



APPLICATION NOTE

TITLE:	Digispense 4000 Panel Mount Guide.	AN-108
		REV -
CATEGORY:	Controller Interface	

DESCRIPTION

This document is to serve as a starter reference to operating a Digispense 4000 Panel Mount Controller. This guide will show how to configure the Panel Mount to operate in Prime and Dispense modes.

1.0 Sign in Screen.

- Navigate to your Web Browser. Use the provided IP Address, located on the Controller. (Ex. 10.1.1.16).
- Refer to Tech Bulletin TB-105 for Username and Password.
- Click on “Sign In”.
- From the main Information screen, hover over the “Setup” tab and click on “Pump”.

Sign in

http://10.1.1.16

Your connection to this site is not private.

Username

Supervisor

Password

....

Sign in

Cancel

Step Number 2: Pump Screen

For All Systems:

#20 Pump Motor = Model number of Motor / Base, shown on serial tag. (ex. 032037-##12#).

#21 Pump Size = The size of the ceramic pump. (Ex. 3A, B, C, D).

#22 Pump Units = Ex. uL, uL/Sec. / REV, RPM

NOTE: Remaining Line Items pertain to more advanced settings.

For Rotary Systems:

#22 Pump Units = REV, RPM if using a Rotary System.

-Next, click on Setup, then Fluidic, to navigate to the Fluidic screen.

Information	Setup	Operate	Statistics	Network	Help
PUMP					
#	Name	Value	Refresh		
20	PUMP MOTOR	032037-##12#			Set
21	PUMP SIZE	3A			Set
22	PUMP UNITS	uL, uL/s			Set
23	PUMP TYPE	LINEAR			
24	PUMP CHAMBER VOLUME	50.0 uL			Set
25	PUMP RESOLUTION	0.1 uL			
26	RATE RESOLUTION	0.1 uL/s			
27	INVERT PUMP PORTS	<input type="checkbox"/>			Set
31	RUNNING TORQUE	80 %			Set
32	HOLDING TORQUE	20 %			Set
34	ACCELERATION	STANDARD			Set
35	DEACCELERATION 2X	<input checked="" type="checkbox"/>			Set
37	STOP POSITION	0 °			Set
38	VALVING MAX SPEED	100 %			Set
40	STALL RETRIES	1			Set

Step Number 3: Fluidic Screen

For All Systems:

#80 Fluidic Mode = Prime (Can be change to “Prime Reverse” to empty the lines.

#82 Discharge Volume = The volume to Prime the lines. Ex. 1000.0 uL

#83 Discharge Rate = The rate at which the fluid moves out of the discharge port during the Prime. Ex. 400.0 uL/s (Linear and Rotary Systems)

#84 Intake Rate = Ex. 400.0 uL/s (Linear Systems Only)

NOTE: Remaining parameters pertain to more advanced settings.

For Rotary Systems:

-Pump Units = REV, RPM if using a Rotary System.

-Discharge Rates / Intake Rates are the same. Only change #83 Discharge Rate.

-Next, click “Setup”, then “Production”, to navigate to the Production screen.

Information	Setup ▾	Operate	Statistics	Network ▾	Help ▾
FLUIDIC					
#	Name	Value	Refresh		
80	FLUIDIC MODE	PRIME ▾	Set		
82	DISCHARGE VOLUME	1000.0 uL	Set		
83	DISCHARGE RATE	400.0 uL/s	Set		
84	INTAKE RATE	400.0 uL/s	Set		
85	FLUIDIC DWELL	0.00 s	Set		
86	ISOLATION VOLUME	0.0 uL	Set		

Step Number 4: Production Screen

For All Systems:

#50 Production Mode = Dispense

#52 Dispense Volume = Desired Volume dispensed. (Ex. 200.0 uL / 1 REV)

#53 Dispense Rate = Dispense output speed. (Ex. 400.0 uL/s / 150 RPM)

#54 Load Rate = Pump speed during reload. **Linear Only**. (Ex. 400.0 uL/s)

#58 Load Mode = Optional empty or manual. **Linear Only**. (Ex. “Every”)

NOTE: Remaining parameters pertain to more advanced settings.

For Rotary Systems:

Pump Units = REV, RPM if using a Rotary System.

#54 Load Rate does not apply to Rotary Systems.

#58 Load Mode does not apply to Rotary Systems.

Information	Setup	Operate	Statistics	Network	Help
PRODUCTION					
#	Name	Value	Refresh		
50	PRODUCTION MODE	DISPENSE			Set
52	DISPENSE VOLUME	200.0 uL			Set
53	DISPENSE RATE	400.0 uL/s			Set
54	LOAD RATE	400.0 uL/s			Set
55	DRAWBACK VOLUME	0.0 uL			Set
56	DRAWBACK RATE	20.0 uL/s			Set
57	DRAWBACK DWELL	0.02 s			Set
58	LOAD MODE	EVERY			Set
59	LOAD THRESHOLD	2000.0 uL			Set
60	STOP MODE	STOP POSITION			Set
61	CHAMBER MODE	SINGLE			Set
62	MCV VOLUME	0.2 uL			Set
64	CROSSOVER VOLUME	0.0 uL			Set
65	PRE-OP DWELL	0.00 s			Set
66	POST-OP DWELL	0.00 s			Set
67	AUTOTRIGGER MODE	DISABLED			Set
68	AUTOTRIGGER DWELL	0.00 s			Set
69	AUTOTRIGGER COUNT	2			Set
70	SETPOINT MIN	1.000			Set
71	SETPOINT MAX	1.000			Set
72	MAINTAIN SETPOINT	1.000			Set
73	FEEDER SETPOINT	1.000			Set
74	FEEDER RATE	0.0 uL/s			Set
75	ACTUAL RATE	0.0 uL/s			Set
77	MIN DISCHARGE RATE	0.0 uL/s			Set
78	MAX DISCHARGE RATE	20.0 uL/s			Set

Step Number 5: Prime

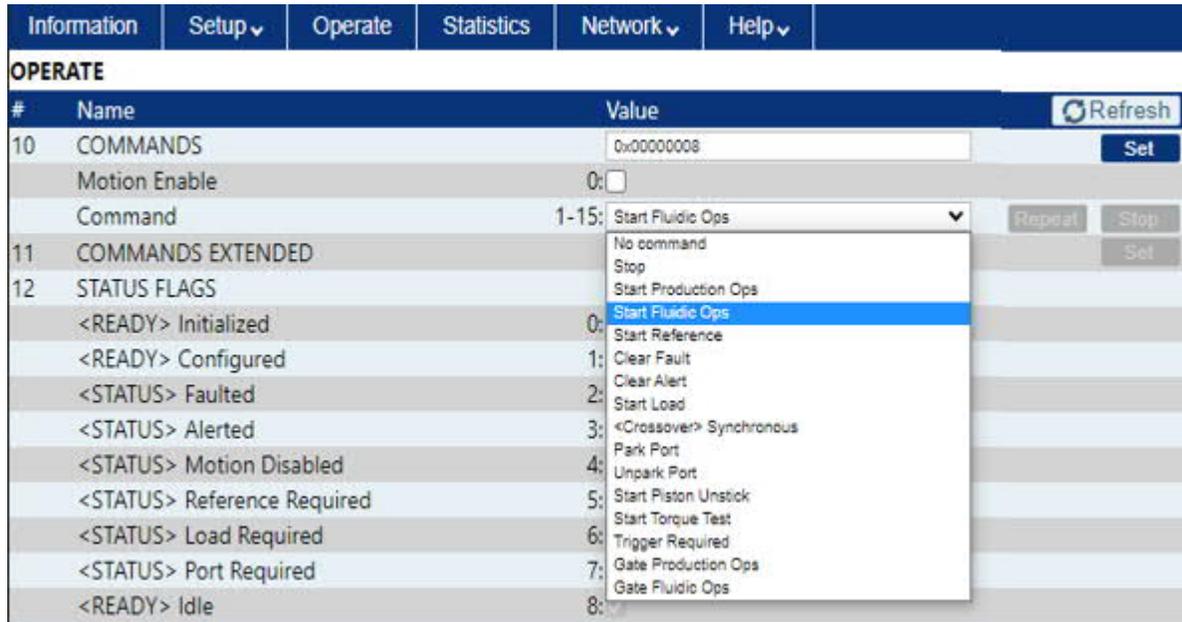
-Once all parameters are in place, navigate to the “Operate” Screen.

-Click on the Command drop down and select “Start Fluidic Ops”.

-To begin the Prime, click “Set”

-To repeat the Prime, or any “Command” from the Drop down, click “Repeat”.

“Prime” and “Dispense” functions are controlled from the same “Operate” screen.



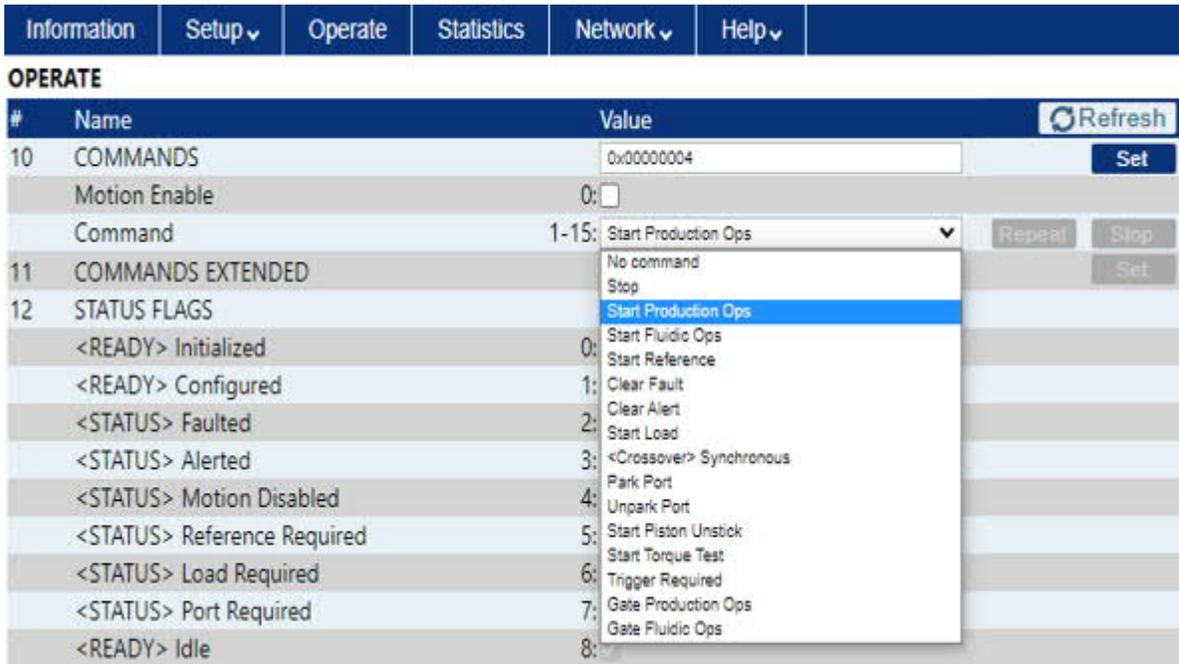
Step Number 6: Dispense

-Once the system is Primed, navigate to the “Operate” Screen.

-Click on the “Command” drop down and select “Start Production Ops”.

-To begin the Dispense, click “Set”

-To repeat the Dispense, or any “Command” from the Drop down, click “Repeat”



Step Number 7: Prime Reverse

-Hover over the “Setup” tab and click on “Fluidic”.

-In the #80 Fluidic Mode line, change the drop-down option to “Prime Reverse”, then click “Set”.

#	Name	Value	Refresh
80	FLUIDIC MODE	PRIME REVERSE	Set
82	DISCHARGE VOLUME	DISABLED	Set
83	DISCHARGE RATE	PRIME	Set
84	INTAKE RATE	AGITATE	Set
85	FLUIDIC DWELL	0.00 s	Set
86	ISOLATION VOLUME	0.0 uL	Set

Step Number 7: Prime Reverse - Continued

-Navigate back to the “Operate” screen.

-Click on the Command drop down and select “Start Fluidic Ops”.

-To begin “Reverse Prime”, click “Set”.

#	Name	Value	Refresh
10	COMMANDS	0x00000008	Set
	Motion Enable	0: <input type="checkbox"/>	
	Command	1-15: Start Fluidic Ops	Repeat Stop
11	COMMANDS EXTENDED	No command	Set
12	STATUS FLAGS	Stop	
	<READY> Initialized	0: Start Production Ops	
	<READY> Configured	1: Start Fluidic Ops	
	<STATUS> Faulted	2: Start Reference	
	<STATUS> Alerted	3: Clear Fault	
	<STATUS> Motion Disabled	4: Clear Alert	
	<STATUS> Reference Required	5: Start Load	
	<STATUS> Load Required	6: <Crossover> Synchronous	
	<STATUS> Port Required	7: Park Port	
	<READY> Idle	8: Unpark Port	