



Simplified Instruction Manual

Refer to the instruction manual on the A&D home page.

URL: <http://www.aandd.jp/>

1WMPD4003454B

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.
- 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.
- Do not attempt to repair, modify or disassemble the product. Doing so will void the warranty.

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1. Cautions

1.1. Installation and Precautions

Before use, confirm the following articles for safe operation.

- 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.
- After the installation is complete, take off the protective cover prior to turning on the AD-4430R.
- Use a shielded load cell cable.
- Do not connect more sensors than the allowable number noted in the specifications.

1.2. Cautions During Use

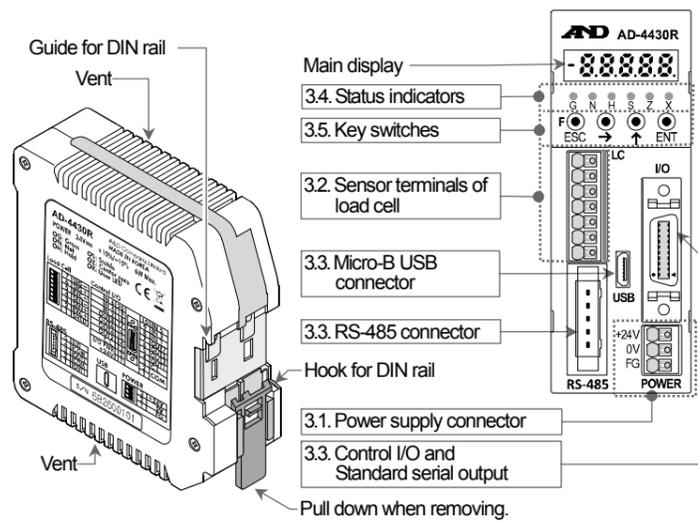
The AD-4430R is a precision instrument that measures micro-volt output from load cell. Prevent noise sources such as power lines, radios, electric welders or motors from affecting the instrument.

- Do not disassemble the AD-4430R.

2. General Specifications

Voltage requirement	DC 24 V +10%, -15%
Power requirement	6 W Max.
Load cell power supply	DC 5 V 350 Ω sensor. Up to 4 load cells 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
Main display	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.
Accessory	RS-485 connector (manufactured by 3M) 35505-6200-A00 GF (1 piece)

3. Panels



3.1. Power Supply Connector

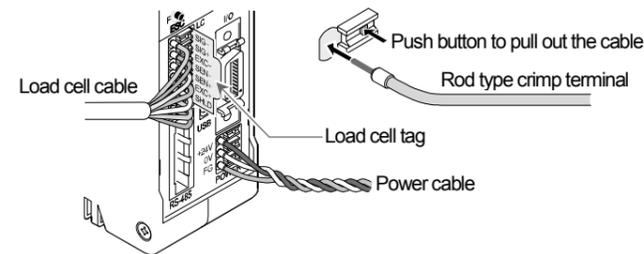
Terminal	Label	Description
3	+24V	DC +24 V terminal.
2	0V	DC 0 V terminal.
1	FG	Ground terminal. (Connector shields of all are connected inside with FG.)

3.2. Sensor Terminals of Load Cell

Terminal	Label	Description
7	SIG-	The (-) input terminal of signal that is outputted from load cell.
6	SIG+	The (+) input terminal of signal that is outputted from load cell.
5	EXC-	The (-) output terminal for load cell excitation voltage (-).
4	SEN-	
3	SEN+	The (-) input terminal for sensing input (-). (When performing the 4-wire connection, connect between EXC- and SEN-.)
2	EXC+	
1	SHLD	Connect shield of sensor cable.

3. Connections

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



3.3. Control I/O, Standard Serial Output, RS-485 and Micro-B USB

- Terminals of control I/O are isolated from load cell and power supply (POWER). Supply D.C. +24 V between PWR+24V terminal and COM terminal. (MDR connector with 20 pins, manufactured by 3M).
- Standard serial output (C.L.) circuit is isolated from other terminals. (MDR connector with 20 pins, manufactured by 3M).
- For the RS-485, use a power clamp connector (A type) manufactured by 3M.
- Use standard Micro - B USB connector for USB so that the function settings can be read and written.

Terminal	Label	Description
IN 6	20	Control I/O
IN 4	19	
IN 2	18	10 IN 5
OUT 8	17	
OUT 6	16	8 IN 1
OUT 4	15	7 OUT 7
OUT 2	14	6 OUT 5
C.L.	13	5 OUT 3
I/O PWR	12	4 OUT 1
+24V	11	3 C.L.
		2
		1 COM

Terminal	Label	Description
5	SLD	RS-485
4	RTRM	
3	SG	USB
2	DATA-	
1	DATA+	

3.4. Status Indicators

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 F n c 0 2.

3.5. Key Switches

Operation	Mode	Function
F	Weighing	The function key works by selected function at F n c 0 2. In the factory setting, select total weight or net weight.
	Setting	The escape key
→	Weighing	"The zero key" to perform the zero operation.
	Setting	The key to move a digit.
↑	Weighing	"The tare key" that displays zero for net weighing.
	Setting	The key to select parameter or increase number.
ENT	Weighing	Press and hold the key to turn off the display in weighing mode.
	OFF	Press the key to turn on the display in standby.
	Setting	The enter key
ESC	Weighing	The function key
	Setting	The escape key
ENT + F	Weighing	Proceeds to the function mode from the weighing mode.
→ + ENT	Setting	Proceeds to the check mode from the function mode.
F + ENT	OFF	Proceeds to the calibration from standby (at OFF mode).

3.6. Operation Mode

- Function mode (In weighing mode, ENT + F) The condition of the AD-4430R can be updated and be stored.
- Check mode (In function mode, → + ENT) The mode to check the AD-4430R.
- Calibration mode (When display is turned off, F + ENT) The mode to calibrate zero point and span of the AD-4430R by calibration weight or input value.

4. Calibration

The AD-4430R measures the voltage of the load cell and displays it. Calibration corrects the signal from the load cell to convert into mass correctly. Specify "decimal point position (C · F 0 2)", "minimum division (C · F 0 3)" and "weighing capacity (C · F 0 4)" in function mode.

- Calibrate (adjust) "input voltage at zero (C · F 1 3)", "span calibration input voltage (C · F 1 8)" and "weight against span calibration input voltage (C · F 1 9)" using the "span calibration using mass (C · S 0 1)" 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 E r and a number are displayed, an error has occurred. Refer to "Calibration Errors" for details.
- Before the calibration, allow the AD-4430R at least 10 minutes to warm up to avoid temperature drift (change).

4.1. Span Calibration using Mass (C · S 0 1)

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

- Turn off the display by pressing and holding the ENT key, then press the F key and the ENT key at the same time. C E r will display indicating calibration mode.
- Press the ENT key to enter calibration mode. C · S 0 1 is displayed. When returning to weighing mode, press the ESC key.

4.1.1. Zero Calibration

- Press the ENT key to display C E r 0.
- When skipping zero calibration, press the ↑ key and proceed to step 5.
- 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.

4.1.2. Span Calibration

- When C · S 0 1 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.
- 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.
- When C · E n d is displayed, remove the mass from the weighing pan. When repeating span calibration, press the ↑ key.
- Press the ESC key. Then C · S 0 1 is displayed and calibration data is stored in the nonvolatile memory (FRAM) of the AD-4430R.
- Press the ESC key to return to weighing mode.

4.2. Digital Linearization (C · S 0 2)

- 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 C · F 0 3.) Relationship of points: Zero = L n r 0 < L n r 1 < L n r 2 < L n r 3 < L n r 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.

- Turn off the display by pressing and holding the ENT key, then press the F key and the ENT key at the same time. C E r will display indicating calibration mode. Press the ENT key to display C · S 0 2.
- Press the ↑ key to select C · S 0 2 and press the ENT key to enter digital linearization.
- L n r 0 of the zero point is displayed.
- While S LED is displayed, press the ENT key to store the weighing value. Then is displayed for 2 seconds.
- When displaying L n r 1, press the ENT key to select a weight value. Specify it using the → and ↑ key.
- 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.
- L n r 2 is displayed. Repeat the same operation as Step 5 and Step 6 at the second point.
- L n r 3 is displayed. Repeat the same operation as Step 5 and Step 6 at the third point.
- L n r 4 is displayed. Repeat the same operation as Step 5 and Step 6 at the fourth point.
- C · E n d is displayed. Press the ESC key to store new parameters into nonvolatile memory (FRAM) and display C · S 0 2.
- Press the ESC key to return to weighing mode. Remove all weights from the pan.

4.3. Calibration Errors (C E r)

Display	Cause	Treatment
C E r 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 E r 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 E r 3	Voltage at zero calibration exceeds in the negative direction.	Check the load cell connection.
C E r 4	The value of the calibration weight exceeds the maximum capacity.	Use an appropriate calibration weight and calibrate again.
C E r 5	The value of the calibration weight is less than the minimum division.	Use an appropriate calibration weight and calibrate again.
C E r 6	The load cell sensitivity is not sufficient.	Use a load cell with higher sensitivity or make the minimum division greater.
C E r 7	Voltage at span calibration is less than voltage at the zero point.	Check the load cell connection.
C E r 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.

5. Function Mode

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

5.1. Summary

- Calibration function
- Linearity adjustment function
- Basics function
- Hold function
- Weighing sequence program
- Flow rate function
- Control I/O function
- Standard serial output function
- RS-485 function

※ When only a numerical value is displayed, the decimal point flashes to distinguish that from a weighing value.

5.2. Operations and Types

5.2.1. 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.

5.2.2. Change Value

- Moves selected digit.
- ↑ Changes numerical value.
- ENT Activates (store) value and returns to select mode.
- ESC Deactivates value and returns to select mode.

5.3. Function Table

- ※1 Decimal point depends on F02.
- ※2 When "span calibration using mass (C-5E)" is performed by the input voltage from the load cell in the calibration mode, "input voltage at zero (C-F1)", "span calibration input voltage (C-F8)" and "weight against span calibration input voltage (C-F9)" change.
- ※3 If pressing the → key while displaying F05 or F06, the current weighing value can be monitored. Press the → key again to return to function mode.

5.3.1. Calibration Function (C-F)

Item & Function	Descriptions, Range & Factory settings
C-F01 Unit	0: Not used 1: g 2: kg 3: t 4: N 5: kN
C-F02 Decimal point position	0: 0 1: 0.0 2: 0.00 3: 0.000 4: 0.0000
C-F03 Minimum division	1: 1 2: 2 3: 5 4: 10 5: 20 6: 50
C-F04 Weighing capacity	Measurement can be displayed up to +8 digits 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 width	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 100
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-F20 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-F21 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-F22 Suppression of the hold function	0: Permission. 1: Prohibition.
C-F23 to 32	Reserved internally

5.3.2. Linearity Adjustment Function (L-F)

Item & Function	Descriptions, Range & Factory settings
L-F01 Number of adjustment point	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 weight 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 weight 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 weight 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 weight 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

5.3.3. Basics Function (F)

Item & Function	Descriptions, Range & Factory settings
F01 Key switch disable	Each digit corresponds to a key switch. Only available in weighing mode. 4th 3rd 2nd 1st digit 0: Permission 1: Prohibition ESC → ↑ ENT 0000 to 1111
F02 F key function	0: None 7: Zero clear 1: Manual print command 8: Weighing start / Pause / Restart 2: Hold 9: Actual free fall input 3: Operation switch 1 10: One shot, Small flow 4: Operation switch 2 11: Sequence flow rate monitor 5: Display exchange 12: mV/V monitor 6: Tare clear 13: Digital filter 2
F03 Display refresh rate	1: 20 times/sec. 2: 10 times/sec. 3: 5 times/sec.
F04 X display	0: None 11: Over 1: Zero tracking in progress 12: OK 2: Alarm 13: Under 3: Display operation switch 14: Full status as on or off 15: Weighing end 4: Near-zero 16: In weighing sequence 5: HI output 17: Weighing sequence, error 6: OK output 18: Normal batch/Loss-in-weight, Identification 7: LO output 19 to 24: State of Coil IN 1 to 6 8: Large flow 25 to 32: Setting of Coil OUT 1 to 8 9: Medium flow 10: Small flow
F05 Digital filter 1	Selects a cutoff frequency. ※3 0: None 6: 20.0 Hz 12: 2.8 Hz 1: 100.0 Hz 7: 14.0 Hz 13: 2.0 Hz 2: 70.0 Hz 8: 10.0 Hz 14: 1.4 Hz 3: 56.0 Hz 9: 7.0 Hz 15: 1.0 Hz 4: 40.0 Hz 10: 5.6 Hz 16: 0.7 Hz 5: 28.0 Hz 11: 4.0 Hz
F06 Digital Filter 2	Selects a cutoff frequency. 0: None 6: 20.0 Hz 12: 2.8 Hz 18: 0.40 Hz 1: 100.0 Hz 7: 14.0 Hz 13: 2.0 Hz 19: 0.28 Hz 2: 70.0 Hz 8: 10.0 Hz 14: 1.4 Hz 20: 0.20 Hz 3: 56.0 Hz 9: 7.0 Hz 15: 1.0 Hz 21: 0.14 Hz 4: 40.0 Hz 10: 5.6 Hz 16: 0.7 Hz 22: 0.10 Hz 5: 28.0 Hz 11: 4.0 Hz 17: 0.56 Hz 23: 0.07 Hz
F07 Hold function	1: Normal hold 2: Peak hold 3: Averaging hold

F08 Near-zero	※1 -99999 to 10 to 99999
F09 Comparison mass at near-zero	1: Gross weight 2: Net weight
F10 Upper limit value	※1 -99999 to 10 to 99999
F11 Lower limit value	※1 -99999 to -10 to 99999
F12 Comparison mass of upper and lower limit	1: Gross weight 2: Net weight
F13 Full	※1 -99999 to 99999

5.3.4. Hold Function (H-F)

Item & Function	Descriptions, Range & Factory settings
H01 Average time	Time to calculate the average. 0.00 is not averaged. Scale: 0.01 sec. 0.00 to 9.99
H02 Start wait time	Waiting time to commence holding or averaging. Scale: 0.01 sec. 0.00 to 9.99
H03 Condition of automatic start	The condition to commence holding or averaging. 0: Not used 2: Above the near-zero 1: Above the near-zero, and stable
H04 Release using control input	Release when control input of the hold terminal is falling. 0: Do not release 1: Release
H05 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
H06 Release using fluctuation range	Release when fluctuation from the holding value exceeds a set value. ※1 0: Continue 0 to 99999
H07 Release at near-zero	Release when the weighing value is in the near-zero range. 0: Do not release 1: Release

5.3.5. Weighing Sequence Program (S-F)

Item & Function	Descriptions, Range & Factory settings
S01 Final	※1 -99999 to 0 to 99999
S02 Free fall	※1 -99999 to 0 to 99999
S03 Preliminary	※1 -99999 to 0 to 99999
S04 Optional preliminary	※1 -99999 to 0 to 99999
S05 Over	※1 -99999 to 0 to 99999
S06 Under	※1 -99999 to 0 to 99999
S07 Weighing mode	0: No used 2: Loss-in-weigh sequence 3: Specifying with control input 1: Normal batch sequence 4: Specifying with Modbus RTU
S08 Automatic free fall correction	0: Disable 1: Moving average of last four times 2: Real time free fall compensation (fixed coefficient) 3: Real time free fall compensation (updated coefficient)
S09 Automatic free fall band	Weighing end value is compensated automatically when net weight is within (final value ± this band). 0 to 99999
S10 Active free fall coefficient	Active free fall coefficient. Scale: 0.001 sec. -99.999 to 0.000 to 99.999
S11 OK/Over/Under output timing	1: Always 2: In synchronization with weighing end
S12 Wait for the weight value to be stable before the judgment	0: Disable 1: Enable
S13 Automatic tare at weighing start	0: Disable 1: Enable
S14 Flow timeout time	A period of weighing sequence. 0: Not used Scale: 1 sec. 0 to 600
S15 Weighing start input delay time	Scale: 0.1 sec. 0.0 to 60.0
S16 Large flow comparison disable time	Time for preventing gate from malfunctioning due to vibration when opening and closing the gate. Scale: 0.1 sec. 0.0 to 60.0
S17 Medium flow comparison disable time	0.0 to 60.0
S18 Small flow comparison disable time	0.0 to 60.0
S19 Judging delay time	Waiting time between closing small flow gate and outputting comparison. Scale: 0.1 sec. 0.0 to 0.1 to 60.0
S20 Weighing end output time	0.0: Until the next weighing start. Scale: 0.1 sec. 0.0 to 60.0
S21 One shot time for small flow rate	Scale: 0.01 sec. 0.00 to 60.00

5.3.6. Flow Rate Function (F-F)

Item & Function	Descriptions, Range & Factory settings
F01 Filter of flow rate 1	1: Digital filter 1
F02 Filter of flow rate 2	2: Digital filter 2
F03 Damping time of flow rate 1	Suppress shaking of flow rate. The higher value setting, the less shaking. Scale: 1 sec. 1 to 5 to 1000
F04 Damping time of flow rate 2	1 to 5 to 1000
F05 +/- flow rate 1	0: according to calculation 1: interchange +/-
F06 +/- flow rate 2	2: absolute value

5.3.7. Control I/O Function (I-F)

Item & Function	Descriptions, Range & Factory settings
IN	I01 IN1 0: Not used 18: Normal batch / Loss-in-weight exchange 0 to 7 to 28
	I02 IN2 7: Reserved internally 19: Actual free fall input 0 to 8 to 28
	I03 IN3 8: Tare 20: One shot small flow 0 to 28
	I04 IN4 9: Hold 21: Full open 0 to 28
	I05 IN5 10: Gross / Net exchange 22: Zero clear 0 to 28
	I06 IN6 11: Diagnose 23: Tare clear 0 to 28
I/O	I07 OUT1 0: Not used 25: Small flow 0 to 18 to 37
	I08 OUT2 1 to 8: Reserved internally 26: Normal batch / Loss-in-weight, Identification 0 to 9 to 37
	I09 OUT3 9: Stability 27: In weighing sequence 0 to 37
	I10 OUT4 10: Over capacity 28: Weighing end 0 to 37
	I11 OUT5 11: Net display 29: Weighing sequence error 0 to 37
	I12 OUT6 12: During tare 30: In weighing (ON) 0 to 37
	I13 OUT7 13: Hold 31: In weighing (1Hz) 0 to 37
	I14 OUT8 14: Hold busy 32: In weighing (50Hz) 0 to 37
	I15 OUT9 15: HI output 33: Alarm 0 to 37
	I16 OUT10 16: OK output 34: Alarm 0 to 37
	I17 OUT11 17: LO output 35: Approximate flow rate value of flow rate 1 0 to 37
	I18 OUT12 18: Near-zero 36: Approximate flow rate value of flow rate 2 0 to 37
I19 OUT13 19: Full 37: Remote I/O 0 to 37	
I20 OUT14 20: Over	
I21 OUT15 21: OK	
I22 OUT16 22: Under	
I23 OUT17 23: Large flow	
I24 OUT18 24: Medium flow	
I25 OUT19 1: Inverting output 2: Non inverting output	

5.3.8. Standard Serial Output Function (S-F)

Item & Function	Descriptions, Range & Factory settings
S01 Serial data	1: Weighing display 3: Net 5: Gross / Net / Tare 2: Gross 4: are
S02 Communication mode	1: Stream 3: Manual print 2: Automatic print
S03 Baud rate	1: 600 bps 2: 2400 bps

5.3.9. RS-485 Function (R-F)

Item & Function	Descriptions, Range & Factory settings
R01 Communication mode	5: Modbus RTU 6: Interval output at 100 times/sec. 7: Interval output at 200 times/sec. 8: Interval output at 500 times/sec.
R02 Baud rate	5: 9600 bps 7: 38400 bps 6: 19200 bps 8: 115200 bps
R03 Parity	0: None 1: Odd 2: Even
R04 Stop bit length	1: 1 bit 2: 2 bits
R05 Terminator	1: CR 2: CR LF
R06 Slave address	0: None 1 to 99