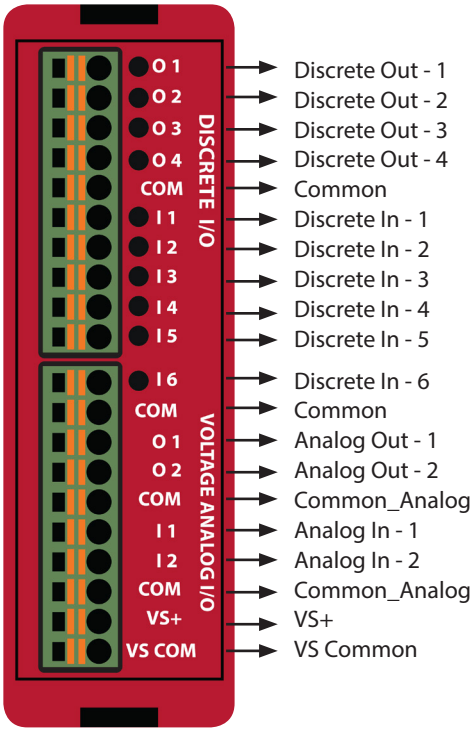
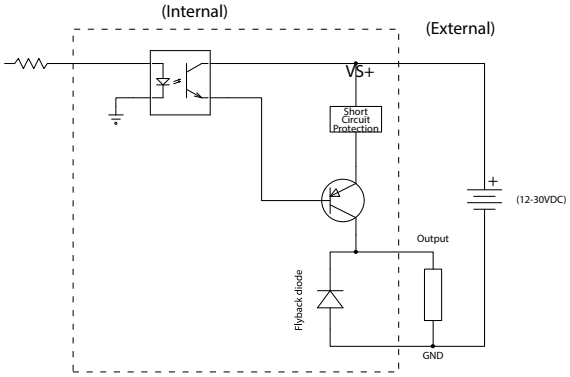
EZ I/O™ Combo Discrete and Analog Voltage Module

EZRPL-IO-6DI4DO-2ANI2ANOV

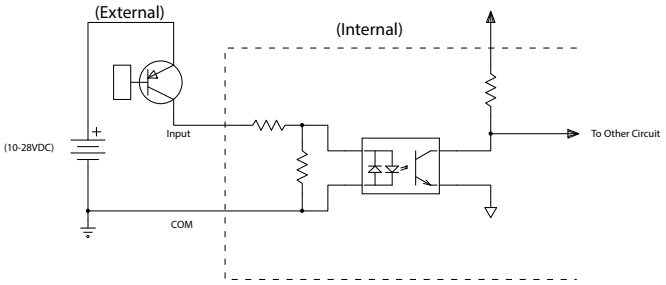
- Combination Discrete I/O and Analog I/O Module
- 4 pt. Discrete Output and 6 pt. Diecrete Input
- 2 Analog Ouput independently selectable range (0-5V, ±5V, 0-10V, ±10V)
- 2 Analog Input independently selectable range (0-5V, ±5V, 0-10V, ±10V)



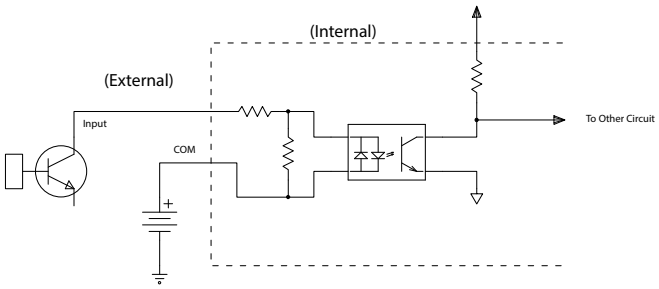
DISCRETE OUTPUT



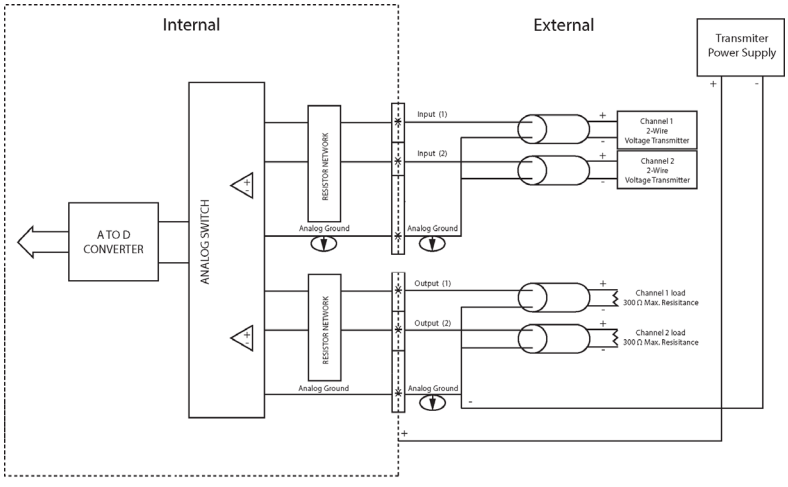
DISCRETE INPUT (Source)



DISCRETE INPUT (Sink)



Analog Output and Input



Module Specifications	
Operating Temperature	-20 °C to 60 °C
Storage Temperature	-20 °C to 70 °C
Relative Humidity	5 to 95 %
Removable Terminal Block	300 Volt/8 Amp/ 14 AWG UL Rating
Vibration	MIL STD 810C 514.2
Shock	MIL STD 810C 516.2
Noise Immunity	NEMA ICS3-304

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Discrete Output Specifications	
Number of Outputs	4 sourcing
Output Voltage Range	11-30 VDC
Peak Voltage	50 VDC
Maximum Steady State Output Current	0.1A per output, 0.4A max per module @ 50°C
Maximum Leakage Current	100µA @ 50 VDC @ 50°C
ON Voltage Drop	2 VDC @ 0.5A
Maximum Inrush Current	0.8A for 10ms
OFF to ON Response	< 2µs
ON to OFF Response	<10µs
Status Indicators	Red LED for each output
+V Terminals & Commons	One V^+, 3 Commons Separate
Short Circuit Protection	1 Amp per module, turns off outputs upon short circuit detection
Base Power Required (5V)	80mA, all outputs on
Optical Isolation	2500 Volt
Wires	14 to 24 AWG

Discrete Input Specifications	
Number of Inputs	6 Sink/Source
Input Voltage Range	11 - 30 VDC
Peak Voltage	40 VDC
Input Current	1.92 mA @ 12 VDC 4.0 mA @ 24 VDC
Maximum Input Current	5 mA @ 28 VDC
Input Impedance	5.6k @ 10-28 VDC
ON Voltage Level	> 10 VDC
OFF Voltage Level	< 2 VDC
Min. ON Current	1.5 mA
Min. OFF Current	0.2 mA
OFF to ON Response	2-4 ms, typical 3 ms
ON to OFF Response	2-4 ms, typical 3 ms
Status Indicators	Red LED for Source Green LED for Sinking
Commons	1 point (Common_In)
Base Power Required (5V)	Typical 30mA (all inputs on)
Optical Isolation	2500 Volt
Wires	14 to 24 AWG

Analog Voltage Input Specifications	
Number of Channels	2 single ended
Input Range	0-5V, 0-10V, ±5V, ±10V Jumper Selectable
Resolution	12 bit (0-4095) 12 bit (±2047)
Step Response	200µs to 95% of FS
Crosstalk	1/2 count max, -80db
Input Impedance	>20KΩ
Absolute Max Ratings	± 15V
Converter Type	successive approximation
Linearity Error (end to end)	± 2 count
Input Stability	± 2 count
Gain Error	± 2 counts
Offset Calibration Error	± 5 counts max. (Unipolar) ± 8 counts max. (Bipolar)
Max Inaccuracy	± 0.2% at 25°C, ± 0.4% at 0-60°C
Accuracy vs. Temperature	± 50 ppm/°C typical

Analog Voltage Output Specifications	
Number of Channels	2 single ended
Output Range	0-5V, 0-10V, ±5V, ±10V Jumper Selectable
Resolution	12 bit (0-4095) 12 bit (±2047)
Conversion Setting Time	100 µs for FS
Crosstalk	1/2 count max, -80db
Peak Output Voltage	± 18 VDC
Offset Error	± 0.15% of range
Gain Error	± 0.3% of range
Linearity Error (end to end)	± 1 count
Output Stability	± 2 counts
Load Impedance	2k Ω min.
Load Capacitance	.01 microF max
Accuracy vs. Temperature	± 50 ppm/C typical

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Setting the Module Jumpers

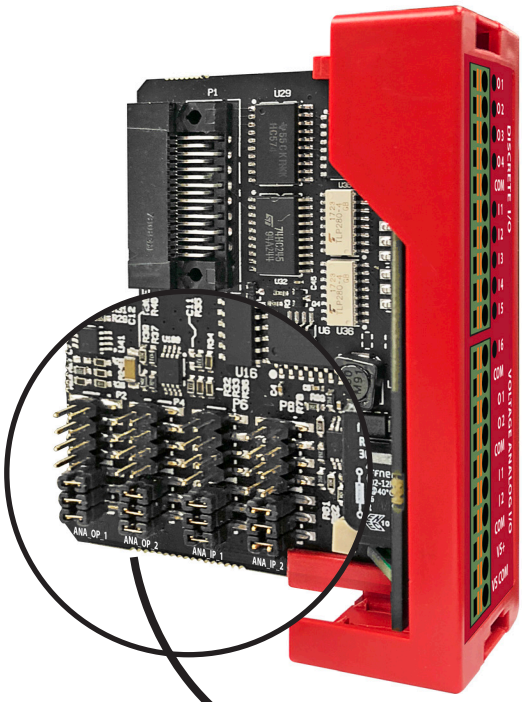
The Analog Input and Output module uses jumpers for selecting the voltage for each channel. The range of each channel can be independently set. Available operating ranges are 0-5V, 0-10V, ±5V and ±10V. Standard Unipolar voltage ranges accept a data format of 0-4095 while standard Bipolar ranges accept ±2047

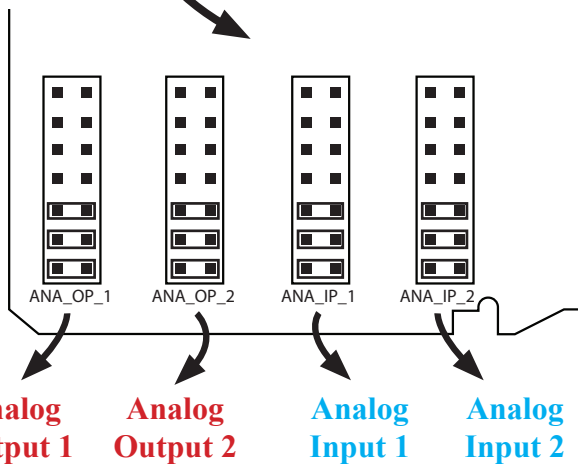
There are three jumpers for each channel. Install or remove these jumpers to select the desired range. Unused jumpers can be stored on a single pin so they do not get lost.

Three jumpers are placed default for 0-10V Analog Input and Output, select your desired jumper settings to either Bipolar or Unipolar input and/or output.

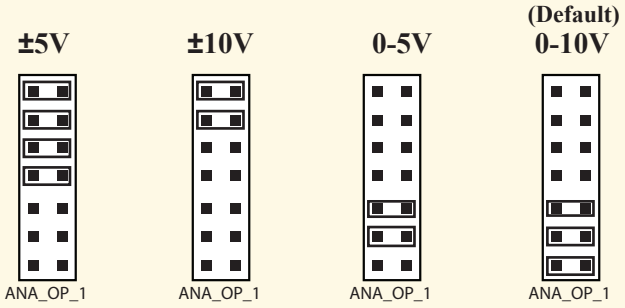
Note: It is important to set the module jumpers correctly. The module will not operate correctly if the jumpers are not properly set for the desired voltage ranges.

This figure shows the jumper locations. See the below drawing to determine the proper settings for your application.

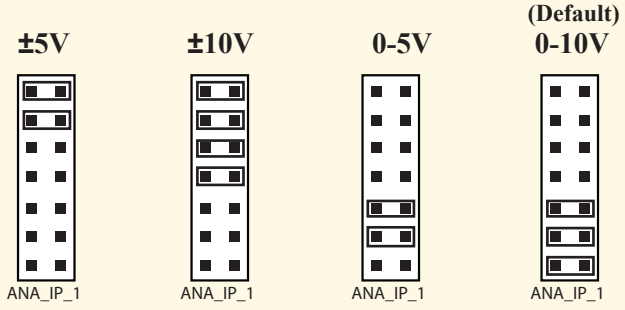


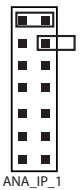


Analog Output Jumper settings



Analog Input Jumper settings





Note: Store unused jumpers on a single pin as shown in the drawing here so they do not get lost..