

Caterpillar ECM Compatible Driver Board

Danfoss Adapter Driver Board (Part# DFA2-C2)



OUT1: PWM CONTROL OUTPUT 1
EN1: VALVE ENABLE OUTPUT 1
OUT2: PWM CONTROL OUTPUT 2
EN2: VALVE ENABLE OUTPUT 2

IN1: PROPORTIONAL CONTROL INPUT 1
IN2: PROPORTIONAL CONTROL INPUT 2

Applications

- Configured for Joystick Type Control Inputs (JM/JL Series Joysticks, Proportional Slider Modules)
- PWM Output Specifically Designed to Interface to Caterpillar ECM's

Features

- Wide Supply Range +6V to +28V
- Power Supply and Control Input Protection
- Variable PWM Control Signal Outputs
- High Current Valve Enable Outputs

DFA2-C2 Configuration

DFA2 Connection	Parameter	Function	Operating Range			Unit
			Min	Typ	Max	
Power Supply:						
+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				
Control Inputs:			V_{IN(MIN)}	V_{IN(NEUTRAL)}	V_{IN(MAX)}	
IN1	Control Input 1	Analog Proportional Input 1	0.5 (+/-0.05)	2.5 (+/-0.02)	4.5 (+/-0.05)	V
IN2	Control Input 2	Analog Proportional Input 2	0.5 (+/-0.05)	2.5 (+/-0.02)	4.5 (+/-0.05)	V
Control Outputs:			Duty Cycle OUT(MIN)	Duty Cycle OUT(NEUTRAL)	Duty Cycle OUT(MAX)	
OUT1	Control Signal Output 1	PWM Output 1	20 (+/-2.5)	50 (+/-2.5)	80 (+/-2.5)	Duty Cycle (%)
OUT2	Control Signal Output 2	PWM Output 2	20 (+/-2.5)	50 (+/-2.5)	80 (+/-2.5)	Duty Cycle (%)
Enable Outputs:			Off		On	
EN1	Valve Enable Output 1	Vs if either IN1 or IN2 is activated, 0V otherwise	0		+Vs	V
EN2	Valve Enable Output 2	Vs if either IN1 or IN2 is activated, 0V otherwise	0		+Vs	V

Danfoss Adapter Driver Board DFA2-C2

#4-1413 McGill Road
Kamloops B.C. Canada V2C 6K7
Ph: (250) 374-2278

Fax: (250) 374-1099
Toll Free: 1-800-831-2278
www.suregripcontrols.com

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DFA2-C2 Electrical Specifications

Symbol	Parameter	Min	Typ	Max	Unit	Notes
DFA Power Supply:						
V _S	Supply Voltage	6	12 or 24	28	V	Reverse Polarity and Transient Protected (*)
I _{SQ}	Quiescent Supply Current	25	27 or 30	35	mA	
Input Control Device Power Supply:						
V _{OUT}	Input Control Device Supply Voltage	4.75	5	5.25	V	
I _{OUT}	Input Control Device Supply current	2		30	mA	
Control Signal Inputs:		Min	Neutral	Max		
V _{IN1,IN2}	Control Signal Input Voltage	0.5 (+/- 0.05)	2.5 (+/-0.02)	4.5 (+/-0.05)	V	Inputs Transient Protected
Control Signal Outputs:		Min	Neutral	Max		
V _{OUT1, OUT2}	PWM Control Signal Output Duty Cycle Range at V _{PEAK} = V _S	20 (+/-2.5)	50 (+/-2.5)	80 (+/-2.5)	Duty Cycle (%)	
f _{OUT1,OUT2}	PWM Output Frequency		500 (+/-5%)		Hz	Fixed PWM Frequency of 500Hz
I _{OUT1,OUT2}	Control Signal Output Current			10	mA	
Enable Signal Outputs:						
V _{EN1,EN2}	Enable Signal Output Voltage	0	V _S	V _S	V	
I _{EN1,EN2}	Enable Signal Output Current			2.5	A	
Environmental Specifications:						
Operating Temperature Range		-40 to +70			°C	

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