



Iono Pi Library for CODESYS

The package “Iono Pi Library for CODESYS” contains all the required components and examples to use the CODESYS platform on your Iono Pi: an extremely versatile Input/Output module based on Raspberry Pi

Product description



Iono Pi is an extremely versatile Input/Output module which combines several digital and analog input lines, support for standard interfaces like 1-Wire and Wiegand and power relay outputs, typical of a modern PLC, with the incredibly powerful quad-core processor of the Raspberry Pi.

Iono Pi adds other important features that are essential to use the Raspberry Pi for professional applications, like a robust power supply with wide voltage range (9-28V) capable of up to 4A output current at 5V, and a real time clock with lithium back-up battery.

Iono Pi can be used for an incredible range of applications, from data acquisition and control, to home and building automation, as well as access control, hotel room control solutions, environmental monitoring and many many others. And software development is pure Raspberry Pi, with the constantly growing list of standard and proprietary software frameworks available on this platform.

Iono Pi can be employed both in industrial and residential environments, for professional applications where extreme reliability, ruggedness and compliance with technical and safety directives are required.

Find out more at www.sferalabs.cc

Functions

Mounting

- 4 modules DIN rail case
- power supply and I/O connections on screw terminal block

Power supply

- 9-28Vdc power supply, with surge and reverse polarity protection, and 2.2A resettable fuse
- up to 4.0A max current to the 5V Raspberry Pi power supply input pins (at 24Vdc)

Inputs/Outputs

- 4 x power relay outputs rated for 6A at 250V
- 2 x analog voltage inputs 0-30V
- 2 x analog voltage inputs 0-3V on internal pin-headers
- 7 x configurable digital input/output pins, for potential-free or voltage inputs, TLL input/outputs and open collector outputs
- 1-Wire and Wiegand support

High reliability and security

- real time clock (RTC) with replaceable back-up battery
- embedded Microchip ATECC608A secure element chip
- optional pre-assembled SPBF10X Strato Pi Fan active cooling temperature controlled high performance fan

More

- GPIO-controlled LED

- power-on status LED

Raspberry Pi embedded

- 1 x Ethernet
- 4 x USB
- 1 x HDMI (RPi 3+) / 2x Micro HDMI (RPi 4)
- 1 x microSD card slot
- 1 x jack for audio and composite video
- WiFi
- Bluetooth/BLE

CODESYS support

This package gives you full control of Iono Pi digital and analog I/Os and interfaces. It is based on the CODESYS Control runtime for Raspberry Pi.

Setup and usage

CODESYS runtime for Raspberry Pi

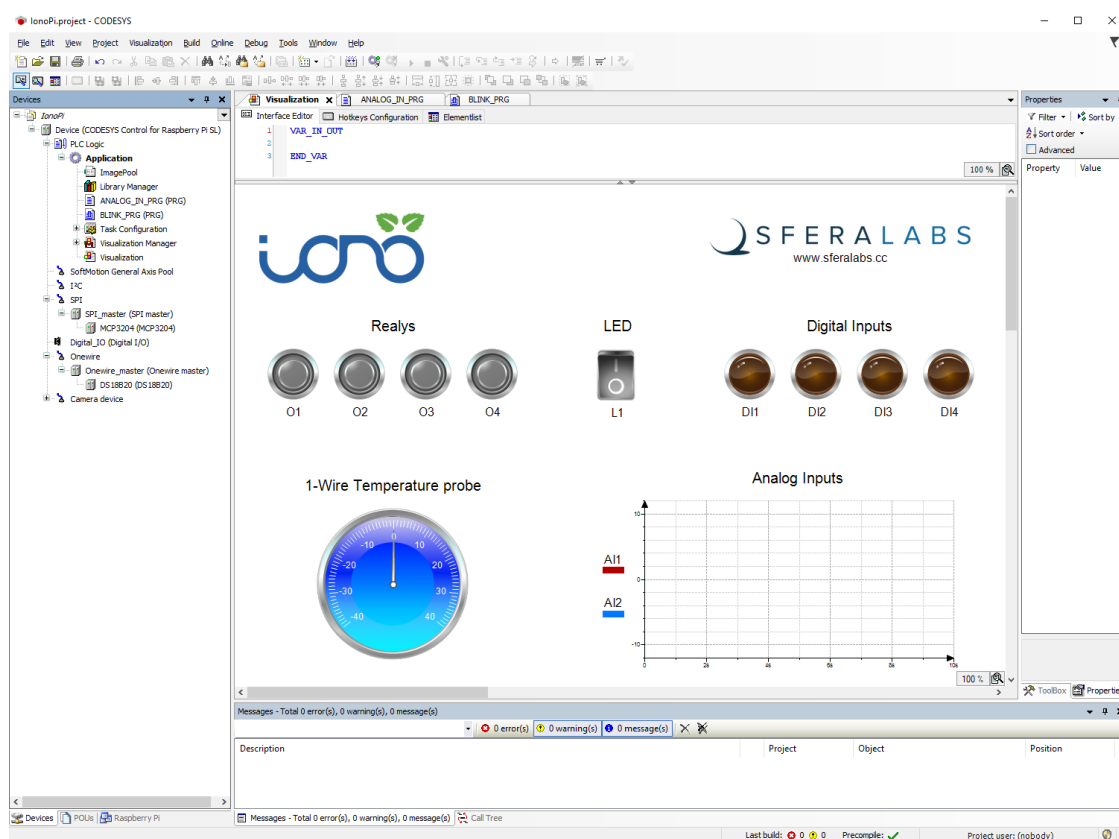
This package requires the CODESYS runtime for Raspberry Pi (“CODESYS Control for Raspberry Pi SL” or “CODESYS Control for Raspberry Pi MC SL” packages) to be installed on your CODESYS installation and properly configured to connect to and run on your Iono Pi. Please refer to the documentation of the CODESYS Control for Raspberry Pi runtime for details.

Iono Pi Library for CODESYS

Install this package on your CODESYS installation using the Package Manager or the CODESYS installer. The process will install all the required drivers and libraries as well as example projects that can be used as a reference to use all of Iono Pi’s functionalities.

Iono Pi

Iono Pi needs internal pull-up/pull-down resistors disabled on the GPIOs connected to its digital inputs. A simple way to override the default configuration is to use the “gpio” overlay - add the following line in /boot/config.txt and reboot: `gpio=16,19,13,12,6,5=ip,pn` No other specific software or configuration is required for Iono Pi to work with the CODESYS runtime for Raspberry Pi. For optional RTC installation, hardware testing and further details, please refer to the Iono Pi user guide available at www.sferalabs.cc/product/iono-pi



Manufacturer

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General information

Supplier:

CODESYS GmbH
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Support:

<https://support.codesys.com>

Item:

Iono Pi Library for CODESYS

Item number:

000102

Sales:

CODESYS Store

<https://store.codesys.com>

Included in delivery:

- CODESYS-Package

System requirements and restrictions

| | |
|-------------------------------|---|
| Programming System | CODESYS Development System \geq V3.5.17.0 |
| Target System | CODESYS Control for Raspberry Pi SL (MC) \geq V4.2.0.0 |
| Supported Platforms / Devices | Iono Pi |
| Additional Requirements | • |
| Restrictions | Refer to the Iono Pi user guide for installation and use restrictions |
| Licensing | No license is required. |



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|--------------------|---|
| Required Accessory | • |
|--------------------|---|

Note: Not all CODESYS features are available in all territories. For more information on geographic restrictions, please contact sales@codesys.com.

Note: Technical specifications are subject to change. Errors and omissions excepted. The content of the current online version of this document applies.