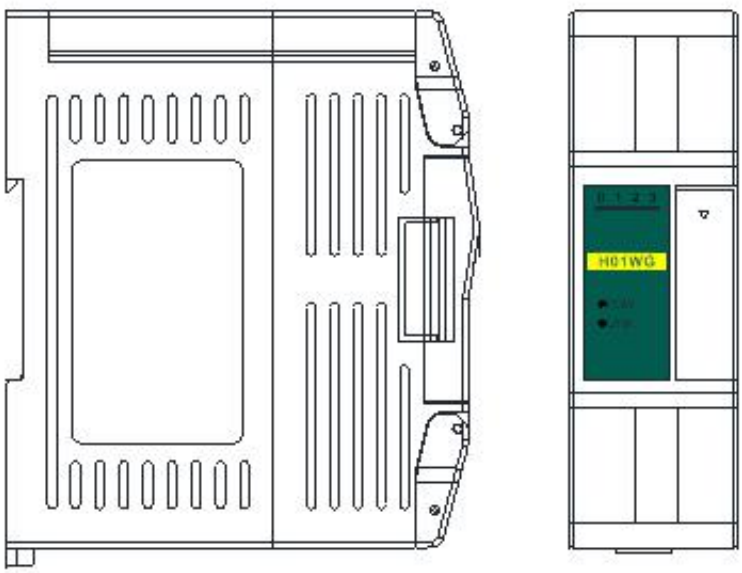
Haiwell 海为®

Haiwell PLC User Manual

Programmable Logic Controller

Load Cell Module User Manual & Application Case



Xiamen Haiwell Technology Co., Ltd. en.haiwell.com

Contents

H01WG Load Cell Module User Manual

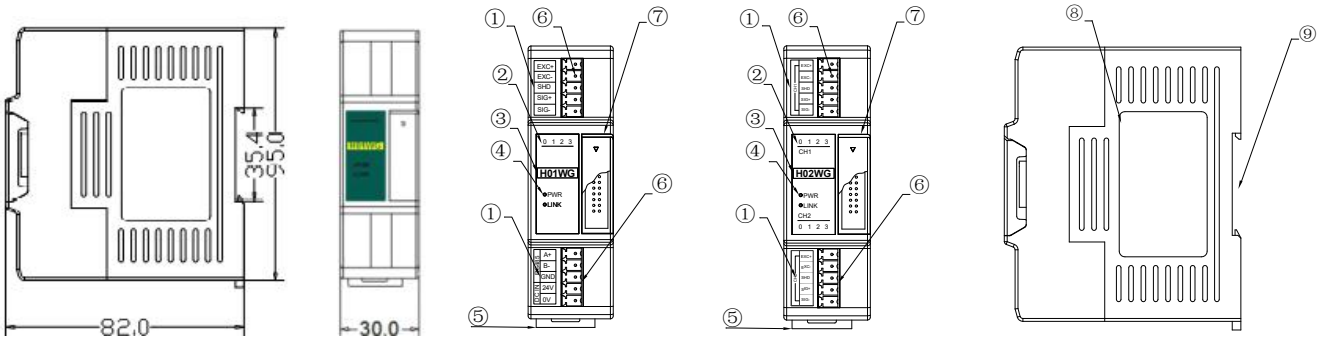
H01WG Load Cell Module Application Examples

Load Cell Module User Manual

1. Product Model List and Dimension

Model	Power (24VDC)	Dimension
H01WG	0.2A	30×95×82mm

Model	Power (24VDC)	Dimension
H02WG	0.3A	30×95×82mm



1. Terminal definition	6. Pluggable terminal
2. Weighing status indicator	7. Module expansion port
3. Model	8. Transparent cover of Module terminal
4. PWR:power indicator、LINK:Module communication indicator	9. Module nameplate
5. DIN rail mounting slot	10. 35mm DIN rail

2. Indicator Description

(1) PWR：Power indicator. Green, power is normal; No light - power is abnormal.
(2) LINK: Multi-status indicator .three colors(Red. Yellow. Green).
(3) 0: ON:gross weight; 1: ON: net weight; 2: ON: tare weight; 3: ON: calibration. As follows:

Reference processing mode	Module bus state	LINK indicator state
Normal	No communication of Module	No light
	MPU has identified the Module but no communication	Constant light in green
	Serial or parallel port in communication	Green jitter: indicator on 30ms and off 30ms
Parallel power supply insufficient, must connect to external power supply	Without serial or parallel port in communication	Yellow flicker: indicator on 0.5s and off 0.5s
	With serial or parallel port in communication	Yellow indicator off and jitter alternates: indicator off 0.5s and jitter 0.5s
Firmware upgrade failed, re-upgrade the Module firmware	Without serial or parallel port in communication	Red flicker: indicator on 0.5s and off 0.5s
	With serial or parallel port in communication	Red indicator off and jitter alternates: indicator off 0.5s and jitter 0.5s
Hardware failure	Without serial or parallel port in communication	Always on in red
	With serial or parallel port in communication	Red jitter quickly: indicator on 30ms and off 30ms

3.Power Supply Specification

Item	DC Power Supply
Power supply voltage	24VDC -15%~+20%
Power supply frequency	——
Instantaneous surge	MAX 20A 1.5ms @24VDC
Permit Power supply loss	10ms or less
Isolation Model	No Electrical isolation
Power Protection	DC input power polarity reverse, over voltage protection

4. Environmental Specification

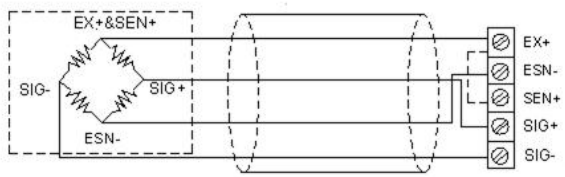
Item	Environment Specification
Temperature/humidity	Operating temperature:0~+55℃ Storage temperature:-25~+70℃ Humidity: 5~95%RH, No condensation
Anti Vibration	10~57 HZ, amplitude=0.075mm, 57HZ~150HZ acceleration=1G, 10 times each for X-axis, Y-axis and Z-axis
Anti Shock	15G, duration=11ms, 6 times each for X-axis, Y-axis and Z-axis
Anti jamming	DC EFT:±2500V Surge:±1000V
Operating environment	Avoid dust, moisture, corrosion, electric shock and external shocks

5. Module Parameter Table

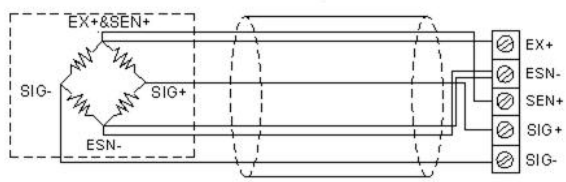
Item	Specification
Power supply	24VDC±20%，0.2A
A/D conversion method	24Bits △ Σ
A/D conversion speed	6.25/12.5/25/50/100/200/500Hz
Internal resolution	24bits
linearity error	Static weighing≤ 0.02% FS
Excitation Voltage	5VDC ±5% , 125mA (it can connect with 4 load Cells each 350 Ω)
Sensor sensitivity	1mV/V~5 mV/V
Measurement pulse	0~2000Hz 24VDC
Load Cell form	4- line connection or 6-line connection load Cells
Maximum distance to connect the sensor	100 meters

6. Load Cell Connections

Wiring Diagram (First generation load cell module)

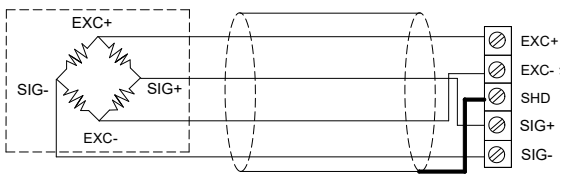


4-wire sensor and instrument connection

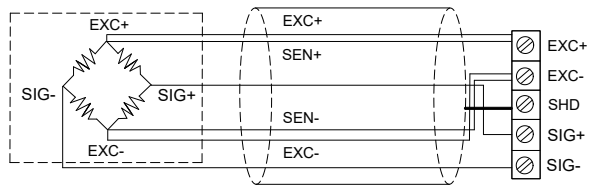


6-wire sensor and instrument connection

Wiring Diagram (Second generation load cell module)

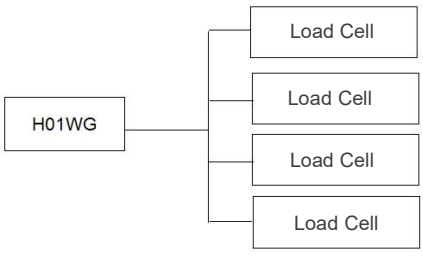


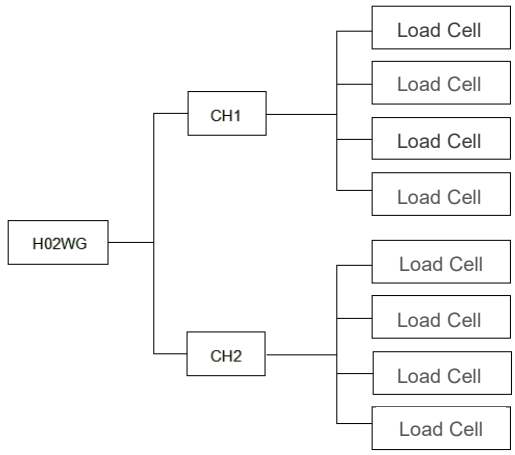
4-wire sensor and instrument connection



6-wire sensor and instrument connection

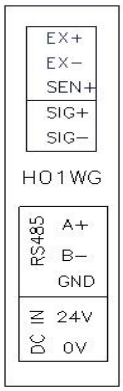
7. Multiple-load-Cell Parallel Connections



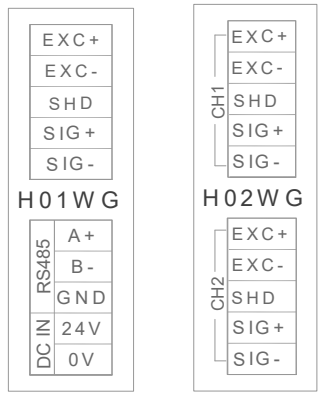


8. Terminal connection diagram

First generation module terminal:



Second generation module terminal:



9. Module parameter table (CR code means the corresponding Modbus register address)

Note: CR code is corresponding to the Modbus register address.

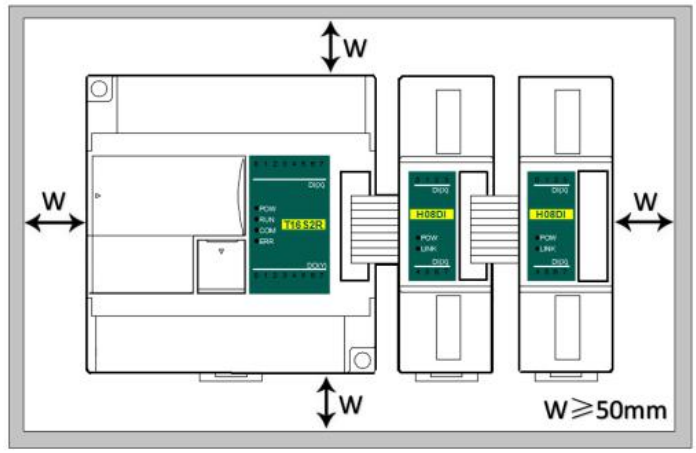
CR code(Hex) communication address	Function description	Property	Factory default	Remarks
00H	Low byte for Module code, Higher 3-bit of the High-Byte is ID number. Lower 5-bit of High-Byte is version number.	R	xxxx	
01H	Communication Address	R/W	1	Range：1~247
02H	Communication Protocol Low byte lower 4-bit：0 - N,8, 2 For RTU 1 - E,8, 1 For RTU 2 - O 8, ,1 For RTU 3 - N,7, 2 For ASCII 4 - E,7, 1 For ASCII 5 - O,7, 1 For ASCII 6 - N,8, 1 For RTU Low byte higher 4-bit：0 – 2400 1 - 4800 2 - 9600 3 - 19200 4 - 38400 5 – 57600 6 - 115200	R/W	48 (19200, N,8, 2 RTU)	
03H	Module name	R/W		
04H	Module name	R/W		
05H	Module name	R/W		
06H	Module name	R/W		
07H	IP Address: default 192.168.1.111	R/W	0x016F	
08H	IP Address: default 192.168.1.111	R/W	0xC0A8	
09H	Month/date	R		
0AH	Year batch number	R		
0BH	High byte subnet mask(b3~b0,"1" means 255, "0" means 0, for example subnet mask 255.255.255.0 b3~b0=1110), low byte manufacturer code HW	R/W		Low byte code cannot be modified
0CH	Verification code	R		
0DH	Serial number low byte	R		
0EH	Serial number high byte	R		
0FH	Error Code 0:normal 1: illegal firmware identity 2: firmware incomplete 3:system data access exception 4: No external 24V power supply	R		
10H	Channel 1 average weight	R		
1H	Channel 1 status code bit0：No-load(zero point weight) bit1：exceed the upper limit of weight bit2：measurement value stable bit3~15：reserve	R		
12H	Channel 1 real-time weight	R		
13H~18H	Reserve	R		
19H	Channel 1 tare weight	R/W	0	

1AH	Channel 1 control setting bit0：reserve bit1:rough weight/ net weight display, 0-rough weight, 1- net weight bit2~15：reserve	R/W	0	Switch the current display weight to rough weight or net weight, us the value of 19H to work as tare weight
1BH	Channel 1 sampling frequency 0-7.5Hz， 1-15Hz， 2-30Hz，3-60Hz，4-120Hz,5-240Hz，6-480Hz，7-960Hz	R/W	3	range：0~7
1CH~1DH	Reserve	R		
1EH	Channel 1 average number of times	R/W	10	range：1~100
1FH	Channel 1 filter ratio	R/W	2	range：0~5
20H	Channel 1 stability examination times	R/W	5	range：0~500
21H	Channel 1 stability examination range	R/W	10	range：0~10000
22H	Channel 1 zero point tracking intensity 0 :close zero point tracking function Others: zero-point tracking intensity (absolute value)	R/W	0	Absolute value, range：0~200
23H	Channel 1 zero point detection range	R/W	10	Absolute value, range：0~10000
24H	Channel 1 upper limit of weight Set the upper limit value of weight, when measurement value is over the set value will record error code	R/W	32767	
25H	Channel 1 tare weight read(set) Read the current weight value(12H) as the tare weight value	R/W	0	0：no operation 1：Read the weight value as tare weight, stored to 19H others: invalid
26H	Channel 1 weight calibration instruction, support up to three segments calibration 1：zeroing instruction 2：counterweight base point instruction Calibration steps: Step1：No counterweight on the load Cell Step2： give “1” to CR26H register to start Calibration Step3：first segment calibration, add standard counterweight to the load Cell and write current value to the CR27H reighster, Step4：If you need second segment calibration, add another standard counterweight to the load Cell and write current value to CR28H register, if no need then jump to step 6 Step 5: If you need third segment calibration, add another standard counterweight to the load Cell and write current value to CR29H register, if no need then jump to step 6 Step5：give value “2” to CR26H register to finish the weight calibration	R/W	0	Before using this Module, the user should finish weight calibration step by step
27H	Channel 1 first segment counterweight base point weight	R/W	2000	
28H	Channel 1 second segment counterweight base point weight	R/W	0	
29H	Channel 1 thirdsegment counterweight base point weight	R/W	0	
2AH	Channel 1 automatic deduct the tare weight range	R/W	0	
2BH~4FH	Reserved	R	0	
50H	Channel 2 average weight	R		
51H	Channel 2 status code: bit0：no-load（zero point weight） bit1：exceed the weight upper limit bit2：stability of measurement value bit3~15：reserved	R		
52H	Channel 2 Real-time weight	R		
53H-58H	Reserved	R		
59H	Channel 2 tare weight	R/W	0	
5AH	Channel 2 control settings bit0：reserved bit1：gross weight/net weight，0-gross weight，1-net weight bit2~15：reserved	R/W	0	Switch the current display weight to rough weight or net weight, us the value of 59H to work as tare weight
5BH	Channel 2 sampling frequency 0-7.5Hz， 1-15Hz， 2-30Hz，3-60Hz，4-120Hz,5-240Hz，6-480Hz，7-960Hz	R/W	3	range：0~7

5CH-5DH	Reserved	R		
5EH	Channel 2 average number of times	R/W	10	range：1~100
5FH	Channel 2 filter ratio	R/W	2	range：0~5
60H	Channel 2 standstill checking times	R/W	5	range：0~500
61H	Channel 2 standtill checking range	R/W	2	range：0~10000
62H	Channel 2 zero tracking intensity 0 :close zero tracking function others: show zero tracking intensity(absolute value)	R/W	0	Abolute vaule,range ：0~200
63H	Channel 2 zero-point detection range	R/W	10	Abolute vaule,range ：0~10000
64H	Channel 2 weight upper limit Set the upper limit value of weight, when measurement value is over the set value will record error code	R/W	32767	
65H	Channel 2 tare weight read(set) Read the current weight value(12H) as the tare weight value	R/W	0	0：no operation 1：Read the weight value as tare weight, stored to 59H others: invalid
66H	Channel 2 weight calibration instruction, support up to three segments calibration 1：zeroing instruction 2：counterweight base point instruction Calibration steps: Step1：No counterweight on the load Cell Step2： give “1” to CR66H register to start Calibration Step3：first segment calibration, add standard counterweight to the load Cell and write current value to the CR67H reighster, Step4：If you need second segment calibration, add another standard counterweight to the load Cell and write current value to CR68H register, if no need then jump to step 6 Step 5: If you need third segment calibration, add another standard counterweight to the load Cell and write current value to CR69H register, if no need then jump to step 6 Step6：give value “2” to CR66H register to finish the weight calibration	R/W	0	Before using this Module, the user should finish weight calibration step by step
67H	Channel 2 first segment counterweight base point weight	R/W	2000	
68H	Channel 2 second segment counterweight base point weight	R/W	0	
69H	Channel 2 thirdsegment counterweight base point weight	R/W	0	
6AH	Channel 2 automatic deduct the tare weight range	R/W	0	
6BH-7FH	Reserved	R		
9F	Restore to factory default parameters	R/W		The CR will remain at 1 during normal operation and need to be written to CR[159] when the factory value is restored.

10. Mounting and Installation

The PLC should be secured to an enclosed cabinet while mounting. For heat dissipation, make sure to provide a minimum clearance of 50mm between the unit and all sides of the cabinet.



Rail mounting: Use standard 35 mm rail.

Screw mounting: Each MPU or extension Module has two positioning screw holes, the diameter of the hole is 4.5mm. Please refer to the dimension figure for the location of the positioning holes and their spacing.

To avoid over temperature and for a better heat dissipation, do not mount PLC to a position near to the bottom/top of the cabinet. Do not mount PLC in vertical direction.

Extension Module wiring: Connections between extension Modules and connections between Module and MPU are achieved through bus.A extension cable will be configured to every extension Module, for the connection between two different Modules.Connection methods: turn the right side of extended interface(the last MPU or extension Module) over, plug the extension cable in the extended interface, then press down the cover of the extended interface to reset the interface, the extended interface at the right side of the Module will be reserved for extension of the next Module. Connect all extension Modules in turn in the same way.

Application example of load Cell Module

One. The Module is extended through the parallel port of the host

(The sample program is H01WG and H02WG 1 channel program, the method of using 1, 2 channels is the same, as long as the CR number is changed to the corresponding value of the second channel.)

1. Load Cell Modules Power Supply

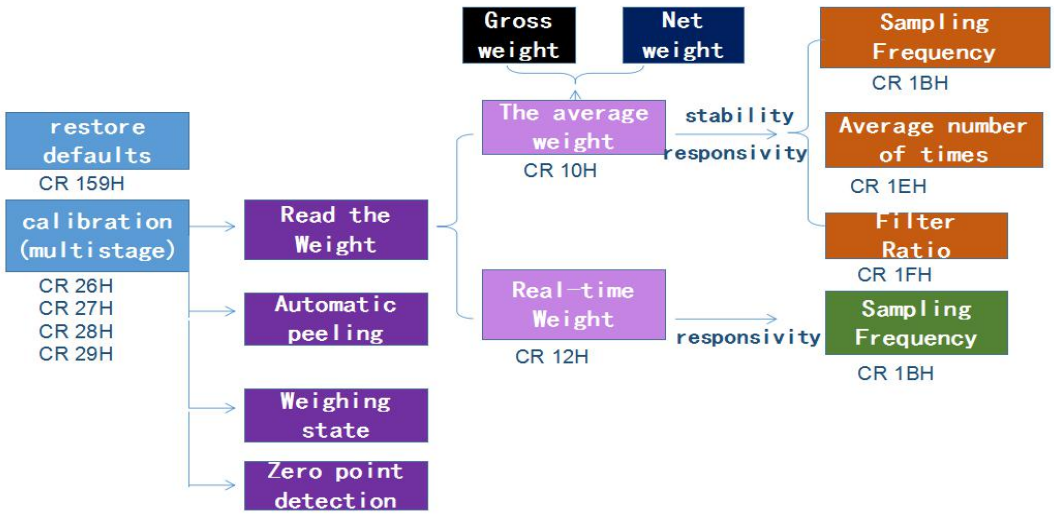
All expansion Modules of Haiwell do not require external power supply, can be directly powered by the parallel port of the host.

If the PLC is 24VDC power supply, the external switching power supply is supplied to the host, and the extensions are powered by the parallel port from the host plc. The Module power supply is essentially from the external switch power supply, so the Module needs no additional external power supply. If the expansion Module has insufficient power supply (the PWR light on the Module is not bright), the external switching power supply capacity is not enough. The correct approach is to enlarge the power supply of the external switch power.

If the host PLC is 220VAC power supply, the extension Modules are powered by the parallel port from the host plc, the expansion Module does not need to connect the external power supply; if the expansion Module is in insufficient power supply (the PWR lamp on the Module is not bright), the correct approach is to supply the power supply Module only by a single switch power supply. (This case happens when the number of expansion Modules is too big and external loads are too much).

Haiwell extension Module can be used as remote IO, so it will not be restricted by the number of system I/O points, and can be installed distributively, reducing cable wiring and solving the problem of interference caused by the long distance of traditional wiring. When Modules are used as remote IO, they need power to be supplied externally The external power supply of the Module is optional with 24VDC and 220VAC.

2. Load Cell Module Operation Procedure



When we get the weighing Module.

The first step: Calibration. The weight can be read directly after calibration.

The second step: Read the weight. One is average weight and the other is real-time weight. We usually read average weight.

The third step: Adjust the stability and responsiveness of weighing. The above two factors affect the sampling frequency, average

number and filtering rate. Therefore, we can adjust the above three parameters get proper stability and responsiveness .

The fourth step: In order to make the usage more convenient, we also provide the status-value for the load Cell Module,if the current status is like no-load, exceeding the upper limit, or value measurement with stability. We can achieve the automatic judgment control of weighing. At the same time, it also has the functions of gross weight setting, zero-point tracking, automatic tare-removing, and so on.

To introduce the weighing Module programming and practical use.

3. Hardware Configuration

In this case, the host is N40S2T, with a load Cell Module, so the hardware configuration is as follows:

Index	Module type	X Component	Y Component	AI Component	AQ Component	Other	Description
0	N16S2T/P(-e)	X0 - X7	Y0 - Y7			COM1-2 HSC0-3 PLS0-3	CPU module 8*DI 8*DO transistor AC220V pow
1	H01WG						1 channel weighing module. built-in RS485 con

4.Calibration method and program sample

The weighing Module supports three segments of calibration, and can realize multi-scale calibration. Take Channel 1 as an example, the tutorial steps are as follows:

Step1: no counter-weight should be placed on the weighing unit.

Step2:CR26H write value “1”, enter calibration mode;

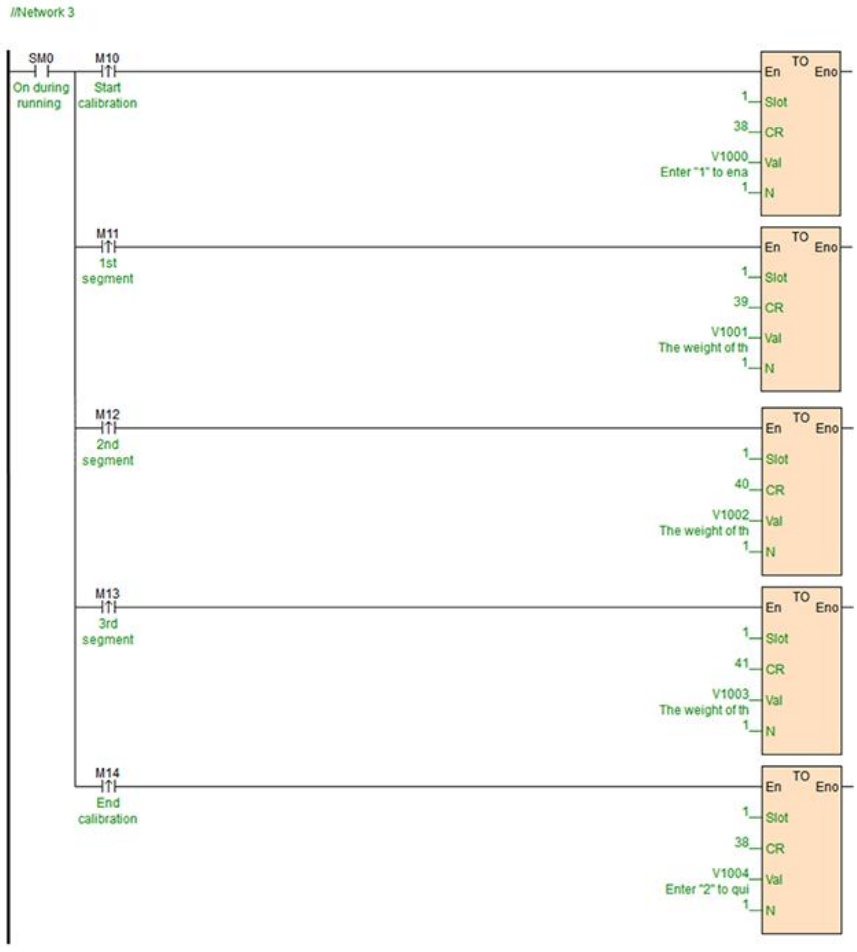
Step 3: First segment calibration, adding a standard counter-weight to the weighing unit, write the current value to CR27H;

Step 4: Second segment calibration, add another standard counter-weight to the weighing unit and write the current value to CR28H, otherwise jump to Step 6.

Step 5: Third segment calibration, add another standard counter-weight to the weighing unit and write the current value to CR29H, otherwise jump to Step 6.

Step6:CR26H writes the value with “2”, ending the calibration process.

Examples of multi-segment calibration procedures are as follows:



5.Read Average-Weight and Real-time Weight

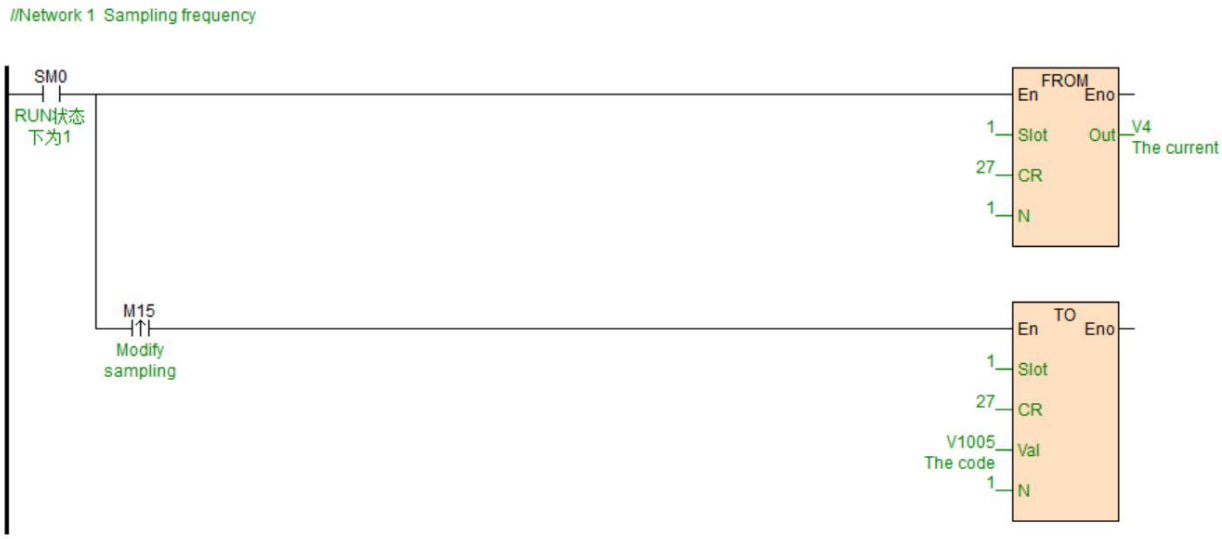
Two kinds of weight, one is average-weight and real-time weight. We usually read average-weight. The average-weight uses CR register CR10H, and the one for real time weight is CR12H.

6. Adjustment for weighing stability and response speed

Module weighing stability and responsiveness will vary according to the actual application of different needs, and the impact of these two factors are sampling frequency, average times and filtering ratio. Therefore, we can adjust the above three parameters to do stability and responsiveness adjustment.

1BH: Sampling Frequency

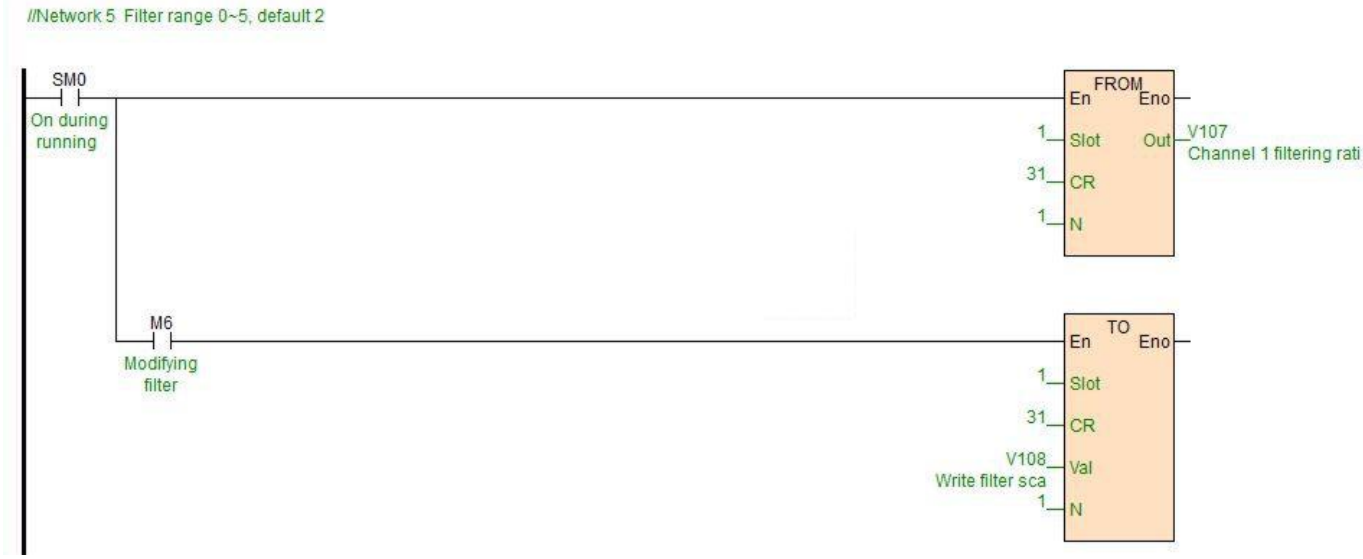
Sampling frequency, that is, the number of sampling times per second, such as CR1BH=3 means 50 times per second. The faster the sampling, the faster the average calculation, so the average weighing and real-time weight update faster. But the stability will decrease accordingly.



CR register 1BH Channel 1 sampling frequency

1FH: Filtering Ratio

The larger the register value and the larger the filter ratio, the more stable the average weight value (10H), but the greater the delay and the lower the sensitivity. The function of filtering is to filter out the abrupt change value, so that the average filter value will not be affected by the abrupt change value. The filtering ratio ranges from 10% to 50%. The default is 2, that is, 20%, assuming that the average number of times is 10, then the system will collect 10 data from large to small , filtering ratio of 20%, is to filter out two data, that is, remove a maximum value, then remove a minimum value, and finally get an average value.



1EH: Average times

The bigger the register value the more samples, the more accurate the average weight value (10H) will be, but the slower the update speed. The default is 10, that is to say, every time we collect 10 weight data, we get an average and update the average weight.

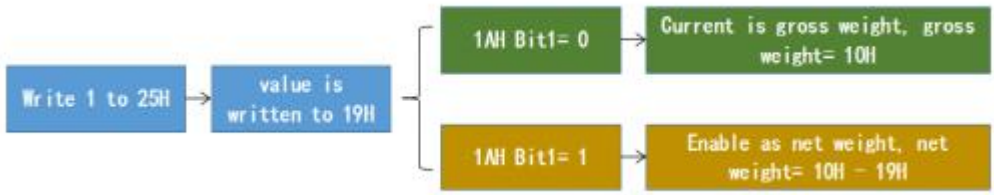
7. Gross Weight and Net Weight

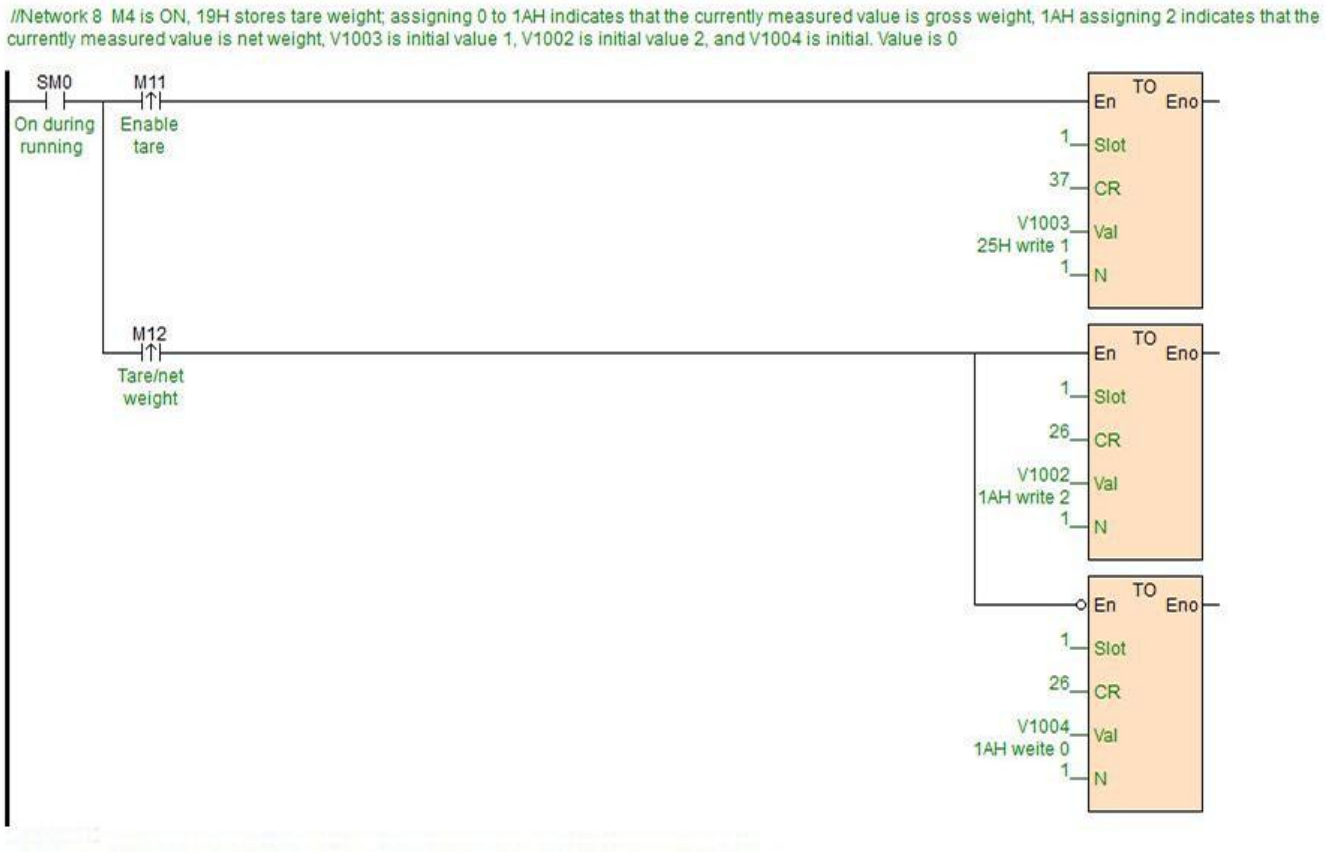
The gross weight or net weight can be selected by the Channel control setting CR(1AH). Net weight is the actual weight of the object after deducting the outer weight. The outer weight is called tare weight. Gross weight is the total weight, i.e. gross weight = net weight + tare weight. The specific setup steps are:

(1)write the value “1” to CR 25H, read the current weight value CR (10H) as tare and store it in CR19H.

(2)CR19H stores tare value

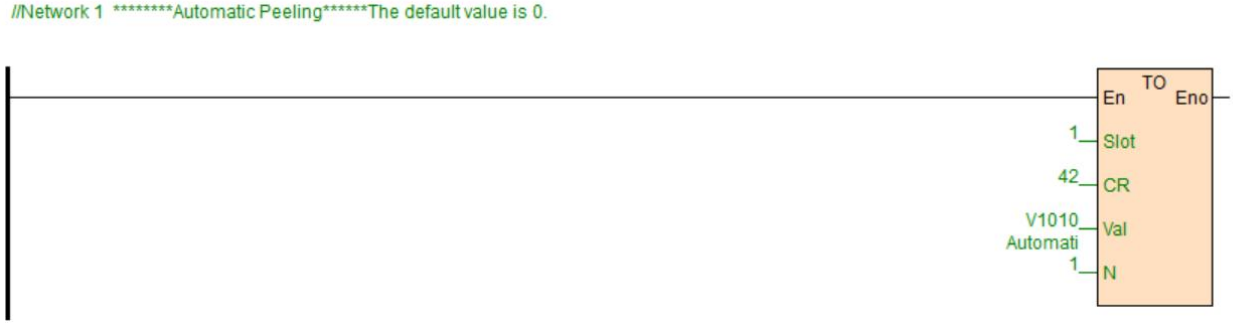
(3)Enable control settings. It is controlled by the “Bit1” bit of CR(1AH) and here “Bit1=0” for gross weight, “Bit1=1” for net weight.





8. Automatic peeling 2AH (Judge every 5S)

The weighing platform or equipment causes dust or residual material to be scattered during the weighing process, causing the platform to be in the absence of any weighing items, causing the current weight to be non-zero.If the automatic peeling function is used, the weighing module will automatically peel the current value as long as the current weight is less than the set automatic peeling weight 2AH value.



9.Weighing state

The load Cell Module also detects the status of the scale and records it to a special CR register CR11H, CR11H status code as follows:

Bit0: When the bit is 1, it indicates that the weighing unit is in no-load state, and the no-load check range is set on CR 23H.

Bit1: When the bit is 1, it means that the load on the weighing unit exceeds the set upper weight limit, the upper weight limit is set on CR24H.

Bit2: When the bit is 1, the measurement of the weighing unit reaches a stable state. The standstill check range and the number of checks are set by CR20H and CR21H.

The registers can be converted to the WTOB instructions for quick checking.

10.Standstill check function

When the item is placed on the load Cell to measure weight, the standstill check function can be used to know whether the current measurement is stable.

if the amplitude of the measured value is within the checking range set by CR 21H, the relevant Bit of CR11H will be set to 1.

If the measured value exceeds the set range of standstill, the relevant stable-Bit of the CR 11H will be set to 0, until the standstill check number 20H is within the checking range, and the relevant stable-Bit of the CR 11H will be then set to 1.

For example, the measurement time is 10ms, the standstill check times is set to 10 times, the checking range is 1000, when the variation range exceeds 1000, the measurement value is unstable, that is, the relevant stable-Bit of CR 11H will be set to 0, when the 100ms (10*10ms) variation range is within the checking range 1000, the relevant stability-Bit will be reset to 1 again. It is recommended to judge the stability before controlling it.

11.Zero point detection function

Zero point tracking is related to address CR22H and CR23H.

Zero tracking density for CR 22H Channel 1. 0: close zero point tracking function; other values (absolute value) for zero tracking. Under normal circumstances, it shows 0 after calibration. Sometimes, however, there is a small fluctuation due to equipment jitter and other reasons. This fluctuation range is defined as 0 if it is in the tolerable range set by CR22H.

12.Restore factory default parameters

The default parameter to restore the factory is CR 9FH register.The CR will remain at 1 during normal operation. When the factory value is restored, write CR to CR[159], and then restore the factory value after re-powering.

Recoverable CR include:

1.tare value[CR25/CR89]（0）

2.Gross/net weight display[CR26/CR90]（0/gross weight）

10.Maximum weight[CR36/CR100]（32767）

11.Zero tracking strength[CR34/CR98]（0）

3.Automatic peeling range[CR42/CR106]（0）

4.Sampling frequency[CR27/CR91]（3/60Hz）

5.Average time[CR30/CR94]（10）

6.Filter ratio[CR31/CR95]（2）

7. Stable inspection times[CR32/CR96]（5）

8. Stable inspection range[CR33/CR97]（10）

9.Zero judgment range[CR35/CR99]（10）

Two. Load Cell Module for remote IO

Haiwell extension Module has a RS485 communication port (part models with additional Ethernet communication interface), which supports parallel bus (the parallel interface with PLC host by extending the extension bus) and the serial bus (using the RS485 communication port with the communication port of the PLC, the host plc using the communication instruction to control the remote Module). When you use the serial connection, then the remote IO Module is not limited by system IO points, and can be distributively installed.

It is very important for Distributed installation to collect or monitor a large number of discrete DI/DO or analog signals (temperature, humidity, pressure, air volume, flow, fan speed, valve opening and so on). The Distributed installation control and unrestricted expansion are easily realized, which greatly improves the control system. It reduces the wiring cost of all kinds of signals, and reduces the interference caused by the over-length of the analog signal line.

Next, we will introduce remote IO usage.

1. Load Cell Module power supply

When load Cell Module is used for remote IO，24VDC external switch power supply, PWR indicator light is on.

2. Communication interface introduction

H01WG has the RS485 interface.

3. Communication protocol and default parameters

RS485：

It supports standard Modbus RTU/ASCII protocol, and it can communicate with any third-party devices, such as PC scada, touch screen, text display and PLC, which support Modbus protocol.

Soft address: by programming software, the address set by remote tool, the address range 1-254, the default value is 1;

Baud rate: 2400, 4800, 9600, 19200, 38400, 57600, 115200 optional;

Data format: N，8，2 RTU、 E，8，1 RTU、 O，8，1 RTU、 N，8， 1 RTU、E，7，1 ASCII、 O，7，1 ASCII、 N，7，2 ASCII

RS485 default parameters: 19200, N 82 RTU, station number 1.

4.When Module is used for remote IO, Module communication parameter configuration method is introduced as folllows：

There are three methods for remote IO parameter configuration:

①It can be configured by programming software tool remote Module (recommended).

②The Module can be connected to the host plc by parallel port and configured by hardware configuration and TO instruction.

③The Module can be configured by MODW instruction through serial communication

5.Parameter configuration example: configuring the Module through programming software “remote Module tool”.

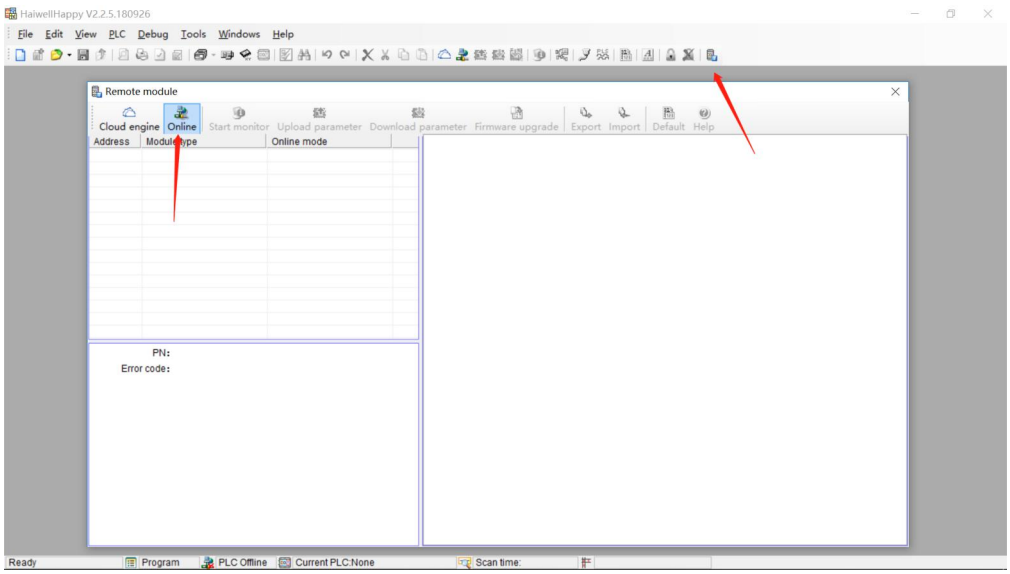
Hardware connection

①.through the RS485 (A+ B- terminal) connection: the computer with the serial port, can use 232 to 485 converter, if the PC with USB interface, you can use USB to 485 converter.

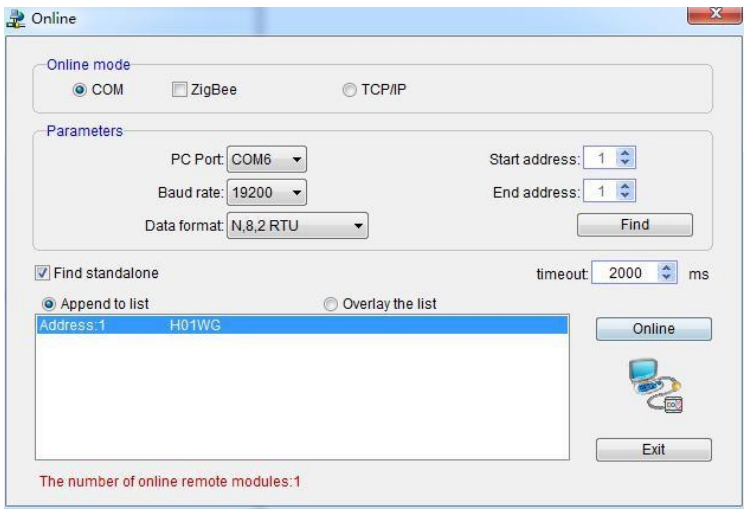
②.connect via Ethernet + communication interface: the Module can connect directly to the computer network port with standard network cable, or the computer and Module will be connected to the Ethernet switch.

Software operation steps

Click on the software menu bar - "remote Module":

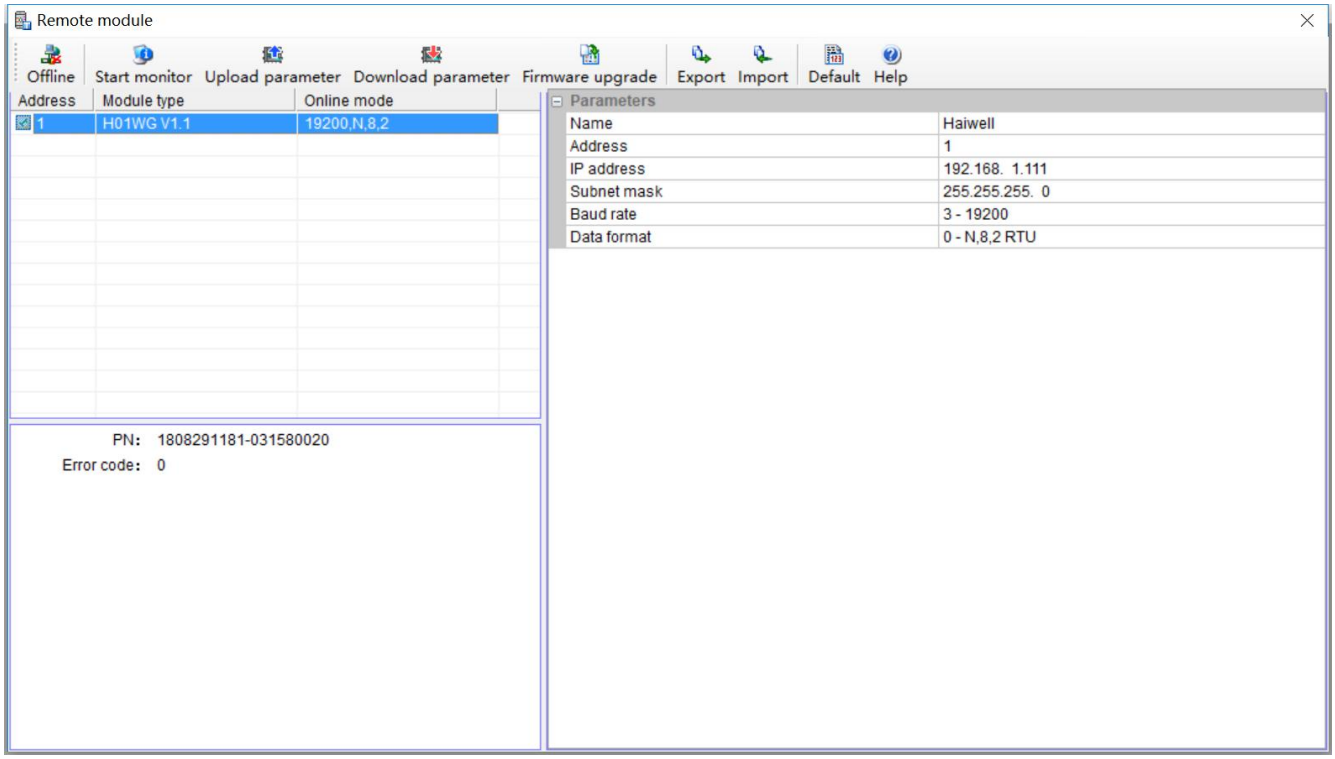


The default address of the Module is 1 with format 19200, N 82 RTU, and the online success is as follows:



If there is only one plc on the 485 port, then you can use “find standalone”. If there are many, set the start address and stop address, so that all the machines on the 485 port can be found and the parameters are configured. Click exit to enter the configuration interface.

In the communication parameter area, we can change the Module's name, address, baud rate and data format and other communication parameters, and then download it after modification.



6.Examples of remote IO applications: reading Module real-time weight

①:hardware wiring: the 485 ports of the host PLC and the load Cell Module are connected by the shielded twisted cable and the A+ is connected by A+ and B- to B-. If PLC connects to multiple weighing Modules, it is necessary to connect by mode of “hand by hand”.

②: Modbus address: from the CR parameter table above, we can see that the H01WG Module CR 12H means the real-time weight.

③PLC program: this example H01WG communication is the default parameter: station number 1, baud rate 19200, data format N 82 RTU. PLC reads the 4 Channels values as follows:

7.Examples of remote IO applications: calibration

The weighing Module supports three segments of calibration, and can realize multi-scale calibration. Take Channel 1 as an example, the tutorial steps are as follows:

Step1: no counter-weight should be placed on the weighing unit.

Step2:CR26H write value “1”, enter calibration mode;

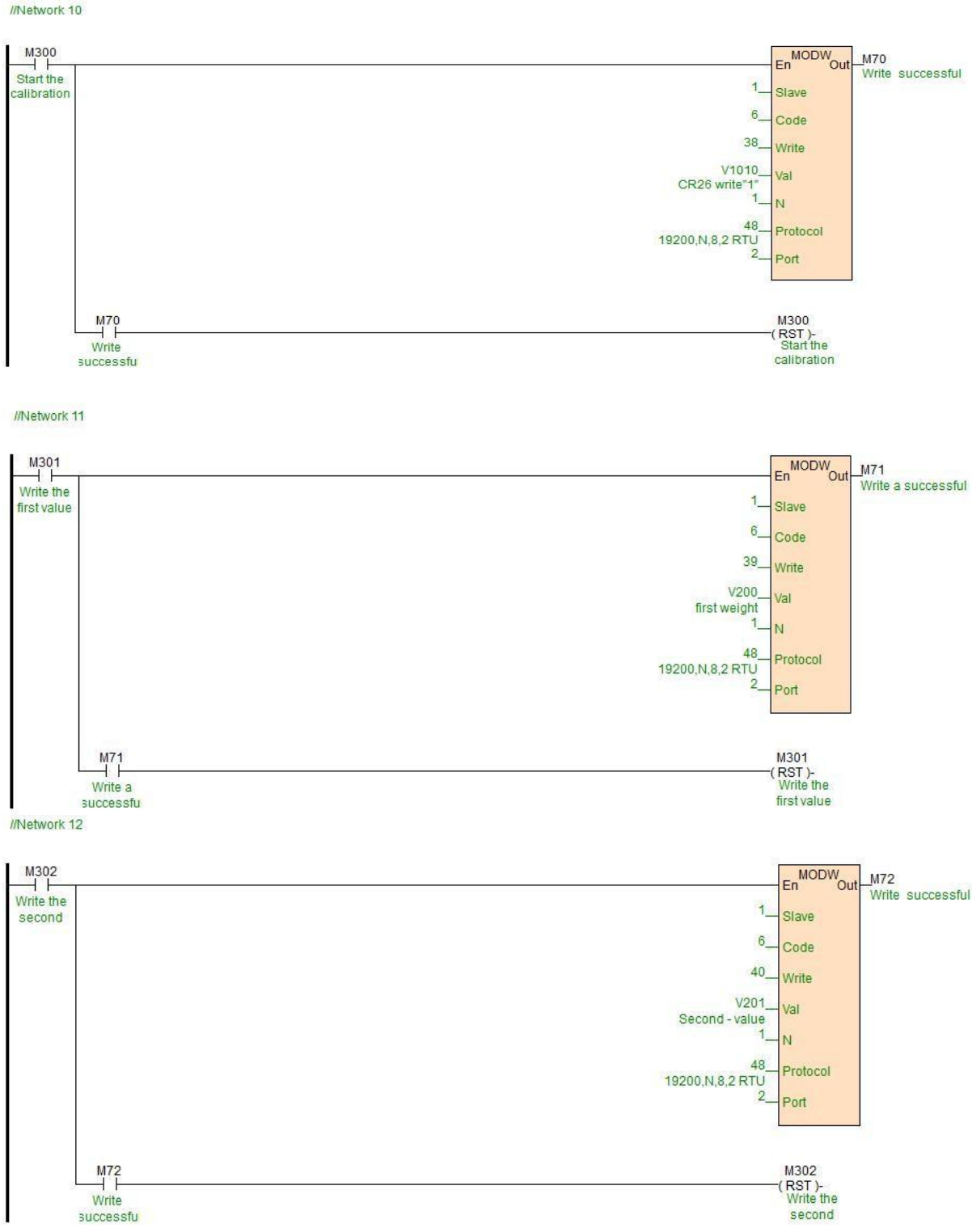
Step 3: First segment calibration, adding a standard counter-weight to the weighing unit, write the current value to CR27H;

Step 4: Second segment calibration, add another standard counter-weight to the weighing unit and write the current value to CR28H, otherwise jump to Step 6.

Step 5: Third segment calibration, add another standard counter-weight to the weighing unit and write the current value to CR29H, otherwise jump to Step 6.

Step6:CR26H writes the value with “2”, ending the calibration process.

Examples of multi-segment calibration procedures are as follows:



//Network 13

//Network 14

Other parameters configuration and read are also read with MODR and MODW instructions.

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