

## Protocol *H33A-D / H20A-D*

### Protocol description

direction	head (2 byte)	addr (1byte)	command (1byte)	Data area (3byte)	check (1byte)
send out	FE 7F	addr	cmd	data0 data1 data2	xor
reply	55 AA	addr	cmd	data0 data1 data2	xor

explain:

1. XOR is used in protocol verification, and XOR is used for all data from the beginning of protocol header to the end of data area.
2. The global address is 0 and the address range is 1~128

### Write operation

In the write operation, if the global address is used, the data area must be the same and not 0. Otherwise, it can only be operated on the corresponding address.

operation	command(hex)	example	reply
write	HEX	FE 7F addr cmd data0 data1 data2 xor	55 AA addr cmd data0 data1 data2 xor
set zero	0x03	FE 7F 00 03 02 02 02 80	55 AA 01 03 02 02 02 FF
Zero point calibration	0x04	FE 7F 00 04 01 01 01 84	55 AA 01 04 01 01 01 FB
Set address	0x06	FE 7F 00 06 01 01 01 86	55 AA 01 06 01 01 01 F9
Set max weight	0x08	FE 7F 00 08 10 27 00 BE	55 AA 01 08 10 27 00 C1
Set inc	0x09	FE 7F 00 09 01 00 00 89	55 AA 01 09 01 00 00 F6
Calibration weight1	0x0b	FE 7F 00 0B E8 03 00 61	55 AA 01 0B E8 03 00 1E
Calibration weight2	0x0c	FE 7F 00 0c d0 07 00 5a	55 AA 01 0C D0 07 00 25
Calibration weight3	0x0d	FE 7F 00 0d b8 0b 00 3f	55 AA 01 0D B8 0B 00 40
Calibration weight4	0x0e	FE 7F 00 0e a0 15 00 3a	55 AA 01 0E A0 15 00 45
Calibration weight5	0x0f	FE 7F 00 0f 88 13 00 15	55 AA 01 0F 88 13 00 6A
Set filter num	0x10	FE 7F 00 10 01 00 00 90	55 AA 01 10 01 00 00 EF

## Protocol H33A-D / H20A-D

### Read operation

operation	command(hex)	example	reply
read	HEX	FE 7F addr cmd xor	55 AA addr cmd data0 data1 data2 xor
1.read address	0x81	FE 7F 01 81 01	55 AA 01 81 01 00 00 7E
2.read weight	0x82	FE 7F 01 82 02	55 AA 01 82 85 13 1A F0
3.read AD	0x83	FE 7F 01 83 03	55 AA 01 83 53 50 10 6E
4.read max weight	0x84	FE 7F 01 84 04	55 AA 01 84 10 27 00 4D
5.read inc	0x85	FE 7F 01 85 05	55 AA 01 85 00 00 00 7B
6.read version	0x8c	FE 7F 01 8c 0c	55 AA 01 8C 7B 27 00 2E
7.read filter num	0x8d	FE 7F 01 8d 0d	55 AA 01 8D 14 00 00 67

Read No.1 address weight description :

send: FE 7F 01 82 02

reply: 55 AA 01 82 85 13 1A F0

data: 85 13 1A ( weight : 0xA1385 = 660357 , statue: 0x10 )

data: 85 13 21 ( weight : 0x11385 = 70533 , statue: 0x20 positive ,normal, stable ,non zero )

data: 85 13 41 ( weight : 0x11385 = 70533 , statue: 0x40 positive ,overload, unstable ,non zero )

data: 85 13 81 ( weight : 0x11385 = 70533 , statue: 0x80 negative ,normal, unstable ,non zero )

data: 85 13 61 ( weight : 0x11385 = 70533 , statue: 0x60 positive ,overload, stable ,non zero )

### Status description

bit 位	meaning	describe
bit4	Zero position	0-Non zero position 1-zero
bit5	stable	0-instable 1-stable
bit6	overload	0-normal 1-overload
bit7	Weighing value indication	0-Positive 1- negative