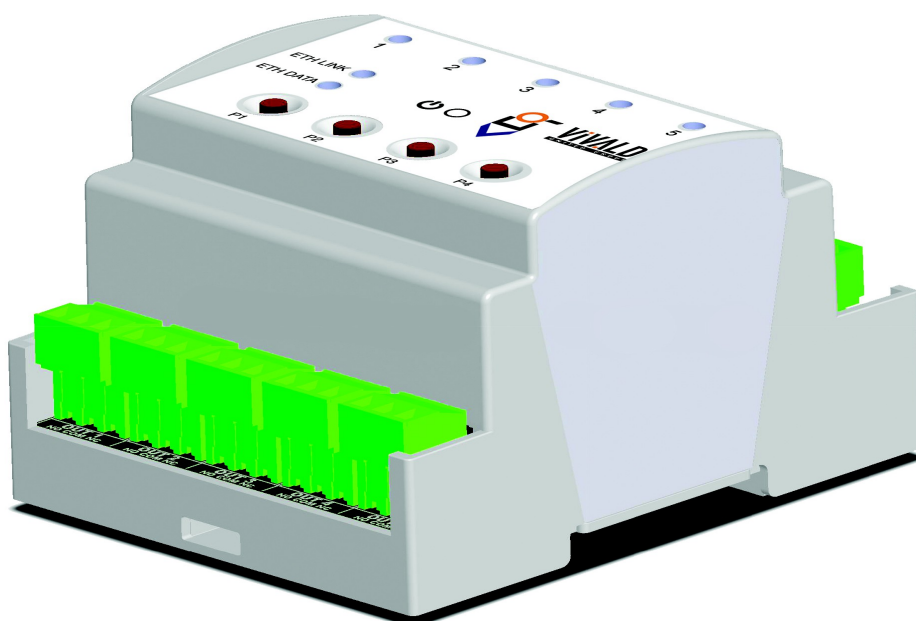




USER MANUAL

GIOVE AC5



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1 IMPORTANT SAFETY INSTRUCTIONS

This device is designed and manufactured to assure personal safety. Improper use can result in electric shock or fire hazard. The safeguards incorporated into this unit will protect you if you observe the following procedures for installation, use, and servicing.

- Follow all warnings and instructions marked on the product.
- Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Do not use this product near any liquids.
- Do not place this product on an unstable surface. The product may fall, causing serious damage to the product.
- Do not drop the product.
- Do not block the slots and openings on the top and bottom of the chassis; to ensure proper ventilation and reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered.
- Operate this product only from the type of power indicated on the marking label.
- Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
- Never push objects of any kind into this product through the chassis slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock.
- Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - When the power cord or plug is damaged or frayed.
 - If liquid has been spilled on the product.
 - If the product has been exposed to rain or water.
 - If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment may result in damage and require extensive work by a qualified technician to the product to normal condition.
 - If the product has been dropped or the chassis has been damaged.
 - If the product exhibits a distinct change in performance, contact Vivaldi Customer Support.

Vivaldi S.R.L. it reserves the right to update this document at any time without notice.

2 PRODUCT OVERVIEW

The Giove AC5 is a device for remote management with five contacts in deviation with europlug terminal (Max 5A).

By using the RJ45 port is possible to connect the Giove AC5 to the local network, and manage it with Vivaldi iControl or a home automation supervisor.

It includes an integrated web server, where you can manually control the contacts and manage settings.

At the first device connected to the LAN you can be connected, in cascade, four other device using the europlug connector.

2.1 SPECIFICATIONS

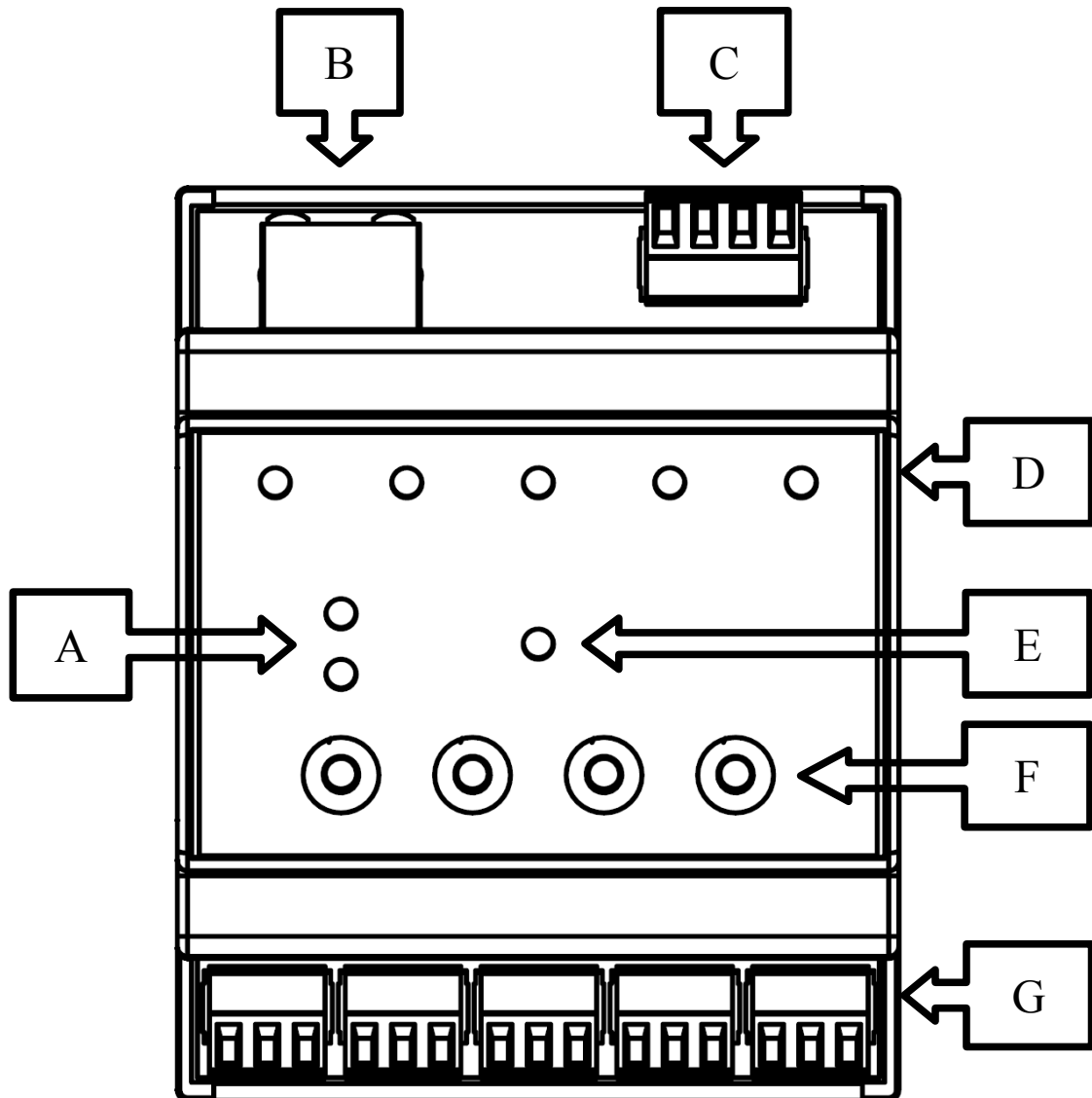


Figure 1

- A) Status LED of the Ethernet network: LINK = Green, DATA = Yellow;
- B) RJ45 connector, Ethernet connection 10/100Mbps;
- C) Europlug connector, | B | A | - | + |, for power supply and RS485 connection with other devices Giove AC5;
- D) Five multicolour LED matching to the relay, used to display relay status;
- E) Power ON LED, indicates that the device is turned on;
- F) Four button to device management;
- G) Five europlug connector 3-way for five contacts in deviation, | NO | COM | NC |.

3 PACKAGE CONTENTS

- Giove AC5
- Instruction

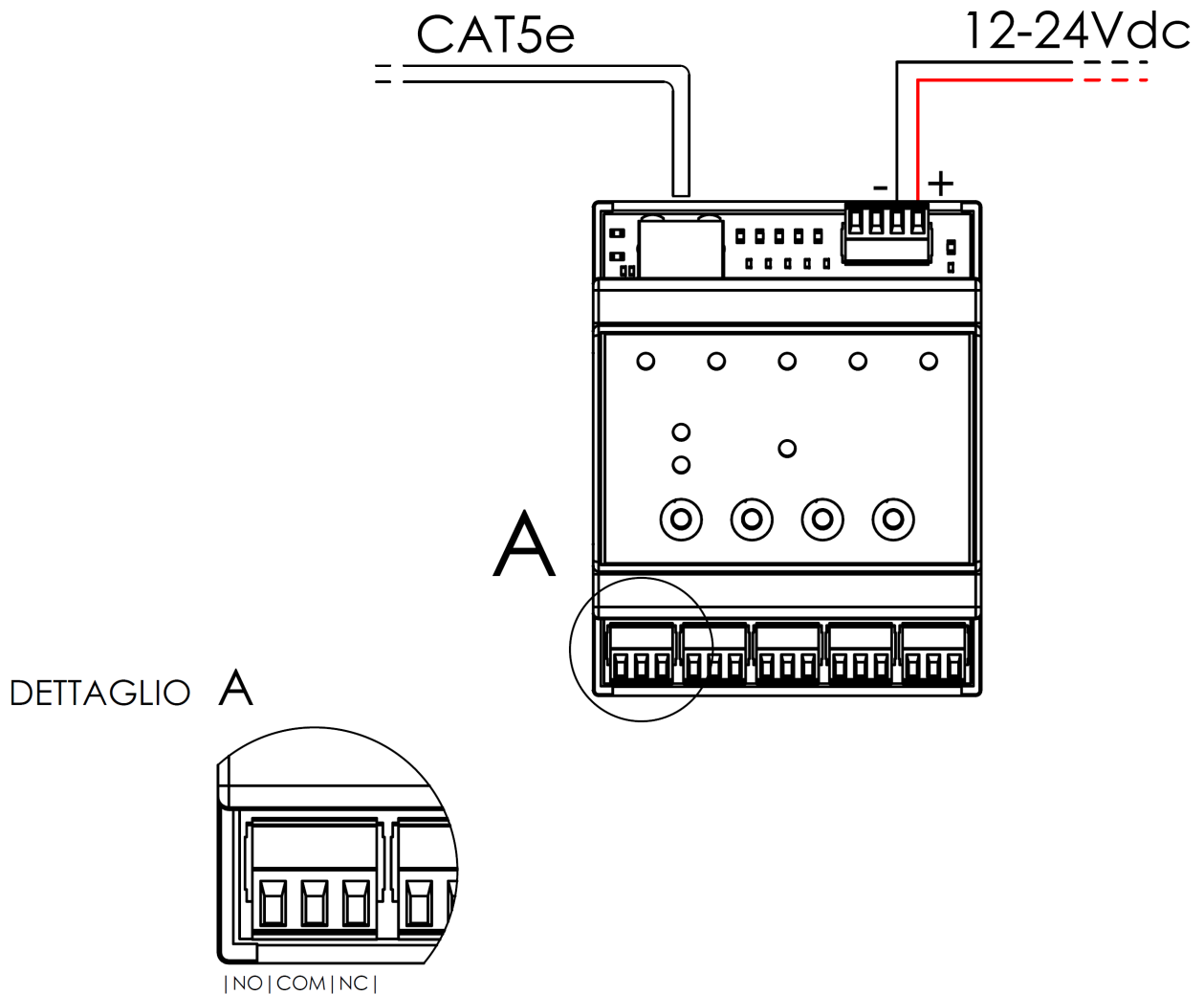
4 FUNCTIONS AND CONFIGURATIONS

4.1 ELECTRICAL CONNECTION

4.1.1 Connection single module

For proper operation of the device you need to feed it through the connector (Figure 1-C) from 12 to 24 Vdc. Attention to the polarity!

For communication, connecting the LAN to the RJ45 connector (Figure 1-B), using a CAT5e cable. To contacts can be connected a maximum load of 5A(NO) and 3A(NC).

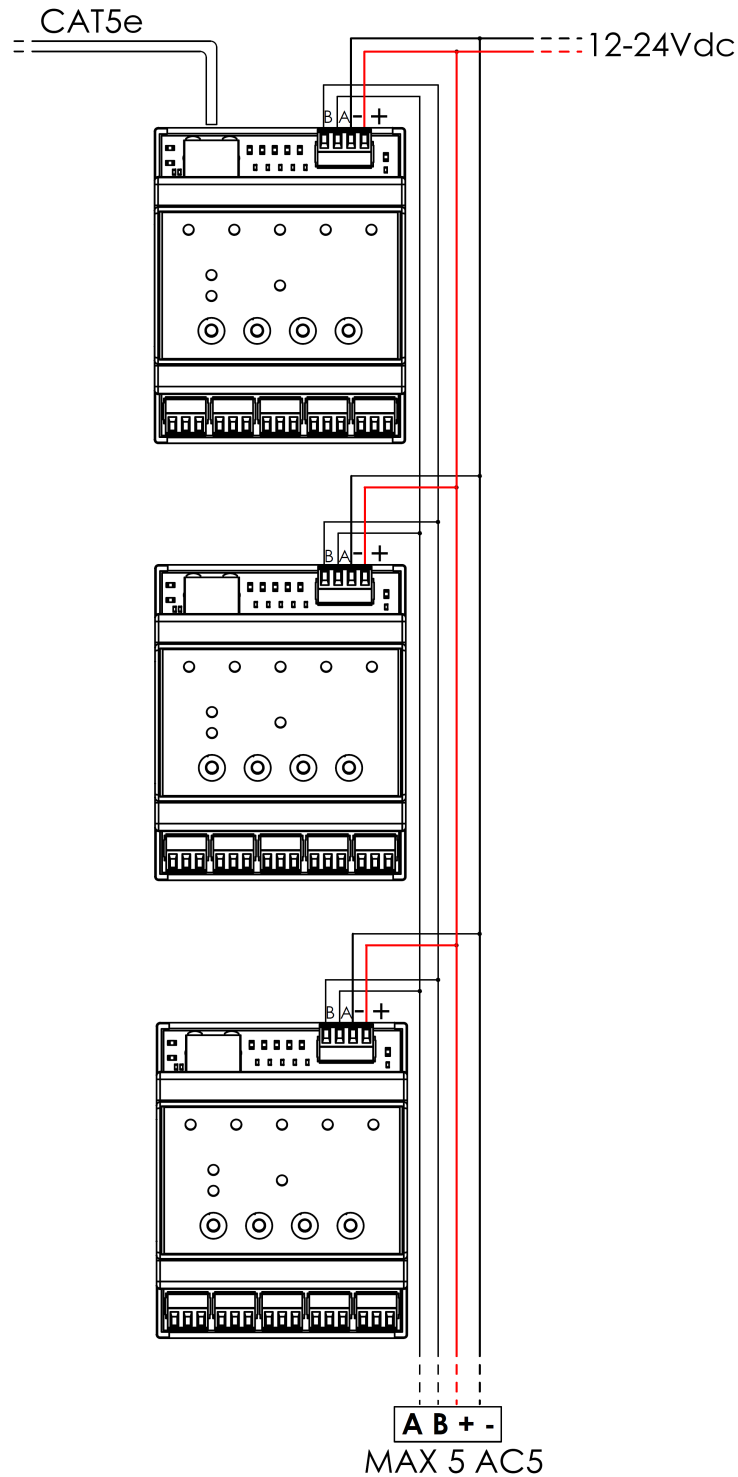


4.1.2 Cascading Connection

For the cascade connection, plug the europlug connector 4-way in parallel (Figure 1-C), and connect the LAN network cable only to the first device.

It will be necessary then to set a unique ID in the devices, from 1 to 5. (See Section 4.2)

The power supply must be properly sized for 5 devices, it recommends 1.5A 24Vdc.



4.2 USER MENU

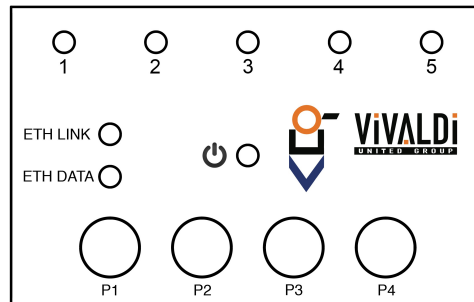


Figure 2

4.2.1 Changing Device ID

You can connect multiple cascaded devices (Max. 5), ID identifies the unique number of the Giove AC5 present in the Rs485 Bus.

To change this parameter from the front panel, holding the button P1 (Figure 2) until the LED 1 become red.

You can move within this menu with the P2 and P3 keys, for the ID change you typically carry the P3 button until the LED 5 and confirm with the button P1.

After confirming the current ID is displayed in green, to change it is sufficient to move from 1 to 5 with the P2 and P3 button, choose the number of ID and confirm with the P1 button.

Protocol Standard AC5:

- LED 1-5 = ID 0-4

Protocol Mod-Bus:

- LED 1-5 = ID 11-15

To confirm the selection, there will be a quick flashing of the five LEDs in red.

To quit the menu either wait or press the button P4.

4.2.2 Changing the Status of Contacts

To perform a manual relay control, you must hold the P1 button until the LED 1 is red.

You can move within this menu with the P2 and P3 buttons, to change the state of the contacts you select LED 1 and confirm with P1 button.

With the P2 and P3 buttons select the contact, then press the P1 button to change the contact status.

To quit the menu either wait or press the button P4.

4.2.3 Changing View Contacts

When the device is in standby mode you can view the status of contacts.

There are two display types:

1. Active contact, LED is green. Disabled contact, LED is off.
2. Active contact, LED is off. Disabled contact, LED is green.

To switch between them, holding the P2 button in standby mode.

4.2.4 Change Communication Mode

You can communicate with Giove AC5 with the standard protocol, either Mod-Bus RTU. To switch from one mode to another, you must enter the menu by holding down the P1 button and select, using the P2 and P3 buttons, the LED 4.

Confirming with the P1 button you enter the menu of choice between:

- LED 1 = Protocol Mod-Bus.
- LED 2 = Protocol Standard AC5.

Press P1 to confirm your choice, it will be a quick flashing of the LED for confirmation.

Once configured the protocol, you must change the IP configuration via the web page (See Section 4.3.3).

When using the Mod-Bus protocol, set to “TCP SERVER” the voice “mode of operation”.

Press the SAVE button before leaving the page.

4.3 WEB SERVER

The device has a built-in WEB SERVER, for configuration and management of contacts .
 The default IP address is 192.168.0.103, then, after have plug the device to the network, simply open any Internet browser (Firefox, Chrome, Safari, etc...) and enter the Default IP address on the address-bar.

The authentication window will open, then you can enter the default username and password:

- User: admin (default)
- Password: admin (default)

4.3.1 State

After entered the credentials will open the Home Page of the Giove AC5 (See Figure 3).



Versione Firmware:v3009 - web 1.0 English Logout

Vivaldi s.r.l. **VIVALDI-AC5**
 MODULO RELE - AC5

Stato	Parametri	Help
Config. IP Locale	Nome Modulo: VIVALDI-AC5	• Run time: Tempo di funzionamento dall'ultimo riavvio.
Config. Connessione	Versione Firmware: 3009 - web 1.0	• Contatore TX/RX: Il contatore TX/RX fornisce il calcolo totale dei byte ricevuto e/o inviati.
Controllo Porte	Indirizzo IP: 192.168.0.103	
Config. Sistema	Indirizzo MAC: d8-b0-4c-00-98-7c	
Riavvia	Run Time: 6day: 2hour: 41min	
	Contatore TX(ETH) : 373039/0/0 bytes	
	Contatore RX(ETH) : 719874/0/0 bytes	

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Figure 3

On the Status menu you can view the general status of the device.

4.3.2 Configuration Local IP



Versione Firmware:v3009 - web 1.0		English Logout
 Vivaldi s.r.l. MODULO RELE - AC5		
Stato Config. IP Locale Config. Connessione Controllo Porte Config. Sistema Riavvia	Parametri Tipo IP: <input type="text" value="IP Statico"/> IP Statico: <input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="0"/> . <input type="text" value="103"/> Submask: <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="0"/> Gateway: <input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="0"/> . <input type="text" value="1"/> <div> <input type="button" value="Salva"/> <input type="button" value="Cancella"/> </div>	Help <ul style="list-style-type: none"> • IP type: IP Statico oppure DHCP • IP Statico Indirizzo IP statico del modulo • Submask Solitamente 255.255.255.0 • Gateway Solitamente Indirizzo IP del router
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Figure 4

On this page you can change the network parameters of the Giove AC5.
 To save the changes made, click on the button Save.

4.3.3 Connection Configuration

Versione Firmware:v3009 - web 1.0
[English](#) [Logout](#)



Vivaldi s.r.l.
 MODULO RELE - AC5

VIVALDI-AC5

Stato	Parametri	Help
Config. IP Locale	Numero Porta Locale: <input type="text" value="10001"/>	<ul style="list-style-type: none"> Numero Porta Locale 1~65535. quando in TCP Client, impostando 0 viene caricata una porta random Numero Porta Remota 1~65535
Config. Connessione	Numero Porta Remota: <input type="text" value="7128"/>	
Controllo Porte	Modalità di funzionamento: TCP Server None	
Config. Sistema	Dettaglio TCP Server: Default type	
Riavvia	Remote Server Addr: <input type="text" value="192.168.1.69"/> [N/A]	
	Timeout: <input type="text" value="0"/> secondi (< 256, 0 per nessun timeout)	
<input type="button" value="Salva"/> <input type="button" value="Cancella"/>		

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Figure 5

On this page you can configure the port and the communication protocol with the home automation controller.

To save the changes made, click on the button Save.

4.3.4 Control Contacts

Versione Firmware:v3009 - web 1.0
English Logout


Vivaldi s.r.l.
 MODULO RELE - AC5
 VIVALDI-AC5

Stato	<div>Controllo Porte</div> <div>ID Dispositivo: 1 ▼</div> <div> Porta 1: On Off Porta 2: On Off Porta 3: On Off Porta 4: On Off Porta 5: On Off </div> <div> Info Stato Pulisci </div> <div>Dati ricevuti:</div> <div></div>	<div>Help</div> <ul style="list-style-type: none"> Controllo Porte: Utilizza i websocket per controllare le Porte del AC5. Attenzione, la ricezione dei dati funziona solo se la modalita di funzionamento è settata in TCP.
Config. IP Locale		
Config. Connessione		
Controllo Porte		
Config. Sistema		
Riavvia		

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Figure 6

On this page you can perform manual switching of one of the contacts and request information about the firmware version and hardware of the Giove AC5.

In the drop-down list you can select the destination device ID, connected to the first Giove AC5, for each is possible to run the switching of contacts.

N.B. IT WORKS ONLY WITH STANDARD PROTOCOL AC5

4.3.5 System Configuration

Versione Firmware:v3009 - web 1.0		English Logout														
 Vivaldi s.r.l. MODULO RELE - AC5																
Stato Config. IP Locale Config. Connessione Controllo Porte Config. Sistema Riavvia	<table border="1"> <thead> <tr> <th align="center" colspan="2">Parametri</th> </tr> </thead> <tbody> <tr> <td>Nome Modulo:</td> <td><input type="text" value="VIVALDI-AC5"/></td> </tr> <tr> <td>Numero porta UPnP:</td> <td><input type="text" value="8000"/></td> </tr> <tr> <td>Numero porta Webserver:</td> <td><input type="text" value="80"/></td> </tr> <tr> <td>Nome Utente:</td> <td><input type="text" value="admin"/></td> </tr> <tr> <td>Password:</td> <td><input type="text" value="admin"/></td> </tr> <tr> <td align="center" colspan="2"> <input type="button" value="Salva"/> <input type="button" value="Cancella"/> </td> </tr> </tbody> </table>	Parametri		Nome Modulo:	<input type="text" value="VIVALDI-AC5"/>	Numero porta UPnP:	<input type="text" value="8000"/>	Numero porta Webserver:	<input type="text" value="80"/>	Nome Utente:	<input type="text" value="admin"/>	Password:	<input type="text" value="admin"/>	<input type="button" value="Salva"/> <input type="button" value="Cancella"/>		Help <ul style="list-style-type: none"> • Nome Modulo Lunghezza Max 15 caratteri • Porta Webserver Default 80
Parametri																
Nome Modulo:	<input type="text" value="VIVALDI-AC5"/>															
Numero porta UPnP:	<input type="text" value="8000"/>															
Numero porta Webserver:	<input type="text" value="80"/>															
Nome Utente:	<input type="text" value="admin"/>															
Password:	<input type="text" value="admin"/>															
<input type="button" value="Salva"/> <input type="button" value="Cancella"/>																
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Figure 7

On this page you can change the name of Giove AC5, the ports number of the web server, user name and password.

To save the changes made, please click on the button Save.

4.3.6 Restart

Versione Firmware:v3009 - web 1.0		English Logout
 Vivaldi s.r.l. MODULO RELE - AC5		
Stato	Riavvia	Help
Config. IP Locale	Riavvia Modulo <input type="button" value="Riavvia"/>	<ul style="list-style-type: none"> Riavvia: Cliccare per applicare le impostazioni modificate
Config. Connessione		
Controllo Porte		
Config. Sistema		
Riavvia		
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Figure 8

On this page you can restart the device remotely.

5 COMMUNICATION PROTOCOLS

For managing the Giove AC5 combined with Vivaldi iControl +, or other home automation systems, simply send the following command strings.

5.1 STANDARD PROTOCOL AC5

5.1.1 Port Settings

BAUD RATE	19200
DATA BITS	8
PARITY	NONE
STOP BITS	1

5.1.2 ASCII String Description

Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	Byte 8
Z	0-4	0-1	0-1	0-1	0-1	0-1	0	<CR>

- Byte 0. 'Z' START BYTE;
- Byte 1. From '0' to '4', is the ID number of the AC5 module;
- Byte 2. Relay 1: 0 = Off 1 = On
- Byte 3. Relay 2: 0 = Off 1 = On
- Byte 4. Relay 3: 0 = Off 1 = On
- Byte 5. Relay 4: 0 = Off 1 = On
- Byte 6. Relay 5: 0 = Off 1 = On
- Byte 7. Byte not used
- Byte 8. <CR> String end (equivalent to 13 in decimal or 0x0D in hexadecimal)

5.1.3 Command Example ASCII String

Having 2 Giove AC5 connected, the string for turn On the RELAY 3 on device with ID 2 will be:
"Z1xx1xxx<CR>"

Not to change the status of the relays not interested you can place a neutral character like 'x'.

In addition there are 3 types of BROADCAST command:

1. Power ON all contacts: **"ZÿYYYYYY<CR>"**
2. Power Off all contacts: **"ZÿXXXXXX<CR>"**
3. Custom Broadcast: **"Zÿ100100"<CR>"**(Example)

5.1.4 Response Example ASCII String

Having 2 Giove AC5 connected, the response string after sending the previous command will be:

"Z1001000"<CR>

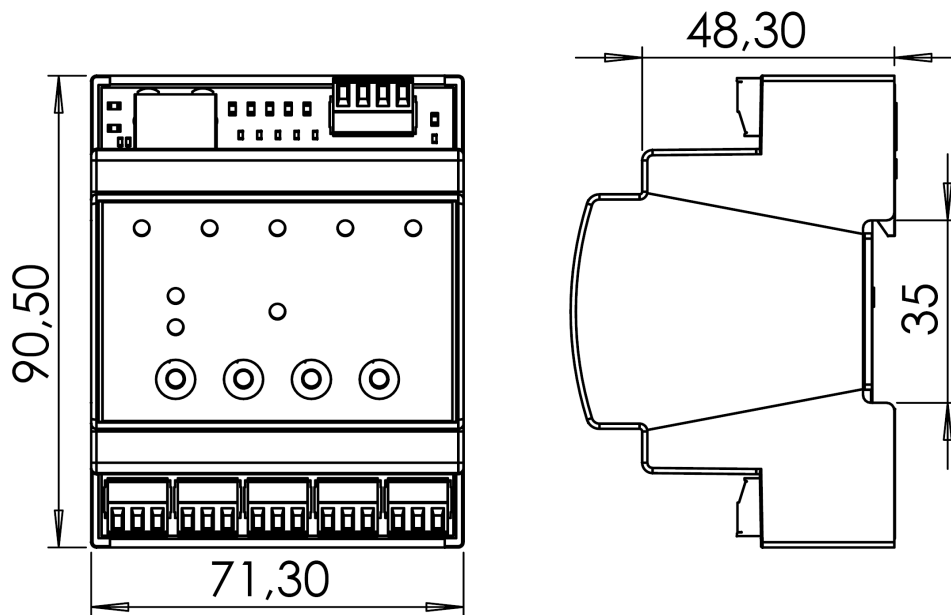
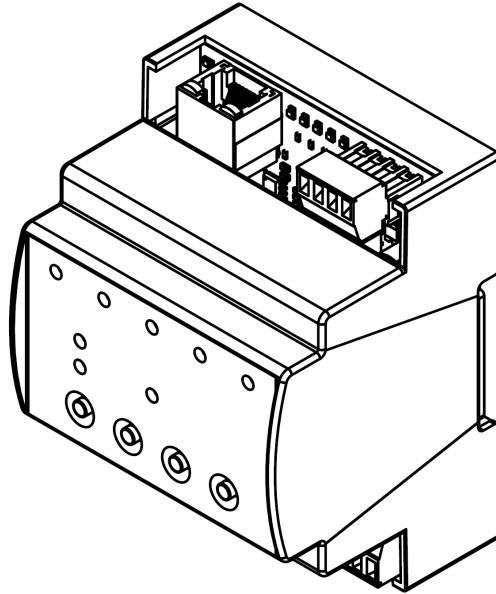
5.2 PROTOCOL MODBUS RTU

To communicate through the ModBus protocol you must write in the registers, as in the table:

Relay 1	registry 5	0=OFF, 1=ON
Relay 2	registry 6	0=OFF, 1=ON
Relay 3	registry 7	0=OFF, 1=ON
Relay 4	registry 8	0=OFF, 1=ON
Relay 5	registry 9	0=OFF, 1=ON

6 TECHNICAL SPECIFICATIONS

Supply Voltage	12-24Vdc
Maximum Current	200mA
Maximum Current of contacts in deviation	NO= 5A, NC=3A
Network Connection	10/100Mbps





www.vivaldigroup.it



info@vivaldigroup.it



Vivaldi S.R.L.
Administrative Headquarters
Via E. Fermi, 8 - Z. I. Est – 30020
Noventa di Piave (VE) Italy
tel. +39 0421 307825 fax +39 0421 307845
info@vivaldigroup.it www.vivaldigroup.it