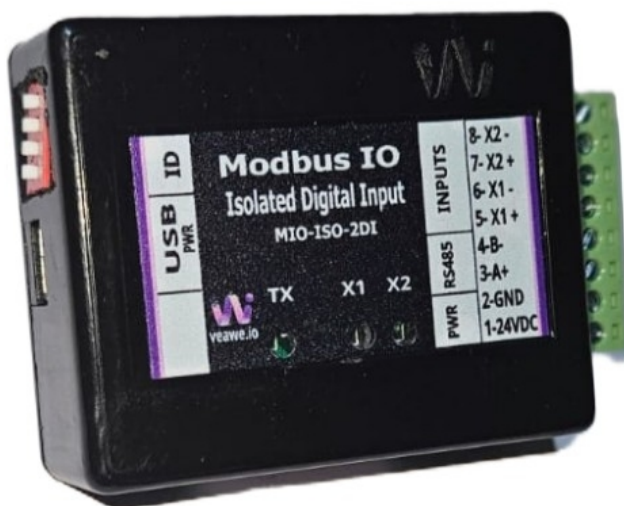


2DI Modbus Remote I/O Module

2 Isolated Digital Inputs, 5~24V compatible

Isolated 2DI Modbus Remote I/O Module

Compact Modbus RTU remote I/O module with two isolated digital inputs, pulse counting, RPM calculation.



Key Features

- 2 Isolated Digital Inputs, 5~24V compatible
- 2 High speed Production counter and RPM measurement
- All Inputs has latched status, Never miss an input change
- All Inputs has individual counter functions with retentive memory storage
- Modbus RTU over RS-485
- Dip address switch for address selection from 1 to 15
- Wide Supported baud rates from 300 to 115200
- DIN Rail mount support
- Dimensions: 60mm x 50mm x 20mm (L x W x H)

ModViz – Modbus Configuration & Visualization Tool

ModViz is a powerful yet simple configuration and visualization tool designed to work seamlessly with **Veawe Modbus I/O modules**. It enables engineers, system integrators, and technicians to quickly configure, monitor, and test field devices through an intuitive graphical interface.

The software can be downloaded from <https://veawe.io/modviz/>



Ordering Information

Product Code	Description
MIO-ISO-2DI	2-Channel Isolated Digital Input Module (5~24V compatible)
UIO-4DI-4DO	4-Channel Digital Input / 4-Channel Digital Output Module
UIO-8DI	8-Channel Digital Input Module
UIO-12DI-12DO	12-Channel Digital Input / 12-Channel Digital Output Module
UIO-24DI	24-Channel Digital Input Module
UIO-24DI-24DO	24-Channel Digital Input / 24-Channel Digital Output Module
UIO-48DI	48-Channel Digital Input Module

Applications

- **Industrial Automation** – Monitor isolated digital signals from sensors, switches, and field devices in PLC and SCADA systems
- **Motor & Machine Monitoring** – Measure RPM and RPS from proximity sensors or encoders on motors, conveyors, and rotating equipment
- **Production Counting** – Track production output with retentive high-speed counters that survive power cycles
- **Process Monitoring** – Detect and latch digital input state changes such as limit switches, float switches, or alarm contacts
- **Building Management** – Integrate isolated digital status signals for HVAC, access control, and utility monitoring
- **Remote Monitoring** – Ideal for distributed installations requiring electrically isolated digital inputs and pulse-rate measurement

Specifications

Parameter	Value
Mounting	DIN rail
Dimensions	60 mm x 50 mm x 20 mm (L x W x H)

Electrical Specifications

Parameter	Value
Supply Voltage	12V ~ 24V DC or USB 5V
Digital Inputs Range	5~24V compatible
Communication Port	RS-485

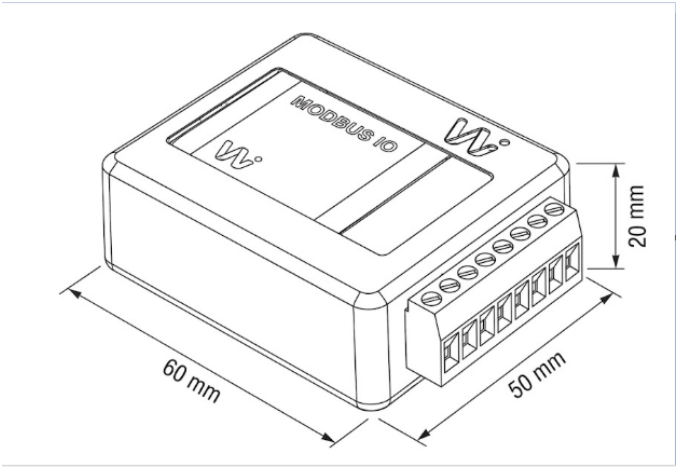
Input/Output Specifications

Parameter	Value
Channel Count	2
Signal Range	5~24V compatible

Isolation & Protection Specifications

Parameter	Value	Notes / Description
Supply Reverse Polarity Protection	Integrated	Series protection diode (continuous protection, zero reverse leakage)
Supply Isolation	Non-Isolated	Common ground between input power, internal circuitry
Input Isolation	2.5kVrms	Opto isolated inputs with other circuitry
Transient Voltage Clamping	Up to 600W	Clamps overvoltage spikes (10/100 μ s peak pulse rating)
EMC & Immunity Standards	Class-Compliant	Meets IEC 61000-4-2 (ESD), IEC 61000-4-4 (EFT), & IEC 61000-4-5 (Surge)
RS-485 Bus ESD Protection	15kV HBM/Air	IEC61000-4-2 Integrated high-ESD protected transceiver on A/B lines

Mechanical Dimensions

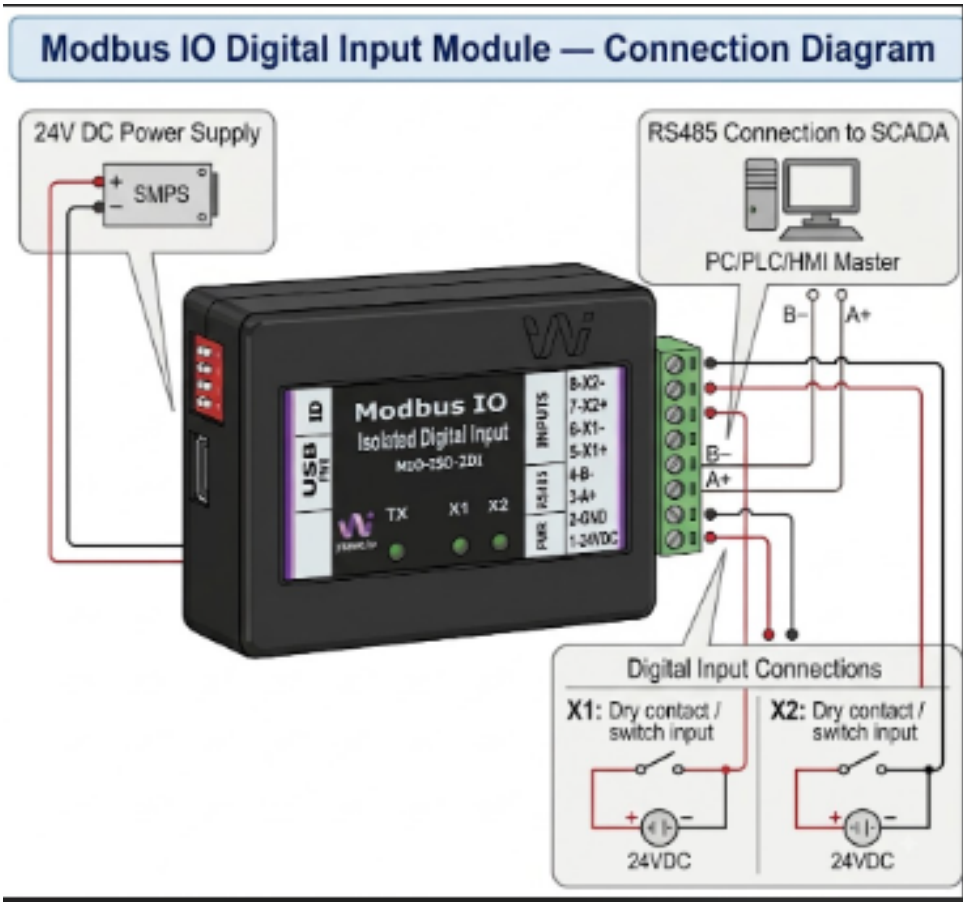


Terminal Details

Pin	1	2	3	4	5	6	7	8	
Signal	24V+	24V-	A+	B-	X1+	X1-	X2+	X2-	

Wiring Diagrams

Note: All images and connection diagrams shown are for illustrative purposes only and may differ from the actual product.



Communication Interface

Protocol	Physical Layer	Default Baud Rate	Default Format
Modbus RTU	RS-485	19200	8N1

Basic Process Registers

Signal	Address	Type	Description
DI1–DI2	10001–10002	Bit	DI1 to DI2 live digital input status

Supported Modbus Function Codes

Read	Write
01 – Read Coils	05 – Write Single Coil
02 – Read Discrete Inputs	06 – Write Single Register
03 – Read Holding Registers	15 – Write Multiple Coils
04 – Read Input Registers	16 – Write Multiple Registers

Register Map Overview

Function	Address Range	Type	Description
Discrete Inputs	10001–10002	Bit	DI1 to DI2 live digital input status
Discrete Inputs	10201–10202	Bit	DI1 to DI2 latched status, auto clears on read
Coils	00251–00252	Bit	Reset DI1 to DI2 slow counter
Coils	00801–00802	Bit	Reset production counter, DI1 to DI2
Input Registers	30251–30252	int16	DI1 to DI2 slow counter (1 kHz)
Input Registers	30801–30802	int16	DI1 to DI2 RPS value
Input Registers	30811–30812	int16	DI1 to DI2 RPM value
Input Registers	30821–30824	int32	DI1 to DI2 production counter
Holding Registers	40101	int16	Modbus server (slave) address (switch value)
Holding Registers	40102	int16	Baud rate selection
Holding Registers	40103	int16	Serial format selection
Holding Registers	40801–40802	int16	DI1 to DI2 mode
Holding Registers	40811–40812	int16	DI1 to DI2 pulses per revolution (PPR)

Detailed Register Tables

Discrete Inputs (1xxxx)

Digital Live Input Status

Address	Description
10001–10002	DI1 to DI2 live digital input status

Digital Input Latched Alarm Status

Address	Description
10201–10202	DI1 to DI2 latched alarm status; auto clears on read

- Latched input status stays high even after the input goes low and auto clears only after the master reads this bit. This makes sure no input status is missed by the controller

Coils (0xxxx)

Slow Counter Reset

Address	Description
00251–00252	Reset DI1 to DI2 slow counter

Production Counter Reset

Address	Description
00801–00802	Reset production counter for High speed counters, DI1 and DI2

Input Registers (3xxxx)

Digital Inputs Slow Counter Values

Address	Type	Description
30251–30252	int16	DI1 to DI2 slow counter (1 kHz)

Note : Retentive memory on power cycles

The DI change are counted and stored in these registers

High Speed Counter Values

Address	Type	Description
30801–30802	int16	DI1 to DI2 RPS value
30811–30812	int16	DI1 to DI2 RPM value
30821–30824	int32	DI1 to DI2 production counter

Holding Registers (4xxxx)

High Speed Counter Configuration

Address	Type	Description
40801–40802	int16	DI1 to DI2 mode
40811–40812	int16	DI1 to DI2 pulses per revolution (1~65535)

DI Mode Values:

0 = Normal digital input

1 = RPM / RPS measurement

2 = Production counter

Communication Settings

Address	Type	Description
40101	int16	Modbus server (slave) address (switch value)
40102	int16	Baud rate selection
40103	int16	Serial format selection

Modbus Address (40101)

This is set using the rotary or DIP switches.

Baud Rate Register (40102) and Serial Format Register (40103)

Value	Baud Rate	Value	Baud Rate	Value	Format
0	300	7	9600	0	8N1
1	600	8	14400	1	8E1
2	1200	9	19200	2	8O1
3	1800	10	38400	3	8N2
4	2400	11	57600	4	8E2
5	4800	12	62500	5	8O2
6	7200	13	115200		

Baud Rate / Bit Setting Config

Baud / Bit Config

Device ID (switch value) (40101): 0

Baud Rate (40102): 9 - 19200

Bit Setting (40103): 0 - 8N1

Write

Read Config

Close

Default: 19200 baud, 8N1.

Default Settings

Setting	Default
Slave Address	As per switch position
Baud Rate	19200
Serial Format	8N1

Configuration Settings

Default Mode

Default mode is useful when communication settings are unknown.

When the rotary address switch is set to 00:

- Slave address = 1
- Baud rate = 19200
- Serial format = 8N1



DIP SWITCH

ON

OFF

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For switch pos 1~15
Baud rate and bits as
per register config

Default Mode
ID 1, 19200, 8N1

Changing to default mode does not overwrite stored settings. Stored settings remain unchanged until written through Modbus.

LED Indications and Diagnostics

LED	Description
Tx	RS-485 transmit status and run blink every 2 sec when idle
DI1–DI2	Digital Input active status

Revision History

Revision	Date	Changes
Rev 1.0	2026-08-10	Initial datasheet, HW Version = 3, FW Version = 2

Get the latest version of this datasheet : **[click here..](#)**

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