

overview

CDQ3H&CDQ3EH CB level automatic transfer switch



CDQ3H 标牌

Product Features

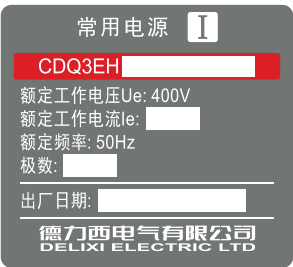
standard

GB/T 14048.11、IEC60947-6-1

working conditions

- 可以工作在 -5~40℃的环境中
- 安装地点的海拔高度不超过 2000m
- 当最高温度为 +40℃时，空气的相对湿度不超过 50%
- 在较低的温度下可以允许有较高的相对湿度，20℃ ~90%

EMC electromagnetic compatibility



- electrostatic discharge
- RF Electromagnetic Fields - Radiated Immunity
- Electrical Fast Transient Bursts
- Surge shock
- Conducted radio frequency electromagnetic field immunity
- radiation level (CISPR11)

- GB/T 17626.2 (Level 2)
- GB/T 17626.3 (Level 3)
- GB/T 17626.4 (Level 3)
- GB/T 17626.5 (Level 4) (Applies only to CDQ3HB, other series are Class 3)
- GB/T 17626.6 (Level 3)
- B level

pollution level

- CDQ 3H pollution level is III level , CDQ 3EH pollution level is II level

Electrical grade

CB level

use category

- AC-33iB

Note:
Class CB: ATSE capable of making and breaking short-circuit currents
class PC: ATSE capable of switching on and carrying , but not used to break short-circuit current

Product selection and technical parameters

CDQ3H&CDQ3EH CB level automatic transfer switch



CDQ3H CB product selection

name	Controller model	Frame current	breaking capacity	rated current	poles	structure type
CDQ3H	A	100	F	10	4	Z
	A: A type (economical) B: B type (Standard/Basic)	63: 63AF 100: 100AF 250: 250AF 400: 400AF 630: 630AF (only B type) 800: 800AF (only B type)	S: 35KA F: 50KA N: 70KA L: 15KA M: 15KA	10: 10A ... 100: 100A ... 250: 250A ... 400: 400A 630: 630A 800: 800A	3 : 3 poles 4 : 4 poles	default: split (only B type) Z: Integral

Note: The wire length of the split controller defaults to 1.6m, and the wire length can be customized as 2m, 2.5m, 3m, 3.5m, 4m, 4.5m, 5m

type	CDQ3H					
execute circuit breaker	63AF	100AF	250AF	400AF	630AF	800AF
	CDM3-63	CDM3-100	CDM3-250	CDM3-400	CDM3-630	CDM1-800
poles	3、4					
standard	GB14048.11					
electrical level	CB level					
use category	AC-33iB					
structure type	Integral type, split type (B type only)					
controller type	A(Economy), B(Standard)			B (standard type)		

Electrical properties												
Rated insulation voltageUi（V）	690		800								690	
Rated impulse withstand voltage Uimp（kV）	6		8									
Rated working voltage Ue（V）	400											
Rated working current Ie（A）	10/16/20/25/32/40/50/63		16/20/25/32/40/50/63/80/100		40/50/63/80/100		100/125/140/160/180/200/225/250		200/225/250/315/350/400		400/500/630	
Rated making and breaking capacity（A）	6Ie											
Rated operating frequency（Hz）	50											
Breaking capacity level	S	F	S	F	S	F	F	N	F	N	L ¹⁾	M
Rated short-circuit breaking capacity Icn（kA）	35	50	35	50	35	50	50	70	50	70	15	15
Rated short-circuit making capacity Icm（kA）	73.5	105	73.5	105	73.5	105	105	154	105	154	30	30
Mechanical life (cycles)	10000		10000		5000		5000		5000		2500	
Electrical Life (Cycles)	1500				1000						500	
Rated conversion time	≤3s											
Electromagnetic Compatibility Level	environment B											
Sampling mode	Normal and standby three-phase sampling											

1) Only provide 3P products

Product selection and technical parameters

CDQ3H&CDQ3EH CB level automatic transfer switch

controller		63AF/100AF/250AF/400AF		630AF	800AF
controller type	A type	B type		B type	
control function					
Grid (P) - Grid (P)	■	■		■	
Grid (P) - generator (G)	-	■		□	
Automatic operation mode - self-injection and self-recovery	■	■		■	
Automatic operation mode - self-injection but not self-recovery	-	■		■	
Automatic operation mode - mutual backup	-	■		-	
button electric operation	-	■		■	
Manual operation with handle	■	■		■	
remote backup	-	■		-	
Normal and standby power status output	■	■ ¹⁾		■ ¹⁾	
Normal and standby closing state output	■	■		■	
Normal and standby trip status output	-	■		-	
Fire linkage (DC24V)	■	■(Alarm lights flashing at the same time)			□
generator start	-	■		□	
test function	■	-		-	
Protective function					
overload protection	■	■		■	
Instant protection	■	■		■	
overvoltage protection	■ (Factory setting 264V)	■ (Factory setting 264V)		■(Factory setting 270V)	
undervoltage protection	■ (Factory setting 184V)	■ (Factory setting 184V)		■(Factory setting 160V)	
Loss of voltage protection	■	■		■	
Phase loss protection	■	■		■	
Motor load phase sequence identification protection	-	■ ²⁾		-	
Motor load dedicated phase loss protection	-	■ ²⁾		-	
Switch welding protection	-	■ (ERROR02)		-	
switch protection	■ (The fault indicator on the fault side is flashing)	■ (ERROR02)		-	
Power failure alarm	■ (The fault indicator on the fault side is flashing)	■ (The fault indicator on the fault side is flashing)		■ (The fault indicator on the fault side is flashing)	
Trip fault alarm	-	■ (The fault indicator on the fault side is flashing)		-	
Trip fault button electric reclosing	-	■		-	
setting function					
Adjustable overvoltage threshold	-	■ 253V~276V		■ 250V~280V	
Adjustable undervoltage threshold	-	■ 172V~195V		■ 150V~180V	
Conversion delay T1 time adjustable	■0~30s (factory setting 3s)	■ 0~99.9s (factory setting 3s)		■ 0.5~30s (factory setting 3s)	
Conversion delay T2 time adjustable	■0~30s (factory setting 3s)	■ 0~99.9s (factory setting 3s)		■ 0.5~30s (factory setting 3s)	
Generator start delay T3 time adjustable ³⁾	-	■ 0~99.9s (factory setting 15s)		-	
Generator start delay T4 time adjustable	-	■ 0~99.9s (factory setting 15s)		-	

- no option
■Standard
□Optional

¹⁾ Customer external access
²⁾ The default is off, and it can be set to on through the controller menu
³⁾ When the common end is completely powered off, the delay function is automatically turned off

Product selection and technical parameters

CDQ3H&CDQ3EH CB level automatic transfer switch

Size (mm) Frame current	CDQ3H											
	63AF		100AF		250AF		400AF		630AF		800AF	
breaking capacity level	S	F	S	F	S	F	F	N	F	N	L	M
Product phase interval	25		30		35		48				70	
Extended phase interval	-		-		-		-		68		70	
A type controller												
One-piece size (W×H×D)	285x220x121		323x220x148		380x220x130	380x220x148	520x330x185		-		-	
One-piece Installation hole size (W×H)	230x200		270x200		335x200		420x300		-		-	
B type controller												
One-piece 3P size(WxHxD)	375x220x121		415x220x148		465x220x130	465x220x148	610x330x185	610x402x185 (expansion bar)		760x420x195		
One-piece 4P size(WxHxD)										830x420x195		
Split 3P size (WxHxD)	335x220x121		375x220x148		425x220x130	425x220x148	575x330x185	575x402x185 (expansion bar)		720x420x195		
Split 4P size (WxHxD)										790x420x195		
Split controller size (WxHxD)	85x166x92										107x168x66.5	
Split cable length	Standard length 1.6m (Customized length 2m、2.5m、3m、3.5m、4m、4.5m、5m)											
One-piece 3P Installation hole size (WxH)	322x200		365x200		420x200		510x300				710x300	
One-piece 4P Installation hole size (WxH)											780x300	
split 3P Installation hole size (WxH)	282x200		325x200		380x200		478x300				670x300	
split 4P Installation hole size (WxH)											740x300	
split controller Installation hole size(WxH)	81x162										91x156	



Product selection and technical parameters

CDQ3H&CDQ3EH CB level automatic transfer switch

order code

Frame current	Rated operating current	Breaking capacity	Type A controller		Type B controller	
			3 poles	4 poles	3 poles	4 poles
			order code	order code	order code	order code
63AF	10	S	CDQ3HA63S103Z	CDQ3HA63S104Z	CDQ3HB63S103Z	CDQ3HB63S104Z
	...		...	...	...	...
	63		CDQ3HA63S633Z	CDQ3HA63S634Z	CDQ3HB63S633Z	CDQ3HB63S634Z
	10	F	CDQ3HA63F103Z	CDQ3HA63F104Z	CDQ3HB63F103Z	CDQ3HB63F104Z
	...		...	...	...	...
100AF	63	S	CDQ3HA63F633Z	CDQ3HA63F634Z	CDQ3HB63F633Z	CDQ3HB63F634Z
	16		CDQ3HA100S163Z	CDQ3HA100S164Z	CDQ3HB100S163Z	CDQ3HB100S164Z
	...		...	...	...	...
	100	F	CDQ3HA100S1003Z	CDQ3HA100S1004Z	CDQ3HB100S1003Z	CDQ3HB100S1004Z
	40		CDQ3HA100F403Z	CDQ3HA100F404Z	CDQ3HB100F403Z	CDQ3HB100F404Z
250AF	...		...	...	...	...
	100	S	CDQ3HA100F1003Z	CDQ3HA100F1004Z	CDQ3HB100F1003Z	CDQ3HB100F1004Z
	...		CDQ3HA250S1003Z	CDQ3HA250S1004Z	CDQ3HB250S1003Z	CDQ3HB250S1004Z
	...		...	...	...	...
	225	F	CDQ3HA250S2253Z	CDQ3HA250S2254Z	CDQ3HB250S2253Z	CDQ3HB250S2254Z
400AF	250		CDQ3HA250S2503Z	CDQ3HA250S2504Z	CDQ3HB250S2503Z	CDQ3HB250S2504Z
	100		CDQ3HA250F1003Z	CDQ3HA250F1004Z	CDQ3HB250F1003Z	CDQ3HB250F1004Z
	...	F	...	...	...	...
	225		CDQ3HA250F2253Z	CDQ3HA250F2254Z	CDQ3HB250F2253Z	CDQ3HB250F2254Z
	250		CDQ3HA250F2503Z	CDQ3HA250F2504Z	CDQ3HB250F2503Z	CDQ3HB250F2504Z
630AF	200	F	CDQ3HA400F2003Z	CDQ3HA400F2004Z	CDQ3HB400F2003Z	CDQ3HB400F2004Z
	...		...	...	...	...
	400		CDQ3HA400F4003Z	CDQ3HA400F4004Z	CDQ3HB400F4003Z	CDQ3HB400F4004Z
	200	N	CDQ3HA400N2003Z	CDQ3HA400N2004Z	CDQ3HB400N2003Z	CDQ3HB400N2004Z
	...		...	...	...	...
800AF	400		CDQ3HA400N4003Z	CDQ3HA400N4004Z	CDQ3HB400N4003Z	CDQ3HB400N4004Z
	400	F			CDQ3HB630F4003Z	CDQ3HB630F4004Z
	...				...	...
	630				CDQ3HB630F6303Z	CDQ3HB630F6304Z
	400	L			CDQ3HB630N4003Z	CDQ3HB630N4004Z
	...				...	...
	800				CDQ3HB800L8003Z	-
	400	M			CDQ3HB800M4003Z	CDQ3HB800M4004Z
	...				...	...
	800				CDQ3HB800M8003Z	CDQ3HB800M8004Z

--: No such specification

Product selection and technical parameters

CDQ3H&CDQ3EH CB level automatic transfer switch



CDQ3EH CB product selection

name	controller type	frame current	tripping curve	rated current	poles	Additional function
CDQ3EH	B	63	C	10	4	G ¹⁾
	A: A type (economical) B: B type (standard)	63: 63AF	C: C type (for power distribution) D: D type (for motor)	10:10A ... 63:63A	42P: 2P 3: 3P 4: 4P	--: grid- grid G : grid generator

--: empty

1) Generator start function is optional only for Type B

Model Specifications		CDQ3EH
execute circuit breaker	DZ47s	
Circuit Breaker Tripping Curve	C type (for power distribution) / D type (for motor)	
poles	2 ¹⁾ 2 ²⁾ 、3 ²⁾ 、4	
standard	GB/T 14048.11	
electrical level	CB level	
use category	AC-33iB	
structure type	one-piece type	
performance parameters		CDQ3EH
Rated insulation voltage Ui (V)	500	
Rated impulse withstand voltage Uimp (kV)	6	
Rated working voltage Ue (V)	400	
Rated working current Ie (A)	10/13/16/20/25/32/40/50/63	
Rated making and breaking capacity (A)	6Ie	
rated frequency (Hz)	50	
Rated short-circuit breaking capacity Icn (kA)	6	
Rated short-circuit making capacity Icm (kA)	9.18	
Mechanical life (number of cycles)	15000	
Electrical Life (number of cycles)	1500	
conversion time	≤3s	
Electromagnetic Compatibility Level	environment B	
sampling mode	Often use three-phase sampling ³⁾	
controller	A type	B type
control function		
grid (P) - grid (P)	■	■
grid (P) - generator (G)	-	□
automatic mode- self cut self recover	■	■
automatic mode- self cut no self recover	-	■
Manual operation with handle	■	■
test function	-	■
Normal and standby power status output	■	■
Normal and standby closing state output	■	■
Fire linkage (DC24V)	-	■
generator start	-	□

Product selection and technical parameters

CDQ3H&CDQ3EH CB level automatic transfer switch

Protective function		
overload protection	■	■
Instant protection	■	■
overvoltage protection	-	■ (factory setting 264V)
under voltage protection	-	■ (factory setting 184V)
Loss of voltage protection	■	■
Phase loss protection	■	■
Switch welding protection	-	■ (The trip indicators on both sides are flashing)
switch protection	-	■ (The trip indicators on both sides are flashing)
Power failure alarm	-	■
Trip fault alarm	-	■
parameter setting		
Conversion delay T1 time adjustable	-	■ 0~30s (factory setting 3s)
Conversion delay T2 time adjustable	-	■ 0~30s (factory setting 3s)
Generator start delay T3	-	□ 15s Not adjustable
Generator start delay T4	-	□ 15s Not adjustable
Size (mm)	CDQ3EH	
Dimensions (WxHxD)	247×130×114	
installation size (WxH)	228×120	
Product Phase Spacing	17.8	

- no option
■Standard □Optional

¹⁾ 2P is a special product
²⁾ 2P/3P/4P products have the same size
³⁾ A-type controller backup side single-phase sampling

Product selection and technical parameters

CDQ3H&CDQ3EH CB level automatic transfer switch

order code					
Frame current	rated working current	Circuit Breaker Tripping Curve	poles	A type	B type
				order code	order code
63AF	10	C	2P ¹⁾²⁾	CDQ3EHA63C1042P	CDQ3EHB63C1042P
	...	...		...	...
	63	D		CDQ3EHA63D6342P	CDQ3EHB63D6342P
	10	C	3P ²⁾	CDQ3EHA63C103	CDQ3EHB63C103
	...	...		...	...
	63	D		CDQ3EHA63D633	CDQ3EHB63D633
	10	C	4P	CDQ3EHA63C104	CDQ3EHB63C104
	...	...		...	...
	63	D		CDQ3EHA63D634	CDQ3EHB63D634

¹⁾ 2P is a special product
²⁾ 2P/3P/4P has same size

Interface and Settings

CDQ3H&CDQ3EH CB level automatic transfer switch

Interface and Settings

CDQ3EH Type B controller

● indicator light

"Automatic" means automatic indication, and the light is off for manual "Fire" means fire linkage function start indication

"Automatic reset /non -automatic reset " light is on, indicating that the working mode of the switch is automatic .switching and automatic recovery , and the light is off for automatic switching and non-automatic recovery

"Common use" means that the upper end of the common power supply is charged , the light is off for loss of voltage , and the light is flashing for phase failure, undervoltage, or overvoltage.

"Standby" means that the upper end of the backup power supply is charged, the light is off for loss of voltage , the light is flashing for phase failure , undervoltage and overvoltage "closing " means the switch is in the closing position, and the light is off in the opening position

"Trip" light flashes to indicate switch overload or short circuit trip

● button

"Auto/Manual" key: the operation makes the controller switch between manual and automatic state

● other presets

Conversion delay time: the default delay time is 3s, and the adjustment range is 0-30s
Return delay time: the default delay time is 3s, and the adjustment range is 0-30s

CDQ3H A type controller

● indicator light

"Automatic" means automatic indication, and the light is off for manual

"Fire" means fire linkage function start indication

"Common" means that the upper end of the commonly used power supply is charged, the light is off for loss of voltage , and the light is flashing for phase failure , undervoltage , and overvoltage "Standby" means that the upper end of the backup power supply is charged, the light is off for loss of voltage, the light is flashing for phase failure, undervoltage and overvoltage "closing " means the switch is in the closing position, and the light is off in the opening position

"Fault" light flashes to indicate that the switch refuses to operate

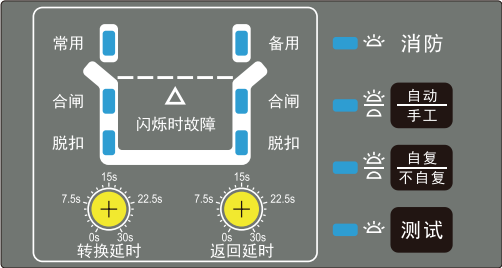
● button

"Auto/Manual" key: the operation makes the controller switch between manual and automatic state

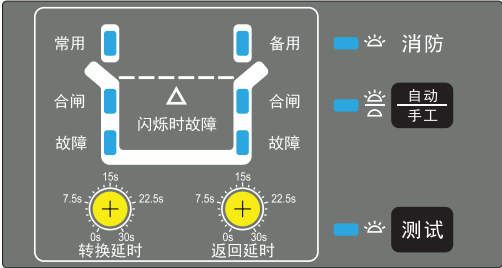
● other presets

Conversion delay time: the default delay time is 3s, and the adjustment range is 0-30s

Return delay time: the default delay time is 3s, and the adjustment range is 0-30s



CDQ3EH B type controller



CDQ3H A type controller

Interface and Settings

CDQ3H&CDQ3EH CB level automatic transfer switch

Interface and Settings

CDQ3H B type controllerd

● display screen
Common use voltage display
Standby voltage display

● indicator light

"Ua" 、 "Ub" 、 "Uc" Three-phase voltage cycle display

"Generation start" indicates generator output indication

"Self-recovery" means self-cut and self-recover, "no self-recover" means self-cut without self-recovery, "mutual backup" means mutual backup

"Automatic" means automatic indication, and the light is off for manual

"Fire" means fire linkage function start indication

"Alarm" indicates that the power supply voltage is abnormal or the switch fault trips

"Common" means that the upper end of the commonly used power supply is charged, the light is off for loss of voltage, and the light is flashing for phase failure, undervoltage, and overvoltage

"Standby" means that the upper end of the backup power supply is charged, the light is off for loss of voltage, the light is flashing for phase failure, undervoltage and overvoltage

"closing" means the switch is in the closing position, and the light is off in the opening position

"Fault" light flashes to indicate that the switch refuses to operate

● button

"Auto/Manual" key: operation makes the controller switch between manual and automatic state

"Common" key: common closing, only valid in manual state

"Backup" key: backup closing, only valid in manual state

"Double -off" key: Make the product enter the two-way off state , only valid in the manual state

● other presets

Overvoltage value: the factory setting is 264V, the user can set the value 253-276V

Undervoltage value: the factory setting is 184V, the user can set the value 172-195V

Conversion delay time: the default delay time is 3s, the adjustment range is 0-99s

Return delay time: the default delay time is 3s, the adjustment range is 0-99s, generator start delay time: the default delay time is 15s , the adjustment range is 0-99s

Generator shutdown delay time: the default delay time is 15s, the adjustment range is 0-99s



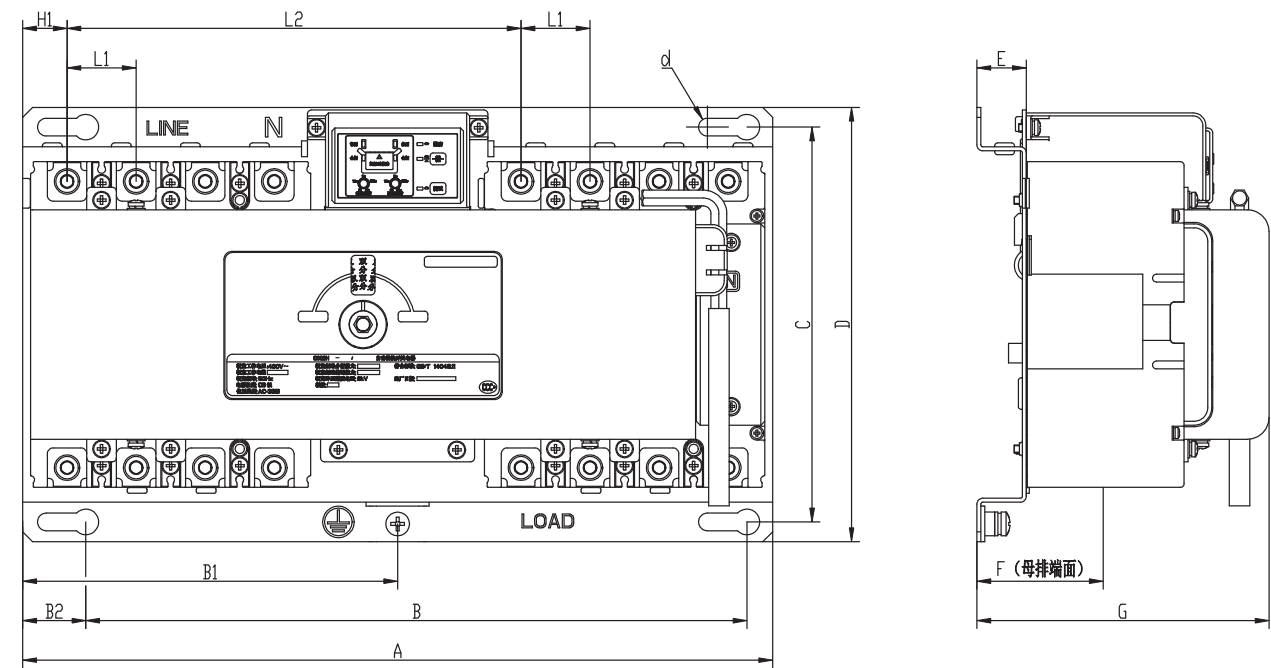
CDQ3H B type controller

Shape and installation dimensions

CDQ3H&CDQ3EH CB level automatic transfer switch

CDQ3H&CDQ3EH Shape and installation dimensions

CDQ3HA one-piece
63~400A



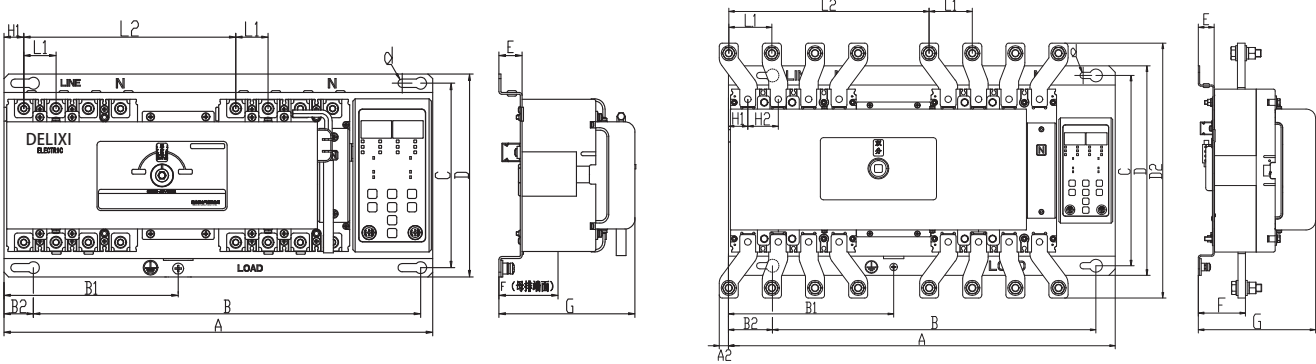
specification model	A	B	B1	B2	C	D	E	F	G	L1	L2	H1	d
CDQ3HA-63S/F	285	230	143	37.5	200	220	25	49	121	25	180	15.5	9
CDQ3HA-100S	285	230	143	37.5	200	220	25	49	121	25	180	15.5	9
CDQ3HA-100F	323	270	162	35.5	200	220	25	53.5	148	30	196	19	9
CDQ3HA-250S	380	335	190	32	200	220	25	48	130	35	230	22.5	9
CDQ3HA-250F	380	335	190	32	200	220	25	48	148	35	230	22.5	9
CDQ3HA-400F/N	520	420	260.5	69.5	300	330	25	62	185	48	316	30.5	10

Shape and installation dimensions

CDQ3H&CDQ3EH CB level automatic transfer switch

CDQ3H&CDQ3EH Shape and installation dimensions

CDQ3HB one-piece
63~400A



630A

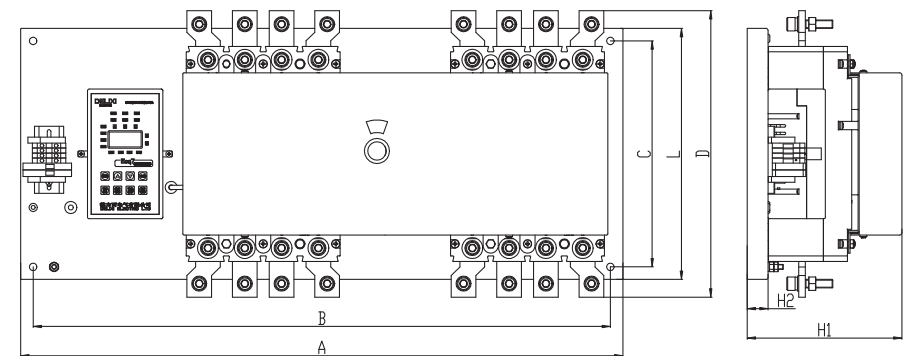
63~630A

size specification	A	A2	B	B1	B2	C	D	D2	E	F	G	L1	L2	H1	H2	d
CDQ3HB-63S/F	375	-	322	143	36.5	200	220	-	25	49	121	25	180	15.5	-	9
CDQ3HB-100S	375	-	322	143	36.5	200	220	-	25	49	121	25	180	15.5	-	9
CDQ3HB-100F	415	-	365	163	34	200	220	-	25	53.5	148	30	196	20	-	9
CDQ3HB-250S	465	-	420	189	32	200	220	-	25	48	130	35	230	21.5	-	9
CDQ3HB-250F	465	-	420	189	32	200	220	-	25	48	148	35	230	21.5	-	9
CDQ3HB-400F/N	610	-	510	260.5	69.5	300	330	-	25	62	185	48	316	30.5	-	10
CDQ3HB-630F/N	610	14.5	510	260.5	69.5	300	330	402	25	77	185	68	316	30.5	48	10

Shape and installation dimensions

CDQ3H&CDQ3EH CB level automatic transfer switch

CDQ3HB one-piece
800A



800A

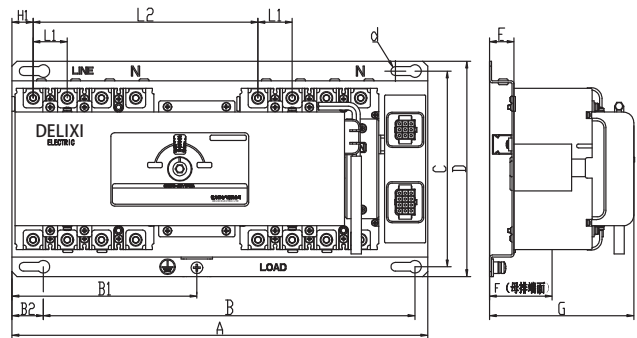
size specification	A	B	D	L	C	H1	H2
CDQ3HB-800 4P	830	780	420	325	300	195	28
CDQ3HB-800 3P	760	710	420	325	300	195	28

Shape and installation dimensions

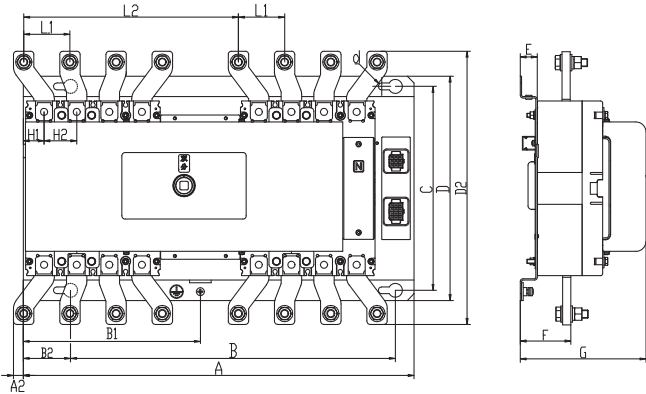
CDQ3H&CDQ3EH CB level automatic transfer switch

CDQ3H&CDQ3EH Shape and installation dimensions

CDQ3HB split
63~400A



630A



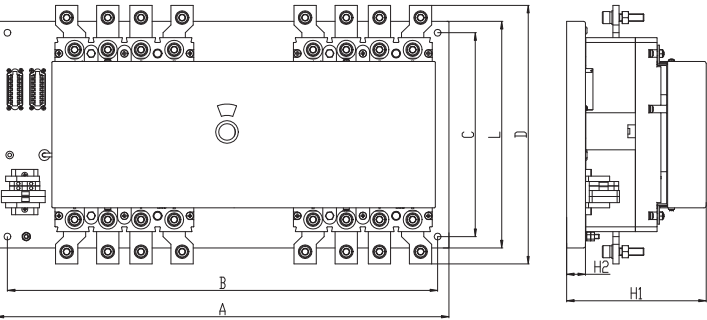
63~630A

size specification	A	A2	B	B1	B2	C	D	D2	E	F	G	L1	L2	H1	H2	d
CDQ3HB-63S/F	335	-	282	143	36.5	200	220	-	25	49	121	25	180	15.5	-	9
CDQ3HB-100S	335	-	282	143	36.5	200	220	-	25	49	121	25	180	15.5	-	9
CDQ3HB-100F	375	-	325	163	34	200	220	-	25	53.5	148	30	196	20	-	9
CDQ3HB-250S	425	-	380	189	32	200	220	-	25	48	130	35	230	21.5	-	9
CDQ3HB-250F	425	-	380	189	32	200	220	-	25	48	148	35	230	21.5	-	9
CDQ3HB-400F/N	575	-	478	260.5	69.5	300	330	-	25	62	185	48	316	30.5	-	10
CDQ3HB-630F/N	575	14.5	478	260.5	69.5	300	330	402	25	77	185	68	316	30.5	48	10

Shape and installation dimensions
CDQ3H&CDQ3EH CB level automatic transfer switch

CDQ3H&CDQ3EH Shape and installation dimensions

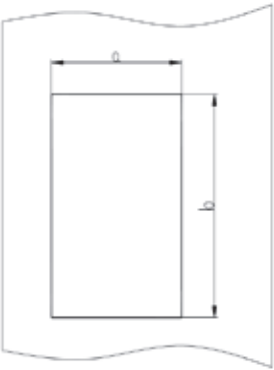
CDQ3HB Split type
800A



800A

spec \ size	A	B	D	L	C	H1	H2
CDQ3HB-800 4P	790	740	420	325	300	195	28
CDQ3HB-800 3P	720	670	420	325	300	195	28

Split type Installation hole size drawing

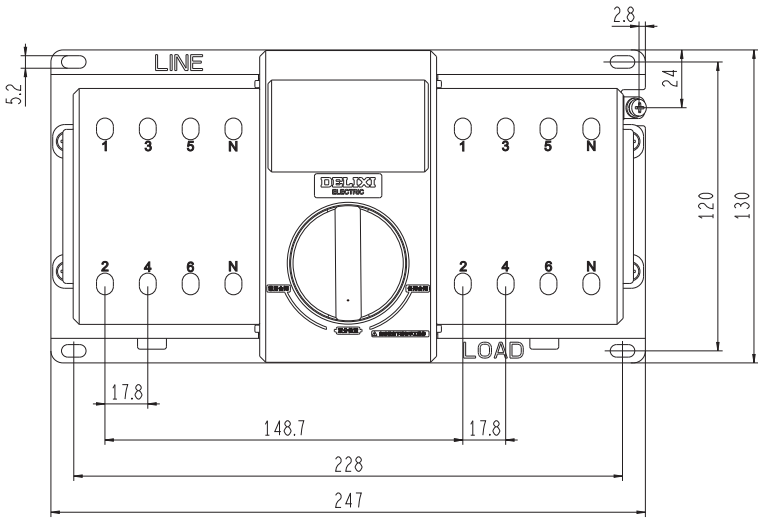
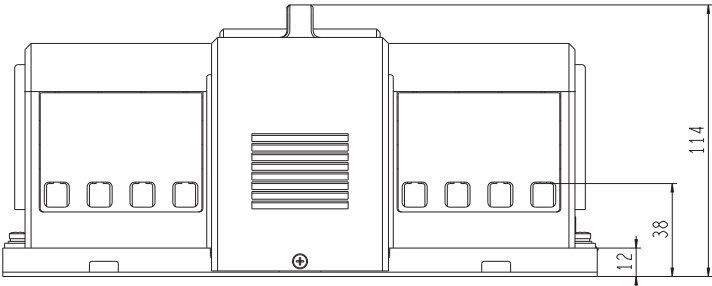


spec \ size	a	b
CDQ3HB (63~630) Standard Controller	81	162
CDQ3HB (800) Standard Controller	91	156

Shape and installation dimensions
CDQ3H&CDQ3EH CB level automatic transfer switch

CDQ3H&CDQ3EH Shape and installation dimensions

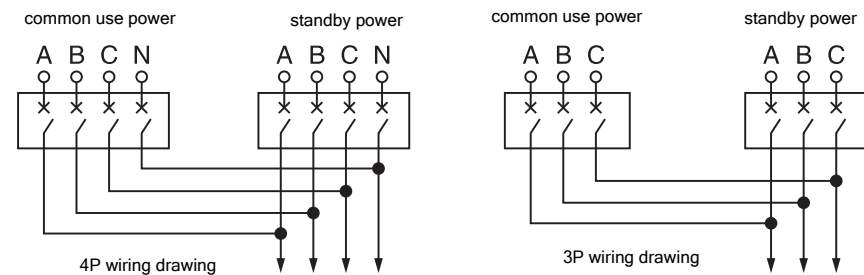
3EH-63 Shape and installation dimensions CDQ



wiring diagram

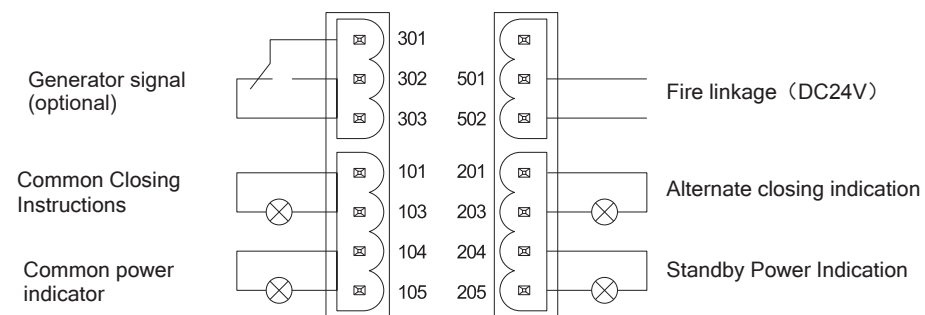
CDQ3H&CDQ3EH CB level automatic transfer switch

main circuit connection

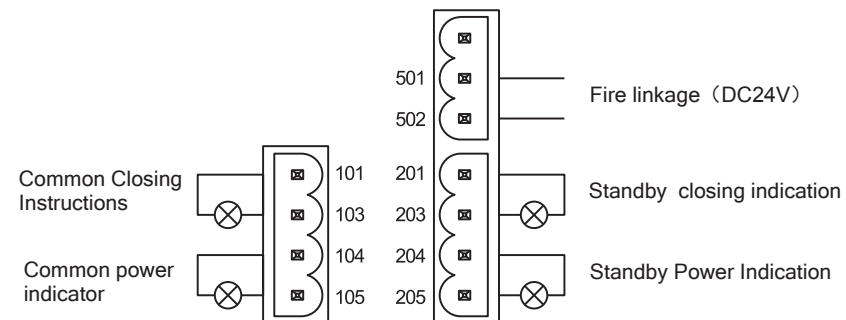


※Three-pole products must be connected to the neutral line at the terminal "N"

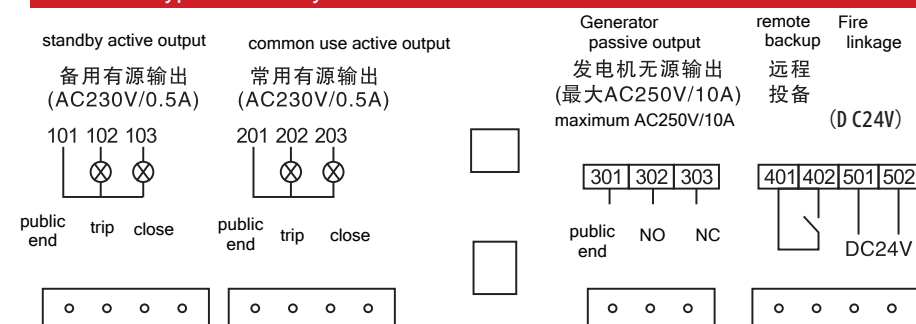
CDQ3EH-B type Secondary terminal connection



CDQ3H-A type Secondary terminal connection



CDQ3H-B type Secondary terminal connection



Use and Maintenance

CDQ3H&CDQ3EH CB level automatic transfer switch

Please read the product manual carefully before using the product normally, and pay attention to the following issues:

The automatic transfer switch can work reliably at 85%-110% of the rated operating voltage

During the use of the automatic transfer switch, strict attention should be paid to the N pole mark of the inlet and outlet terminals (three-pole products must be connected to the neutral line at the terminal "N"), and the neutral wire of the four-pole products must not be shared, and the grounding must be confirmed. During the use of the product, general inspection should be carried out regularly (such as every three months). Please use the test button or manually or automatically switch the power supply once to check whether the product is operating normally.