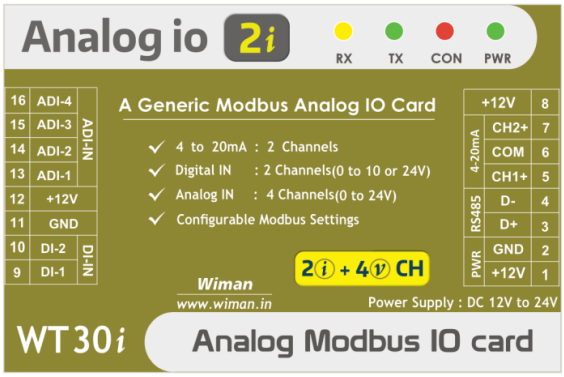
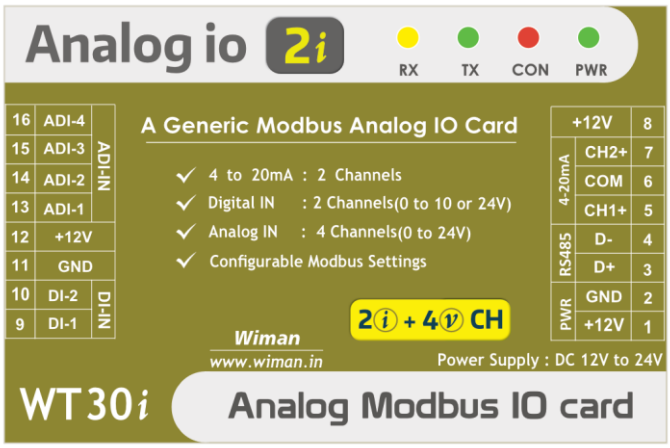
MODEL: IO - Data Registers (MODULE TYPE = 30i)



IO SPECIFICATION:

S.no	I/O SPECIFICATION	No's
1	DIGITAL INPUT	2
2	ANALOG INPUT (0 -10V)	4
3	CURRENT INPUT (4-20ma)	2
4	Pulse Counter	2

CONNECTION DIAGRAM:



MODEL SPECIFICATIONS:

Category	Parameters	Specifications
Power	Power Supply	DC 12 to 24 V
	Power Consumption	Not specified
LED	RX LED	Indicates data receive (RS232/RS485 RX blink)
	TX LED	Indicates data transmit (RS232/RS485 TX blink)

	CON LED	Indicates Modbus / connection status
	PWR LED	Indicates power ON
Local I/O Specification		
Analog Inputs (Current)	Number of Channels	2 Channels
	Input Type	Current Input
	Input Range	4 to 20 mA
Analog Inputs (Voltage)	Number of Channels	4 Channels
	Input Type	Voltage Input
	Input Range	0 to 10 V (supports up to 24 V internally)
Digital Inputs	Number of Channels	2 Channels
	Input Range	0 to 24 V
Relay Output	Number of Channels	Not available
	Contact Type	—
Optional Feature	Pulse Counter	Optional (2 channels, configurable via Modbus)
Resolution	ADC Resolution	Configurable (0.1 / 0.01 / 0.001 via Modbus)
Accuracy	Accuracy	Not specified
Linearity	Linearity	Not specified
Input Offset	Offset Error	Not specified
Isolation	Isolation Method	Not specified
	Isolation Voltage	Not specified
I/O Terminals	Terminal Type	Screw Terminals
Communication	Interface / Protocol	RS485, Modbus RTU
Configuration	Modbus Address & Scaling	Configurable via Holding Registers
Environment & Approvals		
Operating Temperature	Range	0 to 60 °C
Storage Temperature	Range	−30 to 85 °C
Humidity	Operating Humidity	10 to 95% (Non-condensing)
Mounting	Mounting Type	DIN Rail Mounting
Dimensions (mm)	H × W × D	100 × 26 × 70
Approvals	Certifications	CE, UKCA, UL, REACH & RoHS

Digital Inputs – Discrete Inputs (0x02)					
DI No	**Modbus Function**	**Address**	**Type**	**Access**	**Description**
DI-1	0x02	10001	Bit	R	Digital Input 1 status
DI-2	0x02	10002	Bit	R	Digital Input 2 status
DI-3	0x02	10003	Bit	R	Digital Input 3 status
DI-4	0x02	10004	Bit	R	Digital Input 4 status
DI-5	0x02	10005	Bit	R	Digital Input 5 status
DI-6	0x02	10006	Bit	R	Digital Input 6 status

Input Registers – Device Information (0x04)				
Register Address	**Name**	**Type**	**Access**	**Description**
30001	S/W Version / Module Type	Unsigned int	R	High byte = firmware version, Low byte = 101
30002	Digital Inputs (Packed)	Unsigned int	R	Digital input states packed into 16 bits

IO Status & Digital Inputs				
Read Holding Register - 0x03				
Address	**Register Name**	**Type**	**Access**	**Description**
40001	IO Change Status	Unsigned int	R	Input/Output bit change flag
40002	Input-1	Unsigned int	R	DI-1 status
40003	Input-2	Unsigned int	R	DI-2 status
40004	Input-3	Unsigned int	R	DI-3 status
40005	Input-4	Unsigned int	R	DI-4 status
40006	Input-5	Unsigned int	R	DI-5 status
40007	Input-6	Unsigned int	R	DI-6 status
Pulse Counters				
Read Holding Register - 0x03				
Address	**Register Name**	**Type**	**Access**	**Range**
40008	Pulse Count-1	Unsigned long (32-bit)	R/W	0 – 999999
40010	Pulse Count-2	Unsigned long (32-bit)	R/W	0 – 999999

Read Holding Register - 0x03				
Channel	**Register Address**	**Type**	**Range**	**Access**
Analog Input-1	40012	Float	0 – 29.99	R
Analog Input-2	40014	Float	0 – 29.99	R
Analog Input-3	40016	Float	0 – 29.99	R
Analog Input-4	40018	Float	0 – 29.99	R

Analog Inputs (Current: 4–20 mA)				
Read Holding Register - 0x03				
Channel	**Register Address**	**Type**	**Range**	**Access**
4–20 mA CH-1	40020	Float	4 – 19.99 mA	R
4–20 mA CH-2	40022	Float	4 – 19.99 mA	R

Communication Parameters (Holding Registers – R/W)				
Read Holding Register - 0x03				
Write Register - 0x06				
Write Multiple Register - 0x10				
Address	**Parameter**	**Type**	**Access**	**Description**
40101	Device ID	Unsigned int	R/W	Modbus slave ID (1–247)
40102	Baud Rate	Unsigned int	R/W	2400 → 115200
40103	Data Bits	Unsigned int	R/W	8 bits
40104	Parity	Unsigned int	R/W	0=None, 1=Even, 2=Odd
40105	Stop Bits	Unsigned int	R/W	1 or 2
40106	Inter-character Delay	Unsigned int	R/W	Unit = 10 ms

Input Mode & Filtering Configuration				
Read Holding Register - 0x03				
Write Register - 0x06				
Write Multiple Register - 0x10				
Address	**Register Name**	**Type**	**Access**	**Description**
40203	Input Mode	Unsigned int	R/W	0 = Digital Input, 1 = Pulse Input
40204	Filter Value	Unsigned int	R/W	0 = No filter