

EH6400A Traffic meter electronic counter
communication protocol

Communication mode: RTU mode

Porter rate 9600bps: 1 start bit 8 data bits unchecked (modifiable) 1 stop bit

Frame check domain: cyclic redundancy check (CRC) for all message content.

Frame description: (except CRC check, the sent words are first high bytes after low bytes)

The sending frame format is as follows:

From the station address	FC	data	CRC	
1 Bytes	1 Bytes	From 0 to 252 bytes	CRC lower byte	CRC high byte

Communication parameters:

parameter	function	Set the content	remarks
C00	Instrument communication address	0000001	Set range 0-255, default 1
C01	Communication Port rate	00000002	000:2400 001:4800 002:9600 (factory value) 003:19200
C02	Communication mode setting (Include protocol and checkbit settings)	00000000 MSB LSB 7 1 0 0 0 0 0 0 M P	M: Agreement selection M=0 New protocol (ex-factory value) M=1 old agreement M=2 floating-point number protocol P: Check bit selection P=0 no check (factory value) P=1 odd check P=2 parity

Communication zero single volume

Host sends the write command add 10 00 00 00 02 04 CC 33 C3 3C

crc

For example, clear flowmeter with address 1:

01 10 00 00 00 02 04 CC 33 C3 3C 9D 8B

1. Communication Protocol 1 (New protocol)

Variable name	address	Number of registers	Read / write	remarks
Single cumulative	40001-40002	2	RW	32 bits of unsigned numbers, 3 decimal places, in unit: L For example: Send 0103000000002 C 4 0 B
Total cumulative high	40003-40004	2	R	32 bits of unsigned digits in m3 For example: Send 01 03 00 02 00 02 65 CB
Total cumulative low	40005-40006	2	R	32 bits of unsigned numbers, 3 decimal places, in unit: L For example: Send 01 03 00 04 00 02 85 CA
instantaneous flow	40007-40008	2	R	32-bit unsigned numbers, 3 decimal places, in m3 For example: Send 01 03 00 06 00 02 24 0A

An example of protocol

Communication with the serial port test software:

For example: mailing address: 01, port rate: 9600, a start bit, 8 data bits, a stop bit, no check

Set as follows: C 00=0000001, C01=0000002, C02=0000000

Host query command to send 01 03 00 00 00 08 44 0C

01	Instrument address
03	FC
00	Register start address high byte
00	Register start address Low bytes
00	Register number of high bytes
08	Register number low bytes
44 0C	check code

The flowmeter response is:

01 03 10 00 14 AD 5C 00 BC 61 B2 00 01 3E C0 00 00 6B 22 21

CF

01	Instrument address
03	FC
10	Data Length (number of bytes)
00 14 AD 5C	Single volume, 4 bytes, 3 decimal places (1355.100L)
00 BC 61 B2	Cumulative total height of 4 bytes (12345778m3)
00 01 3E C0	Total cumulative low 4 bytes, 3 decimal places (81.600L)
00 00 6B 22	Instantaneous volume of cubic 4 bytes and 3 decimal places (27.426m3)
21 CF	CRC, check code

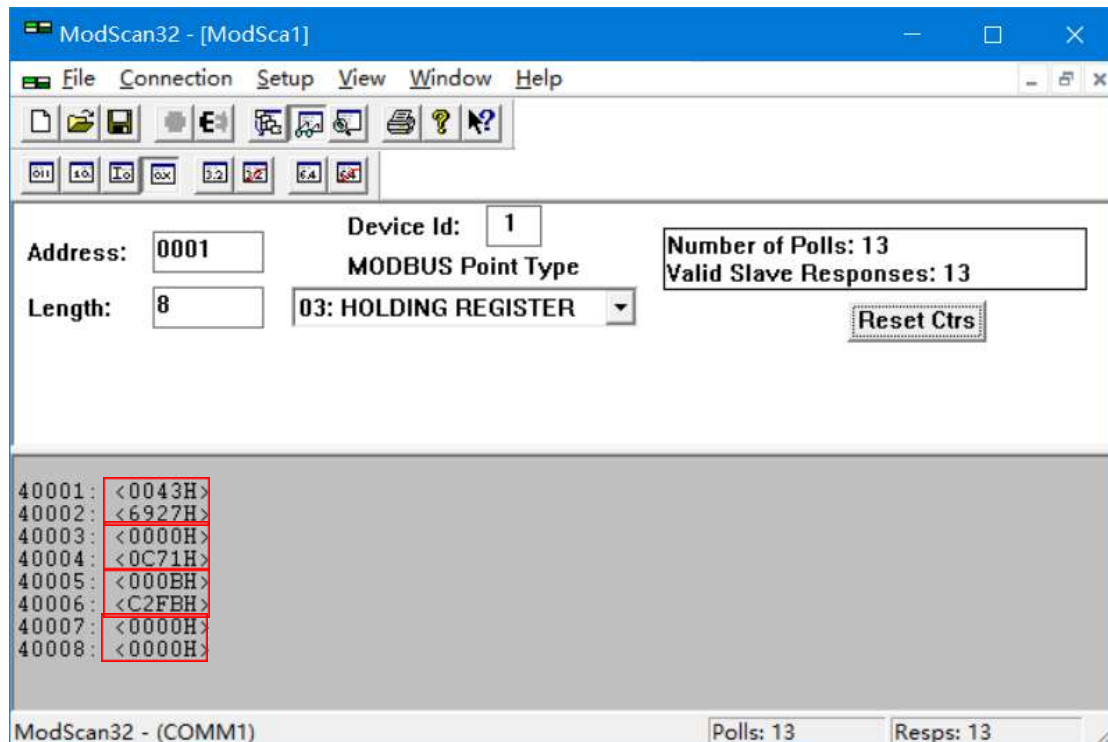
The readout data is:

Single cumulative 1355.100 L

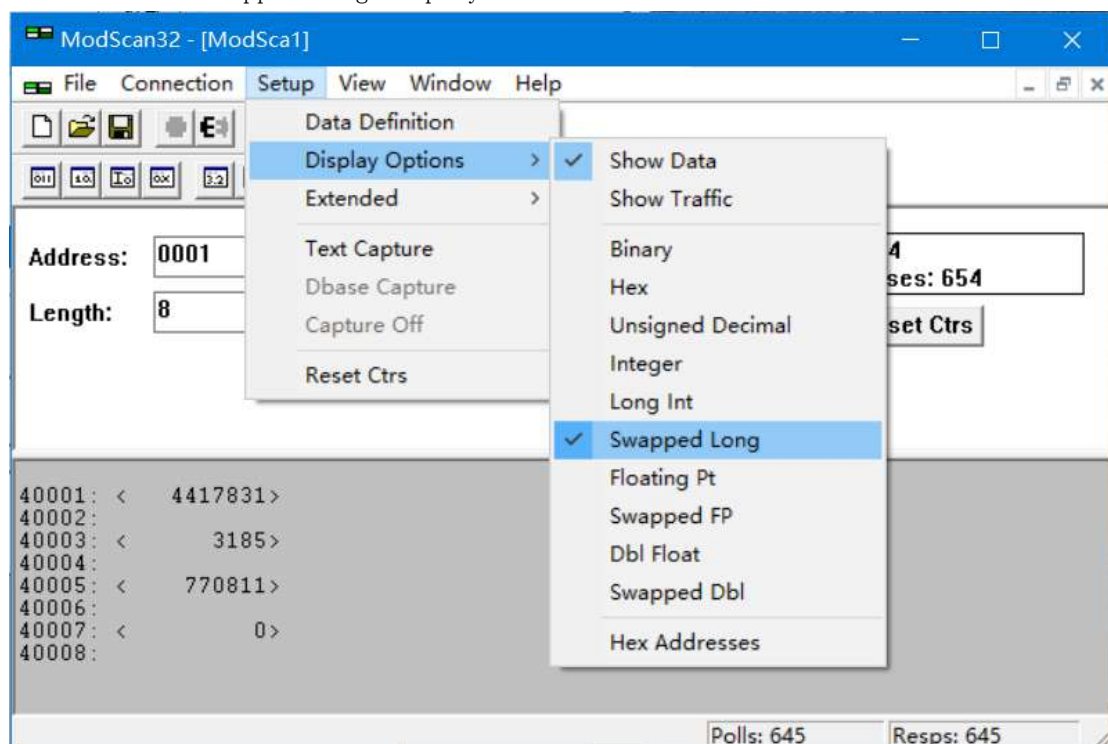
Total cumulative: 12345778.081600m3

Instantaneous quantity: 27.426m3/h

Communication is provided with the ModS can32 software:



Switch to the Swapped Long display



40001-2 Single cumulative $4417831 \div 1000 = 4417.831$ unit L
 40003-4 Total cumulative high bytes = 3,185 Unit m 3
 40005-6 Total cumulative low bytes $770811 \div 1000 = 770.811$ unit L
 40007-8 Instantaneous volume $0 \div 1000 = 0$ Unit of m 3 / h

2. Communication protocol 2

Variable name	address	Number of registers	Read / write	remarks
Single cumulative high bytes	40001-40002	2	R	32 bits of unsigned digits in m3
A single cumulative low byte	40003-40004	2	R	32 bits, unsigned number, 5 decimal places, in unit: L
Total cumulative high byte	40005-40006	2	R	32 bits of unsigned digits in m3
Total cumulative low byte	40007-40008	2	R	32 bits, unsigned number, 8 decimal places, in m3
instantaneous flow	40009-40010	2	R	32 bits unsigned number, 3 decimal places, unit: m3/h

Example of protocol 2

For example: mailing address: 01, port rate: 9600, a start bit, 8 bit data bit, one stop bit, even check

Set as follows: C 00=0000001, C01=0000002, C02=0000012

Host query command is sent: 01 03 00 00 00 0A C5 CD

The flowmeter response is:

01 03 14 00 00 00 02 05 53 14 70 00 00 00 02 00 C4 D6 A0 00 00 FB D0 34 A2

01	address
03	FC
14	length
00 00 00 02	Single volume high 4 bytes (integer part) unit: m3
05 53 14 70	Single volume low 4 bytes (decimal part, 5 decimal place) unit: L
00 00 00 02	Total cumulative height of 4 bytes (integer part) unit: m3
00 C4 D6 A0	Total cumulative low 4 bytes (decimal part, 8 decimal place) unit: m3
00 00 FB D0	Instantaneous quantity, containing 2 decimal places, measured in m3 / h
BBD4	check code

The readout data is:

Single cumulative amount: 2893.30800 L

Total accumulation: 2.12900000m 3

Instantaneous quantity: 64.464m3/h

III. Communication Agreement III (floating protocol)

Register address and definition

order Number	Register address (decimal system)	The parameter name	data form	type	remarks
1	40001-40002	The total amount is 6 places higher	Float	read only	Unit of m3 / T
2	40003-40004	The total amount is 6 bits lower	Float	read only	Unit of m3 / T
3	40005-40006	Total amount of 6 decimal places	Float	read only	Unit of m3 / T
4	40007-40008	instantaneous delivery	Float	read only	Unit of m3 / T
5	40009-40010	Single involvement was high at 4 positions	Float	read only	Unit of m3 / T
6	40011-40012	Single involvement was low by 6 bits	Float	read only	Unit of m3 / T
7	40013-40014	Single-involved in 6 decimal places	Float	read only	Unit of m3 / T

Note: The floating point number meets the IEEE754 standard.

Main Station Request Frame:

address	1 Bytes	
FC	1 Bytes	0x03
start address	2 Bytes	1~12
Number of registers	2 Bytes	1~125 (0x7D)
CRC verification	2 Words	

Response frame from station:

address	1 Bytes	
FC	1 Bytes	0x03
Byte number	1 Bytes	2 N (number of registers)
Register value	2 Admidia N bytes	
CRC verification	2 Words	

instance

Read register data (read out data displayed on the current header)

Main station request	01 03 00 00 00 08 15 CC; address, function number CRC
Response frame from station:	01 03 10; Address, function code, byte count 49 06 47 00; total 6:550000 49 74 1E 70; 6 digits lower: 999911 4,973 E580; total decimal place: 9,99,000 41 45 85 1F; standard condition volume flow rate 12.345 C2 0D ;CRC
computational method	Total cumulative amount = $550000 * 10^6 + 999911 + 999000 / 10^6$ =550000999911.999000 M3
Main station request	01 03 00 00 00 0E 95 CE; starting number of address function code CRC
Response frame from station:	01 03 1C; address, function code, byte count 00 00 00 00; total high 6 bits: 0 00 00 00 00; total 6:0 48 6F 42 00; total decimal amount: 245,000 00 00 00 00; standard condition volume flow rate 0 00 00 00 00; single height 4 bits: 0 00 00 00 00; single tired low 6 bits: 0 47 4F 08 00; single decimal place: 53000 EC F1 ;CRC
computational method	Total cumulative amount = $0 * 10^6 + 0 + 245000 / 10^6$ = 0.245000 M3 Single cumulative amount = $0 * 10^6 + 0 + 53000 / 10^6$ = 0.053000 M3