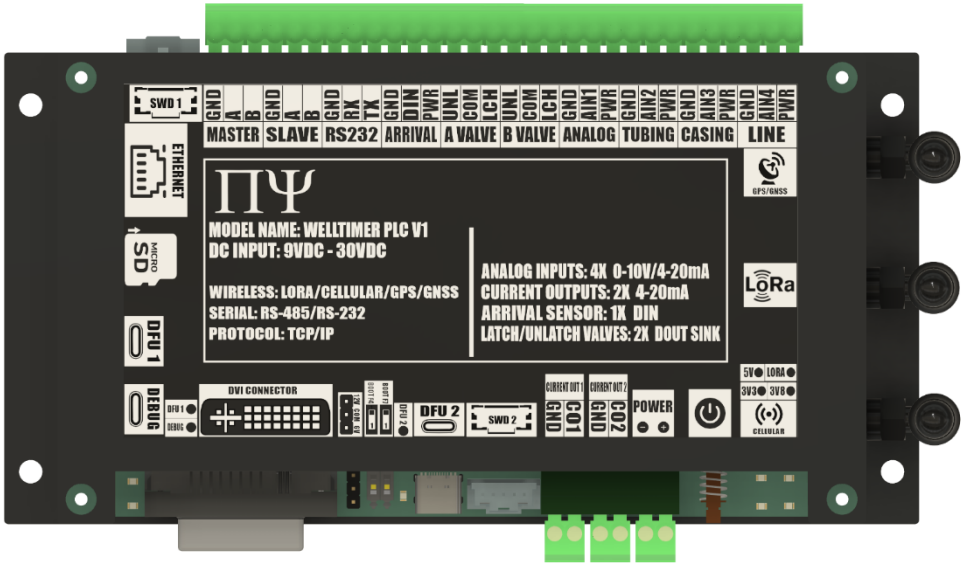
PYTRONIX

Product Datasheet

# PYDAQ D800: Multichannel Wireless Programmable RTU




## Features

**I/O Analog/Digital Ports**

- 8x Analog Inputs
- 8x Voltage Outputs
- 8x Current Outputs

**Wired Com Ports**

-RS-232 Modbus RTU

-Dual RS-485 Modbus RTU

-Ethernet Modbus TCP

**Wireless Communication**

-Radio ISM 900MHz RTU

-Cellular LTE 4G MQTT/HTTP

**BLE Mobile Applications**

-iOS Mobile App using BLE

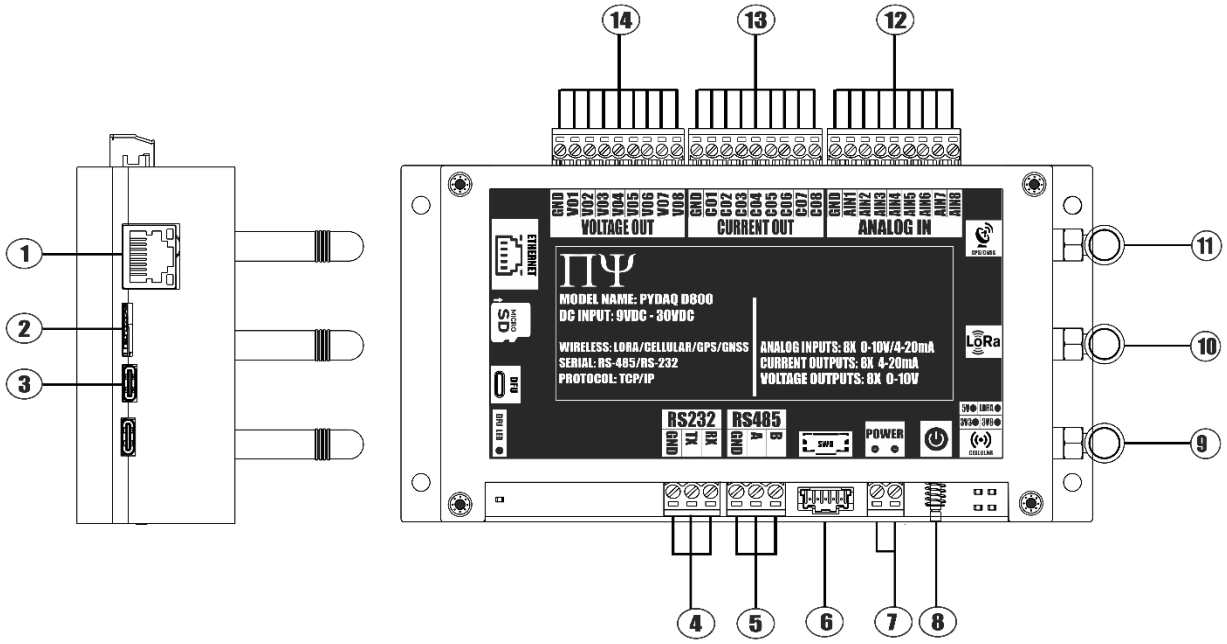
## Overview

PYDAQ D800 is a 8-channel Analog Input, 8-channel Voltage Output and 8-Current Outputs Wireless RTU. The Device is designed to interface to any 4-20mA and 0-10V sensors interface and Actuator Interface. This versatile device allows for efficient data acquisition and control, providing compatibility with a wide range of sensor and actuator interfaces. Raw data collected from the sensors can be processed by PytroAI Edge Computing Engine embedded into the device. Processed data can be accessed via several wired communication options using RS-232 and RS-485 Modbus RTU and using Modbus TCP over Ethernet.

## Specifications

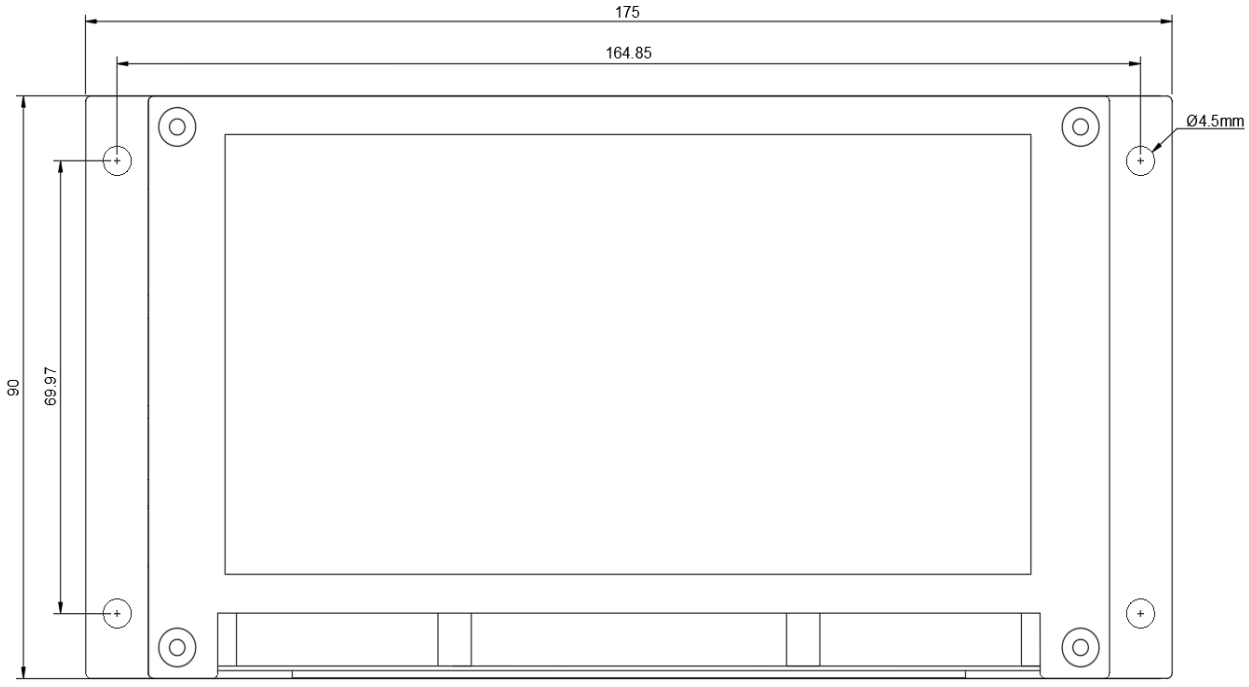
| | | |
|---|---|---|
| **Power** | Power Supply Voltage | 9-30V |
| | Power Type | DC-in |
| | Current Draw | 150mA@Typical 3A@Peak |
| **Mechanical** | Dimensions | 152.05" L x 87.2" W x 1.6" H |
| | Enclosure | ABS Plastic |
| | IP Rating | IP 64 |
| **Environment** | Operating Temperature | -40°C to 85°C |
| | Operating Humidity | 5%~95% Relative Humidity, non-condensing |
| **I/O Ports** | Analog Inputs | 8x Channel: 0-10V, 4-20mA |
| | Voltage Outputs | 8x Channel: 0-10V Voltage Output |
| | Current Outputs | 8x Channel: 4-20mA Current Outputs |
| **Wired Communication** | RS-232 | 1x Port: Modbus RTU Master/Slave |
| | RS-485 | 1x Port: Modbus RTU Master/Slave |
| | Ethernet | 1x Port: Modbus TCP Master/Slave |
| **Wireless Communication** | Radio | 900MHz ISM Protocol: Star Topology |
| | Cellular | LTE 4G Protocol: MQTT/HTTPS |
| | Bluetooth | 2.4GHz ISM Protocol: BLE |
| **Certification** | FCC, IC | |

## Pinout Diagram

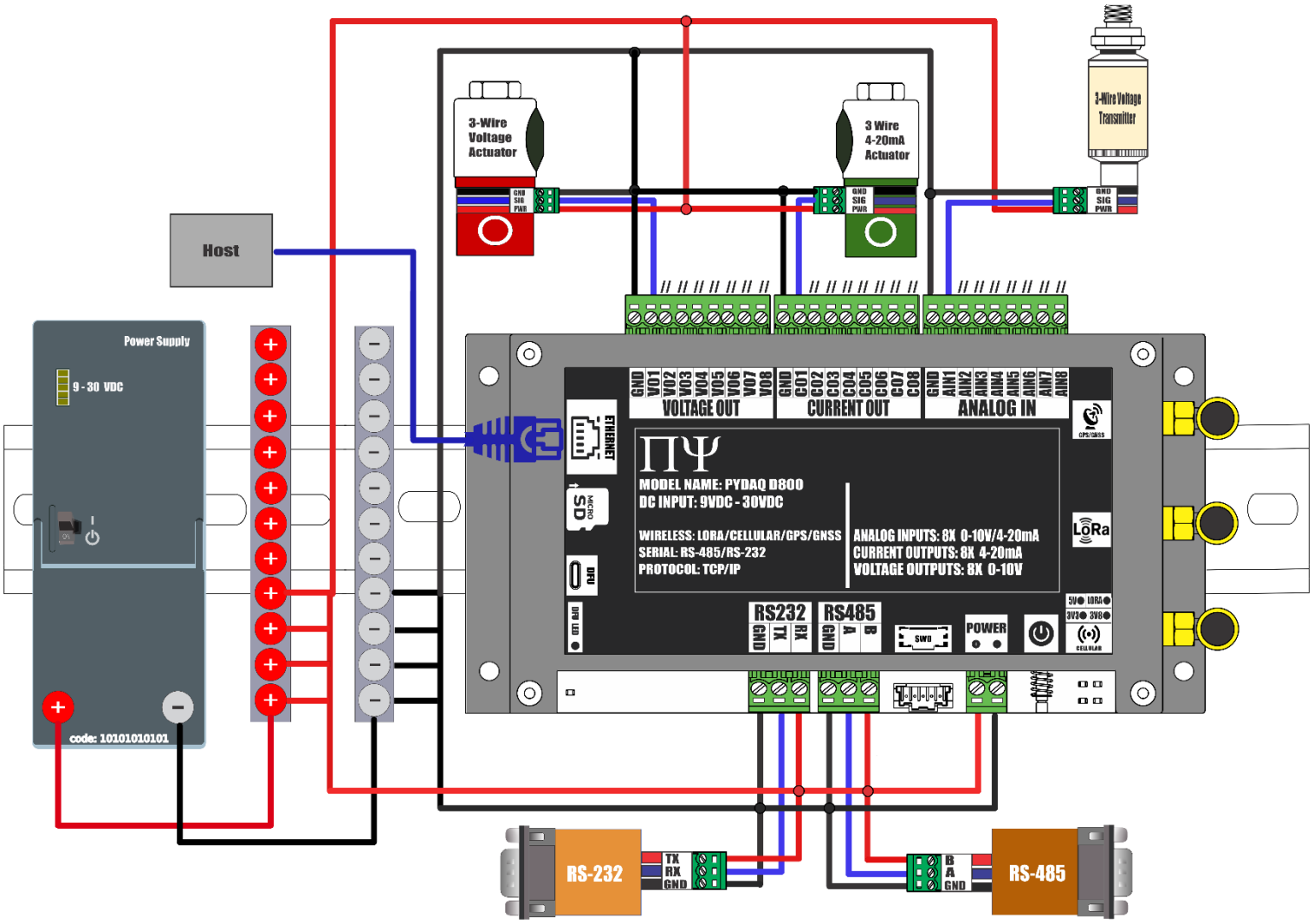



| | |
|---|---|
| 1 | Ethernet port |
| 2 | Micro SD card slot |
| 3 | Programming USB |
| 4 | RS 232 Port |
| 5 | RS 485 Port |
| 6 | SWD Connector |
| 7 | Power Connector |
| 8 | Power Button |
| 9 | Cellular Antenna |
| 10 | LoRa Antenna |
| 11 | GPS Antenna |
| 12 | Analog Input |
| 13 | Current Output |
| 14 | Voltage Output |

## Mechanical Diagram



# Wiring Diagram



| Software and Documentation | |
|---|---|
| **Document** | **Software Configuration** |
| Pydaq D800 Operation Manual | Pydaq D800 is configured using a browser based AI assisted tool called PytroAI.<br>PytroAI is accessed by going to https://build.s2c.io/?username=demo<br>The various application notes provide a detailed walkthrough for configuring the PYDAQ D800. |
| Pydaq D800 Software Manual | |
| Pydaq D800 Point-2-Point Radio Bridge Application Note | |
| Pydaq D800 Point-2-MultiPoint Radio Bridge Application Note | |
| Pydaq D800 Tank Level Monitoring Application Note | |
| Pydaq D800 Modbus RTU Master Application Note | |
| Pydaq D800 Modbus RTU Slave Application Note | |
| Pydaq D800 Modbus TCP Master Application Note | |
| Pydaq D800 Modbus TCP Slave Application Note | |