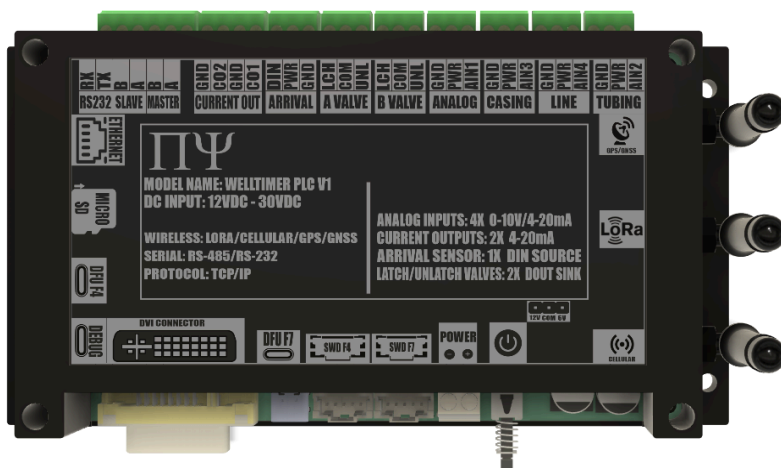


Welltimer PLC V1 : Wireless Programmable RTU



Overview

The WELLTIMER PLC V1 is a compact and versatile industrial controller designed for automation, monitoring, and communication in oilfield and remote industrial applications. It combines multiple communication interfaces — RS-232, RS-485, Ethernet, and LoRa wireless — enabling seamless integration with Modbus RTU and Modbus TCP devices. Built on a high-performance embedded processor, the WELLTIMER PLC V1 operates reliably in harsh environments and supports both local control logic and remote data acquisition.

Features

I/O Analog/Digital Ports

- 4x Analog Inputs (0–10V / 4–20mA)
- 2x Current Outputs (4–20mA)
- 2x Digital Outputs (Sink)
- 2x Digital Outputs (Latch/Unlatch Valves)
- Arrival Sensor Input (2k DiIN)

Wired Communication Ports

- RS-232 Modbus RTU (Master/Slave)
- RS-485 Modbus RTU (Master/Slave)
- Ethernet Modbus TCP/IP (Master/Slave)

Wireless Communication

- LoRa / ISM 900 MHz RTU
- Cellular LTE 4G MQTT/HTTP
- GPS/GNSS Position Tracking

BLE Mobile Applications

- iOS Mobile App (BLE)
- Android Mobile App (BLE)

Powered by the **Welltimer Control Engine**, it allows the development of customized automation sequences, real-time data logging, and advanced communication handling. The integrated **LoRa module** provides long-range wireless connectivity for field devices where traditional wired links are not practical. The PLC's rugged design, low power consumption, and flexible I/O configuration make it ideal for **wellhead automation, remote telemetry, and pump control** systems.

In addition, the WELLTIMER PLC V1 supports **edge computing capabilities**, allowing local data processing and event-based decision-making before transmitting information to cloud or SCADA systems. This ensures **secure, efficient, and reliable operation** across distributed industrial networks.

Specifications

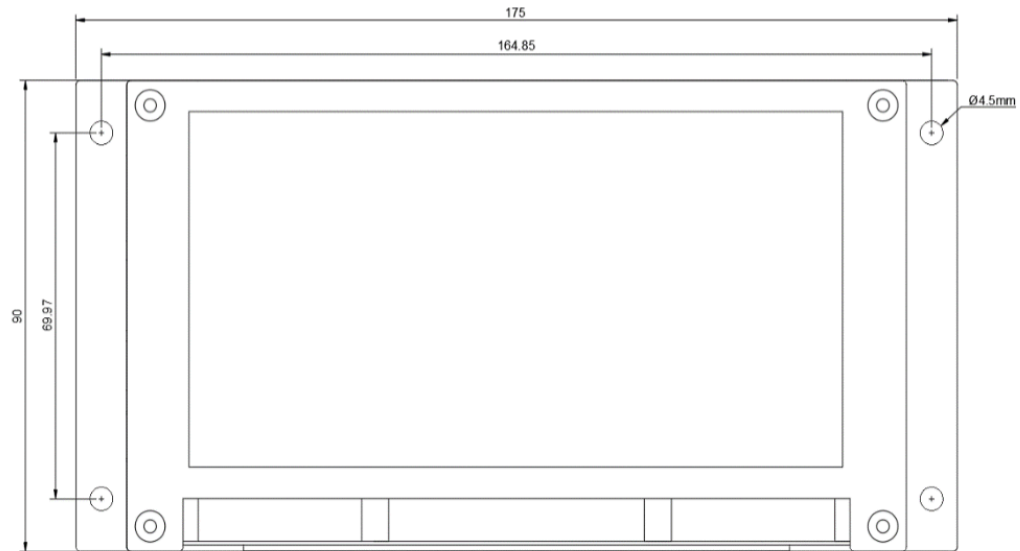
Power	Power Supply Voltage	9 – 30 V DC
	Power Type	DC Input
	Typical Current	150 mA @ 24 V DC
Mechanical	Dimensions	152.05" L x 87.2" W x 1.6" H
	Enclosure	ABS Plastic
	IP Rating	IP 64
Environment	Operating Temperature	–40 °C to +85 °C
	Operating Humidity	5 % – 95 % RH, non-condensing
I/O Ports	Analog Inputs	4 × Channels, 0–10 V / 4–20 mA configurable
	Analog Outputs	2 × Channels, 0–10 V / 4–20 mA
	Digital Inputs	8 × Channels, 24 V DC

	Digital Outputs	<p>opto-isolated</p> <p>8 × Channels, relay or open-collector (sink/source selectable)</p>
Wired Communication	RS-232	1 × Port (Modbus RTU Master/Slave + Debug)
	RS-485	1 × Port (Modbus RTU Master/Slave, up to 247 nodes)
	Ethernet	1 × Port (Modbus TCP/IP, TCP Server/Client)
Wireless Communication	LoRa	868 / 915 MHz ISM Band, LoRa modulation, range up to 3 km
	Cellular	LTE 4G / 3G, supports MQTT and HTTPS protocols
	Bluetooth	2.4 GHz BLE (Modbus RTU over BLE)
Certifications	FCC, IC	

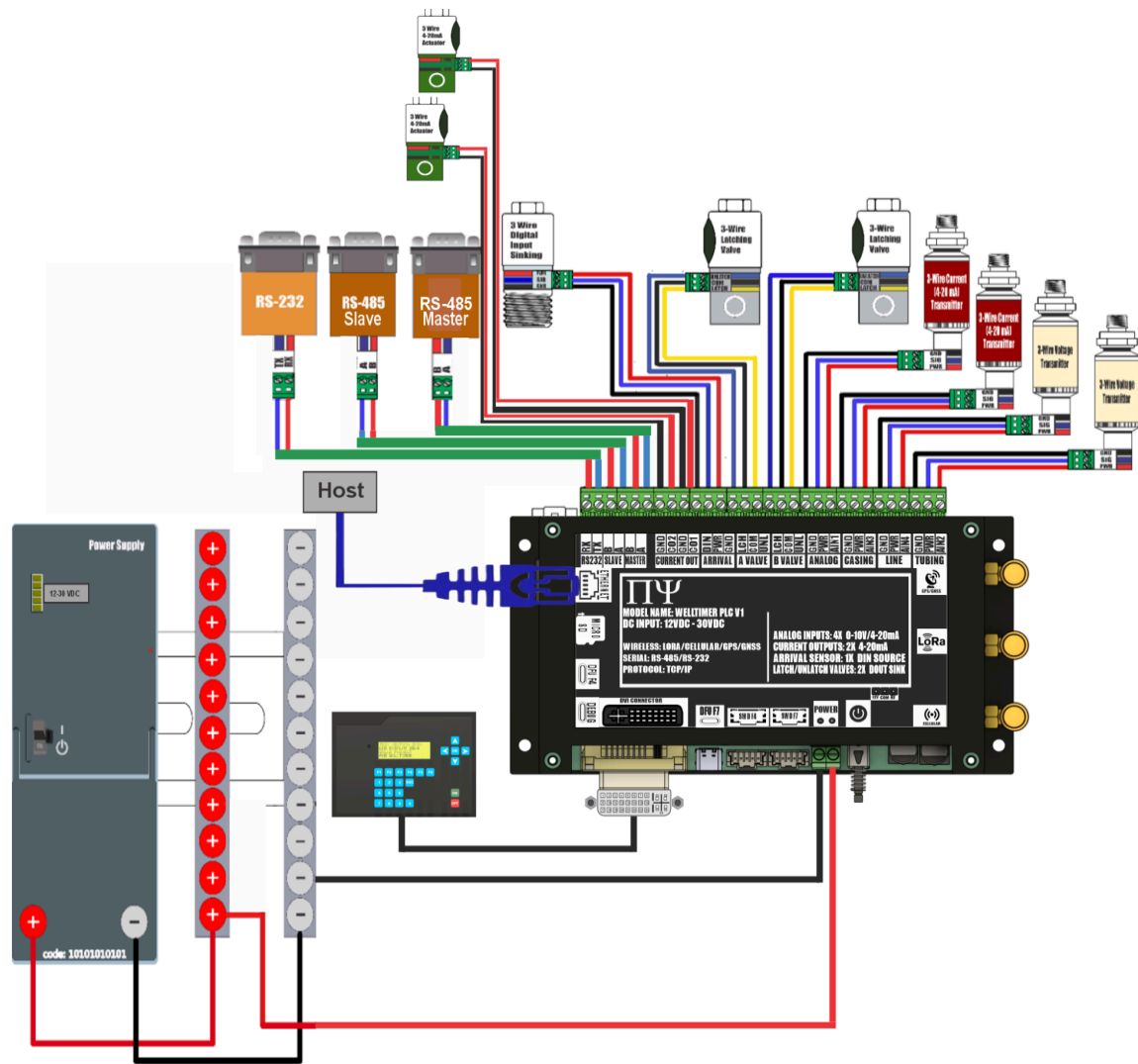
Diagram illustrating the terminal connections for the Weller PLC V1 module. The module features a top terminal block with 24 pins (14-24) and a bottom terminal block with 10 pins (5-10). A side terminal block has 4 pins (1-4). The module is labeled "ПЛС" and "WELLETIMER PLC V1". It includes a "WIRELESS LORA/CELLULAR/4G/LTE/5G" module, a "POWER" switch, and a "RESET" button. The module is connected to a power source and a data source.

1	Ethernet port
2	Micro SD card slot
3	Programming USB DFU F4
4	Programming USB DEBUG
5	DVI Connector
6	Programming USB DFU F7
7	SWD Connector F4
8	SWD Connector F7
9	Power connector
10	Power button
11	Cellular Antenna
12	LoRa Antenna
13	GPS Antenna
14	Analog input Tubing
15	Analog input Line
16	Analog input Casing
17	Analog input
18	Digital output Valve B
19	Digital output Valve A
20	Digital output Arrival
21	Current output
22	RS 485 port Master
23	RS 485 port Slave
24	RS 232 port

Mechanical diagram



Wiring Diagram:



Document	Software Configuration
WellTimer PLC V1 Operation Manual	WellTimer PLC V1 is configured using a browser-based AI-assisted tool called PytroAI. PytroAI can be accessed at: https://build.s2c.io/?username=demo
WellTimer PLC V1 Software Manual	The software manual details configuration steps, system setup, and communication modes (Modbus RTU/TCP).
WellTimer PLC V1 Point-to-Point Radio Bridge Application Note	Configuration guide for direct LoRa wireless communication between two PLC units.
WellTimer PLC V1 Point-to-MultiPoint Radio Bridge Application Note	Describes configuration for multiple remote site connections and data collection.
WellTimer PLC V1 Tank Level Monitoring Application Note	Details setup for automatic tank level control and telemetry monitoring.
WellTimer PLC V1 Modbus RTU Master Application Note	Configuration guide for using WellTimer PLC as Modbus RTU Master to control external devices.
WellTimer PLC V1 Modbus RTU Slave Application Note	Explains how to configure the PLC to respond as a Modbus RTU Slave.
WellTimer PLC V1 Modbus TCP Master Application Note	Describes how to set up Ethernet-based Modbus TCP Master communication.
WellTimer PLC V1 Modbus TCP Slave Application Note	Provides configuration steps for Modbus TCP Slave mode for remote data access.