3. Operation Interface

3.1 Operation Interface of User Login

The following ‘User Login Interface’ will be displayed after power-on.

Name	Operation	Note
【Login】	User Login. Exfactory Passwords: ✧ Operator: None. ✧ Engineer: 0. ✧ Administrator: 1.	Operation ‘Main Menu / F5 User / Password / PSW Set’ for Modifying Password.
【User Name】	After password inputted, the matching User Name will be displayed.	✧ Operator: User with lowest authorization. ✧ Engineer: User with higher authorization. ✧ Administrator: User with highest authorization.
【Enter】	Enter ‘Main Operation Interface’.	Operation ‘Main Menu / F5 User / Password / Login [Logoff]’ for Re-login [Logoff].

3.2 Main Operation Interface of Single-Scale

Parameter [906] ‘Display Style’= ‘0: CFY’:

Parameter [906] ‘Display Style’= ‘1: ZQH’:

3.3 Main Operation Interface of Double-Scale

Parameter [906] 'Display Style'= '0: CFY':

Parameter [906] 'Display Style'= '1: ZQH':

3.4 Button Operation

Name	Operation	State Indicator	Authorization
【Auto】	Auto / Manual [Emergency Stop] switch. The operating button will be valid only when parameter [326] 'Manual/Auto DI Type' = '0: Push Button'.	Green: Auto state. Grey: Manual state.	All Users
【Start】	Start. 'Auto/Stop' state: Start. In 'Auto/Running' process: Clear Alarm [Deviation Alarm Acknowledge]. 'Auto/Pause' state: Clear Alarm & Recover Running.	Green: Running state. Blinking Green: Pause state. Grey: Stop state.	
【Alarm】	Alarm Query / Clear Alarm. 'Auto/Pause' state: Recover Running after clearing alarm.	Red: Alarm state.	
【Bag】	Bag-clamping/releasing Request.	Green: Bag-clamping state. Grey: Bag-releasing state.	
【M.OP】	Enter Manual Operation Interface.	Green: Manual state.	
【Last】	Last Batch [Normal Stop]. Stop after the present batch finished.	Blinking Red.	
【Stop】	Emergency Stop.		
【Menu】	Enter Main Menu.		
【Zero】	Zero Fine Adjustment [No Power-down Protection].	Display Gross Weight.	
【Tare】	✧ [Tare]: Manual Tare [No Power-down Protection]. ✧ [Preset]: Preset Tare Weight [Power-down Protection]. ✧ [Clear]: Reset Tare Weight to Zero [Power-down Protection].	Display Net Weight.	
【G/N】	Gross Weight / Net Weight display switch.		
【Form】	Present Working Formula No. Selection.		
【SetP】	#1&#2 Target Value Setting.		
【Clear】	Clear Screen: Clear the display values of Feeding Weight, Totalized Weight and Batch Count without effecting 'Hour Records'.		Engineer Administrator
【Print】	Report Print: ✧ [Batch]: Print Present Batch Record. ✧ [Total]: Print Totalizing Report. ✧ [Formula]: Print Present Working Formula.		All Users
【En/Cn】	English/Chinese display switch.		
【Lock】	Screen-locking: Locking/unlocking the operating buttons of main display interface. Auto Screen-locking: Refer to parameter [901].	Blinking Red: Locked. Grey: Unlocked.	

Manual Operation Buttons:

Name	Operation	State Indicator
【Bag】	Bag-clamping/releasing Request.	Green: Bag-clamping state. Grey: Bag-releasing state.
【Fast】	Manual Start/Stop Fast Feeding.	Green: Fast Feeding state.
【Med】	Manual Start/Stop Medium Feeding.	Green: Medium Feeding state.
【Slow】	Manual Start/Stop Slow Feeding.	Green: Slow Feeding state.
【Dis】	Manual Start/Stop Discharging.	Green: Discharging state.

3.5 Data Display & Quick Setting

Name	Description	Authorization
Green Digits	Real-time Weight Value [Weight Unit].	
White Digits	Final Feeding Weight.	
[▲]	Blinking Red: Positive Deviation Alarm.	
[▼]	Blinking Yellow: Negative Deviation Alarm.	
[NET/GROSS]	'Net Weight / Gross Weight' display and switch operation.	All Users
[P_SW]	DI switch 'Discharging Gate Closed in Place' turned on.	
[ZERO]	Net Weight ≤ Non-load Zero Range.	
[STAB]	Weight is stable.	
[FED]	Feeding Ended.	
[DIS]	Discharging state.	
[FILL]	In the process of Filling Materials into Feeding Hopper.	
[FIN]	Target Batch Finished / Target Totalized Weight Finished.	
[SET]	'Target Value' display and setting.	All Users
[FT]/[FAST]	Green: In Fast Feeding process.	Engineer Administrator
	'SP1 Initial Lead Value for Fast Feeding' display and setting.	
[MD]/[MED]	Green: In Medium Feeding process.	
	'SP2 Initial Lead Value for Medium Feeding' display and setting.	
[SL]/[SLOW]	Green: In Slow Feeding process.	
	'SP3 Fall Value for Slow Feeding' display and setting.	
[Form]	'Present Working Formula No' display.	
[Set_Tot]	'Target Totalized Weight' display.	
[Total]	'Totalized Weight' display.	
[Auto Filling]	'Auto Filling Materials into Feeding Hopper' Permission [ON/OFF].	
[Set_PCS]	'Target Batch' display.	
[Tot_PCS]	'Batch Count' display.	
[Mode]	'APP1.1 1-Hopper'. 'APP1.2 2-Hopper&1-Bag'. 'APP1.3 2-Hopper&2-Bag'. 'APP2.1 1-Bag'. 'APP2.2 2-Bag'. Refer to Parameter [300] 'Application Mode'.	
[Fall]	'Auto': Fall Value Auto Correction function is open. 'Fixed': Fall Value Auto Correction function is closed.	
[Date/Time]	'Date/Time' display.	

3.6 Alarm Sign

3.6.1 Alarm Message

Message	Alarm Cause	Solution
Gross Weight Upper Limit Alarm	Gross Weight ≥ Upper Limit.	Refer to parameter [214] 'Gross Weight Upper Limit'.
Deviation Alarm	Positive Deviation Alarm. Negative Deviation Alarm.	Refer to parameter [209] 'Positive Deviation Permission Value' and [210] 'Negative Deviation Permission Value'.
Pause Alarm	Pause state with Deviation Deviation Alarm.	Refer to parameter [310] 'Auto Pause while Deviation Alarming'. It's allowed to do 'Manual SP3 Re-feeding' for Negative Deviation Alarm. Press DI button 'Start / Clear Alarm' to recover running.
Feeding Overtime Alarm	Feeding Time ≥ T10.	Refer to parameter [412] 'Max. Feeding Time T10'.
Discharging Overtime Alarm	Discharging Time ≥ T11.	Refer to parameter [413] 'Max. Discharging Time T11'.
Bag-Releasing Overtime Alarm	Bag-Releasing Time ≥ T11.	Refer to parameter [413] 'Max. Bag-Releasing Time T11'.
Filling Overtime Alarm	Filling Time ≥ T12.	Refer to parameter [414] ' Max. Time of Filling Materials into Feeding Hopper T12'.
Discharging Gate Unclosed	If the DI signal 'Discharging Gate Closed in Place' is used: After 'Start' signal inputted, if there is no 'ON' signal from the DI, the process of closing discharging gate will start automatically. Before auto-feeding, if there is no 'ON' signal from the DI, the alarm signal 'Discharging Gate Unclosed' will be outputted.	Check if the position switch 'Discharging Gate Closed in Place' is installed correctly and if it is damaged. Refer to parameter [410] 'Max. Time for Closing Discharging Gate T8'. Refer to '6.5 F9 I/O Function Definition'.

3.6.2 Prompt Message

Message	Alarm Cause	Solution
Batch Finished	Alarm or Auto-stop with 'Target Batch Finished' or 'Target Totalized Weight Finished'.	Refer to parameter [212] 'Target Batch', [213] 'Target Totalized Weight' and [301] 'Target Batch Control'.
Last Batch	It's in the packing process of the last batch.	The message will disappear after the present batch finished.
TARE Invalid	Over 'Auto Tare Range'.	Refer to parameter [124] 'Auto Tare Range'.
ZERO Invalid	Over 'Zero Fine Adjusting Range'.	Refer to parameter [123] 'Zero Fine Adjusting Range'.
PRINT Invalid	Print port is not defined.	Refer to 'Communication Parameters'.
Feeding Hopper Material Level	[LO]: Low Limit Alarm.	The DI switch of Feeding Hopper Material Level Low Limit turned on.
	[HI]: High Limit Alarm.	The DI switch of Feeding Hopper Material Level High Limit turned on.

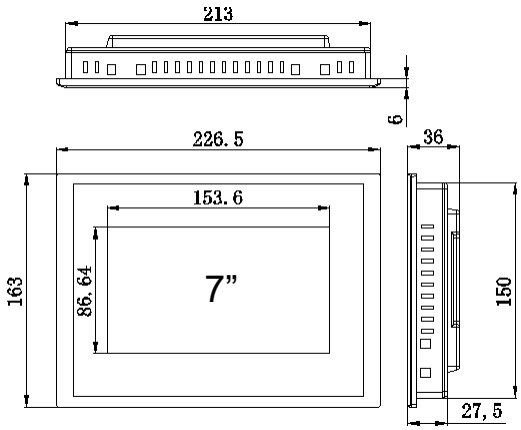
3.6.3 Error Message

Message	Alarm Cause	Solution
RAM Fault	The chip RAM is damaged.	Replace the chip RAM.
EEPROM Fault	The chip EEPROM is damaged.	Replace the chip EEPROM.
Parameter Error	The chip EEPROM is damaged.	Replace the chip EEPROM.
Signal Error	Signal reversed or not connected.	Connect the loadcell correctly.
ADC Fault	The chip ADC is damaged.	Replace the ADC module.
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.
Overload Alarm	Gross Weight > (Scale Capacity + 9 × Scale Division).	1 . Check if the set value of parameter [102] 'Scale Capacity' is reasonable. 2. Check if the loadcell is connected. 3. Check if the capacity of loadcell is too small. 4. Check if the loading weight is too big.
Data-Bus Fault		Please contact manufacturer.
System Fault		Please contact manufacturer.

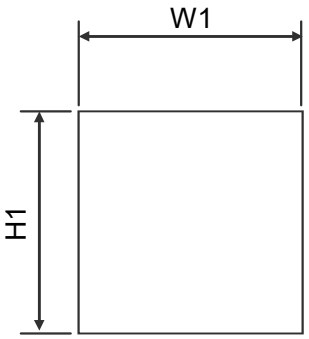
4. Installation&Connection

4.1 Installation

4.1.1 Outline Size



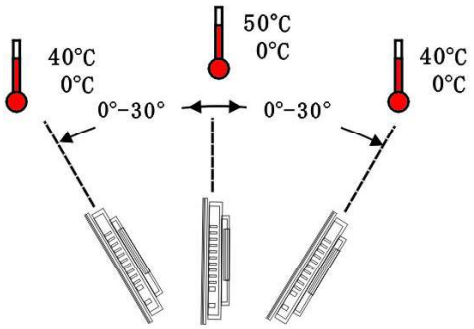
Outline Size



Panel Cut-out Size

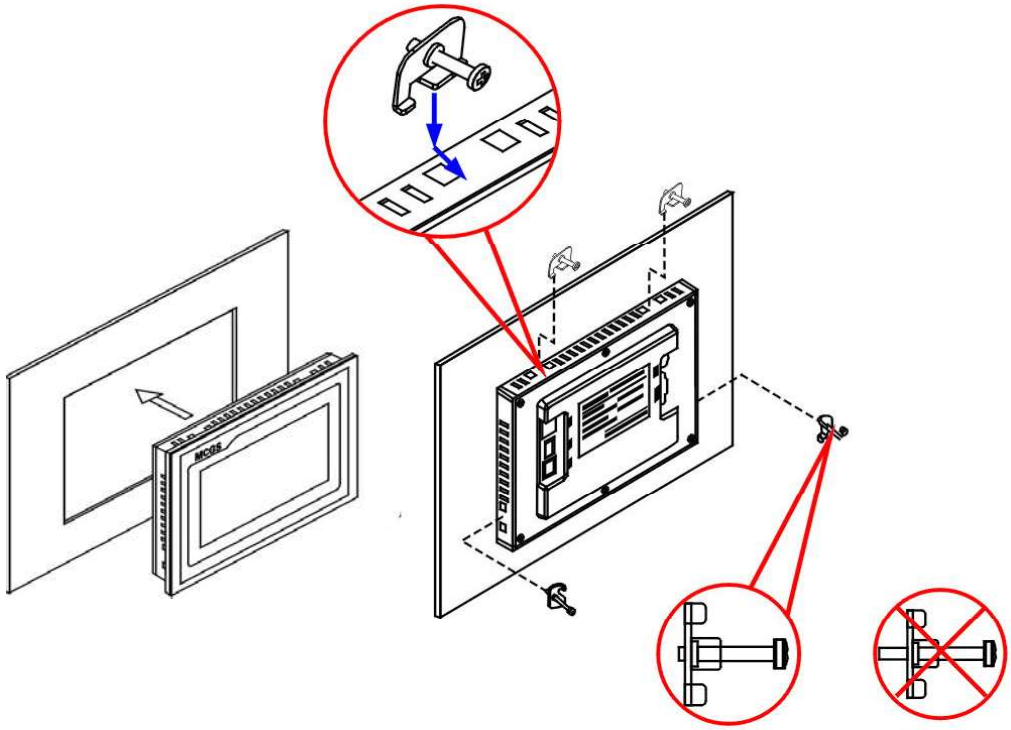
Product	Outline Size W×H×D[mm]	Front Panel Size W×H[mm]	Box Body Size W×H [mm]	Panel Cut-out Size W1×H1[mm]
7”	226.5×163×36	226.5×163	213×150	215×152
10.2”	274×193×40	274×193	259×178	261×180

4.1.2 Installation Angle



The installation angle should be in the range of 0~30°.

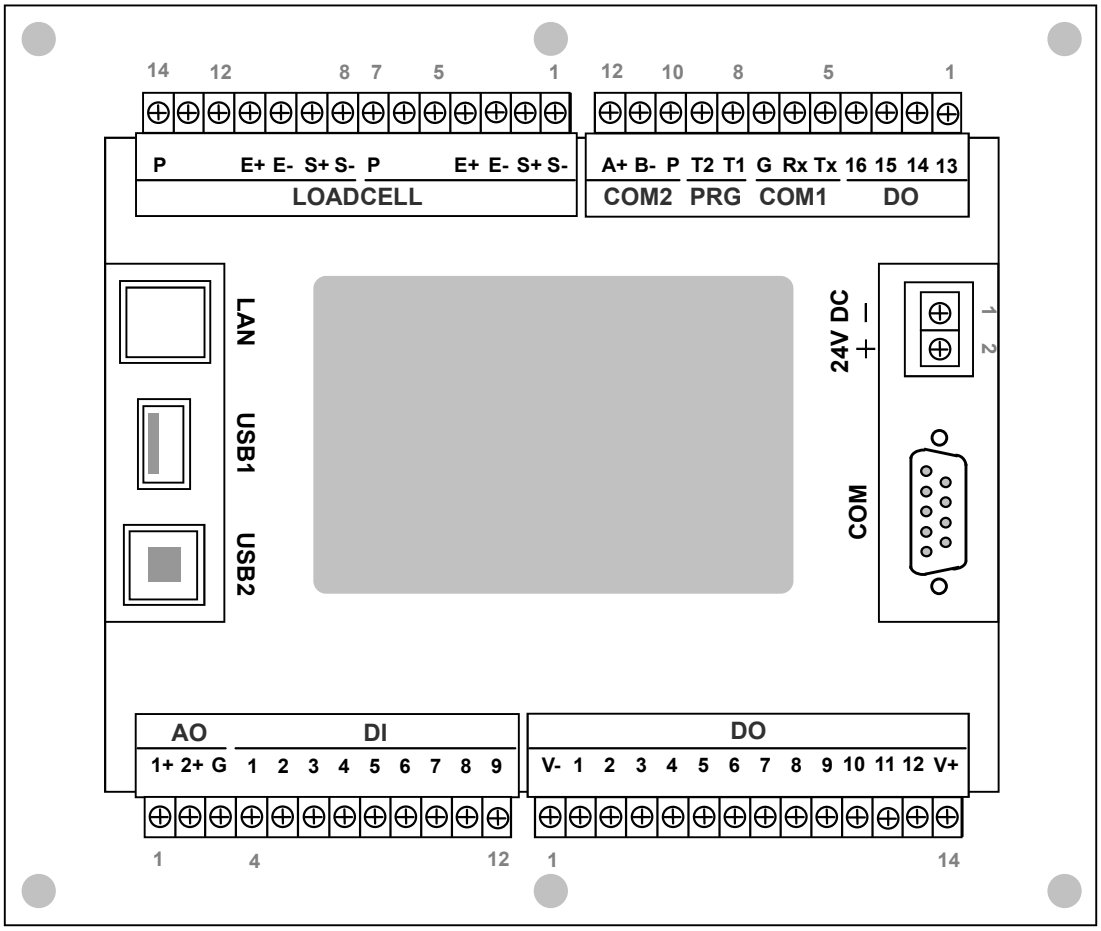
4.1.3 Installation Mode



Before installation the front end of the screw should be flat with the edge of the hook.

4.2 Terminal

4.2.1 Terminal Diagram



4.2.2 Power Supply Terminal

No.	Pin	Description
DC24V		**DC24V[±20%] Power Input Port**
1	—	DC Input -.
2	+	DC Input +.
For separating the weighing controller from the interference of the driving devices, the DC24V power supply of the weighing controller should not be shared by the DI/DO.		

4.2.3 Loadcell Terminal

No.	Pin	Description
LOADCELL		**Loadcell Port**
Weigher #1 Loadcell Port [LOADCELL1]		
1	S-	Weighing Signal [mV] Input -.
2	S+	Weighing Signal [mV] Input +.
3	E-	Excitation Voltage -.
4	E+	Excitation Voltage + [DC5V].
5		Unused.
6		Unused.
7	P	Shield Ground.
Weigher #2 Loadcell Port [LOADCELL2]		
8	S-	Weighing Signal [mV] Input -.
9	S+	Weighing Signal [mV] Input +.
10	E-	Excitation Voltage -.
11	E+	Excitation Voltage + [DC5V].
12		Unused.
13		Unused.
14	P	Shield Ground.

4.2.4 Digital Communication Terminal

No.	Pin	Description
COM1		**RS232 Digital Communication Port [Definable]**
5	Tx	Transmit Data [TXD].
6	Rx	Receive Data [RXD].
7	G	Signal Ground / Shield Ground [GND].
PRG		
8	T1	Special for manufacturer.
9	T2	
COM2		**RS485 Digital Communication Port [Definable]**
10	P	Shield Ground.
11	B-	Data -.
12	A+	Data +.
USB1		**USB Data Copying Port / HMI Software Download Port / Mouse Port**

4.2.5 Analog&Switch Signal Terminal

Name	Pin	Description
AO		**0~10V Analog Output Port [Definable]**
1	AO1+	Weigher #1 AO1 Output +.
2	AO2+	Weigher #2 AO2 Output +.
3	G	AO Output -.
DI		**Switch Signal Input Port [Valid with high-level input voltage 24V]**
4	DI1	Switch Signal Input 1.
5	DI2	Switch Signal Input 2.
6	DI3	Switch Signal Input 3.
7	DI4	Switch Signal Input 4.
8	DI5	Switch Signal Input 5.
9	DI6	Switch Signal Input 6.
10	DI7	Switch Signal Input 7.
11	DI8	Switch Signal Input 8.
12	DI9	Switch Signal Input 9.

Name	Pin	Description
DO		**Transistor Switch Signal Output Port [Valid with high-level output voltage 24V]**
1	V-	DC24V Input -.
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	DO9	Normally Open Contact Output 9.
11	DO10	Normally Open Contact Output 10.
12	DO11	Normally Open Contact Output 11.
13	DO12	Normally Open Contact Output 12.
14	V+	DC24V Input +.
1	DO13	Normally Open Contact Output 13.
2	DO14	Normally Open Contact Output 14.
3	DO15	Normally Open Contact Output 15.
4	DO16	Normally Open Contact Output 16.
Contact Capacity of Transistor Switch: DC24V, 1A.		

4.3 Ex-factory Definition of DI/DO Function

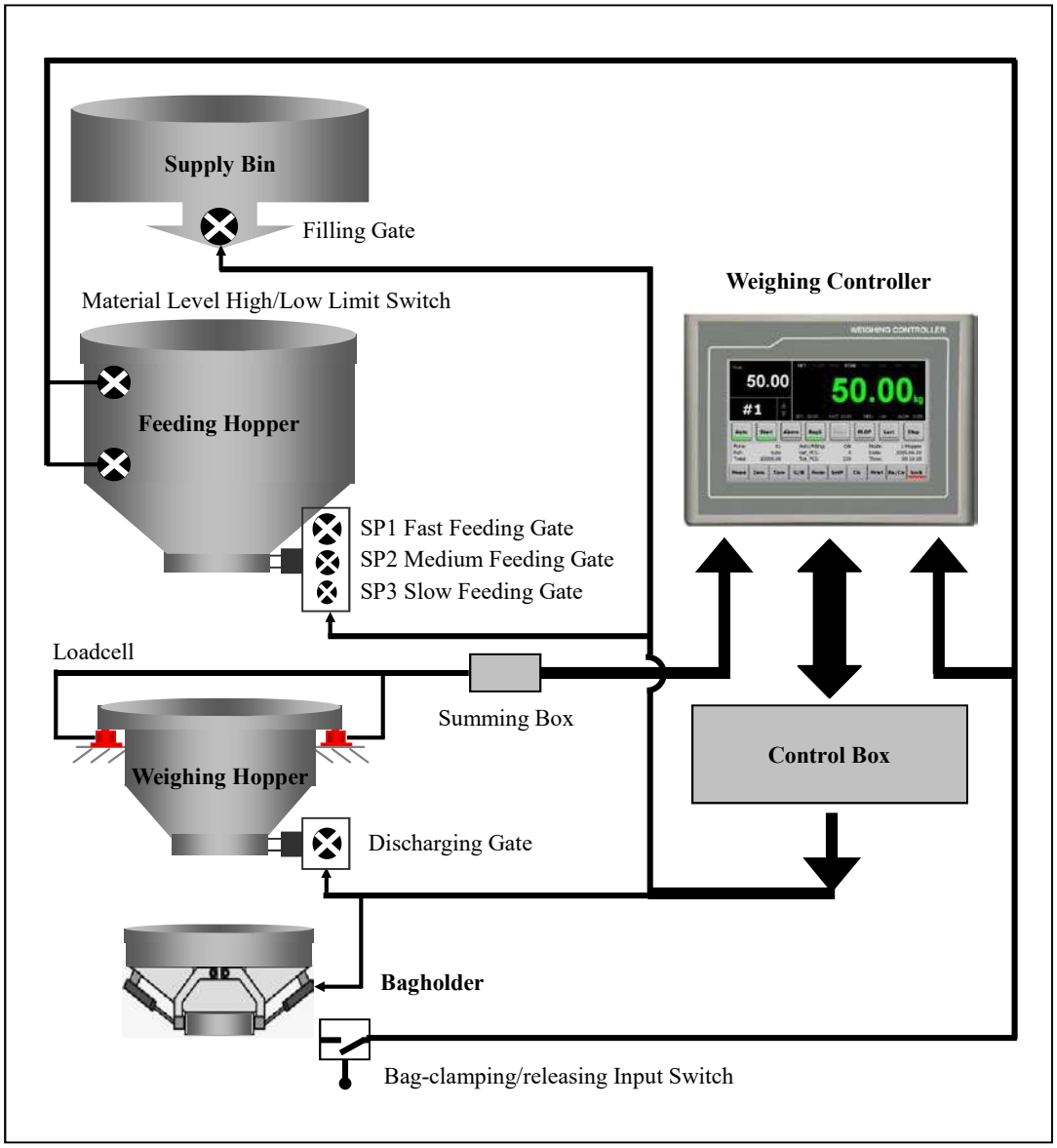
DI [Valid with high-level input voltage 24V]			
No.	Pin	Signal Name	Description
4	DI1	AUTO	Auto/Manual. Connect push button or selector switch [Definable].
			Connect push button: OFF→ON→OFF: Auto / Manual [Emergency Stop] switch.
			Connect selector switch: ON: Auto state. OFF: Manual state / Emergency Stop.
5	DI2	START1	#1 Start. 'Auto/Stop' state: Start. In 'Auto/Running' process: Clear Alarm [Deviation Alarm Acknowledge] 'Auto/Pause' state: Clear Alarm & Recover Running. OFF→ON→OFF.
6	DI3	BAG_I1	#1 Bag-clamping/releasing Request. OFF→ON→OFF.
7	DI4	DIS_I1	APP1 Hopper-weighing Mode: #1 Manual Start/Stop Discharging. Valid at Manual state: OFF→ON→OFF.
8	DI5	START2	#2 Start.
9	DI6	BAG_I2	#2 Bag-clamping/releasing Request. Only for 2-Bag-clamping Mode.
10	DI7	DIS_I2	APP1 Hopper-weighing Mode: #2 Manual Start/Stop Discharging. Valid at Manual state: OFF→ON→OFF.
11	DI8	FH_HI	Feeding Hopper Material Level High Limit.
12	DI9	FH_LO	Feeding Hopper Material Level Low Limit.

DO [Transistor, Valid with high-level output voltage 24V]			
No.	Pin	Signal Name	Description
1	V-	V-	DC24V Input -.
2	DO1	1_SP1	#1 Fast Feeding.
3	DO2	1_SP2	#1 Medium Feeding.
4	DO3	1_SP3	#1 Slow Feeding.
5	DO4	1_BAG	#1 Clamping/Releasing Bag. ON: Clamp Packing Bag; OFF: Release Packing Bag.
6	DO5	1_DIS	APP1 Hopper-weighing Mode: #1 Discharging. ON: Open Discharging Gate; OFF: Close Discharging Gate.
7	DO6	1_ALARM	#1 Alarm/Pause.
			ON: Positive/Negative Deviation Alarm.
			ON: Gross Weight Upper Limit Alarm.
			ON: Feeding/Discharging/Bag-releasing/Filling Overtime Alarm.
			Pulse [ON: 1s; OFF: 1s]: Pause State.
8	DO7	2_SP1	#2 Fast Feeding.
9	DO8	2_SP2	#2 Medium Feeding.
10	DO9	2_SP3	#2 Slow Feeding.
11	DO10	2_BAG	#2 Clamping/Releasing Bag. Only for 2-Bag-clamping Mode.
12	DO11	2_DIS	APP1 Hopper-weighing Mode: #2 Discharging.
13	DO12	2_ALARM	#2 Alarm/Pause.
14	V+	V+	DC24V Input +.
1	DO13	FILL	Filling Materials into Feeding Hopper. Refer to parameter [414] 'Max. Filling Time T12'.
2	DO14	BAT_END	Target Batch Finished / Target Totalized Weight Finished.
3	DO15	1_SHAKE	#1 Bag-shaking. Refer to parameter [320]~[325].
4	DO16	2_ SHAKE	#2 Bag-shaking. Only for 2-Bag-clamping Mode.

Note: All of the DI/DO/AO functions can be defined. Refer to '6.5 F9 I/O Function Definition'.

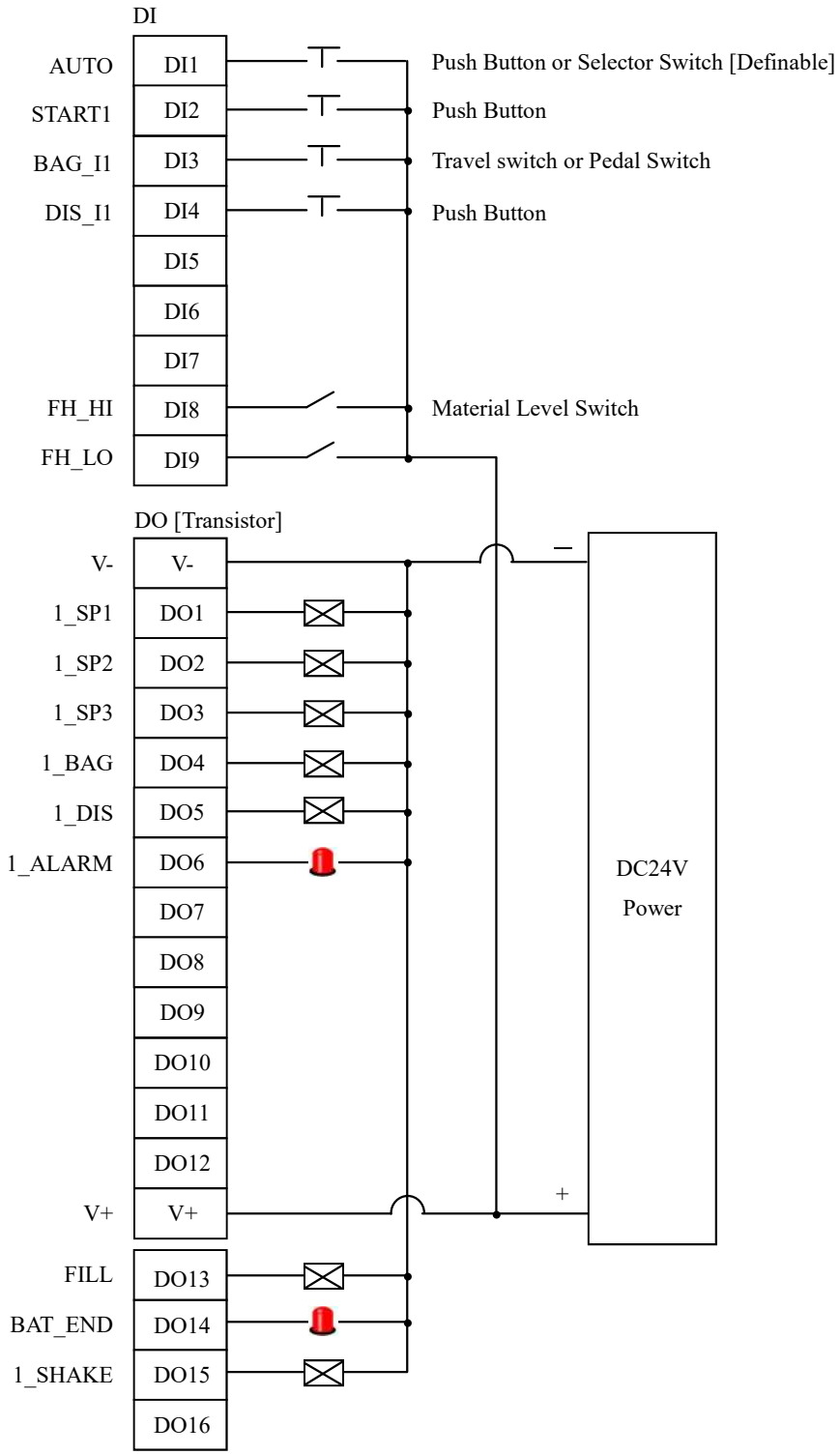
4.4 Typle Application: APP1 Hopper-weighing with one Bag-clamping Mode

4.4.1 System Diagram for APP1.1 Single-hopper-weighing Mode

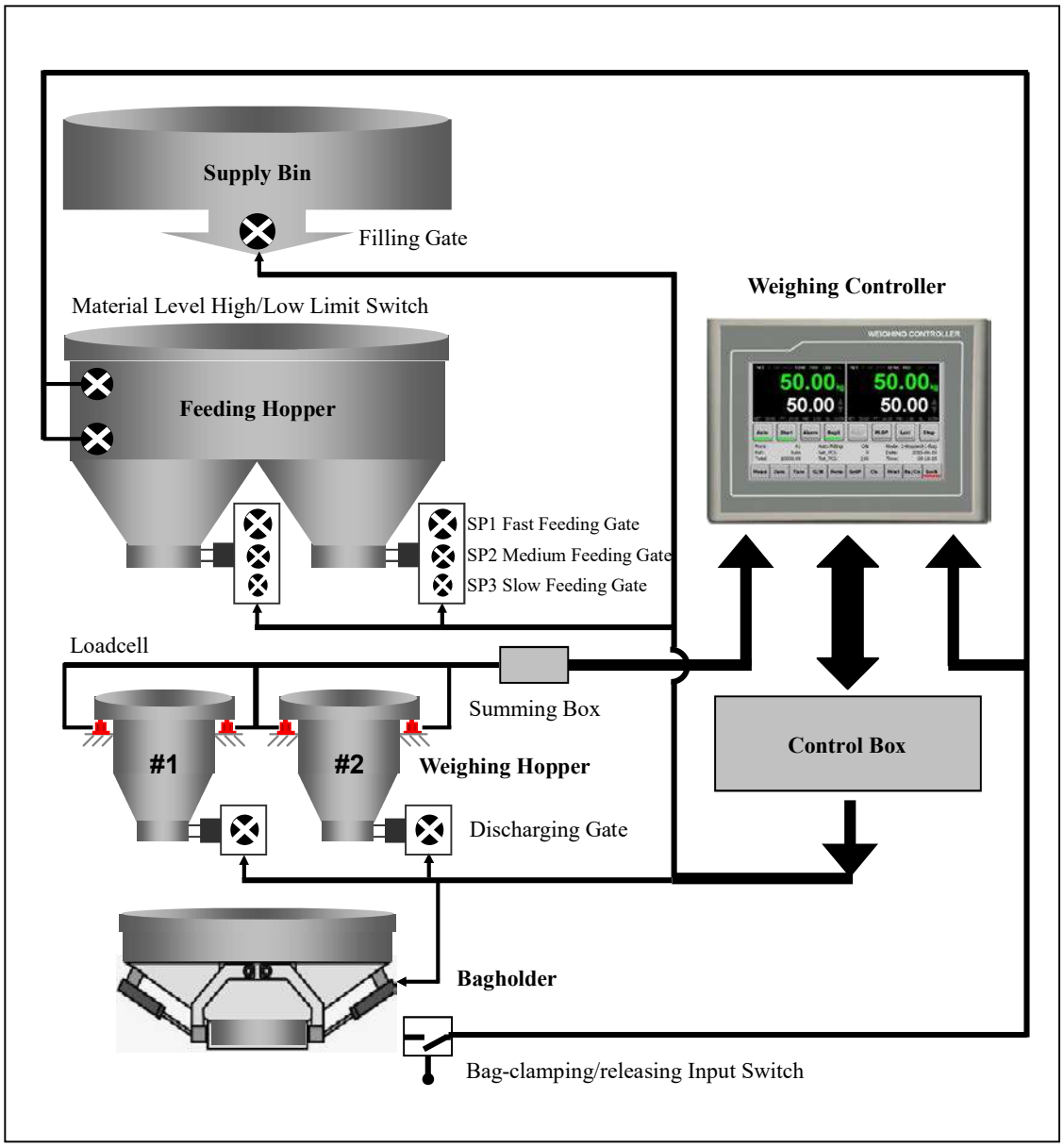


Parameter [300] ‘Application Mode’= ‘0: 1-Hopper’.

4.4.2 DI/DO Connection for APP1.1 Single-hopper-weighing Mode

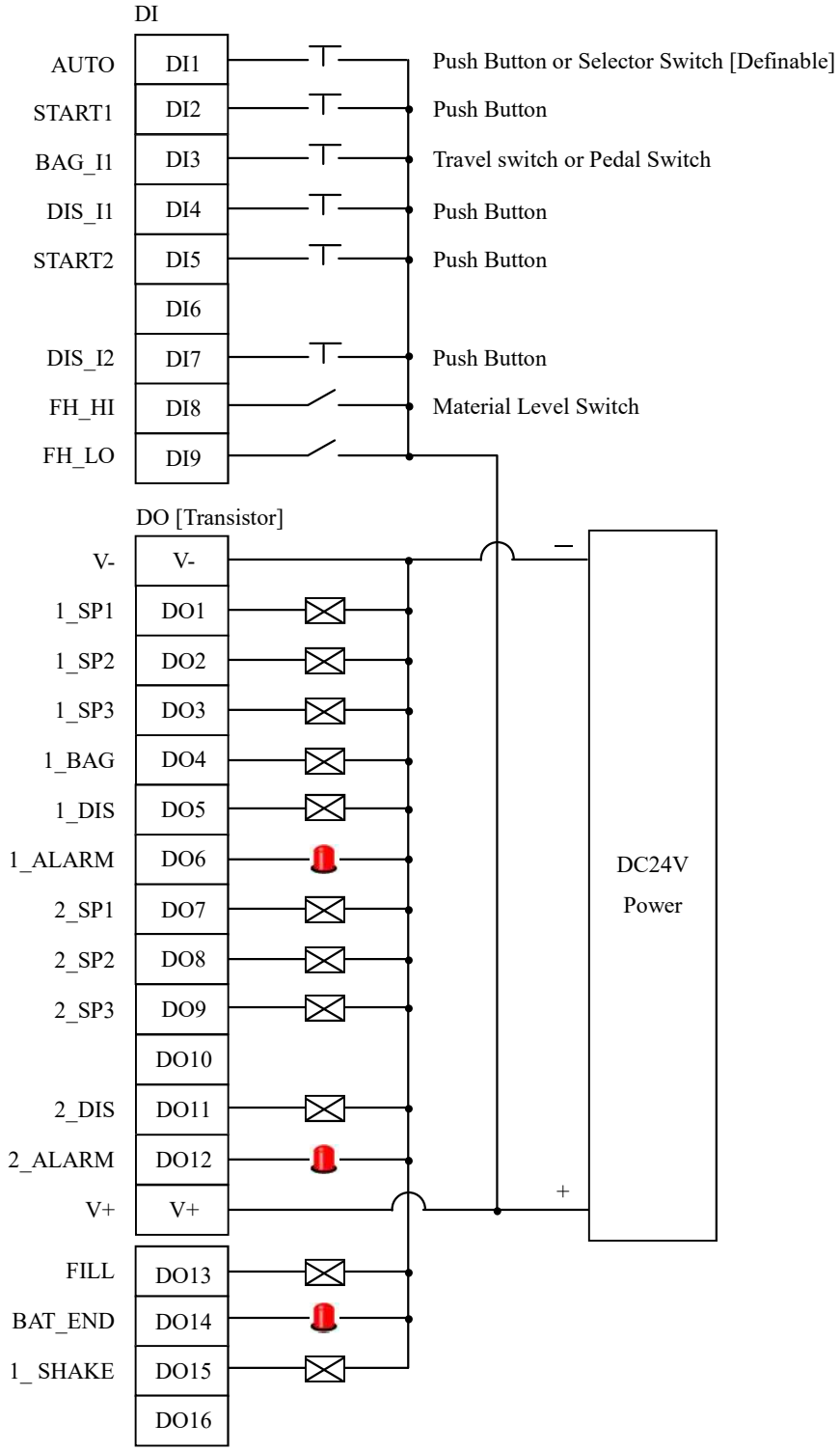


4.4.3 System Diagram for APP1.2 Double-hopper-weighing with one Bag-clamping Mode

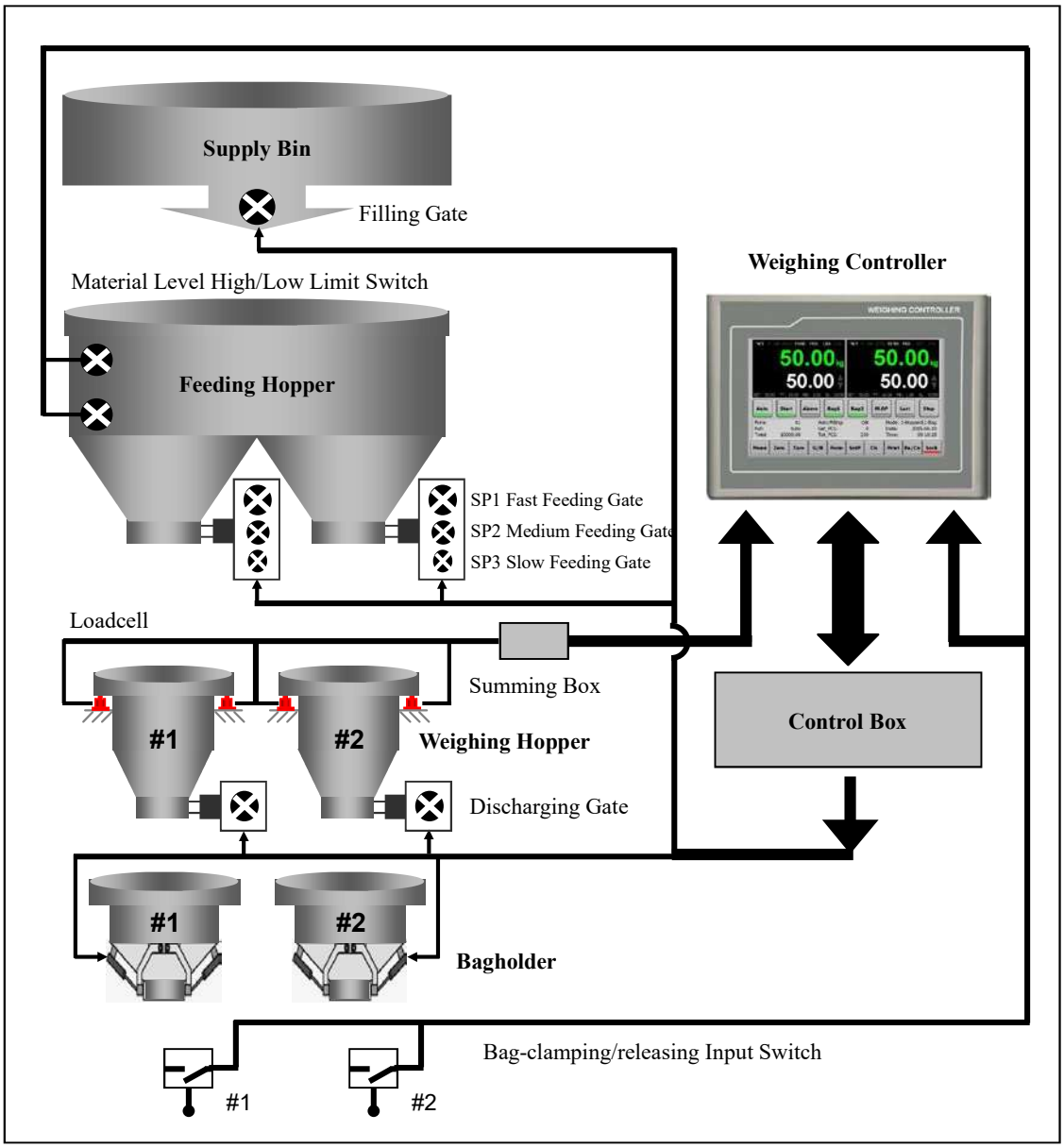


Parameter [300] 'Application Mode'= '1: 2-Hopper & 1-Bag'.

4.4.4 DI/DO Connection for APP1.2 Double-hopper-weighing with one Bag-clamping Mode

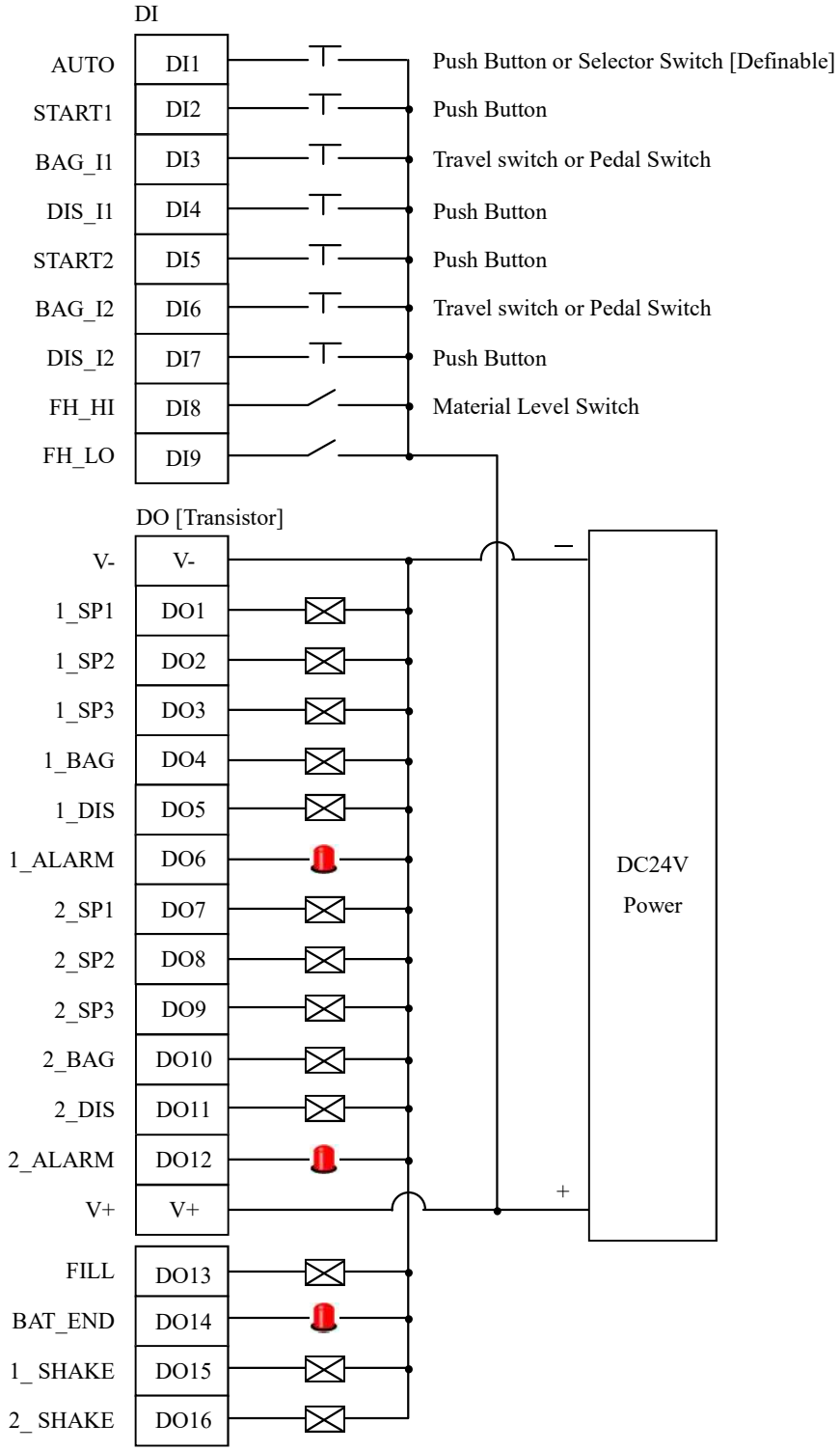


4.4.5 System Diagram for APP1.3 Double-hopper-weighing with two Bag-clampings Mode

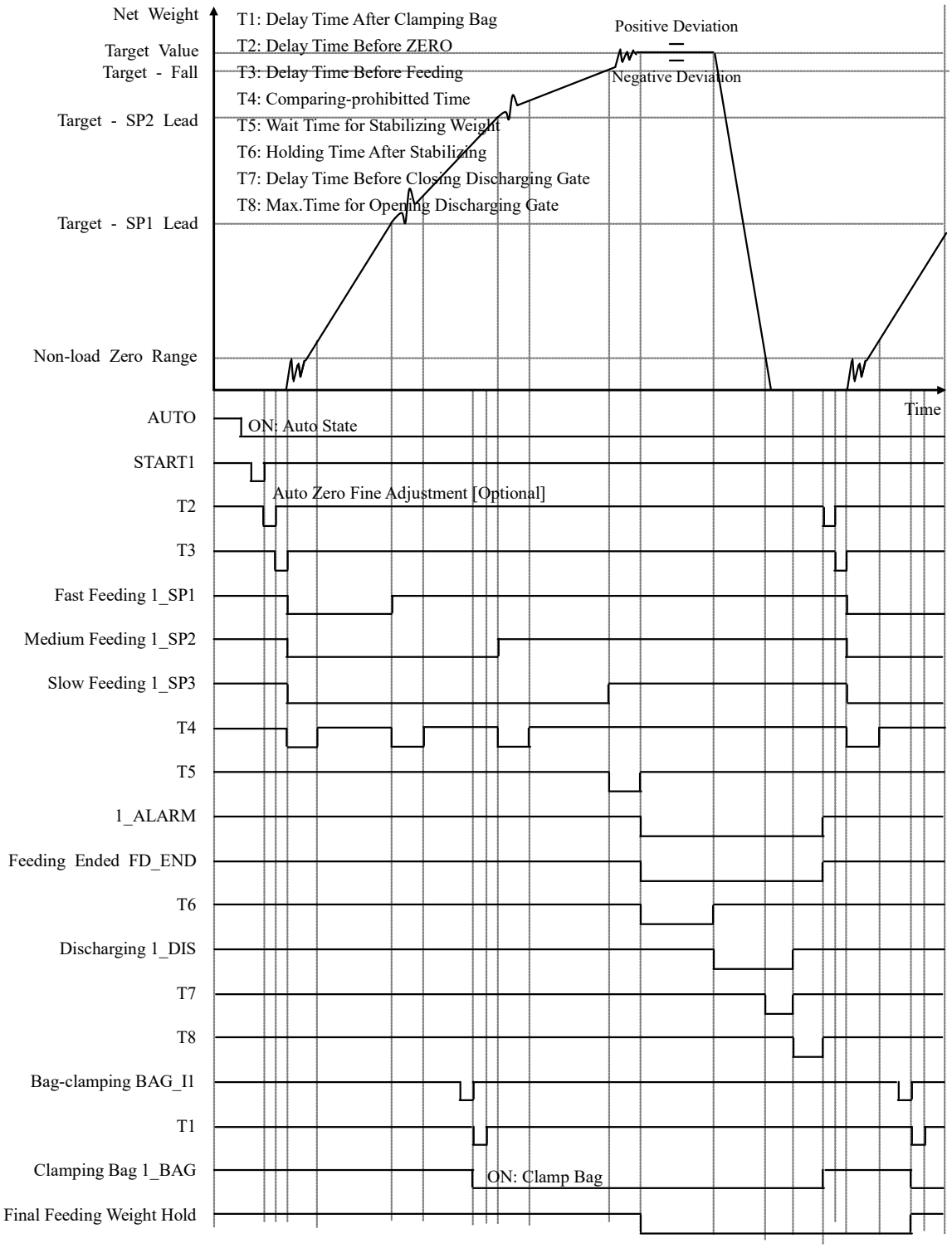


Parameter [300] ‘Application Mode’= ‘2: 2-Hopper & 2-Bag’.

4.4.6 DI/DO Connection for APP1.3 Double-hopper-weighing with two Bag-clampings Mode



4.4.7 Working Timing Diagram of APP1 Hopper-weighing Mode



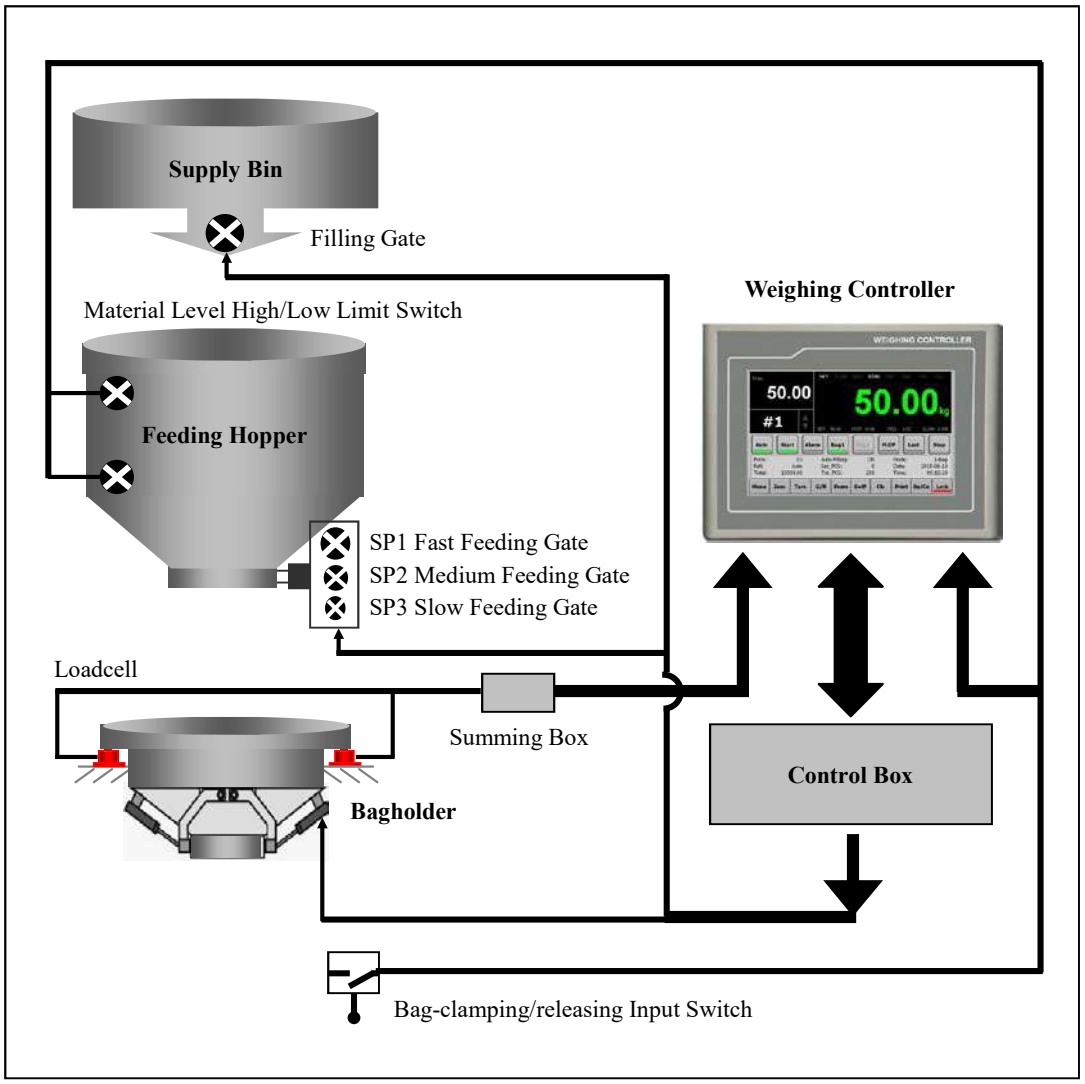
4.4.8 Working Process Table of APP1 Hopper-weighing Mode

Step	Working Process	Para. No.	Input	Output	Note
00	Stop/Manual state?	326	DI1		0: Push Button [OFF→ON→OFF] 1: Selector Switch [OFF/ON]
	Auto state?		DI1		
01	Start state?		DI2 DI5		OFF→ON→OFF: Start.
	Application Mode? 0: APP1.1 1-Hopper	300			1: APP1.2 2-Hopper&1-Bag 2: APP1.3 2-Hopper&2-Bag
	DO Feeding's Start Mode?	304			0: SP1&SP2&SP3 start at the same time 1: SP1/SP2/SP3 starts one by one
	AO Feeding Control?	724~735			
	SP3 Slow Feeding Mode?	305~307			0: Continuous 1: Inching
02	Auto Zero Fine Adjustment?	123/302			
	Delay Time Before ZERO T2	401			
	Delay Time Before Feeding T3.	402			Suggestion: T3=0.
03	Open Feeding Gates.				
04	Comparing-prohibitted Time T4.SP1.	403			
05	'Fast Feeding Weight' reached?	202/206			Formula Parameters: 200~214.
	Close 'Fast Feeding Gate'.			DO1 DO7	AO1 AO2
06	Comparing-prohibitted Time T4.SP2.	404			
07	'Medium Feeding Weight' reached?	203/207			
	Close 'Medium Feeding Gate'.			DO2 DO8	AO1 AO2
08	Comparing-prohibitted Time T4.SP3.	405			
09	'Slow Feeding Weight' reached?	204/208			
	Close 'Slow Feeding Gate'.			DO3 DO9	AO1 AO2
10	Wait Time for Stabilizing Weight T5.	406			
11	Deviation calculation and alarm.	209~210		DO6 DO12	
	Auto SP3 Re-feeding?	308~309		DO3 DO9	AO1 AO2
12	Wait Time for Stabilizing Weight T5 after Auto SP3 Re-feeding.	406			
13	Deviation calculation and alarm after Auto SP3 Re-feeding.				
	Auto Pause while Deviation Alarming?	310		DO6 DO12	DO6&DO12 Output pulse signal [ON: 1s; OFF: 1s]: Pause State.
	Do 'Manual SP3 Re-feeding' in Pause state with Negative Deviation Alarm.			DO3 DO9	AO1 AO2
	Press 'Start / Clear Alarm' button to recover running.		DI2 DI5		

Step	Working Process	Para. No.	Input	Output	Note
14	Wait Time for Stabilizing Weight T5 after Manual SP3 Re-feeding.	406			
	Deviation calculation and alarm after Manual SP3 Re-feeding.				
15	Output 'Feeding Ended' signal.				
	Fall Value Auto Correction?	204/208 311~314			
	Auto-record 'Final Feeding Weight'.				
	Auto-print?	319 807		COM1 COM2	
	Holding Time After Stabilizing T6.	407			Suggestion: T6=0.
18	Bag Clamped?	410	DI3 DI6	DO4 DO10	It's free to clamp and release bag in feeding process.
	Delay Time After Clamping Bag T1.	400			
	Open 'Discharging Gate'.		DI4 DI7	DO5 DO11	Bag-clamping/releasing operation is invalid in auto-discharging process.
	Delay Time for Full-opening Discharging Gate T7a	408			
19	Have the materials in the weighing hopper been discharged completely?	211			Net Weight ≤ Non-load Zero Range?
20	Delay Time Before Closing Discharging Gate T7.	409			
	Close 'Discharging Gate'.				
21	Max.Time for Opening Discharging Gate T8	410			
	Stop outputting 'Feeding Ended' signal.				
	Bag-shaking.	320~325		DO15 DO16	
	Target Batch / Target Totalized Weight Control?	301 212~213		DO14	The packing process stops automatically?
	Return to Step 00 or 01.				
	Release bag manually or automatically after Bag-shaking process ended.	327 328	DI3 DI6	DO4 DO10	
	Filling Materials into Feeding Hopper?	413	DI8 DI9	DO13	
	Filling Overtime Alarm?	414		DO6 DO12	
	Feeding Overtime Alarm?	412			
	Discharging Overtime Alarm?	413			
	Gross Weight Upper Limit Alarm?	214			

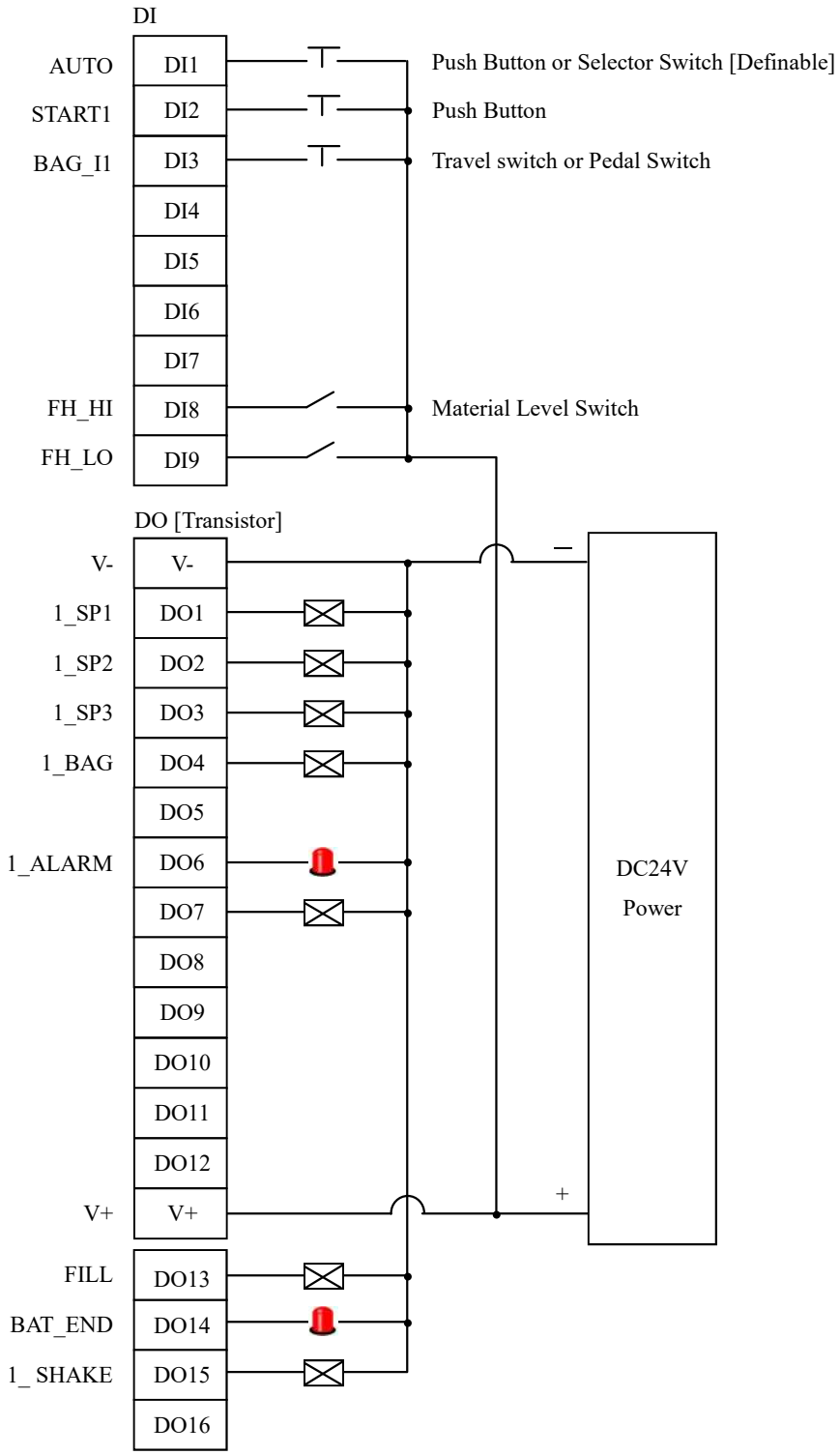
4.5 Typle Application: APP2 Bag-weighing Mode

4.5.1 System Diagram for APP2.1 Single-bag-weighing Mode

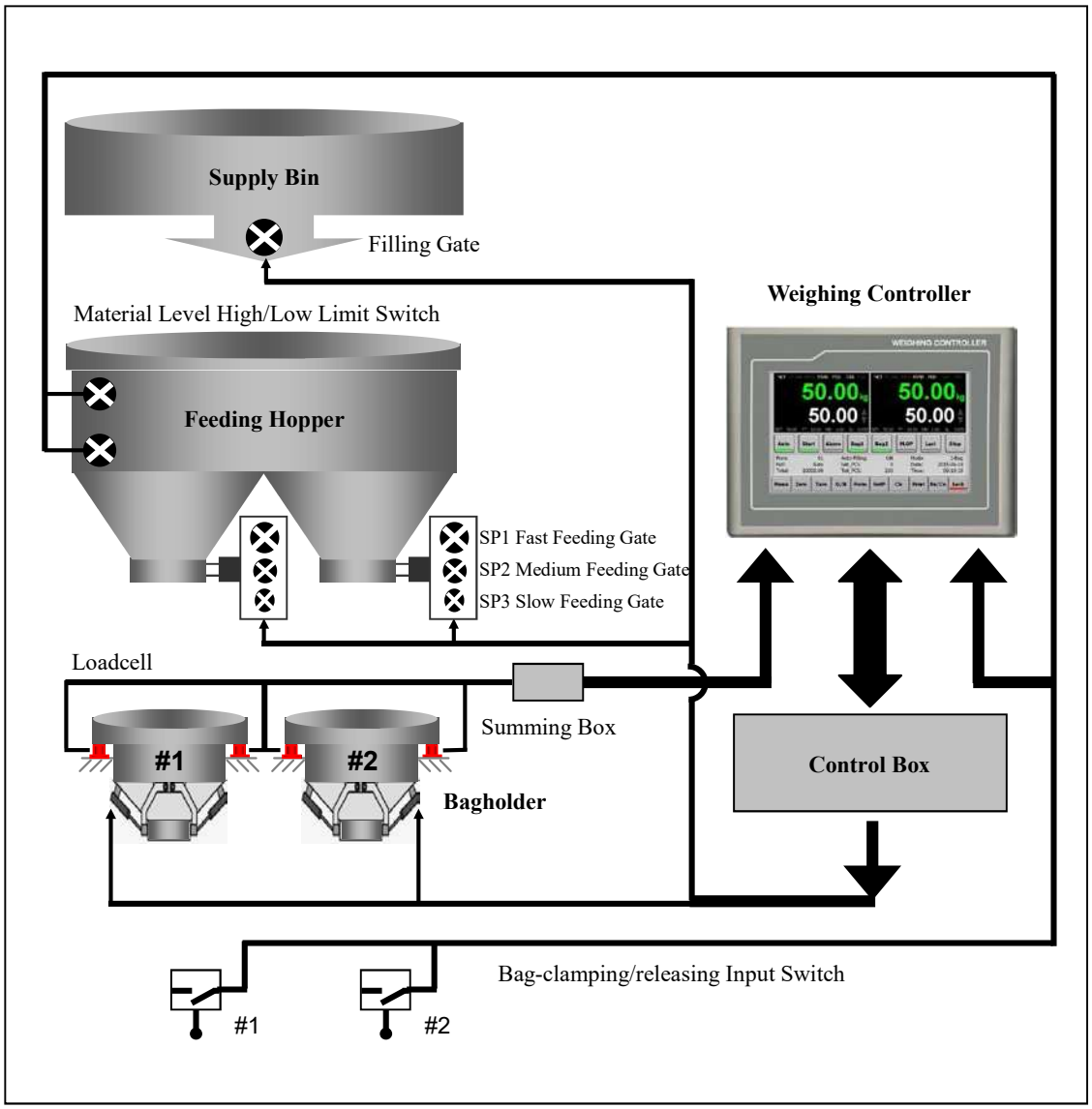


Parameter [300] ‘Application Mode’= ‘3: 1-Bag’.

4.5.2 DI/DO Connection for APP2.1 Single-bag-weighing Mode

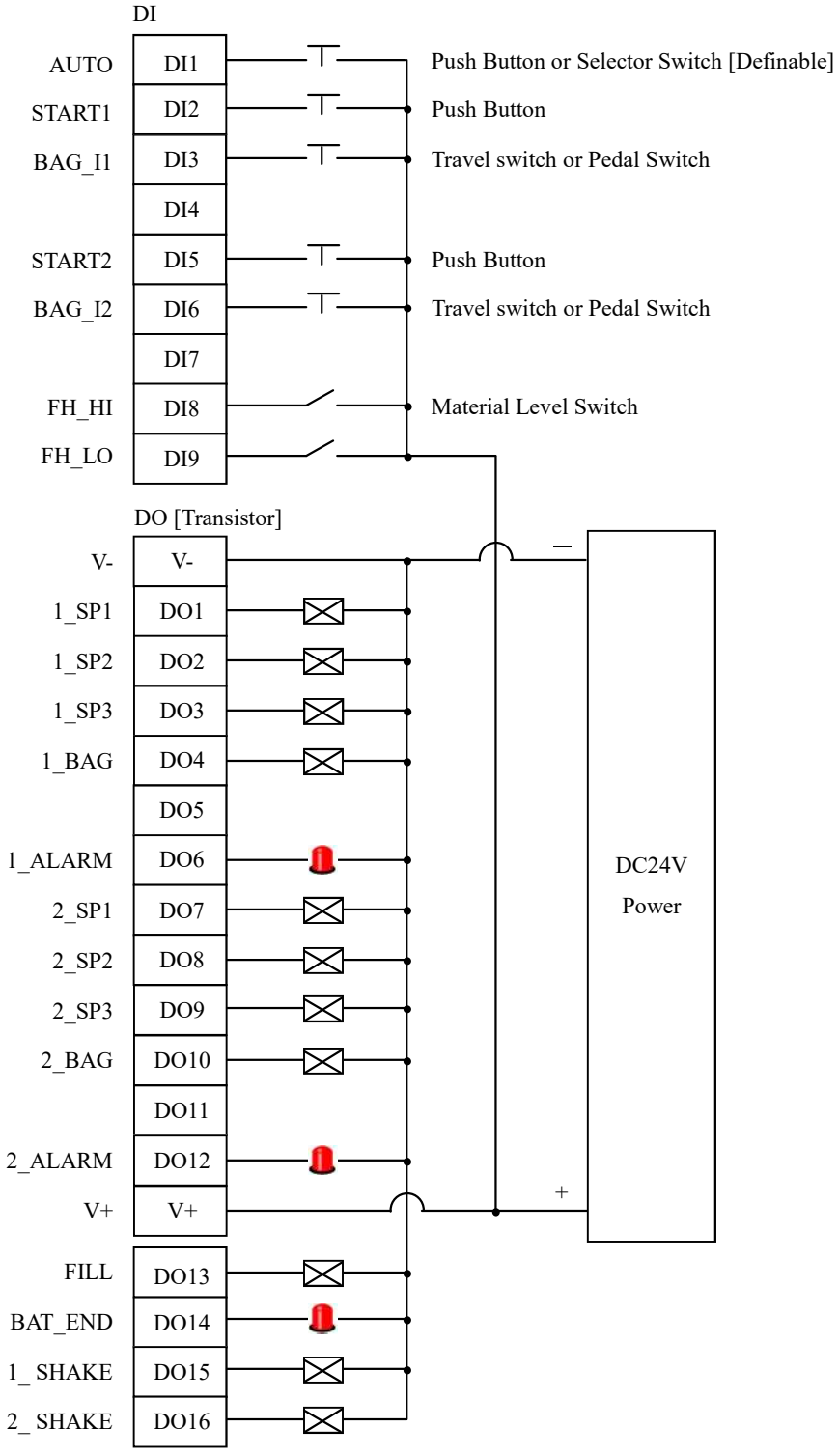


4.5.3 System Diagram for APP2.2 Double-bag-weighing Mode

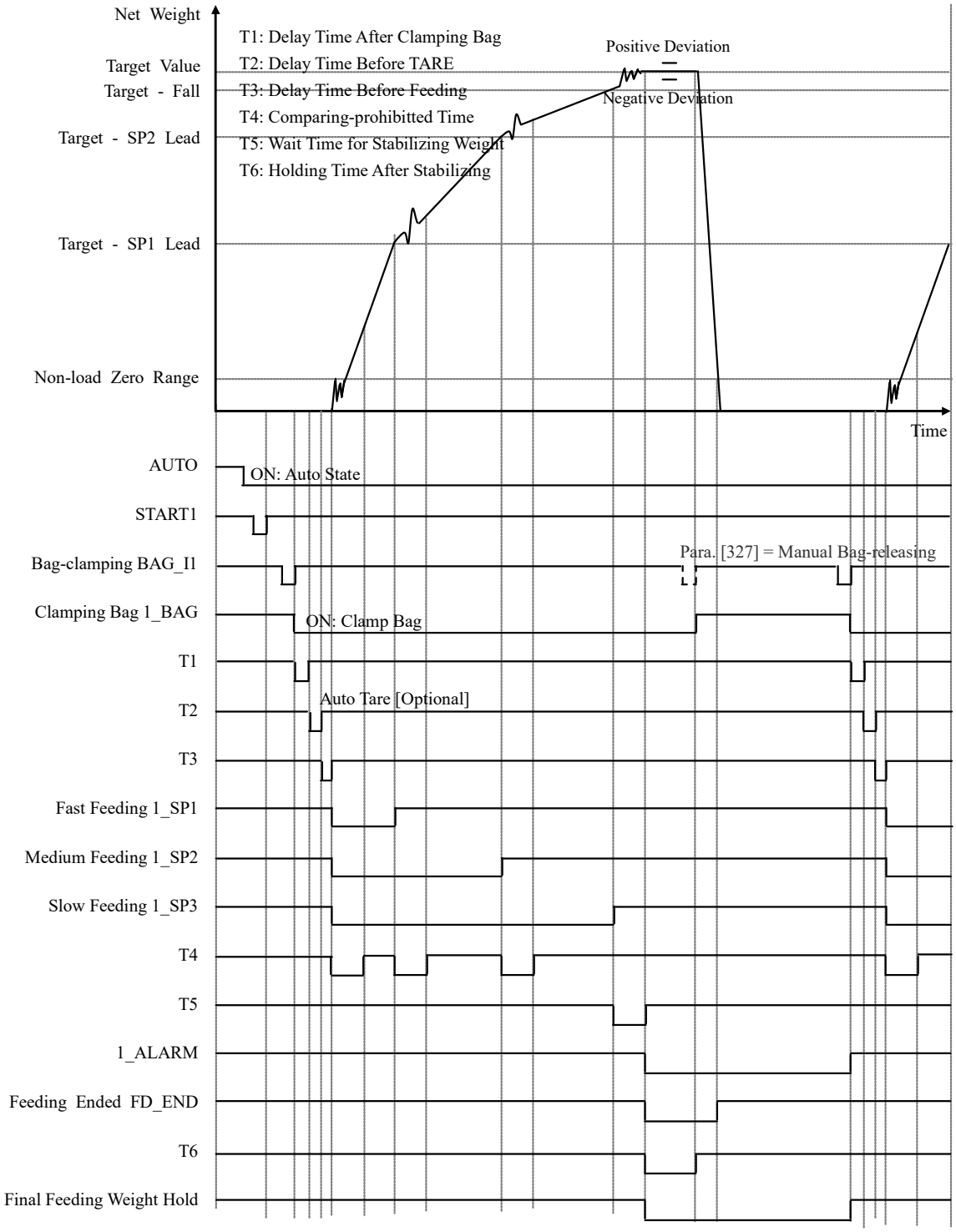


Parameter [300] 'Application Mode'= '4: 2-Bag'.

4.5.4 DI/DO Connection for APP2.2 Double-bag-weighing Mode



4.5.5 Working Timing Diagram of APP2 Bag-weighing Mode

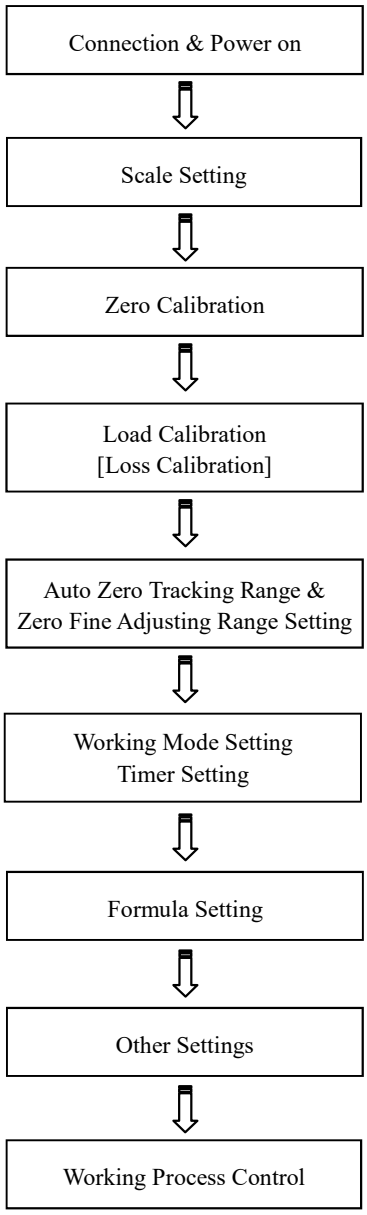


4.5.6 Working Process Table of APP2 Bag-weighing Mode

Step	Working Process	Para. No.	Input	Output	Note
00	Stop/Manual state?	326	DI1		0: Push Button [OFF→ON→OFF] 1: Selector Switch [OFF/ON]
	Auto state?		DI1		
01	Start state?		DI2 DI5		OFF→ON→OFF: Start.
	Application Mode? 3: APP2.1 1-Bag 4: APP2.2 2-Bag	300			
	DO Feeding's Start Mode?	304			0: SP1&SP2&SP3 start at the same time 1: SP1/SP2/SP3 starts one by one
	AO Feeding Control?	724~735			
	SP3 Slow Feeding Mode?	305~307			0: Continuous 1: Inching
02	Bag Clamped?	410	DI3 DI6	DO4 DO10	Bag-clamping/releasing operation is invalid in auto-feeding process.
	Delay Time After Clamping Bag T1.	400			
03	Auto Tare?	303			
04	Delay Time Before TARE T2	401			
	Delay Time Before Feeding T3.	402			Suggestion: T3=0.
05	Open Feeding Gates.				
06	Comparing-prohibitted Time T4.SP1.	403			
07	'Fast Feeding Weight' reached?	202/206			Formula Parameters: 200~214.
	Close 'Fast Feeding Gate'.			DO1 DO7	AO1 AO2
08	Comparing-prohibitted Time T4.SP2.	404			
09	'Medium Feeding Weight' reached?	203/207			
	Close 'Medium Feeding Gate'.			DO2 DO8	AO1 AO2
10	Comparing-prohibitted Time T4.SP3.	405			
11	'Slow Feeding Weight' reached?	204//208			
	Close 'Slow Feeding Gate'.			DO3 DO9	AO1 AO2
12	Wait Time for Stabilizing Weight T5.	406			
13	Deviation calculation and alarm.	209~210		DO6 DO12	
	Auto SP3 Re-feeding?	308~309		DO3 DO9	AO1 AO2

Step	Working Process	Para. No.	Input	Output	Note
14	Wait Time for Stabilizing Weight T5 after Auto SP3 Re-feeding.	406			
15	Deviation calculation and alarm after Auto SP3 Re-feeding.				
	Auto Pause while Deviation Alarming?	310		DO6 DO12	DO6&DO12 Output pulse signal [ON: 1s; OFF: 1s]: Pause State.
	Do 'Manual SP3 Re-feeding' in Pause state with Negative Deviation Alarm.			DO3 DO9	AO1 AO2
	Press 'Start / Clear Alarm' button to recover running.		DI2 DI5		
16	Wait Time for Stabilizing Weight T5 after Manual SP3 Re-feeding.	406			
	Deviation calculation and alarm after Manual SP3 Re-feeding.				
17	Output 'Feeding Ended' signal.				
	Fall Value Auto Correction?	204/208 311~314			
18	Auto-record 'Final Feeding Weight'.				
	Auto-print?	319 807		COM1 COM2	
	Holding Time After Stabilizing T6.	407			Suggestion: T6=0.
19	Bag-shaking.	320~325		DO15 DO16	
20	Release bag manually or automatically after Bag-shaking process ended.	327	DI3 DI6	DO4 DO10	
	Has the bag been separated from the bagholder?	211			Net Weight ≤ Non-load Zero Range?
	Stop outputting 'Feeding Ended' signal.				
21	Target Batch / Target Totalized Weight Control?	301 212~213		DO14	The packing process stops automatically?
	Return to Step 00 or 01.				
	Filling Materials into Feeding Hopper?	413	DI8 DI9	DO13	
	Filling Overtime Alarm?	414		DO6 DO12	
	Feeding Overtime Alarm?	412			
	Bag-releasing Overtime Alarm?	413			
	Gross Weight Upper Limit Alarm?	214			

5. Operation Procedure



6. Function&Operation

6.1 Main Menu Interface

6.2 Main Menu Function

Main Menu	Second Menu	Description	Authorization
F1 SET	Scale	Scale parameters setting.	Engineer Administrator
	Calibration	Calibration parameters setting.	
	Formula	Present working formula parameters setting.	
	Mode	Working mode parameters setting.	
	Timer	Timer parameters setting.	
	Comm.	Communication parameters setting.	
	Display	Display and operation interface parameters setting.	
F2 CAL	1 Zero Cal.	Zero Calibration without loading on the weigher to correct Zero Value.	
	2 Load Cal.	Load Caliration with loading standard weights on the weigher to correct Span Coefficient.	
	3 Loss Cal.	Loss Caliration to correct Span Coefficient acccording to the weight of the materials discharged from the weighing hopper.	
F3 DATA	Real-time	Real-time Data Query.	All Users ['Clear' only for Engineer & Administrator]
	Batch Rec.	Historical Batch Records Query / USB Copy [Excel Format] / Clear.	
	Hour Rec.	Hour Records Query / USB Copy [Excel Format] / Clear.	
F4 CLS		Clear all of the Historical Batch Records and Hour Records.	Engineer Administrator
F5 USER	Password	Login/Password Set/Logoff. Exfactory Passwords: Operator: None; Engineer: 0; Administrator: 1.	All Users
F6 FAC	Hardware	Hardware Test.	Administrator
	I/O Test	I/O Test.	
	Part-Default	Reset partial parameters to default values.	
	All-Default	Reset all parameters to default values.	
	AO Adj.	AO Zero/Full Adjustment and AO Linearity Test.	
	Para. Backup	Parameter Backup.	
	Para. Recover	Parameter Recover.	
F7 TIME		Date&time Setting.	Engineer Administrator
F8 FORM		Formula management.	
F9 I/O		DI/DO/AO Function Definition. 'Part-Default' operation has no effect on I/O parameters.	Administrator
MAIN		Return to Main Display Interface.	All Users

6.3 F1 Parameter Setting [F1 SET]

6.3.1 Weighing Parameters [Scale]

No.	Sign	Range	Default	Description	REG
100	Weight Unit	0~3	1	**Weight Unit** *0: None* *1: kg* *2: t* *3: g*	40101
101	Decimal Point Position	0~3	2	**Decimal Point Position** *0: 0* *1: 0.0* *2: 0.00* *3: 0.000*	40103
102	Scale Capacity	1~999999	10000	**Scale Capacity** Max. allowed loading weight of the load receptor. Scale Capacity≤Total Capacity of Loadcells – Self-weight of Load Receptor.	40105
103	Scale Division	1~50	1	**Scale Division** *0: 1* *1: 2* *2: 5* *3: 10* *4: 20* *5: 50*	40107
104	#1 Zero Value	-20000~ +999999	0 [*]	**#1 Zero Value** Only for query.	40109
105	#1 Span Coefficient	0.0001~ 999.9999	1.0000 [*]	**#1 Span Coefficient** Only for query.	40111
106	#2 Zero Value	-20000~ +999999	0 [*]	**#2 Zero Value** Only for query.	40113
107	#2 Span Coefficient	0.0001~ 999.9999	1.0000 [*]	**#2 Span Coefficient** Only for query.	40115

[*]: 'Part-Default' operation has no effect on the parameter.

<table>
<tr><th>No.</th><th>Sign</th><th>Range</th><th>Default</th><th>Description</th><th>REG</th></tr>
<tr><td>108</td><td>Stablity Judging Range</td><td>0~5</td><td>0</td><td>Stablity Judging Range [d: Division]
Weight Variance per [109] ‘Stablity Judging Time’ being in [108] ‘Stablity Judging Range’ means ‘Weight is stable’.</td><td>40117</td></tr>
<tr><td>109</td><td>Stablity Judging Time</td><td>0.1~9.9</td><td>0.5</td><td>Stablity Judging Time [s]</td><td>40119</td></tr>
<tr><td>110

111</td><td>#1 Anti-Vibration Filter 1-2

#2 Anti-Vibration Filter 1-2</td><td>00~79</td><td>37

37</td><td>#1 Anti-Vibration Digital Filter 1-2
#2 Anti-Vibration Digital Filter 1-2
10^1 Digit: Filter1 for SP1/SP2 feeding control.
10^0 Digit: Filter2 for SP3 feeding control.
<table>
<tr><th>Digit</th><th>Cutoff Frequency</th></tr>
<tr><td>0</td><td>None</td></tr>
<tr><td>1</td><td>11.2Hz</td></tr>
<tr><td>2</td><td>8.0Hz</td></tr>
<tr><td>3</td><td>5.6Hz</td></tr>
<tr><td>4</td><td>4.0Hz</td></tr>
<tr><td>5</td><td>2.8Hz</td></tr>
<tr><td>6</td><td>2.0Hz</td></tr>
<tr><td>7</td><td>1.4Hz</td></tr>
<tr><td>8</td><td>1.0Hz</td></tr>
<tr><td>9</td><td>0.7Hz</td></tr>
</table></td><td>40121

40123</td></tr>
<tr><td>112</td><td>Smooth Filter 3</td><td>1~40</td><td>20</td><td>Smooth Digital Filter 3
Smooth Filtering Sample Number.
Further lower the cutoff frequency for more stable weight display.</td><td>40125</td></tr>
</table>

6.3.2 Calibration Parameters [Calibration]

No.	Sign	Range	Default	Description	REG
120	Auto Zero Tracking Permission	0~1	0	**Auto Zero Tracking Permission** *0: OFF* *1: ON* [Only when weight is stable, Auto Zero Tracking will be allowed] Refer to parameter [108] 'Stablity Judging Range' and [109] 'Stablity Judging Time'.	40151
121	Auto Zero Tracking Time	1~10	1	**Auto Zero Tracking Time** [s]	40153
122	Auto Zero Tracking Range	0.1~50.0	0.2	**Auto Zero Tracking Range** [d: Division] Zero Tracking Rate = [122] / [121]. Suggestion: Zero Tracking Rate ⩽ 0.5 [Division/s].	40155
123	Zero Fine Adjusting Range	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%).	40157
124	Auto Tare Range	0~50000	50	**Auto Tare Range** **Used for APP2 Bag-weighing Mode.** When Gross Weight is within this range, 'Auto Tare' without Power-down Protection will be valid.	40159
125	Initial Zero Adj. after Power-on	0~1	0	**Initial Zero Adjustment after Power-on** *0: OFF* *1: ON* [without Power-down Protection]	40161
126	Initial Zero Adjusting Time	0~1800	30	**Initial Zero Adjusting Time** [s]	40163
127	Initial Zero Adjusting Range	0~50000	50	**Initial Zero Adjusting Range** Suggestion: Set value ⩽ (Scale Capacity × 20%).	40165

6.3.3 Formula Parameters [Formula]

No.	Sign	Range	Default	Description	REG
200	Present Working Formula No.	1~10	1	**Present Working Formula No.**	40199
201	#1 Target Value	0~60000	5000	#1 **Target Value** Set value = 0: The feeding system #1 will not work.	40201
202	#1 SP1 Initial Lead Value	0~60000	1000	#1 **SP1 Initial Lead Value for Fast Feeding** Set value = 0: The DO switch 'SP1 Fast Feeding' will not participate in the feeding process. Set value > 0: When 'Feeding Weight≥(Target Value−SP1 Lead)' in the feeding process, the DO switch 'SP1 Fast Feeding' will turn off automatically. The auto-feeding process of the first batch after 'Start' signal inputted: ✧ If 'Net Weight ≥(Target Value – SP3 Fall)', then the auto-feeding process of the first batch will be skipped. ✧ If '(Target Value × 50%)≤Net Weight≤(Target Value – SP3 Fall)', then the DO switches 'SP3 Slow Feeding' and 'SP2 Medium Feeding' will not participate in the auto-feeding process of the first batch, and only the DO switch 'SP3 Slow Feeding' will do.	40203
203	#1 SP2 Initial Lead Value	0~60000	100	#1 **SP2 Initial Lead Value for Medium Feeding** Set value = 0: The DO switch 'SP2 Medium Feeding' will not participate in the feeding process. Set value > 0: When 'Feeding Weight≥(Target Value−SP2 Lead)' in the feeding process, the DO switch 'SP2 Medium Feeding' will turn off automatically.	40205
204	#1 SP3 Fall Value	0~60000	50	#1 **SP3 Fall Value for Slow Feeding** When 'Feeding Weight≥(Target Value −SP3 Fall)' in the feeding process, the DO switch 'SP3 Slow Feeding' will turn off automatically. Note: It has one more decimal than 'Target Value'.	40207

No.	Sign	Range	Default	Description	REG
205	#2 Target Value	0~60000	5000	#2 **Target Value** Set value = 0: The feeding system #2 will not work.	40209
206	#2 SP1 Initial Lead Value	0~60000	1000	#2 **SP1 Initial Lead Value for Fast Feeding**	40211
207	#2 SP2 Initial Lead Value	0~60000	100	#2 **SP2 Initial Lead Value for Medium Feeding**	40213
208	#2 SP3 Fall Value	0~60000	50	#2 **SP3 Fall Value for Slow Feeding**	40215
209	Positive Deviation	0~60000	5	**Positive Deviation Permission Value** Positive Deviation = Final Feeding Weight – Target Value. If 'Positive Deviation > Permission Value', the DO switch 'Positive Deviation Alarm' will turn on automatically.	40217
210	Negative Deviation	0~60000	5	**Negative Deviation Permission Value** Negative Deviation = Target Value – Final Feeding Weight. If 'Negative Deviation > Permission Value', the DO switch 'Negative Deviation Alarm' will turn on automatically.	40219
211	Non-load Zero Range	0~60000	200	**Non-load Zero Range** **Hopper-weighing Mode:** After the auto-discharging process ended, 'Net Weight≤Non-load Zero Range' is used as the judging condition that the materials in the weighing hopper have been discharged completely. **Bag-weighing Mode:** In the process of auto-releasing bag, 'Net Weight≤Non-load Zero Range' is used as the judging condition that the packing bag filled with materials has separated from the bagholder.	40221
212	Target Batch	0~9999	0	**Target Batch** Set value = 0: No judging 'Target Batch Finished'. Set value > 0: After Batch Count reached to this set value, the controller will display prompt message.	40223

No.	Sign	Range	Default	Description	REG
213	Target Totalized Weight	0~999999	0	**Target Totalized Weight** Its Display Unit is 1000 × '[100] Weight Unit', and its Decimal Point is in accordance with the set value of [101]. Set value = 0: No judging 'Target Totalized Weight Finished'. Set value > 0: After Totalized Weight reached to this set value, the controller will display prompt message.	40225
214	Gross Weight Upper Limit	0~999999	0	**Gross Weight Upper Limit** Set value = 0: No judging 'Gross Weight Upper Limit'. Set value > 0: If 'Gross Weight ≥ Upper Limit', the controller will display alarm message.	40227

6.3.4 Working Mode Parameters [Mode]

No.	Sign	Range	Default	Description	REG
300	Application Mode	0~4	1 [*]	**Application Mode** *0: APP1.1 1-Hopper* [Single-hopper–weighing Mode] *1: APP1.2 2-Hopper&1-Bag* [Double-hopper-weighing with one bag-clamping Mode] *2: APP1.3 2-Hopper&2-Bag* [Double-hopper-weighing with two bag-clampings Mode] *3: APP2.1 1-Bag* [Single-bag-weighing Mode] *4: APP2.2 2-Bag* [Double-bag-weighing Mode] Authorization: Administrator.	40301
301	Batch/Weight Control	0~1	0	**Target Batch / Target Totalized Weight Control** *0: OFF* *1: ON* [With Target Batch finished or Target Totalized Weight finished, the packing process will stop automatically]	40303
302	Batch Count for Auto Zero	0~99	10	**Batch Count for Auto Zero Fine Adjustment** **Used for APP1 Hopper-weighing Mode.** Set value=0: No doing 'Auto Zero Fine Adjustment'. Set value > 0: To the first two batches after 'Start' signal inputted, the controller will do 'Auto Zero Fine Adjustment' [without power-down protection] before feeding; then to the next batch, only after Batch Count reached to this set value, the controller will do 'Auto Zero Fine Adjustment' before feeding.	40305
303	Batch Count for Auto Tare	0~99	10	**Batch Count for Auto Tare** **Used for APP2 Bag-weighing Mode.** Set value = 0: No doing 'Auto Tare'. Set value > 0: To the first two batches after 'Start' signal inputted, the controller will do 'Auto Tare' [without power-down protection] before feeding; then to the next batch, only after Batch Count reached to this set value, the controller will do 'Auto Tare' before feeding.	40307

[*]: 'Part-Default' operation has no effect on the parameter.

No.	Sign	Range	Default	Description	REG
304	DO Feeding's Start Mode	0~1	0	**DO Feeding's Start Mode** *0: Same Time* [SP1&SP2&SP3 start at the same time] *1: One By One* [SP1/SP2/SP3 starts one by one]	40309
305	SP3 Slow Feeding Mode	0~1	0	**SP3 Slow Feeding Mode** *0: Continuous* [Continuous Feeding Mode] *1: Inching* [Inching Feeding Mode: SP3 works with Inching Feeding Mode in Slow Feeding process. Inching DO outputs ON/OFF; Inching AO outputs 0V/'Control Voltage for SP3 Slow Feeding']	40311
306	Ta SP3 ON Holding Time	0.03 ~9.99	0.50	**SP3 ON Holding Time Ta** [s] Used for SP3 Inching Feeding Mode.	40313
307	Tb SP3 OFF Holding Time	0.03 ~9.99	0.50	**SP3 OFF Holding Time Tb** [s] Used for SP3 Inching Feeding Mode.	40315
308	SP3 Re-feeding for Fall Point	0~1	0	**Auto SP3 Re-feeding for Fall Point** *0: OFF* *1: ON* [If the auto-feeding process stops abnormally because of large impact on the weighing hopper, and 'Feeding Weight < (Target Value − SP3 Fall)', the DO switch 'SP3 Slow Feeding' will turn on again automatically for re-feeding. When 'Feeding Weight≥(Target Value −SP3 Fall)', the DO switch 'SP3 Slow Feeding' will turn off automatically to stop re-feeding]	40317
309	Tk of SP3 Re-feeding for Neg. Dev.	0.00 ~5.00	0.00	**Auto SP3 Re-feeding Time for Negative Deviation Tk** [s] Set value = 0: No Auto Re-feeding. Set value > 0: After the processes of auto-feeding and 'Auto SP3 Re-feeding for Fall Point' stopped, if 'Feeding Weight < (Target Value − Negative Deviation Permission Value)', the process of 'Auto SP3 Re-feeding for Negative Deviation' with Tk as the re-feeding time per time will start automatically, once 'Feeding Weight≥(Target Value −Negative Deviation Permission Value)' or the re-feeding times reached to 10, the re-feeding process will stop immediately. Empirical value: Tk = 0.10~0.20s.	40319

No.	Sign	Range	Default	Description	REG
310	Auto Pause with Deviation Alarm	0~1	0	**Auto Pause while Deviation Alarming** *0: OFF* *1: ON* [The controller will display alarm message in Pause state. In Pause state with Negative Deviation Alarm, it's allowed to do 'Manual SP3 Re-feeding', when 'Feeding Weight≥ (Target Value − Negative Deviation Permission Value)', the re-feeding process will stop automatically, and then press the DI button 'Start/Clear Alarm' to recover running]	40321
311	Fall Value Auto Correction	0~1	0	**Fall Value Auto Correction** *0: OFF* *1: ON*	40323
312	Fall Auto Correction Interval	1~99	3	**Interval of Fall Value Auto Correction N** After Deviation Alarm Count reached to N, Fall Value will be corrected automatically.	40325
313	Fall Auto Correction Range	1 ~60000	50	**Fall Value Auto Correction Range** If the absolute value of deviation exceeds this range, it will not be used for the calculation of Fall Correction Value.	40327
314	Fall Auto Correction Ratio	0~2	1	**Fall Value Auto Correction Ratio** [%] *0: 25%; 1: 50%; 2: 100%* New Fall Value = Original Fall Value + Deviation Value × Fall Value Auto Correction Ratio. Deviation Value = Final Feeding Weight − Target Value.	40329
315	Tg Before Bag-sewing Ends	0.0~9.99	0.20	**Delay Time Before Bag-sewing Ends Tg** [s] Once 'Bag-sewing Request' DI switch turns on [OFF→ON], the DO switch 'Bag-sewing' will turn on automatically to enter the bag-sewing process. After 'Bag-sewing Request' DI switch turns off [ON→OFF] and then the time Tg delayed, the DO switch 'Bag-sewing' will turn off automatically to stop the bag-sewing process.	40331

No.	Sign	Range	Default	Description	REG
316	Th Max. Bag-sewing Time	0.0~9.99	0.00	**Max. Bag-sewing Time Th** [s] Set value = 0: No Limit. Set value > 0: Once 'Bag-sewing Time ⩾ Th', the 'Bag-sewing' process will end immediately and then enter the thread-cutting process.	40333
317	Ti Before Thread-cutting	0.0~9.99	0.20	**Delay Time Before Thread-cutting Ti** [s] After the bag-sewing process ended and then the time Ti delayed, the DO switch 'Thread-cutting' will turn on automatically to control the thread-cutter do cutting action.	40335
318	Tj of Thread-cutting Pulse	0.0~9.99	0.50	**Thread-cutting PulseTime Tj** [s] The DO switch 'Thread-cutting' will keep on 'ON' state in the time Tj, then it will turn off automatically to let the thread-cutter move back to its initial position.	40337
319	Auto Print	0~1	0	**Auto Print** *0: OFF* *1: ON* [It's necessary to define print port] Refer to Appendix A.	40339
320	Bag-shaking Permission	0~1	0	**Bag-shaking Permission** *0: OFF* [No Bag-shaking & Bag-moving Process] *1: ON* [After the packing bag filled with materials, the bag-beater will beat the packing bag horizontally or the bag-shaker will shake the packing bag vertically for making the materials in the packing bag tight, then the bag-shaker will move the packing bag down or up to the bag-releasing position. After the packing bag released, the Bag-shaker will move back to its initial position]	40341
321	Bag-shaking Times	0~99	3	**Bag-shaking Times**	40343
322	Tc Bag-shaking Holding Time	0.1~9.9	1.0	**Bag-shaking Holding Time Tc** [s] The DO switch of 'Bag-shaking' keeps on 'ON' state in the time Tc to control the Bag-beater to beat the packing bag horizontally or to control the Bag-shaker to shake the packing bag vertically.	40345

No.	Sign	Range	Default	Description	REG
323	Td Bag-shaking Interval Time	0.1~9.9	1.0	**Bag-Shaking Interval Time Td** [s] The DO switch of 'Bag-shaking' keeps on 'OFF' state in the time Td to let the Bag-beater or the Bag-shaker move back to its initial position.	40347
324	Te Bag-shaker's Bag-moving Time	0.0~9.9	0.0	**Bag-shaker's Bag-moving Time Te** [s] Set value = 0: No Bag-moving process. Set value > 0: After the bag-shaking process ended, the DO switch of 'Bag-shaking' will keep on 'ON' state in the time Te to control the Bag-shaker to move the packing bag down or up to the bag-releasing position.	40349
325	Tf Bag-shaker's Moving-back Time	0.1~9.9	0.0	**Bag-shaker's Moving-back Time Tf** [s] After the time Te ended, it's allowed to release the packing bag automatically or manually. Then after the packing bag released, the DO switch of 'Bag-shaking' will keep on 'OFF' state in the time Tf to let the Bag-shaker move back to its initial position.	40351
326	Manual/Auto DI Type	0~1	0	**Manual/Auto DI Type** *0: Push Button* [OFF→ON→OFF] *1: Selector Switch* [OFF/ON]	40353
327	Bag-releasing Mode	0~1	0	**Bag-releasing Mode** *0: Auto* *1: Manual*	40355
328	Batch Count for Bag-releasing	0~99	1	**Batch Count for Auto Bag-releasing** **Used for APP1 Hopper-weighing Mode.** Set value=0: It's not need to clamp and release bag. Set value > 0: After Batch Count reached to this set value, the packing bag will be released automatically.	40357
329	Manual Discharging Condition	0~1	0	**Manual Discharging Condition** **Used for APP1 Hopper-weighing Mode.** *0: None* *1: Bag Clamped*	40359

6.3.5 Timer Parameters [Timer]

No.	Sign	Range	Default	Description	REG
400	T1 After Clamping Bag	0.00 ~9.99	0.50	**Delay Time After Clamping Bag T1** [s] After 'Bag-clamping Request' DI signal took effect, the DO switch 'Clamping/Releasing Bag' will turn on automatically to clamp the packing bag. The delay time T1 is used for ensuring the action of 'Clamping Bag' finished. **Hopper-weighing Mode:** Only after the action of 'Clamping Bag' being finished, it's allowed to enter the auto-discharging process. The Bag-clamping/releasing operation is invalid in auto-discharging process. **Bag-weighing Mode:** Only after the action of 'Clamping Bag' being finished, it's allowed to enter the auto-feeding process. The Bag-clamping/releasing operation is invalid in auto-feeding process.	40401
401	T2 Before ZERO/TARE	0.00 ~9.99	2.00	**Delay Time Before ZERO/TARE T2** [s] Delay Time Before Auto Zero Fine Adjustment & Auto Tare. If Auto Zero Fine Adjustment and Auto Tare (set via parameter [302]&[303]) are not necessary before feeding, the time T2 will not be delayed. T2 delaying process: If the delayed time is up to 1s, then once the weight display value is stable, the T2 delaying process will end immediately. Refer to parameter [108] 'Stablity Judging Range' and [109] 'Stablity Judging Time'. Then the controller will do 'Auto Zero Fine Adjustment' or 'Auto Tare'.	40403
402	T3 Before Feeding	0.00 ~9.99	0.00	**Delay Time Before Feeding T3** [s] After the time T3 delayed, the feeding process will start.	40405
403	T4.SP1 Comparing-prohibitted	0.00 ~9.99	0.50	**Comparing-prohibitted Time T4.SP1** [s] When the process of 'Fast Feeding' starts, the impact of falling materials will make the weighing hopper vibrating, so it's prohibitted to compare Feeding Weight with SP1 Setpoint in the time T4.SP1.	40407

No.	Sign	Range	Default	Description	REG
404	T4.SP2 Comparing-prohibitted	0.00 ~9.99	0.50	**Comparing-prohibitted Time T4.SP2** [s] When the process of 'Fast Feeding' stops, the flow sudden-change of falling materials will make the weighing hopper/bag vibrating, so it's prohibitted to compare Feeding Weight with SP2 Setpoint in the time T4.SP2.	40409
405	T4.SP3 Comparing-prohibitted	0.00 ~9.99	0.80	**Comparing-prohibitted Time T4.SP3** [s] When the process of 'Medium Feeding' stops, the flow sudden-change of falling materials will make the weighing hopper/bag vibrating, so it's prohibitted to compare Feeding Weight with SP3 Setpoint in the time T4.SP3. This parameter is invalid to the processes of 'Auto SP3 Re-feeding' and 'Manual SP3 Re-feeding'.	40411
406	T5 for Stabilizing Weight	0.00 ~9.99	2.00	**Wait Time for Stabilizing Weight T5** [s] When 'SP3 Slow Feeding', 'Auto SP3 Re-feeding' or 'Manual SP3 Re-feeding' stops, some materials have left the feeding hopper but still in mid-air, so it's necessary to delay the time T5 for ensuring all of the materials in mid-air fell into the weighing hopper or packing bag. T5 delaying process: If the delayed time is up to 1s, then once the weight display value is stable, the T5 delaying process will end immediately. Refer to parameter [108] 'Stablity Judging Range' and [109] 'Stablity Judging Time'. Then the controller will do Final Feeding Weight Detection, Deviation calculation and Deviation alarm. Note: The smaller set value of T5 can improve the packing speed without affecting the packing accuracy, but it may lead to the display value and record value of Final Feeding Weight being different with the actual value. If it's necessary to display and record the accurate value of Final Feeding Weight, the set value of T5 should be reasonable.	40413

No.	Sign	Range	Default	Description	REG
407	T6 After Stabilizing Weight	0.00 ~9.99	0.00	**Holding Time After Stabilizing T6** [s] **Hopper-weighing Mode:** After the time T6 delayed, the DO switch 'Discharging' will turn on automatically to open the discharging gate and enter the discharging process. **Bag-weighing Mode:** After the time T6 delayed, the process of bag-shaking will start if it is allowed by setting parameter [320~325]. **Parameter [327]= '0: Auto Bag-releasing':** After the process of bag-shaking ended, the DO switch 'Clamping/Releasing Bag' will turn off automatically to release the packing bag. **Parameter [327]= '1: Manual Bag-releasing':** After the process of bag-shaking ended, the DO switch 'Clamping/Releasing Bag' will be turned off by the DI signal of 'Bag-releasing Request' for releasing the packing bag.	40415
408	T7a for Opening Discharging Gate	0.00 ~9.99	0.50	**Max.Time for Opening Discharging Gate T7a** [s] **Used for APP1 Hopper-weighing Mode.** In the discharging process, once the discharging gate's opening time is up to T7a or the DI switch 'Discharging Gate Opened in Place' turns on, it's considered that the discharging gate has been opened to the position with max. gap.	40417
409	T7 Before Closing Discharging Gate	0.00 ~9.99	0.50	**Delay Time Before Closing Discharging Gate T7** [s] **Used for APP1 Hopper-weighing Mode.** After 'Net Weight ≤ Non-load Zero Range' and then the time T7 delayed for ensuring all of the materials in the weighing hopper discharged completely, the discharging gate will be closed automatically.	40419

No.	Sign	Range	Default	Description	REG
410	T8 for Closing Discharging Gate	0.00 ~9.99	0.50	**Max. Time for Closing Discharging Gate T8** [s] **Used for APP1 Hopper-weighing Mode.** In the process of closing discharging gate, once the closing time is up to T8 or the DI switch 'Discharging Gate Closed in Place' turns on, it's considered that the discharging gate has been closed fully. Then the next ration feeding process will start automatically. In the meantime, the Bag-shaking process will start if it is allowed by setting parameter [320~325]. **Parameter [327]= '0: Auto Bag-releasing':** After the Bag-shaking process process ended, the DO switch 'Clamping/Releasing Bag' will turn off automatically to release the packing bag. Refer to parameter [328]. **Parameter [327]= '1: Manual Bag-releasing':** After the Bag-shaking process process ended, the DO switch 'Clamping/Releasing Bag' will be turned off by the DI signal of 'Bag-releasing Request' for releasing the packing bag.	40421
411	T9 Interval of Bag-Clamp /Release	0.00 ~1.00	0.50	**Time Interval of Bag Clamping/Releasing T9** [s] After 'Bag-clamping/releasing Request' signal took effect, it will not be responsed again in the time T9 for avoiding misoperation of 'Bag-clamping /releasing'.	40423
412	T10 Max. Feeding Time	0~999	10	**Max. Feeding Time T10** [s] Set value = 0: No Limit. Set value > 0: Once the feeding time ⩾ T10, the alarm signal 'Feeding Overtime' will be outputted.	40425

No.	Sign	Range	Default	Description	REG
413	T11 Max. Time of Weight to Zero	0~999	5	**Max. Time of Weight Returning to Zero T11** [s] **APP1 Hopper-weighing Mode:** **Max. Discharging Time T11** [s] Set value = 0: No Limit. Set value > 0: Once 'Discharging Time ⩾ T11', the alarm signal 'Discharging Overtime' will be outputted. **Discharging Time:** The time from the discharging process starting to 'Net Weight ⩽ Non-load Zero Range'. **Bag-weighing Mode:** **Max. Bag-releasing Time T11** [s] Set value = 0: No Limit. Set value > 0: Once 'Bag-releasing Time ⩾ T11', the alarm signal 'Bag-Releasing Overtime' will be outputted. Once 'Net Weight ⩽ Non-load Zero Range', the 'Bag-Releasing' DO signal will be outputted again and the 'Bag-Releasing' process will end automatically. **Bag-releasing time:** The time from the bag-releasing process starting to 'Net Weight ⩽ Non-load Zero Range'.	40427
414	T12 Max.Filling Time	0~9999	600	**Max. Time of Filling Materials into Feeding Hopper T12** [s] Set value = 0: No Limit. Set value > 0: Once 'Filling Time ⩾ T12', the process of 'Filling Materials into Feeding Hopper' will end with 'Filling Overtime' alarm automatically. If the DI signal 'Filling Materials into Feeding Hopper' is used, only after the DI turned on, it's allowed to Filling Materials into Feeding Hopper automatically at Manual/Auto state. If the DI signal is not used, it's allowed to Filling Materials into Feeding Hopper automatically at Manual/Auto state. Auto Filling Process: ✧ When the DI switch 'Material Level Low Limit' turns on, the DO switch 'Filling Materials into Feeding Hopper' will turn on to open the Filling Gate automatically, and the timer of 'Filling Time' will start. ✧ When the DI switch 'Material Level High Limit' turns on or 'Filling Time ⩾ T12', the DO switch 'Filling Materials into Feeding Hopper' will turn off to close the Filling Gate and the process of 'Filling Materials into Feeding Hopper' will end automatically.	40429

6.3.6 Communication Parameters [Comm.]

<table>
<tr><th>No.</th><th>Sign</th><th>Range</th><th>Default</th><th>Description</th><th>REG</th></tr>
<tr><td>800</td><td>Comm. Address</td><td>0~99</td><td>1</td><td>Communication Address</td><td>40801</td></tr>
<tr><td>801
802</td><td>COM1 Baud Rate
COM2 Baud Rate</td><td>0~2</td><td>0
0</td><td>COM1[RS232]/COM2[RS485] Baud Rate
0 : 9600bps; 1 : 19200bps; 2: 115200bps</td><td>40803
40805</td></tr>
<tr><td>803
804</td><td>COM1 Parity Check
COM2 Parity Check</td><td>0~2</td><td>0
0</td><td>COM1/COM2 Parity Check
0. None; 1. Even; 2. Odd</td><td>40807
40809</td></tr>
<tr><td>805
806</td><td>COM1 Comm. Mode
COM2 Comm. Mode</td><td>0~2</td><td>0
0</td><td>COM1/COM2 Communication Mode
0: Modbus ASCII
1: Modbus RTU
2: Sending
3: Print</td><td>40811
40813</td></tr>
<tr><td>807</td><td>Continuous Sending Data</td><td>0~7</td><td>1</td><td>Data for Continuous Sending Mode
0: Gross Weight
1: Net Weight
2: Unused
3: Final Feeding Weight
4: Totalized Weight
5: Batch Count
6: Total Totalized Weight
7:Total Batch Count</td><td>40815</td></tr>
<tr><td>808</td><td>Continuous Sending Frequency</td><td>0~7</td><td>2</td><td>Continuous Sending Frequency [Hz]
0: 1Hz; 1: 2Hz; 2: 5Hz; 3: 10Hz
4: 20Hz; 5: 25Hz; 6: 50Hz; 7: 100Hz
Note
Baud Rate | Max. Sending Frequency
9600 bps | 50Hz
19200 bps | 100Hz
115200 bps | 100Hz</td><td>40817</td></tr>
<tr><td>809
810</td><td>COM1 Modbus Data Format
COM2 Modbus Data Format</td><td>0~3</td><td>0</td><td>COM1/COM2 Modbus Data Format
Reading&Writing Order of 4-Byte Registers:
0: 4321 [HB4 HB3 LB2 LB1]
1: 3412 [HB3 HB4 LB1 LB2]
2: 1234 [LB1 LB2 HB3 HB4]
3: 2143 [LB2 LB1 HB4 HB3]
The HEX byte order of float and long int registers in the weighing controller is ‘HB4 HB3 LB2 LB1’.</td><td>40819
40821</td></tr>
</table>

6.3.7 Display Parameters [Display]

No.	Sign	Range	Default	Description	REG
900	Date Format	0~2	0 [*]	**Date Format** *0: YYYY-MM-DD* [Year-Month-Day] *1: MM-DD-YYYY* [Month-Day-Year] *2: DD-MM-YYYY* [Day-Month-Year]	40901
901	Auto Screen-locking	0~1	0	**Auto Screen-locking** *0: OFF* *1: ON* [The operating buttons of main display interface will be locked automatically if there is not any button operation in one minute]	40903
902	Exfactory Date		[*]	**Exfactory Date**	
903	Serial No.		[*]	**Product Serial No.**	
904	WTM Version No.		[*]	**Weighing Software Version No.** **BH-WXXXXXX**	
905	HMI Version No.		[*]	**HMI Software Version No.** **BH-HXXXXXX**	
906	Display Style	0~1	0 [*]	**Display Style** *0: CFY* *1: ZQH*	

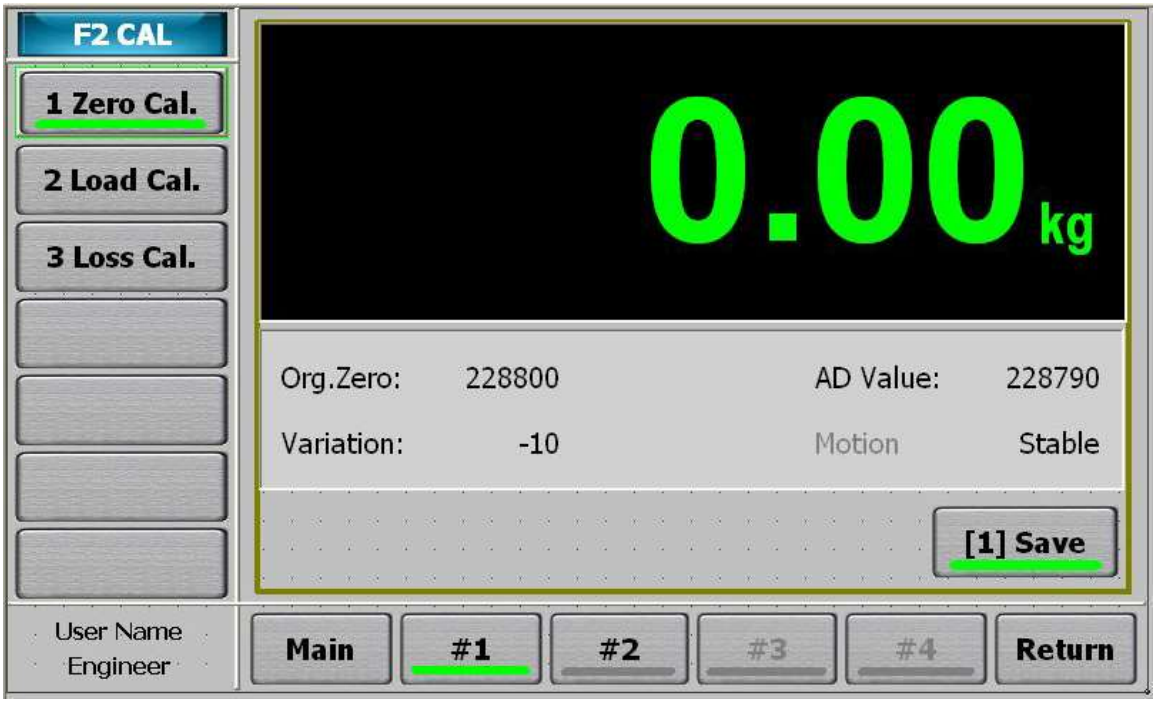
[*]: 'Part-Default' operation has no effect on the parameter.

6.4 F2 System Calibration [F2 CAL]

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

6.4.1 Zero Calibration [Zero Cal.]

Do Zero Calibration without loading on the weigher and save the new Zero Value.



Operation Steps:

- ✧ Step0: Press the button【#1】/【#2】to let its status bar being green for selecting ‘Weigher No.’.
- ✧ Step1: Let the weigher at unloading state. After Weight Display Value being stable and the status bar of button【Save】being green, press button【Save】.
- ✧ If the new ‘Zero Value’ is not in its allowed range, the operation【Save】will be invalid.

Sign	Data	Sign	Data
Big Digits	Real-time Weight Value [Weight Unit]		
Org. Zero	The saved ‘Zero Value’	AD Value	Real-time AD Value of weighing signal
Variation	Zero Variation = AD Value – Zero Value	Motion Stable	Weight is dynamic changing Weight is stable

6.4.2 Load Calibration [Load Cal.]

Do Load Caliration with loading standard weight on the weigher to correct Span Coefficient. The loading weight should be bigger than 50% of Scale Capacity value.

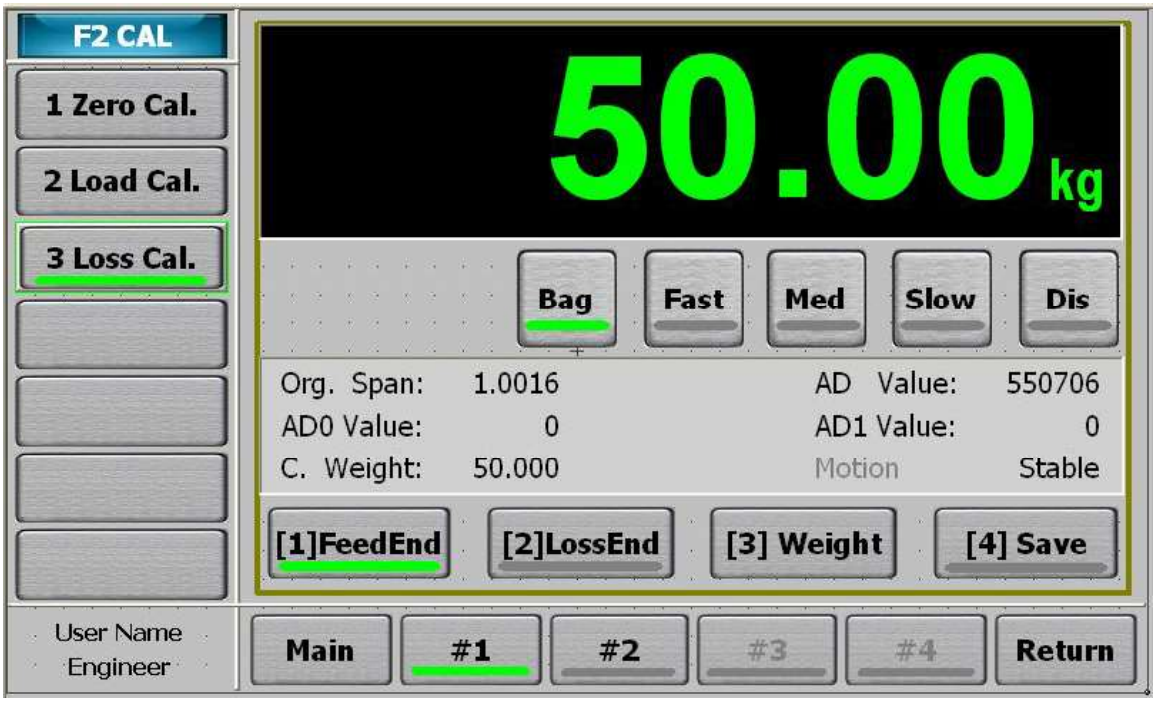
Operation Steps:

- ✧ Step0: Press the button【#1】/【#2】to let its status bar being green for selecting 'Weigher No.'.
- ✧ Step1: Load standard weights on the weigher. Press button【Weight】to input 'Calibrating Weight' value.
- ✧ Step2: After Weight Display Value being stable and the status bar of button【Save】being green, press button【Save】.
- ✧ If the loading weight is too small [AD Value ≤ Zero Value], the operation【Save】will be invalid.

Sign	Data	Sign	Data
Big Digits	Real-time Weight Value [Weight Unit]		
Org. Span	The saved 'Span Coefficient' value	AD Value	Real-time AD Value of weighing signal
C. Weight	Calibrating Weight = Weight of Standard Weights	Motion Stable	Weight is dynamic changing Weight is stable

6.4.3 Loss Calibration [Loss Cal.]

Do Loss Caliration to correct Span Coefficient acccording to the weight of the materials discharged from the weighing hopper.



Operation Steps:

✧ Step0: Press the button【#1】/【#2】to let its status bar being green for selecting 'Weigher No.'.

✧ Step1: Feeding materials into the weighing hopper. After the status bar of button 【FeedEnd】being green and Weight Display Value being stable, press button【FeedEnd】to get AD0 Value.

Name	Operation	State Indicator
【Bag】	Bag-clamping/releasing Request.	Green: Bag-clamping state. Grey: Bag-releasing state.
【Fast】	Manual Start/Stop Fast Feeding.	Green: Fast Feeding state.
【Med】	Manual Start/Stop Medium Feeding.	Green: Medium Feeding state.
【Slow】	Manual Start/Stop Slow Feeding.	Green: Slow Feeding state.
【Dis】	Manual Start/Stop Discharging.	Green: Discharging state.
Note: The button operations of 【FeedEnd】and 【LossEnd】with grey status bars are invalid in feeding and discharging process.		

✧ Step2: Discharge partial or all materials in the weighing hopper into the packing bag. After the status bar of button【LossEnd】being green and Weight Display Value being stable, press button【LossEnd】to get AD1 Value.

✧ Step3: Use a high-accuracy weigher to weigh the actual weight of the materials in the packing bag, then press the button【Weight】to input 'Calibrating Weight' value.

✧ Step4: If the status bar of button【Save】is green, then press button【Save】.

✧ If the discharging weight is too small, the operation【Save】will be invalid.

Sign	Data	Sign	Data
Big Digits	Real-time Weight Value [Weight Unit]		
Org. Span	The saved 'Span Coefficient' value	AD Value	Real-time AD Value of weighing signal
AD0 Value	The AD Value after Feeding ended	AD1 Value	The AD Value after Discharging ended
C. Weight	Calibrating Weight = Weight of Materials	Motion Stable	Weight is dynamic changing Weight is stable

6.5 F9 I/O Function Definition [F9 I/O]

6.5.1 DO Function Definition

No.	Sign	Range	Default	Description	REG
				DO Function Options *1: #1 Fast Feeding* *2: #1 Medium Feeding* *3: #1 Slow Feeding* *4: #1 Clamping/Releasing Bag* *5: #1 Discharging [ON: Open Dis.Gate; OFF: Close]* *6: #1 Alarm/Pause* *7: #1 Feeding Ended* *8: #1 Deviation Alarm* *9: #1 Positive Deviation Alarm* *10: #1 Negative Deviation Alarm* *11: #1 Discharging Gate Unclosed* *12: #1 Gross Weight Upper Limit Alarm* *13: #1 Pause State* *14: #1 Running State* *15: #1 All Overtime Alarms* *16: #1 Feeding Overtime Alarm* *17: #1 Discharging/Bag-releasing Overtime Alarm* *18: #1 Bag-shaking* *19: #1 Open Discharging Gate [ON…OFF in place]* *20: #1 Close Discharging Gate [ON…OFF in place]* *21: #2 Fast Feeding* *22: #2 Medium Feeding* *23: #2 Slow Feeding* *24: #2 Clamping/Releasing Bag* *25: #2 Discharging[ON: Open Dis.Gate;OFF: Close]* *26: #2 Alarm/Pause* *27: #2 Feeding Ended* *28: #2 Deviation Alarm* *29: #2 Positive Deviation Alarm* *30: #2 Negative Deviation Alarm* *31: #2 Discharging Gate Unclosed* *32: #2 Gross Weight Upper Limit Alarm* *33: #2 Pause State* *34: #2 Running State* *35: #2 All Overtime Alarms* *36: #2 Feeding Overtime Alarm* *37: #2 Discharging/Bag-releasing Overtime Alarm* *38: #2 Bag-shaking* *39: #2 Open Discharging Gate [ON…OFF in place]* *40: #2 Close Discharging Gate [ON…OFF in place]*	
700	DO1	0~59	1		40701
701	DO2		2		40703
702	DO3		3		40705
703	DO4		4		40707
704	DO5		5		40709
705	DO6		6		40711
706	DO7		21		40713
707	DO8		22		40715
708	DO9		23		40717
709	DO10		24		40719
710	DO11		25		40721
711	DO12		26		40723
712	DO13		41		40725
713	DO14		45		40727
714	DO15		18		40729
715	DO16		38		40731

No.	Sign	Range	Default	Description	REG
				DO Function Options *41: Filling Materials into Feeding Hopper* *42: Feeding Hopper Material Level High Limit Alarm* *43: Feeding Hopper Material Level Low Limit Alarm* *44: Unused* *45: Target Batch/Weight Finished* *46: Alarm/Pause* *47: Feeding Ended* *48: Deviation Alarm* *49: Positive Deviation Alarm* *50: Negative Deviation Alarm* *51: Unused* *52: Gross Weight Upper Limit Alarm* *53: Pause State* *54: Running State* *55: All Overtime Alarms* *56: Filling Overtime Alarm* *57: Auto State* *58: Bag-sewing* *59: Thread-cutting* *0: None*	

Refer to ‘4.3 Ex-factory Definition of DI/DO Function’.

6.5.2 DI Function Definition

No.	Sign	Range	Default	Description	REG
				DI Function Options *1: #1 Emergency Stop* *2: #1 Start* *3: #1 Bag-clamping/releasing Request* *4: #1 Manual Start/Stop Discharging* *5: #1 Clear Alarm* *6: #1 Last Batch [Normal Stop]* *7: #1 Zero Fine Adjustment* *8: #1 Manual Tare* *9: #1 Reset Tare Weight to Zero* *10: #1 Manual Start/Stop SP3 Re-feeding* *11: #1 Manual Start/Stop Fast Feeding* *12: #1 Manual Start/Stop Medium Feeding* *13: #1 Manual Start/Stop Slow Feeding* *14: #1 Discharging Gate Closed in Place [ON]* *15: #1 Discharging Gate Opened in Place[ON]* *16~20: #1 Unused*	
716	DI1	0~59	41		40733
717	DI2		2		40735
718	DI3		3		40737
719	DI4		4		40739
720	DI5		22	*21: #2 Emergency Stop* *22: #2 Start* *23: #2 Bag-clamping/releasing Request* *24: #2 Manual Start/Stop Discharging* *25: #2 Clear Alarm* *26: #2 Last Batch [Normal Stop]* *27: #2 Zero Fine Adjustment* *28: #2 Manual Tare* *29: #2 Reset Tare Weight to Zero* *30: #2 Manual Start/Stop SP3 Re-feeding* *31: #2 Manual Start/Stop Fast Feeding* *32: #2 Manual Start/Stop Medium Feeding* *33: #2 Manual Start/Stop Slow Feeding* *34: #2 Discharging Gate Closed in Place [ON]* *35: #2 Discharging Gate Opened in Place[ON]* *36~40: #2 Unused*	40741
721	DI6		23		40743
722	DI7		24		40745
723	DI8		51		40747
724	DI9		52		40749

No.	Sign	Range	Default	Description	REG
				DI Function Options *41: Auto/Manual (Refer to parameter [326])* *42: Start* *43: Unused* *44: Unused* *45: Clear Alarm* *46: Last Batch [Normal Stop]* *47: Zero Fine Adjustment* *48: Manual Tare* *49: Reset Tare Weight to Zero* *50: Feeding Hopper's Auto-Filling Permit [ON]* *51: Feeding Hopper Material Level High Limit* *52: Feeding Hopper Material Level Low Limit* *53: Bag-sewing Request* *54~59: Unused* *0: None*	

Refer to '4.3 Ex-factory Definition of DI/DO Function'.

6.5.3 DI/DO Definition for Discharging Gate Control

Discharging Gate	DO Function Definition	DI Function Definition
Air-operated Discharging Gate	5: #1 Discharging [ON: Open Dis.Gate; OFF: Close]	
	25: #2 Discharging [ON: Open Dis.Gate; OFF: Close]	
Reversing-motor Discharging Gate	19: #1 Open Discharging Gate [ON…OFF in place] 20: #1 Close Discharging Gate [ON…OFF in place]	
	39: #2 Open Discharging Gate [ON…OFF in place] 40: #2 Close Discharging Gate [ON…OFF in place]	
Non-reversing-motor Discharging Gate	19: #1 Open Discharging Gate [ON…OFF in place] 20: #1 Close Discharging Gate [ON…OFF in place] [The two DO switches should be connected in parallel to control the non-reversing motor]	14: #1 Discharging Gate Closed in Place [ON] [The position switch for 'Closed in Place' detection must be configured]
	39: #2 Open Discharging Gate [ON…OFF in place] 40: #2 Close Discharging Gate [ON…OFF in place] [The two DO switches should be connected in parallel to control the non-reversing motor]	34: #1 Discharging Gate Closed in Place [ON] [The position switch for 'Closed in Place' detection must be configured]
Refer to the following parameters: ✧ [408] 'Max.Time for Opening Discharging Gate T7a'. ✧ [409] 'Delay Time Before Closing Discharging Gate T7'. ✧ [410] 'Max. Time for Closing Discharging Gate T8'.		

6.5.4 AO Function Definition

No.	Sign	Range	Default	Description	REG
725	AO1	0~4	4	**#1 AO1 Function Options** *0: Gross Weight* *1: Net Weight* *2: Unused* *3: Final Feeding Weight* *4: Control Voltage for Fast/Medium/Slow Feeding*	40751
726	AO1.SP1	0.00 ~10.00	5.00	**#1 SP1 Fast Feeding AO1 Control Voltage** [V] Demand: [725] AO1 = '4'.	40753
727	AO1.SP2	0.00 ~10.00	3.00	**#1 SP2 Medium Feeding AO1 Control Voltage** [V] Demand: [725] AO1 = '4'.	40755
728	AO1.SP3	0.00 ~10.00	2.00	**#1 SP3 Slow Feeding AO1 Control Voltage** [V] Demand: [725] AO1 = '4'.	40757
729	AO1.min	0.00 ~10.00	0.00	#1 **Min. Weight AO1 Value** [V] It's the AO1 output value of weight signal when 'Weight value ≤ 0'. Demand: [725] AO1 = '1~3'.	40759
730	AO1.max	0.00 ~10.00	5.00	#1 **Max. Weight AO1 Value** [V] It's the AO1 output value of weight signal when 'Weight value ≥Scale Capacity'. Demand: [725] AO1 = '1~3'.	40761
731	AO2	0~4	4	**#2 AO2 Function Options** *0: Gross Weight* *1: Net Weight* *2: Unused* *3: Final Feeding Weight* *4: Control Voltage for Fast/Medium/Slow Feeding*	40763
732	AO2.SP1	0.00 ~10.00	5.00	**#2 SP1 Fast Feeding AO2 Control Voltage** [V] Demand: [731] AO2 = '4'.	40765
733	AO2.SP2	0.00 ~10.00	3.00	**#2 SP2 Medium Feeding AO2 Control Voltage** [V] Demand: [731] AO2 = '4'.	40767
734	AO2.SP3	0.00 ~10.00	2.00	**#2 SP3 Slow Feeding AO2 Control Voltage** [V] Demand: [731] AO2 = '4'.	40769
735	AO2.min	0.00 ~10.00	0.00	#2 **Min. Weight AO2 Value** [V] It's the AO2 output value of weight signal when 'Weight value ≤ 0'. Demand: [731] AO2 = '1~3'.	40771
736	AO2.max	0.00 ~10.00	5.00	#4 **Max. Weight AO2 Value** [V] It's the AO2 output value of weight signal when 'Weight value ≥Scale Capacity'. Demand: [731] AO2 = '1~3'.	40773

Appendix A. Print Format

- Table 1. Batch Record

```
BATCH RECORD
----------------
PCS:          #200
DATE:    2015-06-19
TIME:       09:10:18
FORM:           #1
SCALE:          #1
NET:         50.00kg
----------------
```

PCS: Batch No.
FORM: Formula No.
SCALE: Weigher No.

- Table 2. Totalizing Report

```
TOTAL REPORT
----------------
DATE:    2015-06-19
TIME:       09:10:18
PCS_1:           100
TOT_1:    5000.00kg
PCS_2:           100
TOT_2:    5000.00kg
T_PCS:           200
T_TOT:   10000.00kg
----------------
```

PCS_1: #1 Batch Count
TOT_1: #1 Totalized Weight
PCS_2: #2 Batch Count
TOT_2: #2 Totalized Weight
T_PCS: Total Batch Count
T_TOT: Total Totalized Weight

- Table 3. Formula

```
FORMULA
----------------
FORM:           #1
#1 SET:     50.00kg
#1 SP1:     10.00kg
#1 SP2:      1.00kg
#1 FALL:    0.050kg
#2 SET:     50.00kg
#2 SP1:     10.00kg
#2 SP2:      1.00kg
#2 FALL:    0.050kg
OVER:        0.05kg
UNDER:       0.05kg
NULL:        2.00kg
PCS:            0
----------------
```

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

Data Name	Type	Address		Attribute	Command [HEX]	Description
		#1	#2			
Zero Calibration	Long	41101	41111	W	10	0xA1: Zero Calibration.
Load Calibration	Long	41103	41113	W	10	0xA5: Load Calibration.
Calibrating Weight	Long	41105	41115	W	10	Used for Load Calibration.
	Long	41107	41117	W	10	Special for manufacturer.
	Long	41109	41119	W	10	Special for manufacturer.
Gross Weight	Long	41201	41251	R	03	
Net Weight	Long	41203	41253	R	03	
Target Value	Long	41205	41255	R	03	
SP1 Initial Lead Value for Fast Feeding	Long	41207	41257	R	03	
SP2 Initial Lead Value for Medium Feeding	Long	41209	41259	R	03	
SP3 Fall Value for Slow Feeding	Long	41211	41261	R	03	
Final Feeding Weight	Long	41213	41263	R	03	
Running State	Long	41215	41265	R	03	
		Bit0				1: Overload Alarm.
		Bit1				1: Running.
		Bit2				Unused.
		Bit3				1: Non-load Zero Range.
		Bit4				1: Weight Value is stable.
		Bit5				1: Gross Weight Upper Limit.
		Bit6				Unused.
		Bit7				1: Feeding Ended.
		Bit8				1: Target Batch Finished.
		Bit9				1: Filling Materials into Feeding Hopper.
		Bit10				1: Fast Feeding.
		Bit11				1: Medium Feeding.
		Bit12				1: Slow Feeding.
		Bit13				1: Discharging.
		Bit14				1: Positive Deviation Alarm.
		Bit15				1: Negative Deviation Alarm.
		41215.16				1: Auto; 0: Manual.
		Bit17				1: Running.
		Bit18				1: Alarm.
		Bit19				1: Bag-clamping. 0: Bag-releasing.
		Bit20				1: Manual SP3 Re-feeding.
		Bit21				1: Pause.
		Bit22				Unused.
		Bit23				1: Discharging Gate Closed.

Data Name	Type	Address		Attribute	Command [HEX]	Description
		#1	#2			
Present Working Formula No.	Long	41217		R	03	1~10.
Fall Value Auto Correction	Long	41219		R	03	0: OFF. 1: ON.
Totalized Weight	Long	41221		R	03	
Target Batch	Long	41223		R	03	
Batch Count	Long	41225		R	03	
Application Mode	Long	41227		R	03	0: APP1.1 1-Hopper 1: APP1.2 2-Hopper&1-Bag 2: APP1.3 2-Hopper&2-Bag 3: APP2.1 1-Bag 4: APP2.2 2-Bag
Tare Weight	Long	41229	41233	R	03	
Alarm State	Long	41231	41235	R	03	
		41231.0				1: RAM Fault.
		41231.1				1: EEPROM Fault.
		41231.2				1: Parameter Error.
		Bit3				1: Signal Error.
		Bit4				1: ADC Fault.
		Bit5				1: Over ADC Range.
		Bit6				1: Overload Alarm.
		Bit7				1: Gross Weight Upper Limit Alarm.
		Bit8				1: Deviation Alarm.
		Bit9				1: Pause.
		Bit10				1: Feeding Overtime Alarm.
		Bit11				1: Discharging Overtime Alarm.
		Bit12				1: Bag-Releasing Overtime Alarm.
		41231.13				1: Filling Overtime Alarm.
		41231.14				1: Target Batch Finished.
		41231.15				1: Last Batch.
		41231.16				1: TARE Invalid.
		41231.17				1: ZERO Invalid.

Data Name	Type	Address		Attribute	Command [HEX]	Description
		#1	#2			
Auto/ Manual switch	Long	41401		W	10	0xFF: Auto/Manual switch. 0xA5: #1 Emergency Stop. 0xA6: #2 Emergency Stop.
Start/Stop Control	Long	41403		W	10	0x55: #1 Start. 0x56: #2 Start. 0x57: All Start. 0x5C: Last Batch [Normal Stop]
Bag-clamping/ releasing Request	Long	41405		W	10	0x55: #1 Bag-clamping/releasing Request. 0x56: #2 Bag-clamping/releasing Request.
Manual Operation	Long	41407		W	10	0x05: #1 Start/Stop Fast Feeding. 0x15: #1 Start/Stop Medium Feeding. 0x25: #1 Start/Stop Slow Feeding. 0x35: #1 Start/Stop Discharging. 0x06: #2 Start/Stop Fast Feeding. 0x16: #2 Start/Stop Medium Feeding. 0x26: #2 Start/Stop Slow Feeding. 0x36: #2 Start/Stop Discharging. 0x45: Clear Alarm. 0x55: #1 Manual Start/Stop SP3 Re-feeding [Valid at Auto-pause state with Negative Deviation Alarm]. 0x56: #2 Manual Start/Stop SP3 Re-feeding.

Data Name	Type	Address		Attribute	Command [HEX]	Description
		#1	#2			
Function Operation	Long	41409		W	10	0xA1: #1 Zero Fine Adjustment.
						0xA2: #1 Manual Tare.
						0xB1: #2 Zero Fine Adjustment.
						0xB2: #2 Manual Tare.
						0xA3: Clear Screen.
#1 Preset Tare Weight	Long	41411		W	10	
#2 Preset Tare Weight	Long	41413		W	10	
	Long	41415		W	10	Unused.
	Long	41417		W	10	Unused.
	Long	41419		W	10	Unused.
#1 Recover Running	Long	41421		W	10	0xFF: 'Auto/Pause' state: Clear Alarm & Recover Running.
#2 Recover Running	Long	41423		W	10	

Long: Signed Long Int.

Register Table of Formulas

Parameter	Formula No. / Register Address									
	1	2	3	4	5	6	7	8	9	10
#1 Target Value	42001	42011	42021	42031	42041	42051	42061	42071	42081	42091
#1 SP1 Initial Lead Value for Fast Feeding	42003	42013	42023	42033	42043	42053	42063	42073	42083	42093
#1 SP2 Initial Lead Value for Medium Feeding	42005	42015	42025	42035	42045	42055	42065	42075	42085	42095
#1 SP3 Fall Value for Slow Feeding	42007	42017	42027	42037	42047	42057	42067	42077	42087	42097
#2 Target Value	42101	42111	42121	42131	42141	42151	42161	42171	42181	42191
#2 SP1 Initial Lead Value for Fast Feeding	42103	42113	42123	42133	42143	42153	42163	42173	42183	42193
#2 SP2 Initial Lead Value for Medium Feeding	42105	42115	42125	42135	42145	42155	42165	42175	42185	42195
#2 SP3 Fall Value for Slow Feeding	42107	42117	42127	42137	42147	42157	42167	42177	42187	42197

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

Field Name		Code	HEX	Description	Example
START [Byte1]		=	3D		3D [=]
#1 Data [11 Bytes]	Weighing State [Byte2]	O	4F	Overload	53 [S]
		S	53	Stable	
		M	4D	Motion	
	Data Name [Byte3]	G	47	Gross Weight	4E [N]
		N	4E	Net Weight	
		B	42	Final Feeding Weight	
		T	54	Totalized Weight	
		P	50	Batch Count	
		t	74	[#1+#2] Total Totalized Weight	
		p	70	[#1+#2] Total Batch Count	
	Data [Byte4~12]	+/-	2B/2D	Plus/Minus Sign	2B [+]
		Value [7 Bytes]	30~39 2E	0~9 Decimal Point '.'	30 [0] 30 [0]
		Unit: (Space) k t g	 20 6B 74 67	 Space: None k: kg	 31 [1] 32 [2] 33 [3] 2E [.] 34 [4] 6B [k] [+00123.4kg]
#2 Data [11 Bytes]	Weighing State [Byte13]	O	4F	Overload	53 [S]
		S	53	Stable	
		M	4D	Motion	
	Data Name [Byte14]	G	47	Gross Weight	4E [N]
		N	4E	Net Weight	
		B	42	Final Feeding Weight	
		T	54	Totalized Weight	
		P	50	Batch Count	
	Data [Byte15~23]	+/-	2B/2D	Plus/Minus Sign	[+00123.4kg]
		Value [7 Bytes]	30~39 2E	0~9 Decimal Point '.'	
		Unit: (Space) k t g	 20 6B 74 67	 Space: None k: kg	
SUM [Byte24]		1 Byte	XX	SUM=Byte1+Byte2+…+Byte23	XX
END [Byte25~26]		<CR> <LF>	0D 0A		0D <CR> 0A <LF>

Note: There are not the bytes of '#2 Data' in the Data Frame to 'Single-Scale Mode' or 'Parameter [807]=6 or 7'.