



Quick Start Guide

IPS 40-54

Stock number : 2521601

EN





Limited Warranty

This product is warranted to the original purchaser against defects in material and workmanship for 3 years from the date of purchase. During this warranty period, RS PRO will, at its option, replace or repair the defective unit, subject to verification of the defect or malfunction. This warranty does not cover fuses, disposable batteries, or damage from abuse, neglect, accident, unauthorized repair, alteration, contamination, or abnormal conditions of operation or handling. Any implied warranties arising out of the sale of this product, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited to the above. RS PRO shall not be liable for loss of use of the instrument or other incidental or consequential damages, expenses, or economic loss, or for any claim or claims for such damage, expense or economic loss. Some states or countries laws vary, so the above limitations or exclusions may not apply to you. For full terms and conditions, refer to the RS PRO website.

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The information in this quick start guide was correct at the time of printing. However we continue to improve our products and therefore reserve the right to change the specifications, equipment, and maintenance procedures at any time without notice.

SAFETY INSTRUCTIONS

Safety Symbols

These safety symbols may appear in the user manual or on the instrument.



Warning

Warning: Identifies conditions or practices that could result in injury or loss of life.



Caution

Caution: Identifies conditions or practices that could result in damage to the instrument or to other properties.



DANGER High Voltage



Attention Refer to the Manual



Do not dispose electronic equipment as unsorted municipal waste. Please use a separate collection facility or contact the supplier from which this instrument was purchased.



Power Cord for the United Kingdom

When using the instrument in the United Kingdom, make sure the power cord meets the following safety instructions.

NOTE: This lead/appliance must only be wired by competent persons.



WARNING: THIS APPLIANCE MUST BE EARTHED IMPORTANT:

The wires in this lead are coloured in accordance with the following code:


Green/ Yellow: Earth

Blue: Neutral

Brown: Live (Phase)



As the colours of the wires in main leads may not correspond with the coloured marking identified in your plug/appliance, proceed as follows:

The wire which is coloured Green & Yellow must be connected to the Earth terminal marked with either the letter E, the earth symbol  or coloured Green/Green & Yellow.

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Blue or Black.

The wire which is coloured Brown must be connected to the terminal marked with the letter L or P or coloured Brown or Red.

If in doubt, consult the instructions provided with the equipment or contact the supplier.

This cable/appliance should be protected by a suitably rated and approved HBC mains fuse: refer to the rating information on the equipment and/or user instructions for details.

As a guide, a cable of 0.75mm^2 should be protected by a 3A or 5A fuse. Larger conductors would normally require 13A types, depending on the connection method used.

Any exposed wiring from a cable, plug or connection that is engaged in a live socket is extremely hazardous. If a cable or plug is deemed hazardous, turn off the mains power and remove the cable, any fuses and fuse assemblies. All hazardous wiring must be immediately destroyed and replaced in accordance to the above standard.

GETTING STARTED

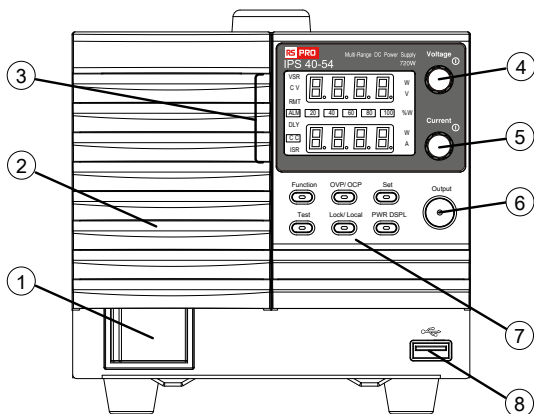
Main Features

Performance	<ul style="list-style-type: none"> • High performance/power • Power efficient switching type power supply • Low impact on load devices • Fast transient recovery time of 1ms • Fast output response time
Features	<ul style="list-style-type: none"> • OVP, OCP and OTP protection • Adjustable voltage and current slew rates • User adjustable bleeder control to quickly dissipate the power after shutdown to safe levels. • Extensive remote monitoring and control options • Support for serial and parallel connections • Power on configuration settings. • Web server monitoring and control
Interface	<ul style="list-style-type: none"> • Ethernet port • Analog connector for analog voltage and current monitoring • USB host and device port



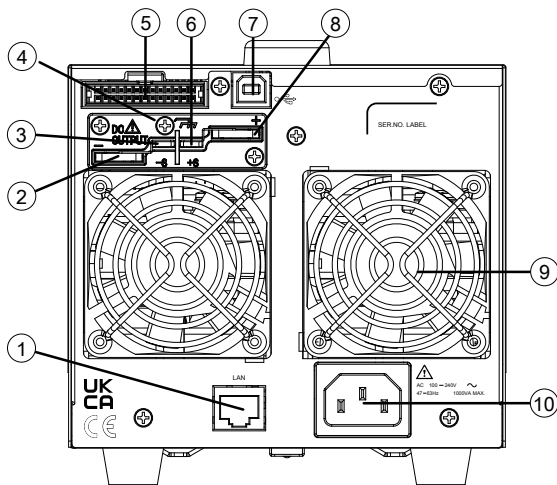
Appearance

Front Panel



Description	
1. Power switch	2. Cover panel
3. Display	4. Voltage knob
5. Current knob	6. Output key
7. Function keys	8. USB A port

Rear Panel

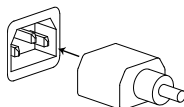


Description	
1. LAN port	2. Output terminal(-)
3. Sense terminal(-)	4. Ground screw
5. Analog control connector	6. Sense terminal(+)
7. USB port	8. Output terminal(+)
9. Fan	10. AC input

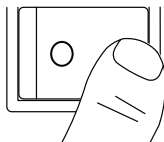
Power Up

Steps

1. Connect the power cord to the rear panel socket.



2. Press the POWER key. If used for the first time, the default settings will appear on the display, otherwise The IPS recovers the state right before the power was last turned OFF.



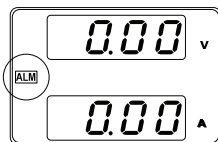
The power supply takes around 8 seconds to fully turn on and shutdown.

Do not turn the power on and off quickly. Please wait for the display to fully turn off.

Setting OVP/OCP Levels

The OVP level has a selectable range of 10% to 110% of the rated output voltage. The OCP level has a selectable range 10%~ 110% of the rated output current, alternatively the OCP level can also be turned off. The OVP and OCP level is set to 110% by default.


When one of the protection measures are on, ALM is shown on the panel display. By default, the power switch will turn off when any of the protection levels are tripped.

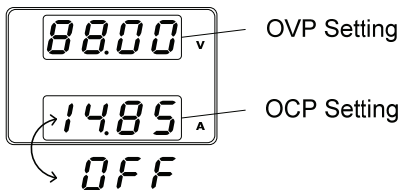


Before setting the OVP or OCP level:

- Ensure the load is not connected.
- Ensure the output is set to off.

Steps

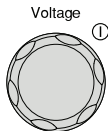
1. Press the OVP/OCP key. The OVP/OCP key lights up. 
2. The OVP setting will be displayed on the top and the OCP setting (or OFF) will be displayed on the bottom.



OVP Level

3. Use the voltage knob to set the OVP level.

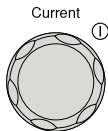
Range 10%~110% of rated output voltage.



OCP Level

4. Use the current knob to set the OCP level.

Range 10%~110% of rated output current, OFF.



5. Press OVP/OCP again to exit. The OVP/OCP indicator will turn off.

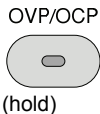

Power switch trip

6. Set F-95 (Power switch trip) to 1 (to disable the power switch trip) or to 0 (to enable the power switch trip) and save.

F-95 1 (Disable) or 0 (Enable)

Clear OVP/OCP protection

7. The OVP or OCP protection can be cleared after it has been tripped by holding the OVP/OCP button for 2 seconds.
(Only applicable when the power switch trip setting is disabled [F-95 = 1])



SPECIFICATIONS

The specifications apply when the IPS 40-54 is powered on for at least 30 minutes.

Output

Rated Output Voltage	40 V
Rated Output Current	54 A
Rated Output Power	720 W
Power Ratio	3

Constant Voltage Mode

Line regulation ^{*1}	23 mV
Load regulation ^{*2}	25 mV
Ripple and noise ^{*3}	
p-p ^{*4}	80 mV
r.m.s. ^{*5}	11 mV
Temperature coefficient	ppm/ °C 100 ppm/°C of rated output voltage, after a 30 minute warm-up.
Remote sense compensation voltage (single wire)	0.6 V

Rise time^{*6}

Rated load	50 ms
No load	50 ms

Fall time^{*7}

Rated load	50 ms
No load	500 ms

Transient response time ^{*8}	1 ms
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Constant Current Mode

Line regulation ^{*1}	59 mA
Load regulation ^{*9}	59 mA
Ripple and noise ^{*5}	



r.m.s.	108mA
Temperature coefficient	ppm/°C 200ppm/°C of rated output current, after a 30 minute warm-up.
Protection Function	
Over voltage protection (OVP)	
Setting range	4-44 V
Setting accuracy	± (2% of rated output voltage)
Over current protection (OCP)	
Setting range	5-59.4 A
Setting accuracy	± (2% of rated output current)
Over temperature protection (OHP)	
Operation	Turn the output off.
Low AC input protection (AC-FAIL)	
Operation	Turn the output off.
Power limit (POWER LIMIT)	
Operation	Over power limit.
Value (fixed)	Approx. 105% of rated output power.
General Specifications	
Weight	(Main unit only) kg Approx. 5kg
Dimensions	(W×H×D) mm*3 142×124×350
Cooling	Forced air cooling by internal fan.
EMC	Complies with the European EMC directive for Class A test and measurement products.
Safety	Complies with the European Low Voltage Directive and carries the CE-marking.
Withstand voltage	Between input and chassis: No abnormalities at 1500 Vac for 1 minute.
	Between input and output: No abnormalities at 3000 Vac for 1 minute.
	Between output and chassis: No abnormalities at 500 Vac for 1 minute.

Insulation resistance	Between input and chassis: DC 500V. 100M Ω or more
	Between input and output: DC 500V. 100M Ω or more
	Between output and chassis: DC 500V. 100M Ω or more

Notes:

- *¹ At 85 ~ 132Vac or 170 ~ 265Vac, constant load.
- *² From No-load to Full-load, constant input voltage. Measured at the sensing point in Remote Sense.
- *³ Measure with JEITA RC-9131B (1:1) probe
- *⁴ Measurement frequency bandwidth is 10Hz to 20MHz.
- *⁵ Measurement frequency bandwidth is 5Hz to 1MHz.
- *⁶ From 10% to 90% of rated output voltage, with rated resistive load.
- *⁷ From 90% to 10% of rated output voltage, with rated resistive load.
- *⁸ Time for output voltage to recover within 0.1% + 10mV of its rated output for a load change from 50 to 100% of its rated output current.
- *⁹ For load voltage change, equal to the unit voltage rating, constant input voltage.

For other detailed specification about IPS 40-54, please refer to the IPS 40-54 user manual.



EC Declaration of Conformity

We declare that the CE marking mentioned product satisfies all the technical relations application to the product within the scope of council:

Directive: EMC; LVD; WEEE; RoHS

The product is in conformity with the following standards or other normative documents:

⊙ EMC

EN 61326-1	Electrical equipment for measurement, control and laboratory use — EMC requirements
Conducted & Radiated Emission EN 55011/ EN 55032	Electrical Fast Transients EN 61000-4-4
Current Harmonics EN 61000-3-2/ EN 61000-3-12	Surge Immunity EN 61000-4-5
Voltage Fluctuations EN 61000-3-3/ EN 61000-3-11	Conducted Susceptibility EN 61000-4-6
Electrostatic Discharge EN 61000-4-2	Power Frequency Magnetic Field EN 61000-4-8
Radiated Immunity EN 61000-4-3	Voltage Dip/ Interruption EN 61000-4-11/ EN 61000-4-34

⊙ Safety

EN 61010-1	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
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AUDITED

In compliance with
industry standards



INSPECTED

For guaranteed quality
and performance



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