

# 智能UV电源

Intelligent UV Power Supply

使用手册

MANUAL

CN

EN



智能UV电源

Intelligent UV  
Power Supply

型号 / Model

HLTA,HATA,  
HMTA, HMDA  
HMXA, HMHA  
HMGA,HMXW

# 使用手册

## MANUAL

### 目录

#### INDEX

介绍 .....	01	B.1 - 远程板IOCPU概述 .....	49
<b>Introduction</b>		<b>B.1 - General description for IOCPU</b>	
1 - 安全要求 .....	02	B.2 - 安装 .....	50
<b>1 - Safety</b>		<b>B.2 - Installation</b>	
2 - 接线图 .....	09	B.3 - 电路板细节 .....	51
<b>2 - Connections</b>		<b>B.3 - Board details</b>	
3 - 技术数据 .....	25	C.1 - 模式1概述 .....	53
<b>3 - Technical data</b>		<b>C.1 - General description</b>	
4 - 警告及错误代码 .....	34	C.2 MODE_1(模式1) 硬件设置 .....	54
<b>4 - Alarms &amp; and error code</b>		<b>C.2 - MODE_1 OPERATION HARDWARE SETUP</b>	
A.1 - 远程显示屏概述HA2LD .....	37	C.3a-模式1时IOCPU与PLC的电气连接图 .....	57
<b>A.1 - General description for HA2LD</b>		<b>C.3a - Electrical connection diagram with PLC</b>	
A.2- 页面说明 .....	38	C.3b -不需要使用PLC时的电气连接图示 .....	59
<b>A.2-Description of pages</b>		<b>C.3b - Electrical connection diagram without PLC</b>	
A.3 - 外部按钮-设备关闭时显示信息 .....	44	D - MODBUS RTU RS485 .....	61
<b>A.3 - HOT KEY - Information when the device is turned off</b>		D.2 - RS485操作的软件设置 .....	61
A.4 -灯管设置 .....	45	<b>D.2 - RS485 operation software setup</b>	
<b>A.4 - Lamp parameters settings</b>		D.3 - 参数设置说明 .....	62
A.5-RS485参数设置 .....	46	<b>D.3 - Parameter settings for operation</b>	
<b>A.5 - RS485 parameters settings</b>		D.4 - 连接方式 .....	64
A.6 -设备运行时可供查阅的信息 .....	47	<b>D.4 - Connection mode</b>	
<b>A.6 - Information that can be consulted when the device is operating</b>		D.5 - MODBUS RTU 485 版本5.8设置如下: .....	65
A.7 - 尺寸数据 .....	48	<b>D.5 - MODBUS RTU 485 ver. 5.8 settings</b>	
<b>A.7 - Dimensional data</b>			

## 中文

## \*介绍\*

您已购买智能UV电源设备，它是一个能为紫外线灯提供电源并对其进行监控的集成微处理系统。

本指南随智能UV电源设备一起提供，根据现行法律法规编撰而成。

为了让安装人员能够获得其安装所需的所有信息。

该指南专供安装人员使用。数据、特性、插图和说明为非强制性，仅供参考。版权归厂商所有。

## ENGLISH

## INTRODUCTION

You have purchased a Intelligent UV Power Supply SERIE H device, an Integrated Microprocessor system for monitoring and powering UV lamps.

This manual is supplied with the SERIE H device and has been compiled in accordance with the laws in force so as to allow the installer to acquire all the information required for its integration.

**This manual is dedicated exclusively to the installer.**

**Data, characteristics, illustrations and descriptions are indicative and not binding. All rights reserved to the manufacturer.**

## 1 - 安全

## 1.1 - 本章内容

本章包含智能UV电源设备在安装、使用和服务过程中必须遵守的安全规程。不遵守该安全规程可能会严重危害人身安全、损坏智能UV电源设备及其与之相连的设备。

## 1.2 - 警告标志

本文件中称智能UV电源设备为“设备”。

下述标志用于强调该手册中的重要信息。



表示有潜在危险。进行这些操作时尤其需要注意。



表示与正确使用和安全相关的重要步骤。



注意：表示对安全和正确使用至关重要的步骤或功能。

## 1.3 - 设备预期接收人

为能充分理解“设备”的使用责任，该文件将会引用下述词语：

- 制造商: HPE
- 安装人员: “设备”负责人，负责将“设备”集成安装到其他设备中。
- 用户: 集成了“设备”的设备使用者。“设备”和用户之间无任何接触。

## 1 - SAFETY

## 1.1 - Chapter contents

This chapter contains the safety regulations that must be complied with when the SERIE H device is installed, used and serviced. Failure to comply with these regulations may seriously jeopardize the safety of persons, damage the SERIE H jeopardize the safety of persons, damage the SERIE H

## 1.2 - Warning pictograms

**SERIE H will be called: “Device” in this documentation.**

The pictograms illustrated below are used to highlight important information in the manual.



Indicates a potential danger. Take the greatest care when performing these tasks.



Indicates a critical procedure as to safety and correct use by the controller.



**NOTA:** indicates a procedure or function that is important as to safety and correct use by the controller.

## 1.3 - Intended Recipients of the Device

To ensure that the responsibilities concerning use of the “Device” are fully comprehended, reference will be made in this document to:

- **MANUFACTURER:** HPE
- **INSTALLER:** The person who takes charge of the “Device” and takes the responsibility for integrating it into other equipment.
- **USER:** The person who uses the equipment into which the “Device” has been integrated. There is no interaction between the “Device” and the user.

## 1.4 – 总体建议

- 在安装和使用“设备”之前请阅读该手册。
- 必须完全遵守该手册中的安全和操作说明。
- 不遵守本文件中的注意事项可能导致严重财产损失、人身伤害甚至死亡。
- 确保“设备”运行前断开电源。
- 根据EN61000-3-2标准规定，该“设备”专为工业和商业用途而设计。

## 1.5 – 操作建议



“设备”必须由有资质的人员安装，负责评估和实施所有措施/保护/预防，能够排除来自设备使用的全部残留风险。



- 如果在安装过程中出现疑问，请咨询制造商。
- 当“设备”所安装的电路板接电时，请勿使用该“设备”。

· 降低了与所有其他产品（紫外线灯、电缆、过滤器、...）兼容的不利因素。

- 连接与名牌数据符合的电源电压。
- 严禁将该设备用本文档所述用途之外的任何地方。

· 这些“设备”必须安装在电气柜或电气设备中，以保证其受现行法律中规定的保护。

· 这些“设备”必须安装在符合2006/42/EC、EN 60204-1和EMC 2004/108/EC机械指令规定的机器内。

· 这些“设备”必须安装在干净、通风、干燥且温度适宜的地方，如“6.2节-主要数据”所示。

· “设备”内部的保护措施仅是为保护设备不被损坏。因此，这些保护措施不会降低使用该设备所产生的残留风险。

## 1.4 - General recommendations

- Read this documentation before installing and using the "Device".
- Compliance with the safety and operating instructions in this manual is absolutely mandatory.
- Fatal injuries, serious damage to persons and things could ensue through failure to comply with the precautions described in this documentation.
- Make sure that the supply line is disconnected before working on the "Device".
- The "Devices" are designed for exclusive use in industrial and business structures, as established by standard EN61000-3-2.

## 1.5 - Operation recommendations



· The "Device" must be installed by qualified personnel responsible for assessing and implementing all actions/protections/precautions able to eliminate all the residual risks deriving from use.



· It is advisable to consult the manufacturer if doubts arise during the installation work.

· No not work on the "Device" when the electric panel into which the "Device" will be housed is powered.

· HPE declines all liability regarding compatibility with other products (UV lamps, cables, filters,...).

· Connect supply voltage that conforms to the rating plate data.

· It is strictly forbidden to use the "Device" for purposes differing from those indicated in this documentation.

· The "Devices" must be installed in electric cabinets or equipment able to guarantee a degree of protection that complies with the regulations in force.

· The "Devices" must be installed inside machines that conform to the regulations established by machinery directive 2006/42/EC, EN 60204-1 and EMC 2004/108/EC.

· The "Devices" must be installed in a clean, ventilated, dry place at adequate temperature conditions, as indicated in section "6.2 - Main data".

· The protections inside the "Device" are exclusively for the purpose of protecting its integrity. These protections cannot therefore be used to reduce the residual risks deriving from use of the "Device".

## 1.5a – 安装原则

· 防止异物（如金属屑、灰尘、金属丝、螺丝、工具）穿透“设备”（IP 20）。

· 将“设备”安装在阻燃组件上，最好是线性的，足够坚固以承受其重量和保证其稳定无震动。

· 该“设备”可水平或竖直安装。

· 应与本手册中所示安装相符。

· 将“设备”固定在一个金属组装板上。

· 该“设备”必须以最高的工艺标准接地。

· 该“设备”可单独安装，也可与其他“设备”一起安装，但每个独立单元必须保证留有足够的安装空间。

## 1.5b - 设置所需安装距离

以下列出了适用于所有型号安装的一般规则：

1.由“设备”引出的热空气流决不能再被内部的其他“设备”吸入。

2.气流必须始终向主配电板的上部输送。

3.这些“设备”必须安装在主配电板的下部，以避免阻碍其它电子元件产生的散热。

4.“设备”的空气流动应不受物体阻挡。

5.主配电板必须有适当的空调或通风，以保持其适宜的运行温度。

## 1.5a - Installation principles

· Prevent foreign bodies (e.g. metal swarf, dust, metal wires, screws, tools) from penetrating inside the "Device" (IP 20).

· Install the "Device" on a flameproof assembly plate, possibly linear, sufficiently strong to bear its weight and stable senza di vibrazioni.

· The "Device" can be installed either vertically or horizontally.

· Installation differing from the one indicated in this manual is not allowed.

· Fix the "Device" to a metal assembly plate.

· The "Device" must be earthed to the highest standards of workmanship.

· The "Device" can be installed singly or in battery with other "Devices", but it is essential to comply with the space requirements for each individual unit

## 1.5b - Layout of installation distances required

The general rules applicable to all types of installation are given below:

1 The flow of hot air extracted by the "Device" must never be drawn in again by other "Devices" in the bank.

2 The air flow must always be conveyed towards the upper part of the host electric panel.

3 The "Devices" must be positioned in the lower part of the host electric panel to avoid interference with the heat generated by other electrical components.

4 There must be nothing to obstruct the flow of air from the "Device".

5 The host panel must be appropriately air conditioned or ventilated so as to maintain the correct operating temperatures.

示例1: 正确安装于竖直接箱内的竖直接板上, 用于下列模型: HMDA, HMXA, HMHA, HMGA, HMXW

**Example 1:** Correct installation in a vertical bank on a vertical plate for following models: HMDA, HMXA, HMHA, HMGA, HMXW

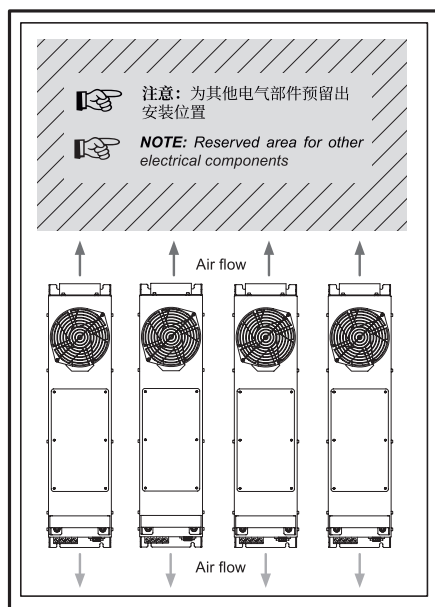


图.1  
Fig.1

示例1: 正确安装于竖直接箱内的竖直接板上, 用于下列模型: HATA,HLTA,HMTA

**Example 2:** Correct installation in a vertical bank on a vertical plate for following models: HATA,HLTA,HMTA

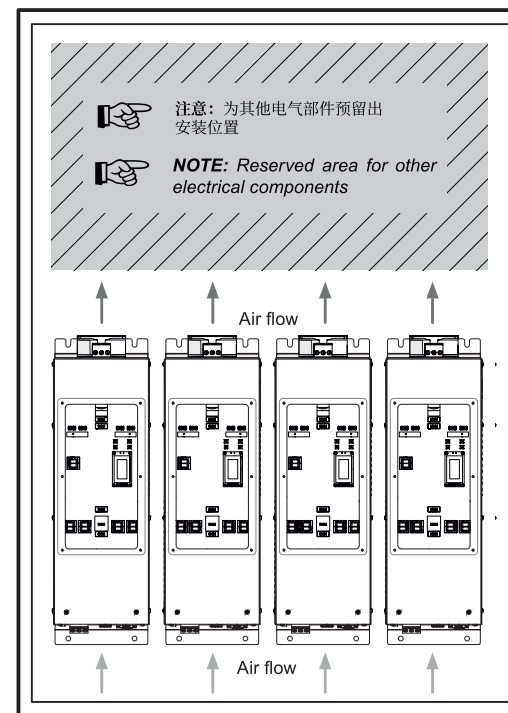


图.2  
Fig.2

## 1.6 – 使用建议

· 在确定主机符合2006/42/EC和EN 60204机械指令规定之前，禁止投入使用和启动常规操作。

· 这些“设备”不能单独运行（单独使用）。



· “设备”是一个“组件”，必须由主机控制。为正常运行，必须阻止终端用户直接访问“设备”。

## 1.7 – 维护建议

· 修理工作只能由制造商或由HPE授权的人员执行。

## 1.6 - Recommendations for use

• Putting into service and starting regular operation are **forbidden** until compliance of the host machine with the regulations established by Machinery Directive 2006/42/EC and EN 60204 has been ascertained.

• The “Devices” cannot function by themselves (Stand Alone).



• “Device” is a “Component” which, in order to function correctly, must be controlled by a host machine, which must prevent all direct access by the end user to the “Device”.

## 1.7 - Maintenance recommendations

• Repairs may only be performed by the manufacturer or by persons authorized by the HPE

## 1.7 – 潜在风险

在触发阶段，该“设备”产生的电压可达4000V伏特，频率在250至300千赫之间。运行时，该“设备”会产生高达3000V的电压值和最高可达25A的电流值。

## 1.7 - Residual risks

During the ignition phase, the “Device” generates voltage that can reach 4000V volt and a frequency between 250 and 300kHz . As it operates, the “Device” generates voltage up to 3000V with up to 25A current values.

## 1.9 – 潜在风险预防

• 遵守本手册中说明的程序。本文件包含符合EN61100-3-2的信息。

• 设计“主机”时，确保其“性能等级”符合现行规定。

• 在安装之前，要确保对安全至关重要机械部件完好无损。如果有损坏，则严禁安装该“设备”。

• 不要修改结构或移除保护措施（指套、封盖）

• 使用符合电压和电流值的电线。注意，电缆的绝缘性能会因温度过热而降低。

• 用于“灯”侧连接的终端必须被卷起，进行焊接，然后保护。请勿使用预绝缘端子。

• 定期检查连接件和辅助电气保护设备的状况。

• 确保所有设备都正确地接地。这些“设备”设有一个传感器，可探测到300毫安的地球泄漏电流。如果接地不充分，该设备所提供的保护将无效。

• 无需对“设备”进行维护操作，必要时可进行更换。

## 1.9 - Prevention against residual risks

• Comply with the procedures described in this manual. This document contains information conforming to EN61100-3-2.

• When the “host” machine is designed, make sure that the “PERFORMANCE LEVEL” complies with the regulations in force.

• Before installing, check to make sure that mechanical parts of vital importance for safety are in a perfect condition. If damage is discovered, it is strictly forbidden to install the “Device”.

• Do not modify the structure or remove the protections (finger guards, covers).

• Use wiring that suits the voltage and current values used. Remember that the insulating capacity of a cable is impaired through overheating.

• The terminals used for the connections on the “Lamp” side must be crimped, soldered and then protected. Do not use pre-insulated terminals.

• Regularly check the condition of the connections and auxiliary electrical protection devices.

• Make sure that everything has been correctly earthed. The “Devices” have a sensor that detects earth leakage current up to 300mA. If the earth connection is inadequate, the protection provided by that device would be nullified.

• There are no maintenance operations to be performed on the “Device” other than complete replacement.

## 2 - 接线图

### 2.1 - 本章内容

本章说明了如何进行智能UV电源设备的连接。

### 2.2 - 接线说明

该“设备”的连接由用户负责，用户必须确保操作由合格技术人员利用符合标准的安全材料来完成。

### 2.3 - 电源连接点

## 2 - Connections

### 2.1 - Chapter contents

This chapter explains how to make the connections on the device.

### 2.2 - Descrizione dei collegamenti

Connection of the “Device” is the responsibility of the user, who must make sure that the operation is performed by qualified technical personnel using safe materials that conform to the standards.

### 2.3 - Connection points on the device

## 2 - 接线图

J1 - 干接点吸合从而驱动接触器吸合；以及辅助控制电路的24Vdc入电连接。

J2, J3 - 连接到HPE/CAN现场总线。

J5 - 485网络接头。

J6, J7 - 专用ModBus® 总线连接。

J4 - 连接到三相AC主电源  
220/400/480/510V, 50/60Hz

JF1 - 风扇电源220/230 VAC 50/60HZ (最大0.5A - 200 W (瓦特))

J1 - Contactor activation request. Auxiliary voltage for logic control circuits 24 Vdc.

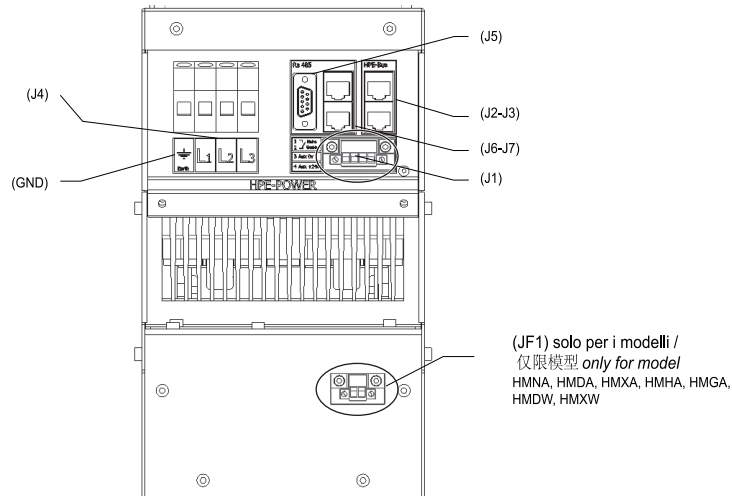
J2,J3 - Connection to the HPE/CAN fieldbus.

J5 - 485 network connector

J6,J7 - Dedicated ModBus® connections

J4 - Connection to the main line  
220/400/480/510 three-phase AC 50/60HZ

JF1 - Fan power supply  
220/230 VAC 50/60HZ (Max 0.5A - 200 Watts)



2.3a - “J1” 低压辅助电源和接触器控制

2.3a - “J1” Low voltage auxiliary power supply and contactor control

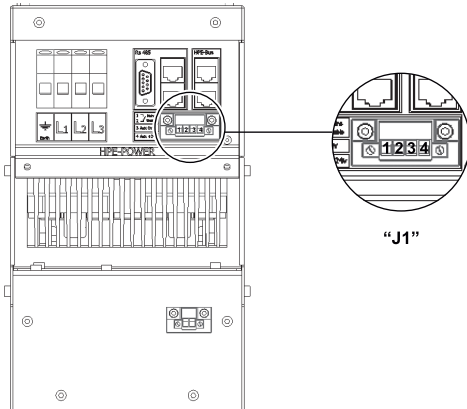


图.4  
Fig.4

- 脚1, 2(电源启动) -干接点吸合驱动接触器吸合;  
断开容量:  
- 2.5 A  
- 24 V直流  
该“设备”接触该电源接触器 (K1-Ref.sect.2.4), 从而激活电源。

**注意:** 接触器的辅助电路 (K1-Ref.sect.2.4) 的电源必须由一个符合要求“性能等级”的安全模块来控制。

**注意:** 接触 (启动电源) 和K1的激活之间的时间间隔必须小于0.1秒, 否则智能UV电源将进入报警模式“没有主电源输入”。

**警告:** 用小于2.5A的保险丝来保护。

- 脚3, 4 (24 V直流) - 24V 连接点。

允许的范围是21伏直流电和28伏直流电之间, 辅助电源的电流要求取决机器的型号:

- HLTA ,HATA以及HMTA型号: 辅助电源的电流要求为2.5A。
- HMNA, HMDA, HMXA, HMHA, HMDW, HMXW, HMGA: 辅助电源的电流要求为1A。

- Pins 1,2 (Power Start) - NO contact for power contactor activation enabling**  
Breaking capacity:  
- 2.5A  
- 24VDC

The “*Device*” makes this contact to activate the power contactor (K1 - Ref. sect. 2.4), which consequently activates the mains supply.

**NOTE** The power supply of the auxiliary circuit of the contactor (K1 - Ref. sect. 2.4) must be controlled by a safety module of a category suited to the required “performance level”.

**NOTE** The time lag between making of the contact (Start Power) and activation of K1 must be < 0.1 sec., otherwise SERIE H will enter the alarm mode [NO MAIN].

**警告:** Protect with a < 2.5A fuse.

- Pins 3,4 (24 Vdc) - 24V connection point.**

The permissible range is between 21Vdc and 28Vdc, the current required for the auxiliary power supply depends which kind of machine model:

- HATA and HMTA: the required current for the auxiliary supply power is 1.5A
- HMNA, HMDA, HMXA, HMHA, HMDW, HMXW, HMGA: the required current for the auxiliary supply power is 1.5A.



即使在主机系统出现紧急情况时, 请勿切断该设备的电源。



This source must never be isolated, even in the event of an emergency in the host system.

2.3b - “J2和J3” HPE现场总线

2.3b - “J2 and J3” HPE fieldbuses

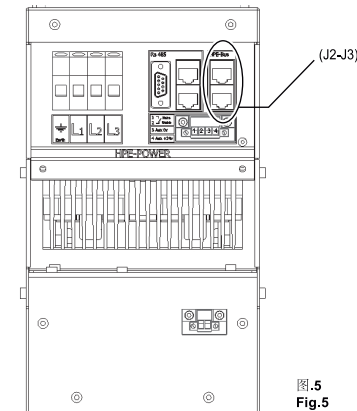


图.5  
Fig.5

J2, J3是内部并行连接并且只用于通过RJ45 (5级或更高级别) 连接HPE组件 (HA2LD、IOCPU、IOCPU/2)

J2, J3 are internally connected in parallel and are solely used to connect the HPE components (HA2LD, IOCPU, IOCPU/2) by means of cable RJ45 (class 5 or higher).



如果不符合上述“组件”的连接方式, 可能会对“设备”和/或“组件”本身造成不可修复的损害。



Connection of “*Components*” differing from those indicated above could irreparably damage the “*Device*” and/or the “*Components*” themselves.



请勿将这些接头连接到数据网络 (以太网或PC端)。



Do not connect these connectors to data networks (Ethernet or PC).



2.3c -RS485总线

2.3c - Bus RS485

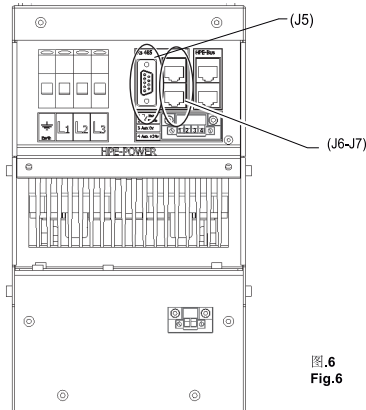


图.6  
Fig.6

2.3c1 - “J5” D壳型RS485接头

J5 1,2针 = RS485-A  
J5 3,4针 = RS485-B

2.3c1 -“J5” D-Shell RS485 connector

J5 pins 1,2 =**RS485-A**  
J5 pins 3,4 =**RS485-B**

4.3c2 - “J6, J7” 用于 RS485的RJ45接头

这两个接头是内部并行连接且专用于485网络连接。

J6, J7 1, 4针 = RS485-A  
J6, J7 2, 5针 = RS485-B

4.3c2 -“J6, J7” RJ45 connectors for RS485

These two connectors are internally connected in parallel and are dedicated to 485 network connection.

J6, J7 pin 1,4 =**RS485-A**  
J6, J7 pin 2,5 =**RS485-B**

如果在ModBus总线通信中出现干扰, 使用信号隔离器 (ModBus总线用的信号隔离器)

In the event that there are disturbances during ModBus communication, we recommend the use of an optocoupler (ModBus TAP Isolations).

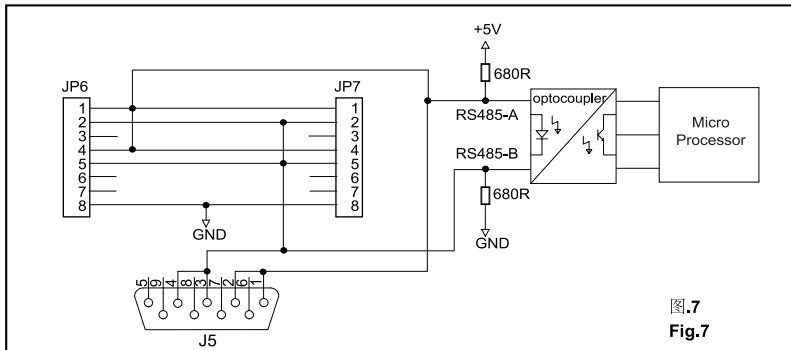


图.7  
Fig.7

2.3d -三相线路和接地连接

2.3d - Three-phase line and earth connection

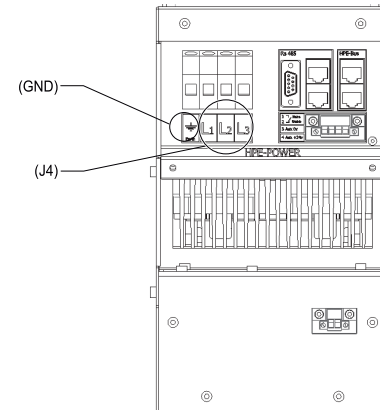


图.8  
Fig.8

2.3d1 - “J4” 主电源输入连接点

- 截面 3 x 25 mm<sup>2</sup>
- 节距12,1
- I最大值 = 85A; V最大值 = 600 V

这些接头用于将“设备”连接到三相电力电源。在调整接头时, 请参考各“设备”上的铭牌。

2.3d1 - “J4” power supply connectors

- Section 3x25 mm<sup>2</sup>
- Pitch 12.1
- I<sub>max</sub> = 85A; V<sub>max</sub> = 600V

This connectors are used to connect the “Device” to the three-phase electric power mains. Refer to the rating plate on each “Device” when sizing this connector.

采取现行安全条例规定的所有必要预防措施。

Take all the necessary precautions, as required by the safety regulations in force.

错误的布线和/或不符合安全规定可能会对“设备”造成无法逆转的损害。

Incorrect wiring and/or failure to comply with the safety regulations could cause irreparable damage to the “Device” device.

4.3d2 - 接地

根据现行安全规定的要求, 接地 (GND) 必须按照最高的工艺标准进行。

4.3d2 - GND

The “earth” connection (GND) must be made according to the highest standards of workmanship, as required by the safety regulations in force.

使用一根不超过15厘米的电缆将设备上的接地点连接到金属裸板上 (注意要将金属板上的绝缘油漆清除才有效果)。

Connect the earthing point on the “Device” to the metal bearing plate using a electric cable no more than 15 cm in length.

2.3e - “JF1” 散热风扇电源

2.3e - “JF1” fan power supply

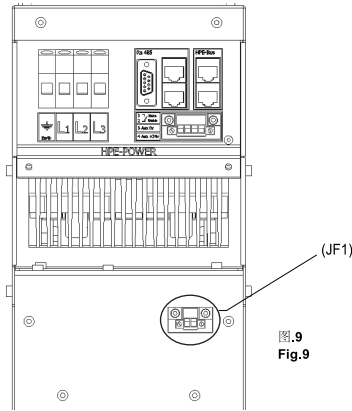


图.9  
Fig.9

2.3e1 - “JF1” 可拆卸散热风扇电源接头

2.3e1 - “JF1” Withdrawable fan power supply connector

220/230 Vac 50/60HZ (最大0,5A - 200 W)

220/230 Vac 50/60HZ (Max 0,5A - 200 Wat)

接头技术特性:

- 截面 2x 2,5mm<sup>2</sup>
- 节距 5,08
- I最大值 = 20A; V最大值 = 300V

Technical features of the connector:

- Section 2x 2,5mm<sup>2</sup>
- Step 5,08
- I<sub>max</sub> = 20A; V<sub>max</sub> = 300V

该接头用于将冷却风扇的电源连接到该“设备”。

This connector is used, where it is present, to connect the power supply of the cooling fans to “Device”.



**注意:** 对于HATA和HMTA型号, 冷却风扇未与电源连接(冷却风扇与24 VDC一起工作)。在这些型号中, 不存在JF1接头。



**NOTA:** For HATA and HMTA the cooling fan is not connected (cooling fan works with 24VDC). In these models there is not JF1.



按照现行安全规程采取一切必要预防措施。



Take all the necessary precautions, as required by the safety regulations in force.



错误的布线和/或不符合安全规定可能会对“设备”造成无法挽回的损害。



Incorrect wiring and/or failure to comply with safety regulations could case irreparable damage to the “Device”.

2.3f - 三相滤波器

2.3f - Three-phase filter

如果在主回路中电源电压有干扰, 我们建议使用一个具有衰减特性的滤波器, 其衰减特性等于或高于下面所示的滤波器:

If there are disturbances in the mains voltage in the “host” electrical panel, we recommended to use a filter with the attenuation characteristics equal to or higher than the filters indicated below:

- ENERDOOR FIN1500
- ENERDOOR FIN538S

- ENERDOOR FIN1500
- ENERDOOR FIN538S

允许使用其他品牌的滤波器, 只要它们具有同样的衰减特性。

Filters of other brands are allowed provided they have the same attenuation characteristics.



在安装多个智能UV电源情况下, 无需为每个单元配置一个滤波器, 而只需在电网主回路的入口处安装一个总滤波器即可(图10)。使用多个滤波器可能会:



In the case of an installation with several SERIE H units, do not use a single filter for each unit but a single filter placed at the entrance to the network (Fig.10). The use of multiple filters could:

· 影响微分处理设备。

· Influence the differential devices

· 不同的设备会相互影响; 相互影响增加谐波失真

· Create harmonic distortions due to mutual interaction



如果使用IT网络, 请使用适当的滤波器(FIN1500-IT / FIN1700-IT)。



If using an IT network, use an appropriate filter (FIN1500-IT / FIN1700-IT).

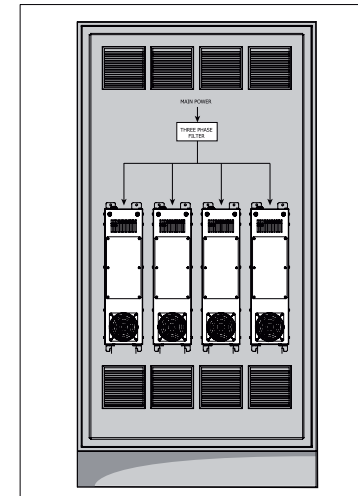
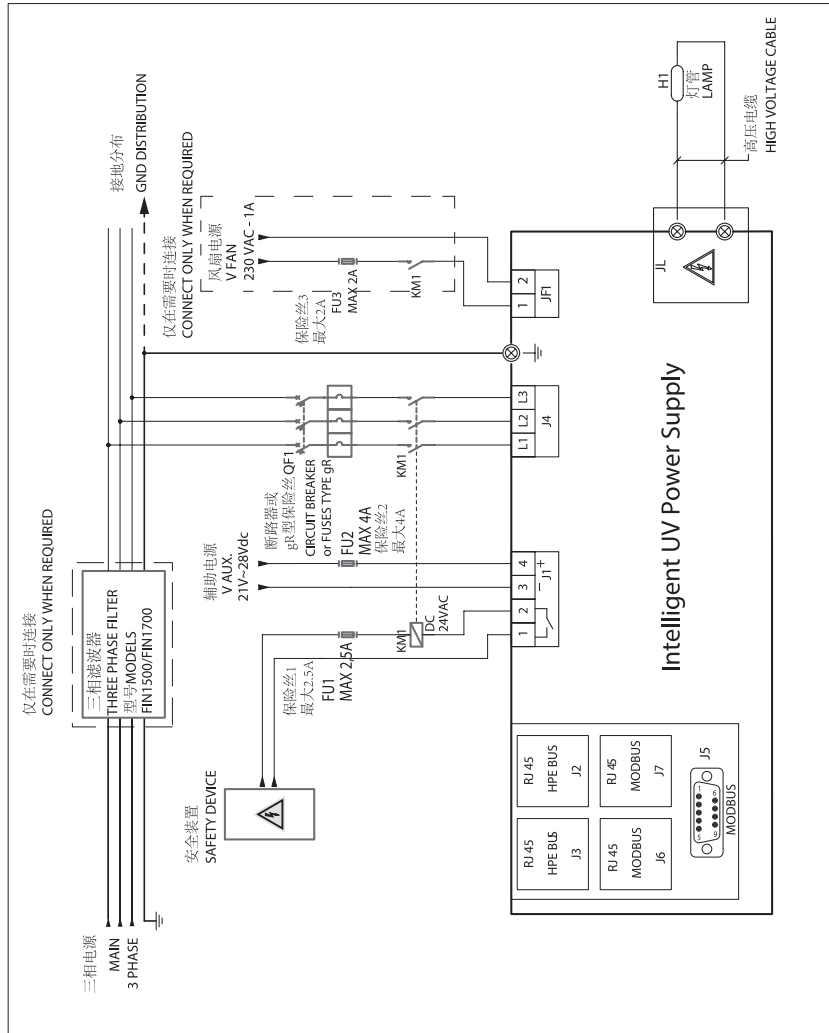


图.10  
Fig.10

2.4 - 电路图

2.4 - Electrical connection diagram



2.5 - 紫外灯连接

2.5 - UV lamp connection

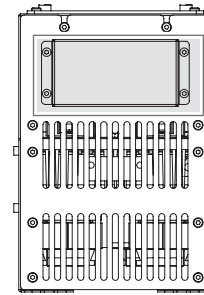


Fig.11

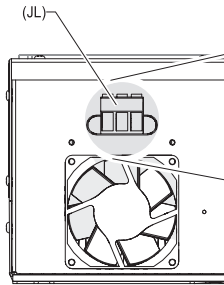
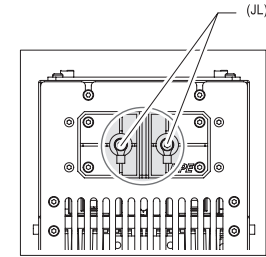


Fig.12

SERIE H HATA

2.5a - “JL” 紫外灯接头

2.5a - “JL” UV lamp connector

该灯与设备的连接系统安装的一部分，对系统的正常工作和安全至关重要。安装人员必须使用这些材料，并按照现行监管标准来执行配线程序。

The connection of the lamp to the device is a part of the installation of vital importance for the proper working of the system and for safety. The installer must use the materials and follow the wiring procedures in compliance with the applicable regulatory standards.

对于灯管设备连接，可使用四种类型的电缆：

For the Lamp-Device connection, four types of cables can be used:

1. 成对双绞线电缆
2. 绝缘双绞线电缆
3. 单根绝缘电缆或单独绝缘双绞线电缆
4. 单根非绝缘电缆（不推荐）

1. Twisted pair cable Paired
2. Twisted pair cable Shielded
3. Single cable Shielded or Twisted pair cable Shielded individually
4. Single unshielded cable (not recommended)

2.5a1 -成对双绞线电缆连接

2.5a1 -Connection with Twisted pair cable  
"Paired"

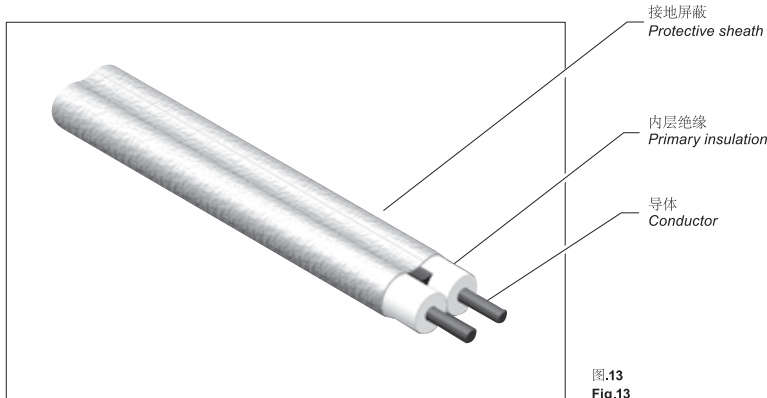


图.13  
Fig.13

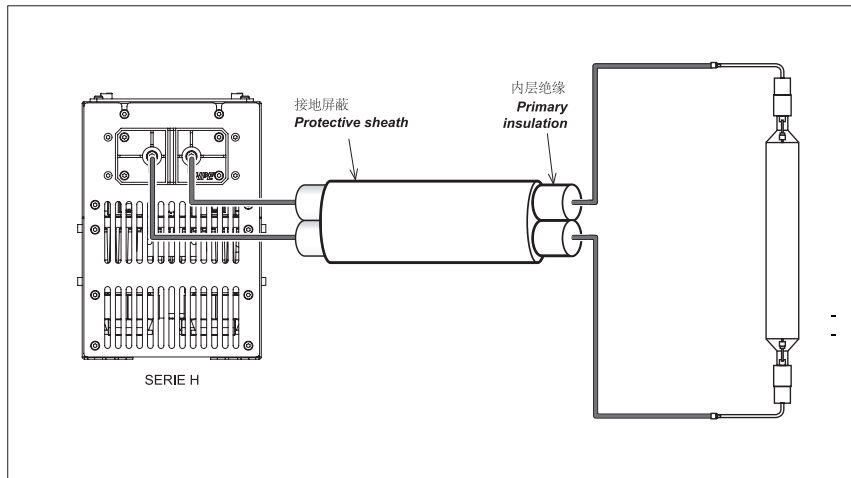


图.14  
Fig.14

电缆特性	CABLE CHARACTERISTIC	
导体之间最大的允许容量 <i>Max admitted Capacity between the conductors</i>	pF/mt	30
最大允许电感 <i>Max admitted inductance</i>	nH/mt	170
电灯与设备之间最大允许距离 <i>Max admitted distance lamp vs . device</i>	mt	40

**优点:**

- 可用于长距离连接。
- 灯管电流中低失真。
- 可用于铁灯连接 (卤素灯)。

**缺点:**

- 中低抗辐射干扰能力。
- 在安装过程中需要注意避免干扰信号电缆。
- 机械保护性较差。
- 需注意避免机械损坏。

**Advantages:**

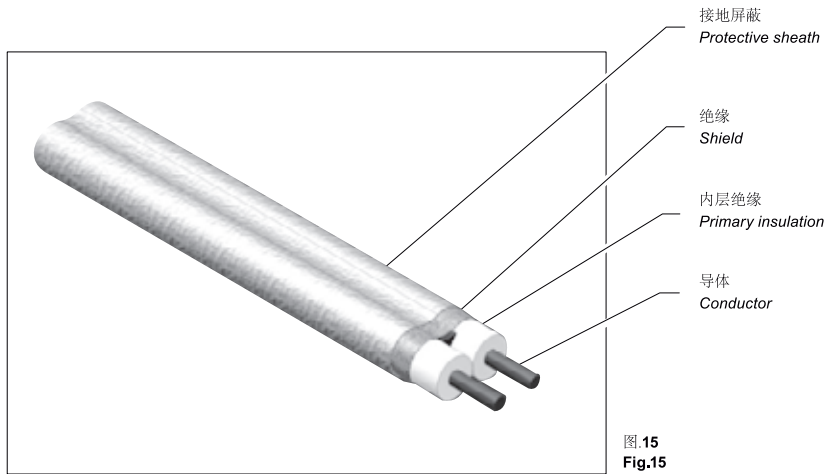
- Possibility of long distance connections.
- Low distortion of lamp current.
  - Indicated for the connection of iron-doped lamps. (Iron Metal Halide)

**Disadvantages:**

- Medium low shielding against radiated disturbances.
  - need for caution during installation to avoid in terference with signal cables
- Low mechanical protection.
  - Need for caution to avoid mechanical damage.

2.5a2 - “绝缘” 双绞线电缆连接

2.5a2 - Connection with Twisted pair cable  
“Shielded”



电缆特性	CABLE CHARACTERISTIC	
导体之间最大的允许容量 <i>Max admitted Capacity between the conductors</i>	pF/mt	30
导体和绝缘层之间最大的允许容量 <i>Max admitted Capacity conductors Vs. shield</i>	pF/mt	100
最大允许电感 <i>Max admitted inductance</i>	nH/mt	170
电灯与设备之间最大允许距离 <i>Max admitted distance lamp vs. device</i>	mt	30

优点:

- 可用于长距离连接。
- 灯管电流中低失真。
- 高抗辐射干扰能力。
- 高机械保护性。

Advantages:

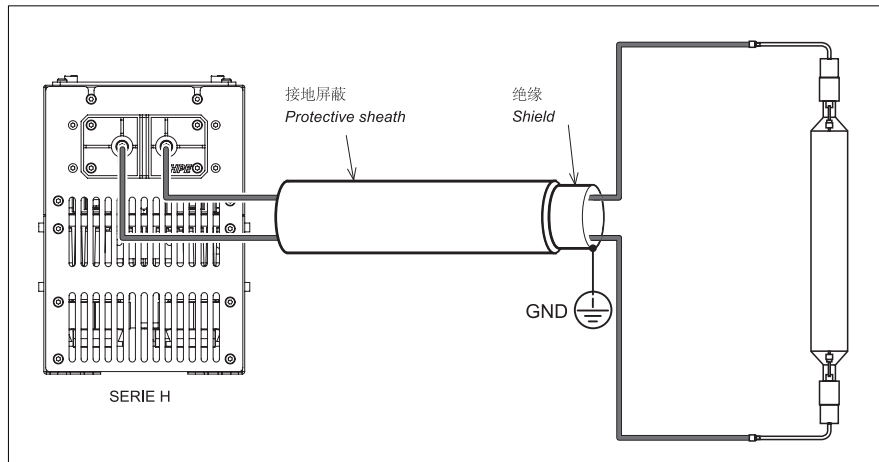
- Possibility of long distance connections.
- Medium low distortion of lamp current.
- High shielding capacity of radiated disturbances.
- High mechanical protection.

缺点:

- 对灯管的电流变形需要在很远的距离上才能观察到。
- 应避免灯管电压超过2000V。

Disadvantages:

- Distortions of the current to the lamp may be seen on long distances
- It is advisable to avoid exceeding a voltage of 2000V Lamp



2.5a3 - 单根“绝缘”电缆或  
“单独绝缘”双绞线电缆连接

2.5a3 - Connection with Single “Shielded” cable  
or “Individually shielded” Twisted pair Cable

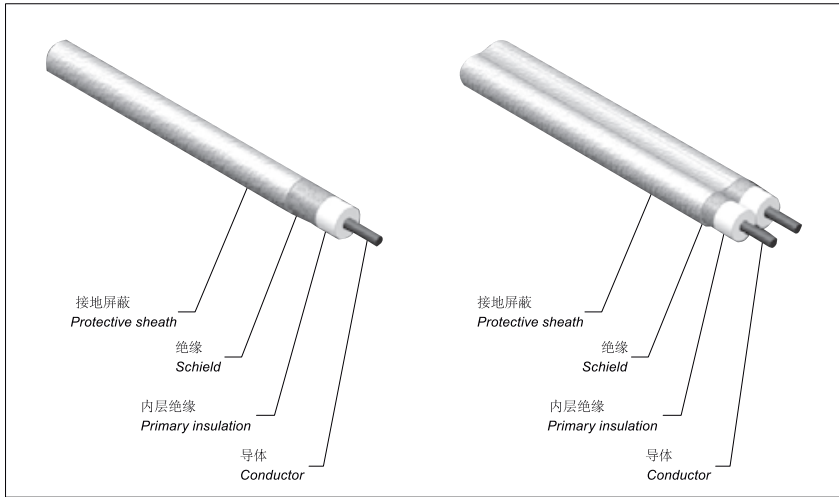


图.17 Fig.17

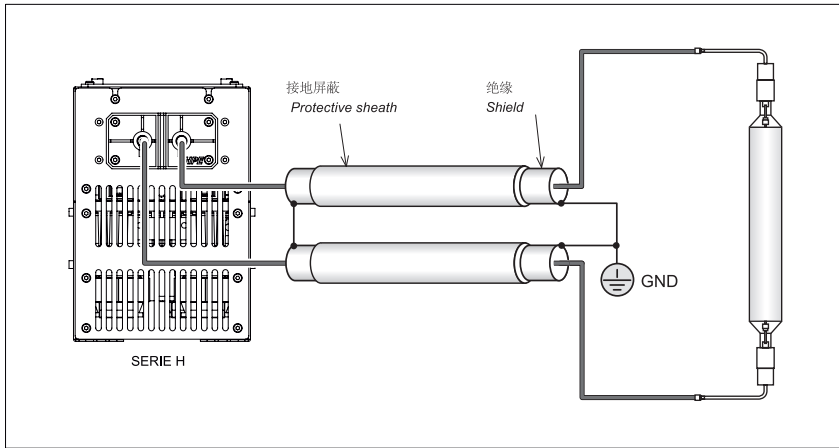


图.18 Fig.18

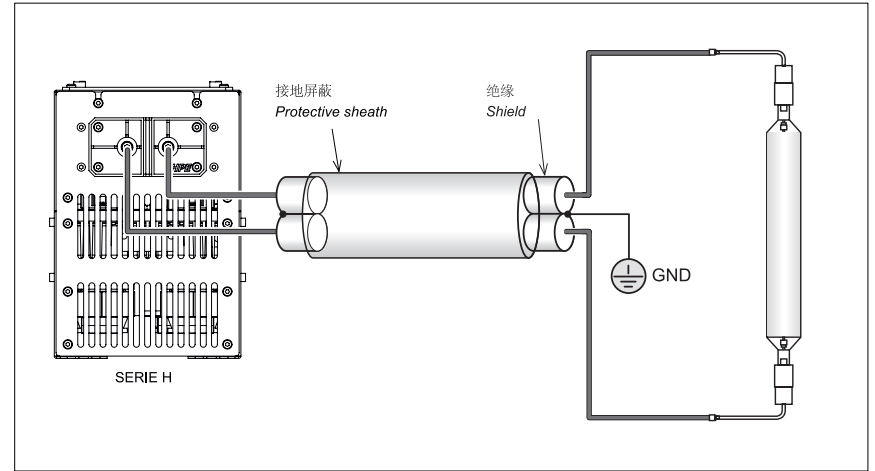


图.19 Fig.19

电缆特性 CABLE CHARACTERISTIC

导体之间最大的允许容量 <i>Max admitted Capacity between the conductors and shield</i>	pF/mt	200
最大允许电感 <i>Max admitted inductance</i>	nH/mt	170
灯管与设备之间最大允许距离 <i>Max admitted distance lamp vs . device</i>	mt	15

优点:

- 极高的抗辐射干扰能力。
- 高机械保护性。

缺点:

- 只适用于短道连接。
- 电缆屏蔽部分必须具有相同长度。
- 灯管电流中高失真
- 应避免灯电压超过1500V。

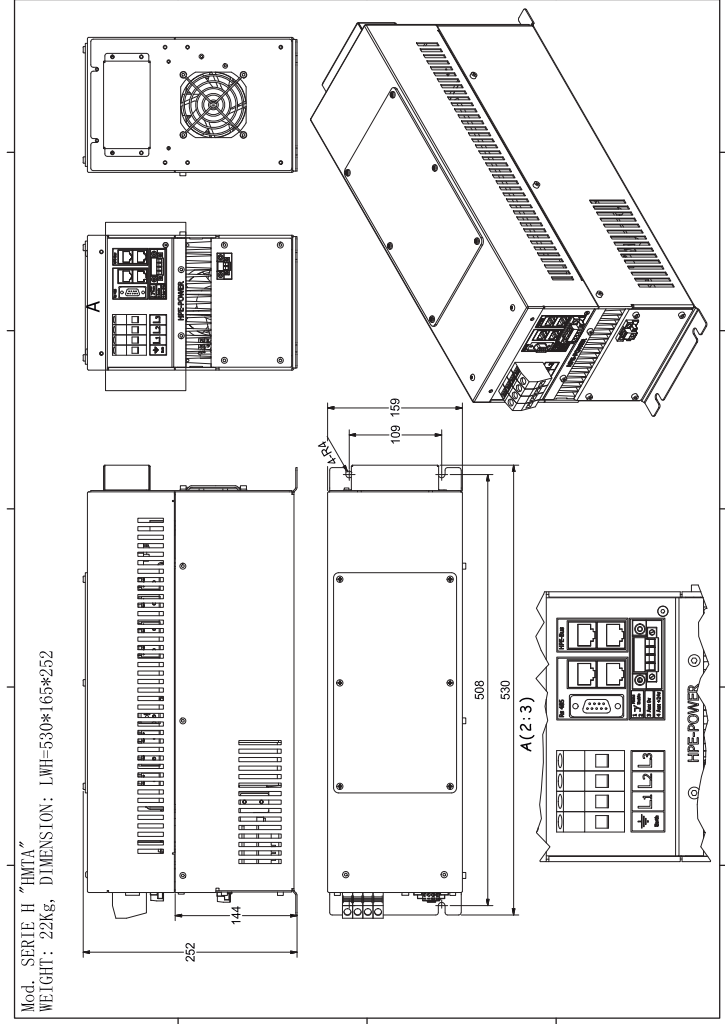
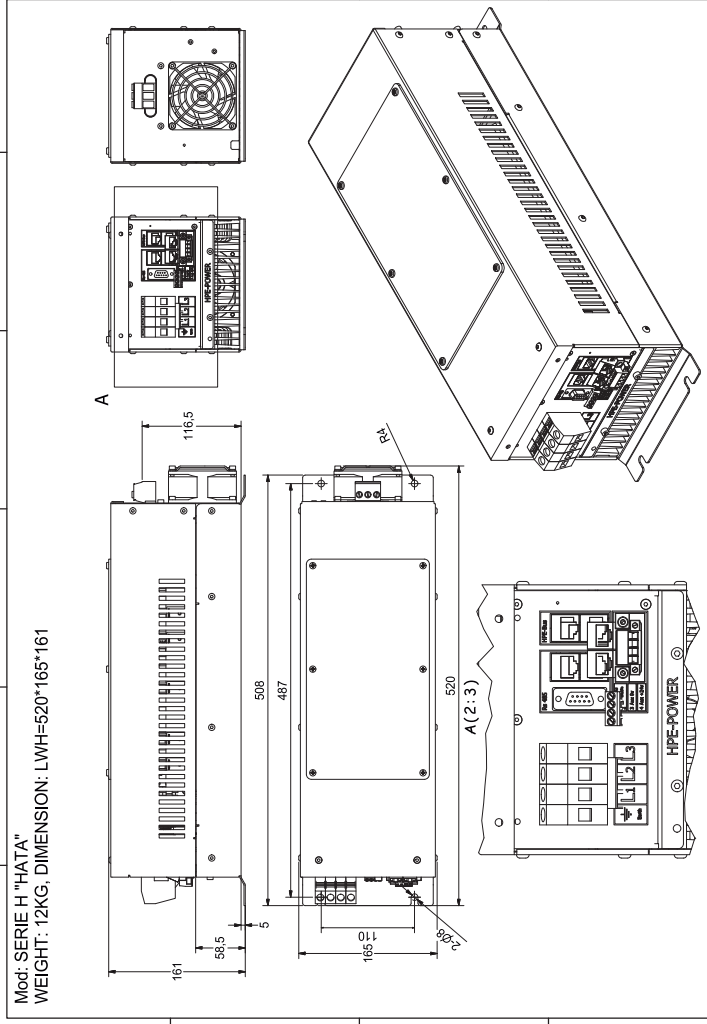
Advantages:

- Extremely high shielding capacity of radiated disturbances.
- High mechanical protection.

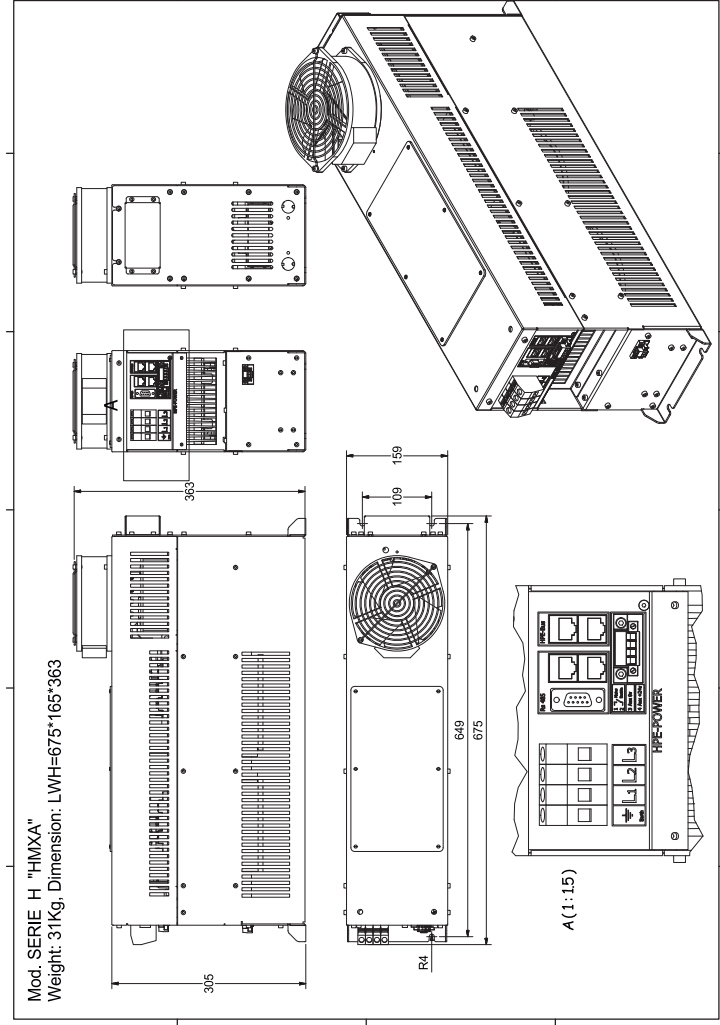
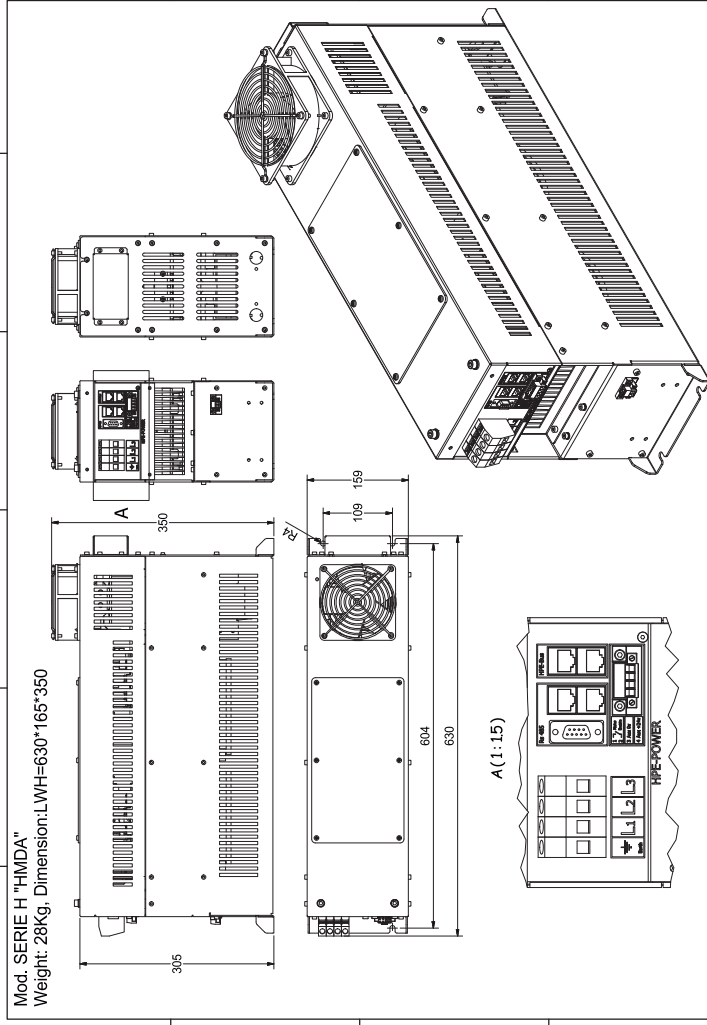
Disadvantages:

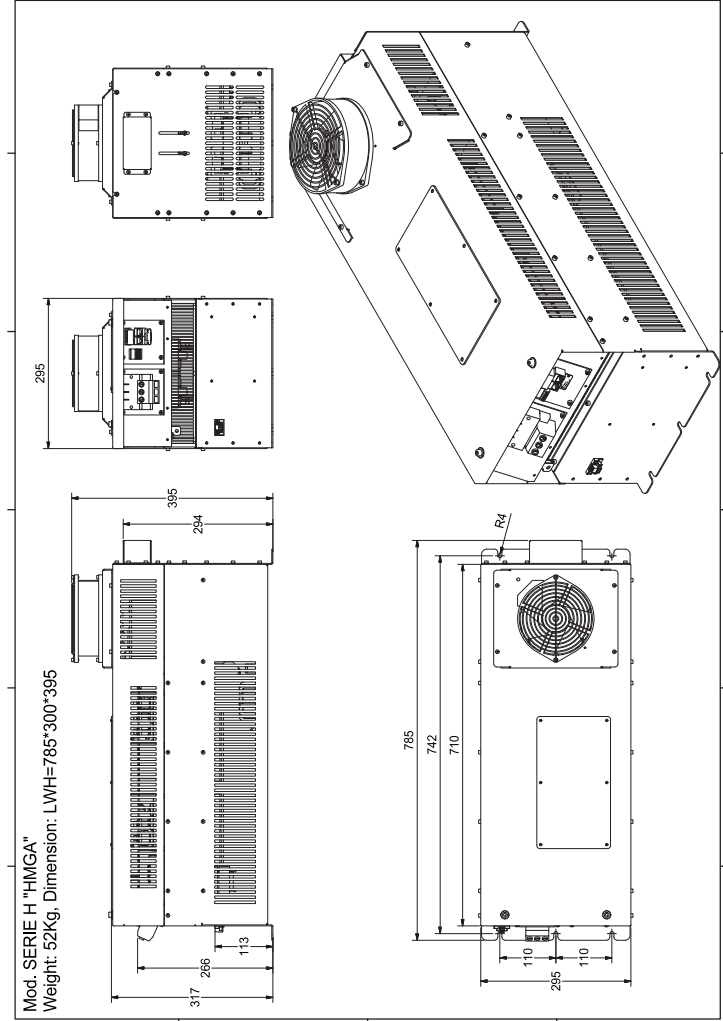
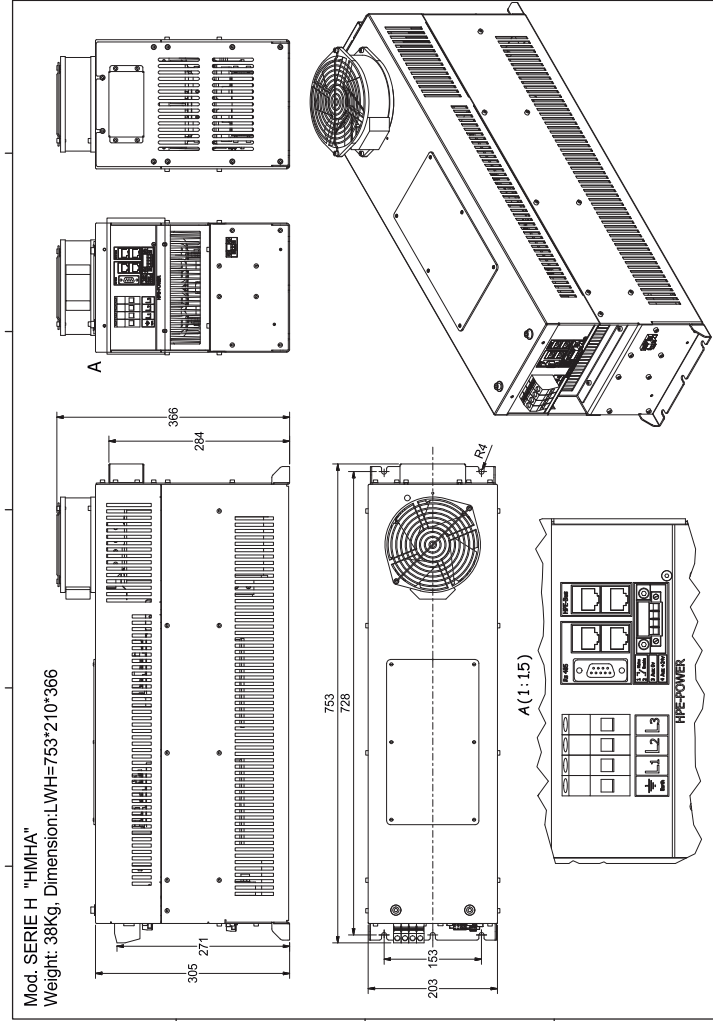
- Only suitable for short sections of connections.
- The shielded part of the cables must be of the same length
- Medium High distortion of lamp current.
  - It is advisable to avoid exceeding a voltage of 1500V

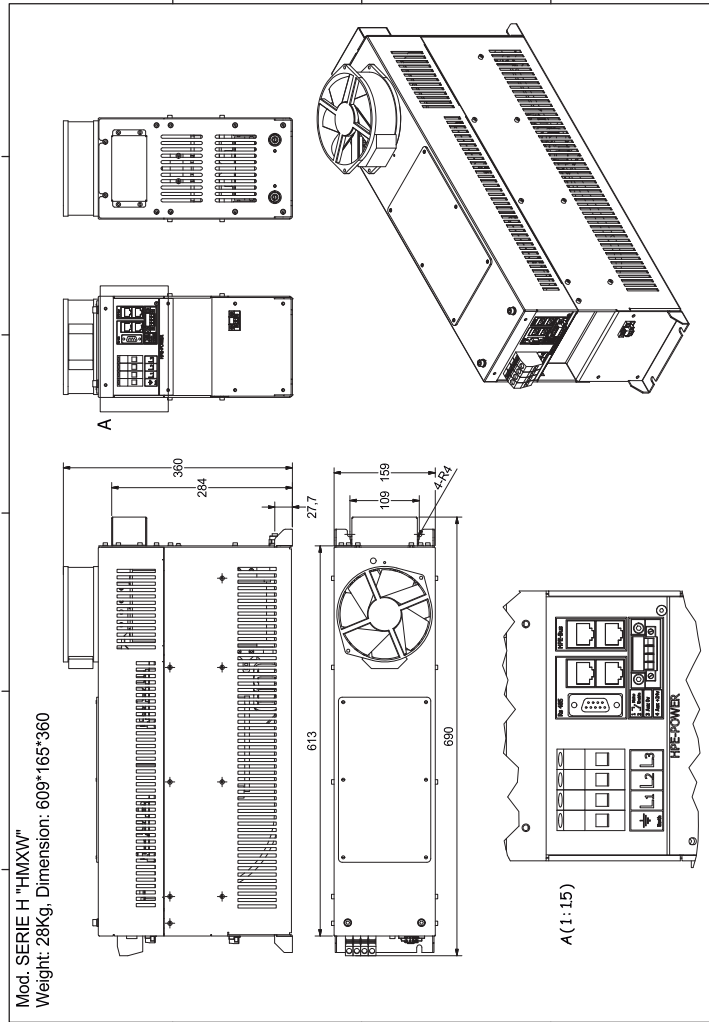












#### 4.1 - 概述

当检测到错误时, 设备应:

- 暂停进程中的任务。
- 禁止并关闭主电源开启接触点“J1针 1-2” (12页)。
- 向显示器和网络报告错误类型, 在错误或警告被重置之前, 设备暂停运行。

#### 5.2 - 警告重置

重置过程与运行模式有感, 请查看相同运行模式说明。

#### 5.3 - 警告列表

警告主要分为四类:

- 进入测试[ET]在灯的每个激活周期之前发生的系统完整性测试中遇到的警报。
- 点火:[IGN] 在灯的点火阶段遇到的警报。
- 运行时间:[RN]在正常运行过程中遇到的警报。
- 系统:[SY] [SYL]警告通用系统。

#### 4.1 - General description

When an error is detected, the SERIE H device shall:

- suspend operations in progress
- inhibit and turn off the main supply power opening contact "J1 pin 1-2" (page 12)
- report on display and network the type of error

The SERIE H device is waiting until the error or the alarm is reset.

#### 5.2 - Alarms reset

The reset procedure of alarms depending on the operating mode, please check the instruction relating to the same mode of operation.

#### 5.3 - List of alarms

The alarms are divided in four main kinds:


- ENTRY TEST: [ET] alarms encountered during the "system integrity test" that occurs before each activation cycle of the lamp.
- IGNITION: [IGN] alarms encountered during the phase of ignition of the lamp.
- RUN TIME: [RN] alarms encountered during normal operation.
- SYSTEM: [SY] [SYL] alarms general system.

X-Code	E-Code	显示屏 显示内容	发生 阶段	具体异常内容描述以及可能原因判断
1	14	E-TGND-1	自检	启动阶段自检，接地异常
2	14	E-TS12-1	自检	电压监测异常或者“与其他设备相互干扰”造成自检异常
3	14	E-TS13-1	自检	控制板自检“工作周期监测”异常
4	14	E-TS14-1	自检	检测到自检“工作在ON的状态” (P18上有跳线)
5	14	E-TS15-1	自检	检测到BUCK侧的IGBT异常
6	14	LAMP_SC	检测输出短路	灯管电偶或者灯管连接处短路
7	4	NO MAIN	检测到输入电源，输入电压为0	
8	4	LOW MAIN	检测到输入电源的电压偏低 (低于设定的输入电压10%以上)	
9	4	OVER-VLT	检测到输入电源的电压偏高 (低于设定的输入电压15%以上)	
10	6	IGNIT 31	点火失败异常	
11	6	IGNIT 32	点火失败异常	可能是输出电缆的电容值偏高
12	6	IGNIT 04	点火失败异常	可能是输出电缆的阻抗太高
13	6	IGNIT 11	点火失败异常	可能是灯管异常或者灯管未连接
14	6	HATA_ISC	点火失败异常	可能是灯管灯臂未连接或者灯管电压不足
15	6	IGNIT 01	点火失败异常	可能是灯管电偶或者灯管短路
16	6	HATA2_SC	检测到点火失败异常	可能是灯管电偶或者灯管短路
17	6	HATA3_SC	检测到点火失败异常	可能是灯管电偶或者灯管短路
37	6	IGN CBCT	检测到点火失败异常	警告：灯管电缆的电容太高
18	7	WRMUP TO	预热阶段	在设定的预热时间内，灯管未能完成预热，出现该异常
19	9	BUCK-HOC	检测到BUCK侧	检测到BUCK侧(前侧IGBT)电流过大，或者短路
20	9	BRIG-HOC	检测到BUCK侧	检测到BUCK侧(后侧IGBT)电流过大，或者短路
21	9	BRIG-DCY	软件检测到过电流造成异常	
22	4	PWR_FAIL	输入主电源异常 (输入电源断开)	输出侧电流过高
23	5	GND_FAIL	工作过程中检测到对地漏电	输入主电源突然断开
24	0	APP-ERR	应用程序的通讯方式异常(即PST设置与实际不停例如APP01，APP_02,AP_NDI等)	输出电偶短路或者灯管损坏
25	4	PH_LOST	输入相或者某相电压过低	确认PRST的通讯方式设置是否正确
26	9	LAMP_OFF	作过程灯管发生未原因熄灭	
27	2	AUX_FAIL	24Vdc辅助电源电压降低到21V以下，或者24Vdc辅助电源功率不足	24Vdc辅助电源电压不足或者是功率不足
28	1	THERMAL	检测到散热器温度过高，超出设定要求	
29	15	CAN_LINK	与OCPU连接的CAN通讯中断，或者未连接	检测到灯箱温度过高 (适用于APP01)
30	15	48S_LINK	RS485与设备连接中断，或者未连接	检测到灯箱温度过高 (适用于APP01)
36	15	TL2_OFFL	远端显示灯HALD与设备通讯中断，或者未连接(仅适用于MODEL2)	
31	10	LD_THERMAL	LED: 检测到LED灯板温度超出设定温度	
32	10	LED_CAN	LED: 检测到LED灯组与设备通讯中断或者未连接	
33	10	LED_COB	LED: 检测到LED灯组1个或者多个灯板异常	
34	10	LED_N.C	LED: 检测到LED灯组控制信号中断或者未连接	
35	10	LED_PWR	LED: 检测到设备到LED灯组的电源线未连接	
100	12	HOUSING_TH	灯箱温度异常	
101	12	SHUTTERJAM	快门异常或者卡壳	
102	12	AIRPRESSUR	气压异常	
103	12	BLOWERFAIL	排风和异常	
104	12	EXHAUSTTEMP	排风温度过高	
105	12	SURROUND_T	环境温度过高	
106	12	VACUUM_PRS	真空度异常	
200	12	SURROUND_T	环境温度过高	
255	12	VACUUM_PRS	真空度异常	

X-Code	E-Code	LCD Display Show	Phase	Description
1	14	E-TGND-1	Selftest: Ground circuitry failed	Output cable could be connected with gourd
2	14	E-TS12-1	Selftest: Voltage detector fail OR "Mutual interference with other machines installed"	Note: not recoverable error
3	14	E-TS13-1	Selftest: Voltage detector on the control card failure	Mains connector not switched off Voltage Detector (IL300) fail
4	14	E-TS14-1	Selftest: Voltage detected with "Test" lamp on	Note: not recoverable error
5	14	E-TS15-1	Selftest: Buck IGBT integrity failure	Lamp cable or lamp connector short circuit
6	14	LAMP_SC	Short circuit detected	
7	4	NO MAIN	No mains detected	
8	4	LOW MAIN	Mains detected is too LOW according to machine setup	
9	4	OVER-VLT	Mains detected is too HIGH according to machine setup	
10	6	IGNIT 31	Ignition fail	Probable high capacity cable
11	6	IGNIT 32	Ignition fail	Probable too high impedance cabling or bad connection
12	6	IGNIT 04	Ignition fail	Probable too high impedance cabling
13	6	IGNIT 11	HATA ignition fail	Probable lamp failure or not connected
14	6	HATA_ISC	HATA ignition short circuit detected circuit	Lamp cable or lamp connector short circuit
15	6	IGNIT 01	Ignition fail	HATA: ignition short circuit insufficient to ignite
16	6	HATA2_SC	HATA: ignition short circuit detected circuit	Lamp cable or lamp connector short circuit
17	6	HATA3_SC	HATA: ignition short circuit detected circuit	Lamp cable or lamp connector short circuit
37	6	IGN CBCT	Ignition fail	Warning: The cable connection has too high capacitance
18	7	WRMUP TO	After the time at the lamp cannot reach the nominal condition	- "VUP T.O." setup - Lamp setup - Lamp cooling
19	9	BUCK-HOC	Hardware over current detected	Mains instability or over voltage
20	9	BRIG-HOC	Hardware over current detected	Short circuit at the output
21	9	BRIG-DCY	Software over current detected	High current at the output
22	4	PWR_FAIL	Mains power failure	The mains tripped off
23	5	GND_FAIL	Leakage current to GND detected	Cable defective or lamp broken
24	0	APP-ERR	Master application error (APP_02, AP_NDI)	Check application documents
25	4	PH_LOST	Mains phase lost or too low	
26	9	LAMP_OFF	The lamp trips off with no apparently reason	
27	2	AUX_FAIL	The 24VDC auxiliary voltage drops below 21V	The auxiliary power supply has insufficient voltage/current
28	1	THERMAL	Dangerous temperature have been detected on the heat-sink	
29	15	CAN_LINK	The CAN link with IO-CPU CARD is interrupted or missing	
30	15	48S_LINK	The RS485 link with master system is interrupted or missing	
36	15	TL2_OFFL	The CAN link with HALD is interrupted or missing (MODEL2 only)	
31	10	LD_THERMAL	LED thermal protection detected	
32	10	LED_CAN	LED: CAN link interrupted or missing	
33	10	LED_COB	LED: one or more COB are defective	
34	10	LED_N.C	LED: signal control cable not connected	
35	10	LED_PWR	LED: power cable not connected	
100	12	HOUSING_TH	HOUSING THERMAL	
101	12	SHUTTERJAM	SHUTTER JAMED	
102	12	AIRPRESSUR	AIR PRESSURE IS LOWER	
103	12	BLOWERFAIL	BLOWER FAILURE	
104	12	EXHAUSTTEMP	EXHAUST TEMPERATURE HIGHER	
105	12	SURROUND_T	AMBIENT TEMPERATURE HIGHER	
106	12	VACUUM_PRS	VACUUM PUMP ERROR	
200	12	SURROUND_T	AMBIENT TEMPERATURE HIGHER	
255	12	VACUUM_PRS	VACUUM PUMP ERROR	

## A.1 - 概述

该远程显示屏是可选的，如果购买，可用于对智能UV电源进行编程或查阅与其运行状态相关的数据。

 **注意：**制造商可根据客户使用智能UV电源的方式，提供一个远程显示屏HA2LD，以便客户能正确地进行设置。

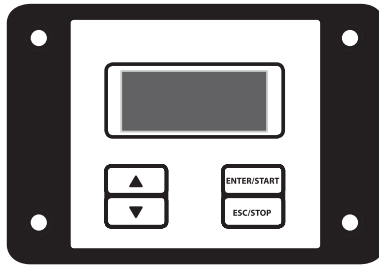



图.1  
Fig.1

### A.2 - 功能键






-  - 上移键
-  - 下移键
-  - 输入/确认键
-  - 退出键
-  - 信息显示区

## A.1 - General description









This remote display is optional and, if purchased, can be used to program the Intelligent uv Power Supply device or to consult the data concerning its operating status.

 **NOTE:**The manufacturer supplies a specific board for correct setting, depending on the operating mode with which the purchaser decides to use the Intelligent uv Power Supply device.




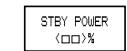
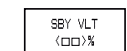

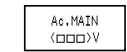
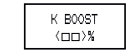
### A.2 - Function keys

-  - UP key
-  - DOWN key
-  - Enter/Confirm key
-  - Escape key
-  - Message display

## A.2 - 页面说明

-  [1] 访问灯管参数菜单页面
-  灯管运行电压。
-  灯管运行功率。
-  最小运行功率与额定功率（灯管功率）的比值。
-  待机状态灯管电压最小值，该值影响电源准备讯号。
-  访问菜单页面[2] 运行数据
-  “输入电源电压“出厂已设置完毕。更改该值影响机器的正常运行。
-  出厂已设置完毕。更改该值影响机器的正常运行。启动阶段或由待机状态切换到运行状态时，为加快灯管预热，在额定电流基础上增加的电流值与<00>%的比值。使用该额外电流，不应使机器功率超过设置的最大功率阈值。

## A.2 - Description of pages

-  [1]LAMP menu access page
-  Operating voltage of the lamp.
-  Operating power of the lamp.
-  Minimum operating power in per-centage of the rated power (LAMP.PWR).
-  Minimum value of the lamp voltage to be maintained during the phase of STAND-BY. This value effects the PWR-READY signal.
-  Menu access page [2] WRKDAT
-  Value reserved to the manufacture Modification of this value will prevent the machine from functioning cor-rectly Mains power voltage
-  Value reserved to the manufacture Modification of this parameter will prevent the machine from functioning correctly Percentage of the rated current which, during the warming- up phase or when work continues after a stand-by, adds to the rated current value so as to allow the lamp to warm-up faster. Use of this extra- current does not allow the threshold of the maximum power setting to be surpassed.

**SBY\_CURR**  
<□□>% 待机状态时允许的最小电流与额定电流的比值。  
额定电流是利用上述输入参数(灯管.电压和灯管.功率)通过下述比式得到:

$$\text{额定电流} = \frac{\text{(灯管.功率)}}{\text{(灯管.电压)}}$$

**SBY\_SAF**  
<□□>% 灯管电压高于设定电压值时, 电流的最低限制比率。  
一般情况下, 该值比设定的待机电流值高出百分之五。

**PW\_SPEED**  
<□□□□□□> 调节功率下降速度

**SBY\_CURR**  
<□□>% Minimum permissible current in STAND-BY status, value in percentage of the Inom. The rated current is obtained from the data entered in the aforementioned parameters (LAMP.VLT and LAMP.PWR) with the following ratio:

$$I_{nom} = \frac{LAMP.PWR}{LAMP.VLT}$$

**SBY\_SAF**  
<□□>% Lower limit value of current in percentage when the lamp voltage is higher than set voltage. Normally this value is 5% higher than set value of the current SBY\_CURR.

**PW\_SPEED**  
<□□□□□□> Regulation speed for decrease of the power.

功率_速度 PW_SPEED	说明	DESCRIPTION
缓慢降低 SLOPED	以一定斜率(5秒)降低至选定功率。	Decrease with slope (5 sec) to the selected power.
降低 FAST	快速减低至设定功率	Decrease immediately to the selected power.

**SBY\_TYPE**  
<□□□□□□> 电压 (在待机电压参数中设置) 在待机过程中保持稳定的调节类型。

**SBY\_TYPE**  
<□□□□□□> Type of regulation to keep the voltage (configured in the parameter SBY\_VLT) stable during the STANDBY state.

待机类型 SBY_TYPE	说明	DESCRIPTION
风机 BLOWER	通过调节灯管冷却系统稳定电压。	Voltage stabilization trough the modulation of the lamp cooling
电压 VOLTAG	通过调节功率稳定电压	Voltage stabilization trough the power modulation
综合 COMBO	通过风扇+电压的综合调节稳定电压。	Voltage stabilization combined VOLTAG + BLOWER

**WUP\_TYPE**  
<□□□□□□> 选择预热类型。它决定预热状态何时结束, 以切换到调节状态。

**WUP\_TYPE**  
<□□□□□□> Warm-up type selection. It determines when the warm-up state is terminated to switch to regulation status.

预热类型 WUP_TYPE	终止条件	TERMINATION CONDITION
标准 STNDRD	当满足下述任意一个条件时, 预热终止: 1-且测得电压值超电灯额定电压设定值。	The warm-up ends when one the following condition are met: 1 - maximun power is reached (LAMP PWR) and the voltage detected exceeds the lamp rated voltage set
功率 POWER	2-达到最大功率 (灯管.功率) 且最后5秒内测得灯管电压斜率小于2V。 达到最大功率 (灯管.功率), 预热终止	2- The maximun power is reached ( LAMP PWR) and the lamp voltage detected exhibits a slope less than 2V in the last 5 sec. The warm-up ends when the maximun power is reached (LAMP PWR)
电压80 VOLT80	达到最大功率 (灯管.功率) 且灯管电压超过额定电压设定值 (灯管.电压) 的80%, 预热终止。	The warm-up ends when the maximun power is reached (POWER LAMP) and the lamp volog exceeds 80% of the nominal set (LAMP VLT)

**WUP\_T.O**  
<□□□>S 预热阶段最大持续时间。时间结束后, 如果机器仍在预热阶段, 电源切断并产生错误。

**WUP\_T.O**  
<□□□>S Maximum time duration of warm-up phase. After this time if the machine is in the warm-up phase, the lamp turns off and generates an error.

**COOL\_T.O**  
<□□□>S 灯管冷却时间。灯管熄灭后, 内部计时器将加载指定值, 并逐渐减小。在该时间内, 禁止启动电源。

**COOL\_T.O**  
<□□□>S Lamp cooling time. After the lamp goes out an internal timer is loaded with the specified value which tde creases. You are not allowed to turn on the lamp during this period.

菜单 [3] 菜单访问页面  
[预置] [3] 预置

设定智能UV电源设备的接口和运行模式。各种预置运行模式如下表所示:

PRS TYPE <MODE\_1> 见文件“模式\_1应用”。  
PRS TYPE <MODE\_2> 见文件“模式\_2应用”。  
PRS TYPE <MODE\_3> 见文件“模式\_3应用”。  
PRS TYPE <RS\_485> 见文件“RS\_485应用”。  
PRS TYPE <APP\_01> 见文件“APP-01应用”。  
.....  
PRS TYPE <APP\_16> 见文件“APP-03应用”。

MENU [4] 菜单访问页面  
[IO\_CPU] [4] IO\_CPU

M3 CLOCK <000>Ms 类型\_3应用计时

SCALE->V <000>V 电压区间范围值, 如输出的10V IO CPU CARD V.xx。

SCALE->C <000>A 电压区间当前值, 如输出的10V IO CPU CARD V.xx。

MENU [3] Menu access page  
[3] PRESET

Establishes the Intelligent uv Power Supply device interface and operating mode. The various different pre-defined operating modes are listed in the following table:

PRS TYPE <MODE\_1> See document “Working with Mode\_1”.  
PRS TYPE <MODE\_2> Vedi documento “Working with Mode\_2”  
PRS TYPE <MODE\_3> See document “Working with Mode\_3”.  
PRS TYPE <RS\_485> See document “Working with RS\_485”.  
PRS TYPE <APP\_01> See document “Working with APP-01”.  
.....  
PRS TYPE <APP\_16> See document “Working with APP-03”.

MENU [4] Menu access page  
[IO\_CPU] [4] IO\_CPU

M3 CLOCK <000>Ms Clock for working with MODE\_3

SCALE->V <000>V End scale voltage value like an output about IO CPU CARD V.xx of 10V.

SCALE->C <000>A End scale current value like an output about IO CPU CARD V.xx of 10V.

BLW-SCAL <000>V 与灯管最大冷却请求对应的IO CPU (0- 10V)模拟输出值。

BLW-LOCK <00>% 灯管适当吹风/冷却的IO CPU 输出最小电压值。

BLW-SCAL <000>V Output analog value of IO CPU (0-10V) corresponding to the maximum blowing request of the lamp.

BLW-LOCK <00>% Output minimum voltage value of the IO CPU for right blowing/cooling of the lamp.

运行模式 OPERATING MODE	IO CPU信号名称 IO CPU SIGNAL NAME	I/O CPU_V54 [J2] 硬件连接 I/O CPU_V54 [J2] HARDWARE CONNECTION
MODE_1	风扇 BLOWER	8针 Pin 8
MODE_2	风扇 BLOWER	8针 Pin 8
MODE_3	风扇 BLOWER	8针 Pin 8
RS_485	风扇 BLOWER	8针 (如果存在IO CPU) Pin 8 (se IOCPU presente / if IO CPU is present)
APP-01 / APP-06	风扇 BLOWER	8针 (IOCPU_V.xx强制) Pin 8 (IOCPU_V.xx mandatory)
APP-02	风扇 BLOWER	8针 (IOCPU_V.xx 强制) Pin 8 (IOCPU_V.xx mandatory)
AP_ND4	风扇 BLOWER	8针 (IOCPU_V.xx 强制) Pin 8 (IOCPU_V.xx mandatory)
AP_SU5	风扇 BLOWER	8针 (IOCPU_V.xx 强制) Pin 8 (IOCPU_V.xx mandatory)
APP_06	风扇 BLOWER	8针 (IOCPU_V.xx 强制) Pin 8 (IOCPU_V.xx mandatory)

菜单 [5] 访问菜单页面[5] RS-485

TERM ADD <000> Mod-bus总线节点数从0到32.

485 BAUD <00000> 波特率

速度 SPEED	9600 bps
	19200 bps
	38400 bps

COM TOUT <00>Sec 中断通信时间达到该值后, 机器关闭。

MENU [5] Menu access page  
[RS-485] [5] RS-485

TERM ADD <000> Mod\_Bus node number from 0 to 32.

485 BAUD <00000> Communication speed.

SPEED	9600 bps
	19200 bps
	38400 bps

COM TOUT <00>Sec Time after which the machine switches off in the absence of communication.

MENU [6]  
[APPVAR]  
访问菜单页面[6] 应用程序参数调整

菜应用程序虚拟化=>1  
<□ □ □>

菜应用程序虚拟化=>1  
<□ □ □>

菜单 [7]  
[PULS.C]  
菜单访问页面 [7] 脉冲模式

脉冲-频率  
<□ □>Hz  
脉冲模式工作频率参数

脉冲-占空比  
<□ □>%  
脉冲模式占空比参数

菜单 [8]  
[数值]  
菜单访问页面 [8] 数值

WK HOURS  
□□□□·Hr  
机器运行时间计时器。

MENU [9]  
[MFGDAT]  
菜单访问页面 [9] MFGDAT

□□□□  
OK->□□  
密码设置/解密

MENU [6]  
[APPVAR]  
Menu access page [6] APPVAR

APPV=)1  
<□□□>  
Settable variables linked to the operation of the applications.

.....

APPV=)8  
<□□□>

MENU [7]  
[PULS.C]  
Menu access page [7] PULS.C

PULS-FQY  
<□□>Hz  
Parameter that determines the work frequency of PULSE MODE.

PULS-DCY  
<□□>%  
Parameter that determines the duty-cycle of PULSE MODE.

MENU [8]  
[CENTERS]  
Menu access page [8] CENTERS

WK HOURS  
□□□□·Hr  
Machine operation hour counter.

MENU [9]  
[MFGDAT]  
Menu access page [9] MFGDAT

□□□□□□  
OK->□□□□  
License data verification/setting

### A.3 - 外部按钮-设备关闭时显示信息

### A.3- HOT KEY - Information when the device is turned off

智能UV电源设备关闭时，可在HA2LD显示器上显示如下信息：

When the device Intelligent UV Power Supply is turned off, you can show the follow informations on display HA2LD.

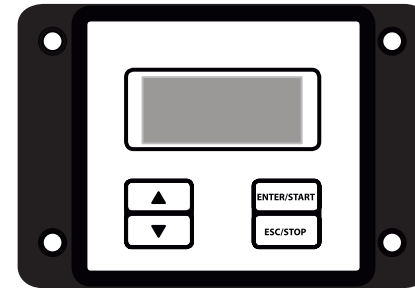


图.2  
Fig.2

▲ -长按“上移键”5秒可以显示软件版权信息。

▲ - To know the copyright of the software press and hold 5 sec "UP key"

▼ -按“下移键”可以显示运行时间。

▼ - To know the work hours press "DOWN key"

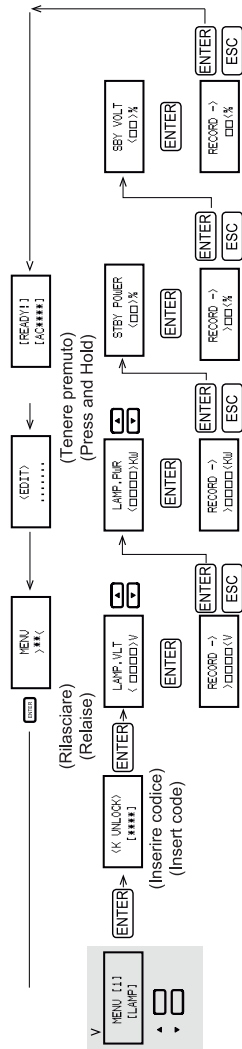
ESC -按下“退出键”并进入错误日志菜单可显示错误或警告信息。

ESC - To know the errors or alarms press "ESC key" for enter inside **MENU ErrLog.**



A.4 - 灯管设置

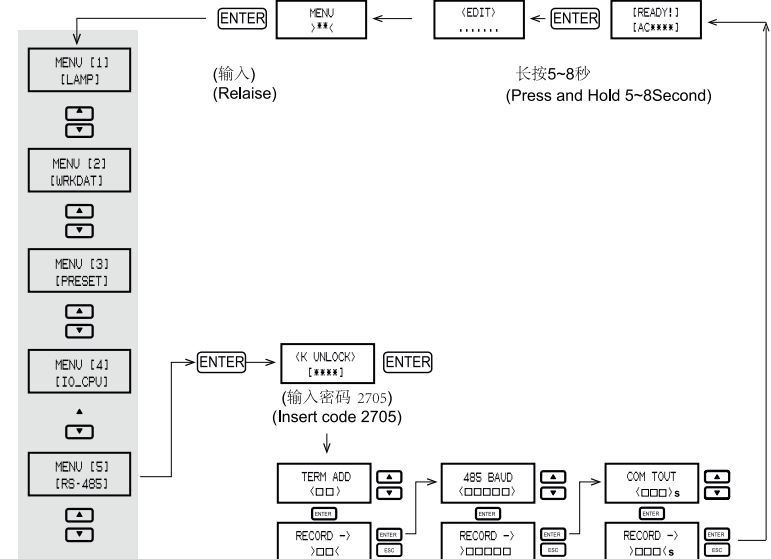
A.4 - Lamp parameters settings



- MENU [1] [LAMP] [1] 灯管菜单访问页面。  
[1] LAMP menu access page
- LAMP.VLT <0000>V 灯管运行电压。  
Operating voltage of the lamp.
- LAMP.PWR <0000>KW 灯管运行功率。  
Operating power of the lamp.

A.5 - RS485参数设置

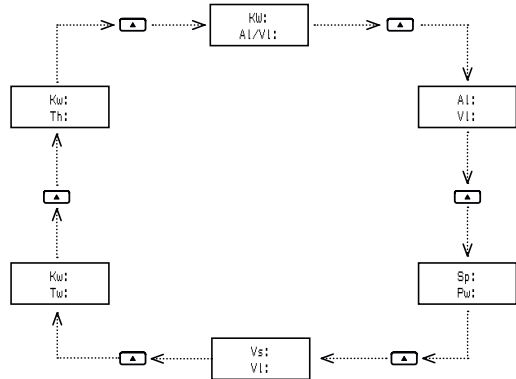
A.5 - RS485 parameters settings



- 菜单[5] [RS-485] 访问菜单页面 [5] RS-485。 MENU [5] [RS-485] Menu access page [5] RS-485
  - TERM ADD <00> Mod\_Bus总线节点数 从0至32。 TERM ADD <00> Mod\_Bus node number from 0 to 32.
  - T485 BAUD <0000> 通信速度。 485 BAUD <0000> Communication speed.
- |       |           |
|-------|-----------|
| 通信速度。 | 9600 bps  |
|       | 19200 bps |
|       | 38400 bps |
- |       |           |
|-------|-----------|
| SPEED | 9600 bps  |
|       | 19200 bps |
|       | 38400 bps |
- TCOM TOUT <00> 失去通信时间达到该值后，机器关闭。 COM TOUT <00>Sec Time after which the machine switches off in the absence of communication.

A.6 - 设备运行时可供查阅的信息

A.6 - Information that can be consulted when the device is operating



设备运行时，按下HA2LD外部键盘上的上移键 ( ) 可以显示下述运行有关的信息：

When the machine is operating, press the UP ( ) key on the HA2LD external keyboard to display the following information about operation.

键：

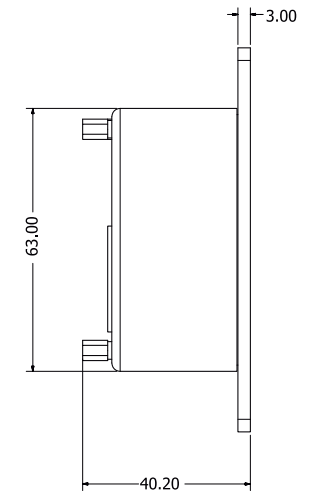
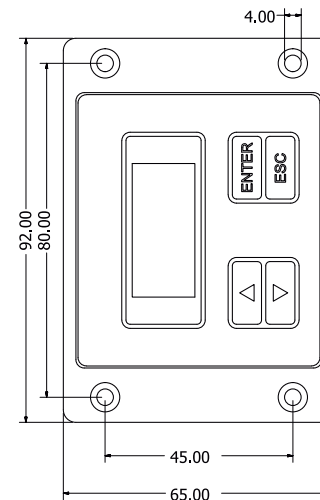
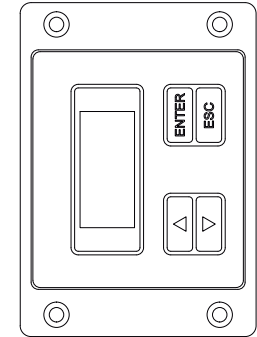
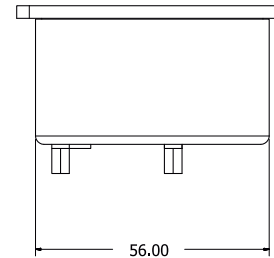
Key

- KW: 电源
- AI/VI: 灯管电压/灯管电流切换
- AI: 灯管电流
- VI: 灯管电压
- Sp: 设定功率百分比 (从10%到100%)
- Pw: 实际功率百分比
- Vs: 灯管理论电压。供冷却用。
- Th: 散热器上检测到的温度
- Tw: 设备运行时间计时器

- KW: power supplied
- AI/VI: Lamp current / lamp voltage supplied toggle
- AI: lamp current supplied
- VI: lamp voltage supplied
- Sp: power set point in percentage from 10% to 100%
- Pw: power supplied in percentage
- Vs: theoretic voltage of the lamp on the primary. Used for cooling
- Th: istantaneous temperature detected on the dissipa tor
- Tw: Machine operation hour counter.

A.7 - 安装尺寸

A.7 - Dimensional data



B.1 – 概述

该电路板是可选的，如果购买，可用于连接智能UV电源与控制设备（如可编程逻辑控制器PLC）。

制造商提供了多种运行模式。

B.1 - General description

This board is optional and, if purchased, can be used to interface the Intelligent UV Power Supply device with control equipment (e.g. a PLC).

According to the different operating modes provided by the manufacturer.

B.2 – 安装

该电路板必须安装在电气元件的接线板上，位于配电柜内部。

该电路板不能直接固定在接线板上，而必须插在“欧米茄（OM EGA）”导轨上。

B.2 - Installation

This circuit board must be installed on the wiring plate of the electrical components, inside an electric panel. The board must not be fixed straight onto the plate, but must be inserted on an “OMEGA” bearing rail.

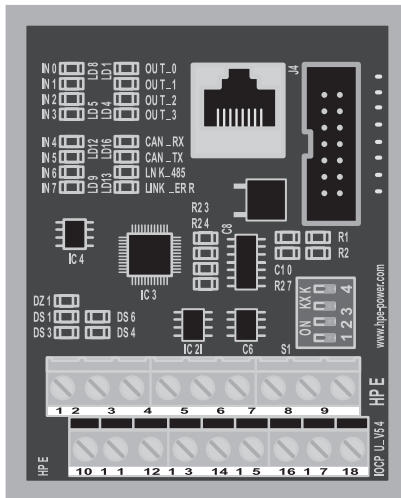


图.1  
Fig.1

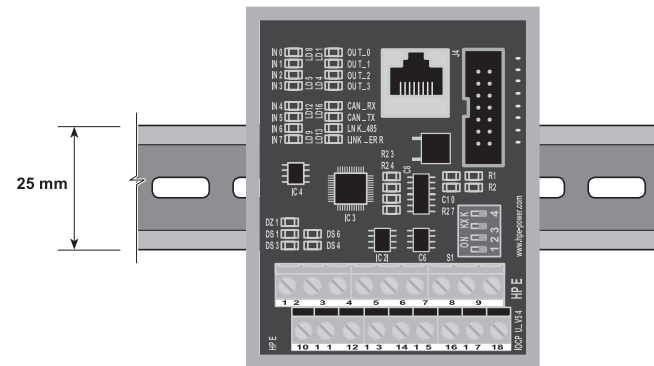
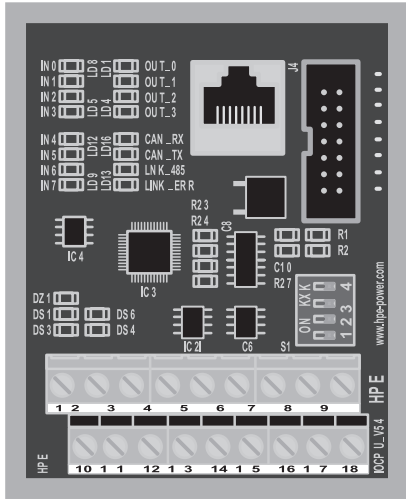


图.2  
Fig.2



B.3 – 电路板细节  
B.3 - Board details

图.3  
Fig.3

J4	RJ45 控制器局域网网络连接器 RJ45 Can Connector
J2 ( TB1 )	18接口 2x9双排接线板 18pin 2x9 two planes screw terminal block
JP1	瑞萨编程器连接器 ( solo uso fabbrica ) Renesas programmer connector ( solo uso fabbrica )

S1 内置函数选择器 S1 Preset Function selector			
偶极 Dip	J2功能 J2 Function	位置 Position	
		开 On	关 Off
1	J2-6	OutA[2] ( 模拟输出信号0-10V ) OutA[2] ( Analog Output 0-10V )	InD[5] ( 数字输入信号 ) InD[5] ( digital Input )
2	J2-7	OutA[1] ( 模拟输出信号0-10V ) OutA[1] ( Analog Output 0-10V )	InD[6] ( 数字输入信号 ) InD[6] ( digital Input )
3	J2-8	OutA[0] ( 模拟输出信号0-10V ) OutA[0] ( Analog Output 0-10V )	InD[7] ( 数字输入信号 ) InD[7] ( digital Input )
4	J2-14/15	Rs 485 120R 线路终端连接器 Rs 485 120R line terminator	

		IO等级 IO Ratings									
J2	名称 NAME	类型 Type	电压范围 Voltage range	选择器 Selector	V-L 低电平 Volt "0"	V-H 高电平 Volt "1"	Vi-H 高电平绝对值 Absolute V	I in/out 输入/输出近似 Nominal ma	I-pk II-峰值 ma	备注 Note	参考 Ref
1	InD[0] / InA[0]	数字-输入 Dig-IN 模拟-输入 Anl-IN	0-15 / 0-10	自动 Auto	<5	24	30*(1)	2.4*(3)			地面 GND
2	InD[1] / InA[1]	数字-输入 Dig-IN 模拟-输入 Anl-IN	0-15 / 0-10	自动 Auto	<5	24	30*(1)	2.4*(3)	1.0*(4)		
3	InD[2]	Dig-IN	0-15		<5	24	30*(1)	2.4*(3)			
4	InD[3]	数字-输入	0-15		<5	24	30*(1)	2.4*(3)			
5	InD[4]	数字-输入	0-15		<5	24	30*(1)	2.4*(3)			
6	InD[5] / OutA[2]	数字-输入 Dig-IN 模拟-输入 Anl-Out	0-15 / 0-10	S1-1				5	Sc *(2)		
7	InD[6] / OutA[1]	数字-输入 Dig-IN 模拟-输入 Anl-Out	0-15 / 0-10	S1-2	<5	24	30*(1)	3	5	Sc *(2)	
8	InD[7] / OutA[0]	数字-输入 Dig-IN 模拟-输入 Anl-Out	0-15 / 0-10	S1-3	<5	24	30*(1)		5	Sc *(2)	
9	+12*(5) Ref-Out 参考-输入		12(+/- 0.5)		11.5	12.5		10	15*(1)		
10	OutD[0]	数字-输入	0-15V		<2	>12	24v	20	75*(1)		
11	OutD[1]	数字-输入									
12	OutD[2]	数字-输入									
13	OutD[3]	数字-输入									
14	RS485A	注意: 当使用RS485时, rj45与电缆的距离不得超过15英寸。 Note: when RS485 is used the rj45 to Hamal cable cannot exceed 15 inch									
15	RS485B										
16	GND										
17	GND										
18	GND										

\*(1) exceeding this value will permanently damage the device  
\*(2) short Circuit protected. Any external sink Voltage applied will permanently damage the device  
\*(3) input Current at 24V  
\*(4) input Current at 10Vin  
\*(5) use this output for positive dipole of 10kr potentiometer and input logic "1".

\*(1)超过该值将造成设备永久损坏  
\*(2)短路保护。任何外部的下沉电压都会造成设备永久损坏  
\*(3) 24V时的输入电流  
\*(4) 10V时的输入电流  
\*(5)对于正偶极子10 kr电位计和输入逻辑"1",使用该输出。

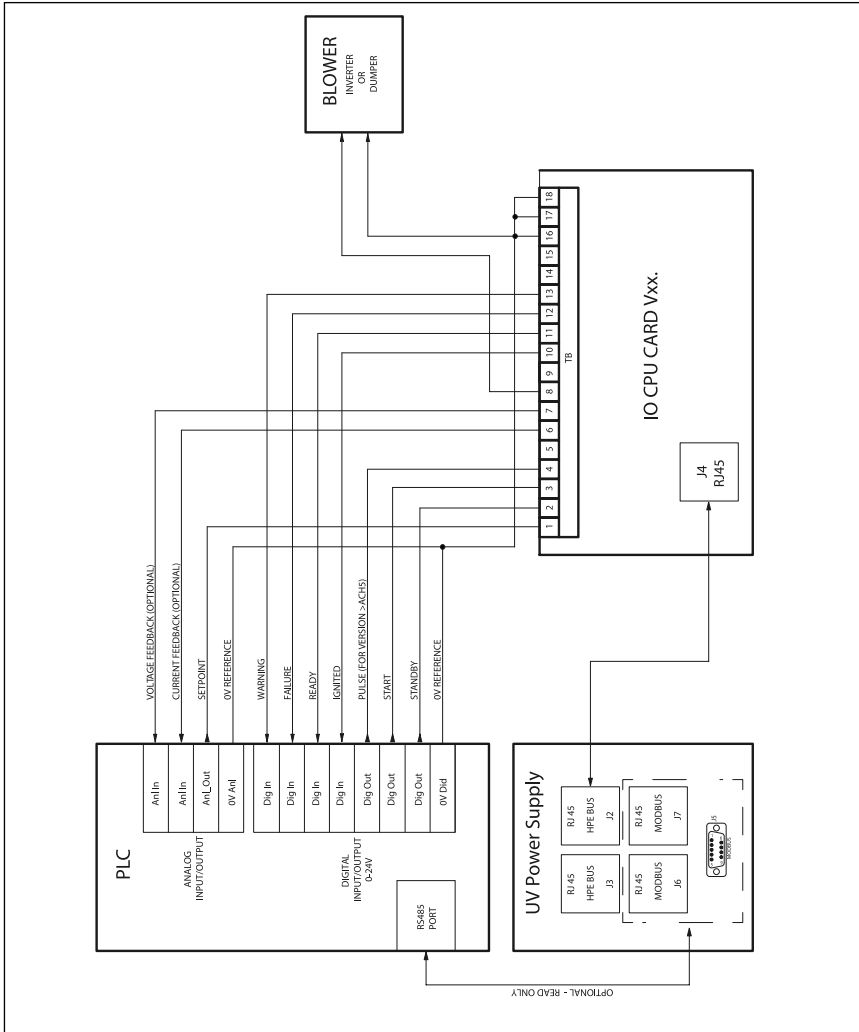


TB	ID	Funct	Type	Description	
1	InA[0]	SETP	0-10V	0-10V power request	
2	InD[1]	STAND-BY	0/1	A logic held "1" will force the machine to standby mode.	
				Parameter selected in : [ MENU]-> [1-LAMP] -> [STAND-BY]	Preset Value 20%
3	InD[2]	START	0/1	A logic held "1" ignite the lamp and execute the warm up procedure , One logic "0" will stop any operation	
4	InD[3]	PULS	0/1	A logic held "1" the device works in Pulse Mode.	
10	OutD[0]	IGNITED	0/1	A Logic "1" indicates that the ignition stage have been successfully completed	
11	OutD[1]	READY	0/1	A Logic "1" indicates the logic 1 indicates that the lamp is ready to reach the "full power" condition.	
12	OutD[2]	FAILURE	0/1	A Logic "1" indicates that one error condition have been found by the ballast diagnostic functions . The 'error type' detailed explanation can be read on ballast display or acquired by plc through the analog signal on OutA[1]. (Below the error table )	
				When "1"	IGNITED
13	OutD[3]	WARNING	0 / 1	A Logic "1" indicates that a warning is in progress	
				When "1"	OVTL
8	OutA[0]	Blower	0-10V	Analog Blower driver (0-10V)	
				Parameter selected in : [ MENU]->[4-ICPU] ->[BLOWER_H]	Preset Value 5V
7	OutA[1]	Voltage / ErrDecode	0-10V	In the normal operation this output is the feedback of voltage, its end scale is determined by value programmed in the menu on the Ballast.	
				Parameter selected in : [MENU]->[4-ICPU]-[SCALE_V]	Preset Value 5V
6	OutA[2]	Current	0-10V	Whenever any error occurs this output value indicates the type of error	
				0V (0 to 0.5v)	Thermal Protection . This event should never happen . a recursive thermal indication means malfunctioning of cooling system o installation not properly executed . ALLERT!!!! working in this condition will reduce seriously the machine life.
				1V (0.5 to 1.5)	Low Auxiliary Voltage
				2V (1.5 to 2.5)	Main Power Failure
				3V (2.5 to 3.5)	Ignition failed
				4V (3.5 to 4.5)	Run Time Lamp OFF
				5V (4.5 to 5.5)	Entry Test Failed
				6V (5.5 to 6.5)	N.U.
				7V (6.5 to 7.5)	Ground Leakage protection
				8V (7.5 to 8.5)	N.U.
				9V (8.5 to 9.5)	N.U.
6	OutA[2]	Current	0-10V	Current Feed Back	
				Parameter selected in : [MENU]->[4-ICPU]-[SCALE_C]	Preset Value 5V
16	GND			Negative reference for all signal	
17	GND			Negative reference for all signal	
18	GND			Negative reference for all signal	

TB	ID	Funct	Type	Description		
1	输入InA[0]	功率调节	0-10V	输入0-10V 功率调节		
2	输入InD[1]	待机	0 / 1	输入高电平 "1" , 电源进入待机模式, 输入低电平 "0" 取消待机		
				参数设置: [ MENU]-> [1-LAMP] -> [STAND-BY]	预设值 20%	范围 5-80%
3	输入InD[2]	启动/停止	0 / 1	输入高电平 "1" , 电源开始触发灯管并对灯管进行加热; 输入低电平 "0" , 电源停止任何操作。		
10	输出OutD[0]	触发完成	0 / 1	输出高电平 "1" 表示电源已经将灯管触发并点亮;		
11	输出OutD[1]	预热完成	0 / 1	输出高电平 "1" 表示灯管已经完成预热, 灯管可以开始工作。 从这个时候开始, 电源的功率大小取决于功率调节信号 (0~10V的设置) InA[0] (SETP)		
12	输出OutD[2]	异常	0 / 1	输出高电平 "1" 表示电源内部诊断发现异常并停止电源工作, 输出该异常信号。电源内部显示屏或者通过PLC读取的模拟量信号 (OutA[1]-下面有错误明细) 将报告具体的错误类型		
				当 "1"	IGNITED	当输出高电平 "1" 时, 电源强制将 "触发完成信号" 改成低电平 "0"。
13	输出OutD[3]	警告	0 / 1	READY	当输出高电平 "1" 时, 电源强制将 "预热完成信号" 改成低电平 "0"	
				当 "1"	A Logic "1" indicates that a warning is in progress	
8	输出OutA[0]	风机驱动	0-10V	风机驱动模拟量 (0-10V)		
				参数设置: [MENU]->[4-ICPU]->[BLOWER_L]	预设值 5V	范围 1-10
7	输出OutA[1]	电压反馈 / 错误代码	0-10V	在正常工作模式下, 该输出是电压反馈; 电压反馈的比率是根据菜单参数设置		
				参数设置: [MENU]->[4-ICPU]-[SCALE_V]	预设值 5V	范围 1-10
6	输出OutA[2]	电流反馈0-10V	电流反馈	发生异常时, 该反馈电压值代表异常内容如下		
				0V (0 to 0.5v)	电源本体过热 电源机本体过热不应该发生, 发生该异常说明电源的冷却系统出问题, 或者安装方式出问题 警示!!!! 如果电源机一直在过热状况下工作将降低电源机寿命.	
				1V (0.5 to 1.5)	辅助24Vdc电源过低	
				2V (1.5 to 2.5)	输入电异常	
				3V (2.5 to 3.5)	触发异常	
				4V (3.5 to 4.5)	运行中未知原因灭灯	
				5V (4.5 to 5.5)	启动自检异常	
				6V (5.5 to 6.5)	待定	
				7V (6.5 to 7.5)	接地保护异常 (GND Fail)	
				8V (7.5 to 8.5)	待定	
				9V (8.5 to 9.5)	待定	
6	输出OutA[2]	电流反馈0-10V	电流反馈	参数设置: [MENU]->[4-ICPU]-[SCALE_C]	预设值 5V	范围 1-10
				16	GND	所有信号的参考负极或者参考地 (COM)
17	GND	所有信号的参考负极或者参考地 (COM)				
18	GND	所有信号的参考负极或者参考地 (COM)				

C.3a-模式1时IOCPU与PLC的电气连接图

C.3a - Electrical connection diagram with PLC



PLC与多台智能UV电源连接图示说明;

Example of the connection of one or more UV power supply with PLC

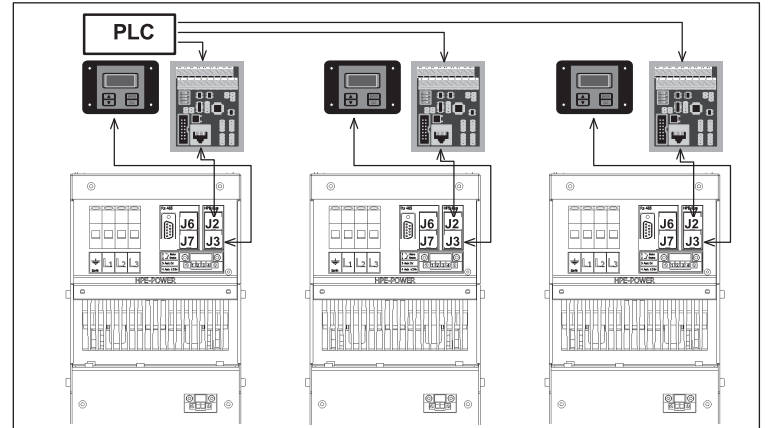


图.3  
Fig.3

智能UV电源采用MODBUS RS485连接图示

Example of connection to the ModBus Host device (monitoring only)

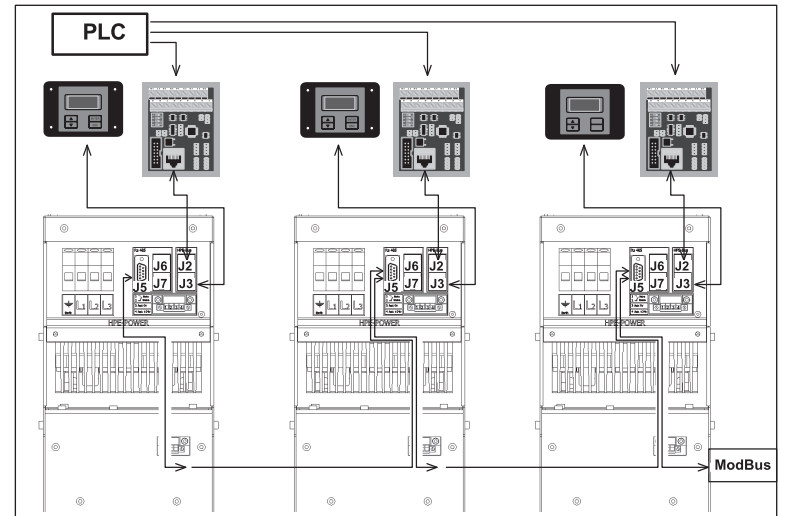
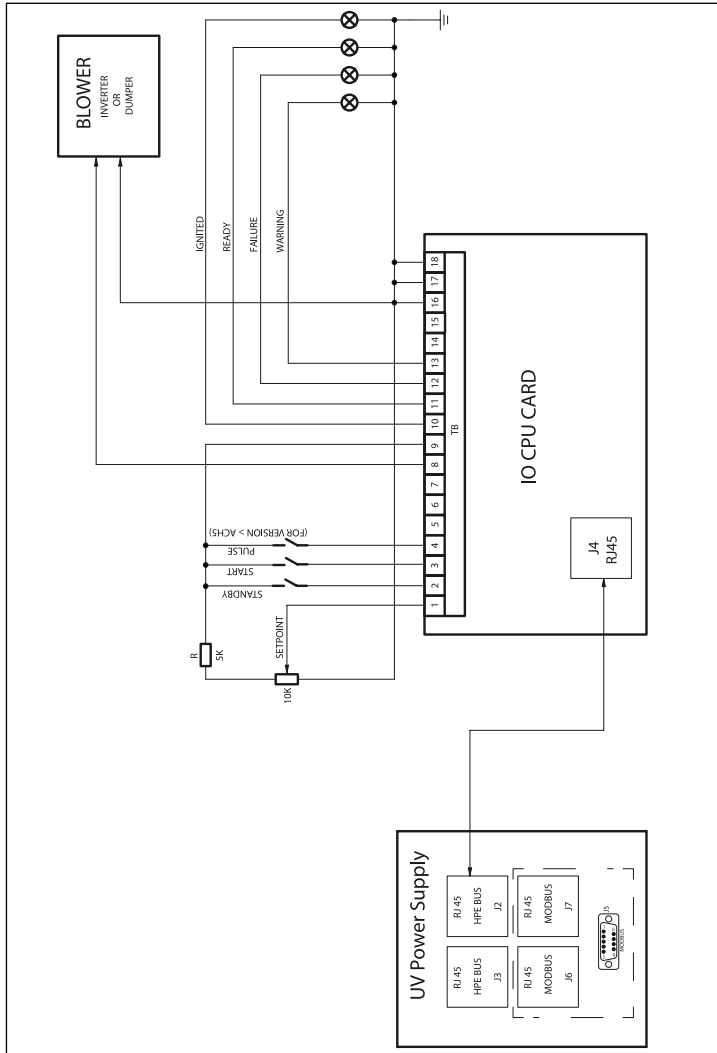


图.4  
Fig.4

C.3b -不需要使用PLC时的电气连接图示

C.3b - Electrical connection diagram without PLC



采用HMI (人机界面) 时多台智能UV电源连接图示 (不需要使用PLC) ;

Example of the connection of one or more intelligent UV power supply. without PLC

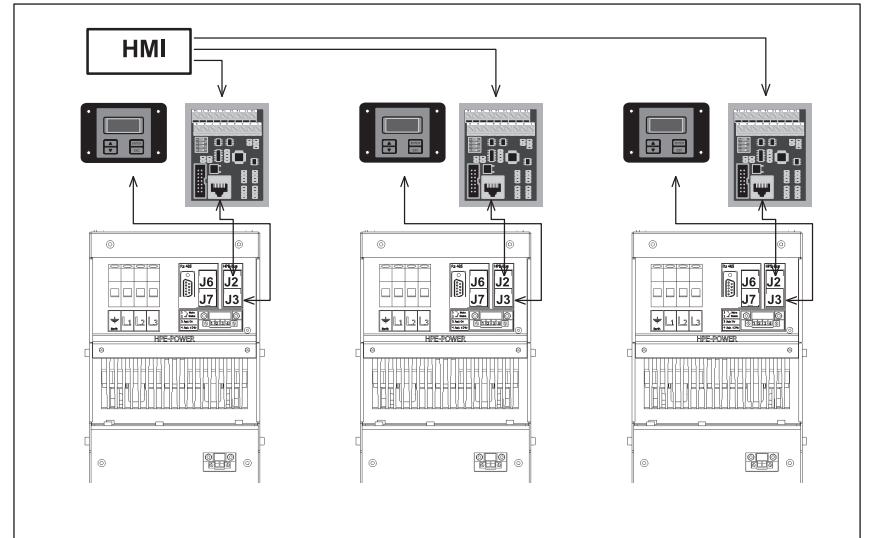


图.5  
Fig.5





中断时间设定:

中断时间是指智能UV电源切断通讯后, 多长时间会报告通讯中断。

COMOUT SETTING:

Time after which the Intelligent UV Power Supply device switches off in the absence of communication.

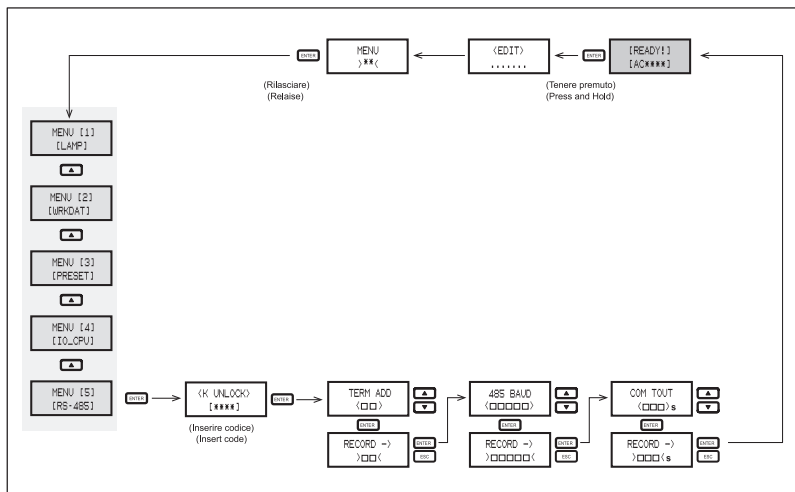


图.4 Fig.4

D.4 - 连接方式

智能UV电源与PLC连接, 可以用D-sub 9针接头 (J5), J6或者J7; 如果是多台连接时, 可以同时使用以上3个接头。

D.4 - Connection mode

It's possible connect Intelligent UV Power Supply device to ModBus network using connector J5 (D-SHELL 9 pin) or J6 and J7. In a connection with multiple devices you can use both modes.

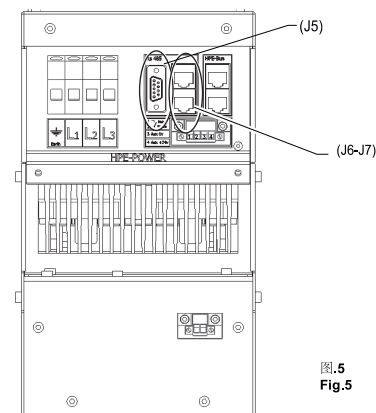


图.5 Fig.5

D.4a - "J5" D-sub RS485 接头  
J5 脚位1,2 = RS485A  
J5 脚位3,4 = RS485B

D.4a - "J5" D-Shell RS485 connector  
J5 pins 1,2 = RS485-A  
J5 pins 3,4 = RS485-B

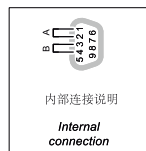


图.6 Fig.6

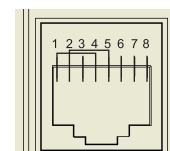


图.7 Fig.7

D.4b - "J6, J7" 用于RS485连接的RS45接头

D.4b - "J6,J7" RJ45 connectors for RS485

这两个接头在电路内部是并联连接到RS485通讯网络的。信号位置“485-A”和“485-B”定义如下:  
J6,J7 脚位 1,4 = RS485-A  
J6,J7 脚位 2,5 = RS485-B

These two connectors are internally connected in parallel and are dedicated to 485 network connection.  
J6,J7 pin 1,4 = RS485-A  
J6,J7 pin 2,5 = RS485-B

## D.5.1 - MODBUS RTU设置说明:

通讯参数	
波特率	9600/19200/38400
数据位	8
停止位	1
校验	偶校验
硬件设置	
D/SHELL -> J5	A => pin 1,2 B => pin 3,4
RJ45 -> J6/ J7	A=> pin 1,4 B => pin 2,5
终止位	无
可支持的MODBUS RTU功能码	
功能码3(十六进制H03)	读取多个寄存器
功能码16(十六进制H10)	写入多个寄存器

## D.5.1 MODBUS RTU SETTING.

Interface parameter	
SPEED	9600/19200/38400
BITS	8
STOP BIT	1
PARITY	EVEN
Hardware	
D/SHELL -> J5	A => pin 1,2 B => pin 3,4
RJ45 -> J6/ J7	A=> pin 1,4 B => pin 2,5
Termination	NO
MODBUS RTU Command supported	
Command 3	MULTIPLE WORD READ
command 16 hex10	MULTIPLE WORD WRITE

## D.5.2寄存器分布说明:

READ ONLY 只读					WRITE / READ 可读写				
十进制	十六进制	说明	类型	备注	十进制	十六进制	说明	类型	备注
00	H00	VOLTAGE (电压读取)	word		100	0064	SETPOINT 功率调节写入	word	
01	H01	CURRENT (电流读取)	word		101	0065	MCBF (设备控制字节区域)写入指令)	16 bit field	
02	H02	SC-EC (状态/错误代码)	2xCharacter		200	00C8	PulseFqy脉冲模式时脉冲频率写入	word	*1
03	H03	SSBF (状态代码字节区域)	16 bit		201	00C9	PulseDcy 脉冲模式时占空比写入	word	*1
04	H04	COOLING TIMER (冷却时间反馈)	word		300	012C	CFBC 灯管参数设置写入	16 bit field	*1
05	H05	BLOWER SPEED风机速度反馈	word		301	012D	LampVoltage灯管电压写入	word	*1
06	H06	HEAT SINK TEMPERATURE 散热片温度反馈	word	*1	302	012E	LampPower灯管功率写入	word	*1
07	H07	VTGT-(STAND-BY VOLTAGE)待机电压反馈	word	*1	303	012F	Sby 待机功率写入	2xcharacter	*1
08	H08	PWRD (功率/电压读取)功率电压读取	2xcharacter	*1					
09	H09	SSBF2 (状态代码字节区域2)	16 bit	*1					
400	0190	LampVoltage灯管设定电压读取	word	*1					
401	0191	LampPower灯管设定功率读取	word	*1					
402	0192	Sby 待机设定功率读取	2xcharacter	*1					

备注: \*1: 高于版本ACH501适用

## D.5.2 The register matrix:

READ ONLY					WRITE / READ				
Dec	Hex	Blk.Label	Type	Re-mark	Dec	Hex	Blk.Label	Type	Re-mark
00	H00	VOLTAGE	word		100	0064	SETPOINT	word	
01	H01	CURRENT	word		101	0065	MCBF	16 Bitfield	
02	H02	SC-EC	2xcharacter		200	00C8	PulseFqy	word	*1
03	H03	SSBF	16 Bitfield		201	00C9	PulseDcy	word	*1
04	H04	COOLING TIMER	word		300	012C	CFBC	16 Bitfield	*1
05	H05	BlwSpeed	word		301	012D	LampVoltage	word	*1
06	H06	HS_Temp	word	*1	302	012E	LampPower	word	*1
07	H07	VTgt	word	*1	303	012F	Sby	2xcharacter	*1
08	H08	PWRD	2xcharacter	*1					
09	H09	SSBF2	16 Bitfield	*1					
400	0190	LampVoltage	word	*1					
401	0191	LampPower	word	*1					
402	0192	Sby	2xcharacter	*1					

Remark: \*1: available Version > ACH501

## D.5.3 The detail of function address:

VOLTAGE	address [0000] [hex0000] 16bit (read only)
Voltage (1bit X volt)	
real time working voltage 1 bit = 1 volt	
Ex: 1350 = 1350 volt	
CURRENT	address [0001] [hex0001] 16bit (read only)
Current ( current *10)	
real time working current 1 bit = 0,1 volt	
Esempio: 124 = 12,4 Ampere	
COOLING TIMER	address [0003] [hex 0003] 16bit (read only)
Hot Lamp Time-out : in seconds	
Note : Available only with version >AC54XX	
SETPOINT	地址 : [dec' 100' ] [hex' 0064' ] 16字节 (可读/写)
Set Point	Value admitted 0-1023 ; if the request value is lower than the Stand by then the value will be driven to the minimal value programmed. Stand by parameter is available in : [MENU]->[1-LAMP]->[STBY PWR]
Type of memory : volatile	

## D.5.3 各类地址详细说明:

VOLTAGE (实时电压)	地址 [0000] [hex0000] 16字节 (只读)
电压 (1bit X 电压); 读数为1350, 表示电压为1350V	
实时工作电压, 1个位代表1V	
CURRENT (实时电流)	地址 [0001] [hex0001] 16字节(只读)
电流 (电流/10); 读数为124, 表示电流为10.4A	
实时工作电流, 1个位代表0,1V	
冷却时间	地址 : [dec' 00' ] 03[hex' 0003' ] 16字节 (可读/写)
灯管熄灭后的冷却时间, 以秒为单位倒计时	
注意: 版本高于AC54xx才有该功能	
功率调节设置	地址 : [dec' 100' ] [hex' 0064' ] 16字节 (可读/写)
功率调节	设置范围: 0-1023, 如果设置值低于待机设置功率时, 设备将按待机设置功率运行 待机功率设置方法: [MENU]->[1-LAMP]->[STBY PWR]

## D.5.4 状态代码地址【0002】说明:

- 地址“0002”是一个16位的字，该16位分割为高8位和低8位两个部分，每个部分的值都是从0~255。
- 低字节部分（低8位）是状态代码（SCode），用于表述设备在工作的各个阶段的状态；
- 高字节部分（高8位）尚未定义；
- 当字节【0003.0】=0时，这是该地址的值（低8位）才有效。

状态代码								地址【0002】[hex 0002] 16字节(只读)								
Bit15	Bit14	Bit13	Bit12	Bit11	Bit10	Bit9	Bit8	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0	
高8位字节 (0~255)								低8位字节 (0~255)								
未定义 (H03.BIT=0时, 不需要读取该地址内容)								状态代码 (SCode) (H03.BIT0=0时才有意义)								
状态代码SCode (地址【0002】低8位-> 状态代码具体说明)																
状态代码的十进制值	0	设备处于就绪状态、表示可以接受启动信号														
	1	灯管已经触发完成状态														
	2	热灯启动状态-> 还在热灯时开始触发灯管的条件 ▶ 计时器 [MENU]->[1-LAMP]->[COOL T.O] 设置冷却时间; 如果这个计时器的值大于“0”, 设备默认灯管还处于热灯状态; 即便是给设备启动信号, 设备也无法工作。可以采用两种方式将此倒计时复位: 将设备的24V断开后再接上; 其二打开设备上盖的亚克力板, 按压显示屏侧边的4个按键的任意一个按键也可以将这个倒计时复位。 ▶ 当设备处热灯状态时, 设备无法启动														
	3	灯管在预热中状态: 在预热阶段的电流和功率受控于设备本身, 不受外部设定的输入功率影响, 这时设备功率不可以调节														
	4	功率不可以调节状态, 这时灯管还在预热状态没有达到最大功率 (不再预热完成状态); 功率调节无效														
	5	功率可以调节状态, 灯管已经预热完成, 设备功率大小由外部决定, 例如由电位器或者模拟量输入值或者RS485的值														
	6	长期待机:功率设置在10%以下 (通过菜单可以设定待机功率), 电源将随灯管的冷却降低输出功率以节省能耗														
	7	未定义														
	8	未定义														
	9	未定义														
	10	未定义														
	11	未定义														
	12	未定义														
	13	等待错误复位指令, : “启动信号START”位【101.0】必须复位后才可以重新启动设备, 将“启动信号START”移除后, 状态代码需要变更成【0】 设备必须接收到“错误清除指令”以及“错误复位指令”执行以下流程: ■ 写入指令16 (十六进制H10) : 地址101 (十六进制: H65)的BIT【101.0】设置为0 ■ 写入指令16 (十六进制H10) : 地址101 (十六进制: H65)的BIT【101.1】设置为1 ■ 写入指令16 (十六进制H10) : 地址101 (十六进制: H65)的BIT【101.1】设置为0														
	14	未定义														
15	设备在编辑状态, 任何运行指令都不可以执行															

## D.5.4 Status Code detail:

- The “address 2” is 16 bit word divided in two byte whose value can be within 0 and 255.
- The lower part is the SCode (Status Code) that indicates the machine phase of working.
- The Higher part is empty( to be defined).
- The Bit【0003.0】is the switch to validate SCode (SSBF).

Status Code								address【0002】[hex 0002] 16bit (read only)								
Bit15	Bit14	Bit13	Bit12	Bit11	Bit10	Bit9	Bit8	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0	
HIGH SIDE BYTE 8bit(0-255)								LOW SIDE 8bit (0-255)								
255								0								
No define (When H03.BIT0=0, no need this data)								STATUS CODE (SCode) (When H03.BIT0=0)								
SCode(LOW SIDE 8bit value) Description																
状态代码的十进制值	0	machine ready to accept start signal .														
	1	start recognized -> Ignition in progress .														
	2	start recognized -> Ignition in progress with the lamp still hot . ▶ The timer in the [MENU]->[1-LAMP]->[COOL T.O] sets the cooling time, when the lamps turns off it decrements its value down to zero . Until this timer is > 0 the lamp is considered “HOT” . The removing of auxiliary voltage 24V the timer will be zeroed. ▶ When the lamp is HOT the ignition energy will be reduced .														
	3	Warm-up : During this phase the current and power will be automatically managed by the machine .														
	4	Regulation NOT ready : lamp is not ready to reach the max power .														
	5	Regulation ready : lamp is working in the linear zone machine is following the Setpoint.														
	6	long Standby: The Setpoint is below 10% the machine will try to reduce the minimum power achievable														
	7	n.u.														
	8	n.u.														
	9	n.u.														
	10	n.u.														
	11	n.u.														
	12	n.u.														
	13	1. Wait for Start off . the signal START Bit【101.0】 must be reset to restart the ma-chine , after removing START the state will move to SCode【0】 . 2. CMD16 00101.0( start ) set to 0 3. CMD16 00101.1( reset Error ) set to 1 4. CMD16 00101.1( start ) set to 0														
	14	n.u.														
15	Menu lock : the machine entered the menu any operation is locked.															

## D.5.5 错误代码地址[0002]说明:

- 地址“0002”是一个16位的字，该16位分割为高8位和低8位两个部分，每个部分的值都是从0-255；该错误状态有两种错误代码，一种是“X-Code”，另一种是“E-Code”
- 高8位部分错误代码是“X-Code”；该代码仅适用于软件版本高于ACHxxx或者HCxxxx；该代码同时将显示到设备的LCD显示屏上。
- 低8位部分错误代码是“E-Code”；该代码适用于所有版本软件，但是该错误代码是简化的错误代码；。
- 当字节 [0003.0]=1时，这是该地址的值才有效。

错误代码								地址 [0002] [hex 0002] 16字节(只读)							
Bit15	Bit14	Bit13	Bit12	Bit11	Bit10	Bit9	Bit8	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
高8位字节 (0~255)								低8位字节 (0~255)							
"E"类 错误代码 (ECode) (H03.BIT0=1时才有意义)								"X"类错误代码 (XCode) (H03.BIT0=1时才有意义)							

无论什么时候，当设备在正常工作过程中，设备内部控制监测到错误发生，设备会立即停止工作。

- 同时，发出错误指示 Bit 【0003.0】 =1，以及发出错误代码（E-Code 和 X-Code）
- 将状态代码（S-Code）区域的内容清零
- 断开控制接触器的继电器，从而断开接触器，断开输入主电
- 设备将“停止工作”，直到接收到“复位”指令；（写入【0101.1】=1（十进制）或者写入【0x0065.1】=1）
- 直到设备接收到“错误清除”指令以及“错误复位”指令后，设备允许重新启动。

## D.5.5 Error Code detail:

- The “address 2” is 16 bit word divided in two byte whose value can be within 0 and 255. There are two kinds of Error code for this device,
- The Higher part “X-Code” error code is available for software version higher than ACHxxx or HCxxxx; A type error code is matched all the error code which is shown in the LCD display.
- The lower part “E-Code” error code is available for all the version of software. “B” type error code is simplified code, it is more concentrated.
- The Bit [0003.0] is the switch to validate ECode (SSBF).

Error code								address [0002] [hex 0002] 16bit (read only)							
Bit15	Bit14	Bit13	Bit12	Bit11	Bit10	Bit9	Bit8	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
HIGH SIDE BYTE 8bit(0-255)								LOW SIDE 8bit (0-255)							
255								0							
"E-Code" (When H03.BIT0=1)								"X-Code" (When H03.BIT0=1)							

whenever during the working operation, the internal code detects a fault, the machine will stop

- Issues Bit [0003.0] =1 + E-Code and X-Code.
- Cleans the SCode fields to “0” .
- Opens the main power contactor to remove .
- Machine “hangs up” until a “RESET ERROR” command Write {(dec) 0101.1} = 1 {(Hex) 0x0065.1} is execute
- After the error condition will be remove and after “RESET ERROR” have been issue the machine will be ready be restarted

X-Code	E-Code	显示屏 显示内容	发生 阶段	具体内容描述以及可能原因判断
1	14	E-TGND-1	自检	启动阶段自检，接地异常
2	14	E-TS12-1	自检	电压监测异常或者“与其他设备相互干扰”造成自检异常
3	14	E-TS13-1	自检	控制板电源“工作周期监测”异常
4	14	E-TS14-1	自检	检测到自检线路在ON的状态（IP8上有跳线）
5	14	E-TS15-1	自检	检测到BUCK侧的IGBT异常
6	14	LAMP_SC	检测输出短路	灯管电偶或者灯管连接处短路
7	4	NO MAIN	检测到输入电源，输入电压为0	
8	4	LOW MAIN	检测到输入电源的电压偏低（低于设定的输入电压10%以上）	
9	4	OVER-VLT	检测到输入电源的电压偏高（低于设定的输入电压15%以上）	
10	6	IGNIT 31	点火失败异常	可能是输出电容阻值偏高
11	6	IGNIT 32	点火失败异常	可能是输出电容阻值太高
12	6	IGNIT 04	点火失败异常	可能是灯管异常或者灯管未连接
13	6	IGNIT 11	点火失败异常	可能是灯管未连接或者灯管电压不足
14	6	HATA_ISC	检测到短路	可能是灯管电偶或者灯管短路
15	6	IGNIT 01	检测到短路	可能是灯管电偶或者灯管短路
16	6	HATA2_SC	检测到短路	可能是灯管电偶或者灯管短路
17	6	HATA3_SC	检测到短路	可能是灯管电偶或者灯管短路
37	6	IGN CBCT	检测到短路	警告：灯管电容太高
18	7	WRMUP TO	预热阶段	在设定的预热时间内，灯管未能完成预热，出现该异常
19	9	BUCK-HOC	检测到BUCK侧	检测到BUCK侧（前侧IGBT）电流过大，或者短路
20	9	BRIG-HOC	检测到BUCK侧	检测到BUCK侧（后侧IGBT）电流过大，或者短路
21	9	BRIG-DCY	软件检测到过电流	造成故障
22	4	PWR_FAIL	输入主电源异常	输入主电源突然断开
23	5	GND_FAIL	工作过程中检测到对地漏电	输出侧电流过高
24	0	APP-ERR	主应用程序的通讯方式异常	输入主电源突然断开
25	4	PH_LOST	输入相角或者基相电压失真	输出主电源突然断开
26	9	LAMP_OFF	作过程灯管发生未原因熄灭	确认PRST的通讯方式设置是否正确
27	2	AUX_FAIL	24Vdc辅助电源电压降低到21V以下，或者24Vdc辅助电源功率不足	24Vdc辅助电源电压不足或者是功率不足
28	1	THERMAL	检测到散热器温度过高，超出设定要求	检测到灯箱温度过高（适用于APP01）
29	15	CAN_LINK	RS485与设备连接中断，或者没有连接IOCPU	检测到灯箱温度过高（适用于APP01）
30	15	485_LINK	与IOCPU连接的CAN通讯中断，或者未连接	
36	15	TL2_OFFL	远端显示灯HAL2LD与设备通讯中断，或者未连接（仅适用于MODEL2）	
31	10	LD_THERMAL	LED：检测到LED灯板温度超出设定温度	
32	10	LED_CAN	LED：检测到LED灯组与设备通讯中断或者未连接	
33	10	LED_COB	LED：检测到LED灯组1个或者多个灯板异常	
34	10	LED_N.C	LED：检测到LED灯组控制信号中断或者未连接	
35	10	LED_PWR	LED：检测到设备到LED灯组的电源线未连接	
100	12	HOUSING_TH	灯箱温度异常	
101	12	SHUTTERJAM	快门门异常或者卡壳	
102	12	AIRPRESSUR	气压异常	
103	12	BLOWERFAIL	排风机电源异常	
104	12	EXHAUSTTEMP	排风温度过高	
105	12	SURROUND_T	环境温度过高	
106	12	VACUUM_PRS	真空度异常	
200	12	SURROUND_T	环境温度过高	
255	12	VACUUM_PRS	真空度异常	

X-Code	E-Code	LCD Display Show	Phase	Description
1	14	E-TGND-1	Selftest: Ground circuitry failed	Output cable could be connected with ground
2	14	E-TS12-1	Selftest: Voltage detector fail OR "Mutual interference with other machines installed"	Note: not recoverable error
3	14	E-TS13-1	Selftest: Voltage detector on the control card failure	Mains connector not switched off Voltage_Detector (IL300) fail
4	14	E-TS14-1	Selftest: Voltage detected with "Test" lamp on	Note: not recoverable error
5	14	E-TS15-1	Selftest: Buck IGBT integrity failure	Lamp cable or lamp connector short circuit
6	14	LAMP_SC	Short circuit detected	
7	4	NO MAIN	No mains detected	
8	4	LOW MAIN	Mains detected is too LOW according to machine setup	
9	4	OVER-VLT	Mains detected is too HIGH according to machine setup	
10	6	IGNIT 31	Ignition fail	Probable high capacity cable
11	6	IGNIT 32	Ignition fail	Probable too high impedance cabling or bad connection
12	6	IGNIT 04	Ignition fail	Probable lamp failure or not connected
13	6	IGNIT 11	HATA ignition fail	Probable lamp failure or not connected
14	6	HATA_ISC	HATA ignition short circuit detected circuit	Lamp cable or lamp connector short circuit
15	6	IGNIT 01	Ignition fail	HATA: ignition short circuit insufficient to ignite
16	6	HATA2_SC	HATA: ignition short circuit detected circuit	Lamp cable or lamp connector short circuit
17	6	HATA3_SC	HATA: ignition short circuit detected circuit	Lamp cable or lamp connector short circuit
37	6	IGN CBCT	Ignition fail	Warning: The cable connection has too high capacitance
18	7	WRMUP TO	After the time st the lamp cannot reach the nominal condition	- "VUP T.O." setup - Lamp setup - Lamp cooling
19	9	BUCK-HOC	Hardware over current detected	Mains instability or over voltage
20	9	BRIG-HOC	Hardware over current detected	Short circuit at the output
21	9	BRIG-DCY	Software over current detected	High current at the output
22	4	PWR_FAIL	Mains power failure	The mains tripped off
23	5	GND_FAIL	Leakage current to GND detected	Cable defective or lamp broken
24	0	APP-ERR	Master application error (APP_02, AP_ND4)	Check application documents
25	4	PH_LOST	Mains phase lost or too low	
26	9	LAMP_OFF	The lamp trips off with no apparently reason	
27	2	AUX_FAIL	The 24VDC auxiliary voltage drops below 21V	The auxiliary power supply has insufficient voltage/current
28	1	THERMAL	Dangerous temperature have been detected on the heat-sink	
29	15	CAN_LINK	The CAN link with IO-CPU CARD is interrupted or missing	
30	15	485_LINK	The RS485 link with master system is interrupted or missing	
36	15	TL2_OFFL	The CAN link with HAL2LD is interrupted or missing (MODEL2 only)	
31	10	LD_THERMAL	LED: thermal protection detected	
32	10	LED_CAN	LED: CAN link interrupted or missing	
33	10	LED_COB	LED: one or more COB are defective	
34	10	LED_N.C	LED: signal control cable not connected	
35	10	LED_PWR	LED: power cable not connected	
100	12	HOUSING_TH	HOUSING THERMAL	
101	12	SHUTTERJAM	SHUTTER JAMED	
102	12	AIRPRESSUR	AIR PRESSURE IS LOWER	
103	12	BLOWERFAIL	BLOWER FAILURE	
104	12	EXHAUSTTEMP	EXHAUST TEMPERATURE HIGHER	
105	12	SURROUND_T	AMBIENT TEMPERATURE HIGHER	
106	12	VACUUM_PRS	VACUUM PUMP ERROR	
200	12	SURROUND_T	AMBIENT TEMPERATURE HIGHER	
255	12	VACUUM_PRS	VACUUM PUMP ERROR	

## D.5.6 SSBF 状态代码说明:

SSBF (状态读取字节区)		地址: [0003] [hex 0003]		16字节 (只读)													
.15	.14	.13	.12	.11	.10	.9	.8	.7	.6	.5	.4	.3	.2	.1	.0		
位	SSBF				When = '1'				When = '0'								
0	异常发生检测	异常发生: 根据前面描述选择异常代码				缺省状态: 根据前面描述选择状态代码											
1	灯管处于热灯状态	灯管在工作状态或者灯管还在很热的状态				灯管已经冷却, 允许重新启动灯管											
2	灯管预热完成可以开始工作	当[PW_RDY]达到设定的值时, 灯管可以立即开始工作				当[PW_RDY]未达到设定值, 灯管还不能开始工作				灯管预热完成就绪设置方法: [MENU]->[1-LAMP]->[PW_RDY]							
3	电压过高警报	当灯管工作过程中电压超过设定电压的20%时, 设备将自动降低功率运行从而保护灯管不受损坏, 同时输出该警报				缺省状态											
4	Enable	缺省状态: 设备所有功能都能正常工作				异常状态: 设备还没有准备好不可以接收启动信号, 这时给设备启动信号无效											
5	编辑状态	该字节受以下因素影响: ● BIT.7 在APP_01模式下CAN的连接状态; ● BIT.5 在编辑状态; ● BIT.1 异常发生;				缺省状态											
6	设备就绪可以接收启动指令	菜单还在编辑状态, 任何工作功能有受限不可以使用				设备已经可以接受启动指令, 当状态代码 (SCode) 是 "0" 时, 这个字节ON				设备还没准备好不可以接受启动信号							
7	CAN_IO 状态	IO_CPU在正常工作连接状态				IO_CPU没有在正常工作连接状态, 或者没有将IO_CPU复位给到设备;				在一些APP应用里面, 例如APP_01是需要强制复位IO_CPU的; 在该应用中这个字节被主机监控来确认系统是否处于完整状态							
8	散热器温度过高警报	设备运行中散热器温度过高 (超过70度), 设备将降低功率运行以防止损坏设备, 降低功率比例为: (5*(实际温度-70))%;				default											
9	快门开启状态	检测到开启快门 (仅适用于APP_01, RS485)															
10	快门关闭状态	检测到关闭快门 (仅适用于APP_01, RS485)															
11	风机启动状态	检测到风机强制启动 (仅适用于APP_01, RS485)															
12	联机开关状态	检测到关闭待机 (仅适用于APP_01, RS485)				开启待机 (仅适用于APP_01, RS485)											
13	脉冲模式	设备设置为脉冲模式															
14	未定义																
15	未定义																

## D5.7 MCBF 写入控制字节说明:

MCBF (写入控制字节区)		地址: [0101] [hex 0065]		16字节 (可读/写)													
.15	.14	.13	.12	.11	.10	.9	.8	.7	.6	.5	.4	.3	.2	.1	.0		
Bit	MCBF				When = '1'				When = '0'								
0	启动/停止	执行启动指令				执行停止指令				当使用APP_01时, 执行该指令会强制执行快门关闭动作							
1	警报复位	将设备的状态清零以及警报移除; 将设备返回到允许再次启动的就绪状态															
2	待机	将设备功率调整到待机功率 (待机功率大小根据SBY_PWR设置)				当在APP_01时: : ● 快门强制转换到关闭状态 ● 设备功率将调整到待机功率, 设置方式为: [MENU]->[1-LAMP]->[STBY_PWR].				执行启动指令				[MENU]->[1-LAMP]->[STBY_PWR]			
3	风机抽风	强制将抽风风机速度开到最大设定值进行强抽风				风机抽风最大速度设置				[MENU]->[4-ICPU]->[BLOWER_H] (0-10V)							
4	快门打开	强制将快门打开															
5	n.u.																
6	n.u.																
7	n.u.																
8	n.u.																
9	n.u.																
10	启动脉冲	启动脉冲模式工作															
11	n.u.																
12	n.u.																
13	n.u.																
14	n.u.																
15	n.u.																

## D.5.6 SSBF detail

SSBF		address [0003] [hex 0003]		16bit (read only)													
.15	.14	.13	.12	.11	.10	.9	.8	.7	.6	.5	.4	.3	.2	.1	.0		
Bit	SSBF				When = '1'				When = '0'								
0	Error Occurred:	error occurred: ECode selected				default : SCode Selected											
1	Lamp Hot	Lamp is working or recently stopped.				Lamp cool ready to be ignited full energy											
2	Lamp Ready	Lamp is ready to work immediately at the power percentage set in [PW_RDY]				Lamp is Too Cold to achieve the power percentage set in : [PW_RDY]				Power Ready parameter is available in : [MENU]->[1-LAMP]->[PW_RDY]							
3	VLOvV Safe Dimming	When the runtime lamp voltage breaks-over its limit of [nominal voltage+20%], then machine enters in "Power dimming" to prevent the lamp damaging.				default											
4	Enable	default: All the function of the machine are properly working.				Abnormal state : the machine is not ready to accept the start command , any start command will be ignored.											
5	Edit Status	This bit is influenced by: ● .7 Can status when APP_01 (Slave Mode) is selected , ● .5 Edit Status ● .1 Error Occurred .															
6	Ready To Start	The menu function have been entered : any working function are inhibited				default											
7	Can_IO Status	The machine is ready to accept a start command : This bit is on when SCode is "0"				The machine is NOT ready to accept a start command .											
8	HSTL Safe Dimming	The Io_Cpu is connected and properly working				The Io_Cpu is not connected or Preset does not mandatory require Io_Cpu											
9	Shutter Opened	in some application such as "APP_01" is mandatory the usage of Io_Cpu: in this case this bit could be monitored by host to verify the system integrity															
10	Shutter Closed	When the runtime heat-sink temperature breaks over its limit of 70degC, then machine enters in "power dimming" reducing the max power available of (5*(Ths - 70))%, where Ths=Heat-Sink temperature.				default											
11	Blower ON	End stroke OPENED Shutter is active															
12	Print ON	End stroke CLOSED Shutter is active															
13	Pulsing	Lamp Blower IS Running															
14	n.u.	Printer is running															
15	CLOCK	Working at Pulsing mode															
		n.u.															
		The bit toggles the state every time SSBF is accessed.															

## D5.7 MCBF detail:

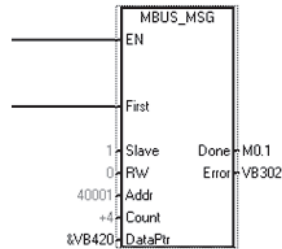
MCBF		address [0101] [hex 0065]		16bit (read / Write)													
.15	.14	.13	.12	.11	.10	.9	.8	.7	.6	.5	.4	.3	.2	.1	.0		
Bit	MCBF				When = '1'				When = '0'								
0	Start / Stop	Request To start				Stop operation				When : APP_01 is selected the shutter will be forced to closed position.							
1	Alarm Reset	Reset the machine status and remove the alarms. The machine will return to normal operation state.															
2	Stand By	The power driven to the lamp will be forced to the preset Stand-By value .				When : APP_01 selected: ● The shutter will be forced to closed position. ● The power is driven to stand by Setpoint. [MENU]->[1-LAMP]->[STBY_PWR]. ▶ When PRINT_ON (IO_CPU pin 7) is active then "Stand By" is ignored.				[MENU]->[1-LAMP]->[STBY_PWR]							
3	Wash	Stand-by parameter setup in				[MENU]->[1-LAMP]->[STBY_PWR]											
4	OpenShutter	The Ventilator speed will be forced to work to max speed programmed.				Max Speed Ventilation setup				[MENU]->[4-ICPU]->[BLOWER_H] (0-10V)							
5-9	n.u.	Valid only When APP_01 Selected				When the unit is not "Running" the shutter is forced to be opened											
10	Pulsing	Turn on Pulsing				Turn Off Pulsing mode											
11-15	n.u.																

## D.5.8 PLC程序举例：（台达和西门子）

## 5.8.1 PLC品牌==台达,

设备地址（MODBUS地址）为1.

- 读取H01~H03寄存器
- [MODRD K1 K0 K4] 读取寄存器指令,
- [MOV D1050 D560] 读取当前电压,
- [MOV D1051 D561] 读取当前电流
- [MOV D1052 D562] 读取当前设备状态,
- [MOV D1053 D563] 读取当前设备状态.
- 读写100~101(H64~H65) 寄存器,
- [MODRW K1 K16 K100 D300 K2]或--[MODRW H1 H10 H64 H2], 设备地址为1, 功能码为16, 连续写2个寄存器。



## 5.8.2 PLC品牌 ==西门子S7-200或S7-200 SMART

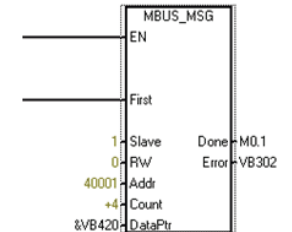
设备地址（MODBUS地址）为1.

- 地址40001~40004对应的是H00~H003.
- 40001即H00表示电压,
- 40002表示电流,
- 40002设备的状态代码和错误代码,
- 40003表示设备的故障状态,
- 读出的数值放在VW420,VW422,VW424,VW426中, VW420电压, VW422电流, VB423, 设备的错误代码, VB424设备的状态代码.
- 该程序, 读写100~101(H64~H65)寄存器, 40101表示100(H64)功率调节, 40102表示101(H65)设备的控制字.
- 将VW430写入100(H64) 中, VW432写入101(H65) 中。

一、 5.8 PLC Program example :  
( Brand Delta and Simens )

## 5.8.1 PLC Brand: Delta , Device Address ( MODBUS Slave Address ) 1.

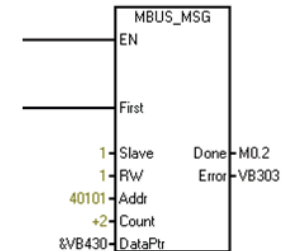
- Read H01~H03 Register
- [MODRD K1 K0 K4] Modbus Read Multi-Register Code,
- [MOV D1050 D560] Read Real time working Voltage,
- [MOV D1051 D561] Read Real time working Current
- [MOV D1052 D562] Read Real time SC-EC,
- [MOV D1053 D563] Read Real time SSBF,
- Read and Write 100~101(H64~H65) Register,
- [MODRW K1 K16 K100 D300 K2] or--[MODRW H1 H10 H64 H2], the slave address is 1, the Modbus RTU function code is 16, read/write two registers at one time.



## 5.8.2 PLC Bran: S7-200 or S7-200 SMAR, the device address MODBUS RTU SLAVE is 1.

- The Registers 40001~40004 (the device's Register is H00~H003.
- 40001 is real time Voltage,
- 40002 is real time Current,
- 40002 is real time SC-EC,
- 40003 is real time SSBF,

- this program segment save the real time value in VW420,VW422,VW424,VW426 , which read from 40001~40004(H00~H003). it means VW420 is real time voltage , VW422 is real time current, VW424 is real time SC-EC, VW426 is real time SSBF.
- this program segment means read/write 100~101(h64,h65)two register .40101 is 100 register, power adjust word;40102 is 101 register, control command word. when this program segment being executed, the VW430 will be write to 100(H64),VW432 will be write to 101(H65).





HPE RS485 MAP HPE RS485地址表																						
DEC 十进制	HEX 十六进制	Read 读取	Write 写入	Type 类型	Blk.label 标记	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
0	0000	*		word	RoB->Voltage 电压																	
1	0001	*		word	RoB->Current 电流																	
2	0002	*		2 x char	RoB->SSEC 状态/ 错误代码	Statuscode状态代码							ErrorCode 错误代码									
3	0003	*		16 Bitfield	RoB->SSBF状态字 节区域	.Error/Stat us错误/状态	.lampHot 热灯	.Ready 准备就绪	.ExtraVDim 电压过高降低 功率	.Enabled 可以使用		.InEdit 在编辑状态	.Ready2star t可以准备启 动	.CanIOStat us CAN IO状态	.HeatSinkO VT 温度过高 降低功率	.ShOpened 快门开启	.ShClosed 快门关闭	.BlowerON 风机启动	.PrintON 联机状态	.Pulsing 脉冲模式		.ToggleCo m通讯状态
4	0004	*		word	RoB->CoolTimer 冷却时间																	
5	0005	*		word	RoB->BlwSPeed 风机速率																	
6	0006	*		word	RoB->HS_ temp 散热器温度																	
7	0007	*		word	RoB->VTgt 电压/功率																	
8	0008	*		2 x char	RoB->PWRD功率 百分比	PwrPerc功率百分比							SetP_ Perc 设置功率百分比									
9	0009	*		16 Bitfield	RoB->SSBF2 状态字 节区域2	Is_Lamp 传统UV灯	Is_Led LED灯	ExtraFan 风机状态														
100	0064	*	*	word	RwB->Set_point 功 率调节设定																	
101	0065	*	*	16 Bitfield	RwB->MCBF 输入主 控字节区	Start_Req 启动写入	AllarmRSet 警报复位	StandBy 待机	Wash 清洗	OpenShutter 开启快门							Start_Pulse 启动脉冲					
200	00C8	*	*	word	PIB->PulseFay 脉冲 频率																	
201	00C9	*	*	word	PIB->ulseDcy 脉冲 占空比																	
300	012C	*		16 Bitfield	WcB->.CFBC 参数 设置	SetLampConf 灯管参数设置	SetSbyPwr 待机功率设置	SetSbyCurr 待机电流设置														
301	012D		*	word	WcB->LampVoltage 电压设定																	
302	012E		*	word	Wcb->LampPower 功率设定																	
303	012F		*	2 x char	Wcb->Sby 待机功率 设定	PowerPerc 功率百分比设置							CurrentPerc 电流百分比设置									
400	0190	*		word	RcB->LampVoltage 电压读取																	
401	0191	*		word	RcB->LampPower 功率读取																	
402	0192	*		2 x char	RcB->Sby待机功率 读取	PowerPerc 功率百分比设置读取							CurrentPerc 电流百分比设置读取									

Electrical connection diagram

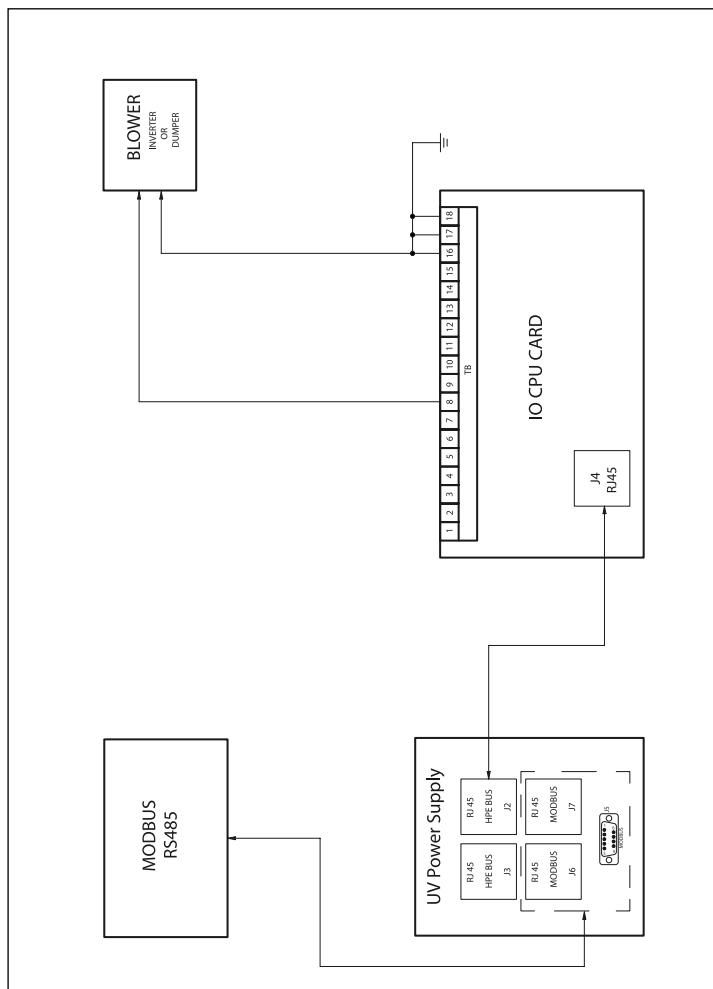


图.7  
Fig.7

图例说明多台智能UV电源使用 9PIN的 D-SHELL 连接头如何连接

Example of connection of more Intelligent UV Power Supply using only 9 pin D-SHELL connector.

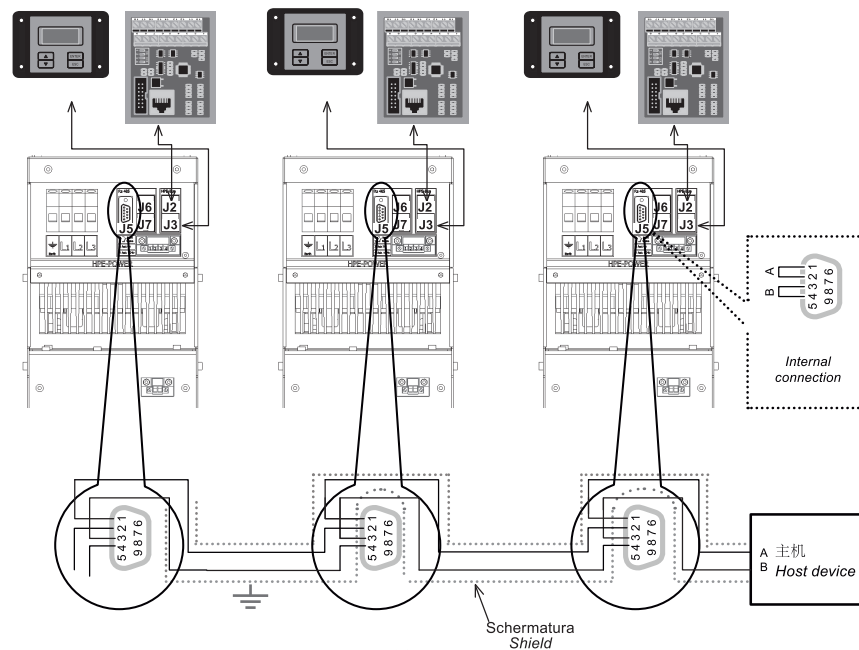


图.8  
Fig.8

图例说明多台智能UV电源使用 RJ45的连接头如何连接

Example of connection of more Intelligent UV Power Supply using only RJ45 connector, daisy chain.

图例说明多台智能UV电源使用 RJ45 和 9PIN的D-shell 如何连接

Example of connection of more Intelligent UV Power Supply using RJ45 connectors and D-SHELL connector.

