

Commissioning instructions two-phase soft-starter type ZSA

Technical Data

Soft Starter Type	ZSA 1.5	ZSA 3.0	ZSA 5.5	ZSA7.5
Max. motor power	1.5 kW	3 kW	5.5 kW	7.5 kW
Rated frequency	50/60 Hz			
Power input for electronic	1.6 VA			
Operating temperature (nominal load)	-15 °C – +40 °C			
Relative humidity	0 % - 90 %, non-condensating			
Isolation class	casing IP40, terminal IP20			
Connection diameter	2.5 mm ² (flexible), 4 mm ² (fixed)			
Start/Stop	Open/Close of the terminals K1-K1 (not potential-free) If K1-K1 is bypassed the start will be effected by connecting the operation voltage. In this case the ramp down mode will not be available.			
Setting points	ramp up time and ramp down time: max. 10 sec Starting torque: 0-100 %			
Control input	K1 - K1 external make-contact alternative control with 24V-power supply at the potential free terminal +24- (SPS)			
Power input	L1, L2, L3			
Power output	U1, V1, W1			

Rated voltage ranges

220V	400V	460V	500V	600V	690V
1.5-5.5kW	1.5-7.5kW	1.5-7.5kW	1.5-11kW	1.5-11kW	1.5-11kW

More non-standard voltage ranges on inquiry! For capacities > 3kW at 220V and > 5,5kW 400V/420V and also voltages higher than 420V an external bypass-contactor has to be connected.

Security remarks

1. The back-up fuses (F1) must be chosen so high that they are suitable for the maximum on-load current for which the device is laid out.
2. Every appliance connected with the ZSA has to be laid out for the rated voltage of the supplying network. This also applies to the control connections (except terminal +24- SPS)!

Commissioning Instructions

The optimization of the individual driving capacity has to be executed on the spot as follows:

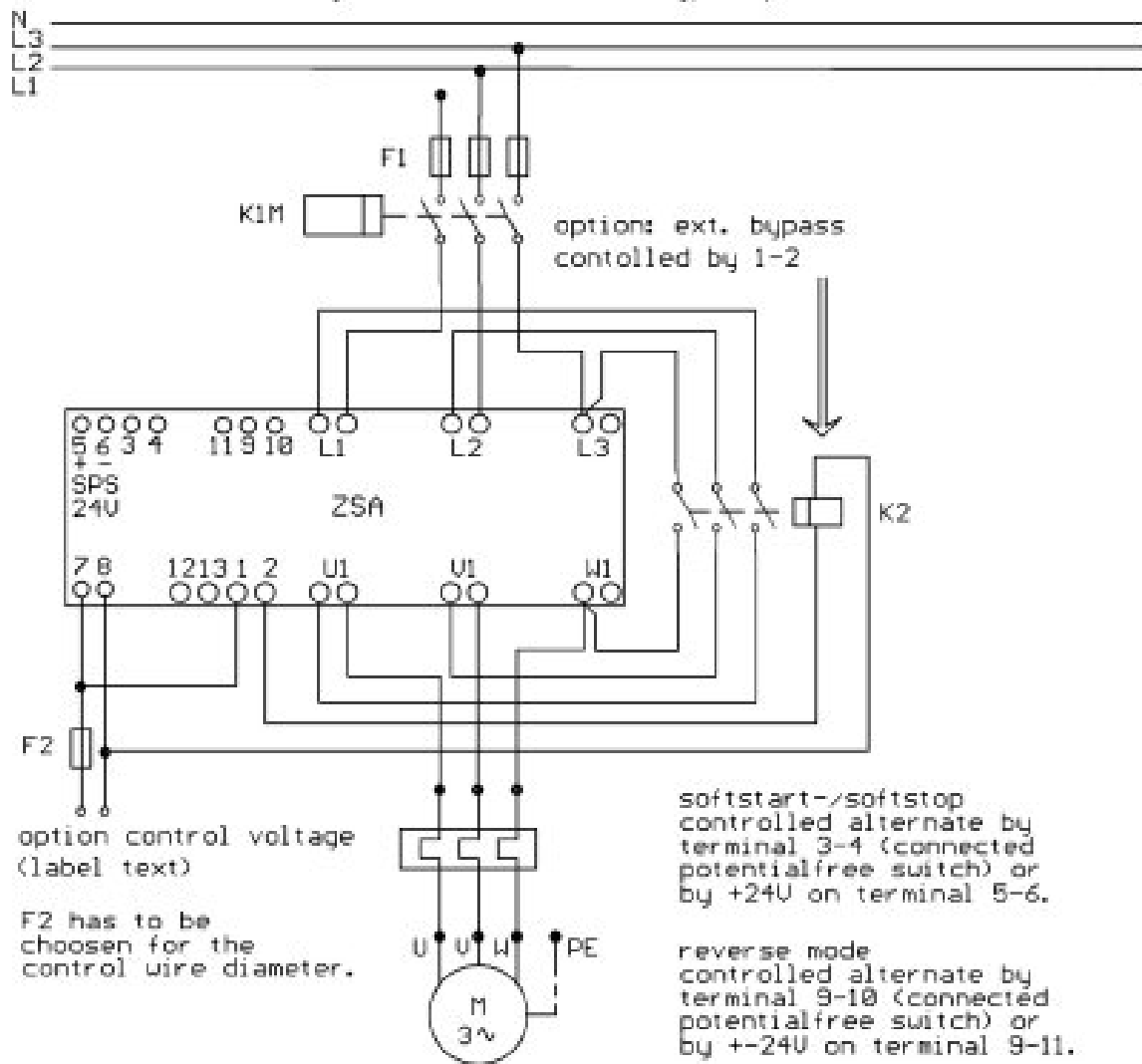
1. Switch the installation voltage-free and connect according to the diagram overleaf.
2. Turn trimmer for starting torque approx. 20° to the right.
3. Turn the trimmer for ramp up time to its maximum setting.
4. If the motor rotates not immediately, increase the starting torque in small steps. After the optimization of the starting torque, the ramp up time can be set to the required value. Unnecessary high ramp up times cause an unnecessary heat strain of the motor and leads to a decrease of the possible switching frequency.

The green LED signals that the unit is ready for operation. After starting the red LED "Triac" is flashing. This indicates, that the semiconductor is working. After completing the ramp up the LED switches from "Triac" to "Relay". This indicates, that the bypass-relay took over the current of the controlled phases from the semiconductors.

Remarks

The soft starter ZSA is designed for normal application cases. For driving big masses (like ventilators and centrifugal machines) we recommend the use of our three-phase soft starters.

Connection diagram ZSA with int. bypass, 230V - 690V / 23A



option control voltage (label text)

F2 has to be chosen for the control wire diameter.

softstart-/softstop controlled alternate by terminal 3-4 (connected potentialfree switch) or by +24V on terminal 5-6.

reverse mode controlled alternate by terminal 9-10 (connected potentialfree switch) or by +-24V on terminal 9-11.