

# **APPLICATION NOTE**

	Digisponso 4000 Rapol Mount Guido	AN-108	
	Digispense 4000 Fanel Mount Guide.	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".

http://10.1.1.16 Your connection to this site is not private Username Supervisor	<pre>://10.1.1.16 connection to this site is not private rname Supervisor word ••••</pre>	Sign in			
Your connection to this site is not private Username Supervisor	ronnection to this site is not private The Supervisor Word	http://10.1.1	.16		
Username Supervisor	word ••••	Your connec	tion to this site is n	ot private	2
	word ••••	Username	Supervisor		
Password ••••		Password	•••••		

# 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 V Oper				Statistics	Network 🗸	Help↓	
PUN	IP			1. A.		<u>,</u>	1.5
#	Name		Va	lue			CRefresh
20	PUMP M	OTOR	03	2037-##12#		*	Set
21	PUMP SI	ZE	3,4			*	Set
22	PUMP UNITS			, uL/s		*	Set
23	PUMP T	(PE	LI	VEAR			
24	PUMP CI	HAMBER VOL	UME 50	.0 uL			Set
25	PUMP RE	SOLUTION	0.	l uL			
26	RATE RES	SOLUTION	0,	l uL/s			
27	INVERT F	PUMP PORTS					Set
31	RUNNIN	G TORQUE	80	%			Set
32	HOLDIN	G TORQUE	20	%			Set
34	ACCELER	ATION	ST	ANDARD		*	Set
35	DEACCEL	ERATION 2X					Set
37	STOP PO	SITION	0				Set
38	VALVING	MAX SPEED	10	0 %			Set
40	STALL RE	TRIES	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.

Info	ormation	Setup 🗸	Operate	Statistics		
FLUI	DIC					
#	Name		Va	ue		<b>Ø</b> Refresh
80	FLUIDIC I	MODE	PF	IME	V	Set
82	DISCHAR	GE VOLUME	10	00.0 uL		Set
83	DISCHAR	GE RATE	40	0.0 uL/s		Set
84	INTAKE R	ATE	40	0.0 uL/s		Set
85	FLUIDIC (	DWELL	0.0	0 s		Set
86	ISOLATIC	N 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. <u>Linear Only</u>. (Ex. 400.0 uL/s)

#58 Load Mode = Optional empty or manual. <u>Linear Only</u>. (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.

Info	ormation	Setup 🗸	Operate	Statistics	Network 🗸	Help 🗸	
PRO	DUCTION		1		5		
#	Name		Valu	el			CRefresh
50	PRODUC	TION MODE	DISF	ENSE		*	Set
52	DISPENS	E VOLUME	200.0	) uL			Set
53	DISPENS	E RATE	400.	) uL/s			Set
54	LOAD RA	TE	400.	) uL/s			Set
55	DRAWBA	CK VOLUME	0.0 u	L			Set
56	DRAWBA	CK RATE	20.0	uL/s			Set
57	DRAWBA	CK DWELL	0.02	5			Set
58	LOAD M	ODE	EVE	RY		~	Set
59	LOAD TH	IRESHOLD	2000	.0 uL			Set
60	STOP MO	DDE	STO	P POSITION		*	Set
61	CHAMBE	R MODE	SING	IE		*	Set
62	MCV VO	LUME	0.2 u	L			Set
64	CROSSO	VER VOLUME	0.0 u	L			Set
65	PRE-OP I	OWELL	0.00	5			Set
66	POST-OF	DWELL	0.00	5			Set
67	AUTOTRI	GGER MODE	DISA	BLED		~	Set
68	AUTOTRI	GGER DWELL	0.00	s			Set
69	AUTOTRI	GGER COUNT	2				Set
70	SETPOIN	T MIN	1.00	)			Set
71	SETPOIN	T MAX	1.00	2			Set
72	MAINTAI	N SETPOINT	1.00	2			Set
73	FEEDER S	SETPOINT	1.00	)			
74	FEEDER F	RATE	0.0 u	L/s			Set
75	ACTUAL	RATE	0.0 u	L/s			
77	MIN DIS	CHARGE RATE	0.0 u	Us			Set
78	MAX DIS	CHARGE RAT	E 20.0	uL/s			Set

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# 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.

Inf	ormation	Setup 🗸	Operate	Statistics	Network 🗸	Help↓		
OPE	RATE							
#	Name				Value			<b>O</b> Refresh
10	COMMA	NDS			0x000000x0	8		Set
	Motion 8	Enable			0:			
	Comman	nd		1-	15: Start Fluidic	: Ops	~	Repeat Stop
11	COMMA	NDS EXTEND	ED		No comman	hd		Set
12	STATUS I	FLAGS			Start Produc	ction Ops		
	<ready< td=""><td>&gt; Initialized</td><td></td><td></td><td>0: Start Fluidic</td><td>: Ops</td><td></td><td></td></ready<>	> Initialized			0: Start Fluidic	: Ops		
	<ready< td=""><td>&gt; Configured</td><td></td><td></td><td>1: Clear Fault</td><td></td><td></td><td></td></ready<>	> Configured			1: Clear Fault			
	<status< td=""><td>&gt; Faulted</td><td></td><td></td><td>2: Clear Alert Start Load</td><td></td><td></td><td></td></status<>	> Faulted			2: Clear Alert Start Load			
	<status< td=""><td>&gt; Alerted</td><td></td><td></td><td>3: «Crossover:</td><td>&gt; Synchronous</td><td></td><td></td></status<>	> Alerted			3: «Crossover:	> Synchronous		
	<status< td=""><td>&gt; Motion Dis</td><td>sabled</td><td></td><td>4: Unpark Port</td><td>12</td><td>- 1</td><td></td></status<>	> Motion Dis	sabled		4: Unpark Port	12	- 1	
	<status< td=""><td>&gt; Reference</td><td>Required</td><td></td><td>5: Start Piston</td><td colspan="2" rowspan="2">5: Start Piston Unstick Start Torque Test 5: Trigger Required</td><td></td></status<>	> Reference	Required		5: Start Piston	5: Start Piston Unstick Start Torque Test 5: Trigger Required		
	<status< td=""><td>&gt; Load Requ</td><td>ired</td><td></td><td>6: Trigger Reg</td><td></td></status<>	> Load Requ	ired		6: Trigger Reg			
	<status< td=""><td>&gt; Port Requi</td><td>red</td><td></td><td>7: Gate Produc</td><td>ction Ops</td><td></td><td></td></status<>	> Port Requi	red		7: Gate Produc	ction Ops		
I	<ready< td=""><td>&gt; Idle</td><td></td><td></td><td>8: Gate Huidio</td><td>oops</td><td></td><td></td></ready<>	> Idle			8: Gate Huidio	oops		

# .<u>Step Number 6: Dispense</u>

-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"

Inf	ormation	Setup 🗸	Operate	Statistics	Network 🗸	Help↓	
OPE	RATE		10		0	18 - 18 - 18 - 18 - 18 - 18 - 18 - 18 -	
#	Name				Value		<b>Ø</b> Refresh
10	COMMA	NDS			0x00000004	6	Set
	Motion E	Enable			0:		
	Comman	nd			1-15: Start Produc	tion Ops	▼ Repeat Slop
11	COMMA	NDS EXTEND	ED		No comman	đ	Set
12	STATUS F	FLAGS			Start Produc	tion Ops	
	<ready< td=""><td>&gt; Initialized</td><td></td><td></td><td>0: Start Fluidic</td><td>Ops</td><td></td></ready<>	> Initialized			0: Start Fluidic	Ops	
	<ready< td=""><td>&gt; Configured</td><td>l.</td><td></td><td></td></ready<>	> Configured	l.				
	<status< td=""><td>&gt; Faulted</td><td colspan="5">Faulted 2: Clear Alert Start Load</td></status<>	> Faulted	Faulted 2: Clear Alert Start Load				
	<status< td=""><td>&gt; Alerted</td><td></td><td></td><td>3: «Crossover?</td><td>Synchronous</td><td></td></status<>	> Alerted			3: «Crossover?	Synchronous	
	<status< td=""><td>&gt; Motion Di</td><td>sabled</td><td></td><td>4: Unpark Port</td><td></td><td></td></status<>	> Motion Di	sabled		4: Unpark Port		
	<status< td=""><td>&gt; Reference</td><td>Required</td><td></td><td>5: Start Piston</td><td>Unstick</td><td>1</td></status<>	> Reference	Required		5: Start Piston	Unstick	1
	<status< td=""><td>&gt; Load Requ</td><td>ired</td><td></td><td>6: Trigger Requ</td><td>liest</td><td></td></status<>	> Load Requ	ired		6: Trigger Requ	liest	
	<status< td=""><td>&gt; Port Requi</td><td>red</td><td></td><td>7: Gate Produc</td><td>tion Ops</td><td></td></status<>	> Port Requi	red		7: Gate Produc	tion Ops	
	<ready< td=""><td>&gt; Idle</td><td></td><td></td><td>8:</td><td>Ops</td><td>_</td></ready<>	> Idle			8:	Ops	_

# **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".

Information Setup VOP		Operate	ate Statistics Network V He		Help√			
FLUI	DIC					) (A		
#	Name		Valu	e		- 6		<b>O</b> Refresh
80	FLUIDIC I	MODE	PRIM	PRIME REVERSE			ult: PRIME	Set
82	DISCHAR	RGE VOLUME	DISA	ABLED		Constant of the local division of the local		Set
83	DISCHAR	RGE RATE	AGIT	TATE				Set
84	INTAKE R	RATE	BUB	BLE CLEAR ME REVERSE				Set
85	FLUIDIC I	DWELL	0.00	S		_		Set
86	ISOLATIC	ON VOLUME	0.0 u	IL?				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".

Inf	ormation	Setup 🗸	Operate	Statistics	Netw	orkv	Help√			
OPE	RATE									
#	Name				Va	lue			G	Refresh
10	COMMA	NDS			Out	80000000				Set
	Motion 8	Enable			0:					
	Comman	nd		1-	-15: St	art Fluidic	Ops	~	Repost	Stop
11	COMMA	NDS EXTEND	ED		No	command	d			Set ]
12	STATUS I	FLAGS			Sta	art Product	tion Ops			
	<ready< td=""><td>&gt; Initialized</td><td></td><td></td><td>0: 5</td><td>art Fluidic art Referen</td><td>Ops</td><td></td><td></td><td></td></ready<>	> Initialized			0: 5	art Fluidic art Referen	Ops			
	<ready< td=""><td>&gt; Configured</td><td colspan="2">Configured 1: Clear Fault</td><td></td><td></td><td></td><td></td></ready<>	> Configured	Configured 1: Clear Fault							
	<status< td=""><td>S&gt; Faulted</td><td></td><td></td><td>2: 50</td><td>ear Alert art Load</td><td></td><td>- 1</td><td></td><td></td></status<>	S> Faulted			2: 50	ear Alert art Load		- 1		
	<status< td=""><td>S&gt; Alerted</td><td></td><td></td><td>3; &lt;0</td><td>rossover&gt;</td><td>Synchronous</td><td>- 1</td><td></td><td></td></status<>	S> Alerted			3; <0	rossover>	Synchronous	- 1		
	<status< td=""><td>&gt; Motion Di</td><td>sabled</td><td colspan="2">4:</td><td colspan="2" rowspan="3">4: Unpark Port 5: Start Torque Test 6: Trogue Test</td><td>- 1</td><td></td><td></td></status<>	> Motion Di	sabled	4:		4: Unpark Port 5: Start Torque Test 6: Trogue Test		- 1		
	<status< td=""><td>S&gt; Reference</td><td></td><td>5: St</td><td></td><td></td><td></td></status<>	S> Reference		5: St						
0	<status< td=""><td>&gt; Load Requ</td><td></td><td>6: Th</td><td>- 1</td><td></td><td></td></status<>	> Load Requ		6: Th	- 1					
	<status< td=""><td>S&gt; Port Requi</td><td></td><td colspan="2">7: Gate Production Ops</td><td></td><td></td><td></td></status<>	S> Port Requi		7: Gate Production Ops						
	<ready< td=""><td>&gt; Idle</td><td></td><td></td><td>8:</td><td>ste Fiuldio</td><td>ops</td><td></td><td></td><td></td></ready<>	> Idle			8:	ste Fiuldio	ops			