Warning Message

The product should be operated by qualified electricians as per safety specifications, including installation, pilot run and maintenance, etc;

The voltage used by the product is dangerous, which may cause serious injury or death of others. Prohibit touching terminal after electrifying the device or during operation. Although the device is switched off, voltage may still exist in output terminal;

The product should be used under rated specification of product.Before use, please check the accuracy of various parameters such as power motor and frequency of product or device.

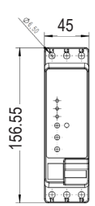
The product has passed insulation test before leaving factory.Incorrect megger test may damage product or shorten product life.

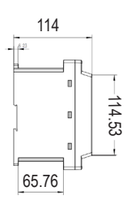
It is strictly forbidden to connect strong electricity in secondary linessuch as RUN and COM. Secondary ter-minal power supply can cause damageto the main borad.

Electrical Parameters

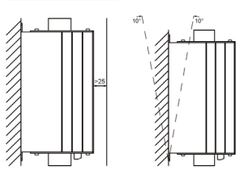
Standard	GB/T 14048.6-2016/IEC 60947-4-2:2011	
Rated operation voltage	200~415V(-15%+10%)	
Max length between soft starter and cable	300m	
Permissible ambient environment	Operation	-25 ℃ ~+60 ℃ (When the ambient temperature exceeds 40℃ , for every 1℃ increase, the soft starter rated current will decrease by 1%.)
	Storage	-40℃ ~ +70℃
Protection grade	IP20	
Rated frequency	50/60Hz	
Permissible installation height	5000m (start to reduce capacity for above 1000m, and the soft starter rated current is reduced by 5% for every 1000m.)	
Starting frequency	≈ 20 times / hour(Class10 standard load)	

Product Dimensions

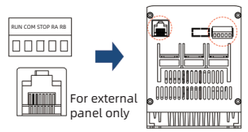




Install Sketch



Terminal Description



Control Loop

Terminal Marking	Terminal Name	Function
RUN	Enable input	When RUN and COM are closed, the motor starts to run; when disconnected, the motor decelerates and stops (only two-wire control (default); if necessary, please contact the manufacturer
COM	Common port	For Run and Stop
STOP	Stop input	The motor stops when STOP and COM are closed (only three-wire control)
RA、RB	Indication of working status	Working status: relay output, normally open contact, closed during operation, open during shutdown or failure, relay capacity 250V/AC 0.3A

Major Loop

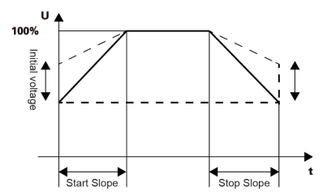
Terminal Marking	Terminal Name	Function
L1/L2/L3	Mains input of major loop	Connect three-phase source
T1/T2/T3	Output connection of soft start	Connect three-phase motor

Parameter Settings Panel Parameters

Knob of soft start time: used to adjust the soft start time. The range is 1~20s. The longer the time is set, the smoother the soft start process will be, which is beneficial to reduce the impact on the power grid.

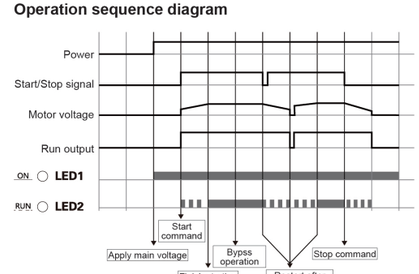
Knob of soft stop time: used to adjust the soft stop time, the range is 0~20s. The soft stop function can effectively avoid the "water hammer effect" when the pump stops in some pump applications. When the knob is adjusted to 0s, it means that the motor parking mode is the free parking mode, and the soft start stops the output immediately.

Knob of starting voltage: used to adjust the starting voltage. The range is 40%~70%. When starting, the motor needs to overcome the friction force in the static state. Properly increase the starting voltage to obtain a larger starting torque. The user should refer to the actual load situation and cooperate with the start and stop time to obtain the best smooth start effect.



Operation sequence diagram

Operation sequence diagram



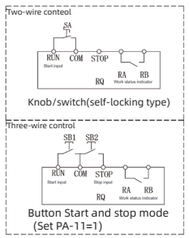
Indicator light

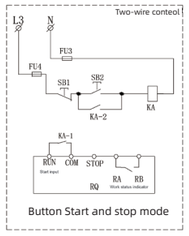
Indicator light			
RUN \ ON	Steady lighting	Flashing	Off
Steady lighting	Bypass operation	Input or output phase loss / hardware malfunction	Hardware malfunction
Flashing	Soft start / stop in progress	Hardware malfunction	Hardware malfunction
Off	The device is ready for power on	Input or output phase loss / Motor not connected	Soft start power failure / Indicator failure
FAULT	Fault	-	No Fault

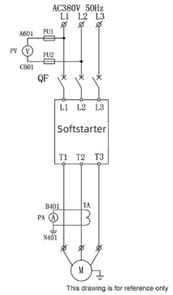
Power Diagram

Model	208~240V/kW	380~460VkW	Rated current(A)
SST-NS1R5	0.75	1.5	3.9
SST-NS3	1.5	3	6.8
SST-NS4	2.2	4	9
SST-NS5R5	3	5.5	12
SST-NS7R5	4	7.5	16
SST-NS11	5.5	11	25

Wiring Diagram

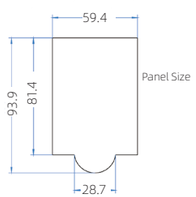






Keyboard setting

This is an optional accessory (not included in the standard product) and is connected through the RJ45 interface (network cable required). If need it, please contact the manufacturer.



Setting-up process

Satrt setting up.

First, connect the main power supply of L1-L3, and check Power-on Reset for the soft starter. For the first time use, a power-on reset must be carried out, in case there is uncompleted commands. At this stage,output terminal T2 is electriferous, so please pay attention to safe operation.

Disconnect the main power supply and connect the output terminals with three-phase motor.

After connecting the motor, the ON light is flashing and turns into a steady lighting. If it keeps flashing, please check the line and do not perform subsequent steps.

Pre start the motor by terminals RUN and COM.

A. Raise the starting voltage if the motor has a delaying rotation.
B. Lower the starting voltage or extend start-up time if the rotation of the motor is too fast.

Adjust starting voltage, starting time and soft stopping time to obtain optimum effect, after which step the setting-up process is completed.

Setting up is completed.

Button Description

Button	Name	Function
DATA	Programming Button	Enter or exit the first level menu
JOG	Jog Button	Jog running motor (for testing only)
▲	Increment	Increment of data or function code
▼	Decrement	Decrement of data or function code
SHIFT	Shift	In the stop and running display interface, the display parameters can be selected cyclically; when changing the parameters, the modification position can be selected
ENTER	Enter	Enter the menu screen step by step, and set the parameters to confirm
RUN	Run	In the keyboard operation mode, used for running operation
STOP/ RESET	Stop/Reset	When running, this button can be used to stop running operation; in fault alarm state; used to reset operation

Code view and modification method description

The operation panel adopts a three-level menu structure.Function parameter group (level 1 menu) → function code (level 2 menu) → function code setting value (level 3 menu).
Note: When operating in the third-level menu, press the DATA or ENTER to return to the second-level menu. The difference is: press the ENTER to save the set parameters and return to the secondary menu, and automatically transfer to the next function code; while pressing the DATA will directly return to the secondary menu without storing the parameters, and return to the current function code.

Code Setting Instructions

Code	Name	Setting	Default	Description
PA-03	Overload multiple during soft start	1.0-5.0	5.0	The soft-start process is based on the overload multiple of the rated load current, and the value of it is set according to the weight of the load.
PA-04	Rated power operation overload multiple	1.0-2.0	1.5	Based on the rated power current normal operation overload multiple, the size of the overload multiple is set based on load site conditions
PA-05	Overload delay during soft start	1-250	10	The delay time after exceed the rated current overload multiple in the soft-start process is set based on the site conditions, in seconds (s)
PA-06	Rated power operation overload delay	1-20min	5min	Based on the delay of overload time after exceed the rated power current overload multiple during the operation of the soft starter, in minutes (min)
PA-07	Motor underload protection	0-100%	20%	The current setting range of underload protection is up to 100%; when set to 0, this protection is invalid
PA-08	Motor underload protection delay	1-20min	5min	Delay time of underload protection, in minutes (min)
PA-09	Protection off	0-250	0	This parameter is used to choose to close the protection function. If you need to close the corresponding protection function, set the corresponding position in the table below as 1, and convert the binary value into decimal and set it in PA-09. This parameter will cause the protection to fail, please use this parameter with caution.

Code	Name	Setting	Default	Description
PA-11	Operation control mode selection	0/1/ 2	0	Operation control mode selection: 0. Terminal control (two-wire system); 1. Terminal control (three-wire system); 2. Panel control
PA-15	Restore default	0/1	0	Restore default: 0. Invalid; 1. Restore default value

Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Under load	Function reserved	Function reserved	Function reserved	Three-phase unbalance (Phase loss)	Overheat	Overload	Overcurrent
0	0	0	0	0	0	0	0

Example: If the overcurrent and overheat protection needs to be turned off, the binary code "00000101" is converted to the corresponding decimal "5".

Error Code Error code description

Error code	Fault name
Err01	Overcurrent fault
Err02	Overload fault
Err03	Overheating faul
Err04	Output three-phase unbalanced
Err05	A-Phase current sensor failure
Err06	C-Phase current sensor failure
Err07	Host failure
Err08	Underload fault
Err09	Arrears (exceeding the set number of runs)