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Be tolerant to diversity willing to innovation

# Selection Guide

# SCKR1-360 Series Built In Bypass Soft Starter/Cabinet











### More control

- 360 soft starter/cabinet adopts a new generation of soft starter technology, and adaptive control realizes the control of the motor acceleration curve and deceleration curve to an unprecedented level.
- The soft starter reads the data of the motor in the process of starting and stopping, and then adjusts to achieve the best effect. Just select the curve most suitable for your load type, and the soft starter will automatically ensure that the load is accelerated in the most stable way possible.

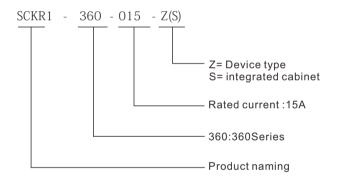
### Features

- 360 is a highly intelligent, very reliable and easy-to-use soft starter/cabinet. The newly designed functions of 360 are used for quick setting or more personalized control. It is a perfect solution. Its performance includes:
- Large LCD screen that can display feedback information in Chinese and English languages, other languages can be customized
- Remotely installable operation panel
- Intuitive programming
- Advanced start and stop control functions
- A series of motor protection functions
- Extensive performance monitoring and event logging
- Built-in bypass, small size, low heat;
- After starting, the power consumption of the internal contactor is low.
- The water output used in the pump is the same as the power frequency;
- The simulation design can test the control loop without load.

### Easy to use

- Whether in the process of installation, debugging and use, or troubleshooting, 360 is very easy to use.
- Quick setting can make the machine run quickly, the information screen can display various operating data, and the trip message can be displayed in language to explain exactly where the problem is.
- The control cable can be routed from the top, bottom or left. Very flexible and unique cable access and fixing devices make the installation faster and more tidy and beautiful. You will experience the use soon.

### Selection model definition



# • Multiple starting control methods

- A variety of starting methods can meet your various load requirements, and users can choose the starting method according to their own load conditions.
- 360 simplifies the installation and operation of the motor starting system, thereby reducing installation costs and shortening installation time.



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### Real-time display of real language

Chuanken hopes to make your work easy and worry-free, so 360 displays feedback information in real language, you don't have to check the code to understand what happened. With 10 sets of fault records, tracking the performance of the motor has never been easier.



### Remote display installation

With the optional operating panel installation kit, the operating panel can be easily installed outside the cabinet. If multiple soft starters are installed in a cabinet, it is convenient for centralized control in one place and all relevant information can be obtained. You can also install multiple monitors side by side,



Using MODBUS communication protocol, it is suitable for connecting with APP, host computer, etc.

▶ RS485/ remote control port Quick plug terminal, easy to install, durable;





0.37-15kw

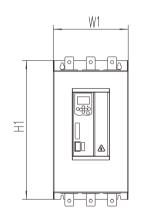
18.5-115kw

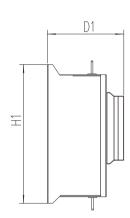


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# Dimensions and specifications

| Voltage<br>Level | Rated Working<br>Current | Rated Power | Display<br>method | Number<br>of<br>parameters | Protection<br>function<br>type | input Output<br>Number of<br>terminals | Overload capacity |
|------------------|--------------------------|-------------|-------------------|----------------------------|--------------------------------|--|-------------------|
| 220V             | 1.6- 220A                | 0.37- 55kW  | Chinese           |                            | 10 kinds                       | 0.37-15kw 11pcs                        | Adjustable        |
| 380V             | 1.2- 230A                | 0.37- 115kW | (English)<br>LCD  | English) 43PCS<br>LCD      |                                | 18.5-115kw 14pcs                       |                   |





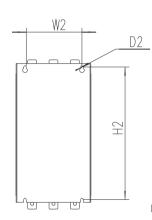
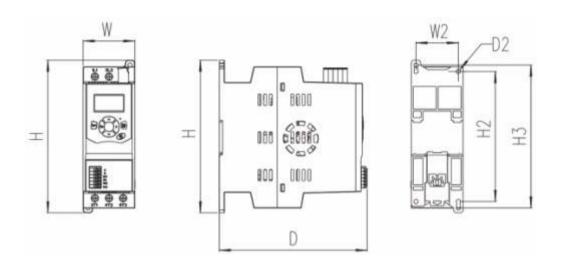


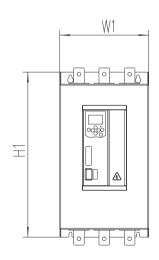
Figure 1

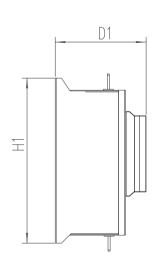
| 380V<br>Specification model | Rated current (A) | 380V power<br>(KW) | 220V<br>Specification model | Rated current (A) | 220V power<br>(KW) | Outline  |
|-----------------------------|-------------------|--------------------|-----------------------------|-------------------|--------------------|----------|
| SCKR1-360-0.37-Z(S)         | 1.2               | 0.37               | SCKR1-360-0.55-Z(S)         | 1.6               | 0.37               |          |
| SCKR1-360-0.55-Z(S)         | 1.6               | 0.55               | SCKR1-360-0.75-Z(S)         | 2                 | 0.55               |          |
| SCKR1-360-0.75-Z(S)         | 2                 | 0.75               | SCKR1-360-1.2-Z(S)          | 3.6               | 0.75               |          |
| SCKR1-360-1.1-Z(S)          | 2.6               | 1.1                | SCKR1-360-2.2-Z(S)          | 5.6               | 1.1                | Figure 1 |
| SCKR1-360-1.2-Z(S)          | 3.6               | 1.2                | 3CKK1-300-2.2-2(3)          | 5.0               | 1.2                | Figure 1 |
| SCKR1-360-2.2-Z(S)          | 5.6               | 2.2                | SCKR1-360-4-Z(S)            | 9                 | 2.2                |          |
| SCKR1-360-3-Z(S)            | 7.2               | 3                  | SCKR1-360-5.5-Z(S)          | 12                | 3                  |          |
| SCKR1-360-4-Z(S)            | 9                 | 4                  | SCKR1-360-7.5-Z(S)          | 16                | 4                  |          |
| SCKR1-360-5.5-Z(S)          | 12                | 5.5                | SCKR1-360-11-Z(S)           | 22                | 5.5                |          |
| SCKR1-360-7.5-Z(S)          | 16                | 7.5                | SCKR1-360-15-Z(S)           | 30                | 7.5                |          |
| SCKR1-360-11-Z(S)           | 22                | 11                 | SCKR1-360-22-Z(S)           | 44                | 11                 |          |
| SCKR1-360-15-Z(S)           | 30                | 15                 | SCKR1-360-30-Z(S)           | 60                | 15                 |          |
| SCKR1-360-18.5-Z(S)         | 37                | 18.5               | SCKR1-360-37-Z(S)           | 74                | 18.5               |          |
| SCKR1-360-22-Z(S)           | 44                | 22                 | SCKR1-360-45-Z(S)           | 90                | 22                 |          |
| SCKR1-360-30-Z(S)           | 60                | 30                 | SCKR1-360-55-Z(S)           | 110               | 30                 |          |
| SCKR1-360-37-Z(S)           | 74                | 37                 | SCKR1-360-75-Z(S)           | 150               | 37                 |          |
| SCKR1-360-45-Z(S)           | 90                | 45                 | SCKR1-360-90-Z(S)           | 180               | 45                 |          |
| SCKR1-360-55-Z(S)           | 110               | 55                 | SCKR1-360-110-Z(S)          | 220               | 55                 |          |
| SCKR1-360-75-Z(S)           | 150               | 75                 |                             |                   |                    |          |
| SCKR1-360-90-Z(S)           | 180               | 90                 |                             |                   |                    |          |
| SCKR1-360-110-Z(S)          | 220               | 110                |                             |                   |                    |          |
| SCKR1-360-115-Z(S)          | 230               | 115                |                             |                   |                    |          |

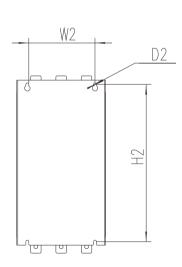


# Dimensions and specifications









| Specifications | Overall dimension |     |     | Installation dimensions |     |       |    |
|----------------|-------------------|-----|-----|-------------------------|-----|-------|----|
|                | W1                | H1  | D   | W2                      | Н2  | Н3    | D2 |
| 0.37-15KW      | 55                | 162 | 157 | 45                      | 138 | 151.5 | M4 |
| 18-37KW        | 105               | 250 | 160 | 80                      | 236 |       | M6 |
| 45-75KW        | 136               | 300 | 180 | 95                      | 281 |       | M6 |
| 90-115KW       | 210.5             | 390 | 215 | 160                     | 372 |       | M6 |



# • Basic wiring diagram of soft starter







#### Soft starter function introduction



- Optional soft start curve
- Voltage ramp start
- Current limit start
- Expanded input and output options
- Remote control input
- Relay output
- RS485 communication output
- Customizable protection
- The input phase
- Out of phase
- Operating overload Starting overcurrent
- Operating overcurrent
- underload

- Optional soft stop curve
- Easy-to-read display shows
- Free parking
- Timed soft parking
- comprehensive feedback
- Removable operation panel
- Built-in Chinese + English display
- ▶ Models that meet all connection requirements
- > 0.37-115KW (rated)
- > 220VAC-380VAC
- > Star connection or inner delta connection

This soft starter is an advanced digital soft starting solution for motors with power ranges from 0.37kW to 115kW. A comprehensive set of motor and system protection features guarantees reliable performance even in the harshest installation environments.



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### External connection diagram

#### ➤ Conventional

Current range ...... 1.2A- 230A (rated) Motor connection...... Star external or internal delta connection

#### ➤ Power Supply

Power supply voltage (L1, L2, L3) SCKR1-360- XX.....220VAC (±10%) SCKR1-360- XX.....380VAC(±10%) Power frequency...... 30- 70Hz

#### ➤ Enter

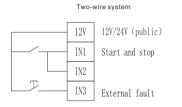
Input..... Active 12VDC, about 8mA(0.37-15kw) Active 24VDC, about 8mA(18.5-115kw) Start..... Normally open Stop...... Normally closed Fault input......Normally open

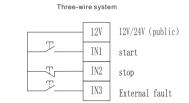
#### ➤ Output

Relay output...10A @ 250VAC resistive circuit .....5A @ 250VAC Programmable relay1 (TA, TB, TC)..... normally open or normally closed Programmable relay2 (TA2,TC2)..... normally open (18.5-115KW)

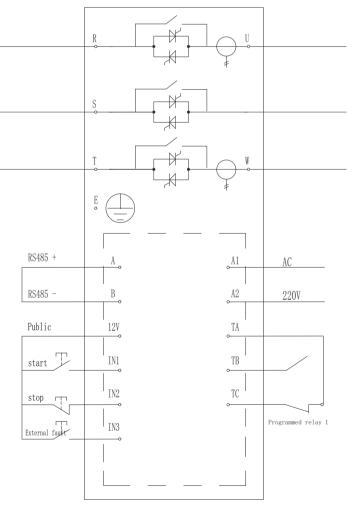
### > Programmable output

Communication output (485-,485+).....RS485 communication





18.5-115kW The common terminal is 24V



Note: 18.5-115kw(A1A2 input voltage 220-440V)

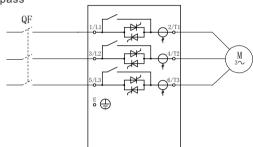


# SCKR1-360 Series ► Built In Bypass Soft Starter/Cabinet

### Motor connection

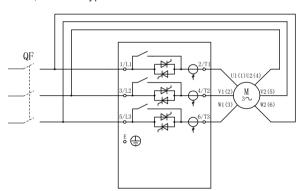
The soft starter can be connected to the motor by the star connection method or the inner triangle connection method (also known as the three-wire connection method and the six-wire connection method). If the internal triangle connection method is used, input the rated current of the motor with parameter F01.

Star connection, internal bypass



Circuit breaker (optional)

Triangle connection method, internal bypass



Circuit breaker

# • Comparison of soft starter, star delta, auto coupling

| Project                                    | Soft starter   | Star triangle  | Self-coupling  |  |  |  |
|--|--|--|--|--|--|--|
| Overvoltage And<br>Undervoltage Protection | have   | nothing  | nothing  |  |  |  |
| Short Circuit Protection                   | have   | have   | Knife switch, no protection, low safety factor               |  |  |  |
| Overload Protection                        | Yes (current value can be set)   | have   | have   |  |  |  |
| Input Phase Loss<br>Protection             | have   | nothing  | nothing  |  |  |  |
| Output Phase Loss<br>Protection            | have   | have   | have   |  |  |  |
| Under Load Protection                      | Yes (applicable to water pump to prevent idling from burning the water pump)   | nothing  | nothing  |  |  |  |
| Start Mode                                 | varied   | one kind   | one kind   |  |  |  |
| 485 Communication                          | have   | nothing  | nothing  |  |  |  |
| Convenient Maintenance                     | 18 months warranty   | Generally, the contactor is only guaranteed for three months | Generally, the contactor is only guaranteed for three months |  |  |  |
| Convenient Transportation                  | Small volume and light weight  | Small volume and light weight                                | Especially bulky and troublesome transportation              |  |  |  |
| Display                                    | Chinese LCD display, simple operation and convenient troubleshooting   | nothing  | nothing  |  |  |  |
| Cost Performance                           | Soft start is 10% cheaper than the auto coupling cabinet. It is installed on the wall with low power and has higher cost performance. Internal delta connection method can be adopted for soft starting. For example, 37KW soft starter can be selected for 55kW motor |  |  |  |  |  |



# → SCKR1-360 Series Built In Bypass Soft Starter/Cabinet

### Customization of mobile app functions

SCKR1-360 series motor soft start can be customized by mobile app

- > Mobile phone configuration operation screen
- > Equipment site real-time monitoring screen
- Equipment real-time data

Cloud configuration

Video surveillance

Issue command

Historical data online and offline

Alarm record

Equipment online and offline

Alarm push

Equipment map distribution



### Matching function selection of water pump

#### Matching function selection of water pump (1) None: standard soft start function. Figure 1 2 1: Floating ball Floating ball: IN1, closed start, disconnected stop. IN2 has no function. Figure 2 (3) Figure 3 Electric contact pressure gauge: IN1 starts when it is closed, IN2 stops when it is closed. 2: Electric contact pressure gauge (4) Water supply level relay: IN1 and IN2 are disconnected and started, and IN1 and IN2 are closed and stopped. Figure 4 3: Water supply level relay (5) Drainage level relay: in1 and IN2 are disconnected and stopped, and in1 and IN2 are closed and started. Figure 5 4: Drain level relay

Note: the water supply function starts and stops IN3 control, the standard soft start IN3 is an external fault, and the water supply type is used to control the start and stop. IN3 is the starting end. The above operation can be performed only when it is closed, and it is disconnected and stopped.

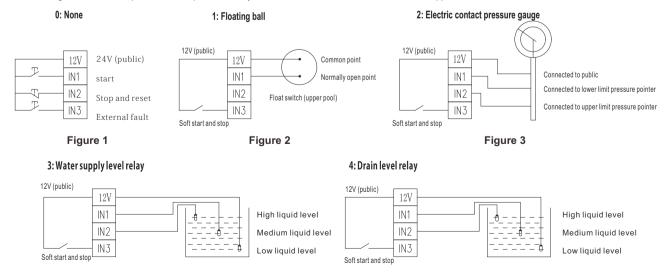


Figure 4 Figure 5