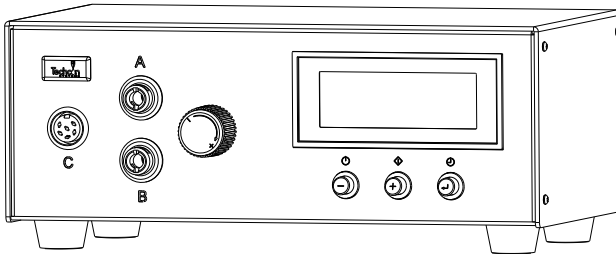


Techcon Systems TS500R-PC Controller For Positive Displacement PC Pump



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1. SAFETY

1.1 Intended Use:

WARNING: Use of this equipment in ways other than those described in this User Guide may result in injury to persons or damage to property. Use this equipment only as described in this User Guide.




OK International cannot be responsible for injuries or damages resulting from unintended applications of its equipment. Unintended uses may result from taking the following actions:

- Making changes to equipment that has not been recommended in the User Guide
- Using incompatible or damaged replacement parts
- Using unapproved accessories or auxiliary equipment

1.2 Safety Precautions:

- Do not operate this unit in excess of maximum ratings/settings
- Always wear appropriate personal protective clothing or apparel
- Use only the following power adaptor models: PSA15R-240P(ZJ)
- The fluid being dispensed may be toxic and/or hazardous. Refer to Material Safety Data Sheet for proper handling and safety precautions
- Do not smoke or use open flame when flammable materials are being dispensed
- This equipment is for indoor use only

2. SYMBOL DEFINITIONS

Symbol	Definition
	Power On/Off
	Cycle Mode
	Timer

3. SPECIFICATIONS

Size	254mm x 191mm x 102mm (10" X 7.5" X 4.0")
Weight	2.6 kg (5.8 lbs)
Input Voltage	24VDC
Output Voltage Range	0-24 VDC
Rated Power	65W
Air Input	100 psi (6.9 bar) Max.
Air Output	0-100 Psi (6.9 bar)
Pollution Degree	II
Installation Category	I
Indoor Use	Altitude up to 2,000m (6,562ft)
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-10°C to 60°C (14°F to 140°F)
Max. Relative Humidity	80% for temperature up to 31°C (87.8°F) Decreasing linearly to 50% relative humidity at 40°C (104°F)
Timer	0.008-60.000 seconds
Cycle Mode	Timed, Interrupt, Purge
Timing Repeat Tolerance	+/- 0.001%
LCD	20 X 4 display segments

4. FEATURES

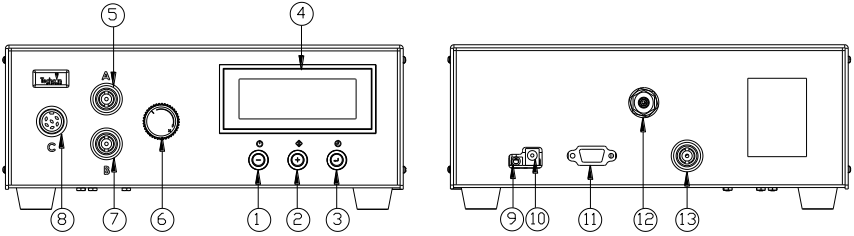


Figure 1.0

Items	Description	Items	Description
1	Power Button	8	Motor Drive Outlet
2	Mode Button	9	Foot Switch Receptacle
3	Set up/Save Button	10	Power Receptacle
4	Display	11	I/O Connection
5	Air Outlet (Unregulated)	12	Air Inlet
6	Air Pressure Regulator	13	Accessory Air Outlet
7	Air Outlet (Regulated)		

5. SETUP INSTRUCTIONS

CAUTION: A 5-micron filter (TSD800-6) must be installed with the unit to ensure proper air filtration

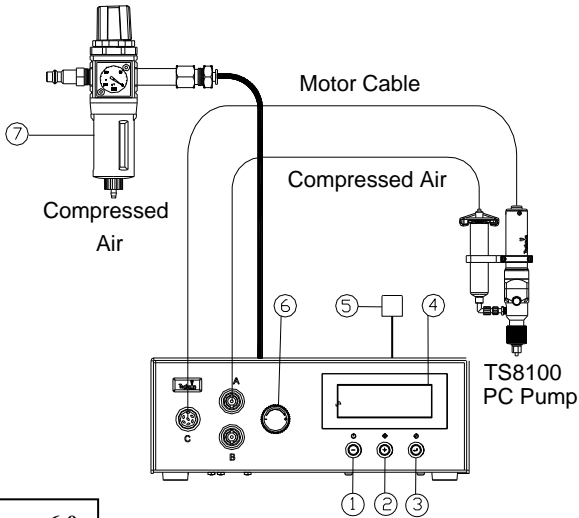


Figure 6.0

Items	Description	Items	Description
1	Power Button	5	Power Adapter
2	Mode Button	6	Air pressure regulator knob
3	Set Button	7	Air Filter
4	LCD Display		

Note: Make sure the controller is turned off when connecting the motor cable to port C

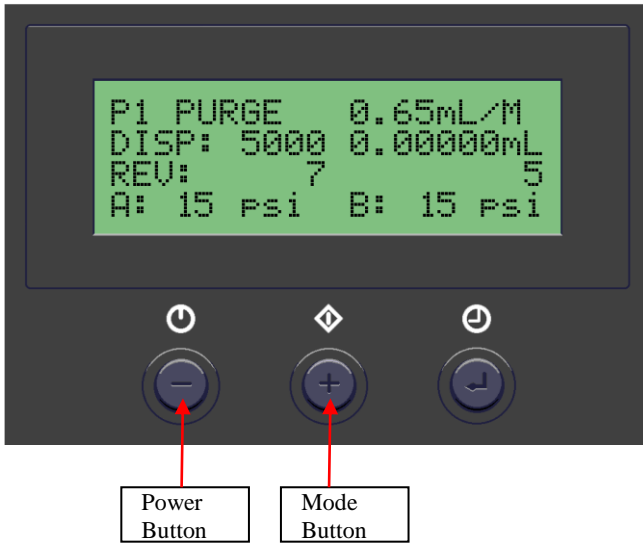
5.1 Connect the valve to the controller: Refer to diagram above

1. Connect the power cord and foot switch to the back of the unit.
2. Connect Motor Cable to Port C. **Notes: Make sure the controller is turned off when connecting the motor cable to port C**
3. Connect syringe air hose to a regulated air source
4. Set air pressure to feed the material to the pump
Notes: for low viscosity material the pressure setting should be 1 – 9 psi; for medium viscosity material the pressure range setting should be 10-19 psi; for high viscosity material the pressure range should be 20-80 psi
Do not set air pressure more than 30 psi (2 bar) for material viscosity of 1000 Cps or less.
5. Press the Power button (1) to turn on the unit.

5.2 Purge the valve (Purge Dispense Cycle Setting)

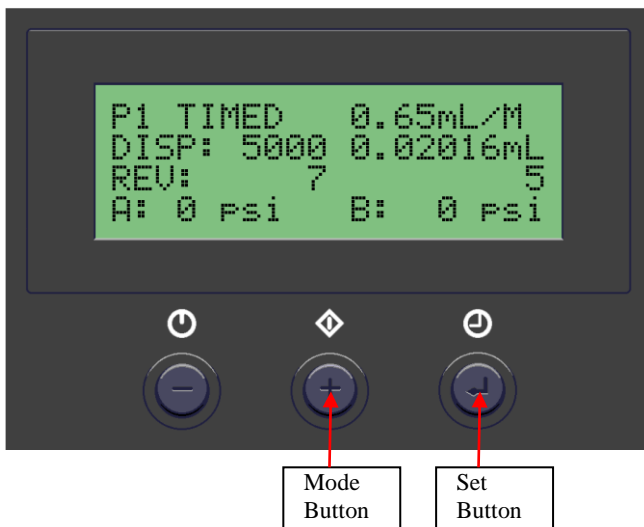
1. Press the Mode button until “PURGE” appears on the Display
2. Press and hold the Foot Switch until a steady stream of material flowing out the pump outlet without air bubbles.
3. Attach a dispense needle to the valve outlet
4. Repeat step #2

Notes: if air bubbles still appear in the material, open the vent hole #6 to allow air bubbles to escape.



5.3 Dispensing (Automatic Dispense Cycle Setting)

1. Push the Mode button (2) to select “TIMED MODE”
2. Press and hold the Set button (3) for two seconds to enter set up screen. The dispense time (DISP) will be highlighted.
3. Press the (+) or (-) button to set the motor counts
4. Notes: to achieve high dispense repeatability the pump
5. needs to be set to dispense at least one complete revolution (2650 counts).
6. Press and hold the Set button (3) for two seconds to move the cursor to the reverse counts.
7. Press the (+) or (-) button to set reverse count.
8. Notes: Recommended reverse count is 7P
9. Press and hold the Set button (3) for two seconds to move the cursor to the output voltage.
10. Press the (+) or (-) button to change the voltage value.
11. Notes: The recommended voltage setting is 10.5V.
12. Press and hold the Set button (3) for two seconds to save the data.
13. Press and release the Foot Switch to activate the dispense cycle



5.4 Iteration for Encoder Count Setting.

The maximum default encoder count is 60,000P. However there is an ITERATION “Itr” feature that can be used to increase the dispense duration up to 4 times (240,000 counts) without interruption.

1. Press and hold the Setup button (#3) for 2 seconds to enter setup screen
2. Press both Power button (#1) and Mode button (#2) simultaneously (3 times) until “Itr” appear.
3. Press both the Setup button (#3) and (+) button simultaneously to increase iteration.
4. Press both the Setup button (#3) and (-) button simultaneously to decrease iteration
5. Press the Setup button (#3) to save data and return to main screen

5.5 PROGRAM SELECTION

This controller has 10 programs (memories) slots to allow 10 different parameters setting storage. Follow steps below to select a desired program:

1. Press the Set button (3) to highlight the program number selection.
2. Press the (+) or (-) buttons to select desired program.
3. Press the Set button (3) to exit.

5.6 CYCLE COUNTER (Refer to Figure 9.0)

The cycle counter records the numbers of automatic dispense cycle being activated. Up to 60,000 cycles can be recorded. To reset the counter, follow steps below:

1. Press and hold Set button (3) for two seconds to enter setup screen.
2. Press and hold both Set button (3) and Mode button (2) simultaneously to clear the counter.
3. Press and hold Set button (3) for two seconds to exit setup screen.

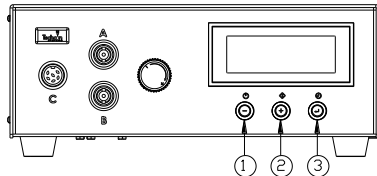


Figure 9.0

5.7 TO CHANGE PRESSURE UNIT DISPLAY (Refer to Figure 9.0)

The default pressure unit display is “psi”. To change pressure unit display to “bar” follow steps below:

1. Press and hold Set button (3) for two seconds to enter setup screen.
2. Press both (+) and (-) button simultaneously two times. The unit “psi” will be flashing.
3. Press both Set button (3) and (+) button simultaneously to change unit display to “bar”. Repeat this step to change unit display back to “psi”
4. Press and hold Set button (3) for two seconds to exit setup screen.

5.8 MULTIPLE SHOTS SETTING

Up to ten individual or sequential shots can be stored in the TS500R. Sequential mode is activated in numerical order.

1. Follow steps in sections “5.1.2 Program Selection” & “5.1.4 Automatic Dispense Cycle Setting” to set dispense time in desired programs
2. Press and hold the Mode button (#2) for 2 seconds to turn on sequential mode
3. Press and release the Set button (#3) to enter the sequential program setup mode
4. Press the (+) or (-) button to set the number of programs to be dispensed
5. Press and release the Set button (#3) to save selected sequential shot program
6. Depress Foot switch to activate sequential dispensed cycle

7. Press the Mode button (#2) for 2 seconds to exit sequential mode

6. TROUBLESHOOTING

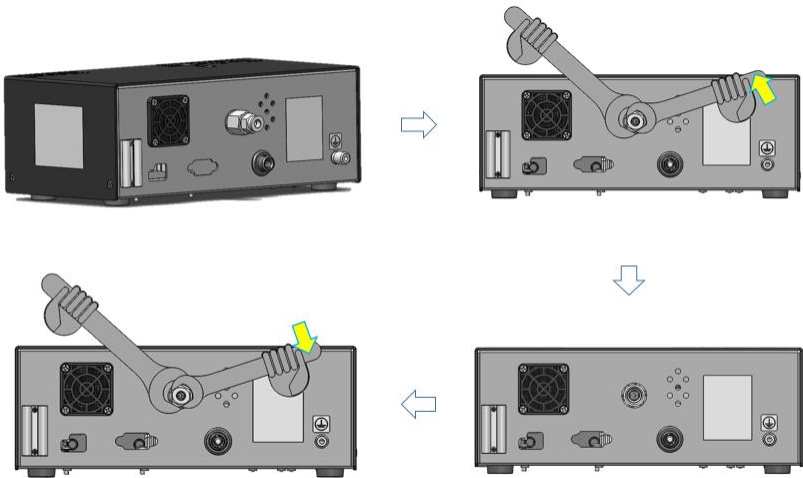
PROBLEM	POSSIBLE CAUSE	CORRECTION
LCD does not light	<ul style="list-style-type: none"> • No power input 	<ul style="list-style-type: none"> • Check power cord connections • Turn on power
System will not actuate	<ul style="list-style-type: none"> • Supplied pressure dropped below set pressure • Foot switch not plugged in or improperly plugged in • Defective foot switch • Broken wire or loose connection inside unit • Defective solenoid • Defective PC board 	<ul style="list-style-type: none"> • Increase supplied pressure • Check foot switch connection • Foot switch needs to be repaired or replaced • Unplug power cord and disconnect air supply. Remove cover and check for broken wires or loose connections • Replace solenoid • Replace PC board
System will not pressurize	<ul style="list-style-type: none"> • Insufficient air pressure • Air hoses not plugged in • Regulator defective 	<ul style="list-style-type: none"> • Increase air supply pressure • Check connection • Replace regulator
No Motor Response	<ul style="list-style-type: none"> • Foot switch connection is loose • Motor cable connection is loose • Input Voltage is too low • Dispense time is too low 	<ul style="list-style-type: none"> • Check Foot switch connection • Check Motor cable connection • Increase input voltage • Increase dispense time
Inconsistent dispensing	<ul style="list-style-type: none"> • Air bubbles in adhesive • Dispense time is too low • Dispense needle started to clog 	<ul style="list-style-type: none"> • De-air material • Increase dispensing time • Replace needle

7. MAINTENANCE

The dispenser is designed and built to be relatively maintenance free. To assure trouble free operation, please follow below steps:

1. Make certain air supply is clean and dry.
2. Avoid connecting the unit to excessive moisture or solvent saturation.
3. Avoid connecting air supply exceeding 100 psi (6.9 bar).
4. Use only Amyl Alcohol to clean outside surface of the main housing.
5. Use only soft cloth to clean the LCD.

PULL/PUSH FITTING CHANGE GUIDE



NOTE: the wrench on the left is NOT allowed to move.

8. SPARE PARTS AND ACCESSORIES

For TS500R-PC spare parts and accessories information, please visit the User Guide webpage at <http://www.techconsystems.com>

9. LIMITED WARRANTY

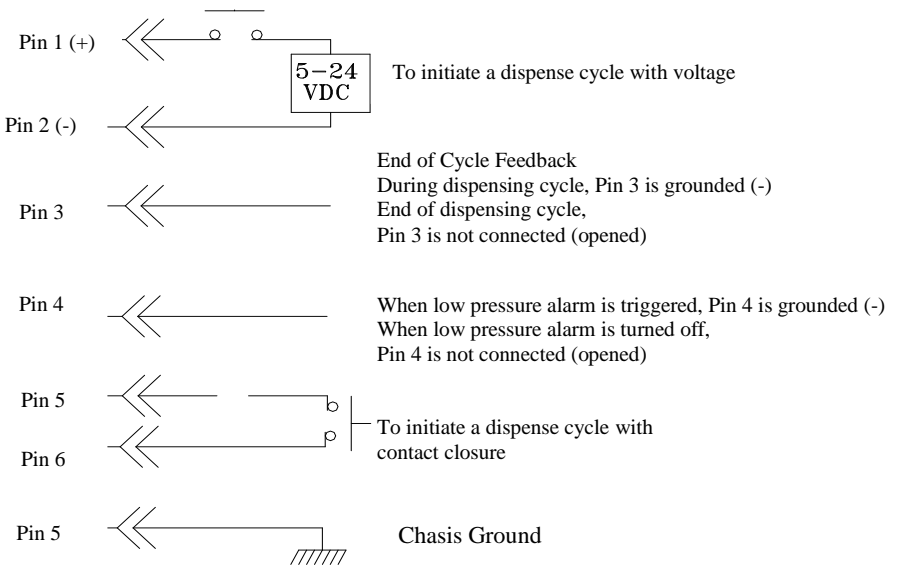
OK International warrants this product to the original purchaser for a period of two (2) years from date of purchase to be free from material and workmanship defects but not normal wear-and-tear, abuse and faulty installation. Defective product or subassembly and components under warranty will be repaired or replaced (at OK International's option) free of charge. Customer with defective product under warranty must contact the nearest OK International office or distributor to secure a return authorization prior to shipping the product to the assigned OK International authorized service center. For nearest OK International office or distributor contact information, please visit www.techconsystems.com. OK International reserves the right to make engineering product changes without notice.

10. I/O CONFIGURATION AND END OF CYCLE FEEDBACK

During a dispense cycle, an open collector circuit closes and remains closed while the valve is dispensing. Pin 3 and 4 can be as feedback signal to synchronize with other devices. Power from an external source is allowed to pass through the circuit to operate a 5 to 24 VDC load. Power consumption must not exceed 250 mA. The load could be a relay, solenoid, counter, LED, or any device that will operate within a 5 to 24 VDC range and a maximum of 250 mA.

Note:

During the dispense cycle, pin 3 will be grounded. Please make sure the external device (your machine that controls the dispenser/controller) has the same ground as the TS500R controller.



Pin 7, 8, and 9 = Available