

Medium Voltage Switchgear **KYN28-12** Metalclad AC Enclosed Switchgear, Withdrawable Type

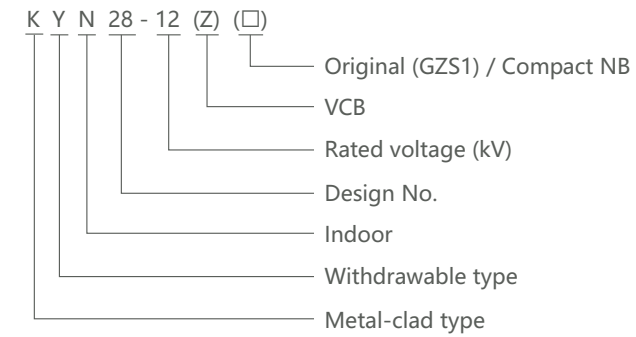
- KYN28A-12 indoor metal clad movable switchgear is a complete power distribution device for 3.6kV~12KV, 3 phase AC 50/60Hz , single bus sectionalized system. It is mainly used for power transmission of middle/smallgenerators in power plants, power receiving, transmission for substations in power distribution and power system of factories, mines and enterprises etc. so as to control, protect and monitor the system.
- Standard: IEC62271-200

General



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Selection



Operating conditions

1. Ambient air temperature: -15°C~+40°C.
2. Altitude: ≤1000m.
3. Relative humidity : Daily average≤95%, daily average of vapour pressure≤2.2kpa.
4. Earthquake intensity: ≤magnitude 8.
5. Applicable in the places without corrosive and flammable gas and water vapor.
6. Used in place without frequently intense vibrant.

Note: Customized products are available.

Features

1. The cabinet is made of aluminum-zinc coated sheet processed by CNC equipment, and is assembled by bolts or rivets. The structure is fully assembled.
2. The switchgear has various functions to prevent misoperation, including preventing the load-bearing handcart from moving, preventing the live closing and grounding
3. The switchgear is equipped with high-performance VS1 series medium-voltage AC vacuum circuit breakers and solid-sealed vacuum circuit breakers.
4. The busbar adopts heat-shrinkable insulation materials and optimized electrode shapes, with a compact cabinet structure. This switchgear is technologically advanced, with stable performance, reasonable structure, convenient use, and safe and reliable power distribution equipment

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Technical data

No.	Item		Unit	Data	
1	Rated voltage		kV	3.6, 7.2, 12	
2	Rated frequency of circuit breaker		Hz	50	
3	Rated current of circuit breaker		A	630, 1250, 1600, 2000, 2500, 3150, 4000	
4	Rated current of switchgear		A	630, 1250, 1600, 2000, 2500, 3150, 4000	
5	Rated short-time withstand current (4s)		kA	16, 20, 25, 31.5, 40, 50	
6	Rated withstands current (peak)		kA	40, 50, 63, 80, 100, 25	
7	Rated short-circuit breaking current		kA	16, 20, 25, 31.5, 40, 50	
8	Rated short-circuit closing current (peak)		kA	40, 50, 63, 80, 100, 25	
9	Rated insulation level	1 min power frequency withstands voltage	between poles, pole to earth	kV	24, 32, 42
			between open contacts	kV	24, 32, 48
		Lightening impulse withstands voltage (peak)	between poles, pole to earth	kV	40, 60, 75
			between open contacts	kV	46, 70, 85
10	Protection level			Shell: IP4X; IP2X when the CPT and CB doors are open	

Note:

- The short circuit capacity of the current transformer should be separately considered.
- See technical parameters of ZN63A-12 in related catalogues of our company.

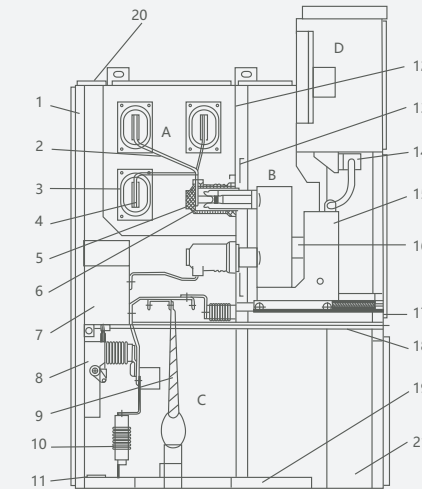
VS1-12 Technical data

Item	Unit	Value			
Contact distance	mm	12			
Contact travel		75			
Average closing speed (6mm~contact closed)	m/s	42			
Average opening speed (contact separation -6mm)		20	25	31.5	40
Opening time (rated voltage)	m/s	630	630, 1250, 1600,	1250, 1600, 2000,	
Closing time (rated voltage)		1250	2000, 2500, 3150	2500, 3150, 4000	
Contact closing bounce time	m/s	20	25	31.5	40
Three phase opening asynchrony		63		80	100
Allowable cumulative thickness of wear for moving and stationary contacts	mm	50	63	80	100
Rated short-circuit breaking current breaking times	Times	80	50	30	
Secondary circuit power frequency withstand current	V	2000			
Rated operating sequence		Opening -0.3s - closing and opening -180s - closing and opening -180s - closing and opening -180s - closing and opening (40kA)			
Rated thermal stability time	S	4			
Rated single/back to back capacitor bank breaking current	A	630/400		800/400	
Mechanical life	Times	20000		10000	

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Structure

- A. Busbar compartment
- B. Circuit breaker trolley compartment
- C. Cable compartment
- D. Realy ,instrument compartment
- 1. Shell
- 2. Small branch bus
- 3. Bus bushing
- 4. Main bus
- 5. Static contact assembly
- 6. Contact box
- 7. Current transformer
- 8. Earthing switch
- 9. Cable
- 10. Surge arrester
- 11. Earthing main busbar



- 12. Detachable partition
- 13. Board (Valve)
- 14. Secondary plug
- 15. Circuit breaker handcart
- 16. Heating device
- 17. Withdrawable level board
- 18. Earthing switch operation
- 19. Base board
- 20. Pressure releasing channel
- 21. Control mini bus

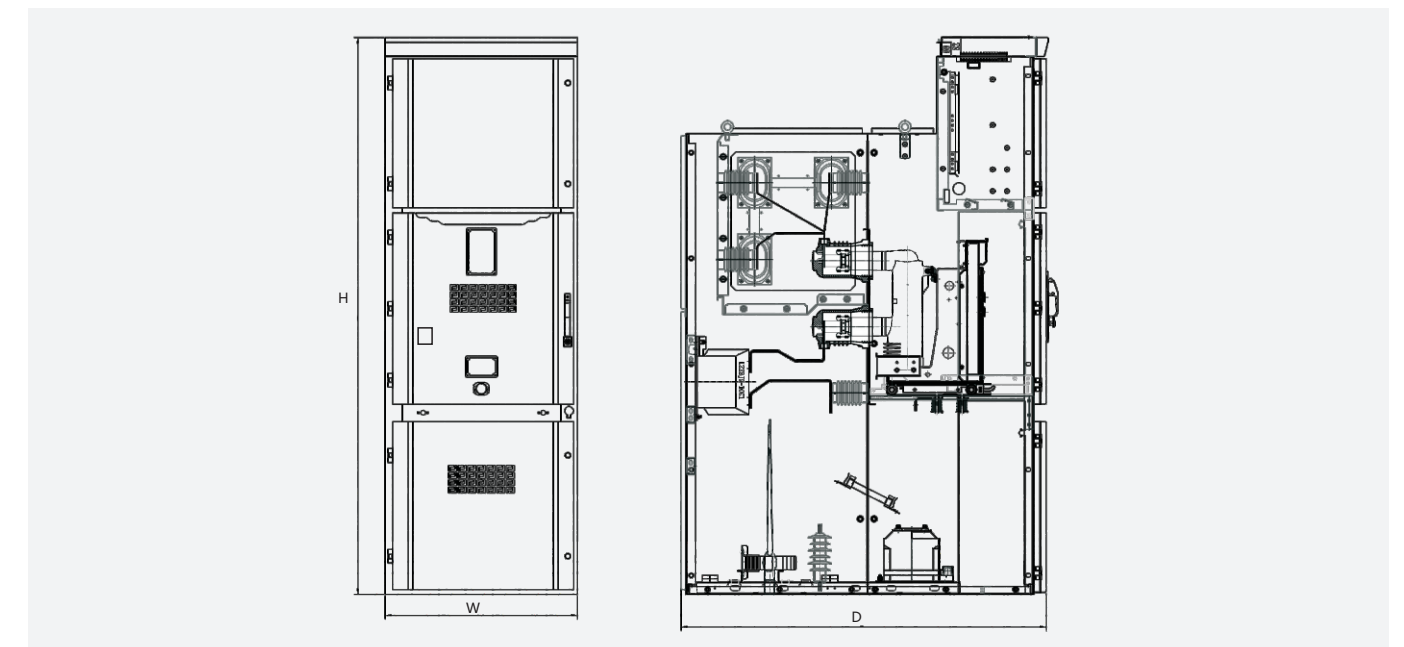
Overall and mounting dimensions (refer to picture 2, sheet 2)

(mm) Sheet 2

Shape	Description	Size (mm)
Width (W)	Rated current of branch bus \leq 1250A, heat stable current \leq 40KA	800(650)
	Rated current of branch bus \geq 1600A	1000
Depth (C)	Cable Incoming and outgoing feeder	1500
	Overheaded incoming and outgoing feeder	1660
Height (B)		2300(2200)

Outline size

Picture 2



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Single line diagram

Sheet 4

Program No.	01	02	03	04	05	06
Single line diagram						
Overall and mounting dimensions (mm) (Width×Depth×Height)	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300
Main electrical components	Rated current(A) 630~3150					
	VCB(ZN63 or VD4) 1					
	CT LZJB9 series 2					
	Earthing switch JN15 /					
	Surge arrester HY5W /					
Circuit name	Receiving, feeding	Receiving, feeding	Receiving, feeding	Receiving, feeding	Receiving, feeding	Receiving, feeding
Note	Cabinet weight will be 1000mm when rated current is above 1600A.					

Program No.	07	08	09	10	11	12
Single line diagram						
Overall and mounting dimensions (mm) (Width×Depth×Height)	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300
Main electrical components	Rated current(A) 630~3150					
	VCB(ZN63 or VD4) 1					
	CT LZJB9 series 2					
	Earthing switch JN15 /					
	Surge arrester HY5W /					
Circuit name	Communication (Right)	Communication (Right)	Communication (Right)	Communication (Right)	Communication (Right)	Communication (Right)
Note	Cabinet weight will be 1000mm when rated current is above 1600A.					

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Continued Sheet 4

Program No.	13	14	15	16	17	18
Single line diagram						
Overall and mounting dimensions (mm) (Width×Depth×Height)	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300
Main electrical components	Rated current(A) 630~3150					
	VCB(ZN63 or VD4) 1					
	CT LZJB9 series 3					
	Earthing switch JN15 /					
	Surge arrester HY5W /					
Circuit name	Communication (Left)	Communication (Left)	Overhead incoming (left communication)	Overhead incoming (left communication)	Overhead incoming (right communication)	Overhead incoming (right communication)
Note	Cabinet weight will be 1000mm when rated current is above 1600A.					

Program No.	19	20	21	22	23	24
Single line diagram						
Overall and mounting dimensions (mm) (Width×Depth×Height)	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300
Main electrical components	Rated current(A) 630~3150					
	VCB(ZN63 or VD4) 1					
	CT LZJB9 series 3					
	Earthing switch JN15 /					
	Surge arrester HY5W /					
Circuit name	Overhead incoming (left communication)	Overhead incoming (left communication)	Overhead incoming (right communication)	Overhead incoming (right communication)	Overhead incoming and outgoing feeder	Overhead incoming and outgoing feeder
Note	Cabinet weight will be 1000mm when rated current is above 1600A.					

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Continued Sheet 4

Program No.	25	26	27	28	29	30
Single line diagram						
Overall and mounting dimensions (mm) (Width×Depth×Height)	800×1660×2300 1000×1660×2300	800×1660×2300 1000×1660×2300	800×1660×2300 1000×1660×2300	800×1660×2300 1000×1660×2300	800×1660×2300 1000×1660×2300	800×1660×2300 1000×1660×2300
Main electrical components	Rated current(A) 630~3150					
	VCB(ZN63 or VD4) 1					
	CT LZZBJ9 series 2 3 3 3 2 2					
	Potential transformer / / / / JDZ10-10 2 JDZ10-10 2					
	H.V fuse RN2-10 / / / / 3 3					
	Earthing switch JN15 1 / 1 1 / 1					
	Surge arrester HY5W 3 / / 3 / /					
	Circuit name	Overhead incoming and outgoing feeder	Overhead incoming and outgoing feeder	Overhead incoming and outgoing feeder	Overhead incoming and outgoing feeder	Cable incoming+PT
Note	Cabinet weight will be 1000mm when rated current is above 1600A.					

Program No.	31	32	33	34	35	36
Single line diagram						
Overall and mounting dimensions (mm) (Width×Depth×Height)	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300
Main electrical components	Rated current(A) 630~3150					
	VCB(ZN63 or VD4) 1					
	CT LZZBJ9 series 2 3 3 3 2 2					
	Potential transformer JDZ10-10 2 JDZ10-10 2 JDZ10-10 2 JDZ10-10 2 JDZ10-10 3 JDZ10-10 3					
	H.V fuse RN2-10 3 3 3 3 3 3					
	Earthing switch JN15 / / 1 / / /					
	Surge arrester HY5W 3 / / 3 / /					
	Circuit name	Cable incoming+PT	Cable incoming+PT	Cable incoming+PT	Cable incoming+PT	Cable incoming+PT
Note	Cabinet weight will be 1000mm when rated current is above 1600A.					

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Continued Sheet 4

Program No.	37	38	39	40	41	42	
Single line diagram							
Overall and mounting dimensions (mm) (Width×Depth×Height)	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	
Main electrical components	Rated current(A) 630~3150						
	VCB(ZN63 or VD4) 1 / / / / /						
	CT LZZBJ9 series 2 / / / / /						
	Potential transformer JDZ10-10 3 JDZ10-10 2 JDZ10-10 3 JDZ10-10 2 JDZ10-10 3 JDZ10-10 2						
	H.V fuse RN2-10 3 3 3 3 3 3						
	Surge arrester HY5W 3 / / 3 3 3						
	Circuit name	Cable incoming+PT	Voltage measure	Voltage measure	Voltage measure +Surge arrester	Voltage measure +Surge arrester	Voltage measure +Surge arrester
	Note	Cabinet weight will be 1000mm when rated current is above 1600A.					

Program No.	43	44	45	46	47	48	
Single line diagram							
Overall and mounting dimensions (mm) (Width×Depth×Height)	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	
Main electrical components	Rated current(A) 630~3150						
	Potential transformer JDZ10-10 3 JDZ10-10 2 JDZ10-10 2 JDZ10-10 3 JDZ10-10 3 JDZ10-10 2						
	H.V fuse RN2-10 3 3 3 3 3 3						
	Surge arrester HY5W 3 / / / / /						
	Circuit name	Voltage measure +Surge arrester	Voltage measure +Bus couple	Voltage measure +Bus couple	Voltage measure +Bus couple	Voltage measure +Bus couple	Voltage measure +Surge arrester+Bus couple
	Note	Cabinet weight will be 1000mm when rated current is above 1600A.					

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Continued Sheet 4

Program No.	49	50	51	52	53	54
Single line diagram						
Overall and mounting dimensions (mm) (Width×Depth×Height)	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300
Main electrical components	Rated current(A) 630~3150					
	Potential transformer JDZ10-10 2		JDZ10-10 3		JDZ10-10 3	
	H.V fuse RN2-10 3		3		3	
	Surge arrester HY5W 3		3		3	
Circuit name	Voltage measure+Surge arrester+Bus couple	Voltage measure+Surge arrester+Bus couple	Voltage measure+Surge arrester+Bus couple	Bus couple	Bus couple	Disconnection
Note	Cabinet weight will be 1000mm when rated current is above 1600A.					

Program No.	55	56	57	58	59	60
Single line diagram						
Overall and mounting dimensions (mm) (Width×Depth×Height)	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300
Main electrical components	Rated current(A) 630~3150					
	Potential transformer /		/		JDZ10-10 2	
	H.V fuse RN2-10 /		/		3	
	Earthing switch Jn15 /		/		/	
Circuit name	Disconnection+Communication(Left)	Disconnection+Communication(Right)	Disconnection+Communication(Left)+Voltage measure	Disconnection+Communication(Right)+Voltage measure	Outlet and phase exchange	Outlet and phase exchange
Note	Cabinet weight will be 1000mm when rated current is above 1600A.					

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Program No.	61	62	63	64	65	66
Single line diagram						
Overall and mounting dimensions (mm) (Width×Depth×Height)	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300
Main electrical components	Rated current(A) 630~3150					
	CT LZJB9 series 2		2		3	
	Potential transformer JDZ10-10 2		JDZ10-10 2		JDZ10-10 2	
	H.V fuse RN2-10 /		/		/	
Circuit name	Measurement+left communication	Measurement+Right communication	Measurement+left communication	Measurement+Right communication	Measurement+left communication	Measurement+Right communication
Note	Cabinet weight will be 1000mm when rated current is above 1600A.					

Program No.	67	68	69	70	71	72
Single line diagram						
Overall and mounting dimensions (mm) (Width×Depth×Height)	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300	800×1500×2300 1000×1500×2300
Main electrical components	Rated current(A) 630~3150					
	VCB(ZN63 or VD4) /		/		1	
	CT LZJB9 series 3		3		2	
	Potential transformer JDZX10-10 3		JDZX10-10 2		JDZX10-10 2	
Circuit name	Measurement+left communication	Measurement+Right communication	Incoming+Measurement	Incoming+Measurement	Incoming+Measurement	Incoming+Measurement
Note	Cabinet weight will be 1000mm when rated current is above 1600A.					