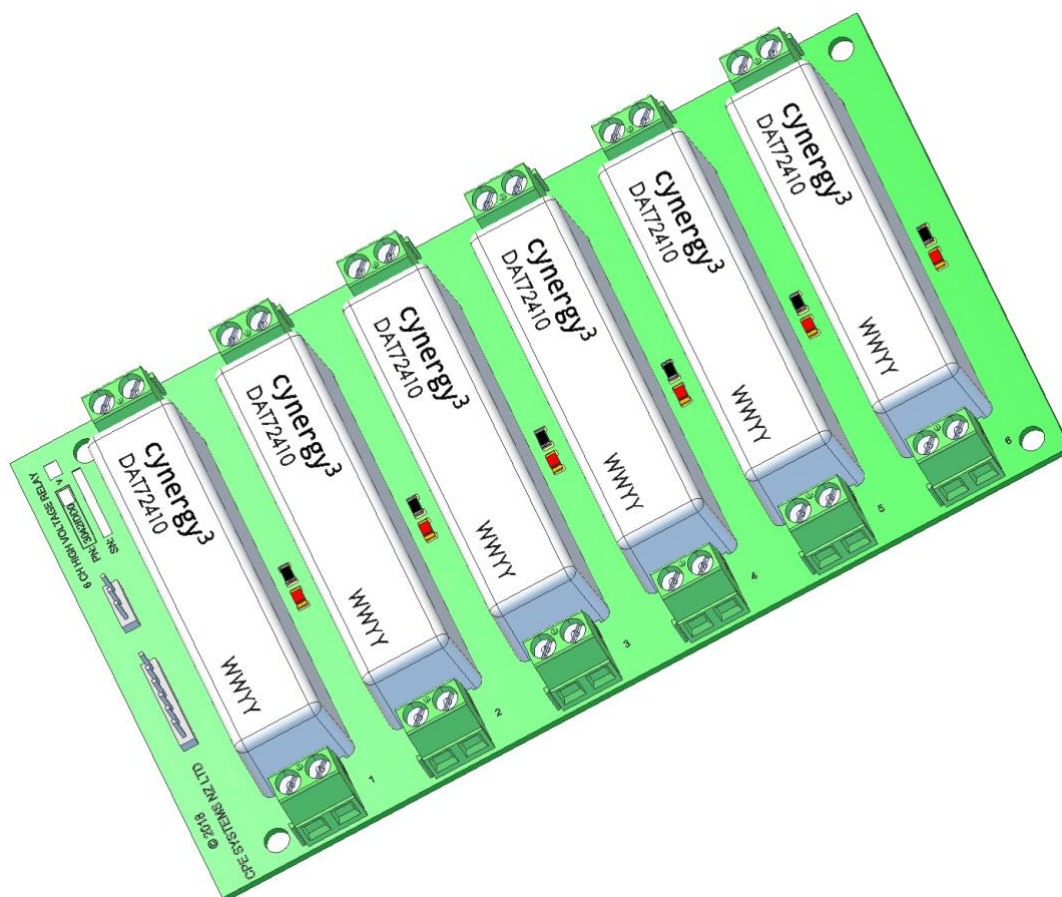


## DATA SHEET

# 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.



Document ID: 3042OPM001

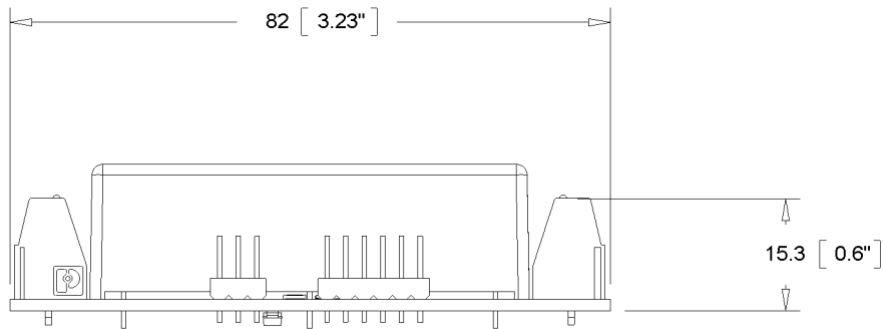
Date: 13/02/2018

Version: 0-0

# Dimensions and Board Layout

UNITS: mm [inch]

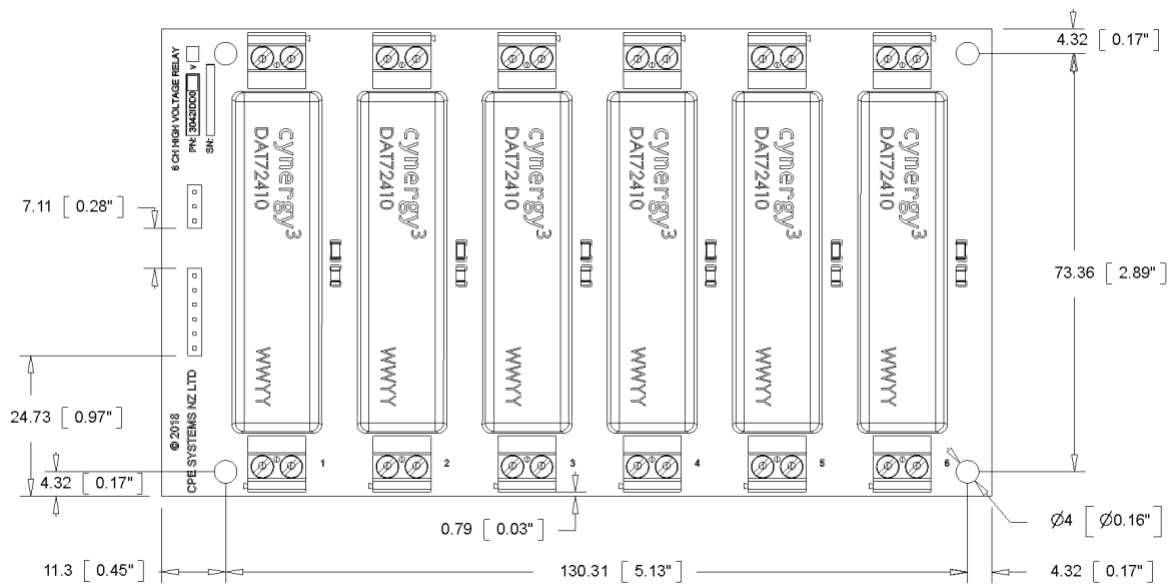
## Side View



## Front View



## Top View



# General Specifications

<b>Mechanical</b>		
Board Length	146mm	
Board Width	82mm	
Board Height	22.5mm	
Mounting Holes	4 @ 4mm Dia.	
PCB Thickness	1.6mm	
PCB Material	FR-4	
<b>Electrical</b>		
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 <sup>10</sup> 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 <sup>9</sup> Operations
	Mechanical Endurance 50W Switching	10x10 <sup>6</sup> Operations
Ambient Temperature	-20°C to +70°C	

# Series Specifications

<b>Order Code</b>	<b>3042IDD001</b>	
<b>Description Code</b> (Refer Key in <a href="#">Page 6</a> )	<b>24-HR-SPNO-06-D-CC</b>	
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

<b>Order Code</b>	<b>3042IDD002</b>	
<b>Description Code</b> (Refer Key in <a href="#">Page 6</a> )	<b>12-HR-SPNO-06-D-CC</b>	
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

<b>Order Code</b>	<b>3042IDD003</b>	
<b>Description Code</b> (Refer Key in <a href="#">Page 6</a> )	<b>5-HR-SPNO-06-D-CC</b>	
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

<b>Order Code</b>	<b>3042IDD004</b>	
<b>Description Code</b> (Refer Key in <a href="#">Page 6</a> )	<b>24-HR-SPNC-06-D-CC</b>	
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

<b>Order Code</b>	<b>3042IDD005</b>	
<b>Description Code</b> (Refer Key in <a href="#">Page 6</a> )	<b>12-HR-SPNC-06-D-CC</b>	
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

<b>Order Code</b>	<b>3042IDD006</b>	
<b>Description Code</b> (Refer Key in <a href="#">Page 6</a> )	<b>5-HR-SPNC-06-D-CC</b>	
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					

### HV INPUT/OUTPUTS

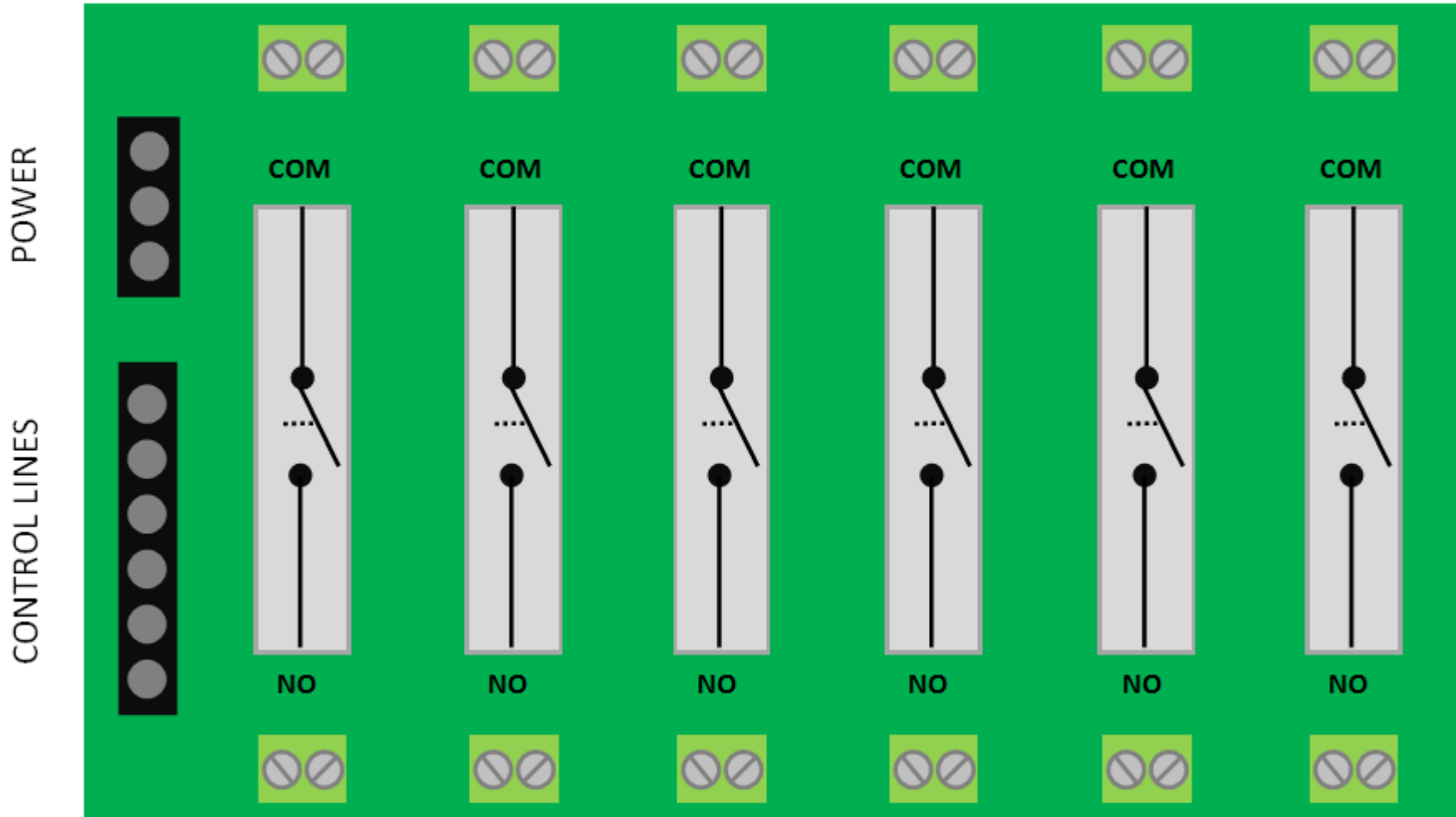


Figure 1 - HV Board Layout and Switching Logic