

Liquid Dispenser DC 300 series user manual

Made in Germany



Dear Customer

Thank you for purchasing our product.
For easy operating we developed this user manual.
Before putting into operation please read this manual carefully and pay attention to the security instructions.

The team of Vieweg-GmbH



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2. Designated use

The DC300 Liquid dispenser series can be delivered with different options, which can have a little technical difference. Because of this, in the following user manual is only spoken about the DC300 controller.

The liquid dispenser DC300 is used for precise controlling of pneumatic controlled dispensing, for example dispensing out of 3 – 55cc cartridges.

With the integrated air pressure regulator, the air pressure on the material can be set very exactly.

3. For your safety

WARNING:

If the DC300 is used for other functions as in this manual described, it could come to personal or material damage. Use the DC300 controller only to the functions, which are explained in this user manual. VIEWEG GmbH is not responsible for personal or material damages, which happen because of incorrect using and no designated use.

No designated uses are:



- Modifications at the DC300, which are not recommended in this user manual.
- Using of defective or not compatible spare parts.
- Using of not allowed accessories.



SAFETY PRECAUTIONS:

- The DC300 works with 100 – 240V AC voltage. By touching the 100 – 240V AC voltage, there exists danger of life !! Because of this, the DC300 must be disconnected from the AC input cable, before opening the housing. It is only allowed for authorized electrical experts to open the housing.
- Use the DC300 only with the max. described and allowed power / settings.
- Always wear useful protection clothing.

- More details for using the dispensing material, please see the safety data sheets of the dispensing material.
- No smoking or fire by using flammable material.
- The DC300 is only allowed for using inhouse.

4. Scope of delivery



User Manual



DC 300 Dispenser



Power cord 230V AC
(Art.-Nr. C-0043)



Air hose
(Art.-Nr. C-0042)



Barrel stand
(Art.-Nr. C-0041)



Foot switch
(Art.-Nr. C-0040)

please find additional accessoires on next page
(without images)

Additional accessoires without image:

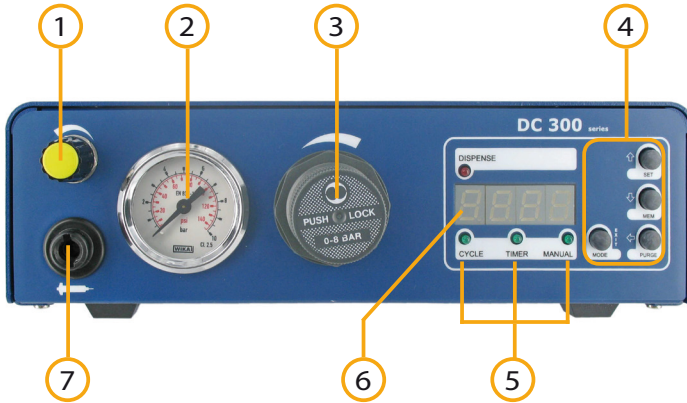
Quantity	Description	Part- No.	Units/Pack
1	Barrel adapter 30 cc *	560004A-ST	1
1	Barrel aadapter 5 cc *	560003A-ST	1
3	Barrel 30 cc	560002D	10
3	Barrel 5 cc	560003A	10
3	Piston PE 30 cc	560552	10
3	Piston PE 5 cc	560550	10
1	Needle dispensing set	990062A-G	1

*) Spare part hose 4mm/2mm part-no. 560780-2

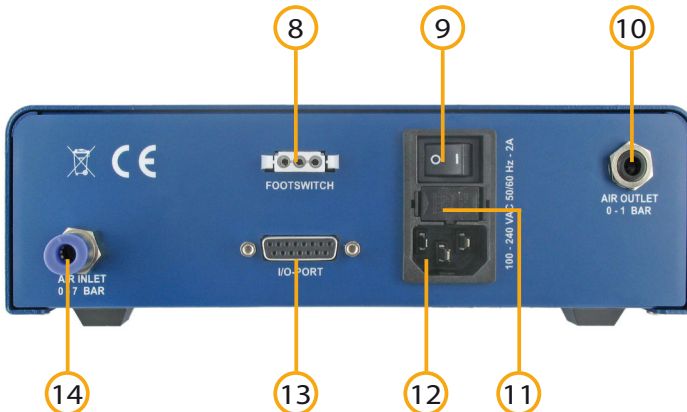
5. Technical data

Dimensions	235 x 210 x 75 mm
Weight	ca. 1,30 kg
Timer	0,01 - 9999 sec.
Memory	9 program memory spaces
Input voltage	85 – 264V AC 50/60Hz
Operating Voltage	24 V
Air inlet	0 - 7 bar
Air outlet	DC 315: 0,08 - 1 bar (precise air regulator) DC 370: 0,1 - 7 bar

6. About this dispenser

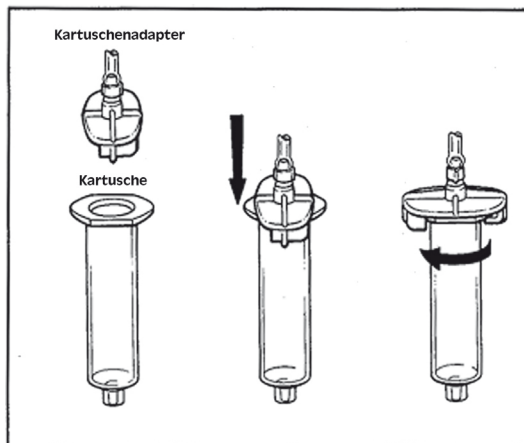


- | | |
|--------------------------------|--|
| 1 vacuum suck-back | 8 plug for foot switch |
| 2 pressure gage for air outlet | 9 power switch |
| 3 pressure regulator | 10 air outlet for vacuum suck-back |
| 4 operating buttons | 11 fuse 2A T |
| 5 status LEDs | 12 power inlet |
| 6 display | 13 I/O-Port (only DC 315-I/O and DC 370-I/O) |
| 7 air outlet | 14 compressed air inlet |



7. Startup

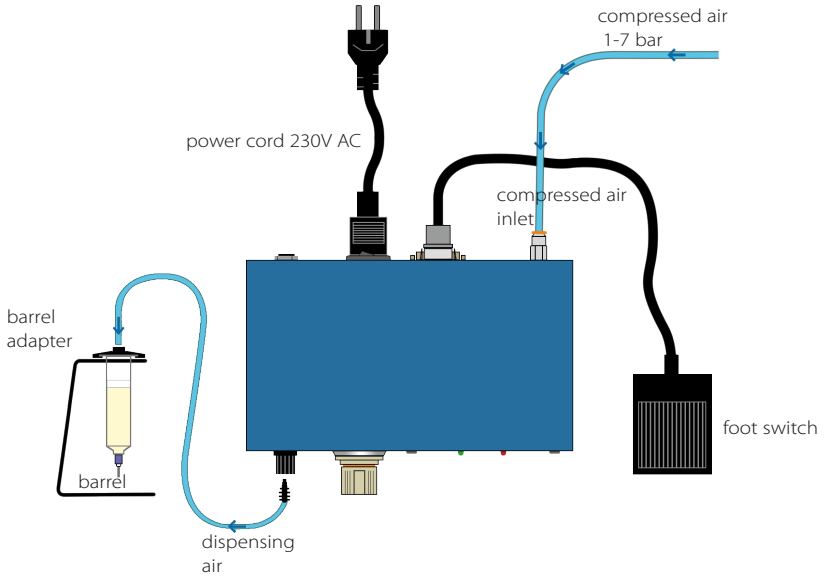
- Connect the power inlet cable to the Power inlet connector on the backside.
- Connect the Air Inlet tube from the compressor to the Air Inlet at the backside of the DC300.
- Connect the Footswitch or the dispense cable of the dispense robot to the Footswitch connector on the backside of the DC300.
- Switch the DC300 on. The display shows the initialisation and the installed software version. After 5 sec, the display switches automatically to the standard screen and is ready for operation.
- Check the pressure input (e.g. P-IN: 5.6 bar) in the display to be sure, that the air input pressure is connected
- Connect the cartridge to the cartridge adapter like follows:



- Connect the air hose of the cartridge adapter to the air pressure output of the DC300 and adjust the pressure for the cartridge on the front side with the pressure controller.
- Adjust the Vacuum to reduce material dripping.

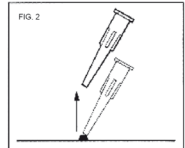
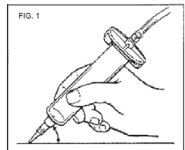
7.1 Connection diagram

After you have done all connections, it should look like follows:

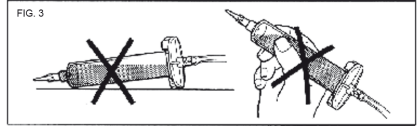


7.2 Usefull tips

- Hold the barrel at approximately 60° as shown.
- After making deposit remove tip as shown.
- Do not permit the liquid to flow back into the DC300 as shown. The controller can be damaged.
- To increase the size of dots, you can increase the time, pressure, size of tip.
- To decrease the size of dots, you can decrease the time, pressure, size of tip.
- To increase pressure, turn the pressure regulator clockwise. To decrease pressure, first turn the pressure regulator counter clockwise past the value desired and the clockwise to the value desired.



- By pressing the regulator of the pressure regulator, you can fix the setting.
- Always use a piston in the barrel to avoid that material goes back to the controller.
- For thin liquids like water, you can prevent dripping by slowing turning the vacuum control knob counter clockwise.
WARNING – Too much vacuum will cause bubbles and suck liquid back into the controller thus creating permanent damage to the unit.



8. Operating

The DC300 dispenser can be used in three different modes:

MANUAL dispensing as long as the foot switch is applied.

TIMER in this mode, the selected dispensing time starts by applying the foot switch.

CYCLE In Cycle mode, an automatic dispensing process can be started with a short dispensing signal. The DC300 dispenses the dispense time which is set in TIMER mode, waits the cycle wait time and dispenses again. You can leave this process by pressing the EXIT – key.

If no foot switch is connected or used, the dispensing can also be started with the PURGE key.

Select mode:

By pressing the “MODE” key, you can switch between the different operation modes. The selected mode is shown with the Status LED’s at the frontplate.

Set the dispense time:

While unit is in TIMER mode, press the SET button and the first digit on the display will start blinking. Use the LEFT and RIGHT button to adjust the digit. Use the LEFT button to advance to the next digit. After the last digit is adjusted, pressing the RIGHT button will make the decimal point blink, and using the arrow up and arrow down keys you can adjust the position of the decimal point. Once you are done with setting the timing, use the EXIT button.

Set the waiting time in CYCLE mode:

While unit is in CYCLE mode, press the SET button and the first digit on the display will start blinking. Use the LEFT and RIGHT button to adjust the digit. Use the LEFT button to advance to the next digit. After the last digit is adjusted, pressing the RIGHT key will make the decimal point blink, and using the UP and DOWN keys you can adjust the position of the decimal point. Once you are done with setting the timing, use the EXIT button.

Saving and retrieving the timing from/to memory

DC 300 unit can store 9 timing settings.

While in TIMER or CYCLE mode, press and hold the MEM key for 2 seconds until the unit beeps. The Display will show Ld 1 (Load from Memory #1). Press the MEM key again to change from Ld 1 to Sv 1 (Save to Memory #1). Press the UP to advance the memory position (Ld 1 -> UP -> Ld 2 or Sv 1 -> UP -> Sv 2).

Changing the timing range (position of the decimal point) in manual mode

While the unit is in Manual mode press the SET button and the decimal point will start blinking. Use the UP and DOWN keys to adjust the position of the decimal point.

Saving the dispensed time from manual to "DISPENSE TIMING"

Sometimes to find the appropriate dispense time to dispense the desired amount of material is by dispensing in manual mode and recording the dispensed time, and then setting that time in the timer mode. Once the desired amount of material is dispensed, the timing can be simply transferred to the TIMER mode -"DISPENSE TIMING" - by pressing the MEM key

Example:

The dispenses in manual mode to dispense the needed volume.

The established dispensing time is 1.34 seconds.

By pressing the MEM-key, the DC300 switches to timer mode and the established dispensing time of 1.34 seconds should be saved in program 1.

Now press the MEM-key again and the display shows Ld 1. (Load program 1)

Again press the MEM-key switches to Sv 1 (Save program 1)

Pressing the EXIT-key, leaves the the programming mode and the value 1.34 seconds is saved in program 1.

9. Menu for pressure control

SET + MEM during SWITCH ON)

Setting pressure alarm:

After switching ON and activation of this special menu, the selected unit is shown in the display for the internal pressure control.

With UP / DOWN buttons can be selected between bar / PSI. With EXIT button, you leave the menu and the setting is saved and the DC300 reboots.

Setting pressure limit:

After confirmation of the pressure unit with the PURGE button, you can change the pressure limit with the UP / DOWN buttons. With EXIT button, you leave the menu and the setting is saved and the DC300 reboots.

Pressure alarm:

If the input pressure of the DC300 is below the selected pressure limit, the display switches to the message P-AL and no dispensing is possible.

=> To deactivate the pressure alarm, please set the pressure limit to 0.0

10. Electrical connections

10.1 Foot switch:

pins: connection between Pin 1 + 3 starts dispensing

10.2 I/O-Port:

type: 15-pol. Sub-D female 2-doublerow

pins: see following chart

Pin No.	Input / Output	Description	Comment
1	--	Reserved	Reserved
2	--	GND	GND
3	--	24V DC	24V DC
4	Output	BUSY	Dispensing procedure active
5	--	GND	GND
6	Input	START	Starts dispensing
7	Input	PRG 1	Program select Bit #1
8	Input	PRG 3	Program select Bit #3
9	--	Reserved	Reserved
10	--	Reserved	Reserved
11	Output	READY	Ready signal
12	Output	ERROR	Error signal
13	Input	REMOTE	Remote active
14	Input	ERROR-IN	External Error input
15	Input	PRG 2	Program select Bit#2

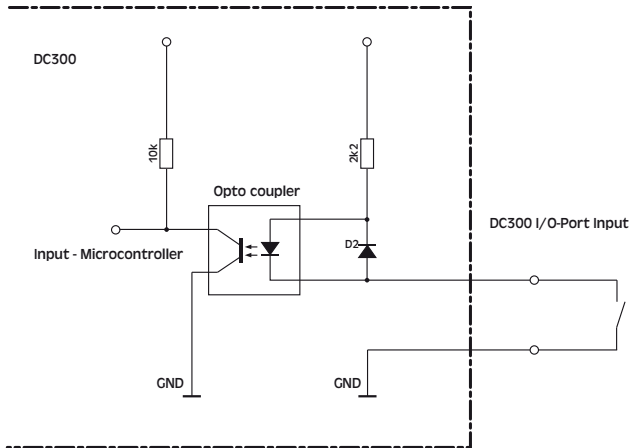
External Program select: (assumed by REMOTE input signal)

Program Nr.	PRG-Selectbit #1	PRG-Selectbit #2	PRG-Selectbit #3
Manual	0	0	0
Program 1	1	0	0
Program 2	0	1	0
Program 3	1	1	0
Program 4	0	0	1
Program 5	1	0	1
Program 6	0	1	1
Program 7	1	1	1

10.3 Wiring Diagrams:

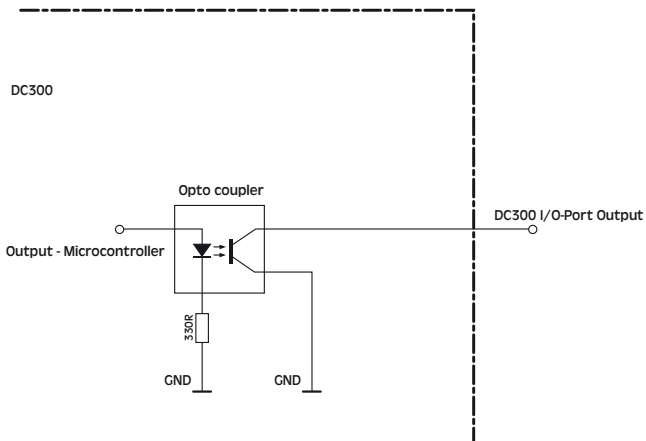
Digital Inputs:

A digital input is active, if the opto coupler is ON. If the opto coupler is connected to GND, the input is activated:



Digital Outputs:

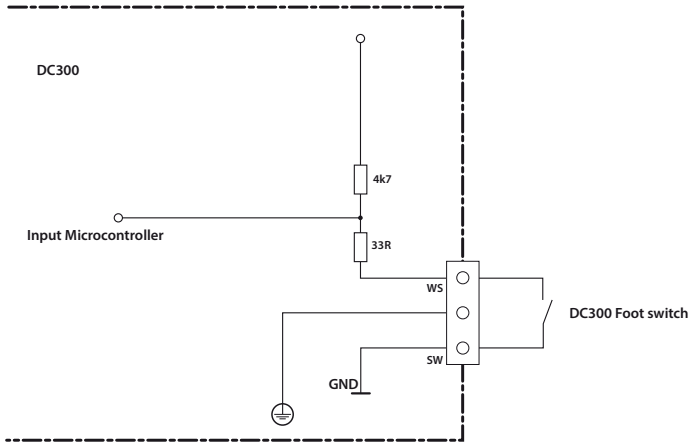
If the digital output is active, the opto coupler is electroconductive.



Foot switch:

The foot switch signal gets activated if the input pin is connected to GND.

It is not allowed to apply a voltage. This can destroy the input!



11. Maintenance and cleaning

The DC300 is maintenance free

Repairs should only be done by the manufacturer.

Clean the DC 300 controller only with a clean, smooth and dry cloth.

Do not use disolvent material to clean the DC 300 controller. The foil at the front- or back plate or the housing paintings can be destroyed.

12. Disposal



Dispose the product after the economic life-time according to the legal requirements.

13. Declaration of conformity



Dosier- und Mischtechnik

CE DECLARATION OF CONFORMITY

We, as manufacturer declare under our sole responsibility that the following product to which this declaration relates is in conformity with the following EG / EC directives:

- EG-Low Voltage directive 2006/95/EG
- EG-EMC directive 89/336/EWG and 2004/108/EG

Product: Liquid Dispenser
Type: DC300

Manufacturer: VIEWEG Dosier- und Mischtechnik
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The following european standards are used:

- DIN EN ISO 61000-6-3
- DIN EN ISO 61000-6-2



Kranzberg, 17.07.2012

Till Vieweg, managing director