



1K2K Dosing and Dispensing Private Limited
Plot No. A-44/1/A-55, Rajmata Jijau Mahila
Industrial Premises, Chakan MIDC Road,
Phase II, Vasuli, Tal-Khed, Dist. Pune- 410501



ADoST PPS PLS Manual

ABSTRACT

This document provides step-by-step instructions for handling and maintaining the ADoST dispensing system. It covers every aspect of the equipment that an operator is expected to know and follow, ensuring proper usage and maintenance.



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ADoST- PPS-PLS

Year of Manufacturing- 2026

USER MANUAL

Revision- 1.1

Manufacturer - 1K2K Dosing and Dispensing Pvt. Ltd.

Address - Plot No. A-44/1/A-55, Rajmata Jijau Mahila Industrial Premises,
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Revision history

Document version	Date
1.0	15-07-2026
1.1	20-08-2026



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Information Ownership

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1K2K Dosing and Dispensing Pvt. Ltd. shall not be held liable for any damages resulting from the improper use of this user manual. It is imperative that the entire documentation provided with the system be read and thoroughly understood to prevent hazards that may arise from incorrect operations or maintenance procedures.



CONTENTS

1	Definitions	5
2	Introduction	6
3	General	7
4	System specifications	8
4.1	System Components.....	8
4.2	Detailed Dimensions.....	9
5	Safety precautions.....	10
6	System Setup	11
6.1	Pneumatic connections	11
6.2	Electrical Setup	12
6.3	Adhesive bottle placement/replacement from the reservoir	13
6.4	System power on	13
6.5	Procedure to fix/replace the Pinch Tube on valve	13
7	Initial system configuration & standard operating procedure.....	14
7.1	Air pressure regulator settings	14
7.2	Timer Display settings.....	14
7.3	Timer switch factory settings	14
8	operating errors and troubleshooting.....	15
9	Connecting with PLC/ROBO.....	16
9.1	Connection details	16
9.2	Control sequence diagram	16
10	FAQs	17
11	System maintenance.....	18
12	System Do's and Don'ts	19
13	Consumables.....	20
14	Disclaimers	21



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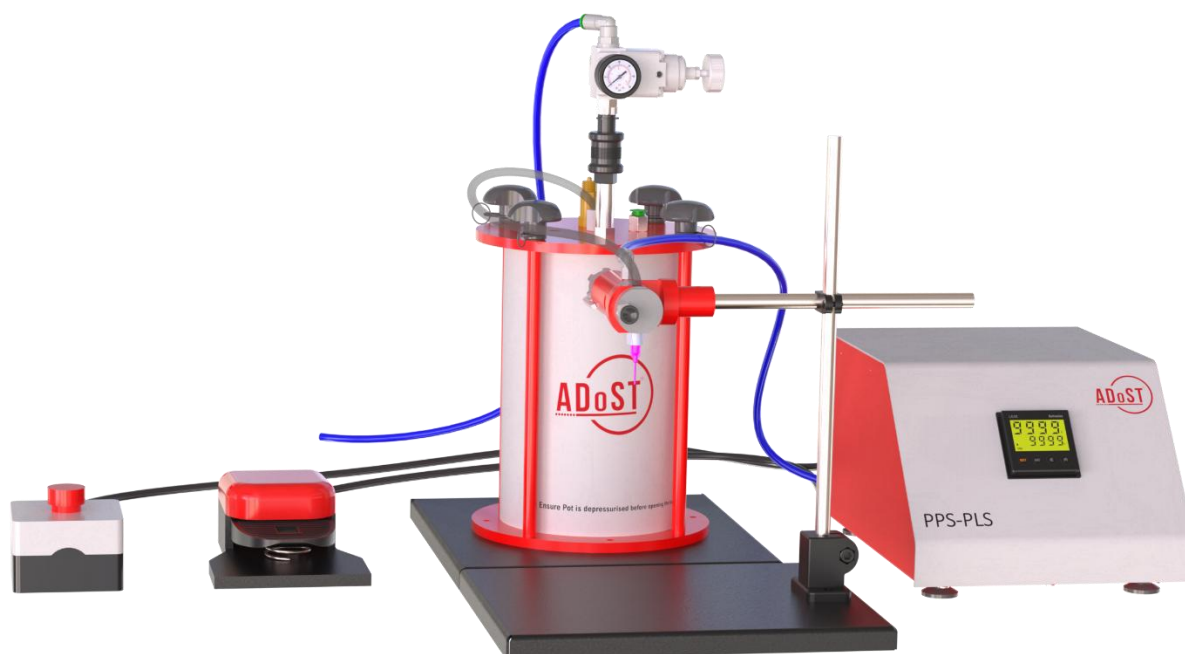
1 DEFINITIONS

1.	User	The person using the system
2.	Adhesive	Dispensing Adhesive
3.	MCU	Main Control Unit

2 INTRODUCTION

ADoST PPS-PLS is a pneumatically operated, pressure-time dispensing system designed to improve dispensing efficiency and consistency. The system supports adhesive bottles of sizes 50 ml, 250 ml, and 500 ml, reducing frequent bottle changeovers and improving productivity. It is equipped with the ADoST Pinch Valve which is a non-wetting valve, offering practically unlimited valve life while providing repeatable performance over a long time.

The system is suitable for dispensing Anaerobic, UV, and Cyanoacrylate adhesives and is primarily designed for drop dispensing applications. Bead dispensing can be performed using ADoST Pen or by synchronizing with automated equipment such as a rotary table using third-party controlled PLC. The adhesive flow rate can be preset by adjusting the input air pressure, while the dispensing quantity is controlled through the timer and pinch valve operation.





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3 GENERAL

This Handbook is divided into sections to make it useful to understand every information about the system life cycle and to easily find that information necessary for the end user.

This document is specifically developed for ADoST PPS PLS model and the information given in this handbook can help users in achieving the best system performances while ensuring the long life-cycle to its components.

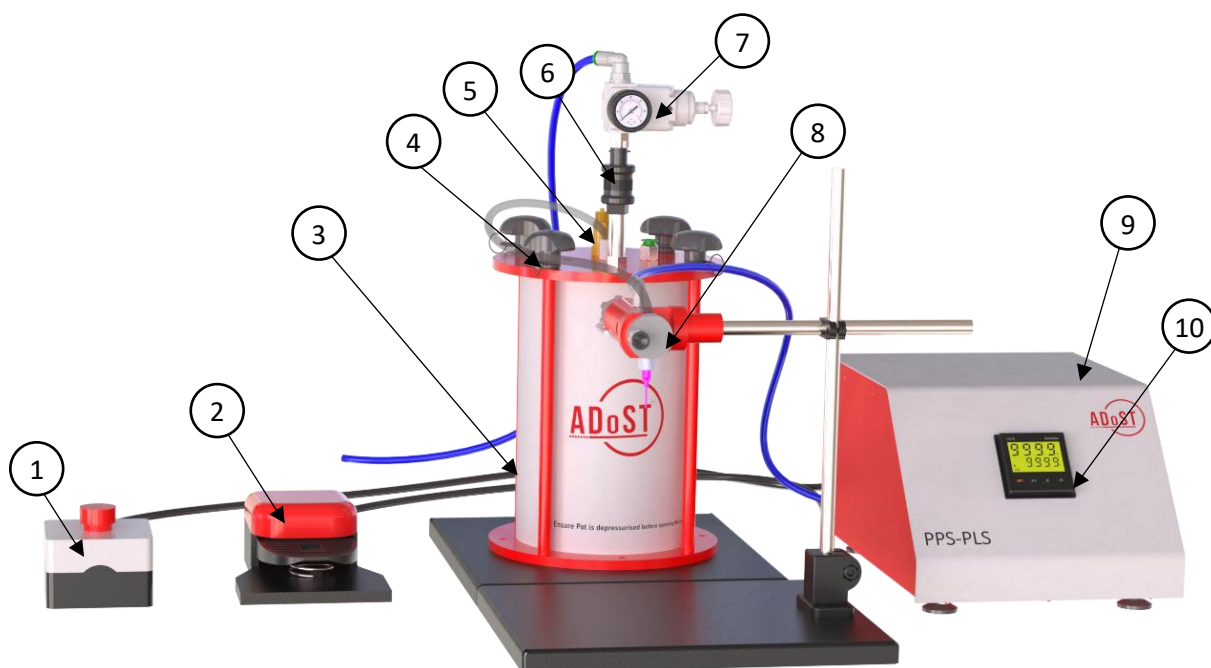
Due to ongoing developments and safety requirements and regulations system outfitting may be different from the one described in this document. In such a scenario, descriptions and procedures should be construed as generic. Quoted drawings and pictures are intended for example only.

4 SYSTEM SPECIFICATIONS

Model Number	ADoST-PPS-PLS-CY-23-2P	ADoST-PPS-PLS-AN-46-6P	ADoST-PPS-PLS-UV-46-6P
Size (Metric)	MCU(291X196X150mm) Pot(250X226X381.5mm)		
Weight	9.7 Kg		
Operating temperature range	10°C to +45°C		
Response time	0.02s		
Usage	Indoor use		
Max Number of Saved Programs	One for each output		
Operating Air Pressure	2 Bar (Max.)	6 Bar (Max.)	
Minimum Dispense amount	0.018gm*		
Pinch Tube ID	2mm	4mm	
Recommended for	Cyanoacrylate Adhesive	Anaerobic Adhesive	UV Adhesive

*The minimum dispensing quantity depends upon the material viscosity

4.1 SYSTEM COMPONENTS





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1. **Emergency Switch:** The emergency switch immediately halts electrical operations to prevent hazards or damage in critical situations.
2. **Foot Switch:** Operated by foot, this hands-free device is used for easy way of dispensing adhesive.
3. **Reservoir:** pressure pot where the Adhesive bottle (variable bottle size up to 500ml) is stored and pressurized, allowing it to flow out of the pot through a pipe.
4. **Knob:** agronomically designed knobs use to open and close the reservoir for Adhesive bottle insertion or change.
5. **Safety relief valve:** Release pressure automatically if it becomes higher than the preset value, ensuring the system's safety as our system maximum Limit is as defined for the system.
6. **Slide valve:** It is used to relieve the pressure inside the pressure pot by providing a controlled release mechanism, ensuring the system operates safely and efficiently.
7. **Air pressure regulator:** The primary function is to maintain steady pressure inside the reservoir, protecting the system from air supply variations to ensure consistent adhesive dispensing.
8. **Dispensing Valve (Pinch Valve):** This pinch valve controls adhesive flow by squeezing a tube, includes a plug for secure tube output, and features a bolt to adjust the valve's stroke for precise adhesive dispensing.
9. **MCU (Main Control Unit):** The Main Control Unit, the core of the cartridge dispenser system, initiates operation via a rear power switch. It coordinates all components through detachable connectors for seamless integration, offering various dispensing features and modes to meet diverse dispensing needs.
10. **Timer:** The timer functions as the central control point for precisely managing dispensing quantity. It allows operators to set, and fine-tune the dispense duration to ensure required dispensing quantity.

4.2 DETAILED DIMENSIONS

Please refer to TDS for the dimensions

5 SAFETY PRECAUTIONS

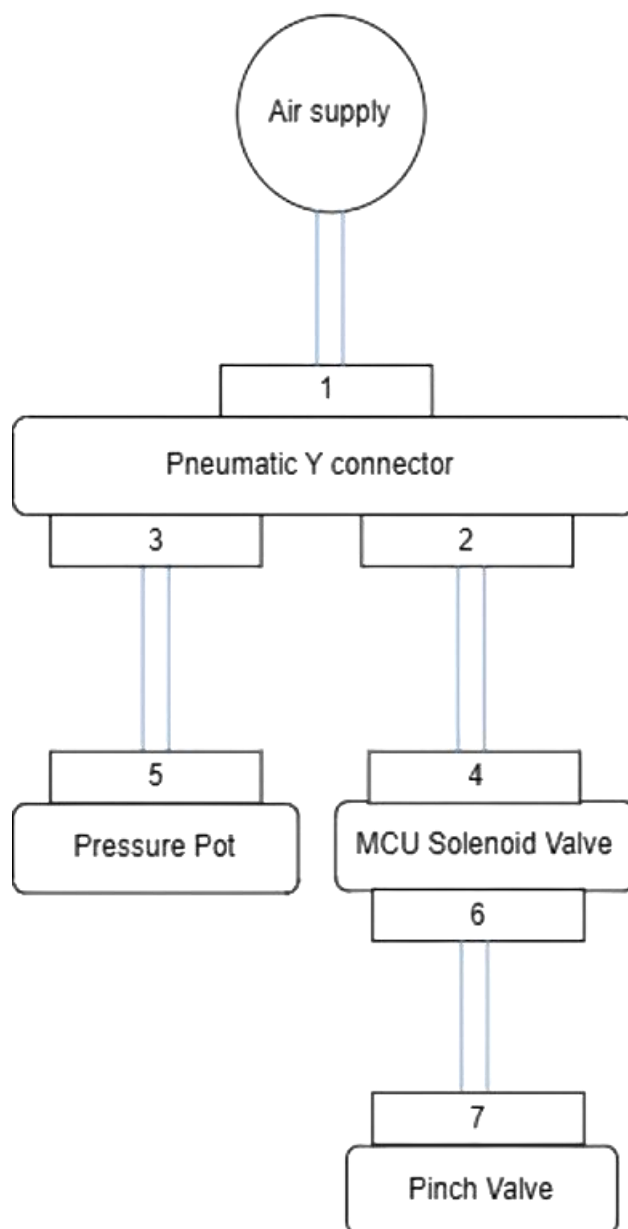
1.	Wear safety gloves	
2.	Wear safety glasses	
3.	Wear face mask	
4.	Wear safety shoes	

6 SYSTEM SETUP

Below are the step-by-step instructions to be followed for setting up the system

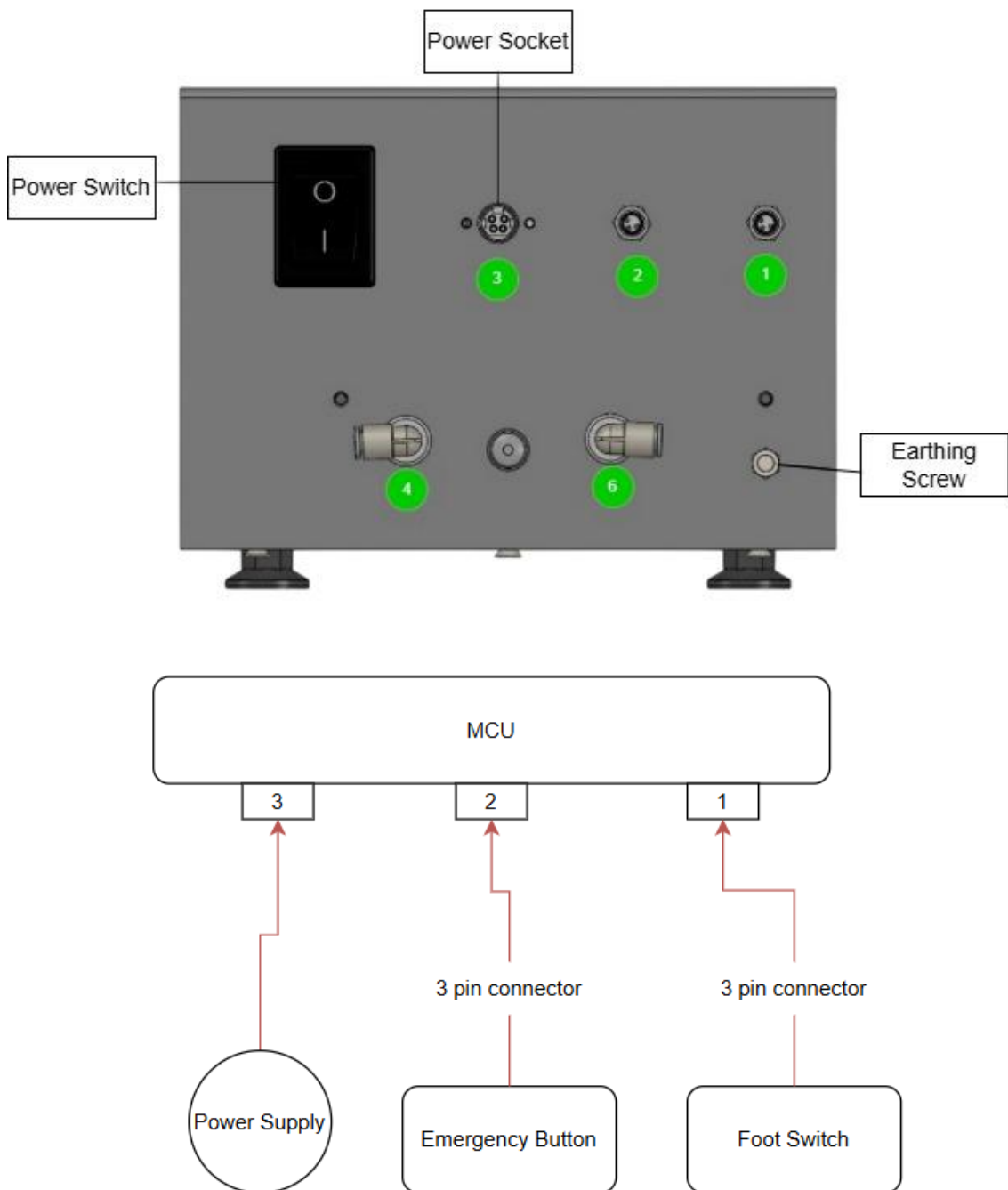
6.1 PNEUMATIC CONNECTIONS

Follow the connections as mentioned in diagram below.



6.2 ELECTRICAL SETUP

Follow the diagram below to make the electrical setup





6.3 ADHESIVE BOTTLE PLACEMENT/REPLACEMENT FROM THE RESERVOIR

1. Move the "Slide Valve" to "OFF" position to ensure that "Reservoir" is depressurized.
2. Open the "Reservoir" lid by turning the "knobs" in anti-clock wise direction.
3. Clean the "Reservoir" from inside.
4. Be sure that no water, oil or any other foreign object is spilled inside the "Reservoir" tank.
5. Check the condition of O-rings on top and bottom lid and if necessary, apply ADoST Grease 900.
6. Place the adhesive bottle inside the "Reservoir" in such a way that the bottle will not tilt or fall.
7. Insert the adhesive tube (pinch tube) inside the bottle. Make sure the pipe is reaching the bottom (Should it be touching the bottom).
8. Close the lid properly. Tighten all the "knobs" and make sure the O-rings are fitting properly.
9. Now move the "slide valve" to "ON" position to pressurize the reservoir.

Note: Please refer to section named "System Components" for quoted text to identify the parts.

6.4 SYSTEM POWER ON

Power on the system after making necessary electrical & pneumatic connection as explained in sections above

6.5 PROCEDURE TO FIX/REPLACE THE PINCH TUBE ON VALVE

Changing the pinch tube required keeping the valve in open state. Which will need external pneumatic supply, that can supply air pressure from 4bar to 6bar.

Here are the steps to be following for changing the pinch tube

1. Depressurize the pot
2. Remove the nozzle from the pinch tube by rotating it clockwise.
3. Connect the external air supply with pressurized air.
4. For more details, follow the ADoST Pinch valve manual.

7 INITIAL SYSTEM CONFIGURATION & STANDARD OPERATING PROCEDURE

Before starting the dispensing, it is required to configure the parameter. Timer settings are required to be done for precise dispensing as per required quantity

7.1 AIR PRESSURE REGULATOR SETTINGS

1. Loosen the nut of the pressure regulator.
2. Rotate the knob clockwise to increase the pressure
3. Rotate the knob anti-clockwise to reduce the pressure
4. The Knob dial will show the set pressure.
5. Once Analog pressure gauge shows required pressure, lock the nut to set the pressure.

7.2 TIMER DISPLAY SETTINGS

This setting is required to set the time to get desired amount of dispensing through valve.

	1) In this screen 5.000 shows 5 sec and 0 milisecond 2) Press on the Left Arrow Button. This will result in last digit blinking. 3) Press the UP Arrow Button if you want to change the digit blinkiing. 4) Each press to UP Arrow Button results in change in number in range 0 to 9 5) Repeat step 2 & 3 for changing each digit 6) Press MD button once desired time has been set
--	---

7.3 TIMER SWITCH FACTORY SETTINGS

The following are the default factory settings required for the desired operation of the machine. The machine will be supplied with these settings configured by default.

These settings should be used **only if the machine exhibits unexpected behaviour and a 1K2K Service Engineer specifically recommends following these steps.**

	Long press on MD Button in this screen to enter into Settings mode
---	--

	Continue pressing UP Arrow button will change selected component in current setting. Pressing Left arrow key will take you to the next setting Pressing Long press MD will Exit the settings Its required to be ensured that all settings are as per displayed in the screens on left column to match factory settings
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8 OPERATING ERRORS AND TROUBLESHOOTING

Following table explains the errors which might be observed during operations along with suggested troubleshooting

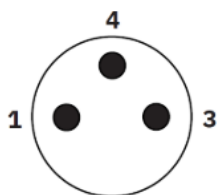
Sr. No.	Error	Troubleshooting
1	There are air bubbles in the Adhesive pipe while dispensing	Check whether the Adhesive pipe is inserted correctly in the Adhesive bottle. If not, insert it correctly
2	The Adhesive is not able to come out of the nozzle	Change the nozzle.
		Check Pinch Tube If cure replace it.
		Check the Air Pressure if Low Increase.
3	If there is an air leakage from the system	Immediately turn off the air pressure supply and contact the supplier.
4	There is a short circuit in MCU	Immediately turn off the power supply and contact the supplier.

9 CONNECTING WITH PLC/ROBO

It's possible to connect ADoST PPS-PLS with a PLC or ROBO to control the dispensing. It is expected to use following connection to achieve the expected results.

Please connect with sales team or numbers given in contact list if you need the connectors.

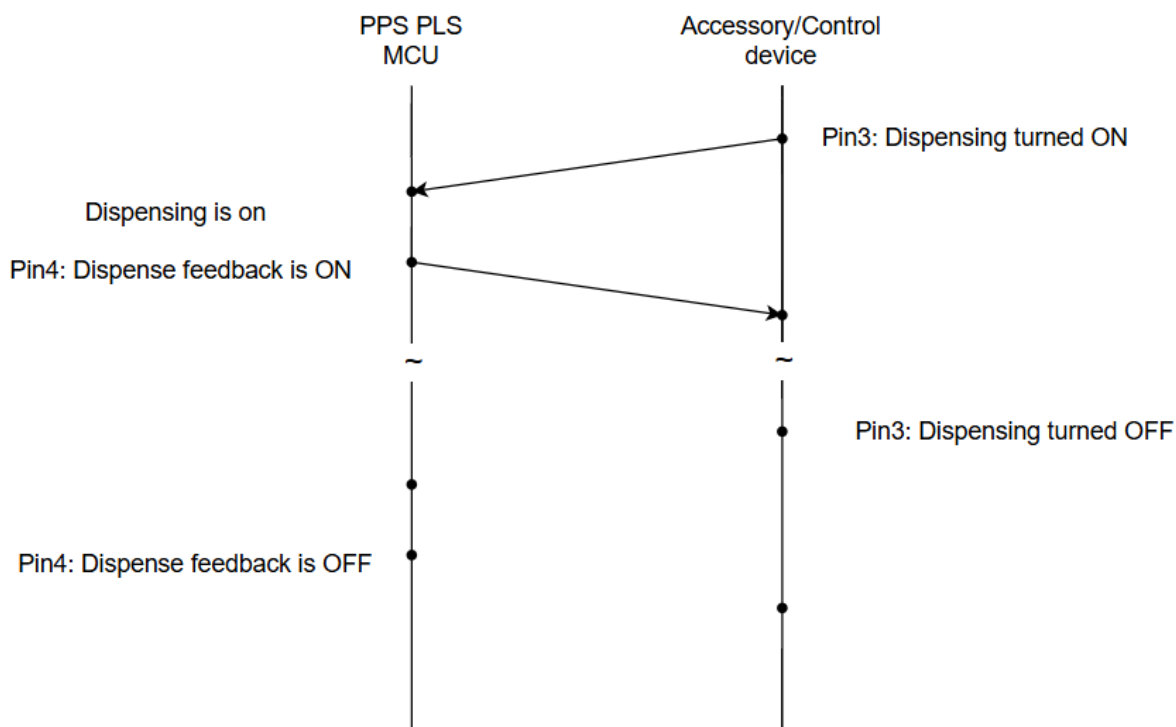
9.1 CONNECTION DETAILS



- 1 ————— Brown
- 4 ————— Black
- 3 ————— Blue

Pin and signal		
Pin number	Signal	Signal type
1	0VDC	Reference ground
3	Dispense on	Input
4	Dispense Feedback	Output

9.2 CONTROL SEQUENCE DIAGRAM





10 FAQs

1. What is a dispensing system and what does it do?
A dispensing system is an equipment that digitally controls the volume of liquid to be dispensed. The system ensures repeatability in every subsequent shot.
2. What types of Adhesive systems are compatible with ADoST PPS PLS?
ADoST PPS PLS is designed to work with Cyanoacrylates, Anaerobic and UV Adhesives
3. How do I refill the system?
De-pressurize the system. Open the knobs and open the lid. Put the adhesive bottle inside the reservoir tank in the centre. Place the tube inside the bottle, while closing the lid, ensure the tube is straight and remains straight. If tube is not straight or does not touch the bottom of bottle, you may get bubbles before getting warning of empty bottle from system.
4. How often should I clean the system?
It is important to clean the nozzle and reservoir to prevent any type of contamination and to prevent the clogging of valve. The exact cleaning frequency will depend dispenser's intended use, but it is generally recommended to clean daily.
5. What pack size can be used?
As per the standard adhesive bottle, suggested pack sizes are 250ml and 500ml.
6. For how much time should I keep the Adhesive unused in system/ what is the cure time for the Adhesive?
Anaerobic and UV adhesives do not cure in the bottle so they are not expected to cure or dry when left unused for a long period. However, it is specifically suggested that the pipes and nozzle are cleaned when the machine has to be left unused for a period exceeding 24 hours
7. Can I use a dispenser for outdoor applications?
ADoST PPS PLS is designed to be used indoors, System may get affected by outdoor dust, air, etc
8. Can the system work without air pressure?
No. The system needs a minimum air pressure of 0.05 bars for Cyanoacrylates and 0.1 for UV and Anaerobic adhesive system .
9. What is the min and max operating Air pressure?
Its min 0.05bars, max 2bar for Cyanoacrylate PPS machine and min 0.1 bar, max 6bar for UV/Anaerobic PPS machine
10. Is the system battery operated?
No. The system needs AC power supply between 100-275 volts AC.



11 SYSTEM MAINTENANCE

To ensure smooth functioning and a long service life, perform following maintenance operations as needed.

1. Clean the MCU to protect it from dust or liquid etc.
2. Clean the dispensing nozzle after use.
3. To flush out the adhesive in pipe-
Release the reservoir tank pressure, open the lid and remove the adhesive bottle. Close the lid tightly. Now air will flow in pipes. Operate the manual mode to flush out the existing adhesive in the pipe
4. To clean the reservoir tank-
Release the reservoir tank pressure, open the lid and remove the adhesive bottle. Clean the tank with cotton.
5. Change the nozzle periodically



12 SYSTEM DO'S AND DON'TS

Do's

1. Depressurizing the reservoir before opening it
2. Depressurizing the reservoir while taking a break
3. During every bottle changeover select appropriate packaging in software setting
4. Keep bottles aside after use. Upon accumulation of 8 bottles, transfer the leftover adhesive to a single bottle and use again
5. Change plastic nozzle as and when necessary. Over a period of time dispensing quality gets affected
6. Use ADoST Grease-9 on both the O-rings at least once a week
7. Switch off the air supply when not in use
8. Keep the system in such a way, that any dust or water molecules enter in air pipe and reservoir tank.
9. Ensure that pinch tube is replaced after every 5000 shots.
10. During lunch and day break, apply Loxeal Grease-9 on the nozzle tip, when using with cyanoacrylate adhesive.
11. If gel formation is found at the nozzle tip, while using with cyanoacrylate adhesive, pull and clean it manually using tissue before starting work.
12. Change the needle at least once every day, while using with cyanoacrylate.

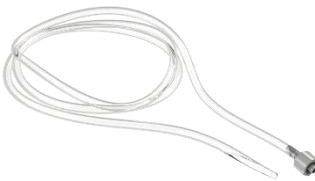
Don'ts

1. Don't open the reservoir without depressurizing.
2. Don't turn the pressure regulator knob, once setting is finished
3. Don't change software settings while using same bottle
4. Don't change the bottle before low level buzzer rings
5. Don't fill the leftover adhesive in a new bottle and charge the reservoir
6. Don't operate machine without training
7. Don't keep the foot switch pressed in timer mode even after dispensing is in the process
8. Don't spill any kind of liquid on the MCU, reservoir tank and Pinch Valve.
9. Don't keep the emergency button pressed without any emergency condition
10. Don't pour the Adhesive inside the reservoir, the bottle filled with adhesive is expected to be placed inside the reservoir



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13 CONSUMABLES

	
Nozzle	Pinch Tube



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14 DISCLAIMERS

1. Adhesive dispensing behaviour may be unexpected and some components may behave inconsistently if the air pressure is not maintained as mentioned in TDS (The air pressure required to dispense the adhesive is directly proportional to viscosity of the adhesive)
2. The system will not be able to boot if the electrical power supply is less than 100V AC.
3. System may not handle the power and cause danger if the electrical power supply is more than 275V AC.
4. The emergency button will stop the dispensing when all pipes and wires are connected properly. If any of the pipes are loose, or any of the wires are cut, emergency conditions will not work.
5. The system may not work properly, if system is damaged by any external cause like falling, hitting by any object, excessive heat, etc.