Aeropulse Modbus-RTU Protocol

Data Type

- Data length = 8
- Stop bits = 1
- Parity = none
- Baud Rate = 9600 (default)

Commands

1 . Read holding register

Addr	Fun	Data start addr hi	Data start addr lo	Data #of regs hi	Data #of regs lo	CRC16 hi	CRC16 lo
01H	**03H**	**00H**	**00H**	**00H**	**03H**	**XXH**	**XXH**

2. Read input register

Addr	Fun	DO addr hi	DO addr lo	Data #of regs hi	Data #of regs lo	CRC16 hi	CRC16 lo
01H	**04H**	**00H**	**08H**	**00H**	**01H**	**XXH**	**XXH**

3 . Write single register

Addr	Fun	Data start reg hi	Data start reg lo	Value hi	Value lo	CRC hi	CRC lo
01H	**06H**	**00H**	**40H**	**0AH**	**9DH**	**XXH**	**XXH**

- Read Input Register (0x04) command 01 04 0038 0022 F1DEto read all input register
- Write single Register (0x06) command 01 06 0004 07E8 CA75 to set the Modbus holding register address to 0x06(set device data 2024 year)
- Read holding Register (0x03) command 01 03 0002 0007 A5C8 to read all holding register

Input Register Address

Address < Hex >	Content	R/W Property	Comment	Data Format on Modbus Poll	Value length
0x01	AQI	R	AQI US	Signed	U16
0x02	CO2	R	ppm	Signed	U16
0x03	Temperature	R	℃	Signed	Tx100
0x05	Humidity	R	%	Signed	U16
0x06	Noise	R	dBm	Signed	U16
0x07	Light	R	Lux	Signed	U16
0x08	Air pressure	R	hPa	Signed	U16
0x09	TVOC	R	Index	Signed	U16
0x0A	PM2.5	R	μg/m3	Signed	U16
0x0B	PM10	R	μg/m3	Signed	U16
0x0C	PC0.3	R	Particle Count	Signed	U16
0x0D	PC2.5	R	Particle Count	Signed	U16
0x0E	PC10	R	IndexIndex	Signed	U16
0x0F	NOx	R	Index	Signed	U16
0x10	Ozone	R	ppb	Signed	U16
0x11	NO2	R	ppb	Signed	U16
0x12	CO	R	ppm	Signed	U16

0x13	HCHO	R	ppb	Signed	U16
0x14	H2	R	%Vol	Signed	U16
0x15	SO2	R	ppb	Signed	U16
0x16	NH3	R	ppb	Signed	U16
0x17	H2S	R	ppb	Signed	U16
0x18	SMELL	R	ppb	Signed	U16
0x19	C2H4O	R	ppb	Signed	U16
0×20	TVOCP	R	ppb	Signed	U16

PS: When the value is 65535, it indicates that the value is invalid

Example

Read Temperature:

Send:

01 04 00 03 00 02 34 0B

Receive:

01 04 04 41 B7 85 1F 7C C6

Temperature is : 22.94

Holding Register Address

Address < Hex >	Content	R/W Property	Comment	Data Format on Modbus Poll	Value length
0x01	Date(UTC)	R/ W	07E8 09 04H 07E8H --> 2024 year 09H --> 9月, 04H --> 4日	Signed	U32
0x03	Time(UTC)	R/ W	000C 0A 01H 000CH --> 12 hour, 0CH --> 10 minute, 0CH --> 01second	Signed	U32