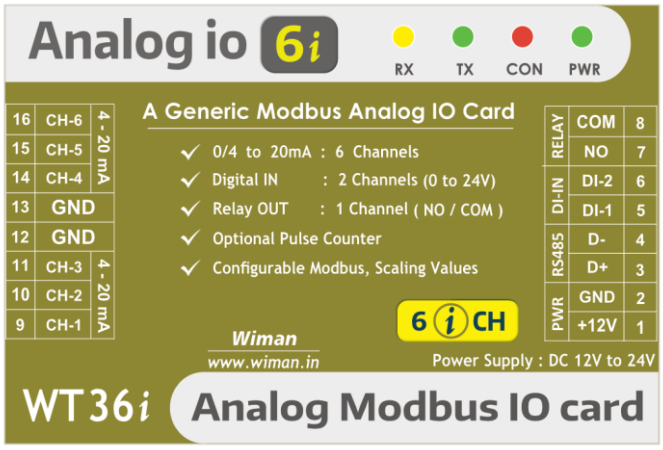
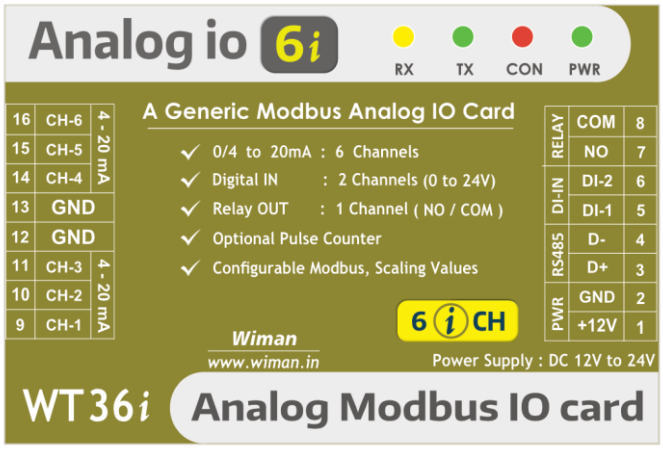
MODEL: IO - Data Registers (MODULE TYPE = 36i)



IO SPECIFICATION:

S.No	I/O SPECIFICATION	No's
1	DIGITAL INPUT	2
2	DIGITAL OUTPUT	1
3	ANALOG INPUT (0 -10V)	6
4	CURRENT INPUT (4-20ma)	6
5	PULSE INPUT	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 / GSM connection status
	PWR LED	Indicates power ON
Local I/O Specification:		
Analog Inputs	Number of Channels	6 Channels
	Input Type	Current Input
	Input Range	4 to 20 mA
Digital Inputs	Number of Channels	2 Channels
	Input Range	0 to 24 V
Relay Output	Number of Channels	1 Channel
	Contact Type	NO / COM
Optional Feature	Pulse Counter	Optional (2 channels)
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

1. Digital Output (Relay) – Coil Table	
Item	**Details**
Modbus Function (Read)	0x01 – Read Coils
Modbus Function (Write)	0x05 (Single Coil), 0x0F (Multiple Coils)
Coil Address	1
Data Type	1 bit (coil)
Value = 0	Relay OFF
Value = 1	Relay ON
Notes	This is a coil, not a holding register. Writing with 0x06 will not work.

2. Digital Inputs – Discrete Input Table				
Channel	**Modbus Function**	**Address**	**Data Type**	**Meaning**
DI-1	0x02 – Read Discrete Inputs	10001	1 bit	0 = LOW, 1 = HIGH
DI-2	0x02 – Read Discrete Inputs	10002	1 bit	0 = LOW, 1 = HIGH

3. Input Registers (0x04) – System Information			
Register Address	**Parameter**	**Access**	**Description**
30001	Software Version / Module Type	R	High byte = firmware version, Low byte = module type (101)
30002	Digital Inputs (Packed)	R	16-bit value containing DI status

4. Analog Inputs (4–20 mA) – Holding Register Table				
Channel	**Modbus Function**	**Register Address**	**Data Type**	**Range**
CH1	0x03 – Read Holding Registers	40009	Float (32-bit)	4.0 – 20.0 mA
CH2	0x03 – Read Holding Registers	40011	Float (32-bit)	4.0 – 20.0 mA
CH3	0x03 – Read Holding Registers	40013	Float (32-bit)	4.0 – 20.0 mA
CH4	0x03 – Read Holding Registers	40015	Float (32-bit)	4.0 – 20.0 mA
CH5	0x03 – Read Holding Registers	40017	Float (32-bit)	4.0 – 20.0 mA

CH6	0x03 – Read Holding Registers	40019	Float (32-bit)	4.0 – 20.0 mA

5. Communication & Device Configuration – Holding Registers			
Register Address	**Parameter**	**Access**	**Description**
40101	Modbus Slave ID	R/W	Valid range: 1–247
40102	Baud Rate	R/W	0=2400, 1=4800, 2=9600, 3=19200, 4=38400, 5=57600, 6=115200
40103	Data Bits	R/W	0 = 8 bits
40104	Parity	R/W	0 = None, 1 = Even, 2 = Odd
40105	Stop Bits	R/W	1 = 1 stop bit, 2 = 2 stop bits
40106	Inter-character Delay	R/W	Unit = 10 ms

Read Holding Register - 0x03						
S.No	**Address (Dec)**	**Register Name**	**Type**	**Min**	**Max**	**Access**
1	40001	IO Change Status	unsigned int	0	1	
2	40002	Input-1	unsigned int	0	1	R
3	40003	Input-2	unsigned int	0	1	R
4	40004	Output-1	unsigned int	0	1	R
5	40005	PulseCount-1	unsigned long	0	999999	R/W
6	40007	PulseCount-2	unsigned long	0	999999	R/W
7	40009	4-20ma ch-1	float	4	20	R
8	40011	4-20ma ch-2	float	4	20	R
9	40013	4-20ma ch-3	float	4	20	R
10	40015	4-20ma ch-4	float	4	20	R
11	40017	4-20ma ch-5	float	4	20	R
12	40019	4-20ma ch-6	float	4	20	R

Read Holding Register - 0x03 Write Register - 0x06 Write Multiple Register - 0x10							
S.No	**Address (Dec)**	**Register Name**	**Type**	**Min**	**Max**	**Access**	**Description**
1	40101	Device ID	unsigned int	1	247	R/W	1 -247 modbus slave address
2	40102	Baud rate	unsigned int	0	7	R/W	0=2400, 1=4800, 2=9600, 3=19200, 4=38400, 5=57600, 6=115200
3	40103	Bits	unsigned int	0	0	R/W	0=8bit
4	40104	Parity	unsigned int	0	2	R/W	0 = none, 1 = even, 2 = odd
5	40105	Stop	unsigned int	0	2	R/W	1 = 1 stop bit, 2 = 2 stop bits
6	40106	Interchar	unsigned int	2	10	R/W	unit (x10ms)

Read Holding Register - 0x03 Write Register - 0x06 Write Multiple Register - 0x10							
S.No	**Address (Dec)**	**Register Name**	**Type**	**Min**	**Max**	**Access**	**Description**
1	40201	Reserved	-	-	-	-	-

2	40202	Reserved	-	-	-	-	-
3	40203	Input Mode	unsigned int	0	1	R/W	0-Dig Input, 1-Pulse Input
4	40204	DI1 Pulse Max Value	unsigned long	1	999999	R/W	Pulse Maximum Reset Count
5	40206	DI2 Pulse Max Value	unsigned long	1	999999	R/W	Pulse Maximum Reset Count
6	40208	CH1 Mode	unsigned int	0	1	R/W	0-(4-20ma), 1-(0-20ma)
7	40209	CH1 Offset	unsigned int	0	0	R/W	Reserved
8	40210	CH1 Max Scale Value	unsigned int	0	65535	R/W	Scaled to this maximum value
9	40211	CH1 Resolution	unsigned int	0	3	R/W	0-None,1-0.1, 2-0.01, 3-0.001
10	40212	CH2 Mode	unsigned int	0	1	R/W	0-(4-20ma), 1-(0-20ma)
11	40213	CH2 Offset	unsigned int	0	0	R/W	Reserved
12	40214	CH2 Max Scale Value	unsigned int	0	65535	R/W	Scaled to this maximum value
13	40215	CH2 Resolution	unsigned int	0	3	R/W	0-None,1-0.1, 2-0.01, 3-0.001
14	40216	CH3 Mode	unsigned int	0	1	R/W	0-(4-20ma), 1-(0-20ma)
15	40217	CH3 Offset	unsigned int	0	0	R/W	Reserved
16	40218	CH3 Max Scale Value	unsigned int	0	65535	R/W	Scaled to this maximum value
17	40219	CH3 Resolution	unsigned int	0	3	R/W	0-None,1-0.1, 2-0.01, 3-0.001
18	40220	CH4 Mode	unsigned int	0	1	R/W	0-(4-20ma), 1-(0-20ma)
19	40221	CH4 Offset	unsigned int	0	0	R/W	Reserved
20	40222	CH4 Max Scale Value	unsigned int	0	65535	R/W	Scaled to this maximum value
21	40223	CH4 Resolution	unsigned int	0	3	R/W	0-None,1-0.1, 2-0.01, 3-0.001
22	40224	CH5 Mode	unsigned int	0	1	R/W	0-(4-20ma), 1-(0-20ma)
23	40225	CH5 Offset	unsigned int	0	0	R/W	Reserved
24	40226	CH5 Max Scale Value	unsigned int	0	65535	R/W	Scaled to this maximum value
25	40227	CH5 Resolution	unsigned int	0	3	R/W	0-None,1-0.1, 2-0.01, 3-0.001
26	40228	CH6 Mode	unsigned int	0	1	R/W	0-(4-20ma), 1-(0-20ma)
27	40229	CH6 Offset	unsigned int	0	0	R/W	Reserved
28	40230	CH6 Max Scale Value	unsigned int	0	65535	R/W	Scaled to this maximum value
29	40231	CH6 Resolution	unsigned int	0	3	R/W	0-None,1-0.1, 2-0.01, 3-0.001