

VM51, MCCBs with thermal magnetic trip units

• VM51 series moulded case circuit breaker is our new circuit breaker with international design and advanced manufacturing technology. It is applicable for conversion and motor protection under working condition: rated insulation voltage 800V (for type VM5100-500 V), rated impulse withstand voltage Uimp8 VM5100 - 6kV), AC50/60 Hz, rated working voltage 690 Vand below (for type VM5100-400 V, rated working current up to 800 A. The circuit breaker has over current and under voltage protection functions, which could protect circuit and power equipments from damage.

- The circuit breaker can be installed vertically or horizontally.
- The circuit breaker has isolation function.
- The circuit breaker complies with requirements of the standard IEC 60947-2.



Applications And Functions

- VA51 series air circuit breaker is applied to distribute electrical energy and protect circuit and power supply equipments in AC power distribution network with 50 Hz, rated voltage up to 660 V (690 V) and rated current from 630 A to 6300 A to prevent it from overload, under voltage, short circuit, single phase rounding hazards and other faults.
- The circuit breaker has intelligent protecting functions, and the selective protection accuracy, which can improve the reliability of power supply and avoid unnecessary power faults. It has an open communication interface for "four remote patterns" to meet the requirements of control centers and automation systems.
- The circuit breaker has a pulse withstand voltage of 8000 V at an altitude of 2000 meters (it will be modified according to the different altitudes, and the maximum is no more than 12000 V).
- The circuit breaker can be used as an isolator without an intelligent controller and sensor.
- The circuit breaker complies with standard IEC 60947-2, Low voltage switchgear and controlgear-Part 2: Circuit-breakers.

Normal work and installation conditions

- Ambient temperature: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$;
- The altitude of the installation site does not exceed 2000 m; Air conditions: Relative humidity not exceed 50 % at the max temperature of $+40^{\circ}\text{C}$, higher relative humidity is allowable under lower temperature, for example, RH could be 90 % at $+20^{\circ}\text{C}$. Special measures should be taken to occurrence of dews.
- Pollution grade: Grade 3;
- Installation category of main circuit III, Installation category of auxiliary circuit and control circuit: II ;
- The circuit breaker is available for electromagnetic environment A; Installed in an environment which is not enough to erode the metal or destroy the insulating gas and without explosive danger; Installed in an environment without attack from rain and snow. Storage conditions: $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$.

Technical data and performance

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Type	VM5100		VM5101			VM5102			VM5104			VM5106			VM5108		
Number of poles	3		3, 4			3, 4			3, 4			3, 4			3, 4		
Class of breaking capacity	C	G	D	G	N	D	G	N	G	H	S	G	H	S	M	S	
Frame current Inm (A)	63		125			250			400			630			800		
Rated current In (A)	10, 16, 20, 25, 32, 40, 50, 63		16, 20, 25, 32, 40, 50, 63, 80, 100, 125			100, 125, 140, 160, 180, 200, 225, 250			225, 250, 315 350, 400			400, 500, 630			630, 700, 800		
Rated operating voltage Ue (V)	400		400	690	400	400	690	400	400	690	400	400	690	400	690	400	
Rated ultimate short-circuit breaking capacity, Icu (kA)	400 V	25	50	35	50	80	35	50	80	50	65	100	50	65	100	75	100
	690 V	-	-	-	20	-	-	20	-	-	20	-	-	20	-	30	-
Rated operating short-circuit breaking capacity, Ics (kA)	400 V	18	35	22	35	50	22	35	50	35	42	65	35	42	65	50	65
	690 V	-	-	-	10	-	-	10	-	-	10	-	-	10	-	20	-
Mechanical life (times)	20000		20000			20000			10000			10000			10000		
Electrical life (times)	3000		3000			3000			2000			2000			2000		
Arcing distance (mm)	≤ 50		≤ 50			≤ 50			≤ 100			≤ 100			≤ 100		

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