

DIGITAL PROPORTIONAL VALVE CONTROLLER - PCB ONLY OPERATION INSTRUCTION

SY-DPCA-P-1

FEATURES

1. Precise Control

Digital Microprocessor

2. Simple Setup

Digital Display and Buttons

3. Full Function

Adjustable Input Signal and Output Current

4. Safety

Short, Open Circuit protection with Error Code

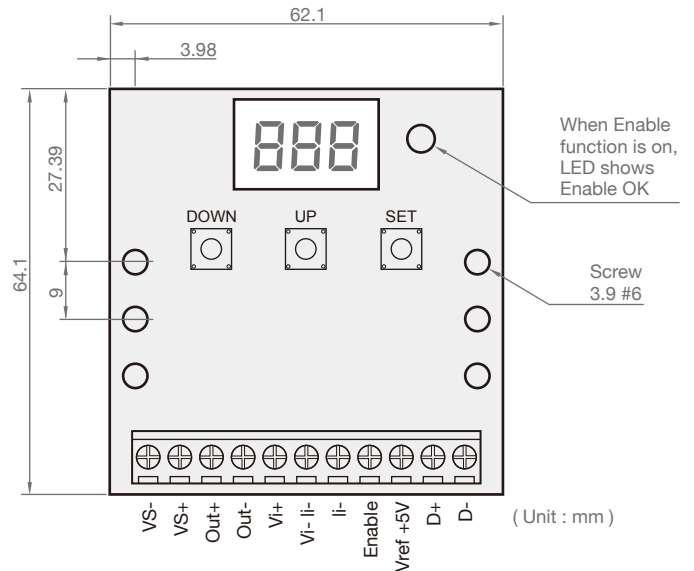
MODEL SPEC.

Model	SY-DPCA-P-1
Operating Voltage	12 ~ 24VDC
Voltage Tolerance	10%
Input Signal Options	0 ~ 5V,
Output Current	2.1A max.
Dither Frequency	70 ~ 350Hz
Ramp Up and Down	0.1 ~ 5.0s
Reference Voltage	5V (max. current 5mA)
Operating Conditions	-10 ~ 60°C

CONNECTIONS AND DIMENSIONS

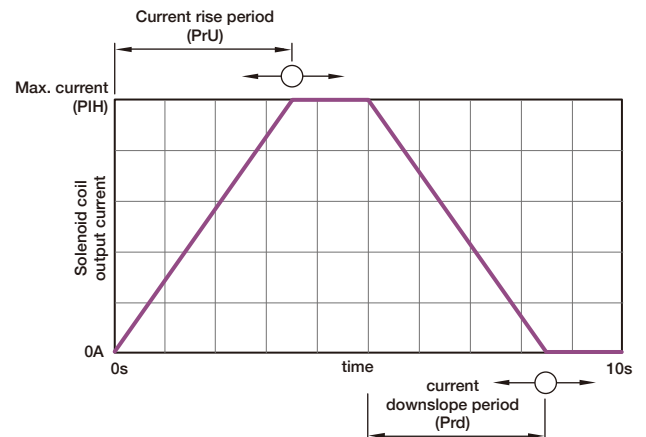
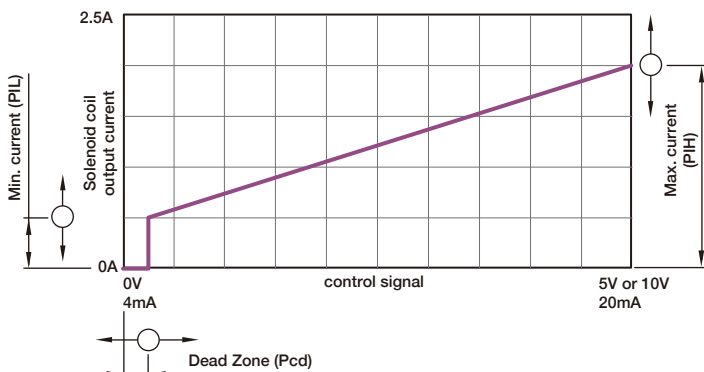
Wiring instruction

1	VS-	Power-
2	VS+	Power+
3	Out+	Coil+
4	Out-	Coil-
5	Vi+	Input voltage signal
6	Vi- li-	Signal ground
7	li-	Input current signal
8	Enable	Enable
9	Vref +5V	+5V reference voltage
10	D+	RS-485-A(optional)
11	D-	RS-485-B(optional)



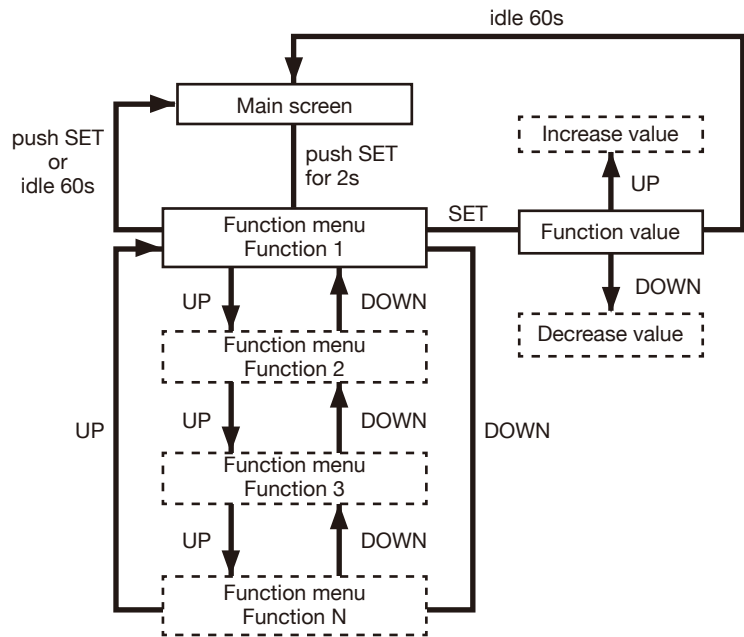
* Default off. Ground this pin to enable controller when PEA function is on .

PERFORMANCE CURVE



SETTING THE PARAMETERS

1. At main screen, push SET button for 2s and open function menu.
2. At function menu, push UP and DOWN to select function.
3. Push SET button to open function value and push UP and DOWN to adjust it.
4. After adjustment, push SET button to setup function value and return to function menu.
5. Return to main screen by pushing SET button for 2s manually or idling for 60s.
6. Save setup: select *PSR* function and adjust its value to "5". If no saving all the function value will be reset after reboot.
7. Default setup: select *PRF* function and adjust its value to "5".



SPECIFICATION

No.	Function	Display	Default Value	Adjustment Range	Unit	Description
1	Max. output current	<i>P_IH</i>	1	0.20 ~ 2.10	A	adj. unit 0.01A
2	Min. output current	<i>P_IL</i>	0.00	0.00 ~ 1.00	A	adj. unit 0.01A
3	Ramp up time	<i>P_rU</i>	0.1	0.1 ~ 5.0	s	adj. unit 0.1s
4	Ramp down time	<i>P_rd</i>	0.1	0.1 ~ 5.0	s	adj. unit 0.1s
5	Enable	<i>P_ER</i>	0	0 ~ 1		0: function off 1: function on, ground the ENABLE pin to enable controller
6	Input signal type	<i>P_RI</i>	10	10/5/420		10:0-10V ; 5:0-5V ; 420:4~20mA
7	Dither frequency	<i>P_dF</i>	140	70 ~ 350	Hz	adj. unit 10Hz
8	Command deadband	<i>P_cd</i>	2	0 ~ 5	%	adj. unit 1%
9	Display type	<i>P_dS</i>	0	0 ~ 1		0: output current(A) 1: input instruction (V or mA)
10	Save setup	<i>P_SR</i>	0	0 ~ 5		When the value = 5, save the parameters instruction
11	Default setup	<i>P_rF</i>	0	0 ~ 5		When the value = 5, restore factory setting
12	Clear error code	<i>P_cL</i>	0	0 ~ 5		When the value = 5, delete the error code of current overload

ERROR CODE

Error Code	Error Description	Clear Error Code
<i>E 10</i>	4-20mA signal open	For error code E10, E11, E30. Controller will detect troubleshooting and clear the error code automatically.
<i>E 11</i>	4-20mA signal overload	
<i>E 30</i>	Coil open	
<i>E 31</i>	Coil short	For error code E31. After troubleshooting it is necessary to adjust function P _c L or reboot to clear the error code.

WARNING

1. Install the controller and Coil only when the power is off.
2. According to European standards EN-982. the electrical output signal of the controller (e.g. reference voltage) must not be directly used to activate safety functions, like to switch-ON/OFF the machine's safety components.