ANDELI

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.

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)	

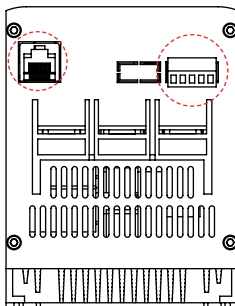## Product Dimensions
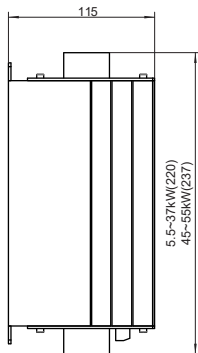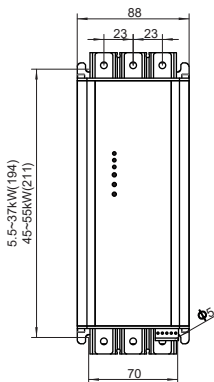
Install Sketch
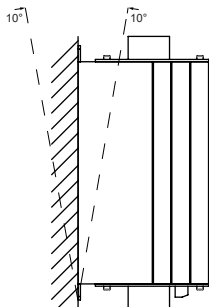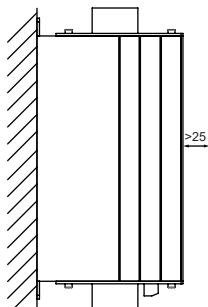
Terminal Description

RUN COM STOP RA RB
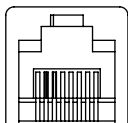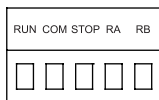
For external panel only

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

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

Parameter Settings

Panel Parameters
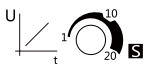
Knob of soft start time: used to adjust the soft start time. The range is 1~20s. The longer the time is set, the smoother the soft start process will be, which is beneficial to reduce the impact on the power grid.
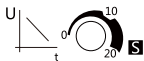
Knob of soft stop time: used to adjust the soft stop time, the range is 0~20s. The soft stop function can effectively avoid the "water hammer effect" when the pump stops in some pump applications. When the knob is adjusted to 0s, it means that the motor parking mode is the free parking mode, and the soft start stops the output immediately.
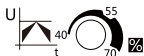
Knob of starting voltage: used to adjust the starting voltage. The range is 40%~70%. When starting, the motor needs to overcome the friction force in the static state. Properly increase the starting voltage to obtain a larger starting torque. The user should refer to the actual load situation and cooperate with the start and stop time to obtain the best smooth start effect.
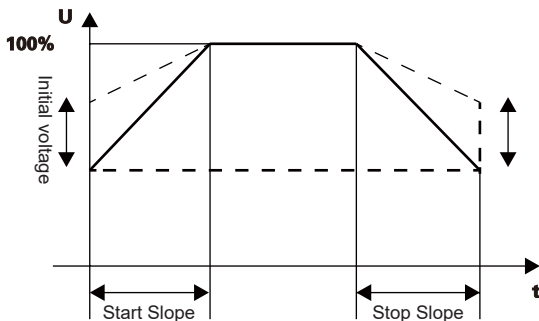
Operation sequence diagram

Power

Start/Stop signal

Motor voltage

Run output

ON ○ **LED1**

RUN ○ **LED2**

Apply main voltage

Start command

Finish starting

Bypss operation

Restart after stalling midway

Stop command
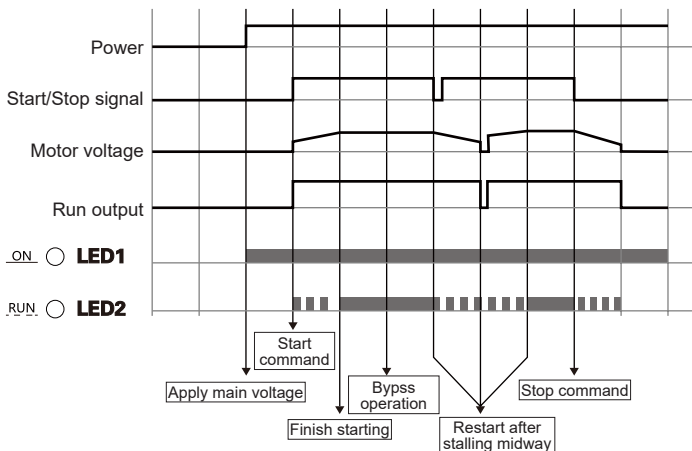
Indicator light

ON \ RUN	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	230V/kW	440V/kW	Rated current(A)
AJR3-Nx5R5	3	5.5	13
AJR3-Nx7R5	4	7.5	17
AJR3-Nx11	5.5	11	25
AJR3-Nx15	7.5	15	32
AJR3-Nx18	7.5	18.5	37
AJR3-Nx22	11	22	45
AJR3-Nx30	15	30	60
AJR3-Nx37	18.5	37	75
AJR3-Nx45	22	45	90
AJR3-Nx55	30	55	110

Wiring parameters

Model	Rated Power	Main Circuit Diameter	Main circuit tightening torque	Control circuit Diameter	Tightening Torque control circuit
	kW	GB Copper Core(mm^2)	Lbf/inch	mm^2	Lbf/inch
AJR3-Nx5R5	5.5	2.5			
AJR3-Nx7R5	7.5	2.5			
AJR3-Nx11	11	4			
AJR3-Nx15	15	6			
AJR3-Nx18	18.5	10	10.6~13	0.64~1	2~2.2
AJR3-Nx22	22	10			
AJR3-Nx30	30	16			
AJR3-Nx37	37	25			
AJR3-Nx45	45	35	18~22		
AJR3-Nx55	55	40			

AC380V 50Hz
L1 L2 L3

A601 FU1

PV (V)

C601 FU2

QF

L1 L2 L3

RQ

T1 T2 T3

B401 TA

PA (A)

N401

M
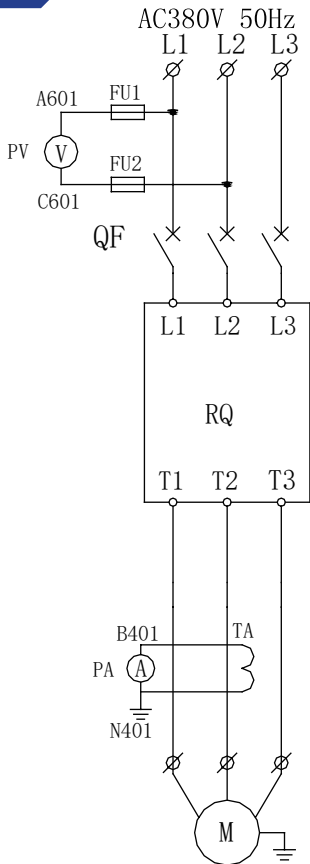
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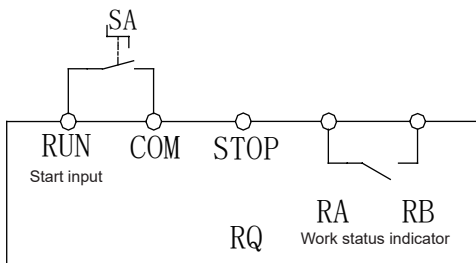
Two-wire control

Knob/switch (self-locking type)

Three-wire control

Button Start and stop mode

This drawing is for reference only

Two-wire control

L3 N

FU3

FU4

SB1   SB2

KA-2

KA

KA-1

RUN COM STOP   RA   RB

Start input

RQ   Work status indicator
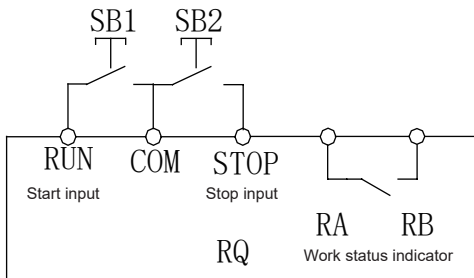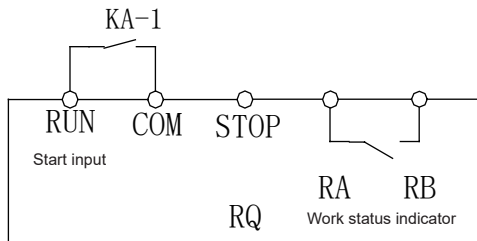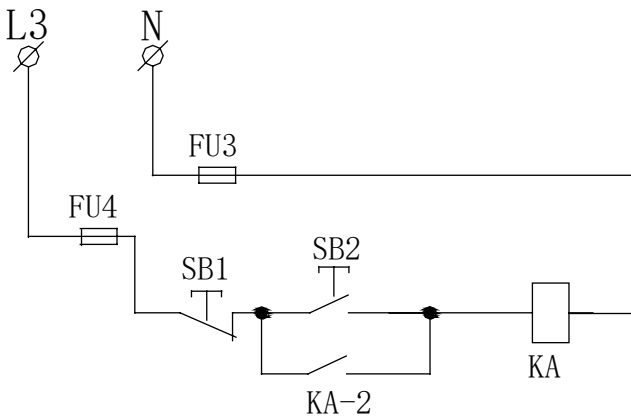
Button Start and stop mode

This drawing is for reference only

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.

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.

Panel Size
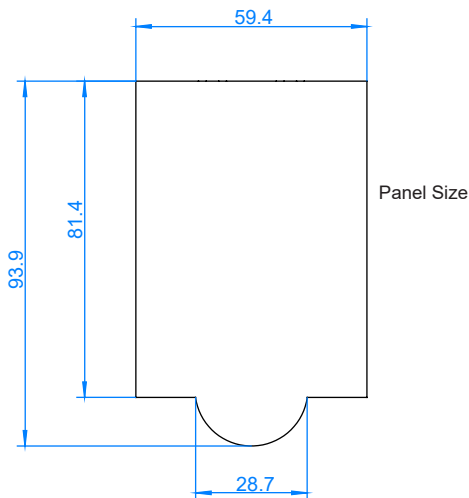
Button Description

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 seconds (s)
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

Error Code

Error code description

Error code	Fault name
Err01	Overcurrent fault
Err02	Overload fault
Err03	Overheating fault
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)

FAQ

Customer — Q1. How to solve the common overheating problem of the the soft starter?

Andeli — A: Reduce starting frequency or replace it with a soft starter of bigger capacity.

Customer — Q2. How to solve the problem that a big noise will be made when the motor starts?

Andeli — A: The starting voltage is too low or the starting load is too big, so the problem will be improved by increasing the starting voltage properly.

Customer — Q3. What is to be done when the motor doesn't run but buzzes?

Andeli — A: Check whether there is phase-loss of input or output if the motor doesn't work abnormally.

Customer — Q4. Why does the motor start itself abnormally?

Andeli — A: Check the connecting line between Run and Com. Please note that the distance between the switch and the soft starter shouldn't be too big.

Customer — Q5. Why is there still no protecting effect even if motor protector is added?

Andeli — A: Please check whether the tripping level is set too high. Level 10 or below level is suggested. Rated protecting current should be set according to the rated value of the motor, and it should not be set too high.

Customer — Q6. Why does the motor start or stop repeatedly?

Andeli — A: Please check whether the line or the switch between Run and Com is normal.

Customer — Q7. Why does the power-on light keep flashing and the soft starter not run after the power is on?

Andeli — A: Please check whether there is phase loss of input or output or whether the motor is connected correctly.

Warranty Card

Related information

Username	Phone number
Address	
Product model	Serial No.
Purchasing way	Purchasing time
Maintenance site	Invoice No.

Terms of no maintenance, return & exchange

Within warranty period, the situations caused by below reasons are beyond warranty:

(1) Product fault caused by users of violating the operation in User Manual;
(2) Product damage during transportation or caused by external forces;
(3) Product fault caused by users of repairing or remolding product arbitrarily without communication with manufacturer;
(4) Product fault caused by users of using product beyond standard application range;
(5) Product fault caused by users under poor service environment;
(6) Product damage caused by force majeure factors such as earthquake,fire lightning, stroke, abnormal voltage or other natural disasters, etc;
(7) Product marking such as nameplate, trademark and serial number are damaged or unidentified;

Please keep product packaging after receiving the product in case of being required for return or exchange.

Please give this user's manual to the end user and keep it properly.

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