
DATA SHEET

Reed Relay - 8CH DPNO (16 line) Switcher 3041 Series

DESCRIPTION

The 3041 Series is an eight channel relay board series using through hole DPNO reed relays. This implementation is low cost and targeted at low noise signal switching or isolation. The boards will come with a choice of supply voltages. This datasheet shows the 8 channel 2 wire switching board.



Document ID: 3041OPM002

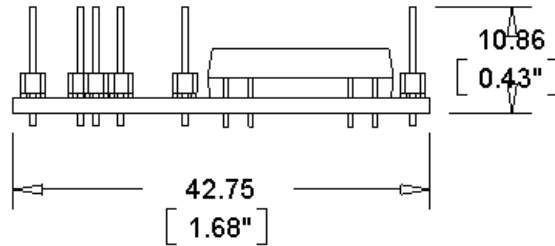
Date: 15/02/2018

Version: 0-0

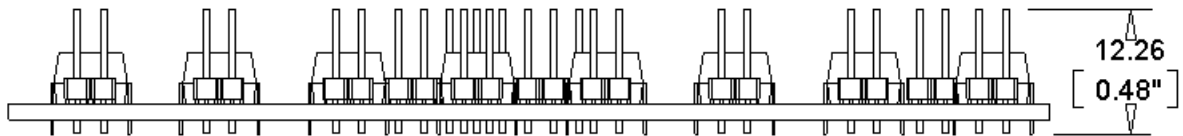
Dimensions and Board Layout

UNITS: mm [inch]

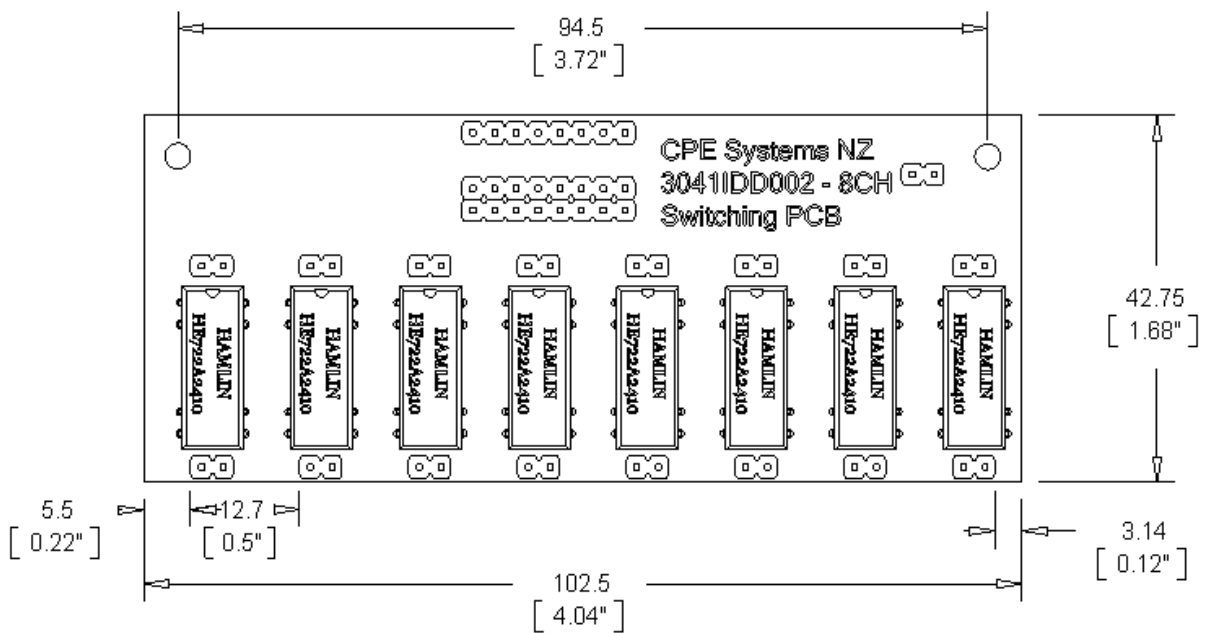
Side View



Front View



Top View



General Specifications

| Mechanical | | |
|--------------------------------------|---------------------------|-------------------------------|
| Board Length | | 103mm |
| Board Width | | 43mm |
| Board Height | | 15mm |
| Mounting Holes | | 2 @ 3.1mm Dia. |
| PCB Thickness | | 1.6mm |
| PCB Material | | FR-4 |
| Electrical | | |
| PCB Header Conductor | | Tin Coated Brass |
| Relay Contact Arrangement | | 2 form A |
| Relay Type | | Reed Contacts |
| Board and Relay Switching Ratings | Maximum Rated Power | 10W |
| | Maximum Switching Voltage | 200VDC |
| | Maximum Constant Current | 1.2A |
| | Maximum Switching Current | 0.5A |
| | Operate/ Release Time Max | 1ms |
| | Mechanical Endurance | 10x10 ⁶ Operations |
| Ambient Temperature | | -40°C to +85°C |
| Shock Resistance (destructive) | | 490 m/s ² (50G) |
| Vibration Resistance (functional) | | 10 to 2000 Hz (20G) |

Series Specifications

| | | |
|---|-----------------|---|
| Order Code | | 3041IDD007 |
| Description Code (Refer Key in Page 6) | | 24-LR-DPNO-08-D |
| Board Voltage Input | | 24V |
| Max. Board Power Required @ 24V All Channels ON | | 4.95 W |
| Leakage Current (All Channels Off) | | Leakage Current of Driving Device *8 Channels |
| Require Min. Driving Current per Channel @ Rated Coil Input Voltage (24V) | | 25.8mA (Sinking) |
| Relay Coil | Rated Voltage | 24V |
| | Operate Voltage | 16V |
| | Release Voltage | 2V |
| | Resistance | 2150 ohms |
| | Rated Power | 268mW |

| | | |
|---|-----------------|---|
| Order Code | | 3041IDD008 |
| Description Code (Refer Key in Page 6) | | 24-LR-DPNO-08-T |
| Board Voltage Input | | 24V |
| Max. Board Power Required @ 24V All Channels ON | | 4.73 W |
| Leakage Current (All Channels Off) | | 500µA per Channel 4mA Total (8 Channel TTL Driver) |
| Require Min. Driving Current per Channel @ Rated Coil Input Voltage (24V) | | 24.6mA |
| TTL Driving Signal Requirements | | I _{ON} = 1mA V _I = 3.85V |
| Relay Coil | Rated Voltage | 24V |
| | Operate Voltage | 16V |
| | Release Voltage | 2V |
| | Resistance | 2150 ohms |
| | Rated Power | 268mW |

| | | |
|---|-----------------|---|
| Order Code | | 3041IDD009 |
| Description Code (Refer Key in Page 6) | | 12-LR-DPNO-08-D |
| Board Voltage Input | | 12V |
| Max. Board Power Required @ 12V All Channels ON | | 3.70 W |
| Leakage Current (All Channels Off) | | Leakage Current of Driving Device *8 Channels |
| Require Min. Driving Current per Channel @ Rated Coil Input Voltage (12V) | | 38.6mA (Sinking) |
| Relay Coil | Rated Voltage | 12V |
| | Operate Voltage | 8V |
| | Release Voltage | 1V |
| | Resistance | 500 ohms |
| | Rated Power | 288mW |

| | | |
|---|-----------------|---|
| Order Code | | 3041IDD010 |
| Description Code (Refer Key in Page 6) | | 12-LR-DPNO-08-T |
| Board Voltage Input | | 12V |
| Max. Board Power Required @ 12V All Channels ON | | 3.37 W |
| Leakage Current (All Channels Off) | | 500µA per Channel 4mA Total (8 Channel TTL Driver) |
| Require Min. Driving Current per Channel @ Rated Coil Input Voltage (12V) | | 35.1mA (Sinking) |
| TTL Driving Signal Requirements | | I _{ON} = 1mA V _I = 3.85V |
| Relay Coil | Rated Voltage | 12V |
| | Operate Voltage | 8V |
| | Release Voltage | 1V |
| | Resistance | 500 ohms |
| | Rated Power | 288mW |

| | | |
|--|-----------------|---|
| Order Code | | 3041IDD011 |
| Description Code (Refer Key in Page 6) | | 5-LR-DPNO-08-D |
| Board Voltage Input | | 5V |
| Max. Board Power Required @ 5V All Channels ON | | 1.61 W |
| Leakage Current (All Channels Off) | | Leakage Current of Driving Device *8 Channels |
| Require Min. Driving Current per Channel @ Rated Coil Input Voltage (5V) | | 40.2mA (Sinking) |
| Relay Coil | Rated Voltage | 5V |
| | Operate Voltage | 3.75 V |
| | Release Voltage | 0.5V |
| | Resistance | 200 ohms |
| | Rated Power | 125mW |

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|--|-----------------|---|
| Order Code | | 3041IDD012 |
| Description Code (Refer Key in Page 6) | | 5-LR-DPNO-08-T |
| Board Voltage Input | | 5V |
| Max. Board Power Required @ 5V All Channels ON | | 1.20 W |
| Leakage Current (All Channels Off) | | 500µA per Channel 4mA Total (8 Channel TTL Driver) |
| Require Min. Driving Current per Channel @ Rated Coil Input Voltage (5V) | | 29.9mA (Sinking) |
| TTL Driving Signal Requirements | | I _{ON} = 1mA |
| | | V _I = 3.85V |
| Relay Coil | Rated Voltage | 5V |
| | Operate Voltage | 3.75 V |
| | Release Voltage | 0.5V |
| | Resistance | 200 ohms |
| | Rated Power | 125mW |

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 | | | | | |

CONTROL LINES

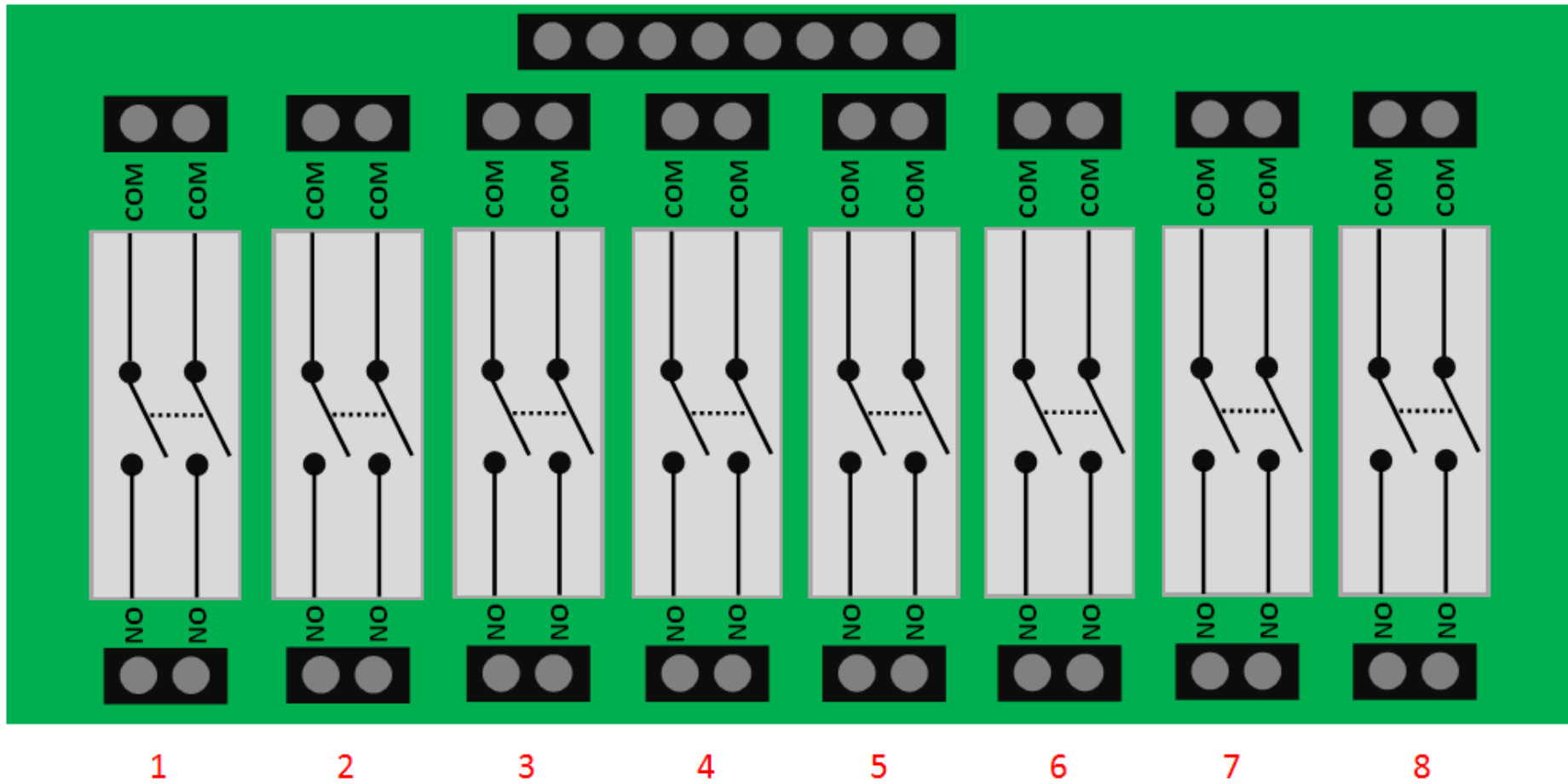


Figure 1 - Board Switching Logic - 8 Channels