

KYN28-12

Armored Withdrawable Type
AC Metal-Enclosed Switchgear



Overview

KYN28-12(GZS1) type armoured removable AC metal enclosed switchgear (hereinafter referred to as "switchgear") It is suitable for three-phase AC 50Hz power system, used to receive and distribute electrical energy and control, protect and monitor the circuit. The newly introduced and developed high-current and high-breaking switchgear can also be used separately as a high-voltage generator outlet.

This product conforms to the standards: GB3906 "3~35kV AC metal enclosed switchgear", GB/T11022 "High voltage switchgear and control equipment standard common technical requirements", IEC298 "rated voltage above 1kV 52kV and below AC metal enclosed switchgear and control equipment".

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Model meaning

K	Y	N	28	-	12	Z
↓	↓	↓	↓		↓	↓
Metal armoured type	Shifting type	Indoor	Design sequence number		Rated voltage (kV)	Vacuum circuit breaker

Conditions of use

- Ambient air temperature: maximum temperature +40°C , minimum temperature -15°C ;
- Relative humidity: daily average relative humidity: ≤ 95%, daily average water vapor pressure does not exceed 2.2KPa; Monthly average relative humidity ≤ 90%; The average monthly steam pressure does not exceed 1.8KPa;
- Altitude: ≤ 1000m;
- Seismic intensity: not more than 8;
- The surrounding air should be free from corrosive or flammable gas, water vapor and other obvious pollution;
- No violent vibration site;
- When used under normal conditions beyond GB3906, the user and the company shall negotiate.

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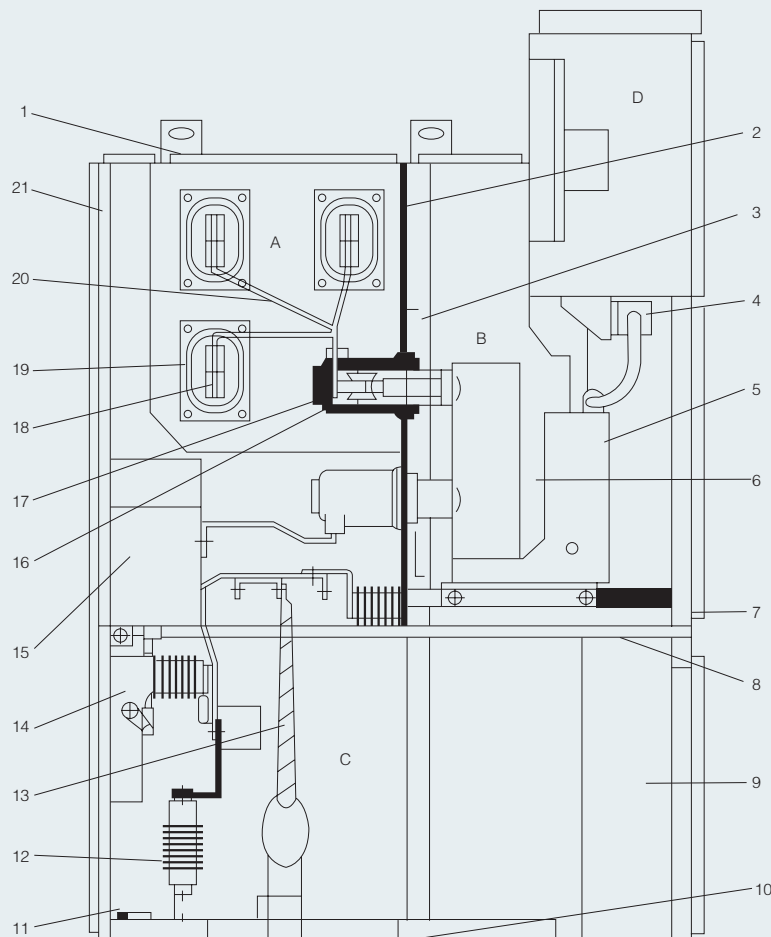
Parameter			Unit	Value
Rated Voltage			KV	3.6、 7.2、 12
Rated Frequency			Hz	50
Rated current of circuit breaker			A	630、 1250、 1600、 2000、 2500、 3150、 4000
Rated current of switchgear			A	630、 1250、 1600、 2000、 2500、 3150、 4000
Rated Short-time Withstand Current (4s)			KA	16、 20、 25、 31.5、 40、 50
Rated Peak Withstand Current (Peak Value)			KA	40、 50、 63、 80、 100、 125
Rated Short-Circuit Breaking Current			KA	16、 20、 25、 31.5、 40、 50
Rated Short-Circuit Making Current (Peak Value)			KA	40、 50、 63、 80、 100、 125
Rated Insulation Level	1min Power Frequency Withstand Voltage	Phase to phase, phase to earth	KV	24、 32、 42
		Gaps	KV	24、 32、 48
	Lightning Impulse Withstand Voltage (Peak)	Phase to phase, phase to earth	KV	40、 60、 75
		Gaps	KV	46、 70、 85
Protection (IP) Rating				IP4X

Note:

1. The short-circuit capacity of the current transformer should be considered separately.
2. For the technical parameters of the ZN63A-12, please refer to the corresponding datasheet.
3. For altitudes up to 1000m, the rated current ≤ 1250A, and the rated breaking current ≤ 31.5kA.

Structural characteristics

- The switchgear structure is shown in the figure below. All-metal modular assembly structure, the cabinet is made of imported aluminum-zinc plate with strong anti-corrosion ability, without surface treatment, processed by CNC high-precision equipment, using advanced multiple flanging technology, and connected with rivet nuts and high-strength bolts, high precision, light weight and good strength.
- The switchgear can be equipped with VS1 series, VD4 series, ZN65 series and other vacuum circuit breakers produced by our company, which has wide adaptability and strong interchangeability. The handcart is provided with a working position and a test position, and each position is equipped with a positioning and display device, which is safe and reliable.
- The cable room can be installed with up to 9 single-core cables, and the equipment has a reliable mechanical and electrical interlocking device, which fully meets the requirements of "five defenses". Each room is equipped with pressure relief channel to ensure personal safety.



- | | | | |
|------------------------------------|--|------------------------|---------------------------|
| A, bus room | 3. Partition board (valve) | 9. Control wire slot | 15. Current transformer |
| B, circuit breaker car room | 4. Secondary plug | 10. Bottom plate | 16. Contact box |
| C. Cable room | 5. circuit breaker hand car | 11. Ground the bus | 17. static contact device |
| D, relay instrument | 6. Heating device | 12. Lightning arrester | 18. Main bus cable |
| 1. Pressure relief device | 7. Withdrawable horizontal partition board | 13. Cable | 19. Busbar bushing |
| 2, loading and unloading partition | 8. Ground switch operating mechanism | 14. Ground switch | 20. Branch bus |
| | | | 21. Shell |

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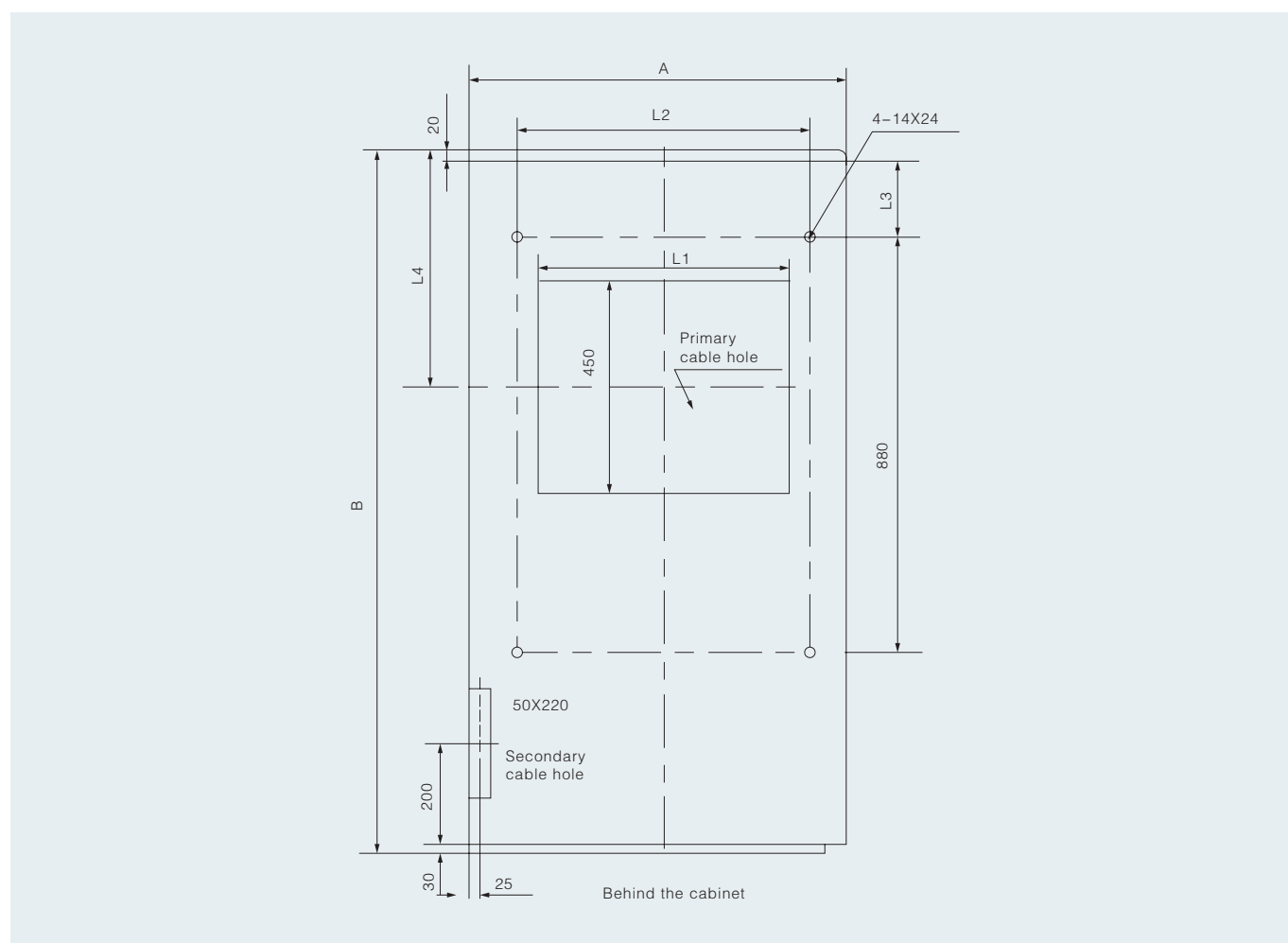
Armored Withdrawable Type AC Metal-Enclosed Switchgear

Overall dimensions (mm)

Height	Width		Depth	
	Rated current 1250A and below	Rated current 1600A and above	Cable inlet and outlet	Overhead inlet and outlet line
2300	800	1000	1500	1660

Mounting size (mm)

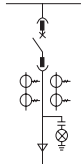
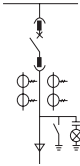
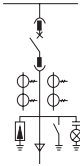
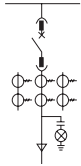
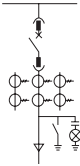
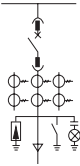
Cabinet width A	Cabinet Depth B	L1	L2	L3	L4
800	1500 Cable	530	630	150	490
800	1660 aerial	530	630	310	650
1000	1500 Cable	730	830	150	490
1000	1660 aerial	730	830	310	650

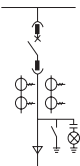


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Main circuit scheme diagram

Scheme number		01	02	03	04	05	06
Main circuit scheme diagram							
Cabinet dimensions (W x D x H)mm		800(1000)×1500×2300					
Rated current (A)		630~3150					
Major electrical component	Vacuum circuit breaker (VS1 or VD4)	1	1	1	1	1	1
	Current transformer LZZBJ9 series	2	2	2	3	3	3
	Ground switch JN15		1	1		1	1
	Lightning arrester HY5W			3			3
Loop name		Receive electricity, feed electricity					
remark		1, rated current 1600A and above, cabinet width is 1000mm. 2, altitude 3000m~4000m plateau type switchgear rated current 1250A, cabinet width 1000m.					

Scheme number		07	08	09	10	11	12
Main circuit scheme diagram							
Cabinet dimensions (W x D x H)mm		800(1000)×1500×2300					
Rated current (A)		630~3150					
Major electrical component	Vacuum circuit breaker (VS1 or VD4)	1	1	1	1	1	1
	Current transformer LZZBJ9 series	2	2	2	2	3	3
	Ground switch JN15		1		1		1
Loop name		Contact (right)	Contact (right)	Contact (left)	Contact (left)	Contact (right)	Contact (right)
Remark		The rated current is 1600A and above, and the width of the cabinet is 1000mm.					

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Main circuit scheme diagram

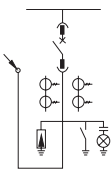
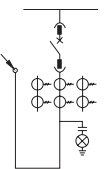
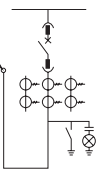
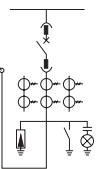
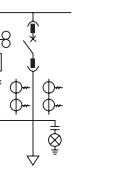
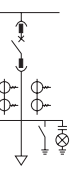
Scheme number		13	14	15	16	17	18
Main circuit scheme diagram							
Cabinet dimensions (W x D x H)mm		800(1000)×1660×2300					
Rated current (A)		630~3150					
Major electrical component	Vacuum circuit breaker (VS1 or VD4)	1	1	1	1	1	1
	Current transformer LZZBJ9 series	3	3	2	3	2	2
	Ground switch JN15		1		1		1
Loop name		Contact (left)	Contact (left)	Overhead entry line(left contact)	Overhead entry line(left contact)	Overhead entry line(right contact)	Overhead entry line(right contact)
Remark		The rated current is 1600A and above, and the width of the cabinet is 1000mm.					

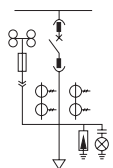
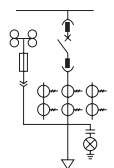
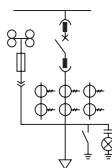
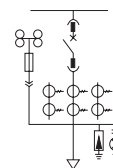
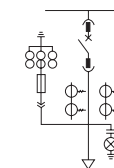
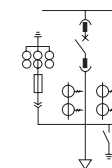
Scheme number		19	20	21	22	23	24
Main circuit scheme diagram							
Cabinet dimensions (W x D x H)mm		800(1000)×1660×2300					
Rated current (A)		630~3150					
Major electrical component	Vacuum circuit breaker (VS1 or VD4)	1	1	1	1	1	1
	Current transformer LZZBJ9 series	3	3	2	3	2	2
	Ground switch JN15		1		1		1
Loop name		Contact (left)	Contact (left)	Overhead entry line(left contact)	Overhead entry line(left contact)	Overhead inlet and outlet line	Overhead inlet and outlet line
Remark		The rated current is 1600A and above, and the width of the cabinet is 1000mm.					

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Main circuit scheme diagram

Scheme number	25	26	27	28	29	30
Main circuit scheme diagram						
Cabinet dimensions (W x D x H)mm	800(1000)×1660×2300					
Rated current (A)	630~3150					
Major electrical component	Vacuum circuit breaker (VS1 or VD4)	1	1	1	1	1
	Current transformer LZZBJ9 series	2	3	3	3	2
	Voltage transformer				JDZ10-10	2
	High voltage fuse RN2-10				3	3
	Ground switch JN15	1		1	1	1
	Lightning arrester HY5W	3			3	
Loop name	Overhead inlet and outlet line	Overhead inlet and outlet line	Overhead inlet and outlet line	Overhead inlet and outlet line	Cable inlet +PT	Cable inlet +PT
Remark	The rated current is 1600A and above, and the width of the cabinet is 1000mm.					

Scheme number		31	32	33	34	35	36
Main circuit scheme diagram							
Cabinet dimensions (W x D x H)mm		800(1000)×1500×2300					
Rated current (A)		630~3150					
Major electrical component	Vacuum circuit breaker (VS1 or VD4)	1	1	1	1	1	1
	Current transformer LZZBJ9 series	2	3	3	3	2	2
	Voltage transformer	JDZ10-10 2	JDZ10-10 2	JDZ10-10 2	JDZ10-10 2	JDZ10-10 3	JDZ10-10 3
	High voltage fuse RN2-10	3	3	3	3	3	3
	Ground switch JN15	1		1			1
	Lightning arrester HY5W	3			3		
Loop name		Cable inlet +PT	Cable inlet +PT	Cable inlet +PT	Cable inlet +PT	Cable inlet +PT	Cable inlet +PT
Remark		The rated current is 1600A and above, and the width of the cabinet is 1000mm.					

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Main circuit scheme diagram

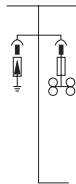
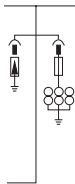
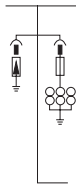
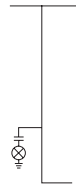
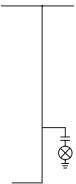

Scheme number	37	38	39	40	41	42
Main circuit scheme diagram						
Cabinet dimensions (W x D x H)mm	800(1000)×1500×2300					
Rated current (A)	630~3150					
Major electrical component	Vacuum circuit breaker (VS1 or VD4)	1				
	Current transformer LZZBJ9 series	2				
	Voltage transformer	JDZX10-10 3	JDZ10-10 2	JD10-10 2	JDZ10-10 3	JDZX10-10 3 JDZ10-10 2
	High voltage fuse RN2-10	3	3	3	3	3
	Lightning arrester HY5W	3			3	3
Loop name	Cable inlet +PT	Voltage measurement	Voltage measurement	Voltage measurement + Lightning arrester	Voltage measurement + Lightning arrester	Voltage measurement + Lightning arrester
Remark	The rated current is 1600A and above, and the width of the cabinet is 1000mm.					



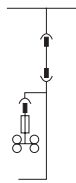
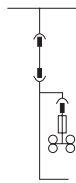

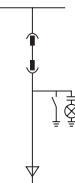
Scheme number	43	44	45	46	47	48
Main circuit scheme diagram						
Cabinet dimensions (W x D x H)mm	800(1000)×1500×2300					
Rated current (A)	630~3150					
Major electrical component	Vacuum circuit breaker (VS1 or VD4)	1				
	Current transformer LZZBJ9 series	2				
	Voltage transformer	JDZX10-10 3	JDZ10-10 2	JD10-10 2	JDZ10-10 3	JDZX10-10 3 JDZ10-10 2
	High voltage fuse RN2-10	3	3	3	3	3
	Lightning arrester HY5W	3			3	3
Loop name	Voltage measurement + Lightning arrester	Voltage measurement + busbar	Voltage measurement + busbar	Voltage measurement + busbar	Voltage measurement + busbar	Voltage measurement + Arrester + busbar
Remark	The rated current is 1600A and above, and the width of the cabinet is 1000mm.					

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Main circuit scheme diagram

Scheme number	49	50	51	52	53	54
Main circuit scheme diagram						
Cabinet dimensions (W x D x H)mm	800(1000)×1660×2300					
Rated current (A)	630~3150					
Major electrical component	Voltage transformer	JDZ10-10 2	JDZ10-10 3	JDZX10-10 3		
	High voltage fuse RN2-10	3	3	3		
	Lightning arrester HY5W	3	3	3		
Loop name	Voltage measurement + Arrester + busbar	Voltage measurement + Arrester + busbar	Voltage measurement + Arrester + busbar	Busbar	Busbar	Busbar
Remark	The rated current is 1600A and above, and the width of the cabinet is 1000mm.					

Scheme number	55	56	57	58	59	60
Main circuit scheme diagram						
Cabinet dimensions (W x D x H)mm	800(1000)×1500×2300					
Rated current (A)	630~3150					
Major electrical component	Voltage transformer		JDZ10-10 2	JDZ10-10 2		
	High voltage fuse RN2-10		3	3		
	Lightning arrester HY5W					1
Loop name	Isolation + Contact (left)	Isolation + Contact (right)	Isolation + Contact (left)+ Voltage measurement	Isolation + Contact (right)+ Voltage measurement	The exit line is disguised	The exit line is disguised
Remark	The rated current is 1600A and above, and the width of the cabinet is 1000mm.					

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Main circuit scheme diagram

Scheme number		61	62	63	54	65	66
Main circuit scheme diagram							
Cabinet dimensions (W x D x H)mm		800(1000)×1500×2300					
Rated current (A)		630~3150					
Major electrical component	Current transformer LZJB9 series	2	2	3	3	2	2
	Voltage transformer	JDZ10-10 2	JDZ10-10 2	JDZ10-10 2	JDZ10-10 2	JDZX10-10 3	JDZX10-10 3
	High voltage fuse RN2-10	3	3	3	3	3	3
Loop name		Metrology + Left link	Metering + right link	Metrology + Left link	Metering + right link	Metrology + Left link	Metering + right link
Remark		The rated current is 1600A and above, and the width of the cabinet is 1000mm.					

Scheme number		67	68	69	70	71	72
Main circuit scheme diagram							
Cabinet dimensions (W x D x H)mm		800(1000)×1660×2300					
Rated current (A)		630~3150					
Major electrical component	Vacuum circuit breaker (VS1 or VD4)			1	1		
	Current transformer LZJB9 series	3	3	2	2	2	2
	Voltage transformer	JDZX10-10 3	JDZX10-10 3	JDZ10-10 2	JDZ10-10 2	JDZ10-10 2	JDZ10-10 2
	High voltage fuse RN2-10	3	3	3	3	3	3
Loop name		Metrology + Left link	Metering + right link	Incoming line + metering	Incoming line + metering	Incoming line + metering	Incoming line + metering
Remark		The rated current is 1600A and above, and the width of the cabinet is 1000mm.					

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Main circuit scheme diagram

方案号	73	74	75	76	77	78
Main circuit scheme diagram						
Cabinet dimensions (W x D x H)mm	800(1000)×1660×2300					
Rated current (A)	630~3150					
Major electrical component	Vacuum circuit breaker (VS1 or VD4)	1	1			
	Current transformer LZZBJ9 series	3	3	3	3	
	Voltage transformer	JDZ10-10	2	JDZ10-10	2	3
	High voltage fuse RN2-10				RN3-10	3
	Lightning arrester HY5W				3	3
	transformer				1	
	condenser					3
Loop name	Metering + right link	Metering + right link	Metering + right link	Metering + right link	All-variable	Capacitor cabinet
Remark	The rated current is 1600A and above, and the width of the cabinet is 1000mm.					

Example of typical group scheme of main circuit

