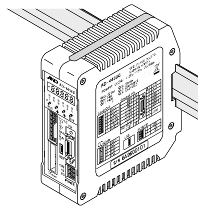
AD-4430C

DIN Rail Weighing Module

Simplified Instruction Manual



1WMPD4002992A

1.1. This Manual

- This manual describes how the product works and how to get the most out of it in terms of performance. Read this manual thoroughly before using the product and keep it at hand for future reference.
- Refer to the instruction manual on the A&D home page.
  URL: http://www.aandd.co.jp/
- Product specifications are subject to change without any obligation on the part of the manufacturer to notify of changes.
- This manual is subject to change without notice at any time to improve the product. No part of this manual may be photocopied, reproduced, or translated into another language without the prior written consent of the A&D Company, limited.

3-23-14 Higashi-Ikebukuro, Toshima-ku, Tokyo 170-0013, JAPAN
Telephone: [81] (3) 5391-6132 Fax: [81] (3) 5391-6148

2. Cautions

2.1. Installation and Precautions

Before use, confirm the following articles for safe operation.

- The module is a precision electronic instrument. Handle it carefully.
- Avoid vibration, shock, extremely high temperature and humidity, direct sunlight, dust, splashing water, air containing salt or corrosive gases, places where inflammable gases are present.
- The operating temperature is -10°C to +50°C (14°F to 122°F).
- Ground the module.
- Keep cables away from power cables and other sources of electrical noise. Use a stable DC24 V power source that does not include step down voltage and noise.
- Do not share the earth ground line and power line with other electrical power equipment.
- When extending the load cell cable, separate it from the power cable and electrical cables with much noise.
- Do not turn on the module until installation is complete. The module is not equipped with a switch to turn off.
- Use a shielded load cell cable.
- Do not connect more sensors than the allowable number noted in the specifications.

2.2. Cautions During Use

The AD-4430C is a precision instrument that measures micro-volt output from sensors. Prevent noise sources such as power lines, radios, electric welders or motors from affecting the instrument.

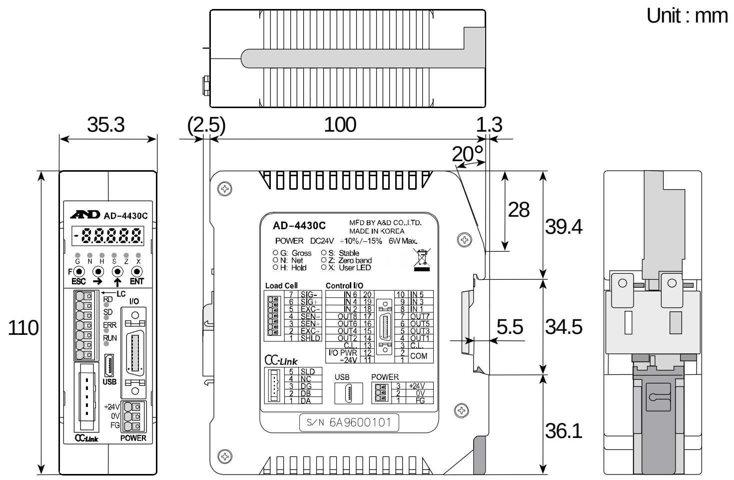
- Do not disassemble the AD-4430C.
- In all hold modes, the hold data is saved digitally, so there is no drooping of the value displayed on the display panel or the analog output. Note that the hold function is disabled when the AD-4430C is disconnected from the power supply.

3. General Specifications

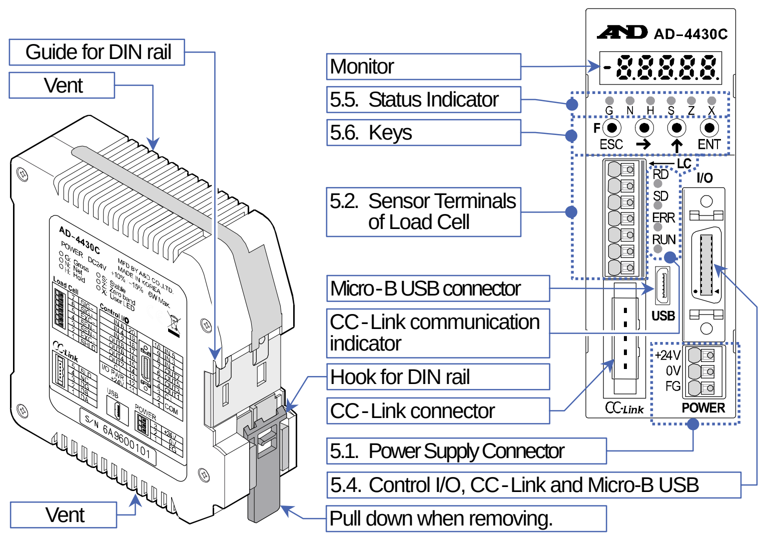
Voltage requirement	DC 24 V +10%, -15%
Power requirement	6 W max.
Sensor power supply	DC 5 V 350 Ω sensor. Up to four sensors can be connected.
Operating conditions	-10 °C to +50 °C, Max 85 %RH (no condensation)
External dimensions	35.3 × 110.0 × 101.3 mm (W×H×D)
Mass	Approximately 200 g
Monitor	The monitor displays measurement data and settings with 7 segments of 5 digits and negative sign. The decimal point is specified at the function table.

4. External Dimensions

Unit : mm



5. Panels



5.1. Power Supply Connector

+24 V	DC +24 V terminal.
0 V	DC 0 V terminal.
FG (SHILD)	Ground terminal. (Connector shield of all are connected inside.)

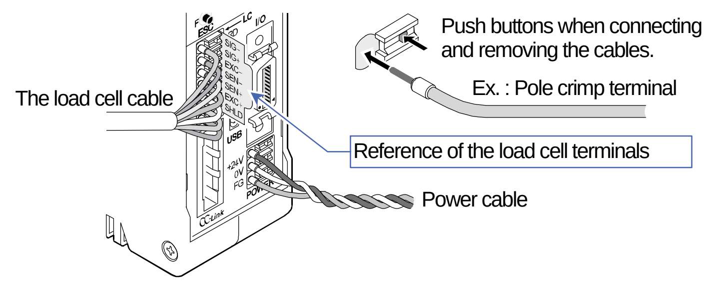
⚠ Caution when connecting power supply cable
Turn off all of instruments concerning to the AD-4430C.
Separate the power cable from other power lines and noise sources.

5.2. Sensor Terminals of Load Cell

SIG-	The (-) input terminal of signal that is outputted from load cell.
SIG+	The (+) input terminal of signal that is outputted from load cell.
EXC-	The (-) output terminal for load cell excitation voltage (-).
SEN-	The (-) input terminal for sensing input (-).
SEN+	The (+) input terminal for sensing input (+).
EXC+	The (+) output terminal for load cell excitation voltage (+).
SHLD	Connect shield of sensor cable.

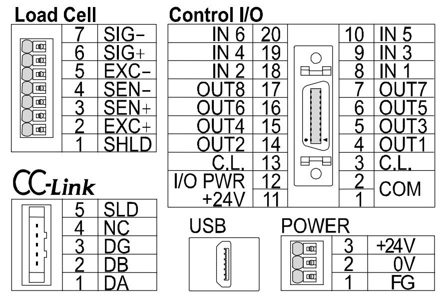
5.3. Connections

When connecting and removing the cables, push the buttons with a driver etc.
We recommend use of pole crimp terminals for the tips of cables.



5.4. Control I/O, CC-Link and Micro-B USB

- Terminals of control I/O is isolated from load cell and power supply (POWER).
  Supply D.C. +24 V between PWR+24V terminal and COM terminal.
- C.L. (current loop) circuit is isolated from other terminals.
- Use standard CC-Link connector.
- Use standard Micro - B USB connector.



5.5. Status Indicator

LED	Description	
G	Gross :	LED lights when indicating gross value.
N	Net :	LED lights when indicating net value.
H	Hold :	LED lights when the hold function operates.
S	Stable :	LED lights when the current weighing value is stable.
Z	Zero :	LED lights when the weighing value is center zero.
X	This LED works by selected function at Fnc04.	

5.6. Keys

Operation	Function
F	The function key works by selected function at Fnc02 in weighing mode.
ESC	The escape key during numerical input and function mode.
→	"The zero key" to perform the zero operation in weighing mode. The key to change a selected item or move a flashed figure.
↑	"The tare key" that displays zero for net weighing. The key to select parameter or increase number in setting mode.
ENT	Press the key to turn on the display in standby (OFF mode). Press and hold the key to turn off the display in weighing mode. In the setting mode, this key to store new settings. "the enter key".
ENT + F	Proceeds to the function mode from the weighing mode.
→ + ENT	Proceeds to the check mode from the function mode.
F + ENT	Proceeds to the calibration from standby (at OFF mode)

5.7. Operation Mode

- Function mode .... (In weighing mode, ENT + F)
  The condition of the AD-4430C can be updated and be stored.
- Check mode .... (In function mode, → + ENT)
  The mode to check the AD-4430C.
- Calibration mode .... (When display is turned off, F + ENT)
  The mode to calibrate zero point and span of the AD-4430C using span mass.

6. Calibration

The AD-4430C measures the voltage of the sensor and displays it. Calibration mode calibrates (adjusts) so as to measure and display correctly.

※ Specify "decimal point position (C-F02)", "minimum division (C-F03)" and "weighing capacity (C-F04)" in function mode.
※ Calibrate (adjust) "input voltage at zero (C-F17)", "span input voltage (C-F18)" and "weight against span input voltage(C-F19)" using the "span calibration using mass (C-SEt)" in calibration mode. These items can be also inputted using "digital span" in function mode.
※ Perform stable measurement in the calibration to prevent measurement error.
※ During a stable measurement, the S LED lights.
※ The flashing decimal point means "no weighing value" in calibration mode.
※ When C Er and a number are displayed, an error has occurred.
Refer to "Calibration Errors" for details.
※ Before the calibration, turn on the AD-4430C more than 10 minutes so as to avoid temperature drift (change).

6.1. Span Calibration using Mass (C-SEt)

Preset a unit, decimal point, minimum division and weighing capacity in function mode.
The span calibration is performed using mass of the weighing capacity.

Step 1 When turning off the display using pressing and holding the ENT key, press the F key and the ENT key (F + ENT key). Then CAL of calibration mode is displayed.
Step 2 Press the ENT key to enter calibration mode.
C-SEt is displayed. When returning to weighing mode, press the ESC key.

6.1.1. Zero Calibration

Step 3 Press the ENT key to display CAL 0.
When skipping zero calibration, press the ↑ key and proceed to step 5.
Step 4 Place nothing on the weighing pan.
Confirm that the S LED is lit and press the ENT key. Then ----- is displayed for 2 seconds. When canceling span calibration and returning to weighing mode, press the ESC key twice.

6.1.2. Span Calibration

Step 5 When C-SPn is displayed, press the ENT key. The current calibration weight value is displayed. A figure flashes. Specify a new value using the → and ↑ keys. When canceling span calibration and returning to weighing mode, press the ESC key twice.
Step 6 Place the mass on the weighing pan. Confirm that the S LED is lit and press the ENT key. Then ----- is displayed for 2 seconds.
Step 7 When C-End is displayed, remove the mass from the weighing pan.
When repeating span calibration, press the ↑ key.
Step 8 Press the ESC key. Then C-SEt is displayed and calibration data is stored in the FRAM of the AD-4430C.
Step 9 Press the ESC key to return to weighing mode.

6.2. Digital Linearization (L-SEt)

Digital linearization is the non-linearity compensation function that can rectify or reduce linearity deviation between zero point and weighing capacity.

- Up to four points can be specified except zero. (Refer to L-F01)
  Relationship of points : Zero = Lnr 0 < Lnr 1 < Lnr 2 < Lnr 3 < Lnr 4
- The high-order correction curve is used so that zero point and individual points are arranged in a straight line.
- Digital linearization includes span calibration.

Step 1 When turning off the display using pressing and holding the ENT key, press the F key and the ENT key (F + ENT key). Then CAL of calibration mode is displayed. Press the ENT key to display C-SEt.
Step 2 Press the ↑ key to select L-SEt and press the ENT key to enter digital linearization.
Step 3 Lnr 0 of the zero point is displayed.
Step 4 Place nothing on the pan. While S LED is displayed, press the ENT key to store the weighing value. Then ----- is displayed for 2 seconds.
Step 5 When displaying Lnr 1, press the ENT key to select a weight value. Specify it using the → and ↑ key.
Step 6 Place the weight on the pan. While S LED is displayed, press the ENT key to store the weighing value. Then ----- is displayed for 2 seconds.
Step 7 Lnr 2 is displayed. Repeat the same operation as Step 5 and Step 6 at the second point.
Step 8 Lnr 3 is displayed. Repeat the same operation as Step 5 and Step 6 at the third point.
Step 9 Lnr 4 is displayed. Repeat the same operation as Step 5 and Step 6 at the fourth point.
Step 10 L-End is displayed. Press the ESC key to store new parameters into FRAM and display L-SEt.
Step 11 Press the ESC key to return to weighing mode. Remove all of weight from the pan.

6.3. Calibration Errors (C Er)

Display	Cause	Treatment
C Er 1	The display resolution (maximum capacity / minimum division) exceeds the specified value.	Make the minimum division greater or make the weighing capacity smaller. The specified value depends on specifications of the weighing system.
C Er 2	Voltage at zero calibration exceeds in the positive direction.	Check the load cell rating and connection. When nothing is wrong with the rating and connection, adjust the load cell output. When the load cell or A/D converter may be the cause of error, confirm this by using the check mode.
C Er 3	Voltage at zero calibration exceeds in the negative direction.	
C Er 4	The value of the calibration weight exceeds the maximum capacity.	Use an appropriate calibration weight and calibrate again.
C Er 5	The value of the calibration weight is less than the minimum division.	
C Er 6	The load cell sensitivity is not sufficient.	Use a load cell with higher sensitivity or make the minimum division greater.
C Er 7	Voltage at span calibration is less than voltage at the zero point.	Check the load cell connection.
C Er 8	The load cell output voltage is too high when the mass of maximum capacity is weighed.	Use a load cell with a greater rating or make the weighing capacity smaller.

7. Function Mode

The function mode stores parameters to control the weighing module.
The parameters are stored even without power supplied.

7.1. Summary

C-Fnc .... Calibration
L-Fnc .... Linearity adjustment
Fnc F .... Basics function
HLd F .... Hold function
SQ F .... Weighing sequence program
SP F .... Setpoint
io F .... Control I/O
CL F .... Standard serial output
CC F .... CC-Link

※ The decimal point flashes in function mode.
※1 Decimal point depends on C-F02.
※2 Calibrate (adjust) C-F17, C-F18 and C-F19 using C-SEt in calibration mode.
※3 If pressing the [→] key while displaying Fnc05, the current weighing value can be monitored. Press the [→] key again to return function mode.
※4 When Fnc02 stores 3 (Alternative switch), the function is effective.
When Fnc02 stores 4 (Momentary switch), the function is ineffective.
※5 When Fnc04 stores 3 (Active [F] key), the function becomes the display x.
※6 The parameter is related to SQ 08 and SQ 10.

7.2. Operations and Types

7.2.1. Select Modes Under Function Mode

[ENT] + [F] ....Proceeds to function mode from the weighing mode.
[↑] ....Selects a type of select mode (3 upper figures).
[ENT] ......Enters a selected mode.
[↑] ....Selects an item under the selected mode (2 lower figures).
[ENT] ......Enters the item.
[ESC] ......Stores parameters and returns to weighing mode.

7.2.2. Parameters Selection And Digital Parameters

Type of parameter selection (all figures flashing)
[↑] ....Selects a parameter.
[ENT] ......Activates (store) parameter and returns to select mode.
[ESC] ......Deactivates parameter and returns to select mode.

The type to change value (figure flashing)
[→] ....Moves the flashing figure.
[↑] ....Changes the value of the flashing figure.
[ENT] ......Activates (store) value and returns to select mode.
[ESC] ......Deactivates value and returns to select mode.

7.3. Function Table

7.3.1. Calibration (C-Fnc)

Item & Function	Descriptions, Range & Factory settings
C-F01 Unit	0: No used 1: g [2]: kg 3: t 4: N 5: kN
C-F02 Decimal point position	Decimal point (D.P.) position. [0]: 0 1: 0.0 2: 0.00 3: 0.000 4: 0.0000
C-F03 Minimum division	Minimum division of value. (A scale / digit) [1]: 1 2: 2 3: 5 4: 10 5: 20 6: 50
C-F04 Weighing capacity	Measurement can be displayed up to +8 digits (8 scales) from capacity. ※1 1 to [70000] to 99999
C-F05 Zero range	The range that the [→] key (zero key) works. Deviation from the calibrated zero point [%]. 0 to [2] to 100
C-F06 Zero tracking time	Used with C-F07 for zero tracking. Scale: 0.1 sec. [0.0] to 5.0
C-F07 Zero tracking band	Used with C-F06 for zero tracking. Scale: 0.1 digit [0.0] to 9.9
C-F08 Stability detection time	Used with C-F09 for stability detection. Scale: 0.1 sec. 0.0 to [1.0] to 9.9
C-F09 Stability detection width	Used with C-F08 for stability detection. Scale: 1 digit 0 to [2] to 9
C-F10 Tare and zero at unstable weight value	Tare and zero operation when unstable 0: Disables both functions. [1]: Enables both functions.
C-F11 Tare when the gross weight is negative	Tare when the gross weight is negative. 0: Disables tare. [1]: Enables tare.
C-F12 Output when out of range and unstable	0: Disables output. [1]: Enables output.
C-F13 Exceeding negative gross weight	To judge when the negative gross weight is exceeded. [1]: Gross weight < -99999 3: Gross weight < -19 digits 2: Gross weight < -Capacity
C-F14 Exceeding negative net weight	To judge when the negative net weight is exceeded. [1]: Net weight < -99999 2: Net weight < -Capacity
C-F15 Clear the zero value	Select whether or not to clear the zero value. 0: Disable [1]: Enable
C-F16 Zero setting when power is turned on	Select whether or not to perform zero setting when power is turned on. [0]: Disable 1: Enable
C-F17 Input voltage at zero	Input voltage from a load cell at zero. ※2 Scale: 0.0001 mV/V -7.0000 to [0.0000] to 7.0000
C-F18 Span input voltage	Input voltage from a load cell at span. ※2 Scale: 0.0001 mV/V 0.0100 to [3.2000] to 9.9999
C-F19 Weight against span input voltage	The calibration weight value corresponding to the input voltage at C-F18. ※1 ※2 1 to [32000] to 99999
C-F26 Gravity acceleration of the calibration place	Gravity acceleration of the place where the scale is calibrated. Scale: 0.0001 m/s^2 9.7500 to [9.8000] to 9.8500
C-F27 Gravity acceleration of use place	Gravity acceleration of the place where the scale is being used. Scale: 0.0001 m/s^2 9.7500 to [9.8000] to 9.8500
C-F28 Suppression of the hold function	[0]: Permission. 1: Prohibition.

7.3.2. Linearity Adjustment (L-Fnc)

Item & Function	Descriptions, Range & Factory settings
L-F01 Number of input points	Number of adjustment point. If 0, 1 or 2 is selected, this linearization is not used. [0] to 5
L-F02 Linear-zero	Input voltage for linear-zero input. Scale: 0.0001 mV/V -7.0000 to [0.0000] to 7.0000
L-F03 Setting value for linear 1	The setting value of weights for linear 1 input. ※1 [0] to 99999
L-F04 Span at linear 1	The span voltage between linear-zero and linear 1 input. Scale: 0.0001 mV/V [0.0000] to 9.9999
L-F05 Setting value for linear 2	The setting value of weights for linear 2 input. ※1 [0] to 99999
L-F06 Span at linear 2	The span voltage between linear-zero and linear 2 input. Scale: 0.0001 mV/V [0.0000] to 9.9999
L-F07 Setting value for linear 3	The setting value of weights for linear 3 input. ※1 [0] to 99999
L-F08 Span at linear 3	The span voltage between linear-zero and linear 3 input. Scale: 0.0001 mV/V [0.0000] to 9.9999
L-F09 Setting value for linear 4	The setting value of weights for linear 4 input. ※1 [0] to 99999
L-F10 Span at linear 4	The span voltage between linear-zero and linear 4 input. Scale: 0.0001 mV/V [0.0000] to 9.9999

7.3.3. Basics Function (Fnc F)

Item & Function	Descriptions, Range & Factory settings
Fnc01 Key switch disable	Each digit corresponds to to a key switch. Only available in weighing mode. 4 fig. 3 fig. 2 fig. 1 fig. 0: Permission 1: Prohibition [ESC] [→] [↑] [ENT] [0000] to 1111
Fnc02 [F] key function	0: None 1: Manual print command 2: Hold 3: Alternative switch(Active [F] key) 4: Momentary switch(Active [F] key) [5]: Display exchange 6: Tare clear 7: Zero clear 8: Batch start / Pause / Re-start 9: Actual free fall input 10: One shot, Small flow 11: Flow rate monitor (Change rate) 12: mV/V monitor 13: Second digital filter (2nd D.F.)
Fnc03 Display refresh rate	[1]: 20 times/sec. 2: 10 times/sec. 3: 5 times/sec.
Fnc04 X display	[0]: None 1: Zero tracking in progress 2: Alarm (Zero range setting error, over) 3: Active [F] key 4: Near-zero 5: HI (Over the upper limit value) 6: OK (Between upper and lower limit values) 7: LO (Below the lower limit value) 8: Large flow 9: Medium flow 10: Small flow 11: Over 12: OK 13: Under 14: Full value 15: Weighing sequence, finished 16: Weighing sequence, in processing 17: Weighing sequence, error 18: Normal batch / Discharge, Identification(ON = Loss in weight) 19 to 24: User input1 to 6 25 to 32: User output 1 to 8
Fnc05 Digital low filter	Selects a cutoff frequency. ※3 0: None 1: 100.0 Hz 2: 70.0 Hz 3: 56.0 Hz 4: 40.0 Hz 5: 28.0 Hz 6: 20.0 Hz 7: 14.0 Hz 8: 10.0 Hz 9: 7.0 Hz 10: 5.6 Hz 11: 4.0 Hz 12: 2.8 Hz 13: 2.0 Hz 14: 1.4 Hz [15]: 1.0 Hz 16: 0.7 Hz
Fnc06 Second Digital Filter (2nd D.F.)	Selects a cutoff frequency. 0: None 1: 100.0 Hz 2: 70.0 Hz 3: 56.0 Hz 4: 40.0 Hz 5: 28.0 Hz 6: 20.0 Hz 7: 14.0 Hz 8: 10.0 Hz 9: 7.0 Hz 10: 5.6 Hz 11: 4.0 Hz 12: 2.8 Hz 13: 2.0 Hz 14: 1.4 Hz [15]: 1.0 Hz 16: 0.7 Hz 17: 0.56 Hz 18: 0.40 Hz 19: 0.28 Hz 20: 0.20 Hz 21: 0.14 Hz 22: 0.10 Hz 23: 0.07 Hz
Fnc07 Hold function	[1]: Normal hold 2: Peak hold 3: Averaging hold
Fnc08 Set near-zero	The reference value for near-zero. ※1 -99999 to [10] to 99999
Fnc09 Comparison mass at near-zero	Item to be compared with near-zero. [1]: Gross weight 2: Net weight
Fnc10 Upper limit value	Reference value for the upper limit. ※1 -99999 to [10] to 99999
Fnc11 Lower limit value	Reference value for the lower limit. ※1 -99999 to [-10] to 99999
Fnc12 Comparison mass of upper and lower limit	Item to be compared with the upper and lower limit. [1]: Gross weight 2: Net weight
Fnc13 Full value	Reference value for the full value on gross weight. -99999 to [99999]

7.3.4. Hold Function (HLd F)

Item & Function	Descriptions, Range & Factory settings
HLd01 Average time	Time to calculate the average. 0.00 is not averaged. Scale: 0.01 sec. [0.00] to 9.99
HLd02 Start for waiting time	Waiting time to commence a holding or averaging. Scale: 0.01 sec. [0.00] to 9.99
HLd03 Condition of automatic start	The condition to commence a holding or averaging. [0]: Not used 2: Above the near-zero 1: Above the near-zero, and stable
HLd04 Release using control input	Release when control input of the hold terminal is falling. 0: Do not release [1]: Release
HLd05 Release time	Release after a set amount of time has passed. 0.00 is not averaged. Scale: 0.01 sec. [0.00] to 9.99
HLd06 Release using fluctuation range	Release when fluctuation from the holding value exceeds a set value. ※1 0: Continue [0] to 99999
HLd07 Release at near-zero	Release when the weighing value is in the near-zero range. [0]: Do not release 1: Release

7.3.5. Weighing Sequence Program (SQ F)

Item & Function	Descriptions, Range & Factory settings
SQ 01 Final value	Final value or target weight. D.P. depends on C-F02. -99999 to [0] to 99999
SQ 02 Free fall	A value to close small flow gate. ※1 -99999 to [0] to 99999
SQ 03 Preliminary	A value to close medium flow gate. ※1 -99999 to [0] to 99999
SQ 04 Optional preliminary	A value to close large flow gate. ※1 -99999 to [0] to 99999
SQ 05 Over	A value for recognizing an over. ※1 -99999 to [0] to 99999
SQ 06 Under	A value for recognizing an under. ※1 -99999 to [0] to 99999
SQ 07 Weighing mode	[0]: No used 1: Normal batch sequence 2: Loss-in-weigh sequence 3: Specifying with control input 4: Specifying with CC-Link
SQ 08 Automatic free fall correction	[0]: Not used 1: Moving average of last four times 2: Real time free fall compensation (fixed coefficient) 3: Real time free fall compensation (updated coefficient)
SQ 09 Automatic free fall band	Weighing value is compensated automatically when net weight is within (final value ± this band). [0] to 99999
SQ 10 Active free fall coefficient	Active free fall coefficient. Scale: 0.001 sec. -99.999 to [0.000] to 99.999
SQ 11 Action of over and under	1: Simple comparator [2]: Synchronized to the end of weighing
SQ 12 Stability at judgment	0: Unnecessary [1]: Necessary
SQ 13 Tare at start	Automatic tare at the start of weighing sequence [0]: Not used 1: Use
SQ 21 Batch monitoring timer	A period of weighing sequence. 0: Not used Scale: 1 sec. [0] to 600
SQ 22 Batch start wait timer	Response time from the start of weighing sequence to the output. Scale: 0.1sec. [0.0] to 60.0
SQ 23 Timer of large flow comparison disable SQ 24 Timer of medium flow comparison disable SQ 25 Timer of small flow comparison disable	Timer for preventing gate from malfunctioning due to vibration when opening and closing the gate. Scale: 0.1 sec. [0.0] to 60.0
SQ 26 Judgment wait timer	Waiting time between closing small flow gate and outputting comparison. Scale: 0.1 sec. 0.0 to [0.1] to 60.0
SQ 27 Duration time of result	Duration time of outputting weighing finish signal. Scale: 0.1 sec. 0.0 : keeping output until next sequence. [0.0] to 60.0
SQ 28 One shot timer	One shot timer for small flow gate. Scale: 0.01 sec. [0.00] to 6.00

7.3.6. Setpoint (SP F)

Item & Function	Descriptions, Range & Factory settings	
SP 01 Object of SP1	Setting values concerning setpoints (SP) Caution : Do not select the same item to plural setpoints. 0: Not used 1: Final value 2: Optional preliminary 3: Preliminary 4: Free fall 5: Over 6: Under 7: Full 8: Near-zero 9: Free fall coefficient 10: Upper limit 11: Under limit	0 to [1] to 11
SP 02 Object of SP2		0 to [2] to 11
SP 03 Object of SP3		0 to [3] to 11
SP 04 Object of SP4		0 to [4] to 11
SP 05 Object of SP5		0 to [5] to 11
SP 06 Object of SP6		0 to [6] to 11
SP 07 Object of SP7		0 to [7] to 11
SP 08 Object of SP8		0 to [8] to 11
SP 11 Value of SP1	Setting parameters of setpoints (SP). ※1	-99999 to [0] to 99999
SP 12 Value of SP2		-99999 to [0] to 99999
SP 13 Value of SP3		-99999 to [0] to 99999
SP 14 Value of SP4		-99999 to [0] to 99999
SP 15 Value of SP5		-99999 to [0] to 99999
SP 16 Value of SP6		-99999 to [0] to 99999
SP 17 Value of SP7		-99999 to [99999]
SP 18 Value of SP8		-99999 to [10] to 99999

7.3.7. Control I/O (io F)

Item & Function	Descriptions, Range & Factory settings	
io 01 IN1	0: Not used 1 to 6: User input 1 to 6 7: Zero 8: Tare 9: Hold 10: Gross / Net exchange 11: Diagnose 12: Print command 13: Batch start 14: Pause 15: Restart 16: Emergency stop (Input level) 17: Error reset 18: Normal batch / Discharge exchange (level, ON = Loss in weight) 19: Actual free fall input 20: One shot small flow 21: Full open (Input level) 22: Zero clear 23: Tare clear 24: Active [F] key ※4	0 to [1] to 24
io 02 IN2		0 to [2] to 24
io 03 IN3		0 to [3] to 24
io 04 IN4		0 to [4] to 24
io 05 IN5		0 to [5] to 24
io 06 IN6		0 to [6] to 24
io 11 OUT1	0: Not used 1 to 8: User output 1 to 8 9: Stability 10: Over capacity 11: Net display 12: During tare 13: Hold 14: Hold busy 15: HI output (Over the upper limit value) 16: OK output (Within both limit values) 17: LO output (Below the lower limit value) 18: Near-zero 19: Full 20: Over 21: OK 22: Under 23: Large flow 24: Medium flow 25: Small flow 26: Normal batch/ Discharge (Identification, ON = Loss in weight) 27: In weighing sequence 28: End of weighing sequence 29: Error of weighing sequence 30: In weighing (ON) 31: In weighing (1 Hz) 32: In weighing (50 Hz) 33: Alarm 34: Active [F] key ※5	0 to [1] to 34
io 12 OUT2		0 to [2] to 34
io 13 OUT3		0 to [3] to 34
io 14 OUT4		0 to [4] to 34
io 15 OUT5		0 to [5] to 34
io 16 OUT6		0 to [6] to 34
io 17 OUT7		0 to [7] to 34
io 18 OUT8		0 to [8] to 34
io 21 OUT1 io 22 OUT2 io 23 OUT3 io 24 OUT4 io 25 OUT5 io 26 OUT6 io 27 OUT7 io 28 OUT8	1: Inverting output [2]: Non inverting output	

7.3.8. Standard Serial Output (CL F)

Item & Function	Descriptions, Range & Factory settings
CL 01 Serial data	[1]: Weighing display 2: Gross 3: Net 4: Tare 5: Gross / Net / Tare
CL 02 Communication mode	[1]: Stream 2: Automatic print 3: Manual print
CL 03 Baud rate	1: 600 bps [2]: 2400 bps

7.3.9. CC-Link (CC F)

Item & Function	Descriptions, Range & Factory settings
CC 01 Address number	Address number for this module [1] to 64
CC 02 Number of the remote register occupied	0: 1 channel 1: 2 channels [2]: 4 channels
CC 03 Baud rate	0: 156 kbps 1: 625 kbps 2: 2.5 Mbps 3: 5 Mbps [4]: 10 Mbps
CC 04 Initial process	0: Not needed [1]: Necessary
CC 05 Output data	[0]: Weighing display 1: Net 2: Gross
CC 06 Weighing information 1 CC 07 Weighing information 2	[0]: Not used 1: Sequence number 2: Batch weighing error 3: Actual free fall 4: Free fall (Averaging) ※6 5: Free fall coefficient (Averaging) ※6 6: Flow rate (In small flow OFF) 7: Flow rate (Real time) 8: Load cell output. Scale: 1 nV/V 9: Net (2nd D.F.) 10: Gross (2nd D.F.)