



LX3V-1WT-G Manual

V1.0

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1. Operating principle

When the metal material is subjected to tension or strain, the metal material becomes thinner and the electrical impedance increases. On the contrary, when it is compressed, the metal impedance becomes smaller. Applying this method to make a strain gauge is called a weighing module. Such sensing devices can convert pressure in physical phenomena into electrical signal output, so they are often used in applications where load, tension, and pressure are converted.

2. Module introduction

- (1) Thank you for using the Wecon LX3V-1WT-G module. This module is compatible with all the functions of the LX3V-1WT module, and adds the function of flow calculation, which is dedicated to the Mick weight system. The weighing module LX3V-1WT-G provides 24-bit high resolution and can be applied to various eigenvalue weighing modules with 4 or 6 wires. The response speed can be adjusted according to the needs of customers, and it can easily meet the current load application market. comprehensive needs.
- (2) In order to ensure the correct installation and operation of this product, please read the manual carefully before using the module. This manual is only for LX3V-1WT-G operation guide and getting started reference.
- (3) The LX3V-1WT-G weighing module can read and write data with the instruction FROM/TO through LX3V or LX5V.

Note: Disconnect power before installing/removing modules or wiring the modules to avoid contact or product damage.

2.1 Functional specifications

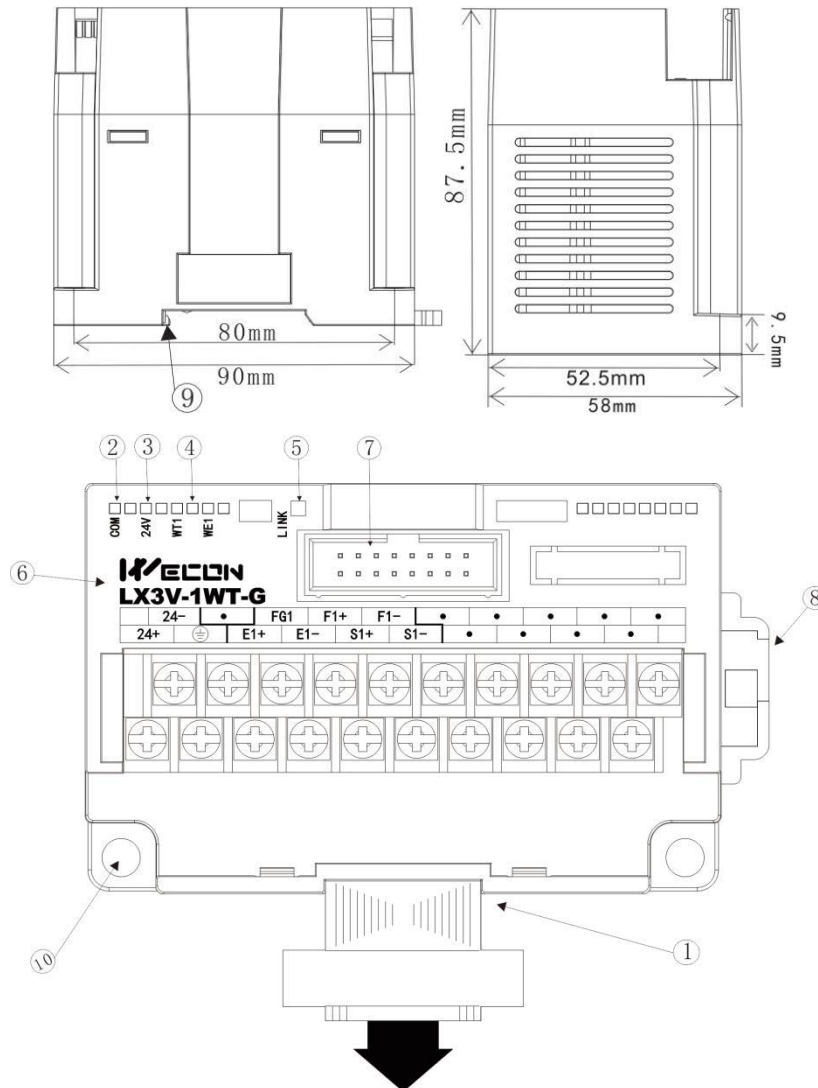
| Weighing module | Specifications |
|---------------------------|---|
| Physical channel | Single channel |
| A/D converter | 24-bit $\Delta\Sigma$ A/D |
| Resolution | 24 bits (signed) |
| Conversion speed | 7.5/10/25/50/60/150/300Hz optional |
| Polarity | Uni-polar and bipolar |
| Non linearity | $\leq 0.01\%$ full scale (25°C) |
| Zero drift | $\leq 0.2\mu\text{V}/^\circ\text{C}$ |
| Gain drift | $\leq 10\text{ppm}/^\circ\text{C}$ |
| Excitation voltage & load | 5V, load impedance not less than 200Ω. |
| Sensor sensitivity | 1mV/V to 15mV/V |
| Isolation | Transformer (power supply) and optical coupler (signal) |
| Indicator light | Module power supply (24V) light, module internal data communication light (COM), communication indicator between PLC and module (LINK), channel indicator light and channel calibration light |
| External power supply | 24V \pm 20%, 2VA |
| Operating temperature | 0 to 60°C |
| Storage temperature | -20 to 80°C |
| Size | 90(L)x58(W)x80(H) mm |

2.2 Valid bits

For details, please refer to "(4) BFM3: Sampling frequency" in "[BFM description](#)" in "Chapter 5" of this manual.

3. Appearance and size

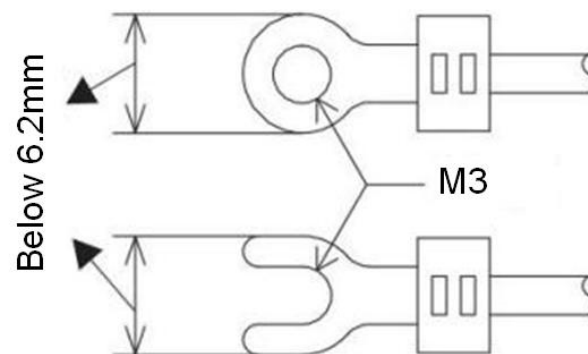
3.1 Dimensions



- ① Extension cable
- ② COM light: Module internal data communication indicator
- ③ 24V light: Always on when connected to external 24V power supply
- ④ WT light: Channel input/output indicator
WE light: Channel calibration indicator
- ⑤ LINK: Communication indicator between PLC and module (LINK)
- ⑥ Expansion module name
- ⑦ Expansion module interface
- ⑧ DIN rail mounting clip
- ⑨ Hook for DIN rail
- ⑩ Holes for direct mounting: 2 places ($\phi 4.5$)

| Name | Description | Light status | Event status |
|------------|--|---------------|--|
| LINK light | Communication indicator between PLC and module | Light flashes | Data is interacting normally (communication is normal) |
| | | Lights off | Data interaction is abnormal, stopped or failed |
| | | Always ON | Abnormal software operation or hardware failure |
| COM light | Module internal data communication indicator | Light flashes | Data is interacting normally (communication is normal) |
| | | Lights off | Data interaction is abnormal, stopped or failed |
| | | Always ON | Abnormal software operation or hardware failure |
| WT lamp | Channel output/input indicator | Light flashes | Analog input is out of range |
| | | Always ON | Analog input is within the range |
| | | Lights off | channel closed |
| WE lamp | Calibration indicator for the channel | Lights off | Calibration succeeded |
| | | Always ON | Calibration failed or not calibrated |

3.2 Use of blade terminals

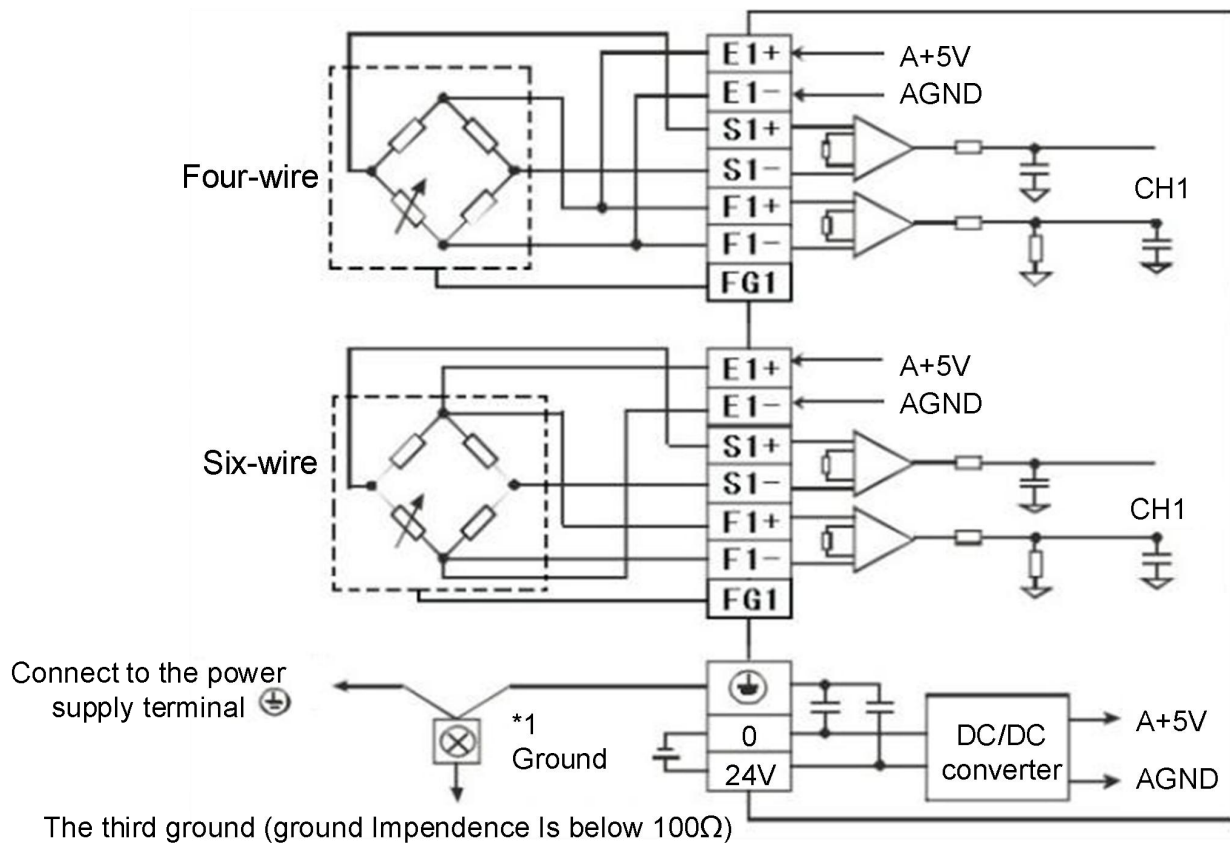


Use crimp terminals of the size shown in the figure. Terminal tightening torque is 0.5 to 0.8N.m. Be sure to tighten the screws so as not to cause malfunction.

3.3 Terminal Description

| Terminal | Terminal Instructions |
|-----------------------|------------------------------------|
| 24V+ | Power supply+ |
| 24V- | Power supply- |
| Ground | Grounding |
| FG1 | Sensor housing |
| E1- | Power supply - (5V) of the sensor |
| E1+ | Power supply + (5V) of the sensor |
| S1- | Signal output - of the sensor |
| S1+ | Signal output + of the sensor |
| F1- | Feedback - of the sensor |
| F1+ | Feedback + of the sensor |
| Other empty terminals | Empty pin, do not connect any line |

4. Wiring



Note:

The impedance of the load cell is greater than 200Ω.

The four-wire sensor requires E1+ to be connected to F1+, E1- to be connected to F1-.

5. Buffer register (BFM)

5.1 BFM list

| BFM number | Power-off hold | Read/write | Register name | Default | Range | Illustrate |
|------------|----------------|------------|--------------------|---------|-----------|--|
| 0 | O | R | Model type | 5015 | — | System default, model of LX3V-1WT-G |
| 1 | O | R | Software version | 15004 | — | Software version number |
| 2 | O | R/W | Uni-polar/Bipolar | 0 | 0 to 1 | 0: Bipolar 1: Unipolar |
| 3 | O | R/W | Sampling frequency | 1 | 0 to 4800 | 0: 7.55Hz 1: 10Hz 2: 25Hz 3: 50Hz 4: 60Hz 5: 150Hz 6: 300Hz 7: 600Hz 8: 960Hz 9: 2400Hz 10 to 4800: 10 to 4800Hz (Only supported by version 13904 and above) |
| 4 | X | R | Status code | 0 | — | For details of each status code, see "Buffer Register BFM Description". |

| BFM number | Power-off hold | Read/write | Register name | Default | Range | Illustrate |
|------------|----------------|------------|-------------------------------|---------|----------|---|
| 5 | X | R | Error code | 0 | — | A data register that stores all error states. Each error state is determined by the corresponding bit. It is possible to generate more than two error states at the same time. 0 means normal without error, 1 means there is an error state: b0: Power failure b1: Hardware failure b2: Conversion error b4: Error writing calibration parameters Others: Reserved |
| 6 | X | R/W | Tare read setting | 0 | — | Read the current average value as the tare weight value: 0: Normal (invalid); 1: Execute tare setting, then reset to 0; Others: Invalid. |
| 7 | O | R/W | Gross/Net display settings | 0 | — | Choose to display the current weight as gross weight (K0) or net weight (K1). 0: CH1 display gross weight; 1: CH1 displays net weight; 0xF: CH1 is closed |
| 8 | X | R/W | Weight adjustment instruction | 0 | — | The adjustment is to make the module match the weight value of the load cell of the weighing module, the default value is 0. 0x0001: CH1 zero instruction. 0x0002: CH1 weight base point command 0x0003: CH1 no weight calibration instruction(supported by 15004 and above) 0x0004: CH1 Modify calibration parameter instruction(supported by version 15004 and above) Note: BFM#8 is automatically reset to 0 after a value is written to BFM#8 using the device monitor. |
| 9 | X | R/W | Reset to default | 0 | 1: reset | Restores all the set BFM values to their default values. |
| 10 | O | R/W | Filtering method | 0 | 0 to 1 | After the data is modified, it needs to be re-calibrated |
| 11 | O | R/W | Filter strength | 3 | 0 to 7 | After the data is modified, it needs to be re-calibrated |

| BFM number | Power-off hold | Read/write | Register name | Default | Range | Illustrate |
|------------|----------------|------------|--|---------|---------------------------|---|
| 12 | O | R/W | Zero tracking Intervals | 0 | 0 to 20000 | The minimum interval between two consecutive zero resets when the zero tracking function is enabled. The unit is 1ms. |
| 13 | O | R/W | Zero tracking range | 0 | 0 to 100 | 0: Disable the zero tracking function Others: Set the zero tracking range (absolute value) |
| 14 | O | R/W | Automatically reset after boot | 0 | 0 to 4 | 0: Disable automatic reset at startup 1: $\pm 2\%$ MAX 2: $\pm 5\%$ MAX 3: $\pm 10\%$ MAX 4: $\pm 20\%$ MAX |
| 15 | O | R/W | Sensor Sensitivity setting (inside the module) | 4 | 0 to 5 | 0: $<1V/V$ 1: $<125mV/V$ 2: $<62.5mV/V$ 3: $<31.25V/V$ 4: $<15.625mV/V$ 5: $<7.812mV/V$ Note: Recalibration is required after setting. |
| 16 | X | R | CH1 average weight value L | 0 | -2147483648 to 2147483647 | Average weight display value (low word) |
| 17 | | | CH1 average weight value H | | | Average weight display value (high word) |
| 18 | O | R/W | CH1 slide average | 5 | 1 to 50 | The setting range is K1 to K50, and the default value is K5. When the set value exceeds the range, the bit threshold value K1 or K50 is automatically changed. |
| 19 | O | R/W | CH1 Tare weight value | 0 | -2147483648 to 2147483647 | You could write or read the tare weight #7 by instruction. |
| 20 | | | | | | |
| 21 | O | R/W | CH1 stability check time | 200 | 0 to 20000 | Stability check time, used in conjunction with the stability check range. Unit: ms |

| BFM number | Power-off hold | Read/write | Register name | Default | Range | Illustrate |
|------------|----------------|------------|---|---------|---------------------------|---|
| 22 | O | R/W | Stability check range | 1 | 1 to 100 | If the stability check range is set to 100 and the stability check time is set to 200ms, then the current weight range is within 100. the value lasts for 200ms is considered to be stable, otherwise it is considered unstable. The stability flag is displayed in BFM#4. |
| 23 | O | R/W | CH1 weight value adjustment (weight base point weight, sensor range (weight)) | 1000 | -2147483648 to 2147483647 | See BFM #8 Input weight base point weight with calibration weight Input sensor range without calibration weight |
| 24 | O | | | | | |
| 25 | O | R/W | CH1 weight upper limit | 32767 | -2147483648 to 2147483647 | You could set the maximum weight value. When the measured value exceeds the set value, an error code will be recorded |
| 26 | O | | | | | |
| 27 | O | R/W | CH1 Zero judgment check range upper limit | 10 | -2147483648 to 2147483647 | Zero point judgment function: You could use the zero point judgment function to know that the item has been removed from the weighing module. You could judges that the measurement value is stable and the Bit is 1, which means that the item has been removed from the weighing module, and you could perform the next step at this time. (The zero point weight Bit in the zero point judgment range is 1) |
| 28 | O | | | | | |
| 29 | O | R/W | CH1 Zero judgment check range lower limit | -10 | -2147483648 to 2147483647 | |
| 30 | O | | | | | |
| 31 | X | R/W | Additional function options | 0 | 0 to 1 | 0: Disable additional functions (default); 1: Enable the filter reset function; Others: Reserved (Only supported by version 13904 and above) |

| BFM number | Power-off hold | Read/write | Register name | Default | Range | Illustrate |
|------------|----------------|------------|------------------------------------|---------|-------------------------------|--|
| 32 | X | R/W | Additional function options | 0 | 0 to 100 | Enable filter reset function 0: The default value has no effect 1 to 100: The number of sampling cycles to wait for restarting filtering. The values collected during the period are accumulated and averaged as the initial value of filtering. (Only supported by version 13904 and above) |
| 33 | X | R | Digital value L | 0 | — | The digital quantity acquired by the ADC |
| 34 | X | R | Digital value H | | | |
| 35 | O | R/W | Calibration parameter A | 1 | -3.402823E+38 to 3.402823E+38 | Described in CH1: After modifying the calibration parameters, #8 does not write 4, it is only displayed, and not used for weight value calculation, and will not be saved when power off. After #8 is written to 4, if the parameter range is correct, write and save it for weight value calculation, # 4 error code Bit4 is set to 0. If the parameter range is wrong, no write operation is performed, and #4 error code Bit4 is set to 1. |
| 36 | | R/W | | | | |
| 37 | O | R/W | Calibration parameter B | 0 | -3.402823E+38 to 3.402823E+38 | |
| 38 | | R/W | | | | |
| 39 | O | R/W | Sensor Sensitivity (Specification) | 0 | 0 to 32767 | The default setting of 2000 means 2mV/V. For calibration without weights, you need to set the sensitivity and accuracy of the sensor. The sensitivity range is 0 to 32.767mV/V, the sensor sensitivity BFM#39 input negative value, directly convert it to 32767 and execute. For example: Modified to 1942 to represent 1.942mV/V. |

| BFM number | Power-off hold | Read/write | Register name | Default | Range | Illustrate |
|------------|----------------|------------|---|---------|---|---|
| 40 | X | R/W | Sensor feedback Voltage L | 0 | — | Write: 0: Not displayed 1: Display the current sensor feedback voltage in real time 2: Display the zero-point voltage during calibration 3: Display the voltage reading of the applied weight during calibration: Displays the low bit of the voltage value. Unit: uV. |
| 41 | X | R | Sensor feedback Voltage H | 0 | — | Read: Displays the high bit of the voltage value. Unit: uV. |
| 42 | X | R/W | Flow Switch | 0 | 0 to 1 | 0: Turn off flow calculation 1: Turn on flow calculation |
| 43 | X | R | Low flow | 0 | 0 to 2147483647 | Filtered flow display (0.01g/s) |
| 44 | X | R | High flow | | | |
| 45 | X | R | Current low flow | 0 | 0 to 2147483647 | Unfiltered flow display for testing (0.01g/s) |
| 46 | X | R | Current high flow | | | |
| 47 | X | R/W | Flow filter reset | 0 | 0 to 32767 | It is used for flow fast tracking. It must be enabled when flow calculation is enabled. Set a non-zero number to start flow fast tracking, and automatically return to 0 after setting. |
| 48 | O | R/W | High eight:Threshold growth factor(*0.0002) Lower eight:Parameter change confirmation flag | 0x0500 | High eight: 0x01 to 0xFF Lower eight: 0x01 or 0x00 | Internal parameters for filter setting |
| 49 | O | R/W | High eight: Number of normal tracking windows (*2) Lower eight: Number of fast track windows | 0x9605 | High eight: 0x32 to 0x96 Lower eight: 0x05 to 0x0F | Internal parameters for filter setting |
| 50 | O | R/W | High eight: Adaptive coefficient (*5) Lower eight: Fast tracking lag coefficient (*0.004) | 0x024B | High eight: 0x01 to 0xFF Lower eight: 0x00 to 0xFA | Internal parameters for filter setting |

| BFM number | Power-off hold | Read/write | Register name | Default | Range | Illustrate |
|------------|----------------|------------|---|---------|---|--|
| 51 | O | R/W | High eight: Debounce threshold 5 minutes ago Lower eight: Debounce threshold after 5 minutes | 0x3C64 | High eight: 0x01 to 0xFF Lower eight: 0x01 to 0xFF | Internal parameters for filter setting |

Note: Symbol Description

- ① O means retentive type.
- ② X means non-retentive type.
- ③ R means readable data.
- ④ W means writable data.

5.2 BFM description

(1) BFM0: Module model code

The model code of the LX3V-1WT-G module is: 5015.

(2) BFM1: software version

The software version is displayed in decimal, which is used to indicate the software version of the expansion module.

(3) BFM2: Unipolar

Bipolar means that the signal will go through zero in the process of change, and unipolar will not pass zero. Since the conversion of analog quantity to digital quantity is a signed integer, the value corresponding to the bipolar signal will have a negative number.

(4) BFM3: sampling frequency

The module collects the frequency of the input signal. The lower the frequency, the more stable the value and the higher the accuracy, but the rate is reduced.

The setting value corresponds to the sampling frequency are as follows:

| Setting value | Sampling frequency (Hz) | Sampling accuracy (bit) |
|---------------|-------------------------|-------------------------|
| 0 | 7.5 | 23.5 |
| 1 | 10 | 23.5 |
| 2 | 25 | 23 |
| 3 | 50 | 22 |
| 4 | 60 | 22 |
| 5 | 150 | 21.5 |
| 6 | 300 | 21 |
| 7 | 600 | 20.5 |
| 8 | 960 | 20 |
| 9 | 2400 | 17.5 |

(5) BFM4: status code

| Bit NO. | Status code content | |
|------------|--|--|
| | 1 | 0 |
| Bit0 | CH1 zero weight (no load) | CH1 is not empty |
| Bit2 | CH1 exceeds upper weight limit (overload) ⚠ Note: The upper limit weight is set by #27 and #28. | CH1 is not overloaded |
| Bit4 | CH1 measurement value is stable | CH1 measurement value is unstable |
| Bit6 | CH1 uncalibrated / calibrated error | CH1 calibrate successfully |
| Bit8 Bit9 | 00: No error 10: The Initial weight is too large | 01: No-load calibration 11: Uncalibrated |
| Bit12 | CH1 exceeds sensor range ⚠ Note: Determined by sensor feedback voltage | CH1 is within sensor range |
| Bit14 | CH1 enter the weightless calibration | CH1 did not enter the weightless calibration |
| Other Bits | Reserved | |

(6) BFM5: Error code

| Bit NO. | Value | Error state |
|---------|-------------|---------------------------------------|
| Bit0 | K1 (H0001) | Abnormal power supply |
| Bit1 | K2 (H0002) | Hardware fault |
| Bit2 | K4 (H0004) | CH1 conversion error |
| Bit4 | K16 (H0010) | CH1 write calibration parameter error |
| Others | Reserved | |

⚠ **Note:** A data register that stores all error states. Each error state is determined by the corresponding bit. It is possible to that more than two error states will be generated at the same time. 0 means normal without error, 1 means state generation.

(7) Tare setting

Select the current weight value (BFM16-17) as the weight value for the tare weight (BFM19-20). Each channel occupies 1bit. It is valid to write 1, and reset to 0 after execution.

E.g: The current weight value is 100, after the tare weight is set:

- ① If the tare weight is currently displayed (BFM7=0), the tare weight (BFM19-20) becomes 100, and the current weight is still 100;
- ② If the net weight is currently displayed (BFM7=1), the tare weight (BFM19-20) becomes the original value + the current weight value, and the current weight value becomes 0.

(8) BFM11: filter strength

The greater the filter strength, the more stable and accurate the weight value will be, but the delay will increase and the sensitivity will decrease accordingly, which can be set as required.

(9) BFM12: Zero tracking interval time

BFM#12 is used in conjunction with BFM#13. When BFM#13 is not 0, BFM#12 indicates the interval between the current weight automatic reset and the next automatic reset to prevent continuous reset.

Note: This function is generally used to correct sensor temperature drift.

(10) BFM13: Zero tracking range

The accumulation range of zero point tracking. If the accumulation exceeds this range, the tracking will not continue.

| Setting value | Function Description | Remark |
|---------------|--|--|
| 0 | Do not enable zero tracking | Default |
| 1 to 100 | When setting the zero tracking range (absolute value), tracking must be performed when the value is stable and the current weight is within the zero tracking range. | If set to 10, the current weight is ± 9 and the stable flag is 1, the current weight is cleared. |

Note: When the accuracy of the measured items is not high, the temperature drift has little effect, and this function is not required.

E.g: When the setting value is 100, after the zero point drifts from the 0 position to more than ± 100 , the tracking will not continue. If it drifts back to within ± 100 , resume tracking.

(11) BFM15: Set AD chip gain

It can be set according to the sensor range, and the BFM needs to be re-calibrated after the BFM is set.

| BFM15 | Voltage range | Sensor sensitivity |
|-------|----------------|--------------------|
| 0 | $\pm 5V$ | $< 1V/V$ |
| 1 | $\pm 625mV$ | $< 125mV/V$ |
| 2 | $\pm 312.5mV$ | $< 62.5mV/V$ |
| 3 | $\pm 156.2mV$ | $< 31.25mV/V$ |
| 4 | $\pm 78.125mV$ | $< 15.625mV/V$ |
| 5 | $\pm 39.06mV$ | $< 7.812mV/V$ |

5.3 Function description

(1) Net weight measurement

You could choose whether the measured weight is net weight or gross weight. Net weight refers to the weight of the product itself, that is, the actual weight of the product after removing the weight of the outer packaging. The weight of the outer packaging is generally called the tare weight, and the gross weight is the total weight, which refers to net weight plus tare weight.

- ① Tare weight: Refers to the weight of the outer packaging
- ② Net weight: Refers to the weight of the product itself, that is, the actual weight of the product after removing the weight of the outer packaging
- ③ Gross weight: Refers to the total weight, that is, the weight of the product itself (net weight), plus the weight of the outer packaging (tare weight)
- ④ Gross weight = net weight + tare weight

E.g: There is a product that is 10KG, the carton it is packed in weighs 0.2KG, and the total weight is 10.2KG.

- ① Net weight=10KG
- ② Tare weight=0.2KG Gross weight=10.2KG

E.g: Use CH1 to measure the value to display the net weight, and CH2 to select OFF. (If the weight of the outer package is known, you can skip the step of reading the tare weight).

- 1) Read the tare value
 - ① Write H0000 in BFM7;
 - ② Place the package on the CH1 weighing module;
 - ③ Write H0001 in BFM6, and take the current package weight as the tare weight.
- 2) Set BFM7=H0001

(2) Stability check function

When placing the item on the weighing module to measure the weight, you could use the stability check function to know that the current measurement value is stable.

If the variation range of the measured value is within the stable range #22 set by the user, the bit where the measured value is stable in #4 will be set to 1.

When the variation range of the measured value exceeds the set stability range, the #4 measurement value stable Bit will be set to 0, until the stability check time #21 is within the stable range, and the #4 measurement value is within the stable range. Bits whose measured values are stable will be set to 1 again.

E.g: The stability check time is set to 200ms, and the stability check range is 10. When the change range exceeds 10, the measurement value is unstable, that is, the #4 measurement stability Bit will be set to 0, and the beating range is within 10 within 200ms. The stable bit of the measurement value will be set to 1 again. (It is recommended that the user should judge whether the current measurement value is stable before performing control).

(3) Zero point judgment function

You could use the zero point judgment function to know that the item has been removed from the weighing module. The user judges that the measurement value is stable and the Bit is 1, which means that the item has been removed from the weighing module, and the user can do the next control at this time. (The zero point weight Bit in the zero point judgment range is 1).

(4) Filter function

The average value is the function of summing and averaging the read values to obtain a slowing value, but the environment used will have unavoidable external force factors, which will cause the read value to have a sharp change in the surge value. The change also becomes larger. The function of filtering is not to include the sharply changing surge value in the aggregated average, and the obtained filtered average value will not be affected by the sharply changed surge value.

(5) Standard of g/m

- 1) Fast track standard

The error between the flow rate and the final value after 20 seconds is within 5%. (the final value is the flow value at 20 minutes).

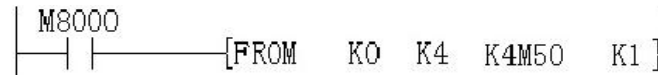
- 2) Final value accuracy standard

If the flow rate is above 1000: After 20 minutes, the error between the flow rate and the final value is within 0.5%. (The final value is the average of several final values)

If the flow is below 1000: After 20 minutes, the error between the flow rate and the final value is within 1%. (The final value is the average of several final values)

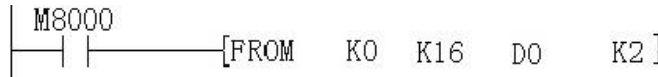
6. Example

(1) Get the current weighing status



Read the current weighing state BFM4 and judge it by Bit state. For details, please refer to the description of BFM4 in "5.2 Buffer Register Description".

(2) Get the current weighing value

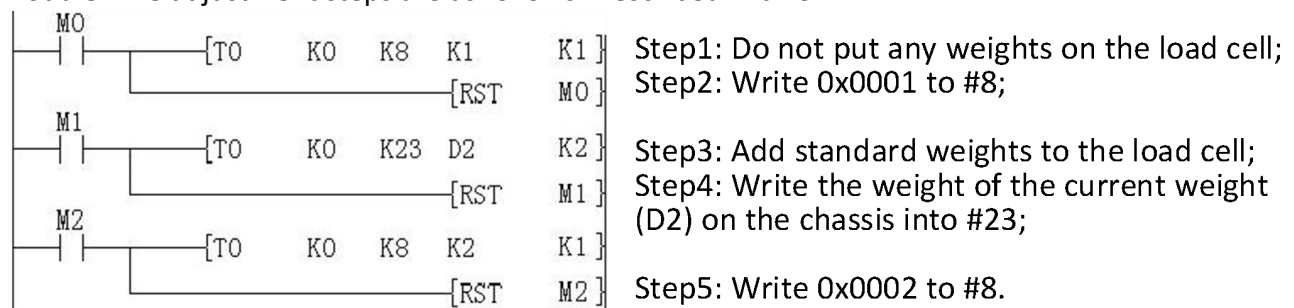


Write the average weight value (BFM16) of CH1 in the weighing module into D0.

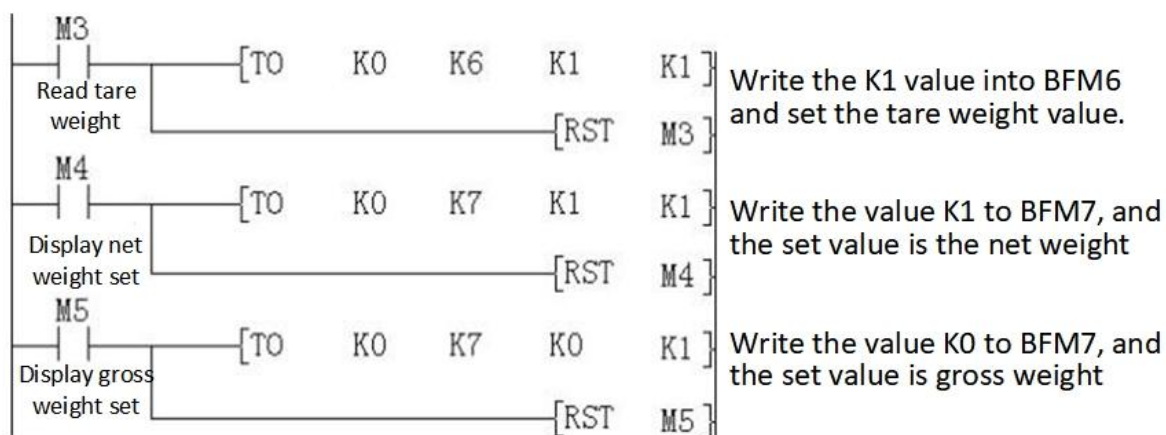
(3) Calibration weight

*In the new version, the first step can also be used for manual reset.

The adjustment is to make the module match the weight value of the load cell of the weighing module. The adjustment steps are as follows. Described with CH1.

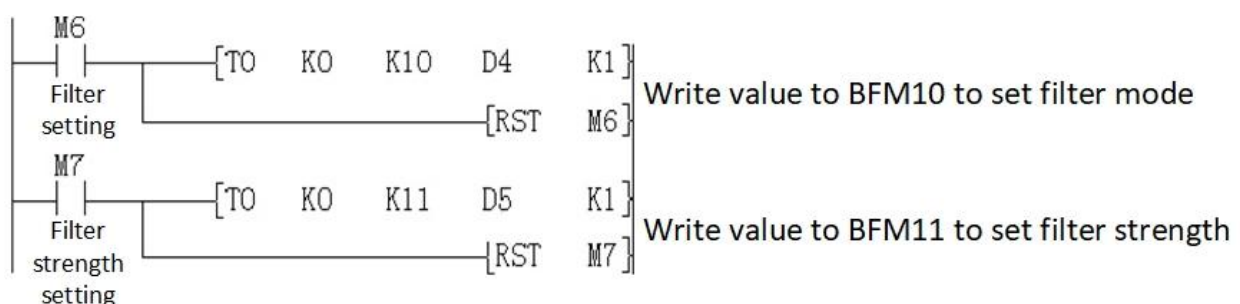


(4) Tare and gross weight



(5) Filter mode setting

After setting the filter method or filter strength, re-calibration is required.



(6) Zero tracking

Zero tracking is used to reduce temperature drift interference.

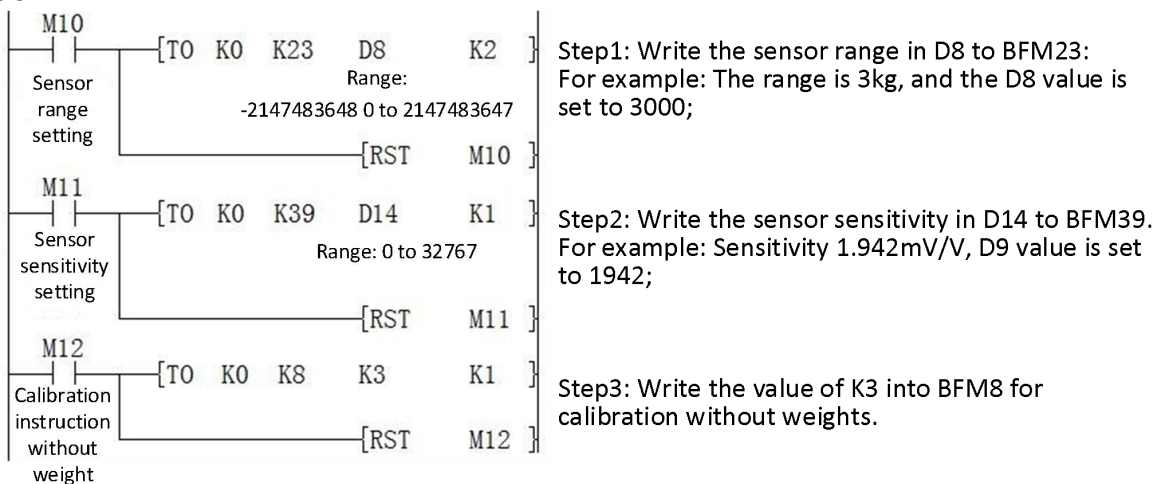
The zero tracking range is 0, which means zero tracking is not enabled.



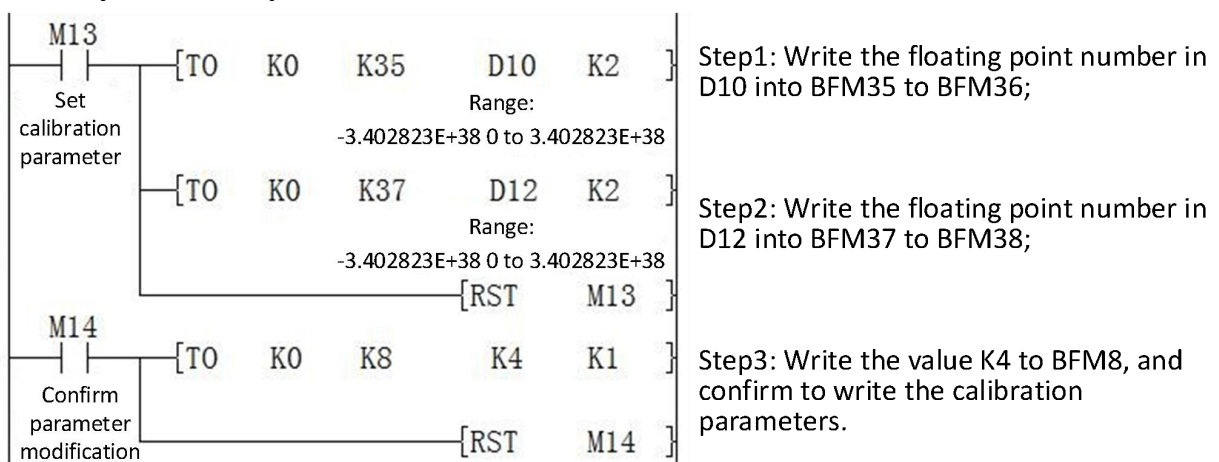
(7) Calibration without weights

Calibration without weights is calibrated by the zero point of the sensor and the maximum range of the sensor. The accuracy is related to the sensor specification and depends on the sensitivity of the sensor (mV/V).

For example: The sensitivity of the LAB-B-B sensor is $2.0 \pm 10\% \text{ mV/V}$, and there may be a maximum error of 10%, so it is best to use a sensor with a small sensor sensitivity error when using this function.



(8) Modify calibration parameters



Note: BFM35, BFM36, BFM37, and BFM38 are real numbers (float). When inputting, you need to input real numbers. If the input exceeds the range, BFM5 will report an error in writing calibration parameters.

7. Diagnosis

7.1 Check

- (1) Check that the input wiring and/or expansion cables are properly connected to the LX3V-1WT-G analog special function module.
- (2) Check that the LX3V system configuration rules are not violated. E.g: The number of special function modules cannot exceed 8, and the total number of system I/O points cannot exceed 256 points.
- (3) Make sure the correct operating range is selected in the application.
- (4) Check that there is no power overload on the 5V or 24V power supply. **Note:** The load of the LX3V main unit or active expansion unit varies according to the number of connected modules or special function modules.
- (5) Set the LX3V unit in RUN state.

7.2 Check errors

If the special function module LX3V-1WT-G does not operate normally, please check the following items.

- (1) Check the status of the LINK indicator

Blink: Expansion cables are properly connected. Otherwise, Check the connection of the extension cable.

- (2) Check the status of the "24V" LED indicator (top right corner of the LX3V-1WT-G)

Light on: LX3V-1WT-G is normal, 24VDC power is normal. Otherwise, the 24V DC power supply may be faulty. If the power supply is normal then the LX3V-1WT-G is faulty.

- (3) Check the status of the "COM" LED indicator (top right corner of the LX3V-1WT-G)

Blink: Numeric conversion works fine. Otherwise, check buffer memory #5 (error status).

If any one of the bits (b0, b1, b2) is ON, that is why the COM indicator is off. For details, please refer to "(6) BFM5: Error Code" in "5.2 Buffer Register (BFM) Description" in "Chapter 5" of this manual.

- (4) Check the sensor to measure whether the voltage between S+ and S- is less than (5*sensor sensitivity) mv. The sensor sensitivity is found in the sensor manual used, the unit is (mv/v). If the voltage at this point is out of range, it means the sensor deformation or wiring errors have occurred. Measure whether the voltage between F+ and F- is 5V. If not, check the sensor wiring.