ModScan Instruction

DO Modbus protocal

Dissolved Oxygen Sensor Modbus protocol

MODBUS RTU Transmission Mode

RTU mode format for each byte (11 bits):

Encoding system	8-bit binary Each 8-bit byte in the protocol contains two 4-bit hexadecimal characters (0-9, A-F)
Bit per byte	1 start bit 8 data bits, the least significant bit is sent first No parity check bit 1 stop bit
Baud rate	9600bps
Message example (little-endian format ABCD adjusts DCBA first, then parses) Factory default slave address 01	
Temperatur： 17.5℃ Percentage： 95.8% DO Value：8.72mg/L	01 03 20 00 00 06 C4 70 01 03 0C 00 00 8D 41 83 5B 75 3F E8 88 0B 41 F6 6B
Get user calibration parameters（K=1,B=0）	01 03 22 00 00 04 4E 71 01 03 08 00 00 80 3F 00 00 00 00 9E 12
Set user calibration parameters（K=1,B=0）	SEND: 01 10 22 00 00 04 08 00 00 80 3F 00 00 00 00 C5 9D GET: 01 10 22 00 00 04 CB B2
Get slave ID	FF 03 30 00 00 01 9E D4 Get address: 01 FF 03 02 01 00 90 00
Set slave ID	**Original address 01 after setting address 20** 01 10 30 00 00 01 02 14 00 99 53 01 10 30 00 00 01 0E C9

Notes：

01 03 21 00 00 02 CE 37

01: Address

03: Function Code

21 00: Starting Address

00 02: No.of registers

CE 37: CRC

Temperatur: 17.5℃ Percentage: 95.8% DO Value: 8.72mg/L	01 03 20 00 00 06 C4 70 01 03 0C 00 00 8D 41 83 5B 75 3F E8 88 0B 41 F6 6B

01 03 20 00 00 06 C4 70

Address: 20 00

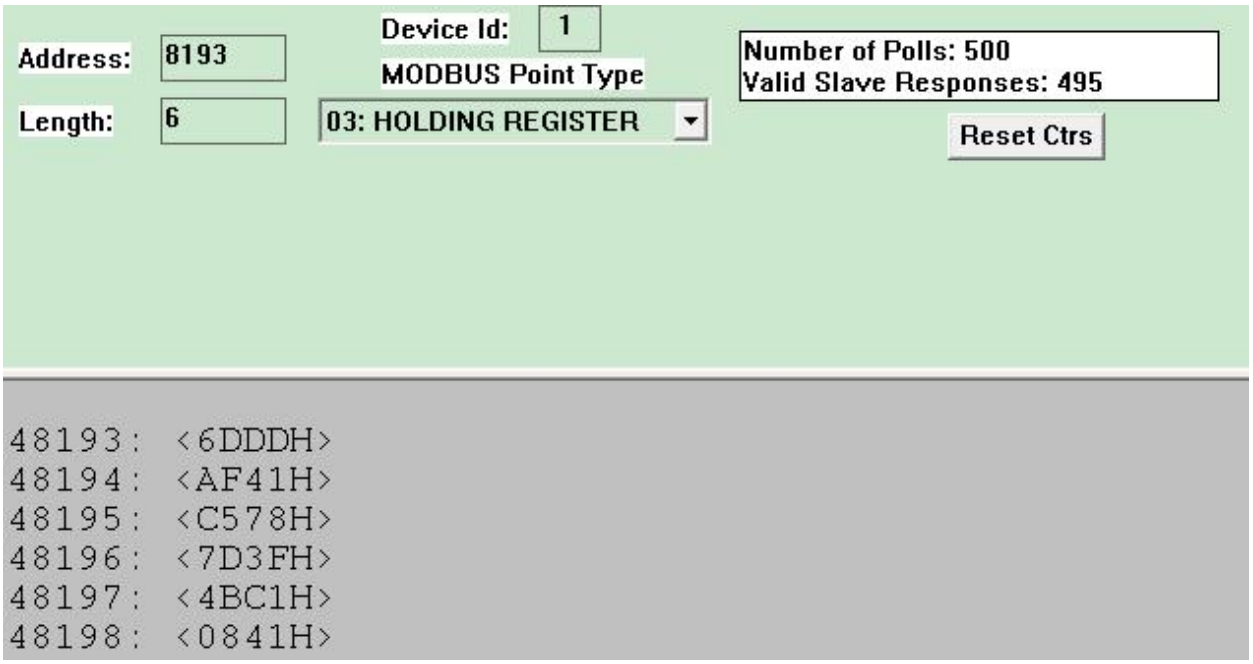
2000 → 8192

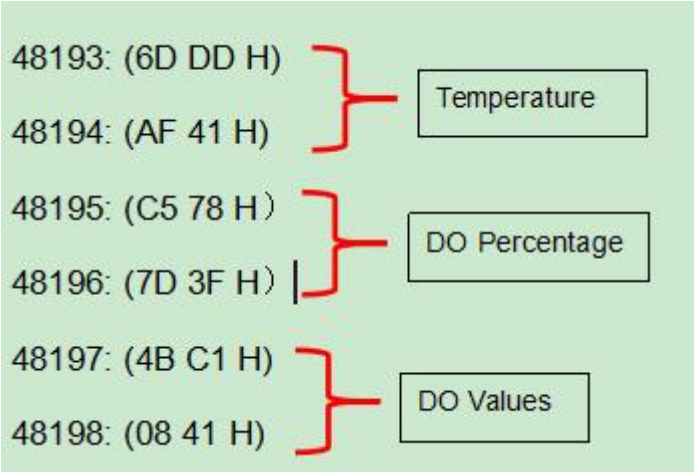
Hexadecimal to decimal

Parsing method, DCBA

32 floating point numbers to decimal plastic numbers

Address	**8193**	**Length**	**6**
Modbus Point Type		**03 HOLDING REGISTER**	





Little-endian format ABCD adjusts DCBA first, then parses

For example:

4B C1 08 41 → 41 08 C1 4B → 8.54mg/L

C5 78 7D 3F → 3F 7D 78 C5 → 0.99 (99%)

6D DD AF 41 → 41 AF DD 6D → 21.9 ℃

https://lostphp.com/hexconvert/ Online conversion system website

IEEE 754浮点数十六进制相互转换(32位,四字节,单精度)

10进制	8.54719066619873
16进制	41 08 C1 4B

IEEE 754浮点数十六进制相互转换(32位,四字节,单精度)

10进制	0.9901240468025208
16进制	3F 7D 78 C5

IEEE 754浮点数十六进制相互转换(32位,四字节,单精度)

10进制	21.983118057250977
16进制	41 AF DD 6D