GHT-K01-03 Check Weigher Controller

Instruction Manual

V2. 1

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Contents

1 Summary

1.1 Product introduction

Thank you for choosing our products. Before using this product, please read this manual carefully to make this product work to the maximum extent.

This product integrates the control part and touch screen operation part, with friendly interface and convenient operation.

This product uses 24 bit $\sum$-$\triangle$ADC chip,and the analog signal of bridge load cell is converted into digital signal. It also have 8 DI. 16 DO and 4 AOs, have 1 sensor inputs, In addition to the weighing signal transmission function, it can also achieve a large number of control functions.

Suitable for 18-30vdc power supply system.24 V power supply is recommended.

This product also has the function of sensor circuit detection, that is, when the sensor is not connected or the sensor is faulty (including the wiring falling off, etc.), the corresponding alarm will be given [effective when only one sensor is connected to each channel].

Product features：

1. Signal acquisition, control and touch screen operation are integrated, and the operation is convenient and fast；

2. It can prevent RFI ／ EMI interference and has strong EMC characteristics；

3. 18-30v DC supply；

4. High speed 24 bit $\sum$-$\triangle$ ADC sampling, each channel more than 500Hz sampling, control output and sampling interval synchronization；

5. Complete sensor fault detection function, such as signal overrun, module sampling fault, sensor line connection fault, etc；

6. Complete communication interface , Standard RS 232 and 485.Optional Ethernet, CAN,etc；

1.2 Safety tips

1. The instrument has anti-interference design. Be sure to ground the instrument reliably and separate it from the AC power supply ground wire;

2. Do not use in flammable gas environment;

3. Avoid direct sunlight;

4. The single drive current of DO shall not exceed 0.2A, and the total drive current shall not exceed 2A。

1.3 Technical parameters and dimensions

Measurement signal	-20mV~20mV, Each can drive 6 load cells with 350 ohm
Sampling frequency	500Hz
Accuracy	III level
Resolution	1/500000
DI/DO	8 DI, 16 DO, Low level active, The single drive current of do shall not exceed 0.2A, and the total drive current shall not exceed 2A;4 AO with 4-20mA
Communication	rs 232,rs 485。Optional with Ethernet or CAN
Nonlinearity	0.005%FS
Power	18-30V DC。Sensor voltage 5V。
Weight	About 0.7kg
Dimensions	226*163*36
Opening size	215*152
Power waste	< 10W
Temperature	-20~+65℃

1.4 I/O
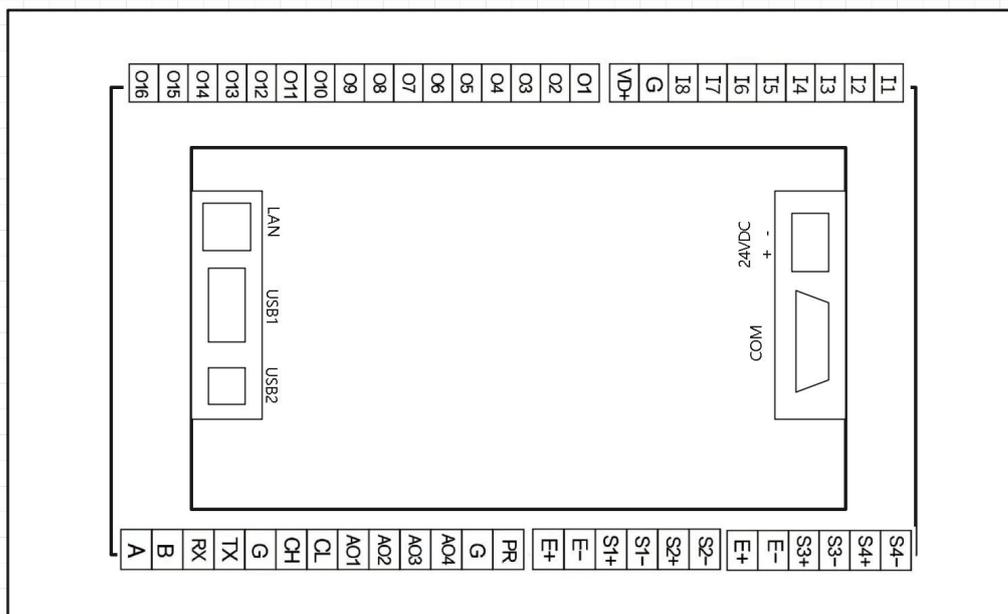
Explain

1：I1-I8 is DI terminal，valid for G，VD + connected to the positive end of the relay;

2：O1-O16 is DO terminal；

3：A , B is 485 interface; RX,TX,G is 232 interface; CH,CL is CAN interface; AO1-AO4 is AO with 4-20 mA, valid for G; PR is for programming, valid for E+, when the instrument is powered on, it will enter the download state;

4：E+,E-,S+,S- are loadcell interface, maximum support 4 channels;

5: LAN is Ethernet interface; Usb1 is a U disk interface, which is used to update programs and export data; USB2 standby;

6: 24VDC is the power interface, 24VDC is recommended; COM is an extended 232 interface. Pins 2, 3 and 5 are R, T and G of 232 respectively, and pins 4 and 9 are A + and B - of 485 interface. These two communication ports are used for expansion, and 232 and 485 on the wiring terminal are preferred;

2 Interface and operation method

2.1 Weighing interface
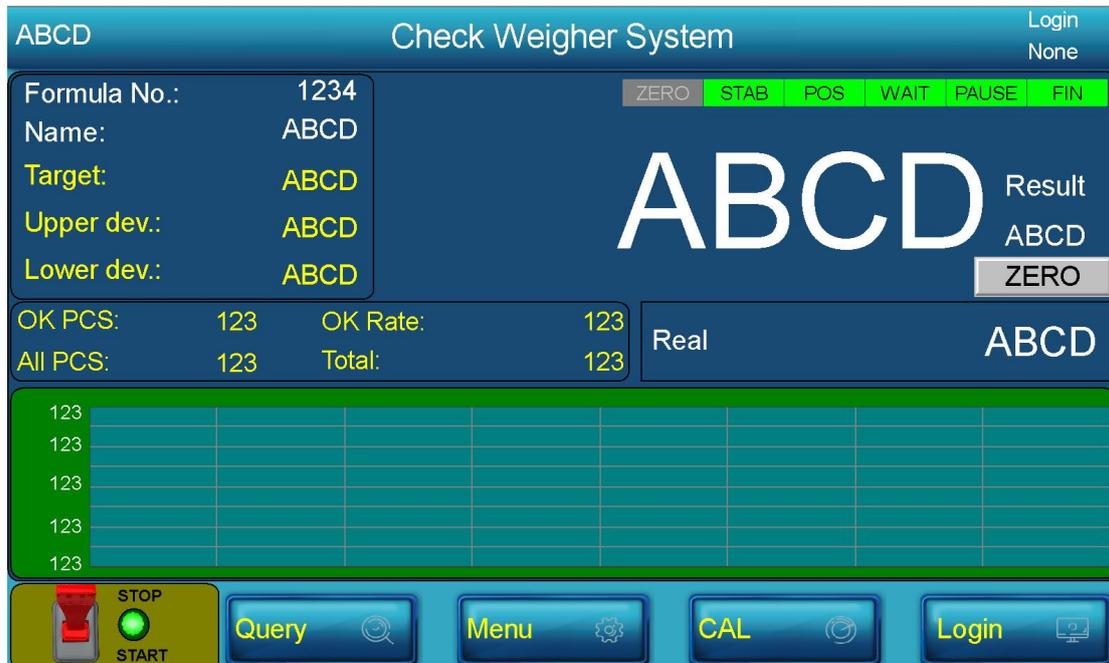
1. START can operate without logging in

2. Other operations need to log in first. The password is 123. When none in the upper right corner disappears, the parameter is operable. Enter password 0, login will be cancelled.

3. The CAL password is 888888.

2.2 Parameter display and setting

2.2.1 System parameter
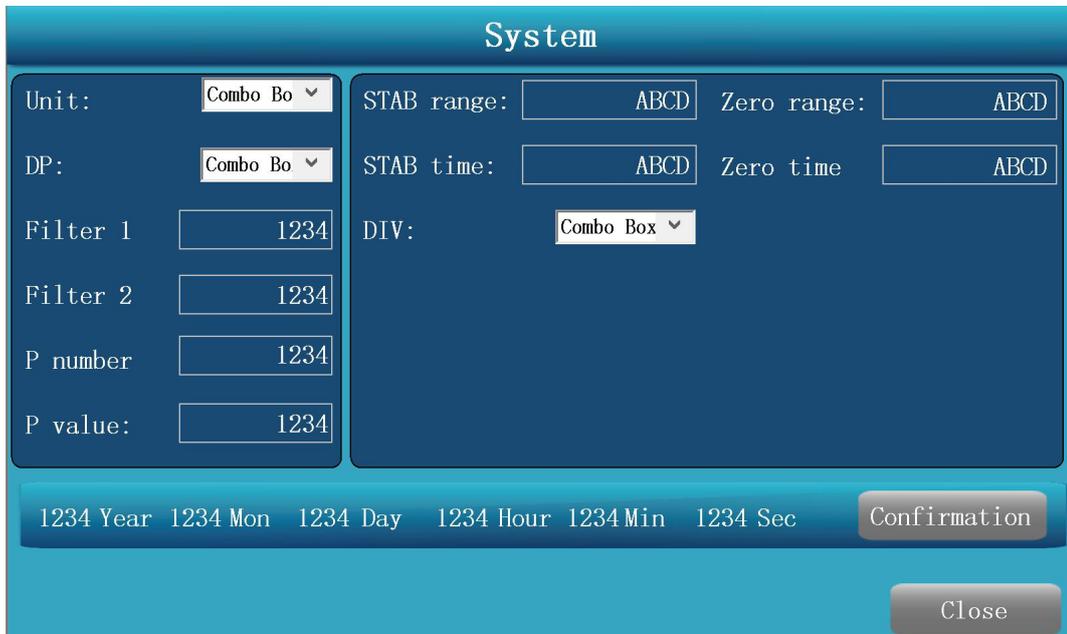
Name	Default(Range)	Describe
Unit	g(g,kg,t,N,kN,lb)	
Dec.Point	1(0-4)	Decimal point setting
DIV	0(0-5)	Division.　0:1　1:2　2:5　3:10　4:20　　5:50。
Filter 1	15(0-19)	The larger the value is, the better the filtering effect is, but the weight display lags behind.For weight display.
Filter 2	10(0-19)	It is used for the cache of duplicate check values. The slower the duplicate check speed is, the larger the value can be set.
P Number		The register number of the parameter can be queried in 3.1.(the number should bigger than 1000)
P value		The parameter value corresponding to the register number.
STAB Range	0.01(0.00-99.99)	When this value is greater than 0, it starts to judge whether it is stable.
STAB Time	0.30(0.00-9.99)	During this time, if the weight change is within the stable range, it will be stable.
Zero Range	0.00(0.00-99.99)	When the value is greater than 0, the auto zero operation is performed.
Zero Time	1.00(0.00-9.99)	During this time, if the weight is within the range and is stable all the time, it will be automatically set to zero. Continuous stability is set to zero only once.

2.2.2　Formula parameter

2.2.3 APP parameter

APP			
APP:	Combo Box ⌄	Null: [ABCD]	NG out delay: [ABCD]
Check set:	Combo Box ⌄	Check delay: [ABCD]	NG out hold: [ABCD]
Check HDL:	Combo Box ⌄	Check time: [ABCD]	RECOV delay: [ABCD]
Value get:	Combo Box ⌄	OK out delay: [ABCD]	Corr. factor: [ABCD]
		OK out hold: [ABCD]	
			Close

Name	Default(Range)	Describe
Null	0.20(0-999.99)	Trigger threshold in weight trigger mode
Check delay	0.10((0-99.99)	Delay detection time after triggering
Check time	1.00((0-99.99)	Length of detection time
OK out delay	0.50((0-500.00)	When OK output, delay this time output
OK out hold	1.00((0-500.00)	OK out holding time
NG out delay	0.50((0-500.00)	When no good output, delay this time output
NG out hold	1.00((0-500.00)	no good out holding time
APP		unused
Check Set	0(0-1)	0：dyn.[dynamic]； 1：sta.[static] If photoelectricity is needed to trigger, one input should be defined as function 3 photoelectricity. If any input is not defined, it is triggered by weight
Check HDL	0(0-2)	0：Delay Run. After getting the result, it starts after the delay of resuming operation 1：OK Run . If it is OK, continue to run, otherwise wait to press start to resume starting 2：Null Run. Restart after less than null
Value Get	1(0-2)	0：AVG[average value]. 1：QOV[optimal value]. 2：STABLE
RECOV delay	1.00(0.00-99.99)	When check mode is static,after the result of weight check, the operation control is resumed after this delay
Corr. factor	1.0000(0.0000-9.9999)	Dynamic correction value

2.2.4   I/O parameter

1: The upper left corner is the sampling value and sampling status, and the upper right corner is the process status to facilitate debugging

2: POS means position; ST means start-stop; Clear is to clear the current results and alarms

2.2.5   COMM parameter

2.2.6 Query data

2.2.7 System calibration

Press the CAL button at the main screen.

Zero：Calibrate the zero

Full：Input the weight on the current scale.

3   Supplementary notes

3.1 modbus Communication protocol

This protocol is compatible with TCP address. The data is 32-bit

Name	Default(Range)	Describe	Address
Weight		Read：Weight Write 0, zero calibration Write more than 0, weight calibration	1
Result		Read: check results	3
State		See Note 1 after the table	5
Total 1		Low value of total	7
Total 2		High value of total。Total=Total 2*1000000000+Total 1	9
PCS			11
AD State		Bit 0: disconnection bit 2: signal overflow bit 3: sampling fault The sampling fault may be an external sensor problem or an instrument sampling module fault	13
AD value			15
DI State		Bit 0 corresponds to DI 1	17
DO State		Bit 0 corresponds to DO 1	19
P number.		The register number of the parameter can be queried in 3.1.(the number should bigger than 1000)	997
P Value		The parameter value corresponding to the register number.	999
Zero			1001
Coefficient			1009
Filter 1	10(0-19)	The larger the value is, the better the filtering effect is, but the weight display lags behind.For weight display and SP3.	1019
Filter 2	15(0-19)	The larger the value is, the better the filtering effect is, but the weight display lags behind.For SP1 and SP2.	1021
DIV	0(0-5)	0:1 1:2 2:5 3:10 4:20 5:50。	1023
STB Range	0.01(0.00-99.99)	When this value is greater than 0, it starts to judge whether it is stable.	1025
STB Time	0.30(0.00-9.99)	During this time, if the weight change is within the stable range, it will be stable.	1027
Creep Range	0.00(0.00-99.99)	When this value is greater than 0, creep correction is carried out.	1029
Creep Time	10.00(0.00-99.99)	In this time, the weight change is in the Creep Range	1031

		and is stable, so the creep correction is carried out.	
Zero Range	0.00(0.00-99.99)	When the value is greater than 0, the auto zero operation is performed.	1033
Zero Time	1.00(0.00-9.99)	During this time, if the weight is within the range and is stable all the time, it will be automatically set to zero. Continuous stability is set to zero only once.	1035
Unit	g(g,kg,t,N,kN,lb)		1067
Dec.Point	1(0-4)	Decimal point setting	1069
APP	0(0-6)	unused	1073
I1 Function	0(0-99)	See 2.2.4 interface parameters for details	1157
I2 Function			1159
I3 Function			1161
I4Function			1163
I5 Function			1165
I6 Function			1167
I7 Function			1169
I8 Function			1171
o1 Function	0(0-99)	See 2.2.4 interface parameters for details	1173
o2 Function			1175
o3 Function			1177
O4 Function			1179
O5 Function			1181
O6 Function			1183
O7 Function			1185
O8 Function			1187
O9 Function			1189
O10 Function			1191
O11 Function			1193
O12 Function			1195
O13 Function			1197
O14 Function			1199
O15 Function			1201
O16 Function			1203
Ao1 Function	0(0-99)	See 2.2.4 interface parameters for details	1205
Ao2 Function	0(0-99)		1207
Ao3 Function	0(0-99)		1209
Ao4 Function	0(0-99)		1211

Explain1：

State   .00bit Run；.01bit stable；.02bit checking；.03bit check over；.04bit running.

3.2 Other communications

Please consult the manufacturer or customize.

3.3   Other functions

If you need the function of Ethernet network, please contact the manufacturer in advance. The configuration and testing tools of Ethernet can be obtained from the manufacturer.

3.4   Print format