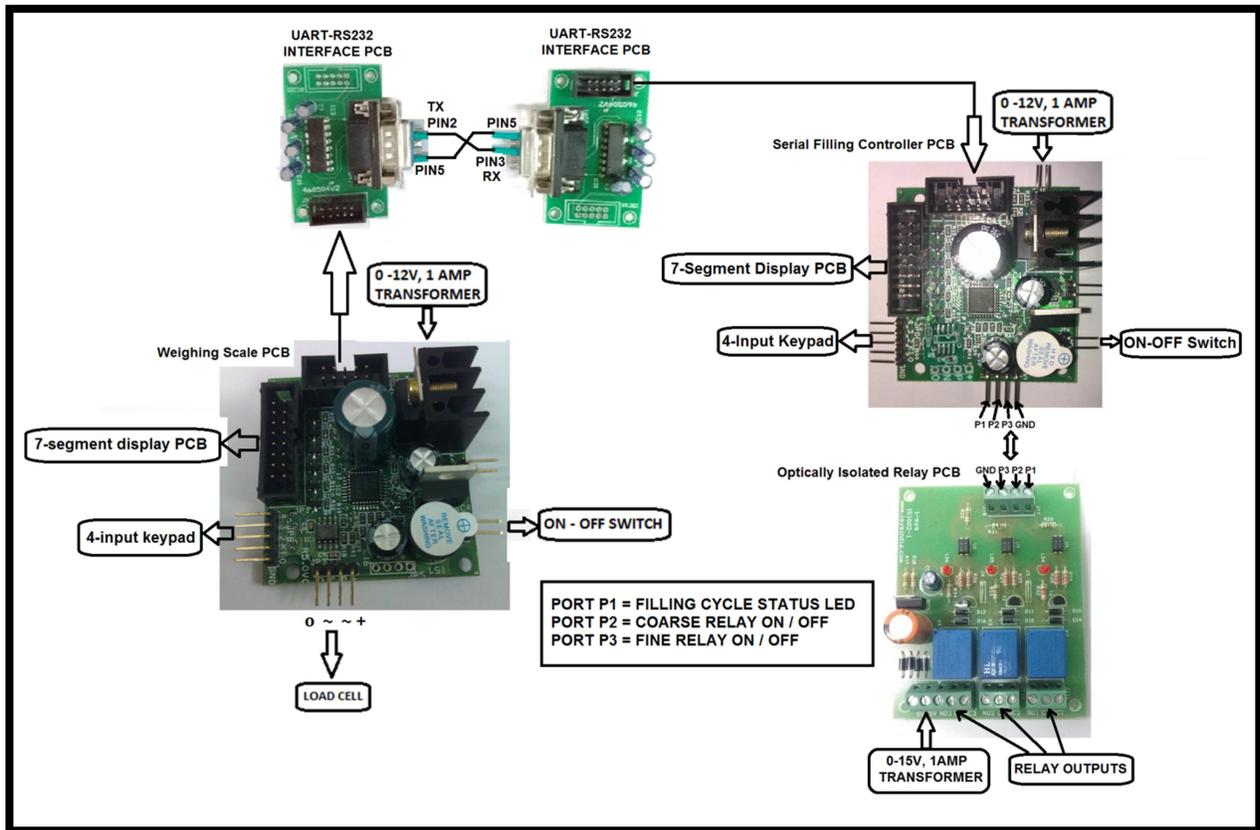


Serial Filling Controller PCB Kit User Manual



Block Schematic Diagram for Serial Filling Controller PCB Kit

Serial Filling Controller PCB Kit

The Kit contains the following items.

1. Weigh (Bridge) Scale PCB R5.0V1 – 1no.
2. Serial Filling Controller R5.0V1 PCB – 1no.
3. UART-RS232 interface PCB – 2nos.
4. RS232 interface cable – 1no.
5. 0.56" Red display – 2nos.
6. 4-input Keypad with connector – 2nos.
7. 0-12V/1Amps transformer – 2no.
8. 0-15V/1Amps transformer – 1no.

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

Calibration of Weighing (Bridge) Scale PCB

For the calibration of weighing scale PCB please refer or down load "R5.0V1 Weighing Scale PCB User Manual-1" pdf from www.isysindia.com website.

Connect a 10wire FRC cable from the weighing scale PCB to the UART-RS232 interface PCB and from the Serial Filling Controller PCB to the UART-RS232 interface PCB as shown in the above block diagram.

Function and Parameter settings in Serial Filling Controller PCB

Listed below are the various display indications for function and parameter settings.

1. PIN – Password identification number.
2. PARA – Parameter Settings.
 - I. BAUD – Baud rate settings.
 - II. MDP – Manual fixing of decimal point.
 - III. COD – Charging Or Discharging mode.
 - IV. PS – Power save option in display.
3. SET-1 – Target value of filling controller.
 - i. L-TARE – Minimum weight of empty container to initiate or start filling cycle operation.
 - ii. H-TARE – Maximum weight of empty container to initiate or start filling cycle operation.

4. FINE – Weight of filling material to be discharged slowly once coarse relay is switched off.
5. ERROR – Difference between Target value (SET-1 value) and the actual weight filled in the container when ERROR is initially set to zero. The system assumes the error to be only positive.

Function Keys in Serial Filling Controller PCB

1. Press TARE key(K4) and then power ON the PCB – To enter into settings mode.
2. Long press of TARE key(K4) after the PCB is powered on – To enter set-point value.
3. Short press of INCREMENT key(K2) – To start filling cycle.
4. Short press of SHIFT key(K3) when filling in progress – Pause filling operation.
5. Short press of SHIFT key(K3) when in Pause mode – Returns to normal filling operation.
6. Short press of ENTER key(K1) when in filling or pause mode – Exit filling cycle and resets relay.

HOW TO DO THE SETTINGS ?

Follow the instructions below to configure your Serial Filling Controller PCB.

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 Serial Filling Controller PCB).

You will see a LED blink and the display will briefly show PIN (password) and then...

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”. Get your password from the manufacturer (www.isysindia.com).

Once you enter the right password it will next display ...

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

Now press ENTER key(K1) to go inside parameters (PARA) settings. The first setting is the baud rate setting for the serial UART communication.

b	A	U	d		1.
---	---	---	---	--	----

Baud = 0 (default) for 9600bps. Baud = 1 for 2400bps. Select the baud rate to be same as that of the interfacing weighing scale PCB. Next press the ENTER key(K1). The next parameter is “manual decimal point assign” and is as shown below...

n	n	d	P		1.
---	---	---	---	--	----

If Mdp = 0 ; The decimal point display will be 0.0000

Mdp = 1 ; The decimal point display will be 00.000

Mdp = 2 ; The decimal point display will be 000.00

Mdp = 3 ; The decimal point display will be 0000.0

Mdp = 4 ; The display will be 00000

Choose the appropriate Mdp value and press the ENTER key(K4). Next, it will display “COd”

C	O	d			1.
---	---	---	--	--	----

COD stands for charge or discharge mode. COD = 0 for charging mode; COD = 1 for discharging mode.

Next it will display “PS”.

P	S				0.
---	---	--	--	--	----

PS stands for power save modes. PS = 0 is the default mode and the power save function is active. If PS = 1 the power save function is deactivated.

Choose the appropriate value and press ENTER key(K1). Next, the display once again shows PARA. Press the INCREMENT key(K2). It will display “SET-1” as shown below...

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

SET-1 denotes the target value for the filling controller PCB. Press the ENTER key(K1).

It shows

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

Enter the target value required for your filling operation. Note that the decimal point will be placed on the appropriate digit based on the value selected by you in the Mdp function. After entering the Mdp value press the ENTER key(K1).

Next the display will briefly show...

L	-	T	A	r	E
---	---	---	---	---	---

And then display...

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

Now enter the minimum possible weight value of the empty container used in the filling operation. After entering the value press the ENTER key. Next the display will briefly show...

H	-	T	A	r	E
---	---	---	---	---	---

And then display....

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

Now enter the maximum possible weight value of the empty container used in the filling operation. After entering the value press the ENTER key. The display will once again display SET-1. Press the INCREMENT key(K2). It will display "FINE" as shown below...

F	I	n	E		
---	---	---	---	--	--

Next press the ENTER key(K1). It will display...

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

Now enter the (FINE) weight value of the filling material that has to be discharged once the COARSE RELAY is switched OFF. After entering the FINE weight value press the ENTER key.

The display will once again show "FINE". Press the INCREMENT key(K2). It will display "ERROR" as shown below...

E	r	r	0	r	
---	---	---	---	---	--

Press the ENTER key(K1). It will display as shown below...

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

Enter the ERROR weight value you get after running the first filling cycle operation with initial ERROR value settings at zero. The ERROR value is the difference between the TARGET value (SET-1 value) and the actual weight value of the material filled in the container after the completion of the filling cycle with initial ERROR value settings as zero.

NOTE: The first filling cycle operation is done with ERROR value set to zero. Find out the actual error in the filling process and then enter that error value here.

Now all the settings have been entered. You can exit the configuration and settings mode by pressing the TARE key(K4) first and with the TARE key(K4) still pressed press the ENTER key(K1).

If the above step is difficult you can alternatively switch OFF and ON the Serial Filling Controller PCB. This will reset the card and will be ready for filling operation.

If the UART serial communication is successful between the weighing scale PCB and the Controller card, the controller card must start displaying the same weight received from the weighing scale PCB.

If the communication does not happen then the controller card will display “**no signal**”.

How to Start Filling Operation?

To start the filling cycle, place a container in the weighing scale platform whose weight is greater than L-TARE value & less than H-TARE value and then press the INCREMENT key(K2).

After pressing the start button the indicator may display a number of errors. Please refer to the list of errors at the end of this section.

The filling controller will automatically zero the container weight and start the filling operation.

Three outputs P1, P2, P3 are provided from the controller PCB. These outputs are connected to the optically isolated relay PCB.

P1 – Filling Cycle status indication relay. It will be ON during the whole of the filling cycle, even when the filling cycle is put in the pause mode.

P2 – Coarse Relay control output. Switches ON & OFF the Coarse Relay in the filling operation.

P3 – Fine Relay control output. Switches ON & OFF the Fine Relay in the filling operation.

Once the coarse & fine relays are switched OFF upon reaching the respective values, the cycle status LED will be switched OFF only when the filling container is removed from the weighing platform. That completes one filling cycle.

Emergency filling cycle stop can be performed by pressing ENTER key(K1) while the filling cycle is in progress or in the pause mode. This will switch OFF all the relays & exit the filling cycle.

To **PAUSE** the filling cycle in the middle of the filling operation, press the SHIFT key(K3) . The controller will switch OFF all the relays, blink the display for a second & then display “PAUSE”

for a brief period of time and then display the last weight latched by it when the pause key was pressed. To identify that the controller is in the pause mode, the latched weight will be displayed with a flicker. You can resume to the normal filling operation by pressing the SHIFT key(K3) once again.

List Of Error Indication

1. ENTER SET POINT – If the Set-point or Target value is not entered in memory.
2. ERROR FINE FEED – If the Fine feed value is set greater than the Set-point value.
3. ERR-ERROR FEED – If the Error feed value is set greater than the Set-point value or if Error feed value is larger than & equal to Fine feed value.
4. ERROR TARE DATA – If LTARE value is set equal to HTARE value and is also greater than zero.
5. NO SIGNAL – If the PCB does not receive UART / RS232 data from weighing indicator.

For more information regarding **calibration & settings** of the weighing & controller PCB, please call the manufacturer.

Contact Address:

i-sys

1, 12th East Street, Kamaraj Nagar,

Thiruvanmiyur, Chennai - 600041

India.

Phone : 04424485884

Mobile : 09841047643

www.isysindia.com