



INSTRUCTION MANUAL QA-12DI-4DO

DESCRIPTION:

The QA-12DI-4DO is a slave module with n°12 optically isolated digital inputs and n°4 relays output. Thanks to the presence of the RS485 serial port can perform advanced functions such as I/O module with Modbus RTU protocol. The QA-12DI-4DO behaves as slave device providing an output at 12 V for the detection of Optomos contact. It also features n°4 digital output relays SPDT 5A - 230V.

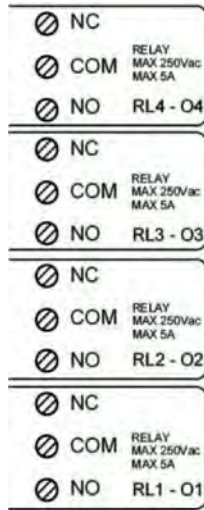
ELECTRICAL CONNECTIONS:

QA-12DI-4DO INSTRUCTION MANUAL



POWER SUPPLY:

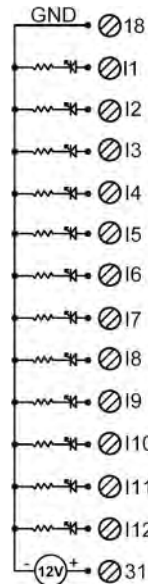
10...40 Vdc or 20...28 Vac - Connectors 16 and 17, or by T-BUS connector (optional tool) on the base of the module.



DIGITAL OUTPUT:

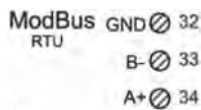
n°4 relays SPDT 5 A / 250 VAC.

- RL1 - O1: digital output n°1.
RL2 - O2: digital output n°2.
RL3 - O3: digital output n°3.
RL4 - O4: digital output n°4.



DIGITAL INPUTS:

the QA-12DI-4DO accepts the input pulses until 10 kHz, from mechanical contact, REED, 24 V, PNP.



SERIAL OUTPUT RS485:

available on connectors 32 (GND), 33 (B-), 34 (A+), or by T-BUS connector to be mounted on the module.



T-BUS CONNECTION (OPTION), needs T-BUS connector:

it may be affixed to the accessory T-BUS based on the module to bring both power and serial communication. The number of modules supported by the bus is a function of the power supply used (check the absorption of the modules).





PROGRAMMING THE DEVICE BY SOFTWARE QA-12DI-4DO

The programming of the module QA-12DI-4DO may be performed in two different ways:

- via the interface program free FACILE QA-12DI-4DO through the micro USB port on the module or via RS485 connection;
- by connecting a PLC with RS485 serial connection (from terminal or T-Bus).

it is possible to configure the module by connecting it to the USB port of your PC without powering, this is possible because the QA-12DI-4DO is equipped with a microprocessor that manages the configuration and it is powered directly from the USB port.

To use the program FACILE QA-12DI-4DO, go on our website www.qeed.it in the PRODUCTS page, on the right menu, click on DOWNLOAD SOFTWARE and then click FACILE QA-12DI-4DO, you can install the program on your PC. Once downloaded, install it in the desired directory and run the program.



It is possible to use the program without connecting to the module, in this mode you can SAVE the configuration on your PC, which can then be sent to the QA-12DI-4DO at a later time.

SERIAL PORTS AVAILABLE:

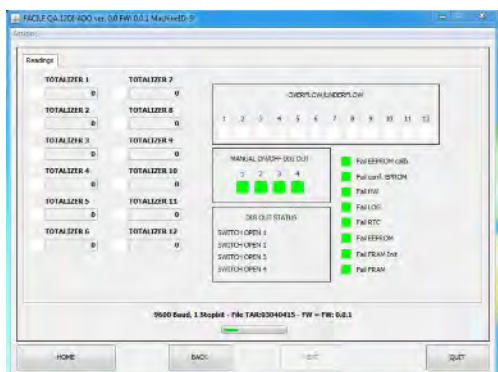
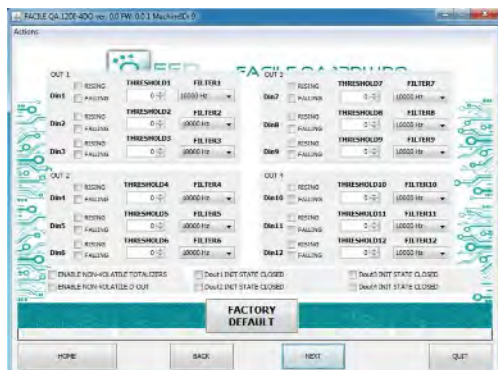
check the available COM ports, press the UPDATE button. Your PC will assign a virtual COM connection with the QA-12DI-4DO. Press START CONNECTION WITH THE DEVICE. It will confirm you the connection was successful with the module. If the connection does not happen, please check the RS485 serial connection (A +, B-), the position of the dip-switches (switching off and on the device) and the COM generated automatically by the device.

After connecting, you can proceed with the configuration of the device.



PROGRAMMING THE DEVICE BY SOFTWARE QA-12DI-4DO

PROGRAMMING THE DEVICE BY SOFTWARE QA-12DI-4DO



FALLING:

you can enable the function " FALLING " with the selection of the relative box to the corresponding digital input (for the default the count is "rising").

THRESHOLD (*):

leaving to "0" the field, the thresholds are excluded. Imposing a desired value, to the attainment of that threshold, there will be the enabling of the corresponding output.

FILTER:

you can select n°6 filter levels to set the sampling rate (to filter any bounces of contacts).

DOWN:

selecting this field, the count is enabled on backwards (default is forward).

ENABLE NON-VOLATILE TOTALIZERS:

enabling this field, the totalizers are maintained even when turned off (non-volatile memory).

ENABLE NON-VOLATILE D-OUT:

enabling this field, the outputs state is stored in non-volatile memory. At power up, the outputs will take this state.

D-OUT INIT-STATE:

It's the state of the outputs when the instrument is powered up (if the option isn't enabled **ENABLE NON-VOLATILE D-OUT**).

MODBUS COMMUNICATION:

This is the last window of the device configuration. The left column contains the parameters to be set for the communication speed BAUDRATE (from 1200 to 115200), the PARITY (None, Odd, Even), the STOP BIT (1 or 2), the Modbus address to be assigned to the device.

TOTALIZER:

shows the number of counts for the respective digital input (n° maximum of counting up to 2³²). It's possible to insert a value of arbitrary start.

The laterals "flag status digital input" indicate whether the corresponding digital input is active.

OVERFLOW / UNDERFLOW:

When one of the totalizers reaches the maximum allowed, the indicator turns YELLOW.

MANUAL / DIGITAL OUTPUT:

by selecting the relative commands you can manually commute the relays.

DIGIT OUT STATUS:

shows the exact status of the relays.

LED FAIL:

shows any malfunctions of the device.

(*): option available for future use.