

Caterpillar ECM Compatible Driver Board

Danfoss Adapter Driver Board (Part# DFA2-C1)



OUT2: PWM CONTROL OUTPUT 2

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

Applications

- Configured for Variable Voltage Module Type Control Inputs
- 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 Output

DFA2-C1 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:			$V_{IN(MIN)}$		$V_{IN(MAX)}$	
IN1	Control Input 1	Analog Proportional Input 1	0.8 (+/-0.05)		4.2 (+/-0.1)	V
IN2	Control Input 2	Analog Proportional Input 2	0.8 (+/-0.05)		4.2 (+/-0.1)	V
Control Outputs:			$V_{OUT(MIN)}$	$V_{OUT(NEUTRAL)}$	$V_{OUT(MAX)}$	
OUT1	Control Signal Output 1	N/A				
OUT2	Control Signal Output 2	PWM Control Output 2	20 (+/-2.5)	50 (+/-2.5)	80 (+/-2.5)	Duty Cycle (%)
Enable Outputs:			Off		On	
EN1	Valve Enable Output 1	N/A				
EN2	Valve Enable Output 2	N/A				

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DFA2-C1 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:						
V _{IN1,IN2}	Control Signal Input Voltage	0.8 (+/-0.05)		4.2 (+/-0.1)	V	Inputs Transient Protected
Control Signal Output:						
V _{OUT2}	PWM Control Signal Output Duty Cycle Range at V _{PEAK} = V _S	Min	Neutral	Max	Duty Cycle (%)	
		20 (+/-2.5)	50 (+/-2.5)	80 (+/-2.5)		
		Min	Typ	Max		
f _{OUT2}	PWM Output Frequency		500 (+/-5%)		Hz	Fixed PWM Frequency of 500Hz
I _{OUT2}	Control Signal Output Current			10	mA	
Environmental Specifications:						
Operating Temperature Range		-40 to +70			°C	

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