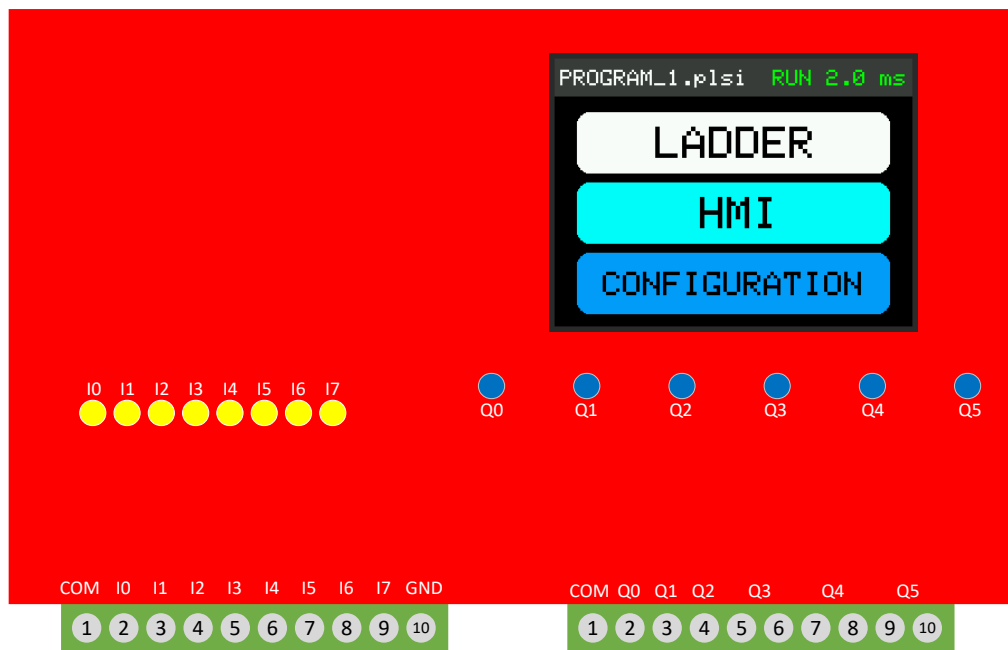


PLsi v0

User Manual



Project page:

<https://github.com/ElPercha/PLsi>



Purpose of this document

This PLsi manual provides you with information to build a PLsi v0 unit, it comprises the board assembly, firmware download and a series of tests to validate the main functionalities. For wiring, configuration and programming information, refer to "PLsi v0 User Manual".

Please, create an issue in the [PLsi repository](#) if you see that this manual is not clear enough or has opportunities to improve.

MANUAL UNDER CONSTRUCTION

Document information

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Revision: MANUAL UNDER CONSTRUCTION

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Revision history

Revision	Date	Description	Latest Firmware
A	May 20, 2022	First Revision	V0.00.03

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A full copy of the License is included on the Master branch of the project for reference:

<https://github.com/ElPercha/PLsi/blob/master/LICENSE>

Original copy with useful FAQ:

<https://www.gnu.org/licenses/gpl-3.0.html>

Safety Guidelines

All applicable local and national codes that regulate the installation and operation of your equipment shall be followed in order to minimize the risk of potential safety issues.

PLsi is not fault-tolerant and must not be used to control equipment in hazardous environments where the failure of the system could lead to death, people injury, or severe environmental damage. Refers to the Disclaimer notice for more information.

This manual contains 3 levels of hints:



WARNING:

Death, serious harm to health or equipment damage can result if the stated measures are not followed !



CAUTION:

Harm to health or equipment damage can result if the stated measures are not followed



TIP:

Important information that requires your special attention

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1. Introduction

The objective of the PLsi project is to create a PLC & HMI with the following main characteristics:

- To not require external systems such as Laptops or Cellphones to be programmed
- To be used on Classroom for educational purposes, IOT applications or industrial low risk applications
- Software and Hardware with Industrial performance and features
- Open Source and Open Hardware
- Focus on Low Cost

1.1 Project documentation

The PLsi project is hosted on GitHub:

<https://github.com/ElPercha/PLsi>

The tree structure is divided in 3 main folders:

1. **doc**: Contains project documentation and auxiliary tools
2. **firm**: Contains the Firmware, it is designed using PlatformIO + Visual Studio
3. **hard**: Contains the Hardware documentation, mainly:
 - Circuit schematic
 - Component list
 - Board fabrication details
 - 3D Printed housing fabrication details
 - 3D Printed Din Rail support fabrication details

The most updated information is located on the master branch (link provided above), but it also might contain nightly builds of the firmware, hardware or any document. For this reason, it is recommended to use the "releases", they are a more trustworthy information source.

Each release contains a snapshot of the full project site by the moment of his creation, plus the required binaries to flash the ESP32 module.

By the time this document was created, the latest revision available is the "v0.00.03".

1.2 Prerequisites

There are not special prerequisites to become a PLsi user and programmer.

This manual will introduce and explain the configuration options and programming functions from scratch.

1.3 Drawing

The drawing was created using the free editor [EasyEDA](#).

You can access the project following this [link](#).

The schematic is also stored on GitHub, in the folder [hard/CPU/v0/schematic](#)

1.4 Connections and Isolation

The following sections provide in advance information about the connection and PLsi v0 isolation.

For more information about wiring and setup, refer to the "User Manual"

1.4.1 Digital version

The following diagram shows the main connections required for your PLsi v0 Digital version.