GW INSTEK ASR-6600 Multi Phase Programmable Power Source User Guide

Contents

ASR-6600 Multi Phase Programmable Power Source

Multi-phase Programmable AC/DC Power Source ASR-6000 Series

QUICK START GUIDE

Good Will Instrument Co., Ltd.

No. 7-1, Jhongsing Rd., Tucheng Dist., New Taipei City 236, Taiwan.

INTRODUCTION

ASR-6000 Series Overview

Series lineup

The ASR-6000 series consists of 2 models, the ASR-6450 and ASR 6600, differing in capacity. Note that throughout the user manual, the term “ASR-6000” refers to any of the models, unless stated otherwise.

1P Output Condition

Model Name Power Rating Max. Output Current Max. Output Voltage
ASR-6450 4500 VA 45 / 22.5 A 350 Vrms / 500 Vdc
ASR-6600 6000 VA 60 / 30 A 350 Vrms / 500 Vdc

1P3W Output Condition

Model Name Power Rating Max. Output Current Max. Output Voltage
ASR-6450 3000 VA 15 / 7.5 A 700 Vrms / 1000 Vdc
ASR-6600 4000 VA 20 / 10 A 700 Vrms / 1000 Vdc

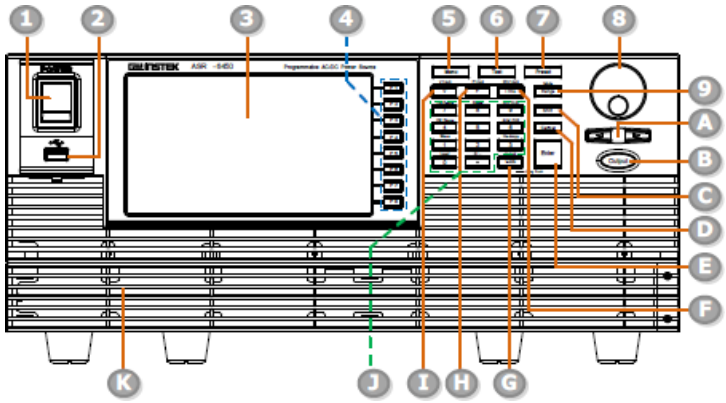
3P Output Condition (Pre phase)

Model Name Power Rating Max. Output Current Max. Output Voltage
ASR-6450 1500 VA 15 / 7.5 A 350 Vrms / 500 Vdc
ASR-6600 2000 VA 20 / 10 A 350 Vrms / 500 Vdc

INTRODUCTION

Appearance

Front Panel



Item Index Description

1 Power switch button

2 USB interface connector (A Type)

3 LCD screen

4 Function keys (blue zone)

5 Menu key

6 Test key

7 Preset key

8 Scroll wheel

9 Range key/Output mode key

A Arrow keys

B Output key

C Shift ke

D Cancel key

E Enter key

F Irms/IPK-Limit button

G Lock/Unlock button

H F/F-Limit button

I V/V-Limit button

J Numerical Keypad with additional “Shift + key” shortcut functions (green zone)

K Air inlet

Power Switch  Turn on the mains power

USB A Port  The USB port is used for data transfers and upgrading software. Also, it is available for screenshot hardcopy.

⚠ It supports FAT32 format with maximum 32G storage.

LCD Screen Displays the setting and measured values or menu system

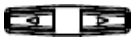
Function Keys  Assigned to the functions displayed on the right side of the screen.

INTRODUCTION

Menu Key Enters the Main menu or goes back to one of the display modes.

Test Key Puts the instrument into the Sequence and Simulation control mode.

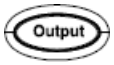
Preset Key Puts the instrument into Preset mode.


Arrow Keys The arrow keys are used to select the digit power of a value that is being edited.

Range Key Switches between the 100V, 200V and AUTO ranges

Output Mode+ Selects between the AC+DC-INT, AC INT, DC-INT, AC+DC-EXT, AC-EXT, AC+DC-ADD, AC-ADD, AC+DC-Sync, AC-Sync and AC-VCA modes.


Used to navigate menu items or for increment/decrement values one step at a time.



Turns the output on or off.

Turns on the shift state, which enables shortcut operations with an icon indicated on the top status bar. The shift state, which allows continuous shortcut operations, is kept until another press on shift key again.

When performing shortcut operations, press shift key followed by another shortcut function key. Do Not press both shift key and shortcut function key simultaneously.

Cancel Key Used to cancel function setting menus or dialogs.

ASR-6000 Series Quick Guide

Enter Key Confirms selections and settings.

Irms Used for setting the maximum output current.

IPK-Limit + Used to set the peak output current limit value.

Lock/Unlock Key Used to lock or unlock the front panel keys except output key. Simply press to lock, whilst long press to unlock.

F Used for setting the output frequency (DC mode N/A).

F-Limit+ Used for setting the output frequency limit value (DC mode N/A).

V Used for setting the output voltage.

V-Limit + Used for setting the output voltage limit value.

Keypad Used to input power of a value directly. The key is used to input decimal / plus or minus.

INTRODUCTION

On Phase +Sets the on phase for the output voltage. Off Phase +Sets the off phase for the output voltage.

Waveform+Selects between the Sine, Square, Output

Triangle and ARB 1~16 waveforms (not available for DC-INT, AC+DC-EXT and AC-EXT).

Local Mode + Switches operation back to local mode from remote mode.

IPK CLR + Used to clear peak output current value. ALM CLR + Clears alarms.

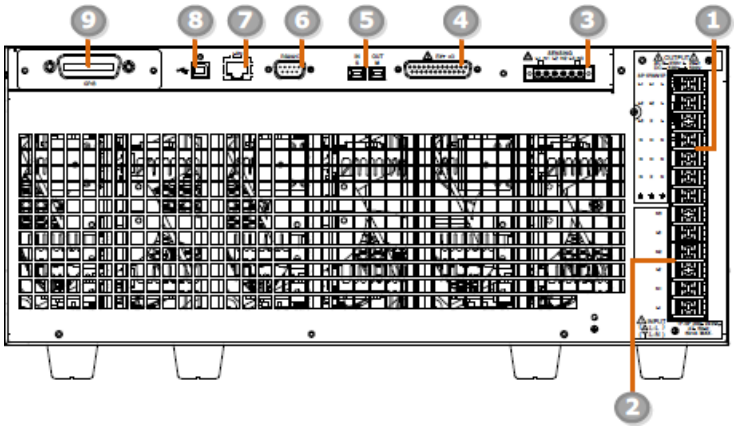
Hardcopy Key+Used to take a screenshot. Make sure an

USB flash disk in well inserted before the action.

Output Phase+Used to prompt the output phase

window where 1P2W, 1P3W and 3P4W modes are available for selection.

Rear Panel



Item Index Description

1 Output terminal

2 AC power input terminal

3 Remote sensing input terminal

4 External I/O connector

5 External IN/OUT connection in parallel function 6 RS232 connector

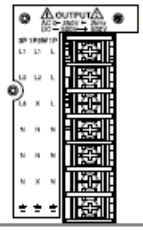
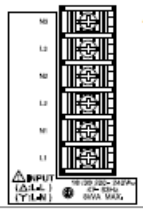
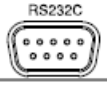
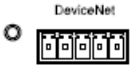
7 Ethernet (LAN) connector

8 USB interface connector (B Type)

9 Optional interface Slot

- GPIB card (ASR-003)
- DeviceNet card (ASR-004)
- CAN BUS card (ASR-005)

INTRODUCTION

Item	Description
Output Terminal	 Output terminal (M4 screw type, 8 – 18 AWG) (Screw torque value:18kgf-cm)
AC Power Input Terminal	 AC inlet (M4 screw type, 8 – 18 AWG) (Screw torque value:18kgf-cm)
Remote Sensing Input Terminal	 Remote sensing input terminal is for compensation of load wire voltage drop. (M2.5 screw type, 12 – 30 AWG) (Screw torque value: 0.5N*m) (Strip length: 7 – 8mm)
External Control I/O Connector	 Used to control ASR-6000 externally by using the logic signal and monitor Sequence function status.
External IN/OUT Connection in Parallel Function	 The IN (Slave) and OUT (Master) ports are used for connection with external unit in parallel function.
RS232C Connector	 The RS232C connector for controlling the ASR-6000 remotely.
Ethernet LAN Port	 The Ethernet port is used for remote control.
USB B-type Port	 USB port for controlling the ASR-6000 remotely.
Optional GPIB Connector	 The optional GPIB connector for controlling the ASR-6000 remotely.
Optional CAN BUS Connector	 The optional CAN BUS connector for controlling the ASR-6000 remotely.
Optional DeviceNet Connector	 The optional DeviceNet connector for controlling the ASR-6000 remotely.

SET UP

Input Terminal Connection

Background Basically, the input terminal, which is located in the rear panel of ASR unit, can be connected through 3 methods: Single Phase, Delta and Y
Connection. Depending on varied input connections, use the corresponding cooper plates and power cords for connection. Refer to the following chapters for details of each connection.

Copper Plate Introduction

Voltage Range of Input Connections
Input Connection
Voltage
Range
Single

Single Phase 200 – 240V: L, N and G
Delta
Three Phase 200 – 240V: L1, L2, L3 and G
Y
Three Phase 200 – 240V: L1, L2, L3, N and G

Copper Plate Description
Copper Plate
Description
62SR-6K0CP101
Copper plate for delta
connection input
62SR-6K0CP201
Copper plate for single phase
and Y connection input
62SR-6K0CP301
Copper plate for delta
connection input

Copper Plate Quantity of Input Connections
Input Connection
Quantity of
Copper Plate
Single
62SR-6K0CP201*2pcs
Delta
62SR-6K0CP101*1pcs, 62SR-6K0CP301*2pcs
Y
62SR-6K0CP201*1pcs

Single Phase Connection

1. Assemble the two copper plates specific for Single phase input connection with the AC input terminals. The first plate is for L1, L2 and L3 terminals, while the other plate is for N1, N2 and N3 terminals.

2. Connect the AC power cords to the AC input terminals.

- Red
- Line (L)
- Black
- Neutral (N)

Note

- Power input cords are not included in this product.
- For the specific installation on protective lid of input terminal, please refer to User Manual.

SET UP

Delta Connection

Steps 1. Assemble the three copper plates specific for Delta input connection with the AC input terminals. The 1st plate is for N3 and L1 terminals. The 2nd second plate is for L3 and N2 terminals, while the 3rd plate is for L2 and N1 terminals.

2. Connect the AC power cords to the AC input terminals.

- Red
- Line (N2)
- Green
- Neutral (N1)
- Yellow
- Neutral (N3)

Note
- Power input cords are not included in this product.
- For the specific installation on protective lid of input terminal, please refer to User Manual.

Y Connection

Steps
1. Assemble the copper plate specific for Y input connection with the AC input terminals. The copper plate is for N1, N2 and N3 terminals.

2. Connect the AC power cords to the AC input terminals.

- Red
- L3
- Green
- L2
- Yellow
- L1
- Blue
- Neutral

Note
- Power input cords are not included in this product.
- For the specific installation on protective lid of input terminal, please refer to User Manual.

Output Terminal Connection

Background
The output terminal can output power in three mode: 1P2W, 1P3W and 3P4W. Select applicable output mode, via panel configurations, in accordance with varied applications.

WARNING
Be aware of dangerous voltages. Ensure that the power to the instrument is disabled before handling the power supply output terminals. Failing to do so may lead to electric shock.

CAUTION
After configuring phase settings via the front panel, please make sure the cords connection on the rear panel is corresponding to the set configuration.

1P2W Output Connection

Steps
1. Disconnect the unit from the mains power socket and turn the power switch off.

2. Assemble the two copper plates specific for 1P2W output connection with the AC output terminals. The first plate is for N*3 terminals, while the other plate is for L*3 terminals.

3. Connect the output wires to the AC output terminals as follows:

- Red
- Line (L)
- Black
- Neutral (N)

Note

- The input & output terminals necessitate connectivity through ring-type connectors.
- For the specific installation on protective lid of output terminal, please refer to User Manual.
- Grounded Neutral Output for 1P2W output only: ASR-6000 allows for a grounded return on the neutral output. It is suit for the medical industry that required between ground with neutral is 0 V essentially. And possible to mitigate ground loops that is ideal for reduce ground noise and isolate sensitive equipment from the effects of ground loops.

WARNING
Because the neutral has been referenced to the chassis ground, be careful electric shock by yourself.

1P3W Output Connection

Steps
1. Disconnect the unit from the mains power socket and turn the power switch off.
2. Connect the output wires to the AC output terminals as follows:

- Yellow
- Line (L1)
- Green
- Line (L2)
- Blue
- Neutral (N)

Note

- The input & output terminals necessitate connectivity through ring-type connectors.

- For the specific installation on protective lid of output terminal, please refer to User Manual.

3P4W Output Connection

Steps
1. Disconnect the unit from the mains power socket and turn the power switch off.
2. Connect the output wires to the AC output terminals as follows:

- Yellow
- Line (L1)
- Green
- Line (L2)
- Red
- Line (L3)
- Blue
- Neutral (N)

Note

- The input & output terminals necessitate connectivity through ring-type connectors.
- For the specific installation on protective lid of output terminal, please refer to User Manual.

MISCELLANEOUS

Firmware Update

Background
The ASR series firmware can be upgraded using the USB A port on the front panel. See your local distributor or the GW Instek website for the latest firmware information.

Note

- Ensure the DUT is not connected.
- Ensure the output is off.

Steps
1. Insert a USB Flash Drive into the USB port on front panel of the ASR.
The USB drive should include the gw_sb6.upg file in a directory name “gw”(USB\gw:).
2. Press the Menu key. The Menu setting will appear on the display.
3. Use the scroll wheel to go to item 11, Special Function and press Enter.
4. Key in the password when prompted and then press Enter.
The password is “5004”.
5. Go to Item 1, Update Firmware and press Enter.

Update Firmware
Exit [F4] 6. Wait for the unit to update. Upon completion
the unit will automatically reboot.

Specifications

The specifications apply when the ASR-6000 is powered on for at least 30 minutes.

Electrical specifications

Model
ASR-6450
ASR-6600
Input ratings
Power type
Single-phase Three-phase, Delta or Y connection selectable
Voltage range*1
200 Vac to 240 Vac ±10 % phase voltage (Delta: L-L, Y: L-N)
Frequency range
47 Hz to 63 Hz
Power factor*2
0.95 or higher (typ.)
Efficiency*2
80 % or higher
Maximum power consumption
6 kVA or lower
8 kVA or lower

General Specifications

Model ASR-6450 ASR-6600
Interface
Standard
USB
Type A: Host, Type B: Slave, Speed: 1.1/2.0, USB-CDC / USB-TMC
LAN
MAC Address, DNS IP Address, User Password, Gateway IP Address, Instrument IP Address, Subnet Mask
External
External Signal Input External Control I/O V/I Monitor Output
RS-232C
Complies with the EIA-RS-232 specifications
Optional 1
GPIB
SCPI-1993, IEEE 488.2 compliant interface
Optional 2
CAN Bus
Complies with CAN 2.0A or 2.0B based protocol
Optional 3
Device Net
Complies with CAN 2.0A or 2.0B based protocol
Insulation resistance
Between input and chassis, output and chassis, input and output
DC 500 V, 30 MΩ or more
Withstand voltage
Between input and chassis, output and chassis, input and output
AC 1500 V or DC 2130 V , 1 minute

EMC
EN 61326-1 (Class A) EN 61326-2-1/-2-2 (Class A)

Model ASR-6450 ASR-6600
Interface
Standard
USB
Type A: Host, Type B: Slave, Speed: 1.1/2.0, USB-CDC / USB-TMC
LAN
MAC Address, DNS IP Address, User Password, Gateway IP Address, Instrument IP Address, Subnet Mask
External
External Signal Input External Control I/O V/I Monitor Output
RS-232C
Complies with the EIA-RS-232 specifications
Optional 1
GPIB
SCPI-1993, IEEE 488.2 compliant interface
Optional 2
CAN Bus
Complies with CAN 2.0A or 2.0B based protocol
Optional 3
Device Net
Complies with CAN 2.0A or 2.0B based protocol
Insulation resistance
Between input and chassis, output and chassis, input and output
DC 500 V, 30 MΩ or more
Withstand voltage
Between input and chassis, output and chassis, input and output
AC 1500 V or DC 2130 V , 1 minute
EMC
EN 61326-1 (Class A) EN 61326-2-1/-2-2 (Class A)

- A value with the accuracy is the guaranteed value of the specification. However, an accuracy noted as reference value shows the supplemental data for reference when the product is used, and is not under the guarantee. A value without the accuracy is the nominal value or representative value (shown as typ.).
- Product specifications are subject to change without notice.

Information of Name Order
The name order of ASR-6000 series has its rules in definition for each character by order. Refer to the following contents for details.

Background
The definitions below describe the meanings behind each group of alphanumeric characters, in varied colors, of naming code for ASR series models

Naming Definition ASR
Switching Mode AC Power Source 6 Series Name

XX
Output Capacity
45: 4500VA
60: 6000VA

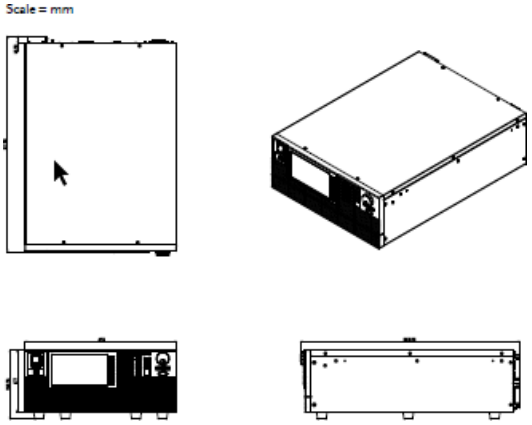
0
Fixed number

-XX Maximum Output Capacity of Parallel Models

Lineup of ASR Series Models

ASR-6450	
ASR-6600	
ASR-6450-09	
ASR-6600-12	
ASR-6450-13.5	
ASR-6600-18	
ASR-6450-22.5	
ASR-6600-24	
ASR-6450-27	
ASR-6600-30	
ASR-6600-36	
(release soon)	
(release soon)	
(release soon)	
(release soon)	
(release soon)	
(release soon)	
(release soon)	
(release soon)	
(release soon)	
(release soon)	

ASR-6000 Dimensions
ASR-6450/6600



Declaration of Conformity

We
GOOD WILL INSTRUMENT CO., LTD.
declare that the below 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

GOODWILL INSTRUMENT CO., LTD.
No. 7-1, Jhongsing Road, Tucheng District, New Taipei City 236, Taiwan
Tel: +886-2-2268-0389 Fax: +886-2-2268-0639
Web: http://www.gwinstek.com Email: marketing@goodwill.com.tw
GOODWILL INSTRUMENT (SUZHOU) CO., LTD.
No. 521, Zhujiang Road, Snd, Suzhou Jiangsu 215011, China
Tel: +86-512-6661-7177 Fax: +86-512-6661-7277
Web: http://www.instek.com.cn Email: marketing@instek.com.cn
GOODWILL INSTRUMENT EURO B.V.
De Run 5427A, 5504DG Veldhoven, The Netherlands
Tel: +31-(0)40-2557790 Fax: +31-(0)40-2541194
Email: sales@gw-instek.eu

Documents / Resources

	GW INSTEK ASR-6600 Multi Phase Programmable Power Source [pdf] User Guide ASR-6600 Multi Phase Programmable Power Source, ASR-6600, Multi Phase Programmable Power Source, Phase Programmable Power Source, Programmable Power Source, Power Source, Source

References

- Home-GW Instek
- Home-GW Instek
- _____ - -
- _____ - -
- User Manual