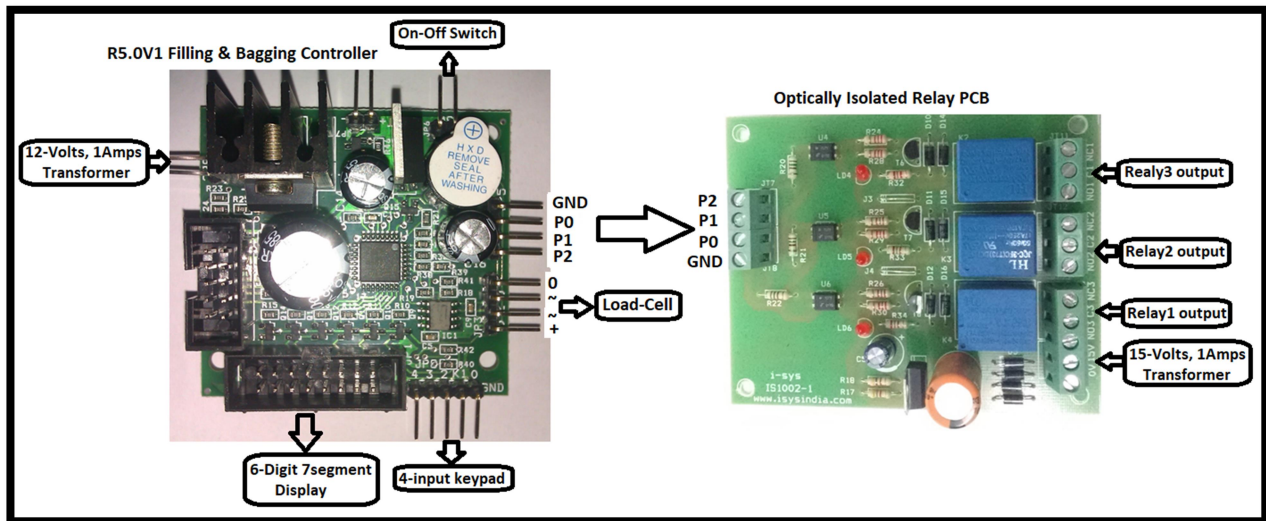


Filling & Bagging PCB Kit User Manual



Block Schematic Diagram for Filling & Bagging Controller PCB Kit

Filling & Bagging Weigh Controller PCB Kit

The Kit contains the following items.

1. Filling & Bagging Weighing Controller PCB R5.0V1 – 1no.
2. 0.56" Red display – 1nos.
3. 4-input Keypad with connector – 1nos.
4. Optically Isolated Relay PCB – 1no.
5. 0-12V/1Amps transformer – 2no.
6. 0-15V/1Amps transformer – 1no.

Please connect the materials supplied as per the schematic block diagram shown above.

The filling & bagging weigh controller system provides 3-relay output for controlling the bag filling & weighing process.

- Relay1 – Connected to bag holding clamp actuator.
- Relay2 – Connected to coarse filling actuator. This relay operates from zero weight to set-point1 value.
- Relay3 – Connected to fine filling actuator. This relay operates from zero weight to setpoint2 value.

The input control buttons used in the controller are...

- SHIFT key (K3) – Instructs the controller to start the filling process.
- TARE key (K4) + Shift key (K3) – To program the set-point1 & set-point2 values in the controller.

R5.OV1 Filling & Bagging PCB Configuration & Calibration Manual

To configure the machine, connect the power supply. Now press TARE key (K4) and with the TARE key (K4) pressed power on the Machine (switch connected to the weighing scale PCB).

It shows

P 0 0 0 0 0.

Now use the INCREMENT key (K2) & SHIFT key (K3) to enter the Password given to you & then press the ENTER key (K1). If your Password is wrong it will display “Sorry”.

If you have entered the right Password it shows

P A R A

Now press ENTER key (K1) to go to parameters (PARA) settings

Or press Increment (INC) key (K2) to change to (CAL)

calibration settings.

To configure PARA press enter key when it displays “PARA”.

L 0 0 0 0 0.

To set maximum Capacity use INC key (K2) and SHIFT key (K3).

Ex: for 30kgs

L 0 0 0 3 0.

Enter the maximum Load & then Press ENTER key (K1).

The next setting is the Scale's Least Count settings, LC1 & LC2.

LC1 is for least count 1 and is applicable from zero load to 50% of machine capacity. LC2 is for least count 2 & applies for load greater than 50% to maximum capacity of the scale.

L	C	x			0.
---	---	---	--	--	----

LCx 0—increment of resolution in steps of 1 count accuracy

LCx 1—increment in steps of 2 counts.

LCx 2—increment in steps of 5 counts.

LCx 3—increment in steps of 10 counts.

AT0 - is for auto-zero. You can enter values 0 to 9. Small drift in weight seen in the least significant digit is zeroed for values less than or equal to AT0 value we have entered. For most purpose set it to a value in the range of 3 to 5.

Press INC key (K2) to change the value

A	t	0			5.
---	---	---	--	--	----

D0 - is Dummy-zero. Enter the value 1 to invoke dummy-zero. It works in range 2(set in calibration routine for 100kg to 999 kg range) and it shifts the display digit to the left side to place a dummy zero.

To select dummy-zero press INC key (K2) & set D0 – 1 and then press ENTER key (K1).

D	0				0.
---	---	--	--	--	----

Unit: 0-4. It is used to specify the units like milligram or kilo-newton of the scale for serial print / communication.

Unit: 0-(mg); 1-(g); 2-(kg); 3-(ton "t"); 4-(kilo-newton "kn"). This is used only for serial output (UART) application.

U	n	i	t		0.
---	---	---	---	--	----

Enter the appropriate units value & press ENTER key (k1). Next it displays...

F	I	L			0.
---	---	---	--	--	----

Now you can select the digital filter options. Use default "0" for fast output weight display response. Higher values of filter can be used for platform scales & weigh bridge application where there is a lot of movement or oscillations on the platform & hence the weight display.

Next, it displays the delay setting options.

d	L	y			0.
---	---	---	--	--	----

This value controls the time delay between the switching ON of the bag clamping relay event & the simultaneous switching ON event of the coarse & fine relay after the “start filling cycle button” (K3) is pressed. This delay can be adjusted by entering a suitable value.

Dly - It can take values from 0 to 9.

Now we have completed configuring all the setting in the “PARA” menu.

Once all the settings in PARA menu is completed it will again return back to the main menu “PARA”.

When PARA appears as below you are ready to calibrate the machine.

P	A	R	A		
---	---	---	---	--	--

To enter into calibration mode press INC key (K2).

C	A	L			
---	---	---	--	--	--

It will appear as shown.

Now press Enter key (K1).

Next “rAnGEx” will appear. This selection decides the decimal point position.

RANGE 0-4(range selection)

Displayed Output

R	A	N	G	E	0.	-	0.	0	0	0	0
R	A	N	G	E	1.	-	0	0.	0	0	0
R	A	N	G	E	2.	-	0	0	0.	0	0
R	A	N	G	E	3.	-	0	0	0	0.	0
R	A	N	G	E	4.	-	0	0	0	0	0

Use the INC key (K2) to change the range value.

Select and press ENTER key (K1).

Next it shows **No-Load count** value.

	X	X	X	X	X
--	---	---	---	---	---

Now press the Enter key (K1) to accept the **No-load count value**.

Next it will display “**LOAD**” briefly as below.

L	O	A	D		
---	---	---	---	--	--

And then it will again display the No-load count value.

Now you need to place a **known-load** (Standard calibration Weight) on the pan.

It will now show the **known-load count value**.

	Y	Y	Y	Y	Y
--	---	---	---	---	---

Press the Enter key (K1) to accept the known-load count value.

The display will now display the span value (known-load count value – no-load count value) for a brief period & then it will display as below...

	0	0.	0	0	0
--	---	----	---	---	---

The decimal point position will depend on your range value selected earlier.

Using the INC key (K2) & SHIFT key (K3) enter the known-weight (Calibrating weight) you had kept on the pan just now to calibrate. Example...

	0	2.	0	0	0
--	---	----	---	---	---

Enter the value for the known weight and press ENTER key (K1).

Next, remove the known-weight from the pan.

It will now show “CAL” again. Now your calibration procedure is completed.

Next, switch OFF the power to the PCB & then switch it ON.

Your machine is calibrated & ready to use.

HOW TO ENTER THE SET-POINT VALUES ?

Once the calibration & parameter setting procedure is completed, you can switch OFF & ON the Controller PCB. If no set-point value is entered in the controller, the controller will indicate “Enter Set Point” as a scrolling display. Now, press TARE key (K4) and SHIFT key (K3) simultaneously. The display will blink & then show “SET-1” for a brief period as shown below...

S	E	t	-	1	
---	---	---	---	---	--

Next it shows...

0	0	0.	0	0	0
---	---	----	---	---	---

Use the INCREMENT key (K2) & SHIFT key (K3) to enter the set-point1 value. Next press the ENTER key (K4). This value will be stored in the permanent memory of the controller.

Next it shows “SET-2” briefly and provides you the space to enter the set-point2 value. In a similar way enter the set-point2 value.

S	E	t	-	2	
---	---	---	---	---	--

Next it shows...

0	0	0.	0	0	0
---	---	----	---	---	---

Make sure the set-point2 value is greater than set-point1 value.

If by chance you enter set-point2 value to be greater than set-point1 value, the controller will indicate "ERROR SET2" as a scrolling display. You will have to follow the procedure mentioned above to set the appropriate set-point values.

Next it shows "L-tAr" briefly and provides you the space to enter the L-TARE value.

L	-	t	A	r	
---	---	---	---	---	--

Next it shows...

0	0	0.	0	0	0
---	---	----	---	---	---

This "L-TARE" value is the maximum value that the controller will zero before starting a new filling cycle. Any weight greater than L-TARE value will not be zeroed & the filling operation will not be executed. You will have to manually zero it using the TARE key (K4) & then start the filling cycle process.

Enter your suitable choice of L-TARE value and press ENTER key (K1).

Your controller is now ready for the filling & bagging control operation.

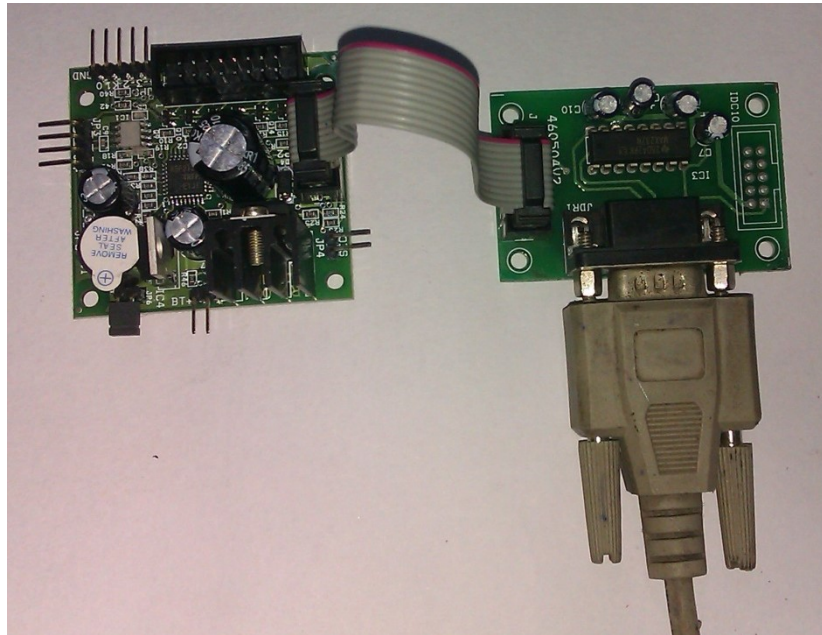
To start the filling cycle, press the SHIFT key (K3). To stop the process at any time (emergency stop), press the ENTER key (K1). Every time a new filling cycle is started by pressing SHIFT key (K3), the display LED blinks for the delay time (configured in the PARA settings) and during which time the bag weight is zeroed & then the coarse & fine relays are switched ON.

At the end of the filling cycle the display LED blinks again for the same delay time and during which time the controller stores the actual weight of material in the bag into an accumulator register. Along with the accumulated or total bagging weight the controller also stores the number of bags packed. Both the accumulator weight data & the number of bags data are stored in a temporary memory & hence will be lost if power is recycled to the controller.

To view the view the accumulated bagging weight & the number of bags, press the INCREMENT key (K2). Pressing the same key again will bring the display back to normal operation mode.

For more information regarding calibration & settings please call the manufacturer.

Serial Communication: A 10 pin FRC box header with TTL UART Pins are available for serial communication. RS232 adaptor PCBs as shown below are available for easy interface for connecting to a PC.



The communication settings are as follows...

Baud Rate: 2400bps fixed baud rate.

Data Format: 8N1

Hardware flow: None

For customized string format, please contact manufacturer. Optically isolated RS232 /485 interface PCBs are also available with us.

The data string will be a continuous dump data. The data rate is 10 data strings per second.

The serial string data is as shown below...

#+000.000 kg\$202

The data after the “#” is the weight data. The data after “\$” is the battery ADC data, used in debugging battery voltage condition.

LED Display: 6-digit common anode seven segment display. A 16pin FRC box connector is provided on the PCB for this purpose. Apart from segment (weight) display it will also drive a LED that indicates the presence of mains supply.

Buzzer annunciation: The buzzer is used for multiple annunciations. A few are mentioned below...

- a. Beeps with scrolling banner display.
- b. Beeps while TARE key is pressed.
- c. Intermittent & continuous beeps for set-point1 & set-point2 function.

Contact Address:

i-sys

1, 12th East Street, Kamaraj Nagar,

Thiruvanmiyur, Chennai - 600041

India.

Phone : 04424485884

Mobile : 09841047643

www.isysindia.com