

# Danfoss Adapter Driver Board DFA2-C1-S

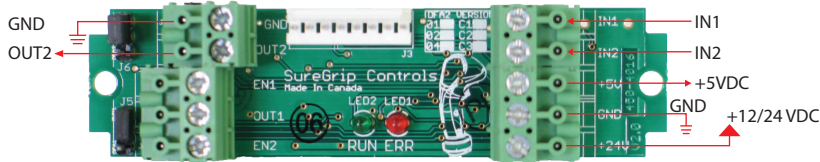
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**SURE GRIP**  
CONTROLS INC.

## Caterpillar ECM Compatible Driver Board

### Danfoss Adapter Driver Board (Part# DFA2-C1-S)



OUT2: PWM CONTROL OUTPUT

IN1: SWITCHED CONTROL INPUT 1  
IN2: SWITCHED CONTROL INPUT 2

## Applications

- Configured for Switched Control Inputs
- WM 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 Output

### DFA2-C1-S 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>			$V_{IN(MIN)}$		$V_{IN(MAX)}$	
IN1	Control Input 1	Switched Input 1 (controls OUT2 50% - 80%)	0		5	V
IN2	Control Input 2	Switched Input 2 (controls OUT2 50% - 20%)	0		5	V
<b>Control Outputs:</b>			<b>Duty Cycle</b> OUT(MIN)	<b>Duty Cycle</b> OUT(NEUTRAL)	<b>Duty Cycle</b> OUT(MAX)	
OUT1	Control Signal Output 1	N/A				
OUT2	Control Signal Output 2	PWM Control Output	20 (+/-2.5)	50 (+/-2.5)	80 (+/-2.5)	Duty Cycle (%)
<b>Enable Outputs:</b>			<b>Off</b>		<b>On</b>	
EN1	Valve Enable Output 1	N/A				
EN2	Valve Enable Output 2	N/A				

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## DFA2-C1-S Electrical Specifications

Symbol	Parameter	Min	Typ	Max	Unit	Notes
<b>DFA Power Supply:</b>						
$V_s$	Supply Voltage	6	12 or 24	28	V	Reverse Polarity and Transient Protected (*)
$I_{SQ}$	Quiescent Supply Current	25	27 or 30	35	mA	
<b>Input Control Device Power Supply:</b>						
$V_{OUT}$	Input Control Device Supply Voltage	4.75	5	5.25	V	
$I_{OUT}$	Input Control Device Supply current	2		30	mA	
<b>Control Signal Inputs:</b>						
$V_{IN1,IN2}$	Control Signal Input Voltage	0		5	V	Inputs Transient Protected
<b>Control Signal Output:</b>						
$V_{OUT2}$	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	
<b>Environmental Specifications:</b>						
Operating Temperature Range		-40 to +70			°C	

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