



SERVICE MANUAL

DI-620

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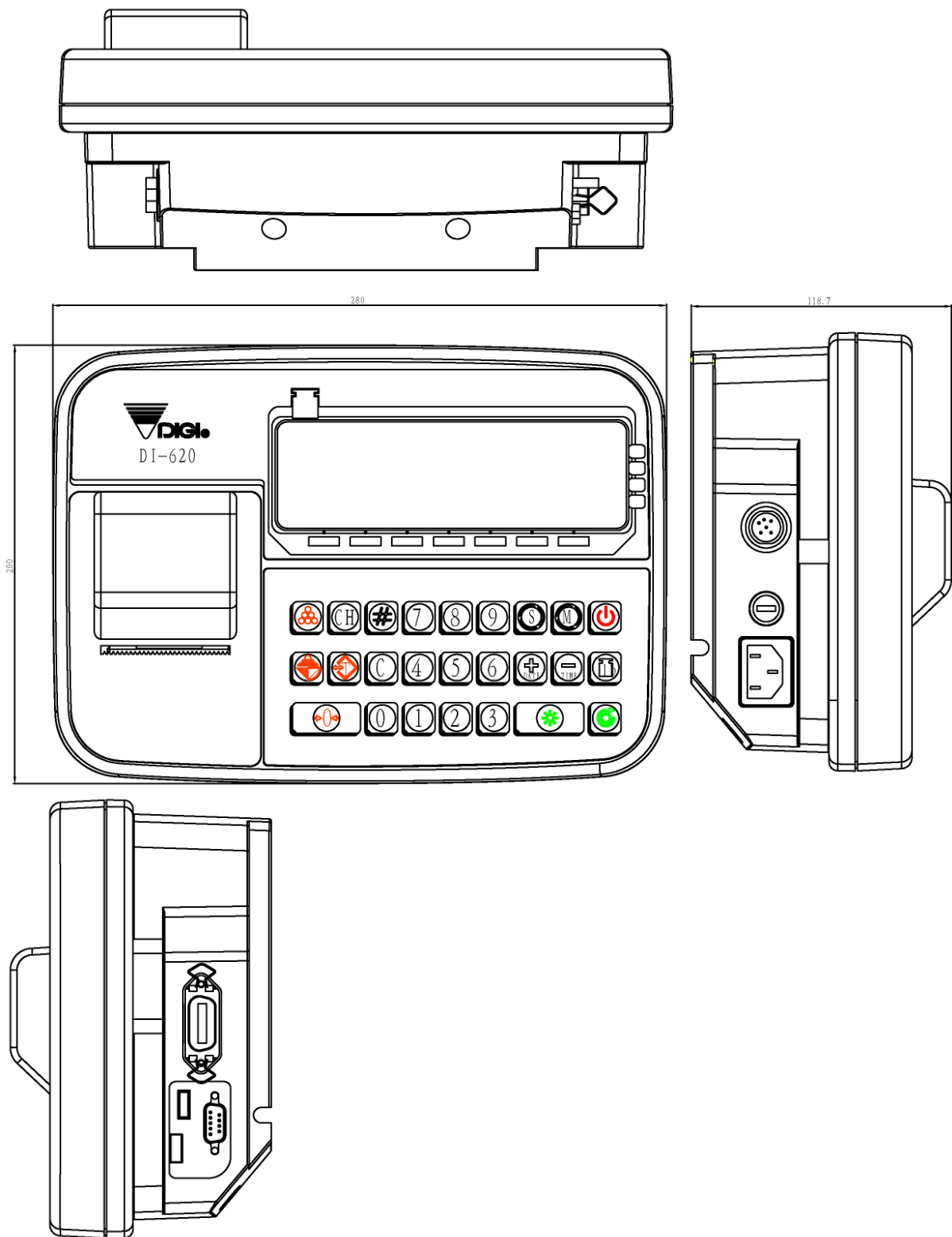
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1. General Specification

1.1 General Layout



1.2. Features

- * Quick response to weight changes.
- * Resolution : Display Resolution: variable
: Internal Resolution : 1/300,000.
- * Low power consumption:
Rechargeable Battery backup for 20 hours (Backlight Off with 4x load cells) 12 hours (Backlight On with 4x load cells).
- * Intelligent power control
 - A. When AC power is available, scale will use AC power only whatever rechargeable battery is installed or not.
 - When AC power is shut off, scale will use battery automatically.
 - B. When scale works on rechargeable battery, if the battery is weak, the battery indicator will light up.
When the power from battery becomes low such that the scale cannot compute accurately, all Displays will shut off except the Battery indicator. The power is then shut off completely after 1 minute.
 - C. Scale detects rechargeable battery voltage and control battery charge process automatically.
The battery charge indicator lights up when rechargeable battery is being charged.
- * Built-in clock automatically updates date and time.
- * Calibration by software.
- * 7 digits with 8 segments large size LCD Operator displays with backlight. (figure size: 13×30 mm).
- * Waterproof keyboard and splash proof housing.
- * Plastic housing or Stainless housing.
- * One scale channels for remote weighing platforms connection .(14 pin Am phenol)
- * Support 8x load cells 350 Ohm.
- * 1 x RS-232C and 1 x USB 2.0 interface for data communication .
- * 1 x Set Point output port .
- * 4 x set point Indicator symbol (OS1/OS2/OS3/OS4).
- * 200 PLU, each PLU consists of Unit Weight, Tare Weight, Product Description, Set point. All PLU can be updated with USB from PC.
- * 4 types selectable unit symbol: g, kg, lb and PCS.
- * 11 level drawing display for point checking indicator.
- * Counting mode can be used.

1.3. Operating Conditions

- * Power Source : AC 240/230/220V, 117/100V(+10%,-15%).
: Rechargeable battery (6V 2.8Ah).
- * Operating Temperature : -10°C/14°F ~ +40°C/+104°F (OIML).
- * Operating Humidity : 15 ~ 85% RH.
- * Power Consumption : 25W when using AC power.
: 1.0W when using rechargeable battery.

1.4. Charging Conditions

- * Power Source : AC 240/230/220V, 117/100V(+10%,-15%).
- * Charge Current : 300 mA.
- * Charge Time : 12 hours.

1.6. Analog Specification

- * Input sensitivity : 0.4mV/V~ 2mV/V.
- * Zero adjust range : 0 ± 5mV.
- * Zero balance range : 0 ± 0.5mV.
- * L/C applied voltage : DC 5V.
- * Speed of A/D conversion : 10times/sec.
- * Internal Resolution : 300,000.

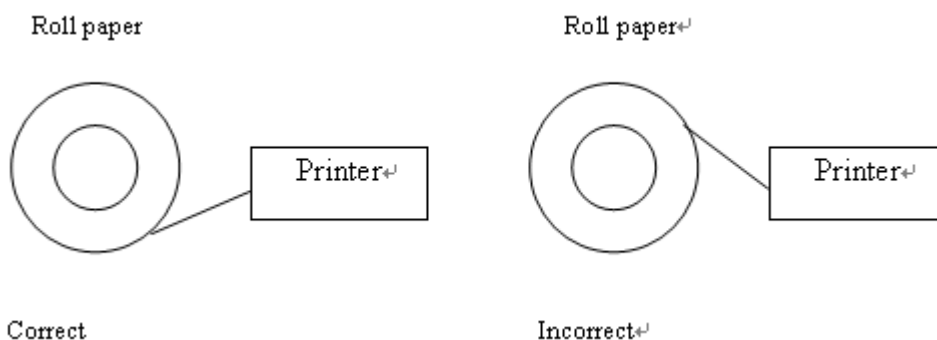
1.7 Dot Matrix Printer

1.7.1 General Specification:

Model	: EPSON M-150II Dot Matrix printer.
Resolution	: 96 dot/line.
Printing Width	: 33mm.
Printing speed	: Maximum 1 line/ sec.
Life span	: 500,000line.

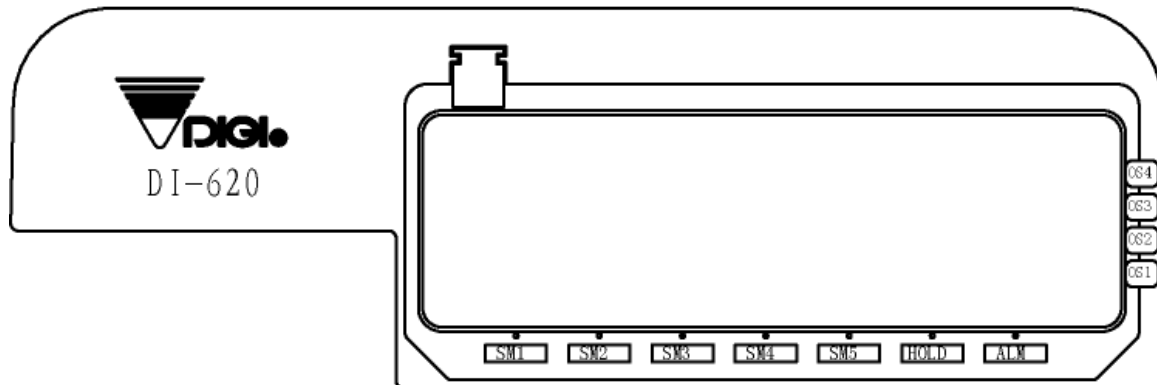
1.7.2 Notes On Receipt Paper

- Paper Dimension Size: max.44±0.5mm X Ø30mm.
- Paper with folds, wrinkles, tears, perforation or holes should not be used.
- Paper should be pulled out slowly and straight-forwardly.
- Unused paper should be stored so as to avoid impact, friction, light and oil, and should be kept under adequate temperature and humidity conditions.
- Paper direction (shown below):



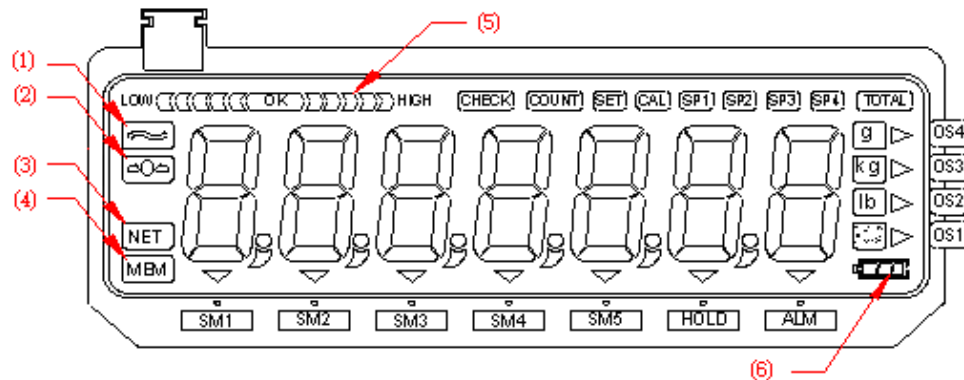
2. General Layout

2.1. Display and Indicator



2.1. Display Specifications

* Weight Display : 7 digits



2.2. Indicators

- (1) -----sign will light up when weight/scale is in stable condition.
- (2) -----sign will light up when current zero point is within 1/4d of true zero and true zero.
- (3) ----- sign will light up when tare weight is set.
- (4) -----sign on when accumulated.
- (5) ----- sign on when weight range checking indicator.
- (6) -----sign on when Battery is charging (only for rechargeable battery type).
- CHECK -----sign on in weight checking mode.
- COUNT -----sign on in count mode.
- SET -----sign on in data set mode.
- CAL -----sign on in calibration mode.
- SP1,SP2,SP3,SP4 -----sign on in set point mode.
- TOTAL -----sign on total weight accumulation display mode.
- SM1,SM2,SM3,SM4,SM5 -----sign on Set point memory group by used.
- HOLD -----sign on display hold mode.
- ALM -----sign on in set point alarm is "on".
- g,kg,lb -----sign on in weight unit convert mode.
- PCS -----sign on in count unit.

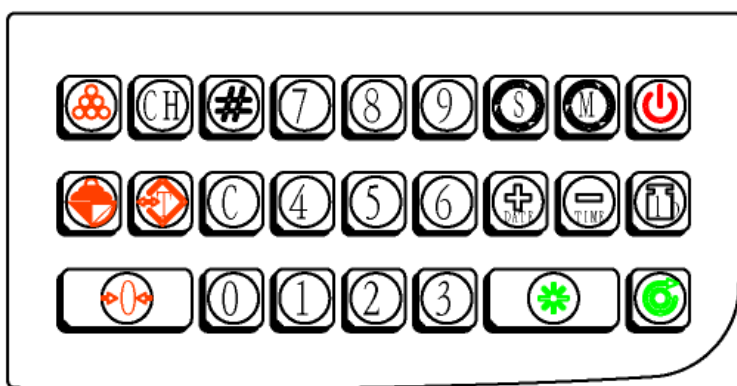
2.3 Dimensions

280mm/11.0in (W) × 200mm/7.9in (H) × 118mm/4.6in (D)

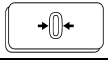
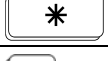
2.4 External Connectors

- * AC plug.
- * Load cell connect.
- * RS-232C interface.
- * USB 2.0 interface
- * Set Point interface

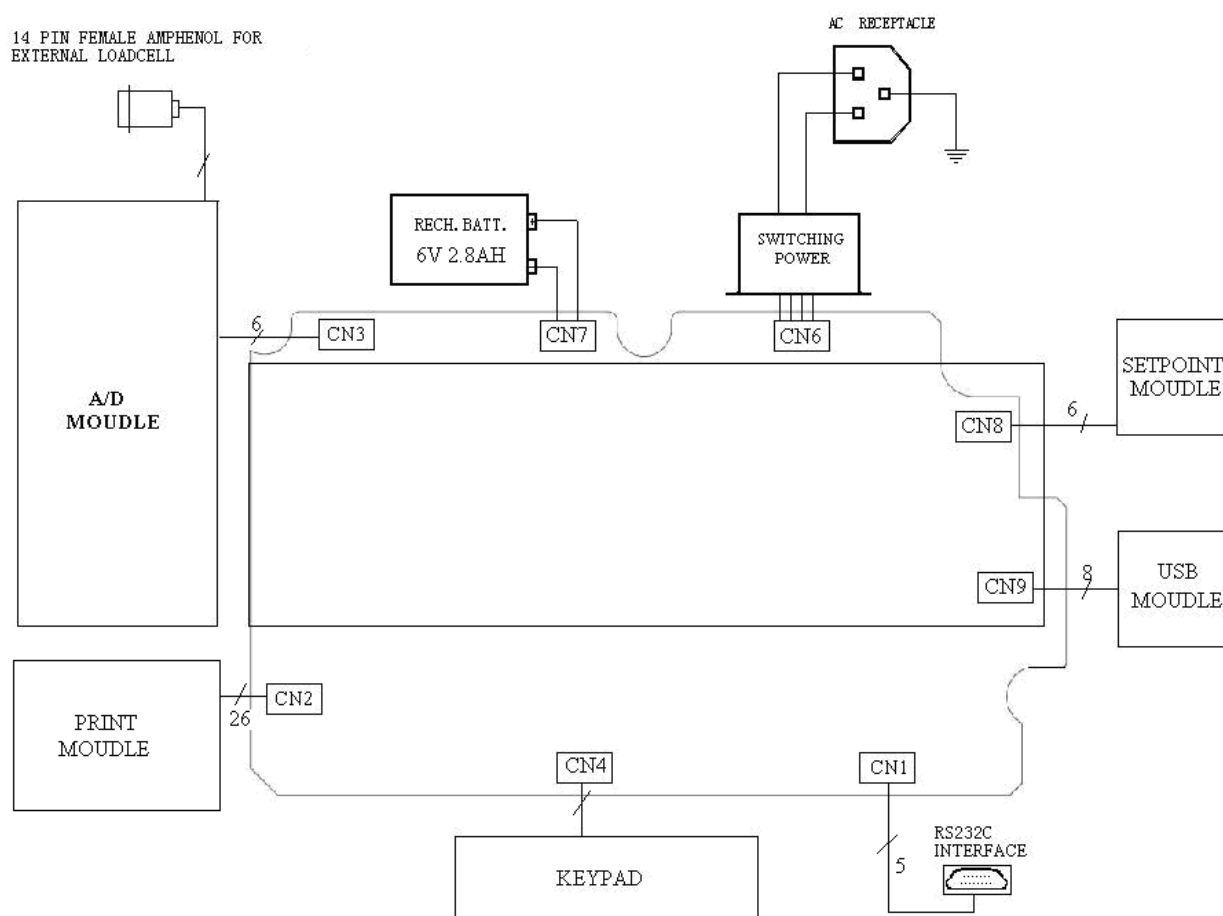
2.5 Key sheet Layout



- | | |
|------------------|--|
| * ON/OFF | : ON/OFF key. To turn display on or off. |
| * RE-ZERO | : RE-ZERO key. To resets weight display to zero. |
| * TARE | : TARE key. To set or clears tare value. |
| * UNIT | : UNIT key. To changes measurement base (only for 4 keys version). |

Key	Function
 [On/Off]	Switch On/Off.
 [REZERO]	Set the weight to zero.
 [T]	Set tare value or escape form program mode.
 [Mode]	Set Mode change.
 [*]	Print weight data and different function in other mode.
 [#]	Set dot and switch inputting ways.
 [+]	Weight addition in accumulation.
 [-]	Weight subtraction in accumulation.
 [Feed]	The print paper feed.
 [Count]	Entry counting Mode and PCS.
 [CH]	Entry set point check mode.
 [S]	Set point memory select (1~5).
 [lb]	Switch the weight unit.
 [Save data]	Save tare weight or gross weight as the second weight data.
 [C]	Clear data.
 [Numeric]	Number key.

2.6 Physical Layout of Electrical Connection



3. Initial Setup

3.1. Weight Calibration (SPAN Adjustment)

Turn on the SPAN SW.

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	Kg/lb
Weighing mode.		0.0 0 0	▼		▼	kg
Press [REZERO]	[REZERO]	8 8 8 8 8 8				
Press [8] [7] [1] [5] by holding [REZERO]	[REZERO]+ [8] [7] [1] [5]	CAL				
“DP” and “00000.0” alternately display		DP / 0 0 0 0 0.0				
Change the position of Decimal Point by press [+] [+].	[+] [+]	0 0 0 0 0 0				
Press [*] to save setting and exit to next step.	[*]	CAP1 / 0 0 0 0 0 0				
Enter the value of first scale on the platter using the numeric keys.	[2][0][0][0][0]	0 2 0.0 0 0				
Press [*] to save setting and exit to next step.	[*]	d1 / 1				
Press numeric keys to select set minimum display figure.	[5]	5				
Press [*] to save setting and exit to next step.	[*]	CAP2 / 0 0 0 0 0 0				
Enter the value of second scale on the platter using the numeric keys.	[1][0][0][0][0]	0 1 0.0 0 0				
Press [*] to save setting and exit to next step.	[*]	d2 / 1				
Press numeric keys to select set minimum display figure.	[2]	2				
Press [*] to save setting and exit to next step. Select weight unit by press [lb].	[*]	UNIT / kg				kg
Press [*] to save setting and exit to next step.	[*]	CAL00				kg
Press [*] to insure the zero point.	[*]	----- CALSP / 2 0 0 0 0				kg kg
Put weight (e.g. 10kg) on platter. Enter the weight which is used to calibrate by taking the same steps as above.	[1][0][0][0][0]	1 0 0 0 0				kg
Press [*] to take SPAN calibration.	[*]	-----				kg
Return to weight mode.		1 0 0 0 0			▼	kg

3.2 Specification Setting

3.2.1 Specification Enter (141)

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	
Weighing mode.		0.0 0 0	▼		▼	kg
Press [REZERO]	[REZERO]	8 8 8 8 8 8				
Press [1][4][1] by holding [REZERO]	[REZERO] +	SPEC00/00- 1100				
SP No. and SP data alternately display	[1][4][1]					
'+' key only increase Specification.	[+]	SPEC01/00- 1101				
'-' key only decrease Specification.	[-]	SPEC00/00- 1100				
Only '1' & '0' are enable.	[0][1][0][0]	SPEC00/00- 0100				
Cancel input	[c]	SPEC00/00- 0000				
	[0][1][1][0]	SPEC00/00- 0110				
' to store Specification.	[]	SPEC01/00- 1101				
[-]	[-]	SPEC00/00- 0110				
[+]	[+]	SPEC01/00- 1101				
Store SPECS and escape to weight mode.	[T]	0.0 0 0	▼		▼	kg

3.2.2 Specification Enter (142)

NOTE: It can only work when SPAN SWITCH is on (Enable)

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	
Weighing mode.		0.0 0 0	▼		▼	kg
Press [REZERO]	[REZERO]	8 8 8 8 8 8				
Press [1][4][2] by holding [REZERO]	[REZERO] +	SPEC20/20- 1100				
SP No. and SP data alternately display	[1][4][2]					
[+] key only increase Specification.	[+]	SPEC21/20- 1101				
[-]key only decrease Specification.	[-]	SPEC20/20- 1100				
Only '1' & '0' are enable.	[0][1][0][0]	SPEC20/20- 0100				
Cancel input	[c]	SPEC20/20- 0000				
	[0][1][1][0]	SPEC20/20- 0110				
[*] to store Specification.	[*]	SPEC21/20- 1101				
[-]	[-]	SPEC20/20- 0110				
[+]	[+]	SPEC21/20- 1101				
Store SPECS and escape to weight mode.	[T]	0.0 0 0	▼		▼	kg

3.2.3. Operational Specification List

For The Customer - (1 4 1)

SPEC NO.	BIT 3	BIT 2	BIT 1	BIT 0
0	Auto Power-off Function (for no key operation & weight operation) 0000 - Auto power-off disable when scale is not in use 0001 - 3 minutes 0010 - 10 minutes 0011 - 30 minutes 0100 - 1 hour 0101 - 3 hours 0110 ~ 1111 - Not used			
1	Buzzer 0 - On 1 - Off	Error Alarm 0 - On 1 - Off	Set Point Alarm 0 - On 1 - Off	Repeat Print 0: Off 1: On

2	Control of LCD Backlight 00 - Always on 01 – Always off 10 - Auto 11 - Not used		Print Language 0: Chinese 1: English	Set Point Type 0 - % Weight 1 – Weight
3	RTS/CTS Handshaking of RS-232C 0 - On 1 - Off	Baud Rate of RS-232C 000 - 1200 bps 100 - 19200 bps 001 - 2400 bps 101 - Not used 010 - 4800 bps 110 - Not used 011 - 9600 bps 111 - Not used		
4	Stop Bit of RS-232C 0 - 1 bit 1 - 2 bit	Data Length of RS-232C 0 - 7 bit 1 - 8 bit	Parity of RS-232C 00 - None 01 - Odd 10 - Even 11 - Not used	
5	RS-232C PC Protocol 1011 - Delhaize Greece protocol 0000 - Inhibit data transfer 1100 - Printer GP460Pro 0001 - Standard stream type (Continuous output) 1101 - Printer LP2844 0010 - Standard manual type 1110 - Printer GP460R or LableDoctor 0011 - Standard command type 1111 - Printer EPSON TM-U220			
6	Interval of Time Out Error of RS-232C 00 - 1 second 01 - 3 second 10 - 5 second 11 - 10 second	Transmission Condition of RS-232C 0 - Weight stable 1 – Unconditional	Additional Parity Code in Text of RS-232C 0 - No 1 – Yes	
7	Tare Weight in Text of RS-232C 0 - No 1 – Yes	Scale No. in Text of RS-232C 0 - No 1 – Yes	Header Code in Text of RS-232C 0 - No 1 – Yes	Weight Range of Data Output 0 – Always 1 – Over 20e
8	Use Internal Printer 0 - No 1 – Yes	Set Point Output 0 - Off 1 – On	Status Data in Text of RS-232C 0 - No 1 – Yes	
9	Only Use Set Point 1 and Adjust Set Point 1 (Rezero+7880) 0 - No 1 - Yes	Sampling Time for Unit Weight Calculation 0 - 10 times 1 - 5 times		
10	Sending Default Format to the LP2844 or GP460Pro 0 - No 1 – Yes	External Printer Print Format for LP2844 or GP460Pro 000 - Default Format 001 - Customer Format 1 101 - Customer Format 5 010 - Customer Format 2 110 - Customer Format 6 011 - Customer Format 3 111 - Customer Format 7 100 - Customer Format 4		

For Weight & Measure - (1 4 2)

SPEC NO.	BIT 3	BIT 2	BIT 1	BIT 0
20	Version Display when Power On 0 - Allow 1 - Inhibit	Type of Decimal Point 0 - .(Standard) 1 - ,(Europe)	Start Range 00 - $\pm 10\%$ F.S. 01 - $\pm 20\%$ F.S. 10 - $\pm 50\%$ F.S. 11 - $\pm 100\%$ F.S.	
21	Negative Weight Display Mask 0 - Minus gross > 9e 1 - Minus gross weight	Re-call Last Zero Data 0 - Allow 1 - Inhibit	Gain 00 -64 /* 1.1 – 2 mV/V */ 01 -128 /* 0.4 – 1 mV/V */	
22	Weight Stability Condition 00 - Loose 01 - Normal 10 - Tight 11 – Stringent			IR Mode Protected By SPAN SW 0 - No 1 – Yes
23	Manual Tare Cancellation 0 - Allow 1 – Inhibit	Tare Subtraction 0 - Allow 1 – Inhibit	Tare Accumulation 0 - Allow 1 – Inhibit	Auto Tare Clear when Re-zero 0 - Allow 1 – Inhibit
24	Digital Tare 0 - Allow 1 – Inhibit	Priority of Tare Operation 0 – One Touch Tare Priority 1 –Digit Tare Priority	Zero Tracking when Tare 0 - Allow 1 – Inhibit	Weight Reset when Tare 0 - Allow 1 – Inhibit
25	Tare Auto Clear 0 - Allow 1 – Inhibit	Auto Clear Condition 0 - $\geq$ Gross 21e & $\geq$ Net 5e 1 - $\geq$ Net 1e & Price not 0		Animal Mode 0 - Allow 1 – Inhibit
26			Order of Month, Date and Year 00 - MM/DD/YY 10 - YY/MM/DD 01 - DD/MM/YY 11 - Not used	
27	Auto Print & Accumulate 0 - Off 1 - On	Re-zero Function 0 - Allow 1 – Inhibit	Re-zero Range 00 - $\pm 2\%$ F.S. 01 - $\pm 4\%$ F.S. 10 - $\pm 10\%$ F.S. 11 - $\pm 100\%$ F.S.	
28	Weight Accumulation 0 - Allow 1 – Inhibit		Auto Hold 0 – Off 1 – On	Weight Accumulation without Removing Weight 0 - Allow 1 – Inhibit
29	Quantity Accumulation 0 - Allow 1 – Inhibit		Weight Total 0 - Allow 1 – Inhibit	Quantity Total 0 - Allow 1 – Inhibit

3.2.4. Internal Count & A/D Count Display

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	
Weighing mode.		0.0 0 0	▼		▼	kg
Press [REZERO]	[REZERO]	8 8 8 8 8 8				
Press [0][0][9] by holding [REZERO] to display internal count.	[REZERO]+ [0][0][9]	0			▼	
[+] key to display AD count.	[+]	60027				
Press [+] key again to display internal count.	[-]	0				
Press [T] to escape to weight mode.	[T]	0.0 0 0	▼		▼	kg

3.2.5. SPAN SW ON/OFF Check

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	
Weighing mode.		0.0 0 0	▼		▼	kg
Press [REZERO]	[REZERO]	8 8 8 8 8 8				
Press [2][8][4] by holding [REZERO] to display SPAN SW status.	[REZERO]+ [2][8][4]	S-ON			▼	
If the SPAN SW is at on status, it will display "S-ON".		S-ON				
If the SPAN SW is at off status, it will display "S-OFF".		S-OFF				
Press [T] to escape to weight mode.	[T]	0.0 0 0	▼		▼	kg

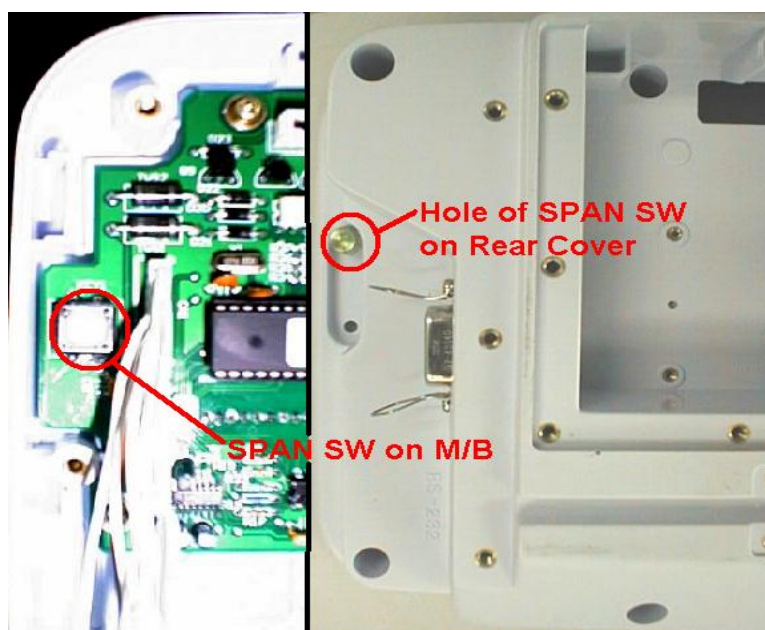
3.2.6. Clear all PLU or second weight record

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	
Weighing mode.		0.0 0 0	▼		▼	kg
Press [REZERO]	[REZERO]	8 8 8 8 8 8				
Press [9][7][3][2] by holding [REZERO] to clear PLU or second weight.	[REZERO]+ [9][7][3][2]	CLR PLU				
Use [+] key between PLU record or second weight record		CLR PLU / CLR DW				
Press [*] to clear all PLU or second weight record, then return to weight mode.	[*]	0.0 0 0	▼		▼	kg

3.3 Quick Maintenance Operation Table

Key Operation	Functions	Display
*Internal Count Display	[REZERO] + [0][0][9]	*Refer to 17.4.
*SPAN Adjustment	[REZERO] + [8][7][1][5]	*Refer to 17.1.
SPEC Setting for # 00- # 19)To set SPEC141 data	[REZERO] + [1][4][1]	*Refer to 17.2.
*SPEC Setting for # 20- # 30)To set SPEC142 data	[REZERO] + [1][4][2]	*Refer to 17.2.
SPAN SW ON/OFF Check	[REZERO] + [2][8][4]	*Refer to 17.5.

Note: Key operation with mark * is required to set SPAN SW to ON.



3.4 Error Message Display

ERROR	Probable Cause	Remedy
8 8 8 8 8 8 (Lock-up)	Zero-point is out of range.	Need to re-calibrate the scale.
O F	When displayed weight exceeded capacity + 9d, or something is on the platter when power on.	Remove the item on the platter.
U F	When displayed minus weight $\geq$ 9d.	Re-zero or ON/OFF again.

4. Main Operations

4.1. Weight mode Main Operation

4.1.1 ZERO Resetting

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE
Weighing mode.		0.0 0 0	▼		▼
Put (e.g. 3 g) on platter		0.0 0 3			▼
Zero resetting.	[REZERO]	888888			
		0.0 0 0	▼		▼
Remove the weight		- 0.0 03			▼
Zero resetting.	[REZERO]	888888			
		0.0 0 0	▼		▼

Note: 1) If the weight is within the available range of zero resetting, the display will return to 0.

If it is out of the range, the weight will remain in the display, the buzzer will beep alarm.

4.1.2 One-touch Tare Weight Reduction

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE
Weighing mode.		0.0 0 0	▼		▼
Put tare (e.g. 30 g) on platter		0.0 3 0			▼
Subtract the tare weight.	[TARE]	0.0 0 0		▼	▼
Remove the weight		- 0.0 3 0	▼	▼	▼
Clear the tare weight.	[TARE]	0.0 0 0	▼		▼

Note: 1) If the tare weight is within the available range of tare reduction, the display will return to 0 and NET lamp will light up.

If it is out of the range, the weight will remain in the display, the buzzer will beep alarm.

4.1.3 Digital Tare Weight Reduction

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE
Weighing mode.		0.0 0 0	▼		▼
Enter tare weight value e.g. 2.500kg	[2][#][5][0] [0]	2.5 0 0	▼		▼
Set the tare weight.	[TARE]	-2.5 0 0	▼	▼	▼
Clear the tare weight.	[TARE]	0.0 0 0	▼		▼

Note: 1) If the tare weight is within the available range of tare reduction, the display will return to 0 and NET lamp will light up. If it is out of the range, the weight will remain in the display, the buzzer will beep alarm.

When you want to exit this mode without any change, please press [Mode].

4.1.4 PLU function

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE
Weighing mode.		0.0 0 0	▼		▼
Enter PLU no (e.g. 100)	[1] [0] [0]	100			
Set the PLU	[*]	0.0 0 0	▼		▼
Enter PLU no (e.g. 0)	[0]	0			
Clear the PLU	[*]	0.0 0 0	▼		▼

Note: When you want to exit this mode without any change, please press [Mode].

4.1.5 Unit Weight function

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE
Weighing mode.		0.0 0 0	▼		▼
Enter Unit Weight (e.g. 1.00kg/1000PCS)	[1][#][0][0]	1.00			
Set the Unit Weight	[lb]	0	▼		▼

Enter Unit Weight (e.g.0)	[0]	0			
Clear the Unit Weight	[lb]	0.0 0 0	▼		▼

Note: If you set the Unit Weight, it will go into count mode. If you clear the Unit Weight, it will return to weight mode.

Unit weight is per 1000PCS.

When you want to exit this mode without any change, please press [Mode].

4.1.6 Change Weight unit

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	Kg/lb
Weighing mode.		0.0 0 0	▼		▼	kg
Put (e.g. 400 g) on platter		0.4 0 0			▼	kg
Press [lb] to shift weight unit alternately between kg and lb.	[lb]	0.8 8 0			▼	lb
Return to kg mode	[lb]	0.4 0 0			▼	kg
Remove the weight		0.0 0 0	▼		▼	kg

4.1.7 Second weight function

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	Kg/lb
Weighing mode.		0.000	▼		▼	kg
Put (e.g. 400 g) on platter		0.400			▼	kg
Press [Save Data] to save current weight to record	[Save Data]					
Input record No (e.g. 100)	[1][0][0]	DW 100				
Press [*] to edit second weight	[*]					
Use [+] key to switch tare and gross weight	[+]	G 0.400/T 0.400				kg
Press [*] to save Tare weight	[*]	T 0.400				kg
Return to weight mode		0.000	▼		▼	kg
Put (e.g. 1000 g) on platter		1.000			▼	kg
Press [Save Data] to save current weight to record	[Save Data]					
Input record No (e.g. 100)	[1][0][0]	DW 100				
Press [*] to edit second weight	[*]					
Use [+] key to switch tare and gross weight	[+]	G 1.000/T 1.000				kg
Press [*] to save Gross weight	[*]	G 1.000				kg
Display net weight use [*] to print or [T] to go to weight mode		N 0.600				kg
Return to weight mode		0.000	▼		▼	kg
Press [Save Data] to go to record	[Save Data]					
Input record No (e.g. 100)	[1][0][0]	DW 100				
Press [-] could delete this record	[-]	DW				
Press [T] to escape to weight mode.	[T]	0.0 0 0	▼		▼	kg

Note: You could save 100 records.

4.1. 8 Date & Time Recall

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	Kg/lb
Weighing mode.		0.0 0 0	▼		▼	kg
Press [-]	[-]	t1826				
Press [+]	[+]	d070802				
Press [T] to escape to weight mode.	[T]	0.0 0 0	▼		▼	kg

Note: At this time must be the weigh is 0 and total weight as same.

4.1.9 Print in weight mode.

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	Kg/lb
Weighing mode.		0.0 0 0	▼		▼	kg
Put (e.g. 3 kg) on platter		3.0 0 0			▼	kg
Press [*]	[*]	Print				
Return to weight mode when finished.		0.0 0 0	▼		▼	kg

Printed Ticket Sample

07-06-18	10:16
Gross	0.000kg
Net	3.000kg
Tare	0.000kg

4.1.10 Weight Accumulation

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	Kg/lb
Weighing mode.		0.0 0 0	▼		▼	kg
Put 3kg weight.		3.000				kg
Press [+] and then auto print weight receipt.	[+]	Add 1			▼	kg
Remove weight.		0.0 0 0	▼		▼	kg
Put (e.g. 4 kg) on platter		4.0 0 0			▼	kg
Press [+] to add the second weight.	[+]	Add 2			▼	kg
Remove weight.		0.0 0 0	▼		▼	kg
Press [+]	[+]	Total 2/7.000	▼		▼	kg
Press [*] to print total value and save data to grand total.	[*]	Print				
Auto return to weight mode.		0.0 0 0	▼		▼	kg

Note: After printed the total value, accumulator will be clear to "0", in meantime this total will be added into grand total.

Printed Ticket Sample

07-06-18	15:28
+	3.000kg
+	4.000kg
A	2
T	7.000kg

4.1.11 Weight Grand Total Check and Print

OPERATION	Key-in	WEIGHT	ZERO	TOTAL	Kg/lb
Weighing mode.		0.0 0 0	▼		kg
Press [MODE] [MODE]	[MODE] [MODE]	P.TOTAL/7.000		▼	kg
Press [*] to print grand total.	[*]	Print		▼	kg
Auto return to weight mode.		0.0 0 0	▼		kg

Note: After printed the total value, accumulator will be clear to "0".

Printed Ticket Sample

07-06-18	15:28
Grand total	
GT	7.000kg

4.1.12 Weight Grand Total Clear

OPERATION	Key-in	WEIGHT	ZERO	TOTAL	Kg/lb
Weighing mode.		0.0 0 0	▼		kg
Press [MODE] [MODE]	[MODE]	P.TOTAL/7.000		▼	kg
	[MODE]				
Press [C] to clear grand total.	[C]	P.TOTAL/0.000		▼	kg
Press [*] to save.	[*]	C.TOTAL/0		▼	PCS
Press [MODE] to go to PLU mode.	[MODE]	PLU			

4.2 Counting mode Main Operation

DI-620 has counting function. It can set the sample quantity. The default sample quantity is 10, or you can set the certain quantity as you need.

4.2.1. By Sampling and Print Receipt

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	Kg/lb/PCS	COUNT
Weighing mode.		0.0 0 0	▼		▼	kg	
Put (e.g. 400 g) on platter		0.4 0 0			▼	kg	▼
Press [Count]. The default sample quantity is 10.	[Count]	10			▼	PCS	▼
Remove all weight.		0	▼		▼	PCS	▼
Put (e.g. 800 g) on platter		20			▼	PCS	▼
Input 15 to set sample quantity is 15	[1][5]	15					
Press [Count] to set.	[Count]	15			▼	PCS	▼
Press [*] to print.	[*]	Print					
		15			▼	PCS	▼
Remove all weight.		0	▼		▼	PCS	▼
Press [C] to return to weight mode.		0.0 0 0	▼		▼	kg	

07-06-18	10:16
Piece	15PCS

4.2.2 Set Default Sample Quantity Modification

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	Kg/lb/PCS	COUNT
Weighing mode.		0.0 0 0	▼		▼	kg	
Press [Count]. The default sample quantity is 10	[Count]	10	▼		▼	PCS	▼
Input 15 to set sample quantity is 15	[1][5]	15				PCS	▼
Press [*] to save the data.	[*]	0.0 0 0	▼		▼	kg	
Put (e.g. 400 g) on platter		0.4 0 0			▼	kg	▼
Press [Count].	[Count]	15			▼	PCS	▼
Remove all weight.		0	▼		▼	PCS	▼
Press [C] to return to weight mode.		0.0 0 0	▼		▼	kg	

4.2.3 Quantity Accumulation

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	Kg/lb/PCS	COUNT
Weighing mode.		0.0 0 0	▼		▼	kg	
Put (e.g. 400 g) on platter		0.4 0 0			▼	kg	▼

Press [Count].	[Count]	10			▼	PCS	▼
Press [+] and then auto print weight receipt.	[+]	Add 1			▼	PCS	▼
Remove weight.		0	▼		▼	PCS	▼
Put (e.g. 800 g) on platter		20			▼	PCS	▼
Press [+] and then auto print weight receipt.	[+]	Add 2			▼	PCS	▼
Remove weight.		0	▼		▼	PCS	▼
Press [+]	[+]	Total 2/30	▼		▼	PCS	▼
Press [*] to print total value and save data to grand total.	[*]	Print					▼
return to counting mode.		0	▼		▼	PCS	▼

Printed Ticket Sample

07-06-18	15:28
+	10PCS
+	20PCS
A	2
T	30PCS

4.2.4. Quantity Grand Total Check and Print

OPERATION	Key-in	WEIGHT	ZERO	TOTAL	Kg/lb/PCS
Weighing mode.		0	▼		PCS
Press [MODE] [MODE]	[MODE]	C.TOTAL		▼	PCS
Press [*] to print grand total.	[*]	Print			
Auto return to weight mode.		0	▼		PCS

Note: After printed the total value, accumulator will be clear to "0".

Printed Ticket Sample

07-06-18	15:28
	Grand total
GT	30PCS

4.2.5. Quantity Grand Total Clear

OPERATION	Key-in	WEIGHT	ZERO	TOTAL	Kg/lb
Weighing mode.		0	▼		PCS
Press [MODE] [MODE]	[MODE]	C.TOTAL/30		▼	PCS
Press [C] to clear grand total.	[C]	C.TOTAL/0		▼	PCS
Press [MODE] to go to PLU mode.	[MODE]	PLU			

4.3. Operations In Program Mode

Notes: Third press key [MODE] within 3 second to enter into PLU Mode.

Memory Field of PLU

Memory Field (128B)	Parameters	Max. length
(4B)	PLU No.	4 digits
(10B)	Item Code	9 digits numeric data or Alphanumeric data
(16B)	Parts No.	15 digits Alphanumeric data
(16B)	Parts Name	15 Alphanumeric data
(24B)	Lot Number	23 Alphanumeric data

(6B)	Tare Weight	5 digits + Decimal figure
(6B)	Unit Weight	5 digits + Decimal figure
(8B)	Inventory	8 digits
(24B)	Setpoint Value	5 digits + Decimal figure (4 points)
(13B)	Not defined	
(1B)	CheckSum	

4.3.1. ProgramPLU

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	Kg/lb/PCS	COUNT
Weighing mode.		0.0 0 0	▼		▼	kg	
Press [MODE] [MODE] [MODE]	[MODE]	PLU					
	[MODE]						
	[MODE]						
PLU No (e.g. 100).	[1][0][0]	100					
Press [*] to go to edit PLU							
1.Item code (e.g. 1234).	[1][2][3][4]	I CODE/1234					
Press [*] to save and go to next data							
2.Part No.(e.g. Part No. is TA12)	[8][4]	A-84					
(you could use “#” key to switch between	[6][5]	A-65					
direct input and ascii input)	[4][9]	A-49					
	[5][0]	A-50					
Press [*] to save and go to next data							
3.Part Name.(e.g. Name. is SCREW)	[8][3]	A-83					
(you could use “#” key to switch between	[6][7]	A-67					
direct input and ascii input)	[8][2]	A-82					
	[6][9]	A-69					
	[8][7]	A-87					
Press [*] to save and go to next data							
4. Lot Number (e.g. 1234).	[1][2][3][4]	L NUM/1234					
Press [*] to save and go to next data							
5. Tare Weight (e.g. 1.00kg).	[1][#][0][0]	T WT/1.00				kg	
Press [*] to save and go to next data							
6. Unit Weight (e.g. 1.00kg/1000PCS).	[1][#][0][0]	U WT/1.00				kg	
Press [*] to save and go to next data							
7. Inventory (e.g.10).	[1][0]	INVENT/10					
Press [*] to save and go to next data							
8.Set Point (e.g. Setpoint1 is 1.00kg)	[1][#][0][0]	SP 1/1.00				kg	
Press [*] to save and go to next data.	[*]						
9.Set Point (e.g. Setpoint2 is 3.00kg)	[3][#][0][0]	SP 2/3.00				kg	
Press [*] to save and go to next data.	[*]						
10.Set Point (e.g. Setpoint3 is 6.00kg)	[6][#][0][0]	SP 3/6.00				kg	
Press [*] to save and go to next data.	[*]						
11.Set Point (e.g. Setpoint4 is 10.00kg)	[1][0][#][0][0]	SP 4/10.000				kg	
Press [*] to save and go to the first data.	[*]						
Press [T] to quit edit data	[T]	PLU					
Press [MODE] got to other mode.	[MODE]	OTHER					

*Note: To enter alphanumeric character, press [#] key to change the screen to the display of alphanumeric entry.

You also could use “DI620 PLU Editor” to edit PLU in PC, and send it to DI620. This software also could receive PLU from DI620. When you send or receive PLU, please check DI620 should be in the weight mode

4.3.2 PLU Call Up

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	Kg/lb/PCS	COUNT
Weighing mode.		0.0 0 0	▼		▼	kg	
Press PLU No (e.g. PLU No is 100).	[1][0][0]	100					
Press [*] to choose the PLU.	[*]	0.0 0 0	▼		▼	kg	

4.3.3 Delete a Certain PLU

OPERATION	Key-in	WEIGHT	ZERO	NET	STABLE	Kg/lb/PCS	COUNT
Weighing mode.		0.0 0 0	▼		▼	kg	
Press [MODE] [MODE] [MODE]	[MODE]	PLU					
	[MODE]						
	[MODE]						
Press PLU No (e.g. PLU No is 100).	[1][0][0]	PLU 100					
Press [-] to delete item.	[-]	PLU					
Press [Mode] go to other mode.	[MODE]	OTHER					

4.4. Other Setting & S. Memory Recall

Other setting include date and time setting, scale no setting and set-point setting.

System can be set 5 groups of set-point value, each group can be registered 4 points data. Before this function is used, users should program the group data of set point into memory first.

When the weight exceeds the first point value, the indicator OS1 will be light.

When the weight exceeds the second point values, the indicator OS1 and OS2 will be light.

When the weight exceeds the third point values, the indicator OS1, OS2 and OS3 will be light.

When the weight exceeds the fourth point values, OS1, OS2, OS3 and OS4 will be light.

4.4.1. Set Point Value Setting

OPERATION	Key-in	WEIGHT	Kg/lb/PCS	SM1~SM5	SP1~SP4	OS1~OS4
Weighing mode.		0.0 0 0	kg			
Press [MODE] [MODE]	[MODE]	OTHER				
[MODE] [MODE]	[MODE]					
	[MODE]					
Press [*] to go to other set	[*]					
Date setting (e.g.: 2008-2-21)	[2][2][1] [0][8]	DMM-DD-YY /22108				
Press [*] to save and go to next data	[*]					
Time setting (e.g.: 15:21)	[1][5][2][1]	DHH-MM /1521				
Press [*] to save and go to next data	[*]					
Scale No (e.g.: 1234)	[1][2][3][4]	S NO /1234				
Press [*] to save and go to next data	[*]					
Input value 1 (e.g.: 1.000kg)	[1][#][0][0][0]	SM1 SP1 /1.000	kg	SM1	SP1	
Press [*] to save and go to next data	[*]					
Input value 2 (e.g.: 2.000kg)	[2][#][0][0][0]	SM1 SP2 /2.000	kg	SM1	SP2	
Press [*] to save and go to next data	[*]					

Input value 3 (e.g.: 3.000kg)	[3][#][0][0][0]	SM1 SP3 /3.000	kg	SM1	SP3	
Press [*] to save and go to next data	[*]					
Input value 4 (e.g.: 4.000kg)	[4][#][0][0][0]	SM1 SP4 /4.000	kg	SM1	SP4	
Press [*] to save and go to next data	[*]					
Repeat Input value 1 to value 4 to set SM2~SM5						
Press [MODE] to go to weight mode.	[MODE]					

Note: The value of each set point should be assure SP1 less then SP2, SP2 less then SP3, SP3 less then SP4 and SP4 less then full capacity.

4.4.2. Set Point Memory Recall

OPERATION	Key-in	WEIGHT	Kg/lb/PCS	SM1~SM5	SP1~SP4	OS1~OS4
Weighing mode.		0.0 0 0	kg	SM1		
Press [S]	[S]	SEL S 1		SM1		
Input number of SM (1~5) (e.g.: 2)	[2]	SEL S 2		SM2		
Input [*] to use SM2 and return to weight mode.	[*]	0.0 0 0	kg	SM2		

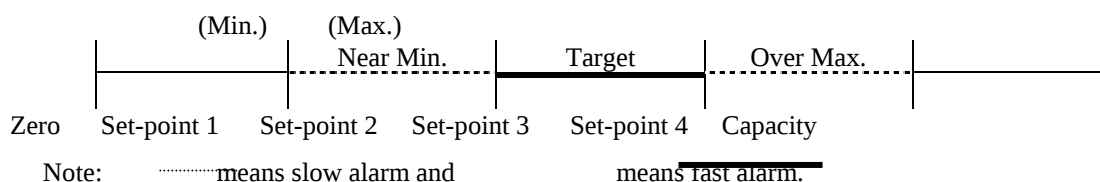
Note: The numeric keys 1~5 are available only for this operation.

4.4.3. Set-Point Check and Alarm Mode Select

There is Filling or Check Weighing methods for application of Set-Point Alarm Function.

● Filling Application

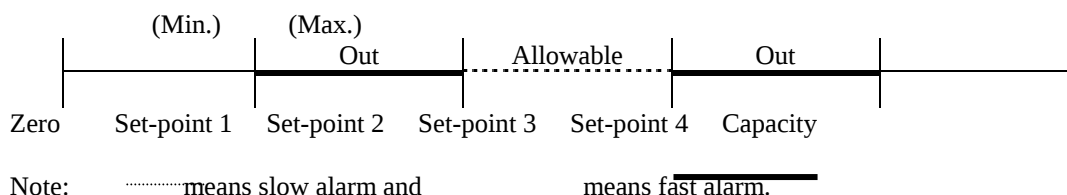
Operator can set the certain weight point to judge the filled weight reached or over target range. The target range can be determined between 2 set-point (set-point 2 and set-point 3), the continuous and fast alarm will alert when weight is reached target weighing range. And the range of Set-point 1 to 2 and Set-point 3 to 4 can be programmed as fine adjustment range.



OPERATION	Key-in	WEIGHT	Kg/lb/PCS	SM1~SM5	ALM
Weighing mode.		0.0 0 0			▼
Press [CH]	[CH]	ALA FIL			▼
Press [+] key to switch on/off this function	[+]	ALA FIL/ALA OFF			▼
Input [*] to use or not use fill function.	[*]	0.0 0 0			▼

● Weight Check Application

Operator can set the allowable error weight range between 2 set-points (set-point 2 and set-point 3), and the range of Set-point 1 to 2 and Set-point 3 to 4 can be programmed as out of range.



OPERATION	Key-in	WEIGHT	Kg/lb/PCS	SM1~SM5	OK
Weighing mode.		0.0 0 0			▼
Press [CH][CH]	[CH][CH]	ALA CH			▼
Press [+] key to switch on/off this function	[CH][CH]	ALA CH/CH OFF			▼
Input [*] to use or not use check function.	[*]	0.0 0 0			▼

4.5. Weight Check Bar of Set-point.

The check bar can be separated as three phases of display range. First phase corresponds to the range between set-point 1 and 2. Second phase corresponds to the range between point 2 and 3. Third phase equals to the range between point 3 and 4. The first and third range has 5 grades of indicators for each, and one grade of indicator equals to of weight range between set-point 1 & 2 or 3 & 4.

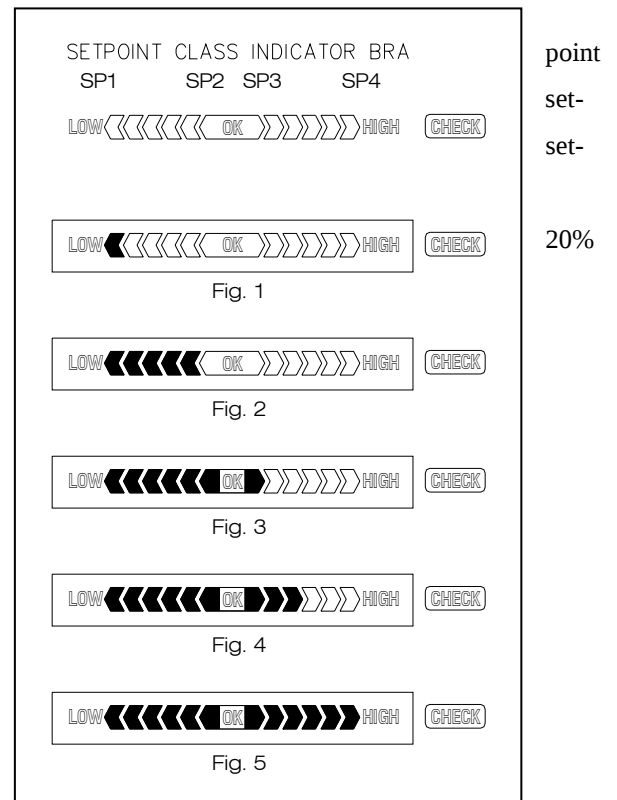
e.g. The system once increment is 5 g.

Set-point data:

Set-point 1 = 1.000kg, Set-point 2 = 2.000kg

Set-point 3 = 4.000kg, Set-point 4 = 5.000kg

Display Sample	Weight
Fig 1	1.000 ~ 1.195 kg
Fig 2	1.800 ~ 1.995 kg
Fig 3	2,000 ~ 3,995 kg
Fig 4.	4.200 ~ 4.395 kg
Fig 5	Over 5.000kg



5. RS-232C Interface

5.1. Specification

Baud Rate : 1200 / 2400 / 4800 / 9600 / 19200 BPS.
 Start Bit : 1 Bit.
 Stop Bit : 1 / 2 Bit.
 Data Bit : 7 / 8 Bits.
 Parity Bit: Even / Odd / None.

5.2. Pin Assignment

Inside DI-620		DI-620 SIDE		PC SIDE
CN3(5pins)		DIN 9 pins		
1	RXD	2	RXD	TXD
2	RTS	7	RTS	
3	TXD	3	TXD	RXD
4	CTS	8	CTS	
5	GND	5	GND	GND

Note: If you don't need handshaking sign of RS-232 when communicating, you needn't connect RTS and CTS signs.
(Spec 3 Bit 3)

5.3. Control Code and Characters

Termination Code	CR	The end of data	0x0d
	LF	The end of Text	0x0a
Data	'0' ~ '9'	Numeric date	0x30 ~ 0x39
	'-' (Minus)	Minus sign	0x2d
	'.' (Decimal)	Decimal	0x2e
	' ' (Space)	Data error or empty	0x20
	OF	Overflow	0x4f 0x46
	UF	Underflow	0x55 0x46
Header Code	'0'	Net Weight	0x30
	'4'	Tare Weight	0x34
	'V'	Scale No	0x56
	'B'	Status	0x42
Command	ENQ	Enquiry	0x05
	ACK	Acknowledge	0x06
	NAK	Not Acknowledge	0x15

Note: Use [#] key to send RS232 data to the PC or external printer.

5.4. Data Format

A) Without additional parity (Total 27 Bytes)

Header Code	Status Flag	Weight Condition Flag	CR	Header Code	Scale No.	CR	Header Code	Net Weight	CR
1 Byte	1 Byte	1 Byte	1 Byte	1 Byte	3 Byte	1 Byte	1 Bytes	7 Bytes	1 Byte



Header Code	Tare Weight	CR	LF
1 Byte	6 Bytes	1 Byte	1 Byte

With additional parity (Total 28 Bytes)

Header Code	Status Flag	Weight Condition Flag	CR	Header Code	Scale No.	CR	Header Code	Net Weight	CR
1 Byte	1 Byte	1 Byte	1 Byte	1 Byte	3 Byte	1 Byte	1 Bytes	7 Bytes	1 Byte



Header Code	Tare Weight	CR	Additional Parity	LF
1 Byte	6 Bytes	1 Byte	1 Byte	1 Byte

*Note: If the additional parity is 0x0d, 0x0a or 0x00, it will be changed to 0x1d, 0x1a or 0x10 respectively.

Status Flag:

Not Used	Fixed to 1	Not Used	Not Used	Not Used	Not Used	Net	Additional Parity
----------	------------	----------	----------	----------	----------	-----	-------------------

Bit 7 : Not used. Always 0;.

Bit 6 : Fixed to 1.

Bit 5 - 2 : Not used.

Bit 1 : Net. Set to 1 When tare subtraction is performed, 0 when not.

Bit 0 : Additional parity flag. Set to 1 when additional parity code is added in text, 0 when not.

Weight Condition Flag:

Not used	Fixed to 1	Not used	Weight UF	Weight OF	Negative Net Weight	Weight Stable	Zero Sign
----------	------------	----------	-----------	-----------	---------------------	---------------	-----------

Bit 7 : Not used. Always set 0.

Bit 6 : Fixed to 1.

Bit 5 : Not used.

Bit 4 : Weight UF. Set to 1 when weight underflow, 0 when not.

Bit 3 : Weight OF. Set to 1 when weight overflow, 0 when not.

Bit 2 : Negative Net Weight. Set to 1 when net weight is negative, 0 when not.

Bit 1 : Weight Stable. Set to 1 when weight is stable. 0 when not.

Bit 0 : Zero Sign. Set to 1 when weight zero sign is set. 0 when not.

Example1: Transmit all data.

Net weight = 3.456 Tare weight = 1.200

Weight status : stable

Status Flag: 0x42

0	1	0	0	0	0	1	0
---	---	---	---	---	---	---	---

Weight Condition Flag: 0x42

0	1	0	0	0	0	1	0
---	---	---	---	---	---	---	---

By ASCII Code:

0x42	0x42	0x0d	0x30	0x30	0x33	0x2e	0x34	0x35	0x36	0x0d
------	------	------	------	------	------	------	------	------	------	------



0x30	0x30	0x31	0x2e	0x32	0x30	0x30	0x0d	0x0a
------	------	------	------	------	------	------	------	------



Example2: Only transmit Net weight.

0x42	0x42	0x0d	0x30	0x30	0x33	0x2e	0x34	0x35	0x36	0x0d	0x0a
------	------	------	------	------	------	------	------	------	------	------	------



Note: This function depends on SPEC7 bit3.

Example3: When weight is overflow, the following data is output.

0x42	0x48	0x0d	0x30	0x20	0x20	0x20	0x20	0x4f	0x46	0x0d
------	------	------	------	------	------	------	------	------	------	------



0x30	0x30	0x31	0x2e	0x32	0x30	0x30	0x0d	0x0a
------	------	------	------	------	------	------	------	------

5.5. Communication Method

Note: Communication depends on SPEC5

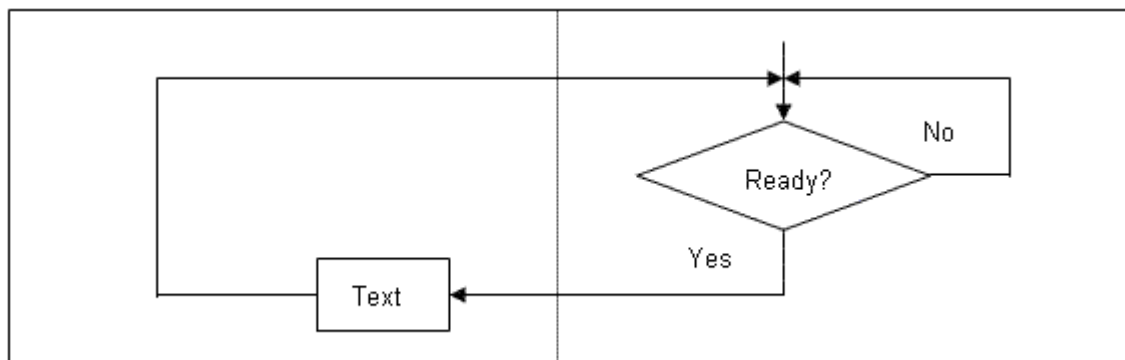
The data communication method can be selected from Stream(continuous), Manual, Command and etc. by specification settings.

5.5.1 Type A (Standard Stream)

Data is transmitted to PC side continuously.

PC SIDE

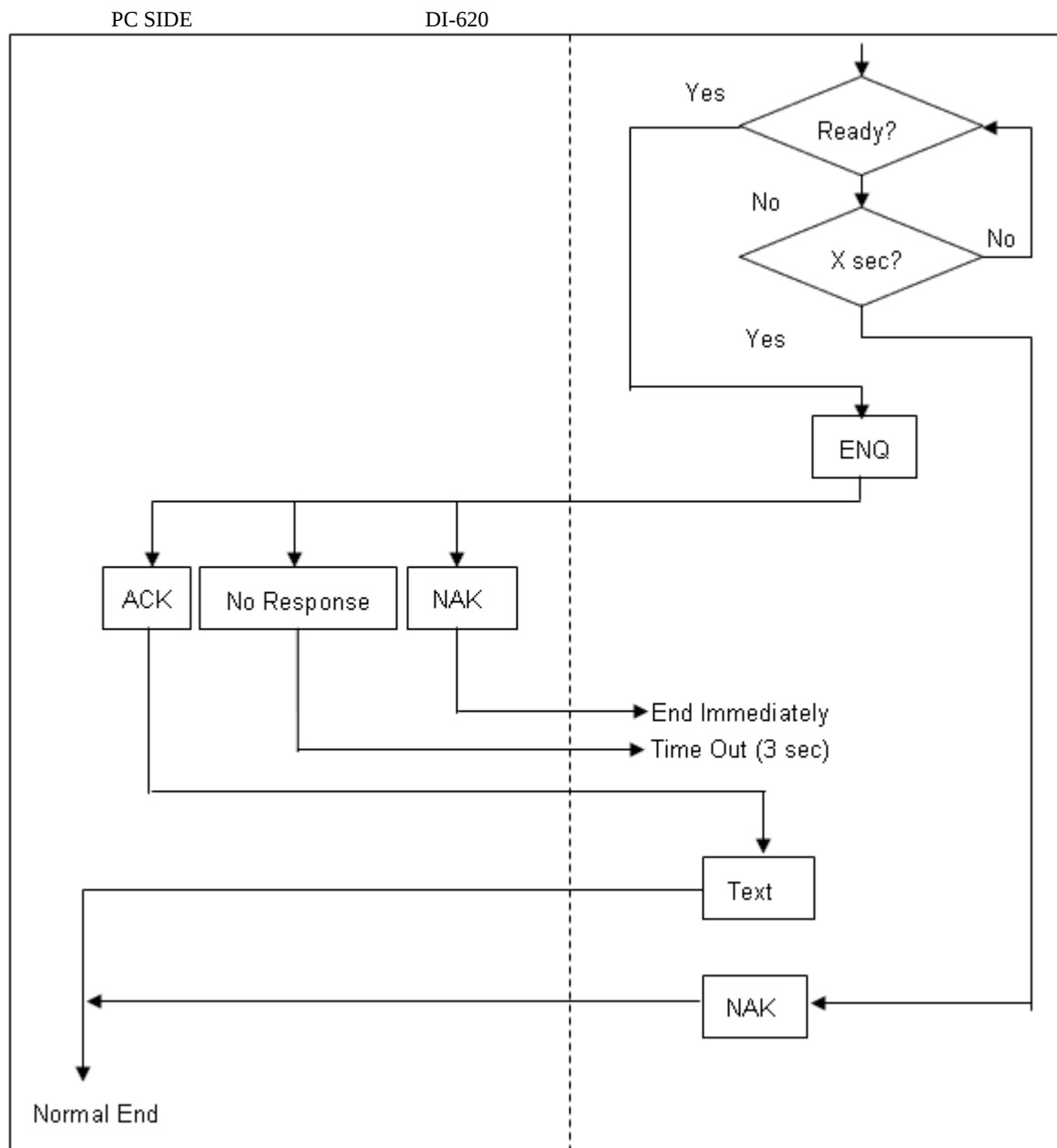
DI-620



Note: Weight stable check depends on SPEC setting.

5.5.2 Type W (Standard Manual)

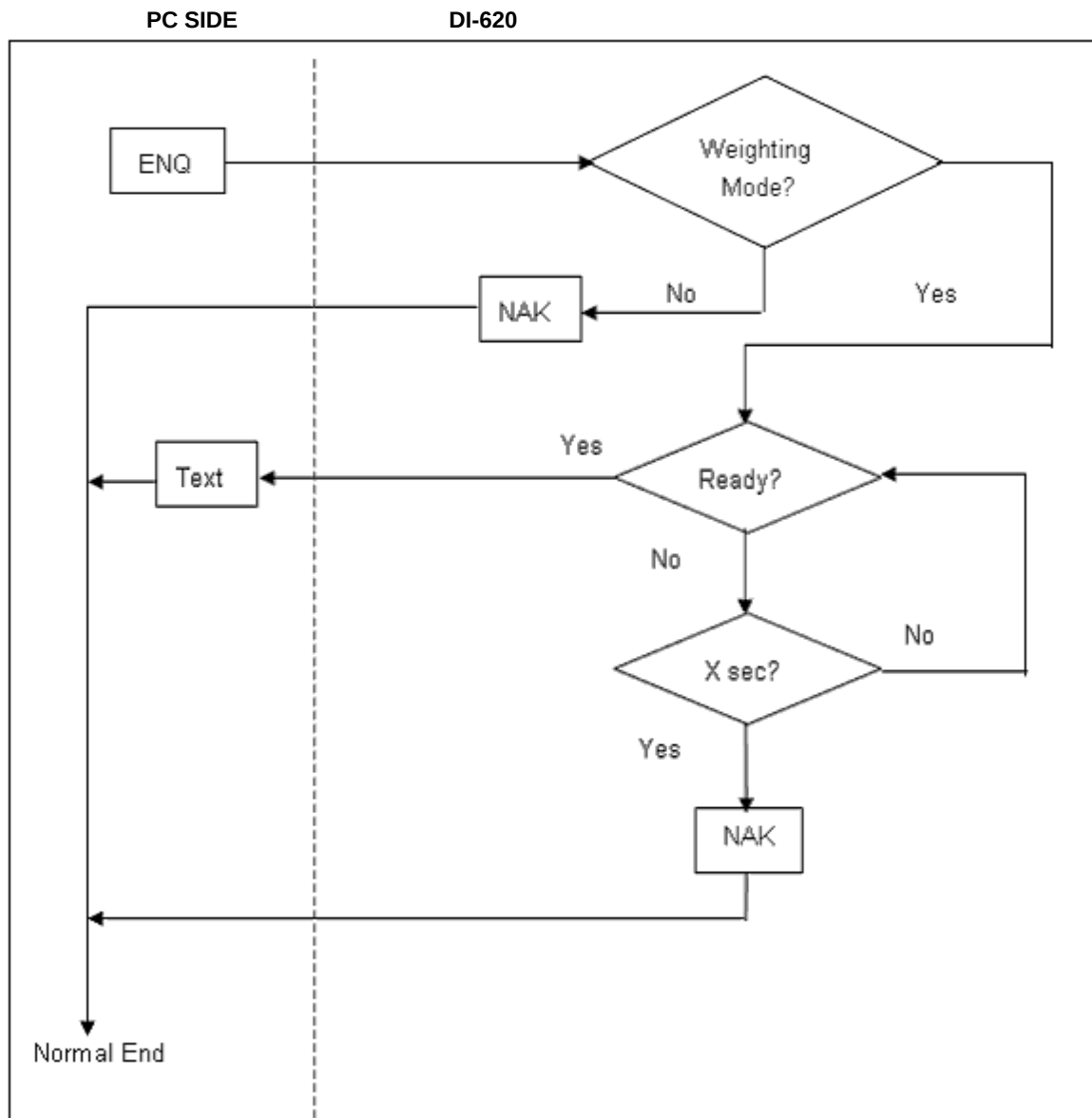
Data is output by pressing Manual key(# key). User may select to transmit the data right away or hold the command until weight become stable by specification setting.



Note: Weight stable check depends on SPEC setting.

5.5.3 Type B (Standard Command)

The data transmission starts by receiving the command from external (Ex. PC side).



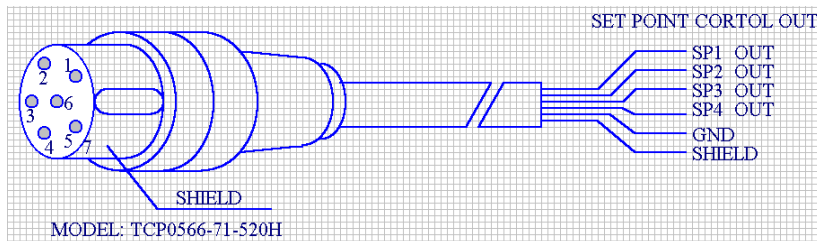
Note: Weight stable check depends on SPEC setting.

5.6. Set-point Interface

Max. 4 points can be programmed for one item code.

5.6.1. Set-Point Control Cable Specification

DI-600 Set-Point Output	
Pin No	Signal
1	Set-Point 1 Control out
2	Set-Point 2 Control out
3	Set-Point 3 Control out
4	Set-Point 4 Control out
5	GND
6	Shield



5.6.2. Set-Point Port Specification

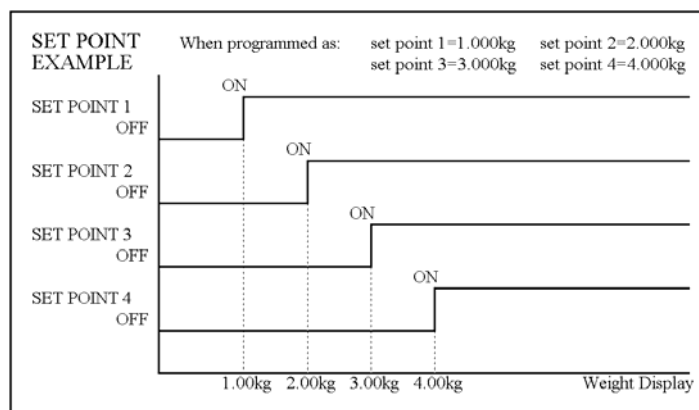
- (1) Interface: Open collector type (Passive type)
- (2) Max. Rated Input Voltage: 24VDC
- (3) Max. Rated Across Current: 50 mA
- (4) External Power (VEXT): 12VDC (6~15VDC) Recommended
Max. 24VDC 100mA.

5.6.3. Set-Point Signal ON Timing

When the weight display reaches each programmed value, the set point signal will be ON.

The following figure shows an example of the set point signal ON timing.

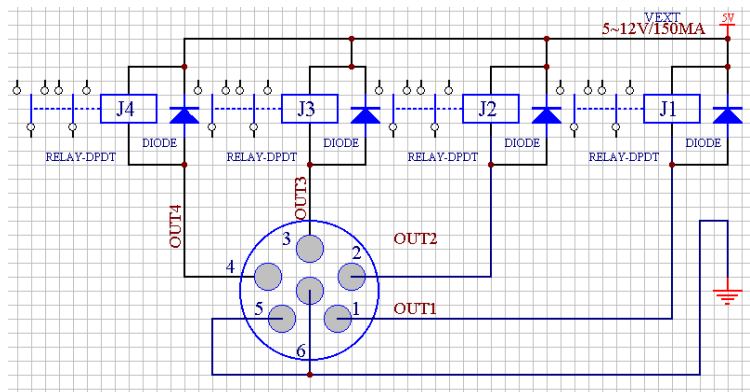
Note1: When programmed set point value is 0, the set point signal will not be ON.



5.6.4. Set-Point Output Control

Combine with the external devices, the set-point port can realize the control function according to the weight changing.

Following is a sample circuitry diagram for out devices control:



Note: This Circuit Diagram is for Referenced only.