

MA7B Motor drive mechanism

MA7B is improved product of MA7 motor drive mechanism, it is mainly used for the tap change operation of drive control ZM series and ZVM series on-load tap-changer.

Motor drive mechanism is not only meeting to the step by step control requirement, but also can be operated by hand operation with handle, and it has the hand operation and motor drive interlock protection device. Whether use remote operation or on site operation can be chosen by remote or on site control diverter switch. It equipped with the electric limit and mechanical limit device of against the both ends are over position. There is tap position indicator and tap-changer indicator. Application counter records the operation times of tap-changer. The case is dustproof, insect-resistant, rain-proof protection structure, Equipped with power socket, multiple passive signal output interface, marked signage boards and etc. which are easy for using.

Motor drive mechanism equipped with CY40 series intelligent tap position monitor, that means the tap position and electrical operation can be displayed in the control room, and can be connected with computer to achieve the self control of system and so on.



Features of MA7B motor drive mechanism

The operation of motor drive mechanism is designed according to step by step control principle of operation, tap-changer only receives one time operation instruction during the period of it transferring from one tap position to the neighboring tap position.

The tap-changer with three middle positions, the motor drive mechanism can surpass position automatically.

- It can be operated by the button in the motor drive mechanism, also can be manual operated by the handle, at the same time it has the interlock protection of hand operation and motor drive to achieve the no electrical operation of motor drive mechanism main circuit and control circuit, ensure the hand operation is safety.

- The remote electrical operation can be performed by the remote control button which is installed in the control room; it also can use the ZDT-60 automatic voltage regulator and CY40 series intelligent tap position monitor to control automatically and display.

- It has the position remember function, if the control power is interrupted because of some reason during the process of operation, the motor drive mechanism can remember the current position; when the power is recovery, the motor drive mechanism is continue to finish the tap change of that step.

- It has the protection return circuit of anti phase sequence disorder. The circuit breaker will trip automatically when the phase sequence of power inlet wire is wrong.

- It has the anti running gear set to prevent continuous action of tap-changer.

- It designed with temperature control heating circuit so that the components in the case can work in the required temperature scope.

- The mechanism case is meeting to the using requirement of outdoor, it has the function of dust-proof, rain-proof and insect protection.

- It equipped with mechanical and electrical limit protection in order to prevent the tap-changer is moving to out of the ultimate direction.

MA7B Motor drive mechanism technical specifications

Item	Specification		Technical data	
1	Motor-driven parameter	Rated power frequency	0.75kW	1.1kW
		Rated voltage	220V/380V three phase	220V/380V three phase
		Rated current	3.48A/2.01A	4.76A/2.75A
		Rated frequency	50Hz	50Hz
		Rated speed	1400r/min	1400r/min
2	Output torque on the drive shaft		18N.m	26N.m
3	Revolutions of drive shaft per each tap change		33	
4	Revolutions of handle operation per each tap change		33	
5	Tap change time of every step		Approx. 5.5s	
6	Max. tap position numbers of working with tap-changer		35	
7	Power supply of control and heating return circuit		AC220V	
8	Input power frequency of control circuit		120VA when start	
26VA when operation				
9	Heating circuit power frequency		50W	
10	Insulation power frequency test to the ground of electric circuit (without motor, circuit breaker, cable socket and auxiliary contact)		2kV.1min	
11	Mechanical service life		More than 800,000 times	
12	Weight		Approx. 84kg	
13	Gradient between mounting axis and vertical surface		No more than 5°	
14	Tap changer monitor		CY40 series	