ZK-SK40

Product parameters

Parameters / Protection mechanisms

Product name	CNC DC voltage buck-boost power supply	Product model	ZK-SK40
Input voltage	6-36.00V	Output voltage	0.5-36.00V
Output current	0-4.5A	Voltage accuracy	±0.3%+3 words（Calibratable）
Output power	40W	Output current accuracy	±0.5%+3 words（Calibratable）
Voltage resolution	0.01V	Current resolution	0.001A
Data group storage	11 groups	Silicon rubber keypads	5
Screen size	Upgraded 1.8-inch large screen, 36 * 29mm visible range	Buzzer	Yes
Conversion efficiency	About 88%	Soft	Yes
Product size	83x48x29.4mm (Height does not include rotary encoder)	Product weight	Net weight of product: 103g Weight with packaging: 123g

Protection mechanism

Input anti reverse connection	Yes	Output anti backflow	Yes
Under voltage protect (LUP)	5.5-35V adjustable, factory default value of 5.5V		
Output overvoltage protection（OUP）	0.5-37V adjustable, factory default value 37V		
Output overcurrent protection（OCP）	0.001-4.6A adjustable, factory default value 4.6A		
Output overpower protection（OPP）	0.01-41W adjustable, factory default value 41W		
Over temperature protection（OTP）	30-99 ℃ adjustable, factory default value of 90 ℃		
Timeout protection (OHP)	1-99 hours and 59 minutes, factory default off		
Overcapacity protection (OAH)	0.001-9999Ah，Factory default off		
Superenergy protection (OPH)	0.001-4000KWh，Factory default off		

Third generation upgraded version ZK-SK40

CNC DC voltage buck-boost power supply 40W

| Silicon Rubber Keypads | Full view enlarged LCD screen | Beeper On | Double snap shell |

6-36V	0.5-36V	0-4.5A	40W	11 groups
Input voltage	Output voltage	Output current	Output power	Storage space

Multiple protection

☑ Anti reverse connection ☑ Anti-backflow ☑ Under voltage protection ☑ Overvoltage protection

☑ Overcurrent protection ☑ Over temperature protection ☑ Over power protection

【Independent silicone button to set voltage or current】
One click entry, one click exit, fast and concise, rejecting complexity.

【Gold sinking process for LCD display boards】
Eliminate poor contact caused by oxidation, resulting in incomplete display after prolonged use.

【Double snap shell】
The connection between the upper and lower boards is more reliable and stable.

【Further improvement in performance】
Power upgrade, including an external fan port for expandable fans.

【Independent architecture for upper and lower boards, independent MCU】
Replace the LCD or color display board at will, and the power board can also be used independently.

Key functions

Switch / Set / Turn Off

Short press: Switching input voltage/output voltage display

Long press: Enter or exit the settings menu

Voltage setting

Current setting

Short press: Switching Output power W/ Capacity Ah/Energy Wh/Time h/ Temperature ℃/Rotating display

Long press: Open/Unlock function

Short press: Selection bit (setting menu interface)

Left rotation: Number reduction

Right rotation: Number increase

Short press: Turn off/on output

Long press: Sleep shutdown

M/↑
V-SET
I-SET
OK/↓

OUT 24.00 CV V
0.000 A
ON 00.00 W

Upgrade silicone buttons

Effortless / Soft / Silent / Durable

| Effortless Silent | Soft Durable | Damping perception | Waterproof Dustproof |

☆ The silicone button material is soft, comfortable to touch, and has an excellent hand feel.

☆ Compared to mechanical buttons, they can withstand long-term use and frequent pressing without wear or failure, making them more durable and have a longer service life.

Instructions for use

Switch display / Set parameters

Set voltage and current/call data group

Press V-SET to enter the voltage setting interface, adjust the flashing position, press the encoder to select the position, and rotate to adjust the size. After setting up, press V-SET again to exit the setup. Press OK/↓ to switch data groups Cd00-Cd10.

Press I-SET to enter the current setting interface, adjust the flashing position, press the encoder to select the position, and rotate to adjust the size. After setting up, press I-SET again to exit the setup. Press OK/↓ to switch data groups Cd00-Cd10.

Switching output/input voltage display

Press M/↑ to switch between output voltage and input voltage display

Switching output power/capacity and other displays

OUT **24.00** CV V
1.108 A
ON **0.026** Ah

Press OK/↑ to switch output power W/capacity Ah/energy Wh/time h/temperature / rotating display

ON	Display	Label
ON	**026.6** w	Power W
ON	**0.026** Ah	Capacity Ah
ON	**0.522** Wh	Energy Wh
ON	**00:03** h	Time h
ON	**31°C**	Temperature°C

Locking function

Show lock symbols

OUT **24.00** CV
1.106 A
ON **026.6** W

OUT **24.00** CV
1.112 A
ON **026.7** W

On the normal display interface, long press and hold the rotary encoder for 2 seconds to lock the set voltage and current to prevent accidental operation; After locking, press and hold the encoder for 2 seconds to unlock.
After locking, the power button can still operate normally, ensuring that the power can be disconnected at any time.

Display interface

Input / Output / Settings

IN: Input voltage — IN 11.80 CV V

OUT: Output voltage

Constant voltage display CV

Output voltage — OUT 24.00 CV V

Output current — 1.108 A

ON 026.6 W

It can also be displayed alternately

ON: Output on state; The power button light is on

ON 026.6 W — **Power W**

ON 0.026 Ah — **Capacity Ah**

ON 0.522 Wh — **Energy Wh**

ON 00:03 h — **Time h**

ON 31℃ — **Temperature ℃**

OFF 00.00 W

OFF: Output shutdown status; The power button light is off

OUT 00.10 V
2.000 CC A
ON 00.20 W

Constant current display CC

Buzzer on

Set up — SET

Lock function turned on

Timer function on

24.00 CV V
2.000 A
ON Cd00

Settings interface

Data group parameters / system parameters

Press and hold the (M/t) for two seconds to enter or exit the settings interface

Parameter settings within the data group

In this set of parameter settings, Cd00 represents the data group 0; Press the V-SET button to select the data group Cd00-Cd10

|		
SET **Cd00** OUP OFF **37.00**	SET **Cd00** OCP OFF **4.600**	SET IN **Cd00** LUP OFF **05.50**
Set output overvoltage protection value (OUT), default 37V	Set output overcurrent protection value (OCP), default 4.6A	Set input undervoltage protection value (LUP), default 5.5V
SET **Cd00** OPP OFF **41.00** W	SET **Cd00** OAH OFF - - - - Ah	SET **Cd00** OPH OFF - - - - Wh
Set output overpower protection value (OPP), default 41W	Set overcapacity protection value (OAH), default off	Set the overpower protection value (OPH), default off
SET **Cd00** OHP OFF - - - -	SET **Cd00** OТP OFF **99°C**	SET **Cd00** PON OFF **on**
Set timeout protection time (OHP), default off	Set over temperature protection value (OTP), default to 90 ℃	Set power on output off/on (PON), default PON

System parameter values

SET **Add** **001** **OFF**	**SET** **LEd** **5** **OFF**	**SET** **SLP** **- - - -** **OFF**
Set local address (Add)	Set backlight brightness (LEd)	Automatic screen shutdown time setting (SLP)
SET **bEEP** **on** **OFF**	**SET** **2Ero** **0.000** **OFF**	**SET** **Frd** **OFF**
Turn on/off buzzer (bEEP)	Zeroing low current (ZEro)	Restore factory settings (Frd)
SET **00.00** v **00** **OFF CALU**	**SET** **00** **0.000** A **OFF CAL 1**	
Corrected output voltage (CAL_U)	Corrected output current (CAL-I)	

PCB sinking gold process
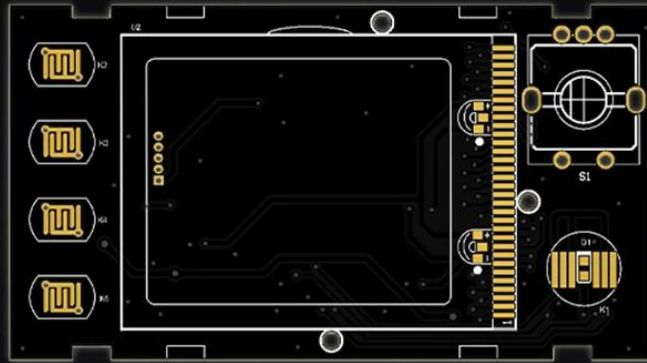
Protection / conductivity / reliability

Protection **Conductivity** **Reliability**

◎ Prevent missing segments in LCD after long-term use

◎ Protect circuit board pads from oxidation

◎ Improving PCB conductivity

◎ Reduce line impedance and contact resistance

Highlights and details display

Fine workmanship/breakthrough in performance

Integrated knob with increased damping for better hand feel

1.8-inch large screen

36mm

29mm

OUT 24.00 CV V
0.000 A
ON 00.00 W

Silicon Rubber Keypads

Upgrade the large screen

Full view enlarged LCD screen

29mm

36mm

👍 **1.8-inch large screen**

Visualization range 36 * 29mm

Detail display

Buzzer / Fan interface / Plug-in terminal

Built in buzzer

Key prompt, alarm prompt, and echo for everything
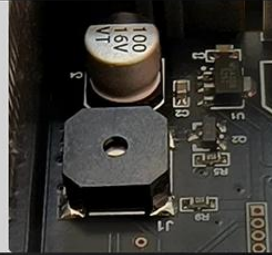
Reserve 5V fan interface

It can be cooled by adding a fan on its own, supporting fans up to 5V150mA, and can use a 30mm size fan fixed with M3.2*19 screws.
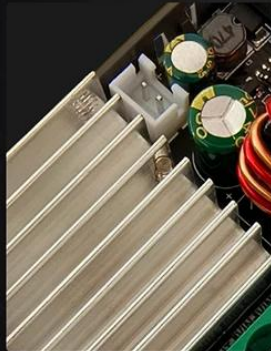
Upgrade plug-in terminals

Easy to disassemble and replace.
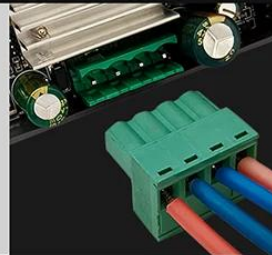
Press and hold (M/↑) for 2 seconds to enter the settings menu. The first interface is the OUT settings interface,

Press (V-SET) to switch data group names, press (I-SET) to select the previous parameter,

Press (OK/↓) to select the next parameter.

Parameter settings within the data group

OUP setting (Overvoltage protection)	Short press the encoder to select a bit and adjust the value size by rotating it.
	For example, if OUP is set to 24.00, when the output voltage is greater than 24.00V, the output will turn off the protection, thereby protecting the load from being burnt out due to overvoltage power supply. After protection, the bottom row will display OUP. Press the power button to cancel the protection.
OCP setting (Overcurrent protection)	Short press the encoder to select a bit and adjust the value size by rotating it.
	For example, if OCP is set to 2.000, when the output current is greater than 2.000A, the output will turn off the protection, thereby protecting the load from being burnt out due to overcurrent. After protection, the bottom row will display OCP. Press the power button to cancel the protection.

ZK-SK90

Product parameters

Product name	CNC DC voltage buck-boost power supply	Product model	ZK-SK90
Input voltage	6-36.00V	Output voltage	0.5-36.00V
Output current	0-5A	Voltage accuracy	±0.3%+3 words (Calibratable)
Output power	90W	Output current accuracy	±0.5%+3 words (Calibratable)
Voltage resolution	0.01V	Current resolution	0.001A
Data group storage	11 groups	Silicon rubber keypads	5
Screen size	Upgraded 1.8-inch large screen, 36 * 29mm visible range	Buzzer	Yes
Conversion efficiency	About 88%	Soft	Yes
Product size	83x48x39.6mm (Height does not include rotary encoder)	Product weight	Net weight of product: 112g Weight with packaging: 132g

Protection mechanism

Input anti reverse connection	Yes	Output anti backflow	Yes
Under voltage protect (LUP)	5.5-35V adjustable, factory default value of 5.5V		
Output overvoltage protection (OUP)	0.5-37V adjustable, factory default value 37V		
Output overcurrent protection (OCP)	0.001-5.2A adjustable, factory default value 5.2A		
Output overpower protection (OPP)	0.01-91W adjustable, factory default value 91W		
Over temperature protection (OTP)	30-99 ℃ adjustable, factory default value of 90 ℃		
Timeout protection (OHP)	1-99 hours and 59 minutes, factory default off		
Overcapacity protection (OAH)	0.001-9999Ah, Factory default off		
Superenergy protection (OPH)	0.001-4000KWh, Factory default off		

Key functions

Long press: Open/Unlock function

Short press: Selection bit (setting menu interface)

Short press: Switching input voltage/ output voltage display

Left rotation: Number reduction

Long press: Enter or exit the settings menu

Right rotation: Number increase

Voltage setting

Current setting

M/↑

V-SET

I-SET

OK/↓

🔊

OUT **24.00** CV V

0.000 A

ON **00.00** W

Short press: Switching Output power W/ Capacity Ah/Energy Wh/ Time h/Temperature °C/ Rotating display

Short press: Turn off/on output

Long press: Sleep shutdown

Upgrade silicone buttons

Effortless Silent **Soft Durable** **Damping perception** **Waterproof Dustproof**

- The silicone button material is soft, comfortable to touch, and has an excellent hand feel.

- Compared to mechanical buttons, they can withstand long-term use and frequent pressing without wear or failure, making them more durable and have a longer service life.

Instructions for use

Set voltage and current/call data group

Press V-SET to enter the voltage setting interface, adjust the flashing position, press the encoder to select the position, and rotate to adjust the size. After setting up, press V-SET again to exit the setup. Press OK/↓ to switch data groups Cd00-Cd10.

Press I-SET to enter the current setting interface, adjust the flashing position, press the encoder to select the position, and rotate to adjust the size. After setting up, press I-SET again to exit the setup. Press OK/↓ to switch data groups Cd00-Cd10.

Switching output/input voltage display

Press M/↑ to switch between output voltage and input voltage display

Settings interface

Press and hold the [M/↑] for two seconds to enter or exit the settings interface

Parameter settings within the data group

In this set of parameter settings, Cd00 represents the data group 0; Press the V-SET button to select the data group Cd00-Cd10

SET Cd00 OUP OFF 37.00	SET Cd00 OCP OFF 5.200	SET IN Cd00 LUP OFF 05.50
Set output overvoltage protection value (OUT), default 37V	Set output overcurrent protection value (OCP), default 5.2A	Set input undervoltage protection value (LUP), default 5.5V
SET Cd00 OPP OFF 91.00 w	SET Cd00 OAH OFF ----- Ah	SET Cd00 OPH OFF ----- Wh
Set output overpower protection value (OPP), default 91W	Set overcapacity protection value (OAH), default off	Set the overpower protection value (OPH), default off
SET Cd00 OHP OFF -----	SET Cd00 OTP OFF 99°C	SET Cd00 PON OFF on
Set timeout protection time (OHP), default off	Set over temperature protection value (OTP), default to 90 ℃	Set power on output off/on (PON), default PON

Display interface

IN: Input voltage — IN 11.80 CV V

OUT: Output voltage

OUT 24.00 CV V — **Constant voltage display CV**

24.00 V — **Output voltage**

1.108 A — **Output current**

ON 026.6 W

ON: Output on state; The power button light is on

OFF 00.00 W

OFF: Output shutdown status; The power button light is off

It can also be displayed alternately

ON 026.6 W — **Power W**

ON 0.026 Ah — **Capacity Ah**

ON 0.522 Wh — **Energy Wh**

ON 00:03 h — **Time h**

ON 31°C — **Temperature °C**

OUT 00.10 V
2.000 CC A — **Constant current display CC**
ON 00.20 W

Set up — SET

Buzzer on

Lock function turned on

Timer function on

24.00 CV V
2.000 A
ON Cd00

PCB sinking gold process
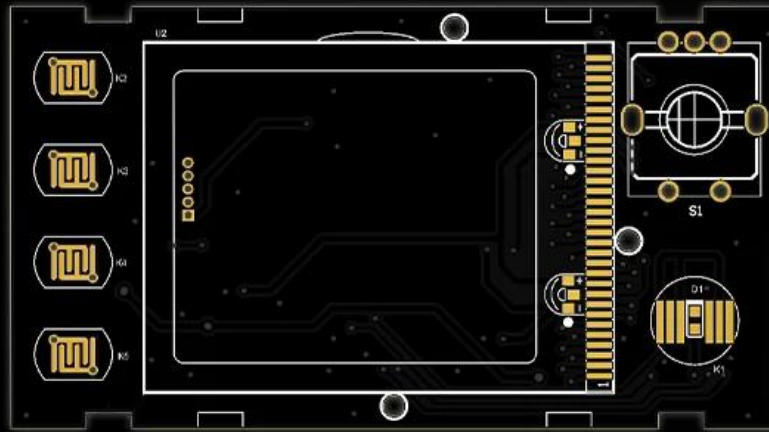
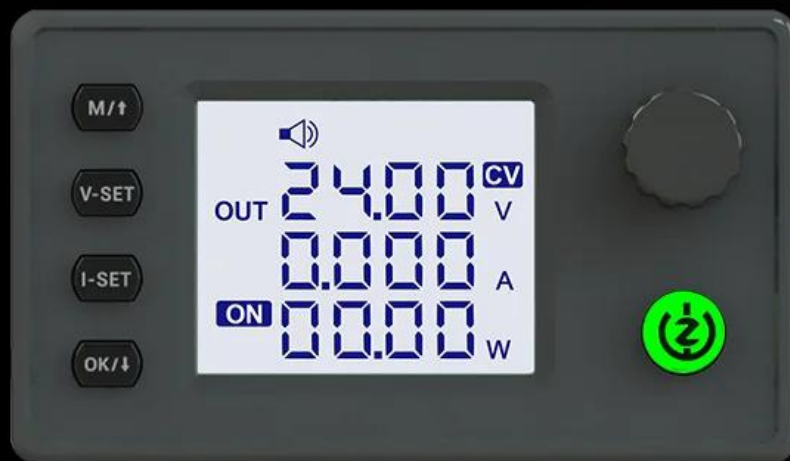
Protection   **Conductivity**   **Reliability**

◎ Prevent missing segments in LCD after long-term use

◎ Protect circuit board pads from oxidation

◎ Improving PCB conductivity

◎ Reduce line impedance and contact resistance

Upgrade the large screen

29mm

36mm

SET 🔊 🔒 ⏰
IN
OUT
CV
V
CC
A
ON
OFF
Ah
Wh

👍 **1.8-inch large screen**

Visualization range 36 * 29mm

🔊
OUT 24.00 **CV** V
0.000 A
ON 00.00 W

M/↑
V-SET
I-SET
OK/↓

The back of the product

π type filtering

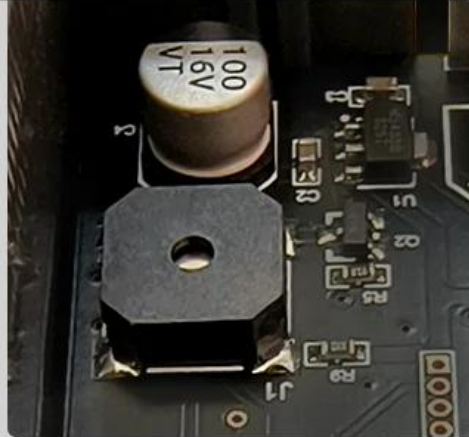Efficient iron silicon aluminum magnetic ring inductor

Plug-in terminal

Detail display

Built in buzzer

Key prompt, alarm prompt, and echo for everything

Upgrade plug-in terminals

Easy to disassemble and replace.

Highlights and details display

Integrated knob with increased damping for better hand feel

1.8-inch large screen

36mm

29mm

M/↑

V-SET

I-SET

ON/↓

◁)) OUT **24.00** **CV** V **0.000** A **ON 00.00** W

Silicon Rubber Keypads