

ESA ONE-PHASE SOFT STARTER FOR THREE-PHASE CURRENT MOTORS

Technical Data

| | ESA 3 | ESA 5,5 | ESA 7,5 |
|-----------------------------|---|---------------------------------|---------|
| Soft Starter Type | ESA 3 | ESA 5,5 | ESA 7,5 |
| Max. motor power at 400 V | 3 kW | 5,5 kW | 7,5 kW |
| Rated current | 7 A | 12 A | 16 A |
| Rated voltage, | ⓐ 110 V - 120 V, ⓑ 208 V - 230 V, ⓒ 380 V - 400 V, ⓓ 420 V - 500 V, ⓔ 575 V | | |
| Rated frequency | 50/60 Hz | | |
| Power input for electronic | 1,6 VA | | |
| rerun readiness for starter | a) 200 ms (depending on load) b) 75 ms through operating K1-K1 (see 5.) | | |
| Operating temperature | - 15° C - + 40° C | | |
| Relative humidity | 0 % - 90 %, non-condensating | | |
| Protection | casing IP40, terminals IP20 | | |
| Connection diameter | 2,5 mm ² (flexible), 4 mm ² (fixed) | | |
| Start/Stop | by connecting the network or K1-K1 (see 5) | | |
| Setting points | Acceleration time 0,5-5 s } other values on request | | |
| | Starting torque 0-50 % } | | |
| Control input | K1 - K1 | (see 5) | |
| Power input | L1, L2, L3 | (Phase control between L1 & U1) | |
| Power output | U1, V1, W1 | | |

Commissioning Instructions

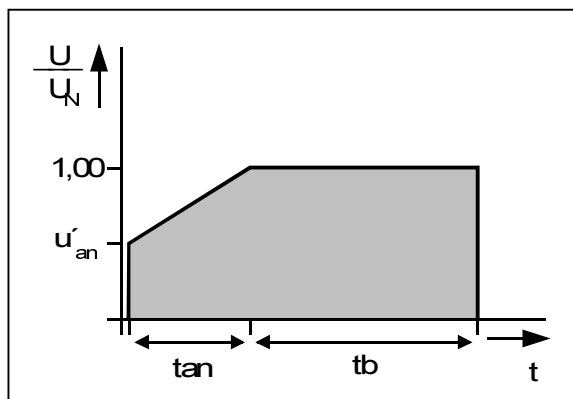
Attention: Every appliance connected with the ESA has to be lay out for the rated voltage of the supplying network. The optimization of the individual driving capacity has to be executed on the spot as follows:

1. Turn the trimmer for starting torque to the left (ccw) and starting ramp to the right (cw).
2. Turn trimmer for driving torque approx. 20° right. Turn on motor. If the motor does not start immediately, turn it off and increase the starting torque. Repeat this action in small steps until the motor only just starts. If the starting torque has been set too low, the motor doesn't accelerate after switching on. This causes an unnecessary heat strain and leads to a decrease of the possible switching frequency.
3. After the optimization of the starting torque, the acceleration time can be set. Even the smallest possible time causes a -though invisible - reduction of the start shock.
4. The red LED turns off as soon as the soft start is performed and the internal relay bypasses the semiconductor.

OPTION:

When a quick, load-independent rerun readiness is needed, i.e. for pole-changing motors, this can be realized via control input K1 - K1 (only when K2 is mounted). Between terminals K1 - K2 only an external switch contact with a maximum cable length of 1.5 m can be connected. **ATTENTION!** Please take care that the mains potential is connected with contacts K1-K1 and that via this contact only the electronic is controlled, and **not** the phases.

Figure2: voltage flow ESA



Remarks

The soft start ESA is not designed for driving big masses (heavy duty start) as only one phase is controlled. If the load ratio fluctuates much, the soft start can only charge retardedly which increases the thermic strain on the motor. Under these conditions we recommend the use of our three-phase soft starters. For one-phase operation please use connection L1 - L2 and U1 -V1. This soft starter cannot be used for three- phase current motors with starting and operation capacity (Steinmetz-Control).

Connection examples ESA

Connection diagram ESA

