

Commissioning Instructions for Soft Start up Device MSS

M SS is a compact device that can be easily connected. This soft start up device can be mounted on the standard bus bars. The device is 3ph-Fully controlled. Bypassing is not necessary. The device contains an electronic reversible circuit, so that the motor can rotate in two rotational directions.

Characteristics:

□ Start up/Slow down/Changing the rotational direction

Technical Data

Main voltage range	230VAC-480VAC
Controlling voltage range	18VDC-24VDC +/- 10%
Power	1.5kW
Power consumption of electronics	3VA
Afeguarding the main circuit	The motor should be connected as per its connection value
Lastintegral (I^2t)	250A ² s (60Hz/25°C)
Safeguarding the controlling circuit	According to the controlling circuit design
Electronic safeguarding	%
Circuit frequency	47-63 Hz
Safety class	IP00
Guidelines for installation	Only in case of switching cabinet assembly
Storage temperature	-30 - +80 deg C
Operating temperature	-30 - +100 deg C
Relative air humidity	0% - 90%, non condensing
Terminal allocation	
L1(R), L2(Y), L3(B)	Circuit phases
U, V, W	Standard motor connection
F-COM	24V-Interface for start up switching in F-Direction. Terminal COM ≡ -, Terminal F ≡ +. 24V at F-COM: Start up AN, 0V at F-COM: Start up OFF
R-COM	24V-Interfacefor Start up switching in R-Direction. Terminal COM ≡ -, Terminal R ≡+. 24V at R-COM: Start up AN, 0V at R-COM: Start up OFF
I(-) - 2(+)	Anschluss der Steuerspannung

Connection

The device is connected as per the wiring diagram. *Warning:* The connection and the commissioning of the device are supposed to be done only by trained personnel. VDE0100, VDE0113 and VDE0160 are to be observed.

Connection and maintenance works are to be carried out only when the plant is potential free.

It is to be observed in case of connection of breaking motors that the voltage supply of brake is not taken by the motor connection cables, since the brake would be released with delay and consequently would damage the device.

Commissioning

The control terminals and relay outputs are positioned on the terminal bar after terminal allocation table as per device design. Controlling and evaluation can be done according to the description.

Wiring Diagram

Start up / Slow down

The Start up- and Slow down times can be set using potentiometers independent of each other. The Start up- and Slow down ramp begins always at the currently controlled voltage, so that no jump or jerk effects take place. Maximum Start up- and Breaking time: 90s.

Start up time: 1/6 (ca. 10s)

Slow down Time: 1/6 (ca. 10s)

The settings are to be customized to the requirements based on the respective load case and the deployed motor. To avoid a high current in the switching moment at stationary machine the initial voltage should be set in such a way that the motor starts directly, as otherwise it is loaded thermally. High start up current can rise during the Start up with change in the rotational direction when the motor is not becoming stationary in the original direction of rotation. This kind of operation should be avoided.