






INSTALLATION MANUAL

R-32DIDO-2 R-32DIDO-2-P

PRELIMINARY WARNINGS

The word **WARNING** preceded by the symbol  indicates conditions or actions that put the user's safety at risk. The word **ATTENTION** preceded by the symbol  indicates conditions or actions that might damage the instrument or the connected equipment. The warranty shall become null and void in the event of improper use or tampering with the module or devices supplied by the manufacturer as necessary for its correct operation, and if the instructions contained in this manual are not followed.

| | |
|---|--|
|  | WARNING: The full content of this manual must be read before any operation. The module must only be used by qualified electricians. Specific documentation is available via QR-CODE shown on page 1. |
|  | The module must be repaired and damaged parts replaced by the Manufacturer. The product is sensitive to electrostatic discharges. Take appropriate measures during any operation. |
|  | Electrical and electronic waste disposal (applicable in the European Union and other countries with recycling). The symbol on the product or its packaging shows the product must be surrendered to a collection centre authorized to recycle electrical and electronic waste. |



DOCUMENTATION
R-32DIDO-2



DOCUMENTATION
R-32DIDO-2-P



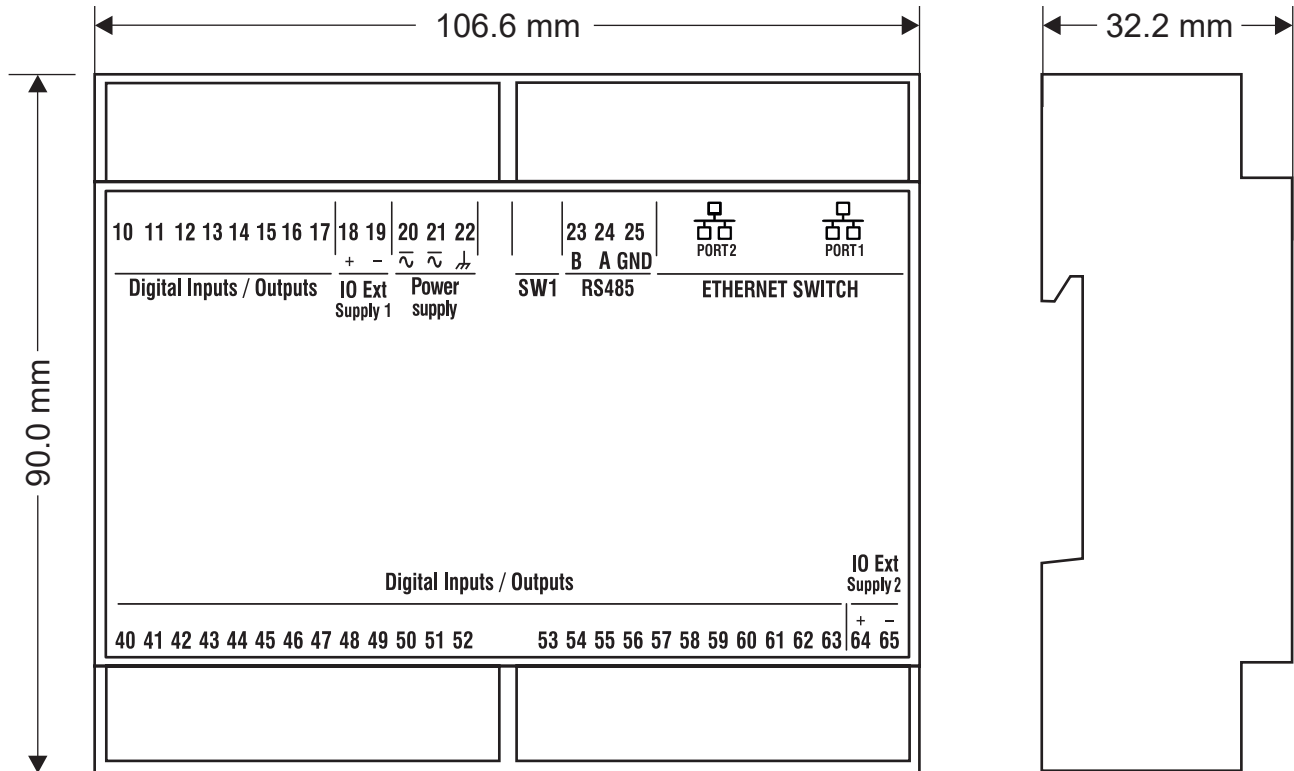
SENECA s.r.l.; Via Austria, 26 – 35127 – PADOVA – ITALY; Tel. +39.049.8705359 - Fax +39.049.8706287

CONTACT INFORMATION

| | | | |
|-------------------|-------------------|---------------------|-----------------|
| Technical support | support@seneca.it | Product information | sales@seneca.it |
|-------------------|-------------------|---------------------|-----------------|

This document is the property of SENECA srl. Copies and reproduction are prohibited unless authorised. The content of this document corresponds to the described products and technologies. Stated data may be modified or supplemented for technical and/or sales purposes.

MODULE LAYOUT



Weight: 170 g; **Enclosure:** UL94-V0 self-extinguishing PC/ABS material, black.

SIGNALS VIA LED ON FRONT PANEL

| LED | STATUS | LED meaning |
|------------------------------------|----------|--|
| PWR | On | Device powered |
| | Off | Device not powered |
| IO1/IO32 | On | Digital input/output active |
| | Off | Digital input/output not active |
| OUT SUP | On | Digital inputs/outputs powered |
| | Off | Digital inputs/outputs not powered |
| STS (R-32DIDO-2 version only) | On | IP address set |
| | Flashing | Waiting for the IP address from the DHCP |
| STS (R-32DIDO-2-P version only) | On | IP address set |
| | Flashing | No IP address configured |
| COM (R-32DIDO-2-P version only) | Off | No Profinet communication |
| | Flashing | Profinet communication present |
| FAIL | On | Digital output in FAIL |
| | Off | Digital output OK |
| RX (R-32DIDO-2 version only) | On | RS485 port wiring error |
| | Flashing | Reception of data packet completed on RS485 |
| TX (R-32DIDO-2 version only) | Flashing | Transmission of data packet completed on RS485 |
| ETH TRF (Yellow) | Flashing | Packet transit on Ethernet port |
| ETH LNK (Green) | Flashing | The Ethernet port is connected (LINK) |

TECHNICAL SPECIFICATIONS

| | | | |
|----------------|---|--|---|
| CERTIFICATIONS |  |  |  |
|----------------|---|--|---|

| | |
|---|--|
| INSULATION | |
| POWER SUPPLY | Voltage: 10÷40Vdc; 19÷28Vac; 50÷60Hz; Absorption: 3W max; Dissipation: 6.5W max |
| ENVIRONMENTAL CONDITIONS | Operating temperature: from -25°C to +65°C; Humidity: 10% ÷ 90% non condensing. Storage temperature: from -30°C to +85°C; Protection rating: IP20 |
| CONFIGURATION | With integrated WEB Server / from profinet environment |
| CONNECTIONS/ COMMUNICATION PORTS | 3.5 mm pitch terminal block, 1.5 mm ² max cable section 2 Ethernet (with LAN fault-bypass function) 100 base T on RJ45 1 RS485 port on terminals 23-24-25 (only R-32DIDO-2 versions) |
| DIGITAL INPUTS | Number of channels: 32; Voltage: Threshold ON: >11 Vdc; Threshold OFF: < 4 Vdc; Vmax: 24 Vdc; Impedance 9kΩ, Individually configurable. Complies with IEC61131-2 type 3. Alimentazione esterna separata per i due gruppi di uscita: V EXT: 12÷24 Vdc |
| DIGITAL OUTPUTS | Number of channels: 32, MOSFET, PNP; Max voltage/current: 0.2 A / 24 Vdc Individually configurable Separate external power supply for the two output groups: V EXT: 12÷24 Vdc |
| COUNTERS: | Number of counters: 32 at 32 bit, maximum speed: 500 Hz (only R-32DIDO-2 versions) |

ELECTRICAL CONNECTIONS

⚠ CAUTION

The upper power supply limits must not be exceeded, as this could cause serious damage to the module.
Switch the module off before connecting inputs and outputs.

To meet the electromagnetic immunity requirements:

- use shielded signal cables;
- connect the shield to a preferential instrumentation earth system;
- separate shielded cables from other cables used for power installations (transformers, inverters, motors, etc.).

| | | | |
|---|--|--|--|
| <p>POWER SUPPLY</p> | <p>RS485 SERIAL PORT</p> | <p>Connection to the RS485 port. Polarity is not standardised; in some devices of other brands it may be inverted.</p> | |
| <p>DIGITAL INPUTS (PNP) Inputs from 1 to 8</p> | <p>DIGITAL INPUTS (PNP) Inputs from 9 to 32</p> | <p>DIGITAL OUTPUTS (PNP) Outputs from 1 to 8</p> | <p>DIGITAL OUTPUTS (PNP) Outputs from 9 to 32</p> |

⚠ CAUTION

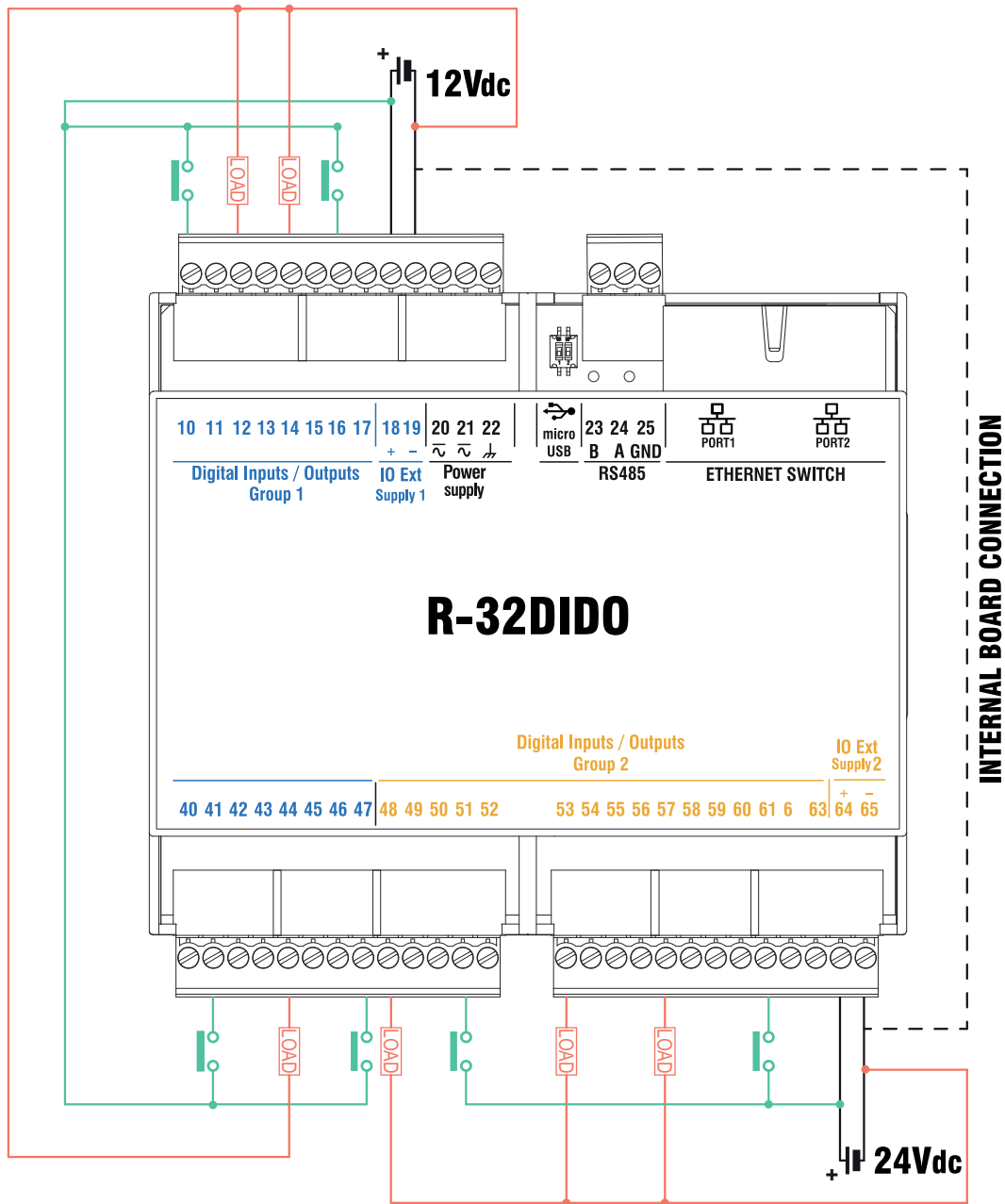
The power supply must be sized according to the expected load at the outputs. Terminals 18-64 and 19-65 can be connected together on the same power supply. Only a Vdc power supply is permitted.

⚠ CAUTION

For correct instrument operation, power the I/Os via the I/O Ext Supply 1 (18-19) and 2 (64-65) terminals at the same time.
The 'OUT SUP' LED lights up to verify a correct power supply.

EXAMPLE:

In the diagram below we have an application example of a system with four digital inputs and three digital outputs externally powered at 12Vdc and three digital outputs and two digital inputs powered at 24Vdc.



⚠ ATTENTION

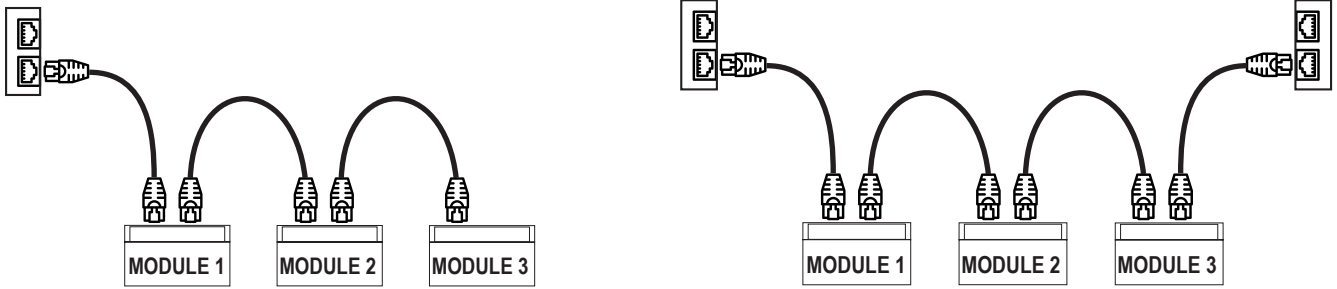
The external IO Ext 1 and IO Ext 2 supplies must be powered simultaneously within a range of 12÷24Vdc. The external IO Ext 1 and IO Ext 2 supplies can have different voltages.

DAISY-CHAIN

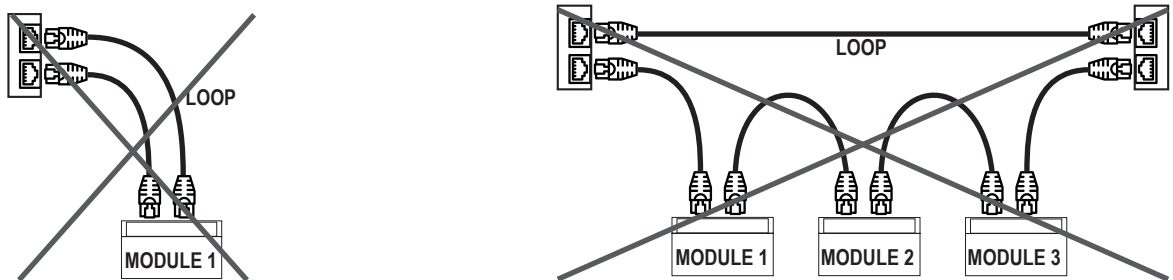
⚠ CAUTION

IT IS NOT ALLOWED TO CREATE LOOPS WITH ETHERNET CABLES

Using the daisy-chain connection it is not necessary to use switches to connect the devices. The following examples show the correct connections.



There must be no loops in the Ethernet cabling, otherwise the communication will not work. The modules and switches must be connected eliminating any loops. The following examples show the incorrect connections.



The LAN fault-bypass function allows you to keep the connection between the two Ethernet ports of the device ON, in the event of a power failure. If a device turns off, the chain is not interrupted and the devices downstream of the switched-off one will still be accessible. This function has a limited duration: the connection remains active for a few days, typically 4. The fault-bypass function requires that the sum of the lengths of the two cables connected to the switched off module is less than 100m.

ETHERNET CONNECTION RULES

For the Ethernet cabling between the devices, the use of the unshielded CAT5 or CAT5e cable is required. CAT6 for industrial environments.

FACTORY IP ADDRESS (R-32DIDO-2 ONLY)

The default module IP address is static: 192. 168. 90. 101

WEB SERVER

Use the following credentials to access the Maintenance Web Server:

Default user: admin

Default password: admin

⚠ CAUTION

DO NOT USE DEVICES WITH THE SAME IP ADDRESS IN THE SAME ETHERNET NETWORK.

DIP - SWITCH SETTINGS

⚠ WARNING

The DIP-switch settings are read only at boot time. At each change, perform a restart.

For operation and settings via DIP-SWITCH see the user manual available on the product webpage.