



ISP-15KW

Ion Source Power Supply Instruction Manual

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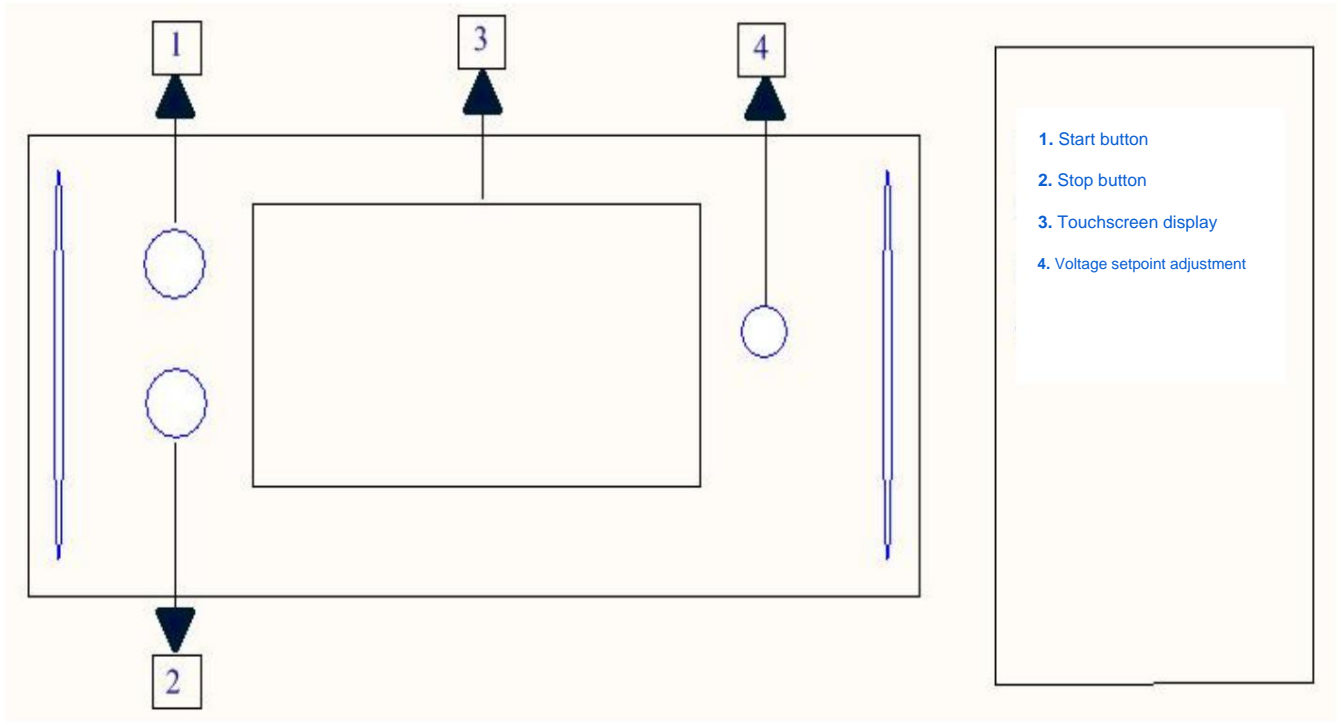
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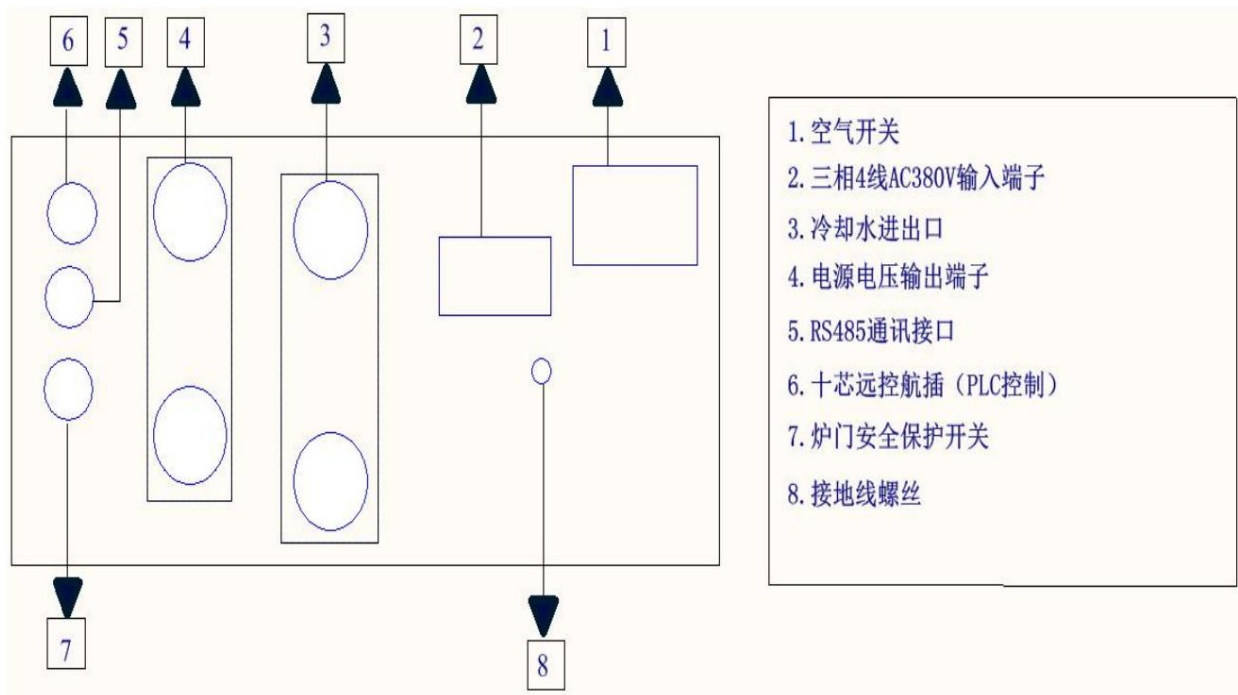


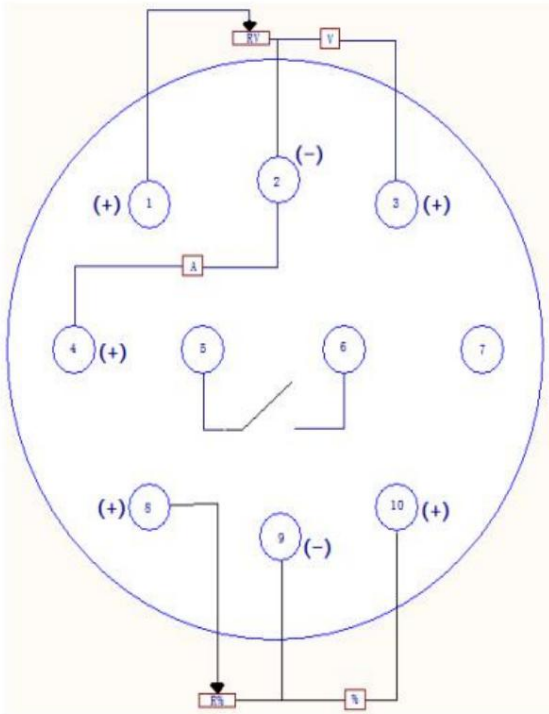
ISP- Function diagram of the front and rear panels of the 15KW ion source power supply:

Front panel



Rear panel





1. 电压调节信号+:
0-10V/0-2200V
2. 电压调节信号、电压显示信号、
电流显示信号 -
3. 电压显示信号+, 0-10V/0-2200V
4. 电流显示信号+, 0-10V/0-10A
5. 启动触点一端, 与6脚短接电源启动, 断开电源停止
6. 启动触点另一端
7. 空
8. 占空比调节信号+; 0-10V/0-80%
9. 占空比调节信号、占空比显示信号-
10. 占空比显示信号+; 0-10V/0-100%



This power supply output characteristics:

- Voltage characteristics: 0-2200V continuously adjustable
- Current characteristics: At maximum duty cycle, the maximum current is 9A.
- Frequency response: Output frequency 40kHz
- Duty cycle: 0-80% continuously adjustable; process range 20%-80%.
- Work efficiency: $\geq 92\%$
- Operating mode: Constant voltage mode
- External dimensions: 680*480*232



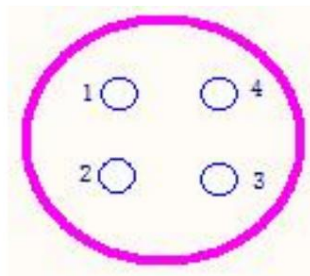
15KW Ion Source Power Supply **RS485** Communication Protocol:

1. 本设备作为 Mobus-RTU 从站, 只接收命令 3, 6, 16 其他命令不响应
2. 通信波特率 2400bps、4800bps、9600bps、19200bps
3. 保持寄存器地址分配

寄存器名称	地址	变量名称	变量类型	读写性质	说明
4X00001	00H	保留		R	对应 4X00001 下同
4X00002	01H	输出电压	unsigned int	R	单位 1V; 如 100H 等于十进制 256, 表示 256V
4X00003	02H	输出电流	Unsigned int	R	单位 0.001A; 如 100H 等于十进制 256, 表示 0.256A
4X00004	03H	启停控制	16 bits	R/W	Bit: 0 停机;1 运行 Bit1-15: 备用
4X00005	04H	电压设置	Unsigned int	R/W	单位 1V; 如 64H 等于十进制 100, 表示 100V
4X00006	05H	占空比设置	Unsigned int	R/W	单位 0.1%; 如 64H 等于十进制 100, 表示 10%

注: 1、主站对只有可读(R)属性的变量改写, 从站通讯正常响应, 但不改写变量。

4. RS485 Interface Definition:



1st foot: 485A+

2 feet: 485B+

Pins 3 and 4: Can be connected to an external switch, which can start the power supply in 485 mode.

SZZR 深中瑞 / **ISP-** 15KW Ion Source Power Supply Touch Screen Operation Instructions:



1. Control mode selection: Use the buttons to the right of the touch screen to select the control mode: manual, 485, or PLC.

(Note: Lighting up the button indicates successful selection; when the touch is in 485 state, the following will automatically pop up.)

(See image below for communication parameter settings)



2. Parameter settings: a. The voltage setting area can only display parameters and cannot be directly touched to change them;

In manual mode, the area to the right of the duty cycle can be directly touched to set parameters.

b. In manual mode, the voltage setting needs to be adjusted using the potentiometer on the right side of the touchscreen.

c. ARC area can only be displayed, not set parameters.

3. Operating status display: a. The indicator light to the right of Start/Stop is not a button.


b. When the power is turned on, both the right-side indicator light and the work indicator light will simultaneously display green.

c. When the power is off, the stop indicator light on the right side will turn red, and the operation indicator light will turn gray.

d. When the power supply overheats, the overheat indicator light will turn red, and the internal buzzer will sound.

e. When the gate is disconnected, the light on the gate will turn red.

f. The ARC light will flash when the ARC count is active.

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深中瑞 / **ISP-** 15KW Ion Source Power Supply Parameter Table:

型号	输入电压	功率 (KW)	输出电压 (V)	最大工作电 流(A)	冷却方式	外形尺寸(mm)
ISP-15KW	AC380+N±10% 50-60HZ	15	0-2200	9	风冷	480(441)*680*232



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/ ISP- Precautions for using a 15KW ion source:



This power supply is air-cooled.



For air-cooled systems, the following

requirements apply: The introduced air must be at room temperature (±35 degrees Celsius). The

fan's inlet and outlet must not be blocked by any objects.



The power supply should be installed compactly.



The power supply should be installed compactly, and the control section and main power supply section must be installed and connected



nearby. Do not alter any of the connection signal lines without authorization, otherwise it will cause serious power supply failure.



For safety reasons, this power supply must be connected to neutral ground.



Preheating power supply



When production is shut down for an extended period (more than 24 hours), the power supply should be manually started slowly from zero, gradually increasing the voltage and current. In winter, when the room temperature is below

10°C, it should be preheated for at least 30 minutes, while in summer, 15 minutes is sufficient.



air circuit breaker



The air circuit breaker must not be disconnected while the power supply is in operation. It can only be started and stopped via control buttons or a remote computer; otherwise, the power supply may be damaged. After the power

supply is started remotely on the



computer, the air circuit breaker on the power supply must not be opened; it must be stopped remotely on the computer before it can be opened. Otherwise, the power supply may be severely damaged.



Disconnect the power supply



When disassembling, relocating, or repairing the power supply, it is essential to ensure that the machine is shut down for at least 30 minutes before disassembly. Before disassembly, a DC voltmeter must be used to measure the

voltage at the power supply output terminal; if the voltage is below 36V, disassembly can proceed.