multicomp PRO

Multiple Channel Digital Control and Programmable DC Power Supply

72-2630 72-2635 72-2640 and **72-2645**

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SAFETY INSTRUCTIONS

This chapter contains important safety instructions that you must follow when operating the 72-2630 & 72-2635 & 72-2640 & 72-2645 and during storage. Read the following before any operation to insure your safety.

Safety Symbols

These safety symbols may appear in this manual or on the series.

⚠ WARNING

⚡ DANGER High Voltage

⏚ Earth (ground) Terminal

Reaction Time		
Voltage Rise Voltage Drop	≤100ms ≤100ms (10% Rated load)	≤100ms ≤100ms (10% Rated load)
Load Regulation of Parallel		
Voltage	≤0.1%+0.1V	
Load Regulation of Series		
Voltage	≤0.1%+0.1V	
CH3 Specifications (only for 72-2645)		
Voltage Range	5V	
Current Range	3A	
Voltage Accuracy	±50mV	
Load Regulation	±50mV	
Accessories supplied		
User manual 1 PC, power cord 2 PC, USB cable 1 PC (only for 72-2635 & 72-2645)		
Weight and Dimensions(mm)		
250(W)*143(H)*375(D), 72-2630/72-2635x7.8kg, 72-2640/72-2645x10.3kg		

Specifications

Note: The specifications below are tested under the conditions of temperature $25^{\circ}C+-5^{\circ}C$ and the warm-up for 20 minutes.

Models	72-2630/72-2635	72-2640/72-2645
Voltage Range	0-30Vx2, 5Vx1	0-30Vx2, 5Vx1
Current Range	0-3Ax2, 3Ax1	0-5Ax2, 5Ax1
Load Regulation		
Voltage Current	≤0.01%+3mv ≤0.1%+5mA	≤0.01%+5mv ≤0.1%+10mA
Line Regulation		
Voltage Current	≤0.01%+3mv ≤0.1%+3mA	≤0.01%+3mv ≤0.1%+3mA
Setup Resolution		
Voltage Current	10mV 1mA	10mV 1mA
Setup Accuracy (25℃+−5℃)		
Voltage Current	≤0.5%+20mV ≤0.5%+5mA	≤0.5%+20mV ≤0.5%+10mA
Ripple (20-20M)		
Voltage Current	≤1mVrms ≤3mArms	≤2mVrms ≤3mArms
Temp. Coefficient		
Voltage Current	≤150ppm ≤150ppm	≤150ppm ≤150ppm
Read Back Accuracy		
Voltage Current	10mV 1mA	10mV 1mA
Read Back Temp. Coefficient		
Voltage Current	≤150ppm ≤150ppm	≤150ppm ≤150ppm

Safety Guidelines

- Do not block or obstruct the cooling fan vent opening.
- Avoid severe impacts or rough handling leading to damage.
- Do not discharge static electricity.
- Do not disassemble unless you are qualified as service personnel.

AC Input

⚠

- AC Inut Voltage: 230V , 50 / 60 Hz
- Connect the protective grounding conductor of the AC power cord to an earth ground, to avoid electrical shock.

Operation Environment

- Location: Indoor, no direct sunlight, dust free, almost non-conductive pollution, Relative Humidity:< 80% Altitude:< 2000m
- Temperature: 0-40°C
- Location: Indoor

Storage Environment

- Relative Humidity:< 70
- Temperature:-10-70ºC

FUSE

⚠

Model	220V/230V AC
72-2630	T3A/250V(20x5mm)
72-2635	T3A/250V(20x5mm)
72-2640	T5A/250V(20x5mm)
72-2645	T5A/250V(20x5mm)

- To ensure fire protection, replace the fuse only with the specified type and rating.
- Disconnect the power cord before fuse replacement.
- Make sure the cause of the fuse blowing is fixed before fuse replacement.

Introduction

72-2630 & 72-2635 & 72-2640 & 72-2645 series are multiple-channel digital control and programmable power supplies, which reflect a variety of features about digital control, such as the fast recall, and the parameters setting of Overcurrent Protection and Overvoltage Protection independently to provide the convenient and reliable operation environment.

They use efficient radiators and low-speed & stepless-speed fan, for efficient cooling during operation.

Main Features

- 4 digit displays, and accurate outputs
- Parameters settings on Overcurrent
- Protection and Overvoltage Protection
- 5 groups of memories for fast recall
- Shutdown memory function
- Software calibration
- Keyboard Lock
- Low-speed and stepless-speed fan
- Overtemperature Protection

13. **SAV<NR1>**
    Description: Stores the panel setting
    NR1 1 5: Memory number 1 to 5
    Example: SAV1 Stores the panel setting in memory number 1

14. **TRACK<NR1>**
    Description: Sets the output of the power
    supply working on indepent or tracking
    mode. NR1: 0=INDEP, 1=SER, 2=PARA
    Example: TRACK1

15. **OCP<Boolean>**
    Description: Stores the panel setting
    Boolean: 0 OFF, 1 ON
    Example: OCP1 Turns on the OCP

16. **OVP<Boolean>**
    Description: Turns on the OVP
    Boolean: 0 OFF, 1 ON
    Example: OVP1 Turns on the OVP

17. **OCPSTE: <X>:<NR2>**
    Description: Setting the value of current protection Example:
    OCPSTE1: 5.100

18. **OVPSTE: <X>:<NR2>**
    Description: Setting the value of voltage protection Example:
    OVPSTE1: 31.00

7.VOUT<X>?

Description: Returns the actual output voltage. Example
VOUTl?
Returns the CHl output voltage

8. OUT<Boolean>

Description: Turns on or off the output.
Boolean: 0 OFF, 1 ON
Example: **OUTl** Turns on the output

9. BEEP<Boolean>

Description: Turns on or off the beep.
Boolean: boolean logic.
Example: BEEPl Turns on the beep.

10.   STATUS?

Description: Returns the POWER SUPPLY status. Contents 8
bits in the following format:-

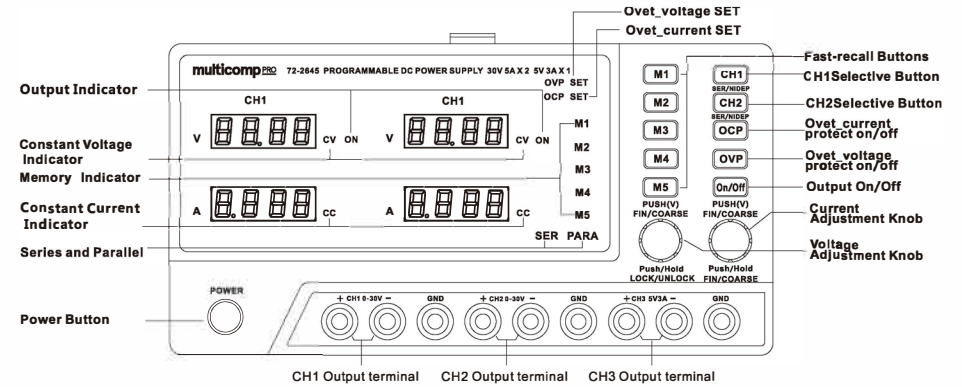| Bit	Item	Description
0	CH 1	0=CC mode, 1=CV mode
1	CH2	0=CC mode, 1=CV mode
2,3,4,5	N/A	
6	Output 0=Off, 1=On N/	
7	A N/A	

11. *IDN?

Description: Returns the 72-2645 identification.
Example: ***IDN?**
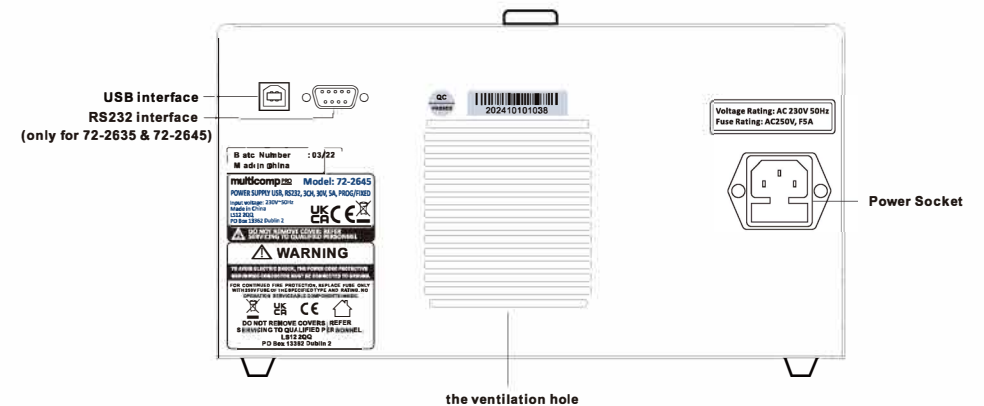Contents MULTICOMP 72-2645 V2.0
(Manufacturer, model name,).

12. RCL<NRl>

Description: Recalls a panel setting.

Front Panel Overview

CH1 Output terminal   CH2 Output terminal   CH3 Output terminal

Rear Panel Overview

the ventilation hole
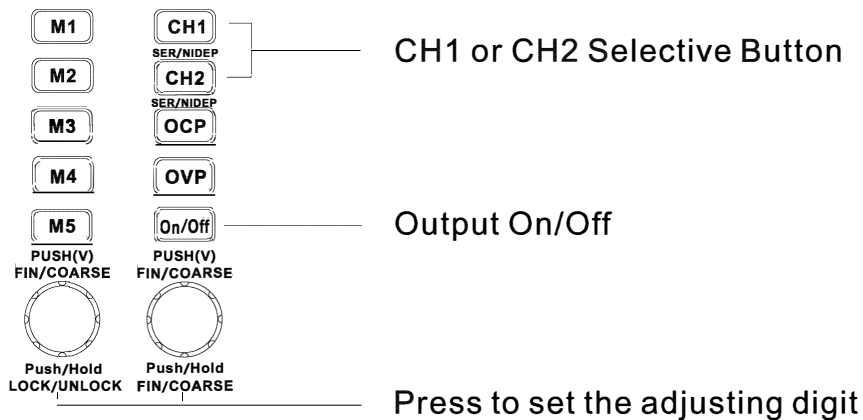
Function Introduction

1. The Operation and Outputs of Voltage and Current

Press the CH1 button until the CH1 display indicator flashes; press CH1 again and the voltage digit on the channel 1 flashes. The voltage value can then be set by adjusting the voltage adjustment knob.

Press CH1 button again while the voltage digit is flashing to switch into the current setting, then the current value can be set by adjusting the current adjustment knob.

Pressing the voltage or current adjustment knob and the flashing digit (i.e. the digit to be adjusted) can be changed.

After the voltage and current values are set, press the button ON/OFF to turn on the output, when the ON indicator on the display will be switched on; press the button ON/OFF again to turn off the output and at this time the ON indicator will be switched off.

M1	CH1 SER/NIDEP	— CH1 or CH2 Selective Button
M2	CH2 SER/NIDEP	
M3	OCP	
M4	OVP	
M5	On/Off	— Output On/Off
PUSH(V) FIN/COARSE	PUSH(V) FIN/COARSE	
(knob)	(knob)	
Push/Hold LOCK/UNLOCK	Push/Hold FIN/COARSE	— Press to set the adjusting digit

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Remote Control Syntax V2.0

Command format :   VSET <X>:<NR2>

    1. VSET:command header
    2. X:output channel
    3. :separator
    4. NR2:parameter

Command Details:

    1.LOCK<NR2>
    Description: LOCK or UNLOCK the front panel Example:LOCKl
    LOCK the front panel
    Example:LOCK0
    UNLOCK the front panel

    2. ISET<X>:<NR2>
    Description: Sets the output current.
    Example:ISETl:2.225
    Response time 50ms
    Sets the CHl output current to 2.225A

    3. ISET<X>?
    Description: Returns the output current setting.
    Example: **ISETl?**
    Returns the CHl output current setting.

    4.VSET<X>:<NR2>
    Description: Sets the output voltage.
    Example**VSETl:20.50**
    Sets the CH1 voltage to 20.S0V

    5.VSET<X>?
    Description: Returns the output voltage setting.
    Example: **VSETl?**
    Returns the CHl voltage setting

    6. IOUT<X>?
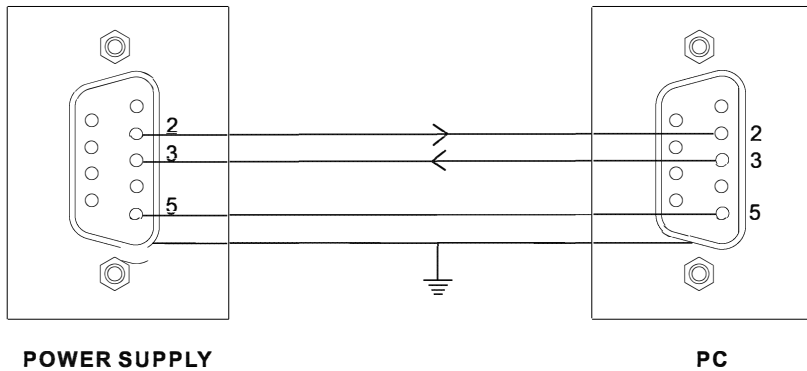   Description: Returns the actual output current.
    Example: **IOUTl?**
    Returns the CHl output current

REMOTE CONTROL

COM setting   Set up the PC COM port according to the following speciffication:

- Baud rate: 9600
- Parity bit: None
- Data bit: 8
- Stop bit: 1
- Data flow control: None

Pin outs for RS232 interface

**POWER SUPPLY**   **PC**

Functionality check   Run this query command via the terminal application such as MTTTY (Multi-threaded TTY).
*DIN?
This should return the identification information: Manufacturer, model name, software version. MULTICOMP 72-2645 **Vx.xx**

2. Series and Parallel Operation

Series Operation: Press and hold the button CH1 for 3 seconds to be in the series mode. When the SER indicator on the display lights on, it means the power supply is in the series mode now. At this mode, CH2 is the master operation while CH1 is the slave operation, when the CH1 operation is shielded. At this time, press the button ON/OFF and then the output can be turned on or off. And the output connection is as shown in the figure:
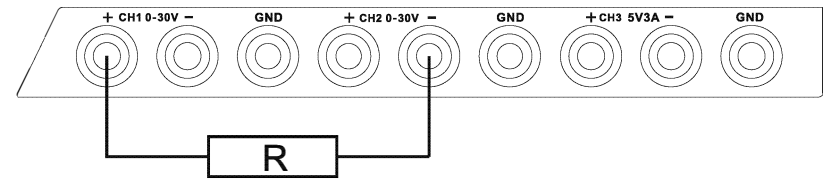
Parallel Operation: Press and hold the button CH1 for 3 seconds to be in the parallel mode. When the PARA indicator on the display lights on, it means the power supply is in the parallel mode now. At this mode, CH2 is the master operation while CH1 is the slave operation, when the CH1 operation is shielded. At this time, press the button ON/OFF and then the output can be turned on or off. And the output connection is as shown in the figure:
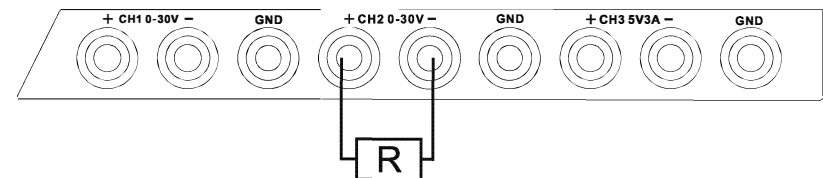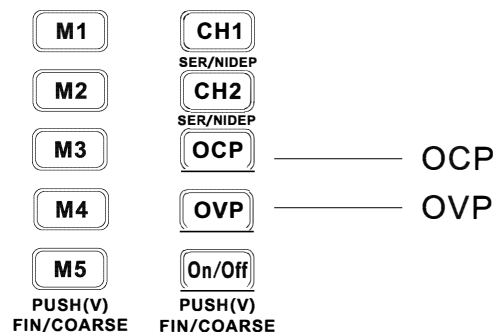
3. Recall to output

In any state, just press the buttons M1-M5 and then the according memories can be recalled.

4. Overcurrent Protection

Press and hold the button"OCP"for 3 seconds to enter the mode of OCP setting, when the indicator"OCP SET "lights on. And the current values on both CH1 and CH2 display the OCP values accordingly. By adjusting the current knob, the OCP value can be changed. Press and hold the button"OCP"again for 3 seconds to exit. Furthermore, press the button"OCP"to switch on the Overcurrent Protection (OCP) mode and the indicator"OCP"is turned on; press the button"OCP "again to shut down the OCP mode and the indicator"OCP "will be turned off. When the OCP mode is on, if the current value on the load or the setting current is more than that in the OCP SET, the output will be cut off.

M1	CH1
	SER/NIDEP
M2	CH2
	SER/NIDEP
M3	OCP — OCP
M4	OVP — OVP
M5	On/Off
PUSH(V) FIN/COARSE	PUSH(V) FIN/COARSE

5. Overvoltage Protection (OVP) Setting

Press and hold the button"OVP "for 3 seconds to enter the mode of OVP setting, when the indicator"OVP SET "lights on. And the voltage values on both CH1 and CH2 display the OVP values accordingly. By adjusting the voltage knob, the OVP value can be changed. Press and hold the button"OVP"again for 3 seconds to exit. Furthermore, press the button "OVP "to switch on the Overvoltage Protection (OVP) mode and the indicator"OVP"is turned on; press the button"OVP"again to shut down the OVP mode and the indicator"OVP"will be turned off. When the OVP mode is on, if the voltage value on the load or the setting voltage is more than that in the OVP SET, the output will be cut off.

6. Keyboard Lock

Press and hold the voltage adjustment knob for 3 seconds, and then the front panel will be locked; press and hold it again for 3 seconds, and then it will be unlocked.

7. Beep ON/OFF

Press and hold the current adjustment knob for 3 seconds, and then the beep will be turned off. press and hold it again for 3 seconds, it will be turned on.