCK, HGLZ, inside operation is same as HGL-1000A inside operation.

8.6 The installation of HGLC, HGLCK, HGLZ outside operation is same as HGL-1000A outside operation.

9. USE AND MAINTAIN

9.1 Switch should be mounted vertically and in accordance with the capacity of electrical equipment to select the rated current. Before installation should check nameplate if is meet the use requirement. Switch must be disconnect in the installation. It means switch in "O" position.

9.2 Switch terminal or wiring copper bus should surround by insulator to prevent switch short circuit.

9.3 If the Extended shaft is not coaxial with the cabinet door's handle hole,must not pull the Extended shaft to avoid damage the internal parts of switch. However,shoud adjust the place of switch.

9.4 The handle and machine of outside operation have interlock protection function: When switch closed,cabinet door could not open. When cabinet door open,switch could not closed. If no need interlock,you can rubdown the black Column pin that was inserted in a side of extended shaft or convex rib of Joint sleeve.

9.5 Operating handle clockwise rotation will enable the switch closed. Operating handle counter-clockwise rotation will enable the switch disconnect.

Before operation,should pay attention to the indicating status of switch: In

position "O",switch can only be clockwise rotation make it closed. In position

"I",switch can only be counter-clockwise rotation make it disconnect.

9.6 To prevent misoperation,no matter switch in which position,all can use the

padlock to lock the handle and then the handle will no longer be able to rotate.

9.7 The friction place of operating mechanism should be brushed with oil

regularly to make it flexible and to increase using life. If switch is serious

damaged,you must stop using immediately.

10. ORDERING INSTRUCTION

Customer should offer us the detail informations as follows:

10.1 Name of the product,model,specification and quantity.

10.2 In case of special installation conditions or special purpose,you should provide the corresponding technical informations or negotiate with our company.

CNC
ELECTRIC

CERTIFICATE

Product Model: YCHGL YCHGLZ1 Series

Standard: IEC 60947-3

Inspector : CNC 006

Production date: Printed on the product or package.

This product is qualified according to the delivery inspection

CNC ELECTRIC

Tel: 0086-577-61989999 Fax: 0086-577-61891122

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