



BST106-B60[C] Weighing Controller

For: Auto Checkweigher

Operation Manual V7.2

Changsha Supmeter Technological Co.,Ltd.

Preface

Thank you very much for your purchase!

This manual covers safety precaution, technical specification, operation interface, installation& connection, function&operation and so on. In order to make the product running at its best, please read this manual in advance, and reserve it for the future reading.

The technology update, function enhancement and quality improvement may lead to some differences between this manual and the physical product, please understand.

Without our authorization, the contents of this manual are not allowed to be copied and reproduced.

Main Features:

- ◇ Suitable for Auto Checkweigher.
- ◇ Optional Weight-checking Trigger Mode: Weight Trigger Mode and Switch Trigger Mode.
- ◇ Optional Weight-checking Mode: Dynamic Weight-checking Mode and Static Weight-checking Mode.
- ◇ Batch Counting, Weight Totalizing and DO outputs of 5 Sorting Areas (Normal/Uppermost Limit/Upper Limit/Lower Limit/Lowest Limit) available.
- ◇ Optional 'Auto Enter Weight-checking State after Power-on' function.
- ◇ The weight-checking process can be controlled by DI push button and Command from communication port.
- ◇ EMC design with high anti-jamming capability, suitable for industrial environment.
- ◇ 6+8 Red LED digital tubes for English character and digit display.
- ◇ Optional English keypad, Simplified Chinese keypad and Complex Chinese keypad.
- ◇ Menu&Shortcut mode operation with key tone.
- ◇ 24-bit High-precision and high-speed Σ - Δ A/D conversion module with 1/1,000,000 internal resolution and sampling frequency 400Hz.
- ◇ Special anti-vibration digital filtering algorithm for ensuring the weighing stability and accuracy when there is strong vibration on the load receptor, and the rapid response capability when the weight signal changes.
- ◇ Max. Connection Quantity: 4 Loadcells (350 Ω).
- ◇ Auto Zero Initial Calibration after Power-on, Auto Zero Tracking, Zero Fine Adjustment, Zero Calibration and Load Calibration functions available.
- ◇ Optional Data Calibration function.
- ◇ Auto-locking, Key-locking, Key-unlocking, Digital Setting&Calibration and I/O Testing functions available.
- ◇ 6 Normally open switch inputs [DI] and 8 normally open transistor switch outputs [DO].
- ◇ 1 Optional and definable analog signal output [AO: 4~20mA].
- ◇ Optional RS232 or RS485 communication ports for linking to Host IPC/PLC and LED Remote Display.
- ◇ 'Target Batch Finished' alarm function available.
- ◇ The Batch Count and Totalized Weight of each Sorting Area can be queried.
- ◇ With the multitasking mode, the weighing&control process will not be interrupted by parameter setting and the other operations.

Contents

1. SAFETY PRECAUTION	4
2. TECHNICAL SPECIFICATION	5
3. OPERATION INTERFACE	7
3.1 OPERATION INTERFACE DIAGRAM.....	7
3.2 KEYPAD OPERATION.....	8
3.3 STATE INDICATION.....	9
3.4 ALARM SIGN	10
4. INSTALLATION&CONNECTION	11
4.1 INSTALLATION	11
4.2 TERMINAL	12
4.3 DI/DO FUNCTION DEFINITION	14
4.4 TYPICAL APPLICATIONS	15
4.4.1 DI/DO Connection for Typical Application.....	15
4.4.2 Typical Application 1: Weight Trigger Mode	16
4.4.3 Typical Application 2: Switch Trigger Mode	17
4.4.4 Working Timing Diagram.....	18
5. OPERATION PROCEDURE	19
6. FUNCTION&OPERATION	20
6.1 MAIN DISPLAY INTERFACE.....	20
6.1.1 Gross/Net Weight, Sorting Area, Checking Weight.....	20
6.1.2 Gross/Net Weight, Total Totalized Weight ['t']	20
6.1.3 Gross/Net Weight, Total Batch Count ['P']	21
6.1.4 Gross/Net Weight , AO Output Value ['Ao'].....	21
6.2 MAIN MENU.....	22
6.3 F1-SET PARAMETER SETTING.....	24
6.3.1 Weighing Parameters (SCAL)	24
6.3.2 Calibration Parameters (CALP).....	26
6.3.3 Setpoint Parameters (SEtP)	28
6.3.4 Working Mode Parameters (APPL).....	29
6.3.5 Timer Parameters (-tI-).....	30
6.3.6 Communication Parameters (SErP).....	31

6.3.7 Display Parameters (dISP)	33
6.3.8 A Sample of Parameter Setting.....	34
6.4 F2-CAL SYSTEM CALIBRATION	35
6.4.1 Zero Calibration (ZEro).....	35
6.4.2 Data Calibration (dAtA).....	36
6.4.3 Load Calibration (LoAd).....	38
6.5 F3-REC DATA QUERY	39
6.6 F4-CLN DATA CLEARING	40
6.7 F5-LOC KEY-LOCKER.....	41
6.7.1 Key-unlocking (oPEn).....	41
6.7.2 Key-locking (Locc)	41
6.7.3 Password Set (PASS).....	42
APPENDIX A. REGISTER TABLE OF HOST-SLAVE MODBUS[ASCII/RTU].....	43
APPENDIX B. DATA FRAME FORMAT OF CONTINUOUS SENDING [ASCII].....	46



1. Safety Precaution

- **Prohibit using the product under dangerous environment**

Prohibit using the product under the dangerous environment with combustible gas and explosive dust. If you have this need, please use our explosion-proof products.

- **Avoid using the product under overheated environment**

Make sure that the product works under the environment with allowed temperature range to get good performance and long working life.

Please keep the product away from direct sunlight. If it is installed in a cabinet, please install cooling fans on the top of the cabinet.

- **Controller Grounding Protection**

The product, as a low-voltage equipment, should be kept away from the high-voltage equipments.

For avoiding bodily injury from electric shock accident and keeping the product separate from strong interference, the metal shell of the product should be grounded directly and the ground resistance should be less than 4Ω .

- **Scale Frame Grounding Protection**

For avoiding bodily injury from electric shock accident and keeping the loadcells separate from strong interference, the scale frame should be connected with the electronic scale grounding net and the ground resistance should be less than 4Ω .

- **Cable Laying**

Weighing signal, analog signal and communication signal cables should be laid in pipes, and do not lay them together with power cables.

- **Power Supply**

Please make sure that the inputted voltage is correct before power-on.

- **Environmental Protection**

Although the product is made of the lead-free components, after used in the industrial environments, it's possible to be polluted. So, while being discarded as worthless, the product should be processed lawfully as leady industrial waste for environment protection.

- **Other Notes**

The installation, wiring and maintenance should be operated by the engineers with the relevant professional knowledge and safety operation ability. Although being not described in this manual, the relevant safety operating procedures and standards should be followed.

2. Technical Specification

- Executing Standard
 - ✧ CMC GB/T 7724-2008 《Electronic Weighing Meter》 PRC National Standard.
 - ✧ OMIL R76: 2006 《Non-automatic Weighing Instruments》 International Recommendation.
 - ✧ Accuracy Grade: **III** .
 - ✧ Number of Verification Intervals: 5,000.
 - ✧ Static Weighing Accuracy: 0.2‰.

- Display
 - ✧ 6+8 Red LED digital tubes for for English character and digit display.
 - ✧ Weight Display Range: -99,999~+999,999.
 - ✧ Scale Capacity: Setting Range 1~999,999.
 - ✧ Scale Division: Optional 1, 2, 5, 10, 20, 50, 100, 200, 500.
 - ✧ Display Resolution: 1/100,000.
 - ✧ Weight Unit: Optional kg, t, g, none.
 - ✧ Decimal Point: Optional 0, 0.0, 0.00, 0.000, 0.0000.
 - ✧ Display Refreshing Time: Setting Range 0.01~1.00s.

- Keypad
 - ✧ Optional 4-key English keypad, Simplified Chinese keypad and Complex Chinese keypad.
 - ✧ Menu&Shortcut mode operation with key tone.

- Loadcell Interface
 - ✧ Excitation Voltage/Max. Current: DC9V/120mA [4-350Ω loadcells].
 - ✧ Signal Input Range: 0~22.5mV.
 - ✧ Output Sensitivity of Loadcell: 1.0~2.5mV/V.
 - ✧ 24-bit Σ - Δ ADC with internal resolution 1/1,000,000.
 - ✧ Sampling Frequency: 400Hz.
 - ✧ Special anti-vibration digital filtering algorithm.
 - ✧ Zero Drift: $\pm 0.1\mu\text{V}/^\circ\text{C}$ RTI (Relative to Input).
 - ✧ Gain Drift: $\pm 5\text{ppm}/^\circ\text{C}$.
 - ✧ Non-linearity: 0.005%FS.

- Switch&Analog Signal Interface
 - ✧ 6 Normally Open Switch Inputs [DI].
 - ✧ 8 Normally Open Transistor Switch Outputs [DO]: DC24V, 250mA.
 - ✧ 1 Optional&Definable Analog Signal Output [AO]: 4~20mA, Non-linearity: 0.05%FS.

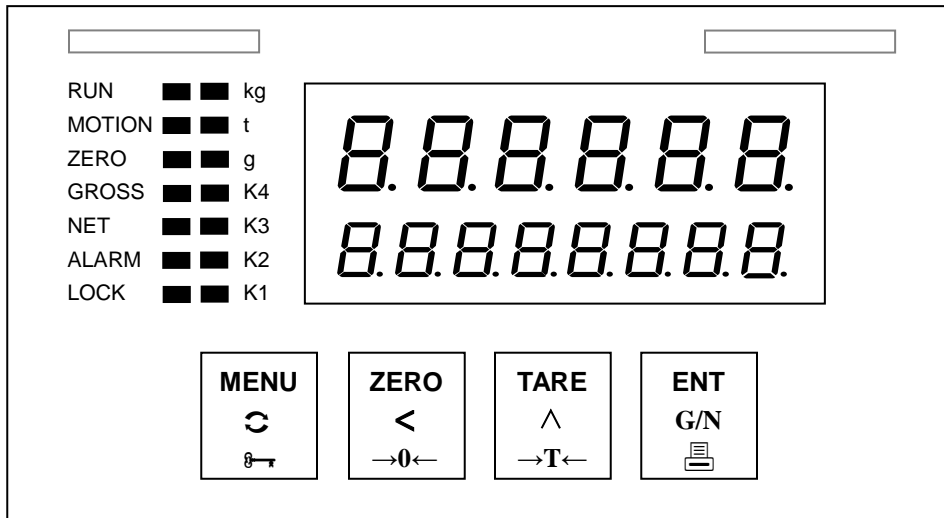
- Digital Communication Interface
 - ✧ COM1: Fixed configuration RS485&RS232. Free to select one of them via internal dip switch.
 - ✧ Connectable: Host IPC/PLC and LED Remote Display.

□ Operating Specifications

- ◇ Operating Voltage: DC24V±20%.
- ◇ Max. Power Consumption: 5W.
- ◇ Outline Size: 110×62×150mm [W×H×D].
- ◇ Panel Cut-out Size: 94×47 mm [W×H].
- ◇ Operating Temperature: -25°C to +40°C.
- ◇ Storage Temperature: -30°C to +60°C.
- ◇ Relative Humidity: Max. 85%RH.
- ◇ Protection Level of Front Panel: IP65.
- ◇ Weight: Approx. 0.5kg.

3. Operation Interface

3.1 Operation Interface Diagram



3.2 Keypad Operation

If there is not any keypad operation in one minute and it's not in the processes of 'F2 Calibration' & 'F6 Factory Adj.', the controller will return to 'Main Display Interface' automatically.

Menu Operation	
Key Name	Description
【MENU】	Enter Main Menu. Exit.
【ENT】	Enter. Save. Alarm Acknowledge.
【◀】	Cursor shifts left. Display the previous option.
【▲】	Display the next interface or option. Digit input: +1 (0~9 loop).
Quick Operation	
【⏏】 *	◇ Key-locking. ◇ Key-unlocking.
【◀】 (【SET】)	Setpoint parameters setting.
【ZERO】 【→0←】 *	◇ [-ZEro-]: Zero Calibration with Power-down Protection and Clearing Tare Weight. ◇ [=ZEro=] Zero Fine Adjustment without Power-down Protection and without Clearing Tare Weight. ◇ The controller will switch to Gross Weight display.
【TARE】 【→T←】 *	◇ [=tArE=]: Manual Tare without Power-down Protection. ◇ [-PStr-]: Preset Tare Weight with Power-down Protection. ◇ [-rStr-]: Clear Tare Weight with Power-down Protection. ◇ The controller will switch to Net Weight display.
【G/N】	Gross Weight / Net Weight display switch.

*: Keep the key pressed for 2 seconds.

3.3 State Indication

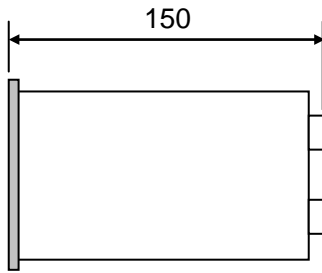
LED light	Description
[RUN]	ON: Weight-checking state. OFF: Stop or Calibrating state.
[MOTION]	Weight Dynamic Changing: Weight Variance per [107] 'Stablity Judging Time' is exceeding [106] 'Stablity Judging Range'.
[ZERO]	Net Weight value \leq Non-load Zero Range.
[GROSS]	Gross Weight display.
[NET]	Net Weight display.
[ALARM]	OFF: $HI \leq$ Checking Weight \leq LO.
[LOCK]	ON: Key-locked. OFF: Key-unlocked.
[kg/t/g]	Weight Unit.
[K4]	Checking Weight $>$ HH.
[K3]	$HI <$ Checking Weight \leq HH.
[K2]	$LL \leq$ Checking Weight $<$ LO.
[K1]	Checking Weight $<$ LL.

3.4 Alarm Sign

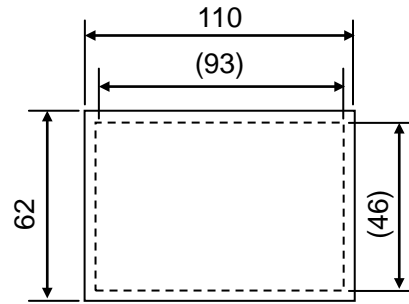
Sign	Alarm Cause	Solution
Err1	RAM Failure.	Replace the chip RAM.
Err2.1 Err2.2	EEPROM Failure.	Replace the chip EEPROM.
Err3	Signal Reversed. Not connected.	Connect the loadcell correctly.
Err4	ADC Failure.	Replace the ADC module.
oV-Ad	Over ADC Range.	Weighing signal exceeds A/D conversion range. 1. Check if the loadcell is connected. 2. Check if the capacity of loadcell is too small. 3. Check if the loading weight is too big.
oL	Overload Alarm.	Gross Weight > (Scale Capacity + 9 × Scale Division). 1. Check if the loadcell is connected. 2. Check if the capacity of loadcell is too small. 3. Check if the loading weight is too big.
bAt-End	Target Batch finished.	Refer to parameter [206] 'Target Batch'. Clear Screen to clear the message.
oV-tr	Not meet the condition of Maunal Tare.	When Gross Weight is at the state with negative value display, overload alarm or dynamic variation, 'Manual Tare' will be invalid.
oV-nZ	Over 'Zero Fine Adjusting Range'.	Refer to parameter [123] 'Zero Fine Adjusting Range'.
HEAt	Preheating Time Countdown [min.sec].	Refer to parameter [128] 'Auto Zero Initial Calibration after Power-on', [129] 'Auto Zero Initial Calibrating Time' and
oV-Zr	Over 'Auto Zero Initial Calibrating Range'.	[130] 'Auto Zero Initial Calibrating Range'. Wait for the preheating time over or press any key to exit.

4. Installation&Connection

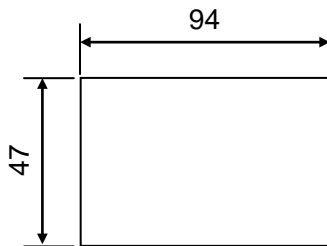
4.1 Installation



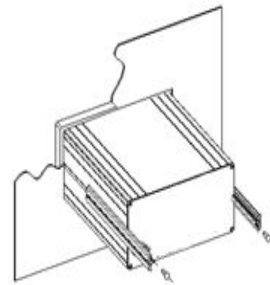
Outline Size



Front Panel Size



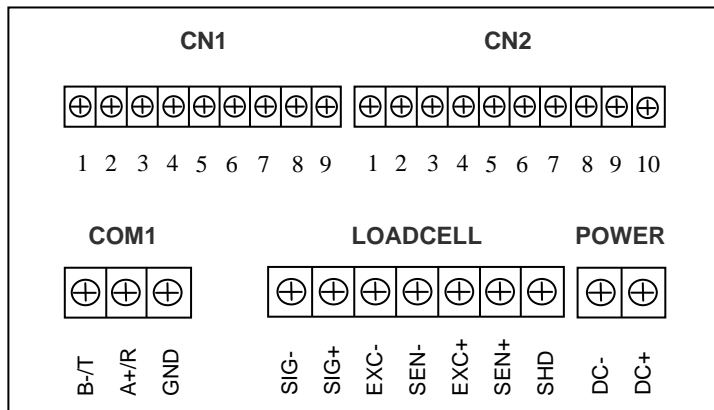
Panel Cut-out Size



Installation Mode

Outline Size W×H×D[mm]	Front Panel Size W×H[mm]	Box Body Size W×H[mm]	Panel Cut-out Size W×H[mm]
110×62×150	110×62	93×46	94×47

4.2 Terminal



No.	Pin	Description	
LOADCELL		Loadcell Port	
Connection Mode		6-Wire	4-Wire
Internal Dip Switch S4		S4 → 【6-WIRE】	S4 → 【4-WIRE】 [Default Set]
1	SIG-	Weighing Signal [mV] Input -.	Weighing Signal [mV] Input -.
2	SIG+	Weighing Signal [mV] Input +.	Weighing Signal [mV] Input +.
3	EXC-	Excitation Voltage -.	Excitation Voltage -.
4	SEN-	Feedback Voltage -.	
5	EXC+	Excitation Voltage + [DC9V].	Excitation Voltage + [DC9V].
6	SEN+	Feedback Voltage +.	
7	SHD	Shield Ground.	Shield Ground.
COM1		RS485/RS232 Digital Communication Port	
Internal Dip Switch S3		S3 → 【RS485】	S3 → 【RS232】 [Default Set]
1	B-/T	B-: Data -.	TXD: Transmit Data.
2	A+/R	A+: Data +.	RXD: Receive Data.
3	GND	Shield Ground.	Signal Ground / Shield Ground.
POWER		DC24V[±20%] Power Input Port	
1	DC-	DC Input -.	
2	DC+	DC Input +.	
The metal shell should be grounded directly to avoid electric shock.			

No.	Pin	Description
CN1 [DI/AO]		Switch Signal Input / Analog Output Port
DI		Switch Signal Input
1	COM	DI Common Terminal [DC-].
2	DI1	Switch Signal Input 1.
3	DI2	Switch Signal Input 2.
4	DI3	Switch Signal Input 3.
5	DI4	Switch Signal Input 4.
6	DI5	Switch Signal Input 5.
7	DI6	Switch Signal Input 6.
AO		Analog Output [Definable]
8	AO+	4~20mA Output +.
9	AO-	4~20mA Output -.

No.	Pin	Description
CN2 [DO]		Transistor Switch Signal Output Port
1	V-	DC24V Input -. DO Common Terminal.
2	DO1	Normally Open Contact Output 1.
3	DO2	Normally Open Contact Output 2.
4	DO3	Normally Open Contact Output 3.
5	DO4	Normally Open Contact Output 4.
6	DO5	Normally Open Contact Output 5.
7	DO6	Normally Open Contact Output 6.
8	DO7	Normally Open Contact Output 7.
9	DO8	Normally Open Contact Output 8.
10	V+	DC24V Input +.
Contact Capacity of Transistor Switch: DC24V, 250mA.		

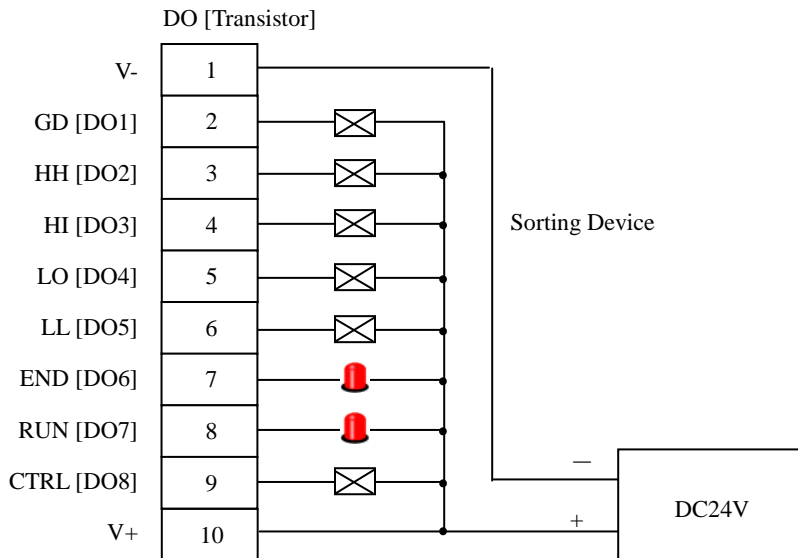
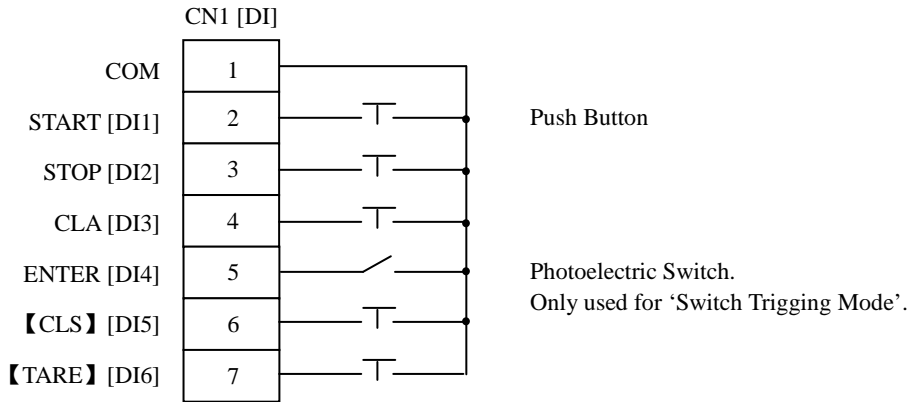
4.3 DI/DO Function Definition

CN1 [DI]			
No.	Pin	Signal Name	Description
1	COM	COM	DI Common Terminal [DC-].
2	DI1	START	Start Weight-checking Process. OFF→ON→OFF.
3	DI2	STOP	Stop Weight-checking Process. OFF→ON→OFF.
4	DI3	CLA	Alarm Acknowledge.
5	DI4	ENTER	Unchecked Product Enter Weigher. OFF→ON: The unchecked product has already entered the weigher. Only used for 'Switch Trigger Mode'.
6	DI5	【CLS】	Clear Screen. OFF→ON→OFF
7	DI6	【TARE】	TARE switch. OFF→ON.

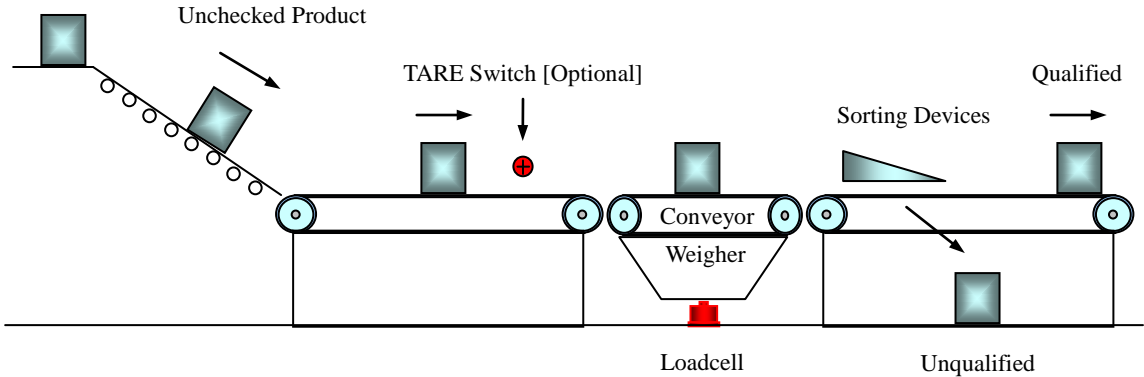
CN2 [Transistor DO]			
No.	Pin	Signal Name	Description
1	V-	V-	DC24V Input -. DO Common Terminal.
2	DO1	GD	Sorting Area GD [Normal]. $HI \leq \text{Checking Weight} \leq LO$.
3	DO2	HH	Sorting Area HH [Uppermost Limit]. Checking Weight > HH.
4	DO3	HI	Sorting Area HI [Upper Limit]. $HI < \text{Checking Weight} \leq HH$.
5	DO4	LO	Sorting Area LO [Lower Limit]. $LL \leq \text{Checking Weight} < LO$.
6	DO5	LL	Sorting Area LL [Lowest Limit]. Checking Weight < LL.
7	DO6	END	Weight-checking Finished.
8	DO7	ZERO	Non-load Zero Range. Net Weight \leq Non-load Zero Range.
9	DO8	CTRL	Start&Stop Weighing Conveyor.
10	V+	V+	DC24V Input +.

4.4 Type Applications

4.4.1 DI/DO Connection for Typical Application



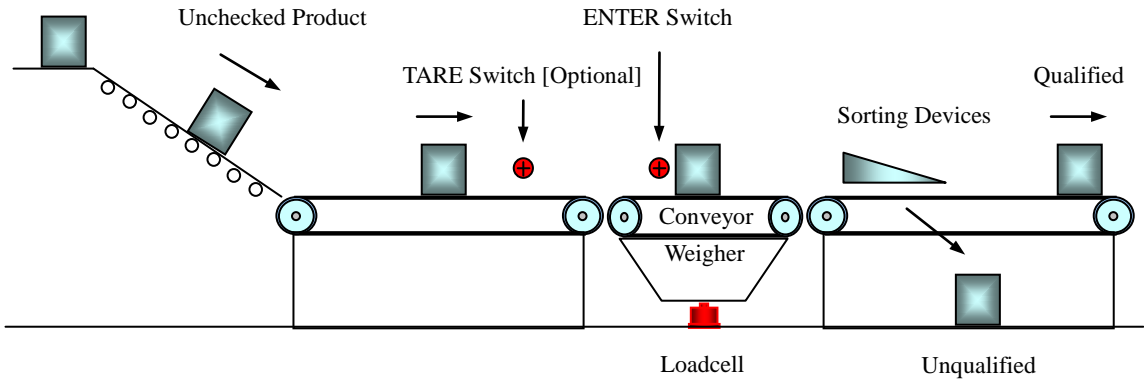
4.4.2 Typical Application 1: Weight Trigger Mode



Basic Requirements:

- ✧ Set the parameter [300] 'Weight-checking Trigger Mode' to '0: Weight Trigger Mode'.
- ✧ Dynamic Weight-checking Mode
 - ✓ Set the parameter [301] 'Weight-checking Mode' to '0: Dynamic Weight-checking Mode'.
 - ✓ After 'Net Weight > Non-load Zero Range' and then 'Waiting Time for Stabilizing Weight T1' delayed, the Weight-checking process will be triggered, and the weigher conveyor will keep on running state, and then the Weight-checking result will be displayed after 'Weight-checking Time T2'.
- ✧ Static Weight-checking Mode
 - ✓ Set the parameter [301] 'Weight-checking Mode' to '1: Static Weight-checking Mode'.
 - ✓ The output switch DO8 is used for controlling the weigher conveyor.
 - ✓ After 'Net Weight > Non-load Zero Range' and then 'Waiting Time for Stabilizing Weight T1' delayed, the weigher conveyor will stop running and the Weight-checking process will be triggered, and then the Weight-checking result will be displayed after 'Weight-Checking Time T2'. If the Weight-checking result is in the range of 'Sorting Area GD', the conveyor will restore to run automatically; otherwise, it's necessary to press the button 'START' for making the conveyor run again
- ✧ Set the parameters [302] 'Non-load Zero Range' and [400] 'Waiting Time for Stabilizing Weight T1' properly for ensuring the the weight of the unchecked product has already been on the platform and eliminating the effect of impact and vibration (caused in the process of the unchecked products entering the weigher) on the weight-checking results.
- ✧ Set the parameter [401] 'Weight-Checking Time T2' properly for ensuring there is enough and valid time for weight-checking and the weight of the unchecked product is still acting on the weigher before the weight-checking process ends.

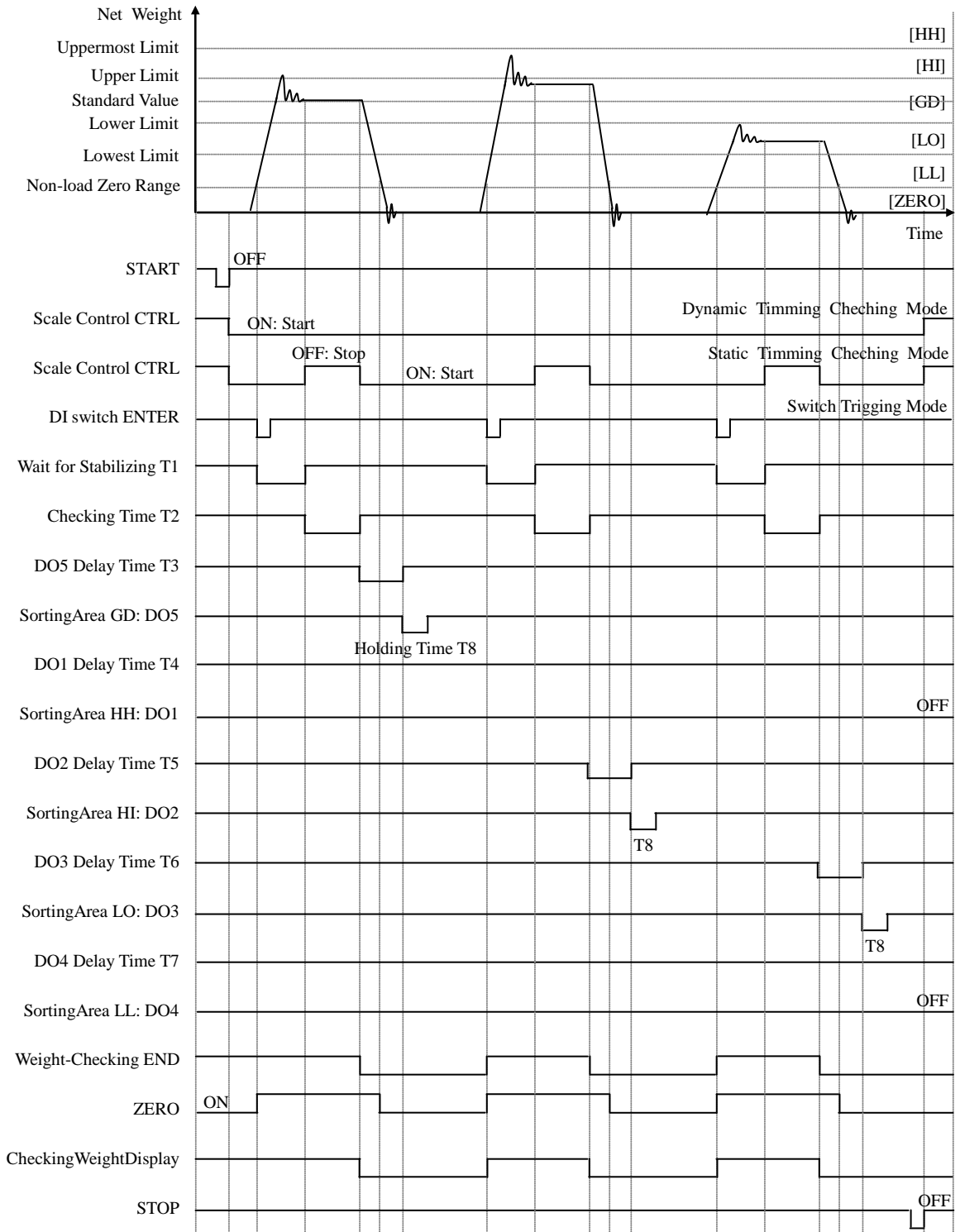
4.4.3 Typical Application 2: Switch Trigger Mode



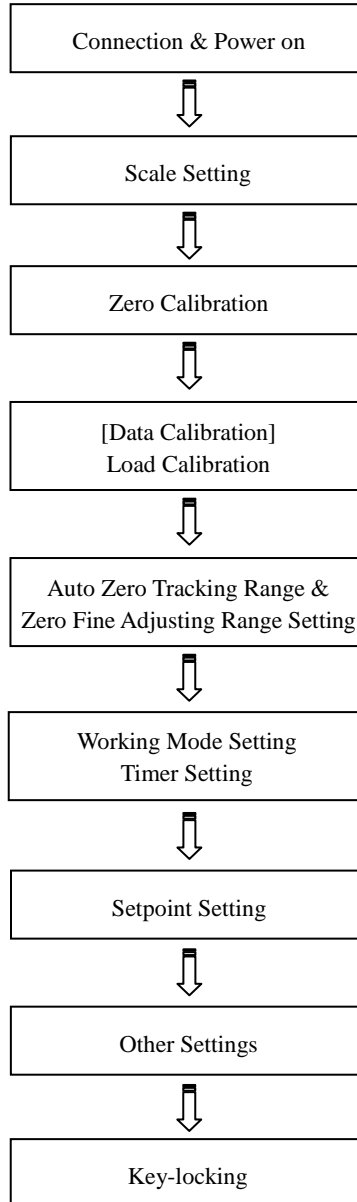
Basic Requirements:

- ✧ Set the parameter [300] 'Weight-checking Trigger Mode' to '1: Switch Trigger Mode'.
- ✧ Dynamic Weight-checking Mode
 - ✓ Set the parameter [301] 'Weight-checking Mode' to '0: Dynamic Weight-checking Mode'.
 - ✓ After the 'ENTER' DI switch turned on and then 'Waiting Time for Stabilizing Weight T1' delayed, the weight-checking process will be triggered, and the weigher conveyor will keep on running state, and then the weight-checking result will be displayed after 'Weight-Checking Time T2' delayed.
- ✧ Static Weight-checking Mode
 - ✓ Set the parameter [301] 'Weight-checking Mode' to '1: Static Weight-checking Mode'.
 - ✓ The output switch DO8 is used for controlling the weigher conveyor.
 - ✓ After the 'ENTER' DI switch turned on and then 'Waiting Time for Stabilizing Weight T1' delayed, the weigher conveyor will stop running and the weight-checking process will be triggered, and then the weight-checking result will be displayed after 'Weight-checking Time T2' delayed. If the weight-checking result is in the range of 'Sorting Area GD', the conveyor will restore to run automatically; otherwise, it's necessary to press the button 'START' for making the conveyor run again.
- ✧ Fix the 'ENTER Switch' in a proper position and set the parameter [400] 'Waiting Time for Stabilizing Weight T1' properly for ensuring the the weight of the unchecked product has already been on the platform and eliminating the effect of impact and vibration (caused in the process of the unchecked products entering the weigher) on the weight-checking results.
- ✧ Set the parameter [401] 'Weight-Checking Time T2' properly for ensuring there is enough and valid time for weight-checking and the weight of the unchecked product is still acting on the weigher before the weight-checking process ends.

4.4.4 Working Timing Diagram



5. Operation Procedure



6. Function&Operation

6.1 Main Display Interface

【G/N】 : Gross Weight / Net Weight display switch.

【▲】 : Display interface switch.

6.1.1 Gross/Net Weight, Sorting Area, Checking Weight

RUN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	kg
MOTION	<input type="checkbox"/>	<input type="checkbox"/>	t
ZERO	<input type="checkbox"/>	<input type="checkbox"/>	g
GROSS	<input type="checkbox"/>	<input type="checkbox"/>	K4
NET	<input checked="" type="checkbox"/>	<input type="checkbox"/>	K3
ALARM	<input type="checkbox"/>	<input type="checkbox"/>	K2
LOCK	<input type="checkbox"/>	<input type="checkbox"/>	K1

8.8.49.90
gd8.8.49.90

≡: Real-time Weight Value.
 gd: Sorting Area GD [Normal].
 HH: Sorting Area HH [Uppermost Limit].
 HI: Sorting Area HI [Upper Limit].
 Lo: Sorting Area LO [Lower Limit].
 LL: Sorting Area LL [Lowest Limit].

6.1.2 Gross/Net Weight, Total Totalized Weight ['t']

RUN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	kg
MOTION	<input type="checkbox"/>	<input type="checkbox"/>	t
ZERO	<input type="checkbox"/>	<input type="checkbox"/>	g
GROSS	<input type="checkbox"/>	<input type="checkbox"/>	K4
NET	<input checked="" type="checkbox"/>	<input type="checkbox"/>	K3
ALARM	<input type="checkbox"/>	<input type="checkbox"/>	K2
LOCK	<input type="checkbox"/>	<input type="checkbox"/>	K1

8.8.49.90
t49900.00

t: Total Totalized Weight (0~9999999)

6.1.3 Gross/Net Weight, Total Batch Count ['P']

RUN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	kg
MOTION	<input type="checkbox"/>	<input type="checkbox"/>	t
ZERO	<input type="checkbox"/>	<input type="checkbox"/>	g
GROSS	<input type="checkbox"/>	<input type="checkbox"/>	K4
NET	<input checked="" type="checkbox"/>	<input type="checkbox"/>	K3
ALARM	<input type="checkbox"/>	<input type="checkbox"/>	K2
LOCK	<input type="checkbox"/>	<input type="checkbox"/>	K1

0.0 49.90

P 0.0.0 1000

P: Total Batch Count (0~9999999)

6.1.4 Gross/Net Weight , AO Output Value ['Ao']

RUN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	kg
MOTION	<input type="checkbox"/>	<input type="checkbox"/>	t
ZERO	<input type="checkbox"/>	<input type="checkbox"/>	g
GROSS	<input type="checkbox"/>	<input type="checkbox"/>	K4
NET	<input checked="" type="checkbox"/>	<input type="checkbox"/>	K3
ALARM	<input type="checkbox"/>	<input type="checkbox"/>	K2
LOCK	<input type="checkbox"/>	<input type="checkbox"/>	K1

0.0 49.90

Ao 0.0.0 1.198

AO: 4.00~20.00mA

6.2 Main Menu

Main Menu		Second Menu	
Sign	Function	Sign	Description
F1-SEt	Parameter Setting	-SCAL-	Scale parameters setting.
		-CALP-	Calibration parameter setting.
		-SEtP-	Setpoint parameters setting.
		-APPL-	Working mode parameters setting.
		--tI--	Timer parameters setting.
		-SErP-	Communication parameters setting.
		-dISP-	Display and operation interface parameters setting.
F2-CAL	System Calibration	-ZEro-	Zero Calibration without loading on the weigher to correct Zero Value.
		-dAtA-	Data Calibration: Input the specification parameter values of loadcell [Total Capacity and Output Sensitivity] according to the actual configuration of the weighing system to correct Span Coefficient. If there is no access to get the specification parameter values for Data Calibration, then it's necessary to do Load Calibration.
		-LoAd-	Load Calibration: After doing Data Calibration, if there are conditions for Load Calibration, do Load Calibration with loading standard weight on the weigher to correct Span Coefficient further for higher weighing accuracy.
F3-rEC	Data Query		Query Totalized Weight and Batch Count of each Sorting Area.
F4-CLn	Data Clearing	--CLS-	Clear Screen: Clear Checking Weight, Batch Count and Totalized Weight.
F5-Loc	Key-locker	-oPEn-	Key-unlocking.
		-Locc-	Key-locking.
		-PASS-	Password Set. Exfactory Passwords: ✧ Operator Password: 000000. ✧ Administrator Password: 000001.

Main Menu		Second Menu	
Sign	Function	Sign	Description
F6-FAC	Factory Adjustment	Special for manufacturer.	
		-SPAN-	Exfactory Span Adjustment: Use standard weighing test equipment to adjust the weighing signal interface for normalizing Span Coefficient to 1.
		-AdtS-	AD Value of Weighing Signal Linearity Test.
		-AoZF-	AO Zero/Full Adjustment.
		-AotS-	AO Linearity Test.
		-dotS-	DO Output Test.
		-dItS-	DI Input Test.
		-dEFU-	RAM Reset: Reset to factory defaults.
		-dStS-	Display/DO Reliability Test.
F7-InF	Product Information	Only for query.	
		--VEr-	Version No.
		--Sn--	Serial No.
		-dAtE-	Exfactory Date.
F8-Aud	Audit Trail	Only for query.	
		-Cntr-	Operation Audit Trail Counter [0~999999].
		-oPtr-	Operation Trail. ✧ nonE: No Operation. ✧ SCAL: Scale Setting. ✧ dEFU: RAM Reset.

6.3 F1-SET Parameter Setting

6.3.1 Weighing Parameters (SCAL)

No.	Sign	Range	Default	Description	Set
100	UnIt	0~3	1	Weight Unit 0: None 1: kg 2: t 3: g	
101	dot	0~4	000.00	Decimal Point 0: 00000 1: 0000.0 2: 000.00 3: 00.000 4: 0.0000	
102	SCAL	1~999999	10000	Scale Capacity Max. loading weight of the load receptor. Scale Capacity \leq (Loadcell Capacity \times Loadcell Quantity) – Load Receptor Weight. When ‘Weight value = Scale Capacity’, AO of weight signal will output current 20mA.	
103	dIV	1~500	1	Scale Division 1, 2, 5, 10, 20, 50, 100, 200, 500	
104	ZERo	-20000~ +999999	0 [*]	Zero Value Only for query.	
105	SPAn	>0	1.0000 [*]	Span Coefficient Max. display value: 99.9999. Only for query.	
106	Stb.r	0~500	1	Stablity Judging Range [Division] Set value = 0: No ‘Stablity Judging’. Set value > 0: Weight Variance per [107] ‘Stablity Judging Time’ being in [106] ‘Stablity Judging Range’ means ‘Weight is stable’.	
107	Stb.t	0.5~5.0	1.0	Stablity Judging Time [s]	

[*]: ‘RAM Reset’ operation has no effect on the parameter.

No.	Sign	Range	Default	Description	Set	
108	FrE	400	400	Sampling Frequency [Hz] 400		
109	FILt	0~9	1	Anti-Vibration Digital Filter		
				Digit	Cutoff Frequency	
				0	None	
				1	11.2Hz	
				2	8.0Hz	
				3	5.6Hz	
				4	4.0Hz	
				5	2.8Hz	
				6	2.0Hz	
				7	1.4Hz	
				8	1.0Hz	
				9	0.7Hz	
110	StAb	5~20	10	Sample Number for Checking-Weight Stability Judgement		

6.3.2 Calibration Parameters (CALP)

No.	Sign	Range	Default	Description	Set
120	AZt.P	0~1	0	Auto Zero Tracking Permission 0: <i>oFF</i> 1: <i>on</i> (Only when weight is stable, Auto Zero Tracking will be allowed. Refer to Parameter [106]/[107])	
121	AZt.t	1~10	1	Auto Zero Tracking Time T [s] T = Set value × [107] Stability Judging Time.	
122	AZt.r	0.1~50.0	0.2	Auto Zero Tracking Range [Division] Zero Tracking Rate = [122] / [121]. Suggestion: Zero Tracking Rate ≤ 0.5[Division/s].	
123	nZ	0~50000	50	Zero Fine Adjusting Range If Gross Weight variation caused by Zero Value changing is within this range, 'Zero Fine Adjustment' will be valid. Suggestion: Set value ≤ (Scale Capacity × 4%).	
124	LoAd	1~999999	10000	Calibrating Weight Loading Weight for Span Calibration.	
125	totL	1~999999	12000 [*]	Total Capacity of Loadcells Total Capacity of Loadcells = Loadcell Capacity × Loadcell Number. Only for query.	
126	SEnS	0.5000 ~5.0000	2.0000 [*]	Output Sensitivity of Loadcell [mV/V] Only for query.	
127	Ao.Er	-2.00~+2.00	0.00	AO Offset Value [mA] Try to change 'AO Offset Value' for making the AO current display value of the AO receiving terminal the same as that of the controller. If the AO current display value of the AO receiving terminal is smaller than that of the controller because of signal attenuating, the 'AO Offset Value' should be set to positive value. If the AO current display value of the AO receiving terminal is bigger than that of the controller because of interference signal superposing, the 'AO Offset Value' should be set to negative value. 【▲】 : Optional '0' or '-' (negative sign) at the highest bit.	

[*]: 'RAM Reset' operation has no effect on the parameter.

No.	Sign	Range	Default	Description	Set
128	InI.Z	0~1	0	Auto Zero Initial Calibration after Power-on <i>0: oFF</i> <i>1: on</i> [without Power-down Protection]	
129	InI.t	0~1800	10	Auto Zero Initial Calibrating Time [s]	
130	InI.r	0~50000	50	Auto Zero Initial Calibrating Range Suggestion: Set value \leq (Scale Capacity \times 20%).	

6.3.3 Setpoint Parameters (SEtP)

No.	Sign	Range	Default	Description	Set
201	SEt	0~60000	5000	<p>Stardand Weight of Unchecked Product</p> <p>Used as the reference of the parameters [202]~[205] setting, but not used in the process of Weight-checking.</p> <p>Suggestion: $HI < \text{set value} < LO$.</p>	
202	HH	0~60000	6000	<p>Uppermost Limit of Checking Weight</p> <p>When 'Checking Weight > HH', 'Sorting Area HH' DO2 switch will turn on automatically.</p>	
203	HI	0~60000	5010	<p>Upper Limit of Checking Weight</p> <p>When 'HI < Checking Weight \leq HH', 'Sorting Area HI' DO3 switch will turn on automatically.</p> <p>When 'HI \leq Checking Weight \leq LO', 'Sorting Area GD' DO1 switch will turn on automatically.</p>	
204	LO	0~60000	4990	<p>Lower Limit of Checking Weight</p> <p>When 'LL \leq Checking Weight < LO', 'Sorting Area LO' DO4 switch will turn on automatically.</p>	
205	LL	0~60000	4000	<p>Lowest Limit of Checking Weight</p> <p>When 'Checking Weight < LL', 'Sorting Area LL' DO5 switch will turn on automatically.</p>	
206	PCS	0~999999	0	<p>Target Batch</p> <p>Set value = 0: No judging 'Target Batch Finished'.</p> <p>Set value > 0: After Batch Count reached to this set value, the controller will display prompt message.</p>	

6.3.4 Working Mode Parameters (APPL)

No.	Sign	Range	Default	Description	Set
300	bEgn	0~1	0 [*]	<p>Weight-checking Trigger Mode</p> <p>0: <i>Weight Trigger Mode</i> [After 'Net Weight > Non-load Zero Range' and then 'Waiting Time for Stabilizing Weight T1' delayed, the Weight-checking process will be triggered]</p> <p>1: <i>Switch Trigger Mode</i> [After the 'ENTER' DI switch turned on and then 'Waiting Time for Stabilizing Weight T1' delayed, the Weight-checking process will be triggered]</p>	
301	CHC.E	0~1	0 [*]	<p>Weight-checking Mode</p> <p>0: <i>Dynamic Weight-checking Mode</i> [The weigher conveyor will keep on running state in the weight-checking process. And the weight-checking result will be displayed after 'Weight-checking Time T2']</p> <p>1: <i>Static Weight-checking Mode</i> [After the weight-checking process triggered, the weigher conveyor will stop running. And then the weight-checking result will be displayed after 'Weight-checking Time T2'. If the weight-checking result is in the range of 'Sorting Area GD', the conveyor will restore to run automatically; otherwise, it's necessary to press the button 'START' for making the conveyor run again]</p>	
302	nuLL	1~60000	100 [*]	<p>Non-load Zero Range</p> <p>When "Net Weight \leq Non-load Zero Range", the DO switch 'Non-load Zero Range' will turn on automatically.</p> <p>Weight Trigger Mode: 'Net Weight > Non-load Zero Range' is used as one of the judging conditions for triggering the weight-checking process.</p>	
303	A.run	0~1	1 [*]	<p>Auto Enter Weight-checking State after Power-on</p> <p>0: <i>oFF</i>; 1: <i>on</i></p>	
304	A.CLS	0~1	1 [*]	<p>Auto Clear after Power-on</p> <p>0: <i>oFF</i></p> <p>1: <i>on</i> [Clear Checking Weight, Batch Count and Totalized Weight automatically after power-on]</p>	
305	Ao	0~3	0	<p>AO Signal</p> <p>0. <i>groS</i> [Gross Weight]</p> <p>1. <i>nEt</i> [Net Weight]</p> <p>2. <i>dISP</i> [Displayed Weight]</p> <p>3. <i>bAt</i> [Checking Weight]</p>	

[*]: 'RAM Reset' operation has no effect on the parameter.

6.3.5 Timer Parameters (-tI-)

No.	Sign	Range	Default	Description	Set
400	t1.Sb	0.00~9.99	0.40	Waiting Time for Stabilizing Weight T1 [s] Set this parameter properly for eliminating the effect of impact and vibration (caused in the process of the unchecked products entering the weigher) on the weight-checking results.	
401	t2.CHC	0.00~9.99	0.20	Weight-checking Time T2 [s] Set this parameter properly for ensuring there is enough and valid time for weight-checking and the weight of the unchecked product is still acting on the weigher before the weight-checking process ends.	
402	t3. gd	0.00~99.99	0.00	Delay Time Before DO1 Turns On T3 [s] When the Checking Weight value is within the range of 'Sorting Area GD' ($HI \leq \text{Checking Weight} \leq LO$), DO1 switch will turn on automatically after the time T3 delayed.	
403	t4.HH	0.00~99.99	0.00	Delay Time Before DO2 Turns On T4 [s] When the Checking Weight value is within the range of 'Sorting Area HH' ($\text{Checking Weight} > HH$), DO2 switch will turn on automatically after the time T4 delayed.	
404	t5.HI	0.00~99.99	0.00	Delay Time Before DO3 Turns On T5 [s] When the Checking Weight value is within the range of 'Sorting Area HI' ($HI < \text{Checking Weight} \leq HH$), DO3 switch will turn on automatically after the time T5 delayed.	
405	t6.Lo	0.00~99.99	0.00	Delay Time Before DO4 Turns On T6 [s] When the Checking Weight value is within the range of 'Sorting Area LO' ($LL \leq \text{Checking Weight} < LO$), DO4 switch will turn on automatically after the time T6 delayed.	
406	t7.LL	0.00~99.99	0.00	Delay Time Before DO5 Turns On T7 [s] When the Checking Weight value is within the range of 'Sorting Area LL' ($\text{Checking Weight} < LL$), DO5 switch will turn on automatically after the time T7 delayed.	
407	t8.Hd	0.00~9.99	0.00	Holding Time of DO1~DO5's ON State T8 [s] Set value = 0: The 'ON' state of DO1~DO5 will be kept till the next weight-checking process ends. Set value > 0: The 'ON' state of DO1~DO5 will switch to 'OFF' state automatically after the time T8 delayed.	

6.3.6 Communication Parameters (SErP)

No.	Sign	Range	Default	Description	Set
800	Adr	0~99	1	Communication Address	
801	bPS1	0~5	3	COM1 Baud Rate <i>0: 1200bps</i> <i>1: 2400bps</i> <i>2: 4800bps</i> <i>3: 9600bps</i> <i>4: 19200bps</i> <i>5: 115200bps</i>	
802	CHC1	0~2	0	COM1 Parity Check <i>0. none</i> [None Check] <i>1. EVEn</i> [Even Check] <i>2. odd</i> [Odd Check]	
803	Con1	0~2	0	COM1 Communication Mode <i>0. HASC</i> [Host-slave, Modbus ASCII] <i>1. Hrtu</i> [Host-slave, Modbus RTU] <i>2. Cont</i> [Continuous Sending ASCII]	
804	dAtA	0~4	2	Data for Continuous Sending Mode <i>0. groS</i> [Gross Weight] <i>1. nEt</i> [Net Weight] <i>2. dISP</i> [Displayed Characters] <i>3. bAt</i> [Checking Weight] <i>4. tot</i> [Total Totalized Weight]	

No.	Sign	Range	Default	Description	Set	
805	S.Int	4~400	80	Continuous Sending Interval Number N Sending Interval Time: $T = N \times 2.5$ [ms]. Sending Frequency: $F = 1000 / T$ [Hz].		
				Examples		
				Interval Number N	Sending Frequency F	
				4	100Hz	
				8	50Hz	
				10	40Hz	
				40	10Hz	
				80	5Hz	
				100	4Hz	
				400	1Hz	
				Note		
				Baud Rate	Max. Sending Frequency	
				1200bps	5Hz	
				2400bps	10Hz	
				4800 bps	25Hz	
				9600 bps	50Hz	
19200 bps	100Hz					
115200 bps	100Hz					
806	dAt.F	0~3	0	Modbus Data Format Reading&Writing Order of 4-Byte Registers: <i>0: 4321</i> [HB4 HB3 LB2 LB1] <i>1: 3412</i> [HB3 HB4 LB1 LB2] <i>2: 1234</i> [LB1 LB2 HB3 HB4] <i>3: 2143</i> [LB2 LB1 HB4 HB3] The HEX byte order of float and long int registers in the weighing controller is 'HB4 HB3 LB2 LB1'.		

6.3.7 Display Parameters (dISP)

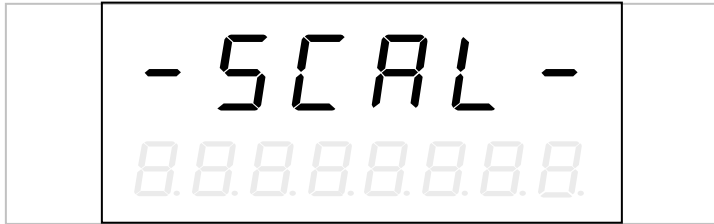
No.	Sign	Range	Default	Description	Set
901	dS.tI	0.01~1.00	0.20	Display Refreshing Time [s]	
902	A.Loc	0~1	0	<p>Auto-Locking</p> <p><i>0: oFF</i></p> <p><i>1: on</i> [If there is not any keypad operation in one minute and it's not in the processes of 'F2 Calibration' & 'F6 Factory Adj.', the controller will lock the keypad and return to 'Main Display Interface' automatically]</p>	

6.3.8 A Sample of Parameter Setting

Modify the parameter '[102] Scale Capacity'.

Main Display Interface

↓ 【MENU】 + 【◀】【▲】 : F1-SEt
【ENT】 + 【◀】【▲】



↓ 【ENT】 + 【◀】【▲】



↓ 【ENT】



【◀】 : Moving cursor; 【▲】 : Digit input.

【MENU】 : Exit ↓ 【ENT】 : Save



6.4 F2-CAL System Calibration

After doing 'System Calibration', Tare Weight value will return to zero automatically.

6.4.1 Zero Calibration (ZEro)

Do Zero Calibration with no loading on the weigher and save the new Zero Value.

Main Display Interface

(M) ↓ **【MENU】 + 【◀】【▲】** : F2-CAL
【ENT】 + 【◀】【▲】 : -ZEro-
【ENT】

The display shows two lines of data. The top line is '108.457' and the bottom line is '104.82Er0'. The '104' and 'Er' are highlighted in grey. Below the display is a text box with the following content:

【◀】【▲】 :

- ◇ 104: New Zero Value (-20000~+999999).
- ◇ oLd: Original Zero Value.
- ◇ Er: Error = New Value - Original Value.

If Zero Value exceeds allowed range, it's not allowed to be saved.

【MENU】 : Exit ↓ **【ENT】** : Save

(M)

6.4.2 Data Calibration (dAtA)

Input the specification parameter values of loadcell [Total Capacity and Output Sensitivity] according to the actual configuration of the weighing system to correct Span Coefficient. If there is no access to get the specification parameter values for Data Calibration, then it's necessary to do Load Calibration.

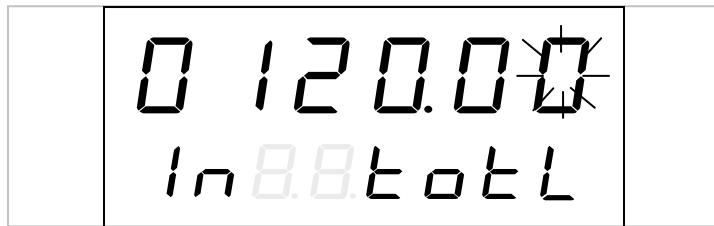
Main Display Interface



【MENU】 + 【◀】【▲】 : F2-CAL

【ENT】 + 【◀】【▲】 : -dAtA-

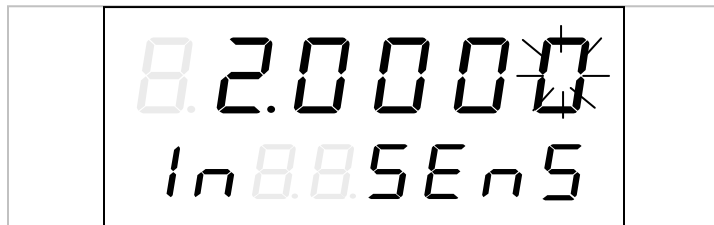
【ENT】



Input 'Total Capacity of Loadcells' [totL]: 1~999999 Weight Unit.



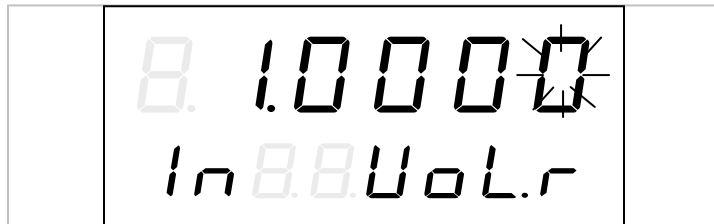
【ENT】



Input 'Output Sensitivity of Loadcell' [SEnS]: 0.5000~5.0000mV/V.



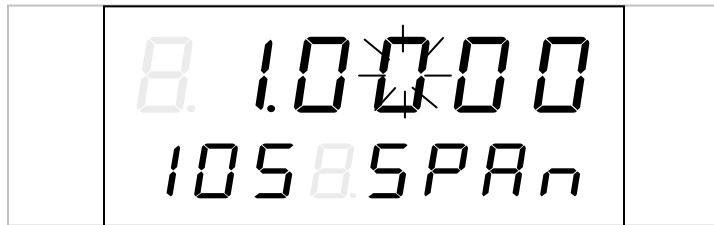
【ENT】



Input 'Voltage Ratio' [Vol.r]: 1.0000~2.0000.



【ENT】



【◀】【▲】 :

- ◇ 105: New Span Coefficient value (Max. Display Value: 99.9999).
- ◇ oLd: Original Span Coefficient value.
- ◇ Sr: Span Correction Ratio = New Value / Original Value (Display range: 0.00001~9.99999).

【MENU】 : Exit



【ENT】 : Save





Note:

- ◇ Total Capacity of Loadcells = Loadcell Capacity × Loadcell Number.
- ◇ Voltage Ratio = Excitation Voltage on the terminal of Controller / Excitation Voltage on the terminal of loadcells.
- ◇ The rated excitation voltage for loadcells is DC9V. It's best to measure the actual voltage value.
- ◇ 4-wire connection: The voltage attenuation is big, the voltage on both sides should be measured.
- ◇ 6-wire connection: The voltage attenuation is small, Voltage Ratio can be set to 1.0000.

6.4.3 Load Calibration (LoAd)

After doing Data Calibration, if there are conditions for Load Calibration, do Load Calibration with loading standard weight on the weigher to correct Span Coefficient further for higher weighing accuracy. The loading weight should be bigger than 50% of Scale Capacity value.

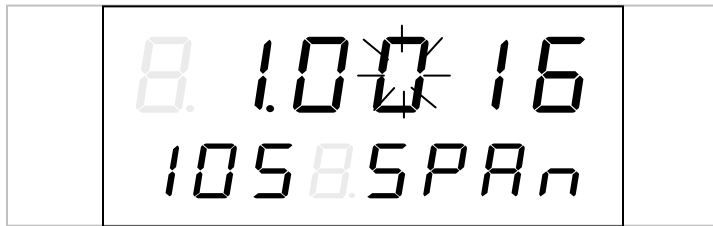
Main Display Interface



【MENU】 + 【◀】【▲】 : F2-CAL
【ENT】 + 【◀】【▲】 : -LoAd-
【ENT】



Input 'Calibrating Weight': 1~999999 Weight Unit.


【ENT】



【◀】【▲】 :

- ◇ 105: New Span Coefficient value (Max. Display Value: 99.9999).
- ◇ oLd: Original Span Coefficient value.
- ◇ Sr: Span Correction Ratio = New Value / Original Value (Display Range: 0.00001~9.99999).
- ◇ Ad: AD Value.



If AD Value ≤ Zero Value, display 'Err', and it's not allowed to save Span Coefficient.

【MENU】 : Exit  **【ENT】** : Save



6.5 F3-REC Data Query

Main Display Interface



【MENU】 + 【◀】【▲】 : F3-rEC
【ENT】

[-totL-]: Total Totalized Weight ['t'] or Total Batch Count ['P'].

- totL -

t49900.00

【G/N】 : Totalized Weight and Batch Count display switch.
【▲】 : Query the previous item.
【▼】 : Query the next item.


【◀】【▲】

[-XX-]: Sorting Area 'gd/HH/Hi/Lo/LL'.

- - 9d - -

t49700.00

Totalized Weight ['t'] or Batch Count ['P'].

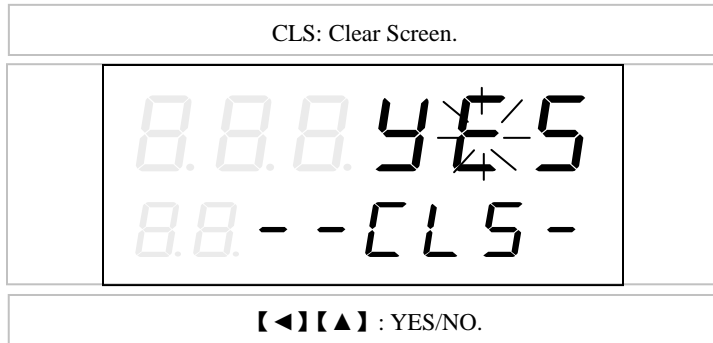

【MENU】



6.6 F4-CLN Data Clearing

Main Display Interface

Ⓜ ↓ 【MENU】 + 【◀】【▲】 : F4-CLn
【ENT】 + 【◀】【▲】 : --CLS-
【ENT】



【MENU】 : Exit ↓ 【ENT】 : Enter

Ⓜ

6.7 F5-LOC Key-locker

6.7.1 Key-unlocking (oPEn)

Main Display Interface

(M) ↓ 【MENU】 + 【◀】【▲】 : F5-Loc
【ENT】 + 【◀】【▲】 : -oPEn-
【ENT】



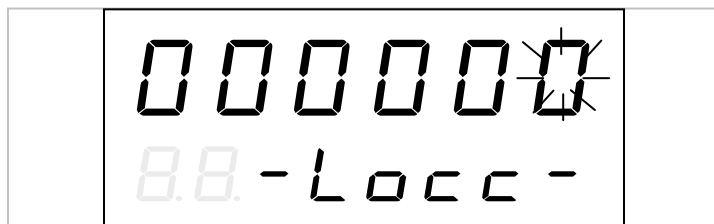
↓ 【ENT】: If inputted password is correct, Key-unlocking will be valid and [LOCK] will turn off.

(M)

6.7.2 Key-locking (Locc)

Main Display Interface

(M) ↓ 【MENU】 + 【◀】【▲】 : F5-Loc
【ENT】 + 【◀】【▲】 : -Locc-
【ENT】



↓ 【ENT】 : If inputted password is correct, Key-locking will be valid and [LOCK] will turn on.

(M)

6.7.3 Password Set (PASS)

Main Display Interface

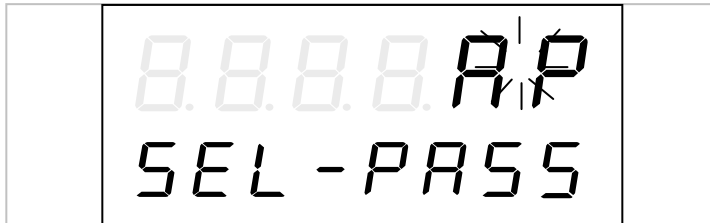


【MENU】 + 【◀】【▲】 : F5-Loc
【ENT】 + 【◀】【▲】 : -PASS-
【ENT】

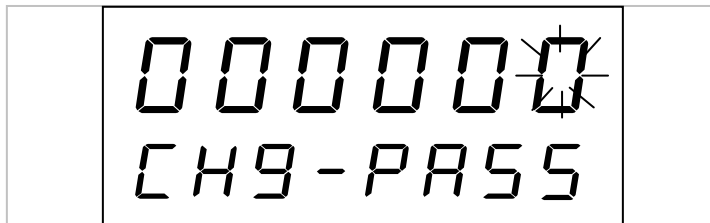


【ENT】

If inputted is Operator Password, this operation interface will be skipped; if inputted is Administrator Password, 'Administrator Password [AP]' or 'Operation Password [oP]' can be modified via 【◀】 【▲】.



【ENT】



Input the new Password. Please remember it.

【MENU】 : Exit



【ENT】 : Save



Appendix A. Register Table of Host-Slave MODBUS[ASCII/RTU]

Data Name	Type	Address	Attribute	Command [HEX]	Description
Gross Weight	Long	40001	R	03	
Net Weight	Long	40003	R	03	
Running State 1	UnShort	40005.0	R	03	1: Weight-checking state. 0: Stop or Calibrating state.
		40005.1			
		40005.2			
		40005.3			
		40005.4			
		40005.5			
		40005.6			
		40005.7			
		40005.8			
		40005.9			
		40005.10			
		40005.11			
		40005.12			1: Non-load Zero Range.
		40005.13			1: Weight Value is stable.
		40005.14			1: Overload Alarm.
40005.15	1: Controller Fault.				
Running State 2	UnShort	40006.0	R	03	1: Sorting Area GD [Normal].
		40006.1			1: Sorting Area HH [Uppermost Limit].
		40006.2			1: Sorting Area HI [Upper Limit].
		40006.3			1: Sorting Area LO [Lower Limit].
		40006.4			1: Sorting Area LL [Lowest Limit].
		40006.5			
		40006.6			
		40006.7			1: Weight-checking State.
		40006.8			1: Weight-checking Finished.
		40006.9			1: Non-load Zero Range.
		40006.10			1: Target Batch Finished.
		40006.11			1: Weighing Conveyor is Running.
		40006.12			
		40006.13			
		40006.14			
40006.15					

Data Name	Type	Address	Attribute	Command [HEX]	Description
DO State	UnShort	40007.0	R	03	1: DO1 ON; 0: DO1 OFF.
		40007.1			1: DO2 ON; 0: DO2 OFF.
		40007.2			1: DO3 ON; 0: DO3 OFF.
		40007.3			1: DO4 ON; 0: DO4 OFF.
		40007.4			1: DO5 ON; 0: DO5 OFF.
		40007.5			1: DO6 ON; 0: DO6 OFF.
		40007.6			1: DO7 ON; 0: DO7 OFF.
		40007.7			1: DO8 ON; 0: DO8 OFF.
		40007.8			
		40007.9			
		40007.10			
		40007.11			
		40007.12			
		40007.13			
		40007.14			
40007.15					
Operation	UnShort	40008	W	06	0xA500: Start Weight-checking. 0xA501: Stop Weight-checking. 0xA502: Unused. 0xA503: Unused. 0xA504: Unused. 0xA505: Unused. 0xA506: Unused. 0xA507: Unused. 0xA508: Unused. 0xA509: Unused. 0xA50A: Clear Screen. 0xA50B: Manual Tare. 0xA50C: Sorting Area DO Alarm Acknowledge. 0xA50D: Zero Fine Adjustment. 0xA50E: Zero Calibration. 0xA50F: Load Calibration. Do Span Calibration with the value of parameter 'Calibrating Weight' as loading weight. 0xA510~0xA5FF: Unused.
Calibrating Weight	UnLong	40009	R/W	03/10	Parameter No. 124
Total Totalized Weight	UnLong	40011	R	03	
Total Batch Count	UnLong	40013	R	03	

Data Name	Type	Address	Attribute	Command [HEX]	Description
Target Batch	UnLong	40015	R/W	03/10	
Non-load Zero Range	UnShort	40017	R/W	03/06	
Totalized Weight of Sorting Area GD	UnLong	40018	R	03	
Batch Count of Sorting Area GD	UnLong	40020	R	03	
Totalized Weight of Sorting Area HH	UnLong	40022	R	03	
Batch Count of Sorting Area HH	UnLong	40024	R	03	
Totalized Weight of Sorting Area HI	UnLong	40026	R	03	
Batch Count of Sorting Area HI	UnLong	40028	R	03	
Totalized Weight of Sorting Area LO	UnLong	40030	R	03	
Batch Count of Sorting Area LO	Un. Long	40032	R	03	
Totalized Weight of Sorting Area LL	UnLong	40034	R	03	
Batch Count of Sorting Area LL	UnLong	40036	R	03	
	UnLong	40038	R	03	Unused.
	UnLong	40040	R	03	Unused.
Setpoint Form No.	UnShort	40042	R/W	03/06	
Checking Weight of Present Batch	UnLong	40043	R	03	
Standard Weight of Unchecked Product	UnShort	40045	R/W	03/06	
Checking Weight Uppermost Limit	UnShort	40046	R/W	03/06	
Checking Weight Upper Limit	UnShort	40047	R/W	03/06	
Checking Weight Lower Limit	UnShort	40048	R/W	03/06	
Checking Weight Lowest Limit	UnShort	40049	R/W	03/06	

UnShort: Unsigned Short Int; UnLong: Unsigned Long Int; Long: Signed Long Int.

Appendix B. Data Frame Format of Continuous Sending [ASCII]

Filed Name		Code	HEX	Description	Example
START [Byte1]		=	3D		=
Weighing State [Byte2]		O	4F	Overload	S
		S	53	Stable	
		M	4D	Motion	
Data Name [Byte3]		G	47	Gross Weight	N
		N	4E	Net Weight	
		B	42	Checking Weight of Present Batch	
		T	54	Total Totalized Weight	
		D	44	Displayed Characters	
		U	55	Unused	
Data [9 Bytes]	Format A: Weight Data [Byte4~12]	+/-	2B/2D	Sign	+00123.4k [DEC]
		Weight Value [7 Bytes]	30~39 2EH	0~9 Decimal Point ‘.’	
		Unit [1 Byte]: (Space)	20	Space: None	
		k	6B	k: kg	
		t	74		
	Format B: Displayed Characters [Byte4~12]	g	67		
		d	64	ID Code	d
		Point Code [1 Byte]	00~FF	BIT7=0: Unused	2. dISP Highest Bit's Point: ON Point Code =20H
				BIT6=0: Unused	
				If BIT5=1: Highest Bit's Point: ON	
				If BIT4=1: Bit5's Point: ON	
				If BIT3=1: Bit4's Point: ON	
				If BIT2=1: Bit3's Point: ON	
	If BIT1=1: Bit2's Point: ON				
	If BIT0=1: Lowest Bit's Point: ON				
Characters [6 Bytes]	XX XX XX XX XX XX	ACSII			
d	64	ID Code	d		
SUM Check [Byte13]		1 Byte	XX	SUM=Byte1+Byte2+... +Byte12	
END [Byte14~15]		<CR> <LF>	0D 0A		<CR> <LF>

Example 1. Sending Weight Data '+00123.4kg'

Byte	Field Name	HEX	Note
1	START	3D	=
2	Weighing State	53	S
3	Data Name	4E	N
4	Sign	2B	+
5	Weight Value	30	0
6	Weight Value	30	0
7	Weight Value	31	1
8	Weight Value	32	2
9	Weight Value	33	3
10	Weight Value	2E	.
11	Weight Value	34	4
12	Unit	6B	k
13	SUM	CC	SUM=Byte1+Byte2+...+Byte12
14	END	0D	<CR>
15	END	0A	<LF>

Example 2. Sending Displayed Characters '2. dISP'

Byte	Field Name	HEX	Note
1	START	3D	=
2	Weighing State	53	S
3	Data Name	44	D
4	ID Code	64	d
5	Point Code	20	
6	Displayed Characters	32	2
7	Displayed Characters	20	Space
8	Displayed Characters	64	d
9	Displayed Characters	49	I
10	Displayed Characters	53	S
11	Displayed Characters	50	P
12	ID Code	64	d
13	SUM	5E	SUM=Byte1+Byte2+...+Byte12
14	END	0D	<CR>
15	END	0A	<LF>



Changsha Supmeter Technological Co.,Ltd.

Address: Building A6, Lugu International Industrial Park,
Changsha, 410205, China

Tel: +86 731 85115100

Fax: +86 731 85158100

Website: www.supmeter.com.cn

E-mail: supmeter@163.com