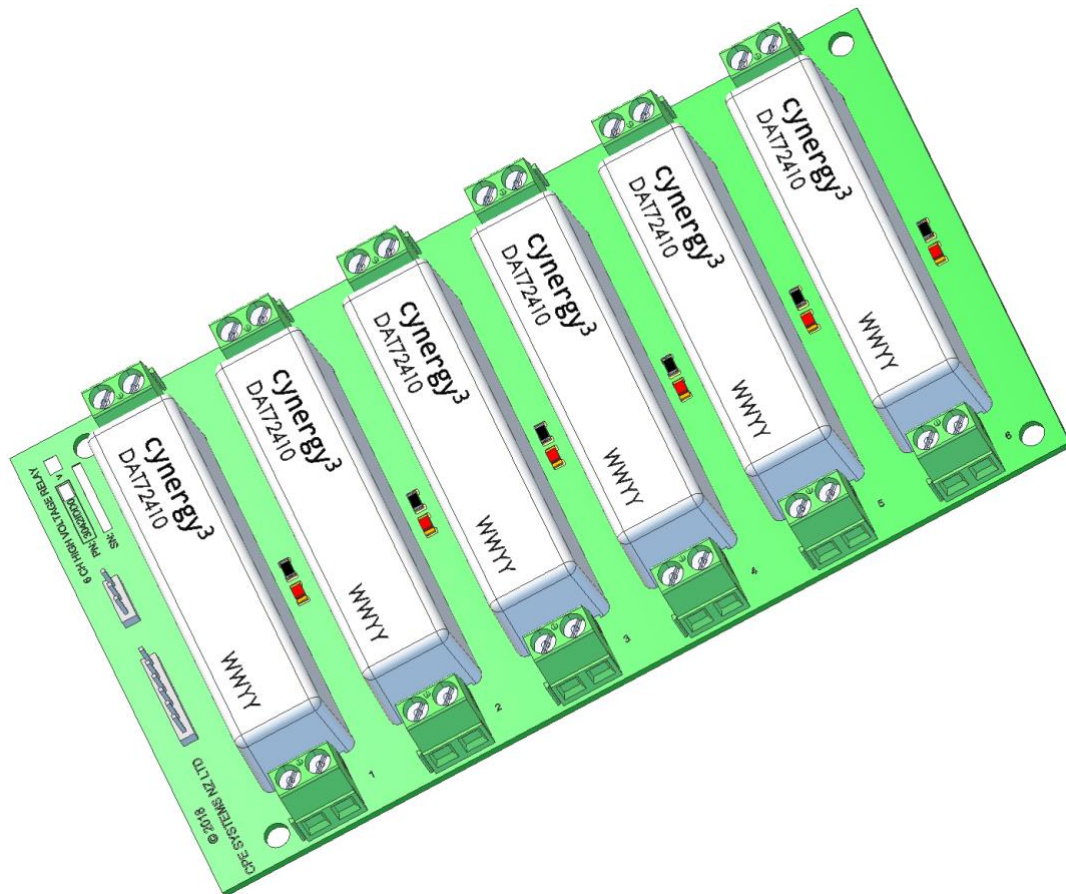


DATA SHEET

Reed Relay - High Voltage Switching Board 3042 Series

DESCRIPTION

The 3042 Series is a six channel high voltage switching relay board series that uses reed relays. This implementation is targeted at high voltage isolation and switching. The boards will come with a choice of supply voltages.



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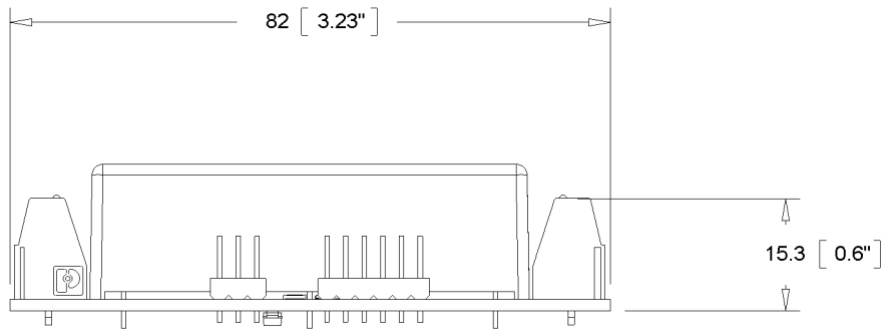
Date: 09/07/2021

Version: 0-2

Dimensions and Board Layout

UNITS: mm [inch]

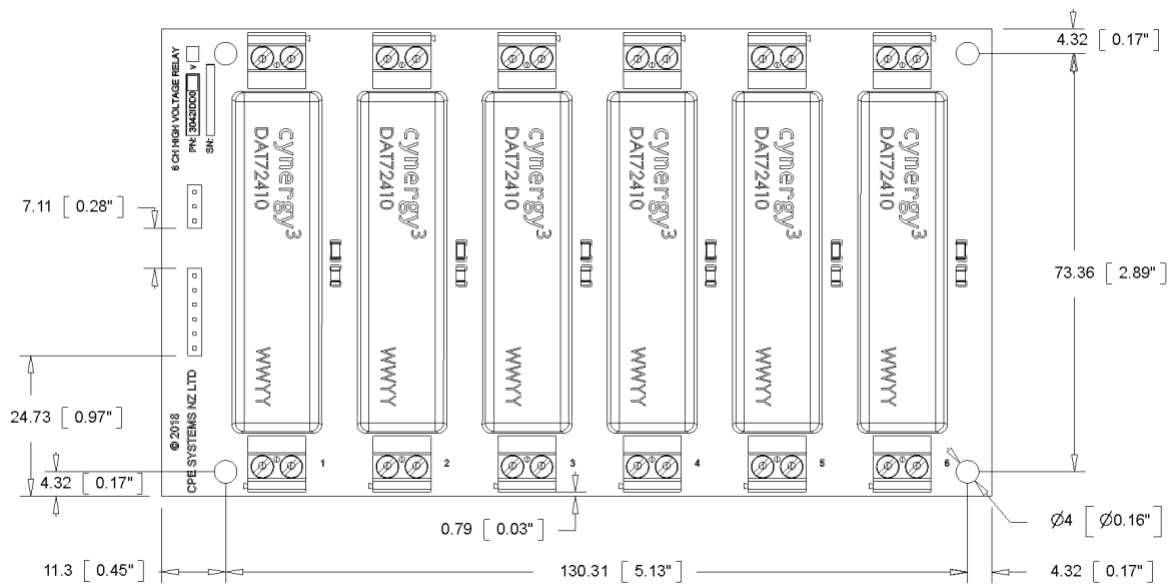
Side View



Front View



Top View



General Specifications

Mechanical		
Board Length	146mm	
Board Width	82mm	
Board Height	22.5mm	
Mounting Holes	4 @ 4mm Dia.	
PCB Thickness	1.6mm	
PCB Material	FR-4	
Electrical		
PCB Header Conductor	Tin Coated Brass	
PCB Screw Terminal Conductor	Copper Alloy (Cu > 85%)	
Relay Contact Arrangement	Form A, Form B	
Relay Type	Reed Relays	
Board and Relay Switching Ratings	Maximum Rated Switching Power	50W
	Maximum Switching Voltage	5000VDC
	Maximum Constant Current	2A
	Insulation Resistance	10 ¹⁰ Ohms
	Operate/ Release Time Max	3ms (With Diode)
	Isolation; Contact to Coil Voltage	17kV
	Contact Material	Tungsten
	Maximum Contact Resistance	250 Ohms (100 Ohms - Typical)
	Mechanical Endurance Dry Switching	10x10 ⁹ Operations
	Mechanical Endurance 50W Switching	10x10 ⁶ Operations
Ambient Temperature	-20°C to +70°C	

Series Specifications

Order Code		3042IDD001
Description Code (Refer Key in Page 6)		24-HR-SPNO-06-D-CC
Board Voltage Input		24V
Max. Board Power Required @ 24V All Channels ON		6.53 W
Leakage Current (All Channels Off)		Leakage Current of Driving Device * 6 Channels
Require Min. Driving Current per Channel @ Rated Coil Input Voltage (24V)		45.4mA (Sinking)
Relay Coil	Rated Voltage	24V
	Operate Voltage	20V
	Release Voltage	4V
	Resistance	780 ohms
	Rated Power	738mW

Order Code		3042IDD002
Description Code (Refer Key in Page 6)		12-HR-SPNO-06-D-CC
Board Voltage Input		12V
Max. Board Power Required @ 12V All Channels ON		6.81 W
Leakage Current (All Channels Off)		Leakage Current of Driving Device * 6 Channels
Require Min. Driving Current per Channel @ Rated Coil Input Voltage (12V)		94.6mA (Sinking)
Relay Coil	Rated Voltage	12V
	Operate Voltage	9V
	Release Voltage	1.25V
	Resistance	150 ohms
	Rated Power	960mW

Order Code		3042IDD003
Description Code (Refer Key in Page 6)		5-HR-SPNO-06-D-CC
Board Voltage Input		5V
Max. Board Power Required @ 5V All Channels ON		5.81 W
Leakage Current (All Channels Off)		Leakage Current of Driving Device * 6 Channels
Require Min. Driving Current per Channel @ Rated Coil Input Voltage (5V)		193.8mA (Sinking)
Relay Coil	Rated Voltage	5V
	Operate Voltage	3.7 V
	Release Voltage	0.5V
	Resistance	28 ohms
	Rated Power	893mW

Order Code		3042IDD004
Description Code (Refer Key in Page 6)		24-HR-SPNC-06-D-CC
Board Voltage Input		24V
Max. Board Power Required @ 24V All Channels ON		5.84 W
Leakage Current (All Channels Off)		Leakage Current of Driving Device * 6 Channels
Require Min. Driving Current per Channel @ Rated Coil Input Voltage (24V)		40.5mA (Sinking)
Relay Coil	Rated Voltage	24V
	Operate Voltage	20V
	Release Voltage	4V
	Resistance	925 ohms
	Rated Power	622mW

Order Code		3042IDD005
Description Code (Refer Key in Page 6)		12-HR-SPNC-06-D-CC
Board Voltage Input		12V
Max. Board Power Required @ 12V All Channels ON		4.65 W
Leakage Current (All Channels Off)		Leakage Current of Driving Device * 6 Channels
Require Min. Driving Current per Channel @ Rated Coil Input Voltage (12V)		64.6mA (Sinking)
Relay Coil	Rated Voltage	12V
	Operate Voltage	9V
	Release Voltage	1.25V
	Resistance	240 ohms
	Rated Power	600mW

Order Code		3042IDD006
Description Code (Refer Key in Page 6)		5-HR-SPNC-06-D-CC
Board Voltage Input		5V
Max. Board Power Required @ 5V All Channels ON		4.40 W
Leakage Current (All Channels Off)		Leakage Current of Driving Device * 6 Channels
Require Min. Driving Current per Channel @ Rated Coil Input Voltage (5V)		146.8mA (Sinking)
Relay Coil	Rated Voltage	5V
	Operate Voltage	3.7 V
	Release Voltage	0.5V
	Resistance	38 ohms
	Rated Power	658mW

Relay Boards Description Code Key

CODE	Relay Control Voltage	Relay Type	Relay Configuration	Number of Relays per board	Relay Control Signal Type	Additional Options
5 V	05					
12 V	12					
24 V	24					
Mechanical	ME*					
Solid State	SS*					
Low Voltage Reed	LR*					
High Voltage Reed	HR					
Single Pole Single Throw - Normally Closed	SPNC					
Single Pole Single Throw - Normally Open	SPNO					
Single Pole Double Throw	SPDT*					
Double Pole Single Throw - Normally Closed	DPNC*					
Double Pole Single Throw - Normally Open	DPNO*					
Double Pole Double Throw	DPDT*					
6 Relays	06					
8 Relays	08*					
TTL / DIO Controlled	T*					
Relay Driver Controlled	D					
None						
Conformal Coated	CC					
Custom Modifications / Features (On Order)	CM					

* Not available for this product

HV INPUT/OUTPUTS

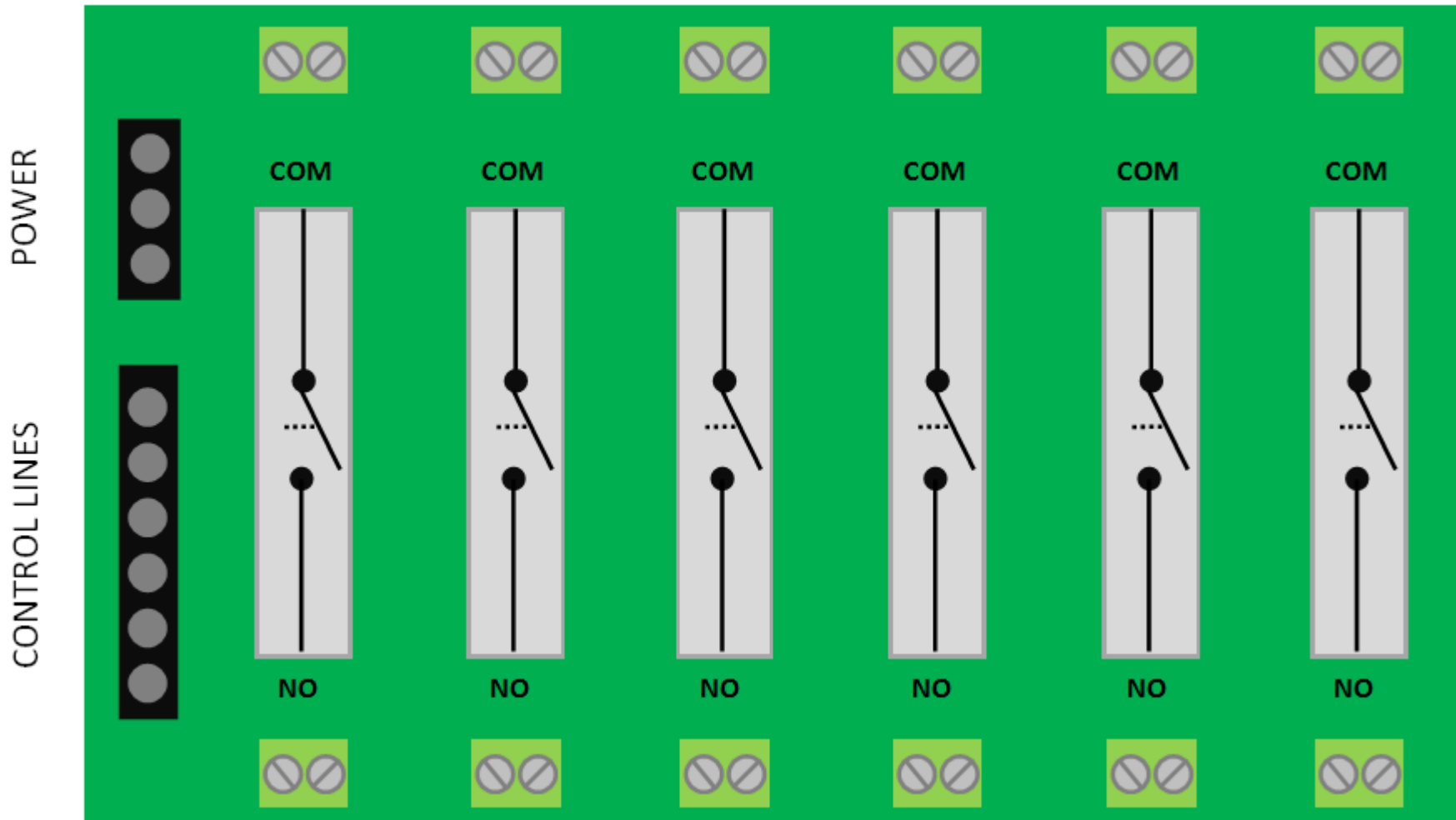


Figure 1 - HV Board Layout and Switching Logic