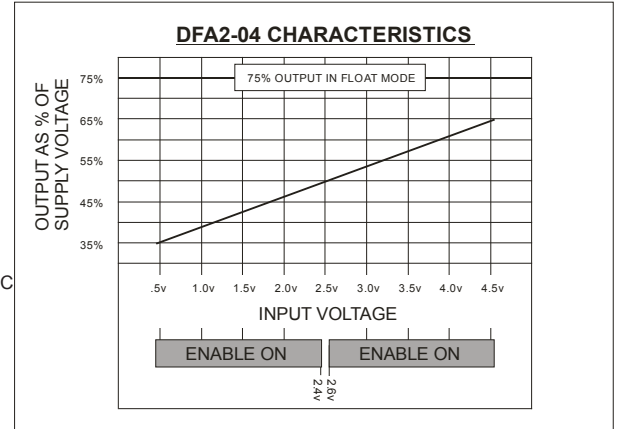
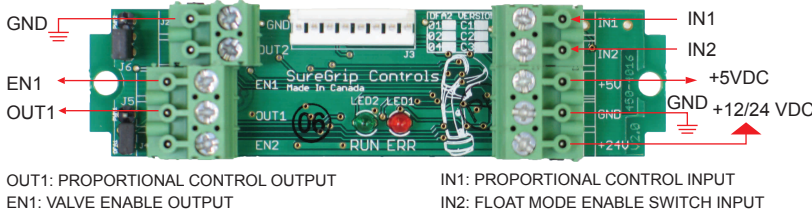


## Sauer Danfoss PVG/PVE Series Proportional Valve Driver with Float Mode

### Danfoss Adapter Driver Board (Part# DFA2-04)



## Applications

- Configured for Joystick Type Control Inputs (JM, JL Series Joysticks, Proportional Slider Modules)
- Electro Hydraulic Valve Driver, Specifically Designed to Control Sauer Danfoss PVG/PVE Series Proportional Valves

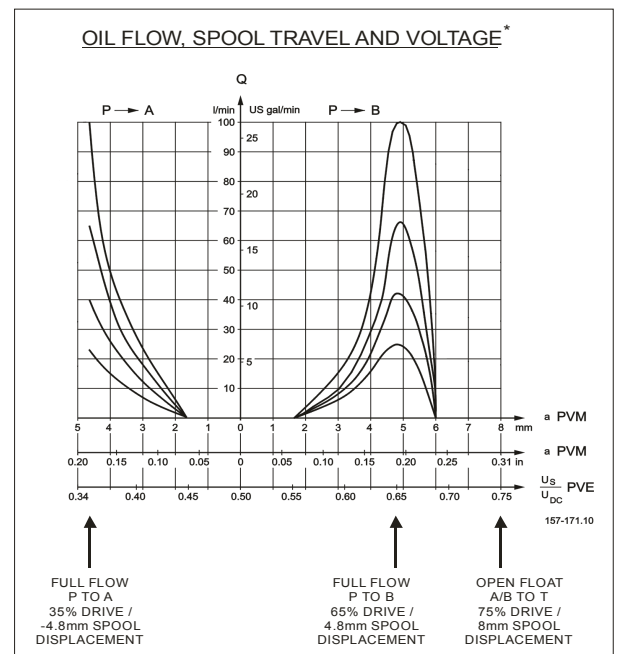
## Features

- Normal Mode/Float Mode Operation
- Wide Supply Range +6V to +28V
- Power Supply and Control Input Protection
- High Current Valve Enable Output
- 300ms Ramp Rate on Control Signal Output
- Fault Detection

## Float Mode Operation

The float mode enable switch is used to toggle the float mode on and off. The joystick can be in any position when the enable switch is activated, and can be returned back to the neutral position without disengaging the float mode.

Moving the joystick off neutral when float mode is active will deactivate float mode and return to normal joystick control.



### DFA2-04 Configuration

DFA2 Connection	Parameter	Function	Operating Range			Unit
			Min	Typ	Max	
<b>Power Supply:</b>						
+12/24VDC	Supply Voltage		6	12, 24	28	V
+5VDC	Input Control Device Supply Voltage		4.75	5	5.25	V
GND	Common Ground	DFA Ground, Input Control Device Ground				
<b>Control Inputs:</b>						
IN1	Control Input 1	Analog Proportional Input	V <sub>IN(MIN)</sub> 0.5 (+/-0.05)	V <sub>IN(NEUTRAL)</sub> 2.5	V <sub>IN(MAX)</sub> 4.5 (+/-0.05)	V
IN2	Control Input 2	Float Enable Momentary Switch Input	0		5	V
<b>Control Outputs:</b>						
OUT1	Control Output: Normal Mode	Variable Analog Proportional Output	V <sub>OUT(MIN)</sub> 35 (+/-5)	V <sub>OUT(NEUTRAL)</sub> 50 (+/-2)	V <sub>OUT(MAX)</sub> 65 (+/-5)	%V <sub>s</sub>
	Control Output: Float Mode	Analog Proportional Output (Fixed)			75 (+/-5)	%V <sub>s</sub>
OUT2	Control Output 2	N/A				%V <sub>s</sub>
<b>Enable Outputs:</b>						
EN1	Valve Enable Output 1	Vs if either IN1 or IN2 is activated, 0V otherwise	Off 0		On +Vs	V
EN2	Valve Enable Output 2	N/A	0		+Vs	V

\* Graph adapted from: PVG 32 Proportional Valves Technical Information, Sauer-Danfoss, 2001, p. 41  
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# Danfoss Adapter Driver Board DFA2-04

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## DFA2-04 Electrical Specifications

Symbol	Parameter	Min	Typ	Max	Unit	Notes
<b>DFA Power Supply:</b>						
V <sub>S</sub>	Supply Voltage	6	12 or 24	28	V	Reverse Polarity and Transient Protected (1)
I <sub>SQ</sub>	Quiescent Supply Current	25	27 or 30	35	mA	
<b>Input Control Device Power Supply:</b>						
V <sub>OUT</sub>	Input Control Device Supply Voltage	4.75	5	5.25	V	
I <sub>OUT</sub>	Input Control Device Supply current	2		30	mA	
<b>Control Signal Inputs:</b>		Min	Neutral	Max		
V <sub>IN1,IN2</sub>	Control Signal Input Voltage	0.5 (+/-0.05)	2.5	4.5 (+/-0.05)	V	Inputs Transient Protected
V <sub>IL(OFF)</sub>	Low Safety Shut-down Input Voltage		<= 0.25		V	Input Under Voltage, Cycle Power to Reset
V <sub>IH(OFF)</sub>	High Safety Shut-down Input Voltage		>= 4.75		V	Input Over Voltage, Cycle Power to Reset
<b>Control Signal Output:</b>		Min	Neutral	Max		
V <sub>OUT1</sub>	Proportional Control Signal Output Voltage	35 (+/-5)	50 (+/-2)	65 (+/-5)	%V <sub>S</sub>	(2)
I <sub>OUT1</sub>	Control Signal Output Current			10	mA	
<b>Enable Signal Output:</b>						
V <sub>EN1</sub>	Enable Signal Output Voltage	0	V <sub>S</sub>	V <sub>S</sub>	V	
I <sub>EN1</sub>	Enable Signal Output Current			2.5	A	
<b>Environmental Specifications:</b>						
Operating Temperature Range		-40 to +70			°C	

(1) Input transient protected up to +/- 48.4VDC @ 11.3A for pulse widths ≤ 1ms.

(2) Output range during normal operation is 35% - 65%V<sub>S</sub>, and Fixed at 75%V<sub>S</sub> with Float mode enabled.