

R36

Peak Value test indicator

Technical/User Manual



Warning

- 1、 The person who debugging detection and maintenance must be professional
- 2、 This product belong to a precision measurement equipment Please be sure to keep the equipment good ground



ATTENTION

- 1、 It is strictly prohibited to charged plug
- 2、 First you need to cut off the power and Wait for about 5 seconds then connect the equipment



Attention ESD

This controller for electrostatic sensitive equipment
Please pay attention to take measures to prevent electrostatic measures in the use and maintenance

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1 Attention

Thank you for purchasing the R36 series peak meter. To ensure the correct use of the product, please read this manual carefully before installation.

After receiving the product, please check the packing list to check whether the goods are complete or damaged. Please check whether the product model you received is in line with the order. The product model is on the label label above the product.

If discover new out of the products are components missing, damaged, or specifications do not agree, please prepare evidence (such as order number, shipping date, product serial number) and promptly with our company office recently, authority, or after-sales service department.

Grounding: to ensure the metering performance of the instrument and prevent static or electric shock damage, please ensure that the grounding terminal of the instrument is well grounded and reliable.

Power supply: the instrument USES ac power, rated voltage: 220VAC. This instrument can not share power with power equipment and must take necessary quarantine measures.

Environment: this instrument is not an essential safety instrument and can not be used directly in dangerous places with explosive dust or gas.

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2 Function & Features

R36 series peak test instrument adopts high speed single-chip microcomputer platform and high speed ADC converter, which can capture peak and instantaneous force value. The meter has 4 point relay output, 2 passive switch quantity input, can realize upper and lower limit judgment, instantaneous value trigger, manual clearance and other functions; The instrument has double serial port, can connect printer, computer, big screen and other peripherals. The instrument adopts plate - type aluminum alloy shell, dust - proof stainless steel front panel, easy to embed control cabinet. It is the ideal supporting instrument for various force value testing machine.

Main features of R36:

- dust-proof stainless steel front panel, embedded installation
- two-way capture peak and instantaneous force value
- 24 high precision AD conversion chip, 100 hz sampling rate
- electromagnetic relay output 4 points, 2 point source input
- standard RS232 interface, support the micro printer, large screen, support the MODBUS RTU communication
- external connection adopted plug type of terminal connection is reliable
- automatic printing, automatic save function
- with real time clock
- can save 4000 records
- double row, according to "kg" and "N" is a key to transform each other

3 MODEL & TECHNICAL SPECIFICATIONS

3.1 MODEL

MODEL	order no	description
R36.10	24260001	Peak capture, 4-point relay output, 2 point passive input; Two RS232 interfaces

TECHNICAL SPECIFICATIONS

3.2

product dimensions (WxHxD)	172mm×87mm×120mm。 (No terminal)
product weight	About 1.2kg
shell structure	Panel structure. Front panel: SS304, IP65; Shell: aluminum alloy, IP42。
sensor interface	Driving up to 6pcs 350 Ω sensor, or the equivalent impedance is greater than 58 Ω load sensor. Input range: -20mv ~ + 20mV.
A/D	24 bits high precision low temperature drift Σ - Δ conversion chip. 100 hz sampling rate
resolution ratio	Maximum usage: 20000d, minimum resolution of 0.3 μ v/d.
display	Upper Display: 6 red LED digital tubes with 14mm height; Lower Display: 6 red LED digital tubes with 10mm height; Display refresh: 10Hz;
keyboard	8 key light touch thin film key
Switching input	2 point passive input, effective with the public end.
Switching output	4 relay output. Load capacity 1A
Communication interface	two RS232 interfaces
Communication protocol	Continuous output format, print output, modbus-rtu, large screen format.
Application mode	1. Peak mode; 2. Instantaneous value mode。
Power supply	220VAC
operating environment	temperature: -10° ~ $+40^{\circ}$ C; Relative humidity: 10% ~ 90%, No condensation
Storage environment	temperature: -30° ~ $+60^{\circ}$ C; Relative humidity: 10% ~ 90%, No condensation

4 Installation and Connection

This chapter introduces instrumentation installation and system wiring.

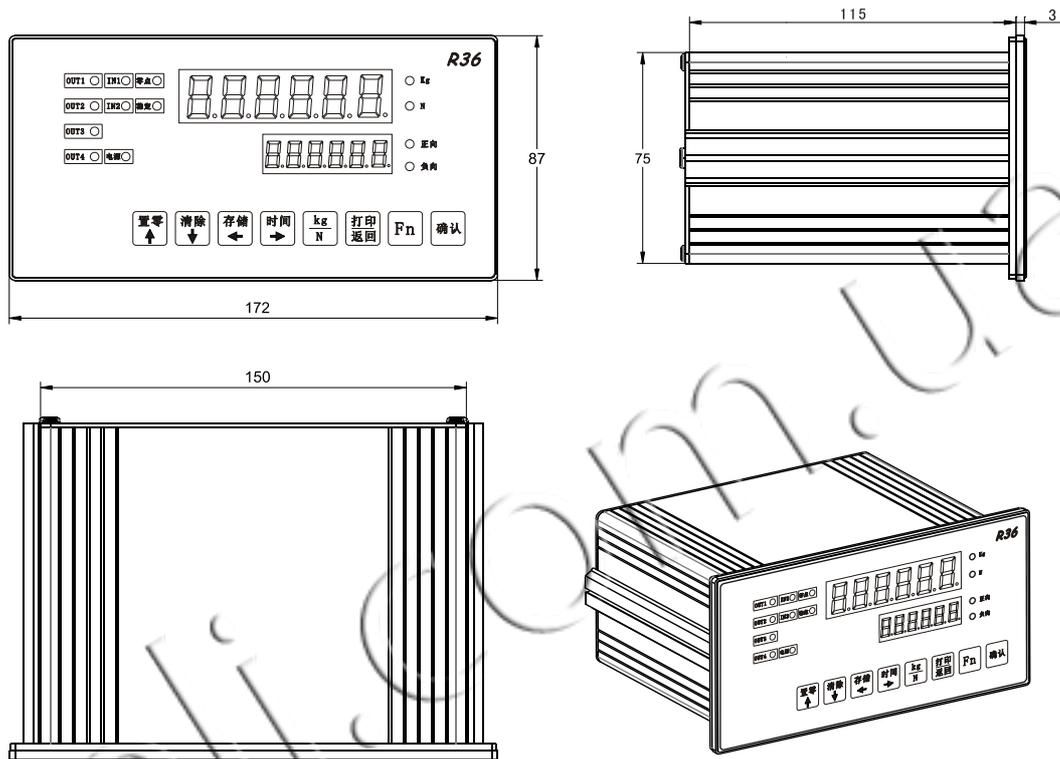
4.1 Indicator installation

Front panel size (W x H) : 172mm x 87mm.

Aluminum alloy cavity size (W x H): 150mm x 75mm.

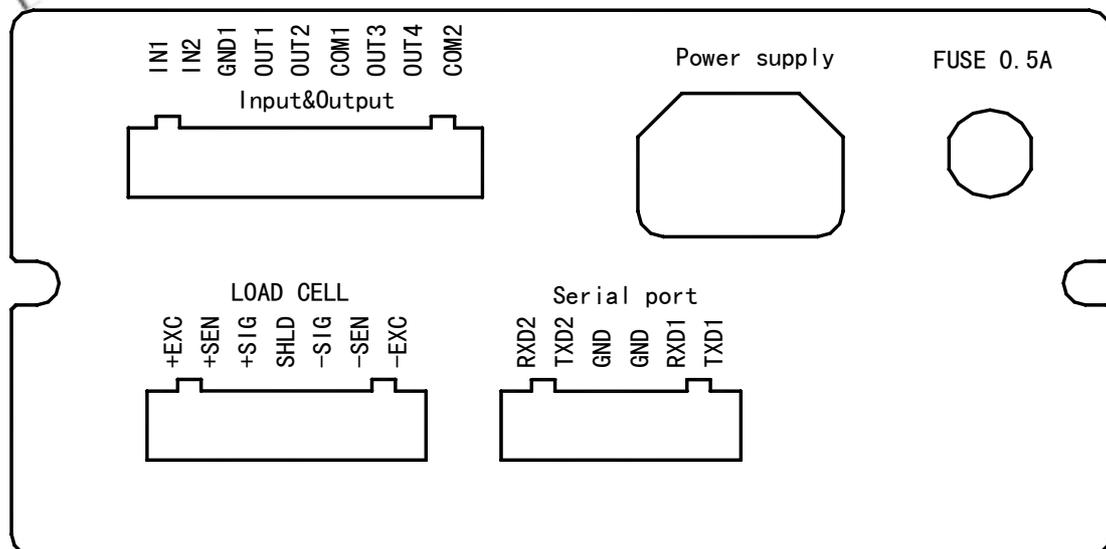
In the control box, open hole size: 151mm x 76mm.

3d dimensions are shown in the figure below (unit: mm) :



4.2 System wiring

rear panel wiring diagram

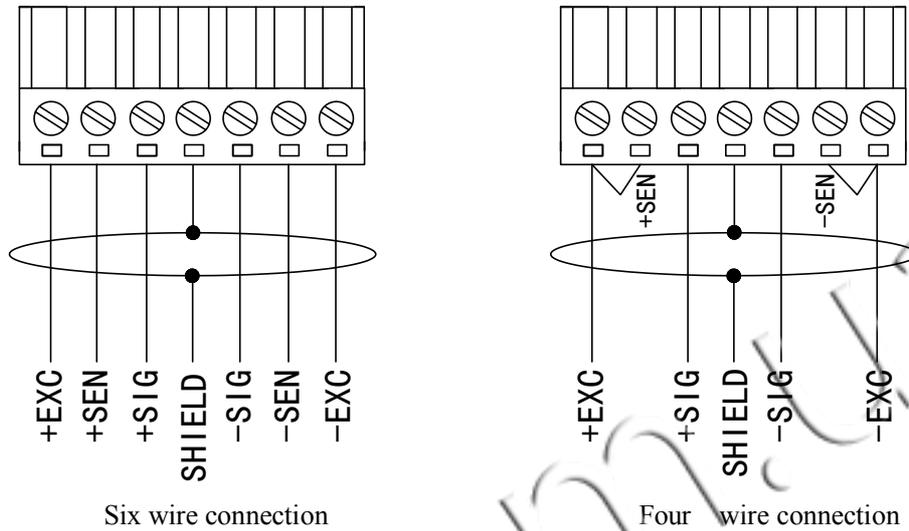


4.2.1 Power supply

R36 instrument adopts 220V ac power supply and adopts standard three-hole power cord. Do not share a power supply with equipment with high power noise such as motor, relay or heater.

4.2.2 Load cell interface

The instrument can drive up to six 350 ohms weighing sensors (or the minimum impedance of about 58 ohms). The following image shows the wiring definition of the analog sensor. When using four wire sensors, + + SEN and EXC should be short, and EXC SEN short answer.



port	description	Four-wire color	Six-wire color
+EXC	Positive excitation	Red	Red
+SEN	positive feedback, Connect 4 wire sensor with +EXC short connection	-	Blue
+SIG	positive signal	Green	Green
SHIELD	Shield ground		
-SIG	Negative signal	White	White
-SEN	Negative feedback, connecting the 4-wire sensor with -exc short	-	Yellow
-EXC	Negative excitation	Black	Black

Note: the color code in the table is the recommended wiring. If other non-standard sensors, the sensor should be used to distinguish the actual colors.

4.2.3 Serial port

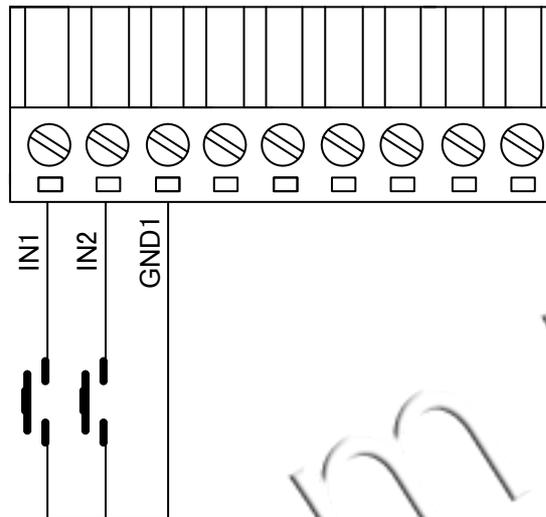
Indicator comes with two RS232 serial ports

Pin definition	Description
TXD1	1# Serial port RS232 Send 1# Serial port
RXD1	1# Serial port RS232 Receive

GND	1# Serial port Communication
GND	2# Serial port Communication
TXD2	2# Serial port RS232 Send
RXD2	2# Serial port RS232 Receive

4.2.4 Switching input

There are two input points in the instrument to realize instantaneous force value capture and the peak (instantaneous value) clearance function. Input port wiring diagram:

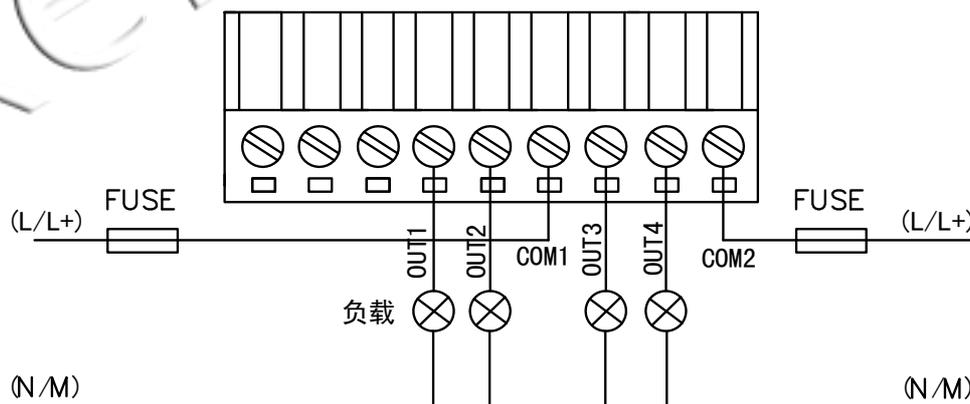


Passive input, effective with GND1 short (100 ms).

IN1: trigger capture instantaneous value; IN2: clear peak/instantaneous value.

4.2.5 Relay output

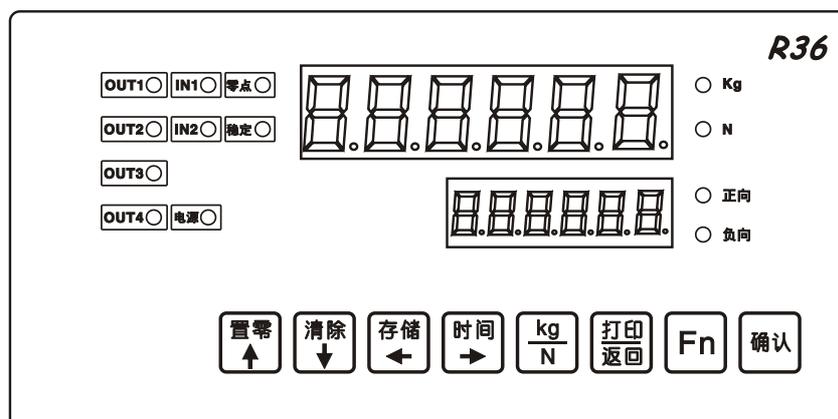
Schematic diagram of output port connection:



Note: OUT1~OUT4 is often open contact, and COM1 is the public end of OUT1 and OUT2. COM2 is the public end of OUT3 and OUT3; Contact can be connected to dc or ac load, and the contact load current should not be greater than 1 ampere.

5 Operation

5.1 Display



Power on display process:

- 1, up and down state display, indicates light display for about 2 seconds;
- 2, on display software, display software version number. (if the instrument is in abnormal condition at work, please provide the software number and software version number of the instrument as much as possible when feedback to the manufacturer). For example on the instrument display [460162] display [].
- 3, the instrument display address, on display [], the lower display address number, the range is 00-99;
- 4, the instrument on the show [], showed lower baud rate (1#, 2# serial order);
- 5, enter weighing display, such as the weight of the current scale in the boot zero setting (by the set parameter F2.7 specified), then the instrument automatically executes the boot zero function.

Note: zero on startup

- 1, if the F2.7 parameter is set to 0, do not start zero, that is, according to the last shutdown when the working zero as the benchmark to show the current weight.
- 2, if the F2.7 parameter is not zero, and the weight is less than the set range, start the zero weight to zero as the benchmark; weight is greater than the set range, the upper display [E0]; if the weight is in an unstable state, always show up and down [-----].

Display specification

Display	Usual circumstances	Selection menu	Setting time
Upper Display	Weight	Menu name	Project code
Lower Display	0 or peak vale	empty	Set value

Status indicating light

Mark	Indicate when the indicator lights up
OUT1	OUT1 contact with COM1
OUT2	OUT2 contact with COM1
OUT3	OUT3 contact with COM2
OUT4	OUT3 contact with COM2
IN1	External switch quantity input 1 is valid
IN2	External switch quantity input 2 is valid

Zero	The scale is in zero position
Stable	Scale in Steady state
kg	unit of display is kilograms
N	unit of display is Newton
Positive	peak has been locked and the peak is positive
Negative	peak has been locked and the peak is negative
Power supply	Power indicator light

5.2 Buzzer

Parameters	F2.1=0	F2.1=1
buzzer	close	open

5.3 Keyboard

■ usual operation

key	Function	Operation explanation	Note
	Zero	1, when the instrument in weighing displaying condition, and the current display (display) on the weight should be within the scope allowed to reset (the range value set in the parameter table F2.3), and the currently displayed weight is in a steady state (a "stable" indicator). Not satisfied with zero condition, instrument prompt [no]. 2. The parameter setting is the number plus 1	
	Clear	1. Peak removal 2. The parameter setting is the number minus 1	
	Storage	1. Manual storage, a peak can only be stored once 2. The input value is the left shift key	
	Time	1. Press this button to switch to date and time display interface; Press [return] to return to the weighing interface 2. The right shift key is the input value	
	Print /return	1. Press this button to print the current data; Note: the serial port must be set to print protocol. 2. Return to the upper level when setting parameters.	
	Function	1. Arrange the storage quantity menu 2. Set the time menu page display	
	Confirm	Validate the input parameters	

■ Numerical input operation

key	Function	Operation explanation	Note
	Return	Discard the value entered and return	
	Plus1	The number of blinking digits in the display can be changed cyclically, ranging from 0 to 9	
	Minus1	The number of blinking digits in the display can be changed cyclically, ranging from 0 to 9	
	Move left	Edit left	
	Move right	Edit right	
	Confirm	Accept the entered value and return	

5.4 Printer use

1, the external printer needs to be 1 # or 2 # serial port set to print interface, automatic printing and manual printing the same format.

2, the working status Press [Print] button, you can print. The same data can be printed repeatedly.

5.5 Memory record print

1), press [Fn] key to call up the menu for storing quantity. The upper row of the meter shows "" and the lower row shows the stored quantity.

2). Press [PRINT] key, the upper row of the instrument will display "", the lower row will show the number of prints, counting from 1 until all printing is finished, and then it will automatically return to the measurement interface; press [ENTER] to stop printing during printing And return to the measurement interface.

5.6 Memory record clear

1), press [Fn] key to call up the menu for storing quantity. The upper row of the meter shows "" and the lower row shows the stored quantity.

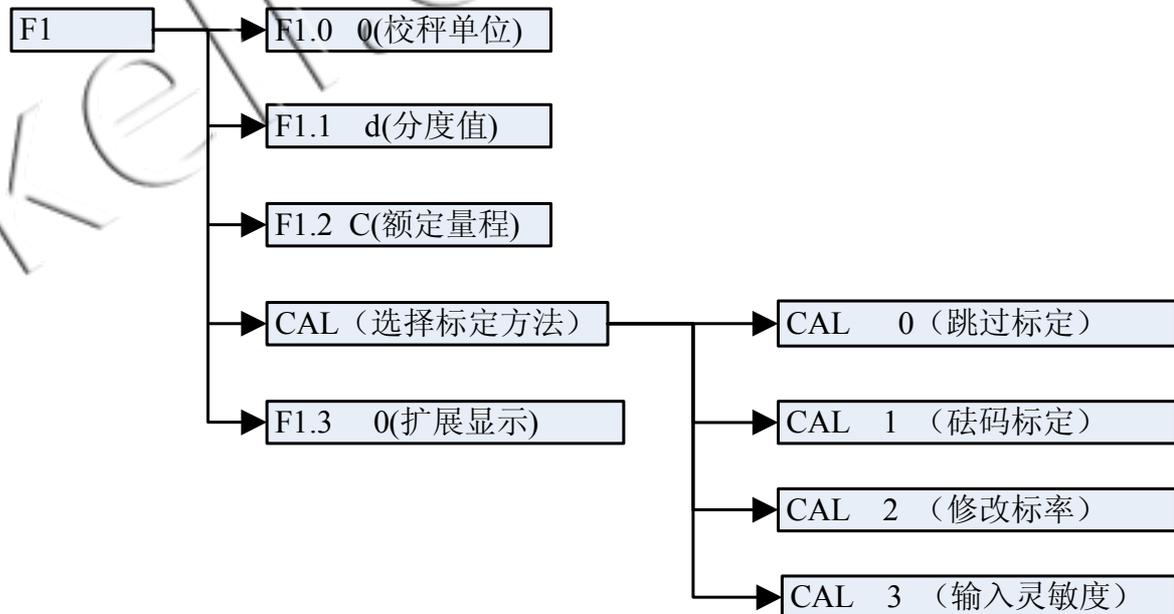
2). Press [CLEAR] key to display "" in the upper row and "0" or "1" in the lower row. Press the [ENTER] key to flash the number. Press the [ENTER] key to clear the record when the digit "1" flashes

6 Weight calibration menu

6.1 Calibration interface key definition

6.2 Calibration interface menu structure

key	Function	Operation explanation	Note
	Numerical value plus 1	1、 1, press this key to turn on the new parameter value from the parameter list of the displayed parameter item in turn; 2、 2, enter a numerical increase of 1	
	Numerical value minus 1	The number of input values decreases by 1	
	move left	Loop left shift requires input digit .	
	move right	Rotate right to shift the number of digits to enter .	
	return	Return to the previous menu	
	Turn the page	The non-edit status page displays this level parameter item	
	Confirm	1. Confirm parameters to enter editable state; 2. Accept the new parameters in the display in the editing status and return them.	



6.3 Enter the calibration menu

In the normal weight display state, press [confirm], [Fn] key, display [F1], press [confirm] to

enter submenu, press [Fn] to select other parameter groups.

Menu	Explanation	Note
Code	Calibration password	Enter the calibration password "201210"; If you enter the wrong password, you can also enter the next step. F1.0, F1.1, F1.2 parameters can only be viewed and cannot be modified.
F1.0 0	Calibration scale unit	0: kg 1: N
F1.1 d	division value	division value optional: 0.001、0.002、0.005、0.01、0.02、0.05、0.1、0.2、0.5、1、2、5、10、20、50
F1.2 C	Rated range	The rated range is in accordance with the formula: 500 is less than or equal to (the rated range/dividing value) is less than 20000; That is, it's not less than 500, and it's not greater than 20,000.
CAL X	calibration method	0: skip, do not perform calibration; 1: weight calibration; 2: input calibration parameters; 3: input sensitivity Weight calibration is usually selected when calibration
F1.3	Expanded Display	0: weight display shows the standard weight value 1: show the extended weight value, which is allowed to set zero when expanded display, and the serial port communication is forbidden. When the weight is displayed, the corresponding display value is 0, and the corresponding display value of the full scale is 20 times. The extended weight display is used only for data that needs to be observed for higher accuracy. In normal use, this parameter should be set to 0.

6.4 Weight calibration

Menu	Explanation	Operation description
E SCAL	Zero calibration	To keep the balance, press [confirm] to enter the scale zero calibration process. In the calibration process, the meter below shows the 10-second countdown to the zero calibration process. If the scale appears dynamic, the countdown will be counted down to 10 seconds. Click [Fn] key to skip the zero mark.
Add L d 1	Calibration of the first loading point	Load weight on the scale body weight is recommended to be 20%~100% of the maximum weighing scale. Press the confirmation key to enter the calibration status. In the calibration process, the meter is shown below to indicate the calibration of the zero-zero calibration. If the scale appears dynamic, the countdown will be reset for 10 seconds. Press [Fn] key to skip the initial load point calibration.
inP L d 1	First stage load weight	Enter the first segment load weight. P A S S is successful, please refer to the table below for other information.
Add L d 2	Calibration of the first loading point	<u>If you do not intend to do a second paragraph, press the [return] key to return to the upper menu. If the last two paragraphs are calibrated, the second paragraph of the calibration parameter is invalid after</u>

		<p><u>returning the upper menu.</u></p> <p><u>When weighing the weight, the weight is recommended to be close to the weight, otherwise the non-linear correction effect is not obvious. Press [confirm] to enter the calibration. In the calibration process, the instrument is shown below to indicate the calibration of the zero-zero calibration. If the scale appears dynamic, the countdown will be reset.</u></p>
inPL d 2	Second stage load weight	Enter the second segment load weight. P A S S is successful, please refer to the table below for other information.

Possible error prompts

Prompt	Description	Follow-up tips	Methods
E4	Each degree of sensitivity is less than 0.5uV	No	
E5	The sensitivity is too low and the calibration fails	A d d L d	1. Reload; 2. Inspection system
E6	The maximum degree is greater than 20,000 or less than 500	No	Enter again
E7	The input weight is wrong, equal to 0 or greater than the rated range	I n P L d	Re-enter the correct weight
E8	The signal is either reversed or unloaded	A d d L d	1. Reload; 2. Check the system (e.g. limit, signal line, etc.);
E9	The compensation scope exceeds 20% and the second paragraph is invalid	F1.3	

6.5 Input calibration parameter

This method is only suitable for the case of known calibration coefficients, for example, the calibration parameters have been recorded, and the calibration parameters can be re entered when the system error operation or parameter loss. The instrument input data not reported the wrong wrong, please professional operation.

Menu	Explanation	Note
L	1: 1 section calibration; 2: two section calibration.	
C1	The first segment calibration coefficient	
CF0	Nominal zero inside code	
CF1	The first section of the loading point code	
C2	Second calibration coefficient	Appear at L=2
CF2	Second loading point code	Appear at L=2

Note: the above calibration parameters are calculated by weight calibration, and the C1 or C2 can be adjusted slightly to achieve the purpose of weight correction. .

6.6 Input sensitivity

The use of this method is only applicable for weighing cannot load weights, and ensure the correct installation of various scales mechanical structure, signal line connection is correct, because the partial load factors and junction box attenuation, this method can not guarantee the accuracy of weighing results for reference only.

Menu	Explanation	Note
LC_CAP	The total range of the sensor, for example: 4 pcs1000 kg, must be input 4000	
LC_S e n	Sensor nominal sensitivity, for example: 2mV/V, input 2.0000	

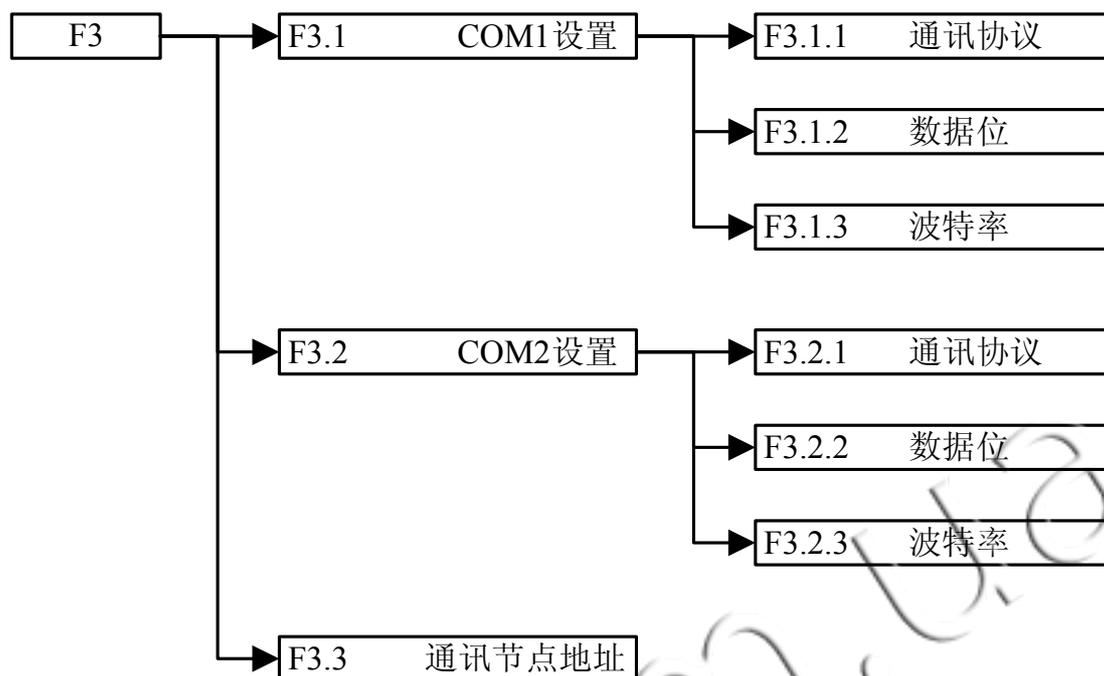
Note: after the input and confirmation of the sensitivity, the calibration parameter correlation changes; But modifying the calibration parameter does not correlate with the change of sensitivity value. For example, enter and confirm the sensitivity of 2.00000mv/V, calculate the calibration parameter C1 is 0.02, and the two are related; In this case, the calibration coefficient C1 becomes 0.04, and the sensitivity is still 2.00000mV/V for the last input.

7 Scale application parameters F2

Menu	Explanation	parameters
F2.1	buzzer setting	0: buzzer sound off 1: the buzzer sounds
F2.2	Display unit switching	0: ban 1: allow, press [kg/N] to switch the display unit
F2.3	Manual zero range	Refers to the percentage of the maximum weight: 0.0 0.1 0.2 0.5 0.8 1 2 4 8 10 20 0.0 means that zeroing is forbidden
F2.4	Zero tracking range	0.0d 0.5d 1d 2d 4d 5d 0.0d means that zero tracking is forbidden, and the tracking rate is not more than 0.5d / sec.
F2.5	Dynamic detection range	The setting range is 0 to 10 divisions. When the setting value is 0, it means the scale dynamic detection function is forbidden
F2.6	Filter coefficient	0-9, the larger the number, the heavier the filtering. The filtering parameters are valid only for the weight window and will not affect the peak sampling.
F2.7	Boot clear range	0-10, refers to the percentage of the maximum capacity, 0 indicates that the boot is not zero

8 Serial port SettingsF3

8.1 Serial port parameter setting menu structure



Note:F3.1 COM1 SETTING: F3.1.1 communication protocol F3.1.2 data bit F3.1.3 Baud rate

Note:F3.2 COM2 SETTING: F3.2.1 communication protocol F3.2.2 data bit F3.2.3 Baud rate
F3.3 Communication node address

8.2 List of serial port parameters

Menu	Submenu	parameters	
F3.1		COM1 Setting	
	F3.1.1	Communication protocol 0: R36 continuous format; 1: quick format (serial data refresh 100Hz); 2: colli screen protocol; 3: MODBUS RTU from the station agreement; 4: printing protocol; The print format relies on the F6.6 parameter setting.	
	F3.1.2	The 8-bit data bit/uncheck bit 1:8 bit data bit/odd parity bit 2 data bit/parity bits 3. 7 bit data bit/odd parity bit 4 data bit/even parity bits Note: 1. In the case of rapid format or MODBUS RTU protocol (parameter F3.1.1=1 or 3), this parameter can only be selected 0, 1, and 2. 2. When choosing 8-bit data, print out Chinese in the printed format or output English. 3. Select the colli screen protocol (parameter F3.1.1= 2). This parameter is automatically hidden	
	F3.1.3	Baud rate 2400/4800/9600/19200	
F3.2		COM2 setting	
	F3.2.1	Communication protocol 0: R36 continuous format; 1: quick format (serial data refresh 100Hz); 2: colli screen protocol; 3: MODBUS RTU from the station agreement; 4: printing protocol; Printing format depends on F6.5 parameter setting.	
	F3.2.2	The 8-bit data bit/uncheck bit 1:8 bit data bit/odd parity bit 2 data bit/parity bits 3. 7 bit data bit/odd parity bit 4 data bit/even parity bits Note: 1. In the case of rapid format or MODBUS RTU protocol (parameter F3.2.1=1 or 3), this parameter can only be selected 0, 1, and 2. 2. When choosing 8-bit data, print out Chinese in the printed format or output English. 3. Select the colli screen protocol (parameter F3.2.1= 2). This parameter is automatically hidden	
	F3.2.3	Baud rate 2400/4800/9600/19200	
F3.3		Communication node address for Modbus protocol	

8.3 Continuous output format (F3.X.1=0)

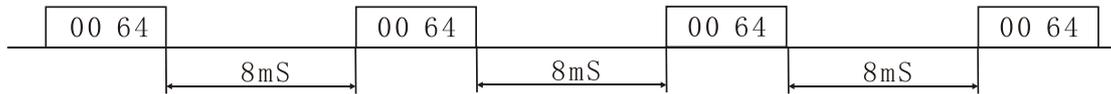
R36 continuously sends data string, which consists of 18 bytes. Frequency of data transmission:
 baud rate 9600/19200:20Hz; Baud rate 2400/4800:10Hz

byte-orders	Explanation	
1	Initial symbol (02H)	
2	bit	Status word A
	.0	three bit combination represents the decimal point position of the weight data
	.1	
	.2	001 = xxxxx0 010 = xxxxxx 011 = xxxxx.x 100 = xxxx.xx 101 = xxx.xxx
	.3	1: Current display weight unit: kg
	.4	1: Current display weight unit: N
	.5	Constant 1
	.6	Constant 0
3	bit	Status word B
	.0	When the peak weight is positive, the bit is 0 / peak and the weight is negative, the bit is 1
	.1	When the current display weight is positive, the bit is 0 / the current display weight is negative, the bit is 1
	.2	The current display weight is 0 in the range range. The current display weight is 1 beyond the measurement range
	.3	The current display weight is stable at 0 / 1 when the current display weight is dynamic
	.4	Constant 1
	.5	Constant 1
	.6	Constant 0
4	bit	Status word C
	.0	undefined
	.1	
	.2	
	.3	
	.4	Weight extended display status 0= ordinary display / 1= extended display
	.5	Constant 1
	.6	Constant 0
5	Current actual weight (ASCII code, both without decimal point)	
6		
7		
8		
9		
10		
11	Peak data (ASCII code, both without decimal point)	
12		
13		

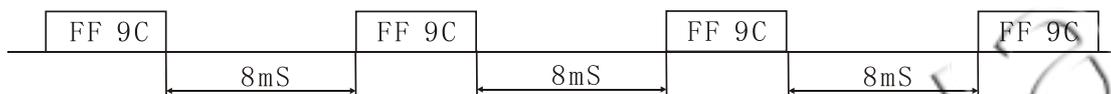
14	
15	
16	
17	carriage return (=0DH)
18	Check and sum the value of the first 17 bytes of arithmetic sum low byte

8.4 Fast format (serial data refresh 100Hz, F3.X.1=1)

This protocol recommends baud rate 9600 or 19200, and uses two bytes (16 bits) to indicate the current weight. The highest position is the symbol bit, and the weight range is -32768~32767;
 If the weight of 100 kilograms, is continuously sent (with 9600 serial baud rate for example):



If the weight is -100 kg, the serial port is sent continuously



Note: the method of synchronous reception of serial data

The data sent over and start sending a set of data about 8mS 9600 baud rate, so you can use this feature to synchronize data, set a timer, when specifying the next byte serial idle time is greater than 5mS is a set of data of the first byte.

8.5 Big screen communication protocols (F3.X.1=2)

Baud rate: 600 (fixed) 9 bit data bit, 1 bit start bit, 1 bit stop bit, no checksum.

Each set of data contains 3 frames of data and its significance is shown in the following table.

First frame:

bit	0	1	2	3	4	5	6	7	8
Meaning	Decimal point position	Sign bit	Gross / net weight	undefined	G16	G17	Mark bit, fixed 0		

Second frame:

bit	0	1	2	3	4	5	6	7	8
Meaning	G8	G9	G10	G11	G12	G13	G14	G15	Mark bit, fixed 0

Third frame:

bit	0	1	2	3	4	5	6	7	8
Meaning	G0	G1	G2	G3	G4	G5	G6	G7	Mark bit, fixed 1

First frame data: ninth bits "0"

D0, D1, D2--- decimal point position (0-3)

D3 - weight sign (1- minus, 0- positive)

D4 gross / net weight (1- net weight, 0- gross weight)

D5 - undefined

G17, G16: weight data

Second frame data: ninth bits "0"

G15~G8: weight data

Third frame data: ninth bits "1"

G7~G0: weight data

G0~G17: from low to high weight 18 bit binary code

8.6 MODBUS RTU protocol (F3.X.1=3)

MODBUS mainly from the form of network communication protocol, instrumentation in the MODBUS network as a slave station, data format for RTU, to support "03" and "06" function. The MODBUS protocol needs F3.X.1=3, 8 bit data bits, the parity bit is set in F3.X. 2, and the MODBUS address is set in the parameter F3.3. The weight is expressed in float numbers.

Register address	bit	explanation
40001		Current weight (read only function code 03)
40002		
40003		Peak data (read only function code 03)
40004		
40101 (Function code 06)	.0	Set zero, the peak value of the (weight stable and allowed zero set) peak value
	.1	Clear, clear peak
		The remaining bits are undefined

Note: the representation of floating-point numbers (according to the standard of IEEE 754)

For example: 128.6 corresponds to 4 bytes of data is: 430099 9A, then 40001 registers content is 99 9A, 40002 registers content is 4300.

8.7 Print protocol (F3.X.1=4)

Set the print protocol, manual printing, automatic printing or printing recording, data through the serial port to send, that is to say if the serial port is not set to print protocol, manual printing, automatic printing or printing recording when the serial port is not data.

The print content is determined by the F6.6 parameter. There are three formats, see the F6 parameter group.

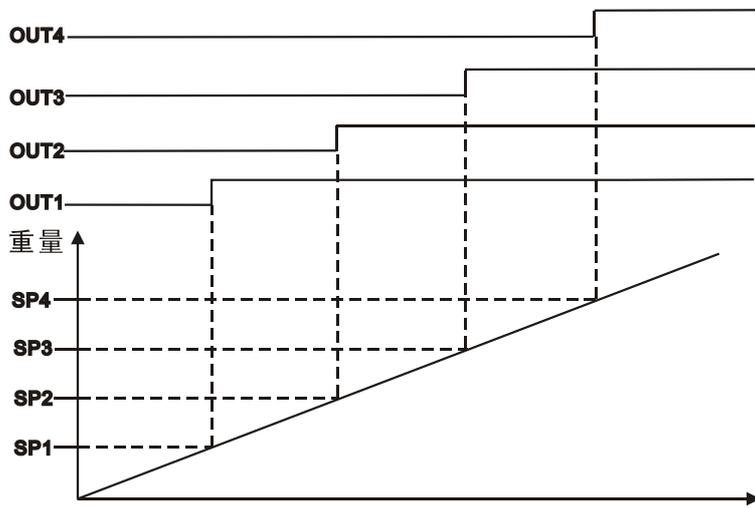
9 Relay output parameters F4

9.1 F4 Parameter list

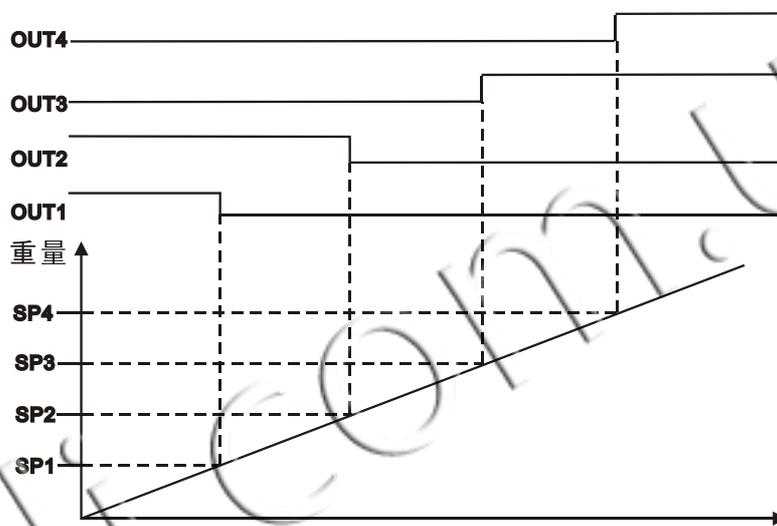
Menu	Explanation	Parameters
F4.1	Source of output comparison	0: the relay output varies according to the weight window data 1: the relay output changes according to the peak window data
F4.2	Relay output mode	0: fixed value mode 1: upper and lower limit mode
SP1	1 preset point value	It can only enter a set value according to the calibration unit
SP2	2 preset point value	
SP3	3 preset point value	
SP4	4 preset point value	

9.2 Relay output logic

Constant value mode (F4.2=0):



Upper limit mode (F4.2=1):

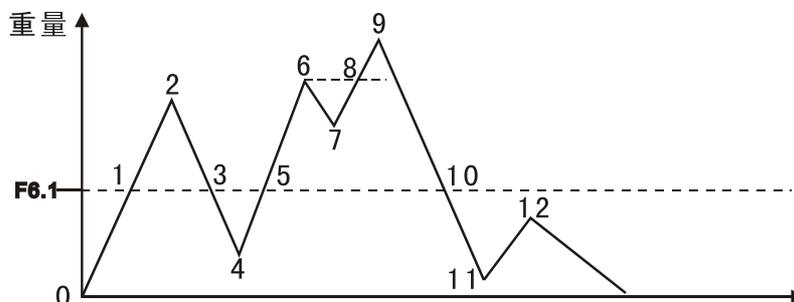


10 Peak setting parameter F6

10.1 F6 List of parameters

10.2 The minimum value parameter of peak value

This parameter is very useful in automatic printing, automatic storage, automatic update peak, and so on. The following is illustrated by the illustration:



Note: the curve represents the weight of the change

0-1: the weight does not exceed F6.1, the peak window shows "0";

1-2: the weight exceeds F6.1, the peak window shows the gradually increasing weight;

Menu	Explanation	Parameters
F6.1	Peak minimum	The peak of the above value is captured and can only be entered by the calibration unit
F6.2	Grab mode	0. Grasp the maximum (positive or negative) 1. Grasp the instantaneous value (requires the external switch to input 1 trigger, low level) 2. Grab the instantaneous value (need external switch to input 1 trigger, drop edge)
F6.3	Peak clearance mode	0. Manual removal 1. Automatic update 2. Timed removal Note: 1. Manual removal is always effective; 2. The removal of external input is always valid.
	F6.3.1	Time cleaning time (only when set to clear timing, unit: second)
F6.4	Peak storage mode	0. Manually, grab the peak and press the "save" key to save 1. Automatically save after the peak
F6.5	Peak automatic printing	0: prohibit 1: allow; Note: the serial port is set to print protocol (f3.x.1 = 4).
F6.6	Print format	0: single line 1: single line 2: multi-line notes: please refer to section 10.3 for details

2-3: the weight decreases, the peak window locks the point "2" weight;

3-4: the weight continues to decrease, and the weight is lower than F6.1 (figure 3 above). The instrument will perform the following actions:

1) Automatic printing (if allowed); 2) automatic storage (if allowed); 3) prepare to recapture the peak. The peak window locks the point "2" weight;

4-5: weight increase, no more than F6.1, peak window lock display point "2" weight;

5-6: the weight increases, more than F6.1, the peak window shows the gradually increasing weight;

6-7: the weight decreases and the peak window locks the "6" weight.

7-8: the weight increases, the peak window locks the point "6" weight;

8-9: the weight increases and the peak window shows the increasing weight.

9-10 paragraphs: weight reduction, peak window lock display point "9" weight;

10-11: the weight continues to decrease and the weight is lower than F6.1 (figure 10 above). The instrument will perform the following actions:

1) automatic printing (if allowed); 2) automatic storage (if allowed); 3) prepare to recapture the peak. The peak window locks the weight of "9";

11-12: weight increase not exceeding F6.1, peak window lock display point "9" weight, maintained to manual or timed clearance;

10.3 Print format

F6.6= 0: single line printing; Print content: "No: 1234 12/12/05 14:09:06 MAX: 0kg"

"No: 1234" means print serial number, add one after each print, and clear off after shutdown.

F6.6= 1: single line printing; Print content: "02Hxxxxxxxkg03" (note: xx data is peak).

"02" : the initial STX

"03" : terminator ETX

"H" refers to an ASCII character, which is a '+' or '-' symbol,

"XXXXXXX" refers to the ASCII string, which is 7 bits in total, which is used to represent peak data, and the high value is invalid "0" in space.

F6.6= 2: multi-line printing, printing contents are as follows:

```
DATE: 2012/12/05
TIME: 14:09:06
WEIGHT:    1200kg
MAX:      3400kg
```

The external printing device can select 40 string line interface micro printers.

11 Switching volume and serial port detection (F7)

! During the test of switching volume interface, the interface to be tested should be disconnected from other systems to prevent uncontrollable mechanical operation.

11.1 Switching volume input detection

Menu	Explanation	operating instructions
F7.1 in	Switch volume input detection	Lower monitor display: in 0000 The number represents '0' for no input; '1' represents IN1 validity; '2' is valid for IN2; For example, IN1 is valid, which shows: in 1000 For example, the 2 channel input is valid, indicating: in 1200

11.2 Switching volume output detection

Menu	Explanation	operating instructions
F7.2	Switch volume output detection	Press [confirm] button to select the switch number sequence number and press [zero] to change the state. '0' : relay contact disconnect '1' : relay contact closure
out1	No 1 relay	
out2	No 2relay	
out3	No 3 relay	
out4	No 4 relay	

11.3 Serial port self-detection

Menu	Explanation	operating instructions
F7.3	Serial port self-detection, TXD1, RXD1 short, TXD2, RXD2 short	Press [confirm] key, the upper and lower two Windows respectively display the number "0" - "9", if the serial port fails, always display "0", the above window indicates COM1, and the following is COM2

12 Instrument parameter initialization and date time setting F8

Display [F7] and press [Fn] [confirm] to enter the [F8] parameter group

The menu description is shown below

Menu	Explanation	Parameters
F2 Int	F2 Parameter initialization	F2.1 = 1; Buzzer sound open F2.2 = 1; Unit switching F2.3 = 20. Manual zero range 20% F2.4 = 0.0; Zero trace F2.5 = 3; Dynamic detection range 3d F2.6 = 5; Filter coefficient 5 F2.7 = 0; No boot clear
F3 Int	F3 Parameter initialization	F3.1.1 = 0; 1# serial port: R36 continuous protocol F3.1.2 = 0; 1# serial port: 8-bit data bit/uncheck bit F3.1.3 = 9600; 1# serial port rate F3.2.1 = 4; 2# serial port: print protocol F3.2.2 = 0; 2# serial port: 8-bit data bit/uncheck bit F3.2.3 = 9600; 2. Serial port rate F3.3 = 01; Address of MODBUS communication node
F4 Int	F4 Parameter initialization	F4.1 = 0; Relay output varies according to weight window data F4.2 = 0; Constant value mode SP1=1000; SP2=1000; SP3=1000; SP4=1000;
F6 Int	F6 Parameter initialization	F6.1= peak minimum value (the default is the indexing value x 20) F6.2=0 peak mode F6.3=1 peak automatic update The F6.3.1=9.9 peak time is cleared 9.9 seconds F6.4=0 manual storage F6.5=0 manual printing F6.6=0 single line printing format In addition, storage records are cleared.
ALL Int	F2、F3、F4、F6 iniT ALL	The parameters are described above
SET d	Set data	Enter the current date, display format: yy. MM.DD -- year, month, day
SET t	Set time	Input time, display format: hh. Mm. Ss - hour, minute, second, 24 hours

13 Care and maintenance

13.1 Common maintenance tools

Multimeter, sensor simulator, screwdriver, cross screwdriver, etc.

13.2 Daily cleaning and maintenance

Clean the surface with a soft cotton and neutral detergent.

Regularly check with professional maintenance personnel to keep the equipment in the best working condition.

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