Tracker Input Wiring Verification

Summary

The Tracker is capable of 3 input types. Run/Idle, Counters and Analog. Each input pairing is capable of all three input types, but some are limited to one occurrence per Tracker. Each digital input (Run/Idle, Counter, Scrap Counter) will be limited in occurrences while analog inputs can be used without limits of occurrences.

Dry Contacts

Dry contacts like relays and buttons are the simplest way to drive the digital inputs. Dry contact is a contact loop that is isolated from a power source.
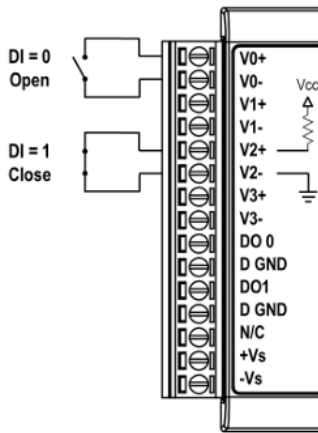

Figure 1 – Dry contact wiring.

NPN

NPN has worked in an open collector configuration. The low voltage for the npn switch needs to be 0.25 volts or lower.

Counting

The maximum rate of counting is just below 45 Cycles per Minute (CPM). After long-term testing there were considerably less losses at a slightly slower rate of 40 CPM. Therefore, a recommended max rate of 40 CPM may be ideal to bring count losses down to 0.001% over longer periods of sampling (approximately 1 count lose every 29 hrs.).

The following outputs were used successfully to drive the Tracker digital inputs (both npn and count):

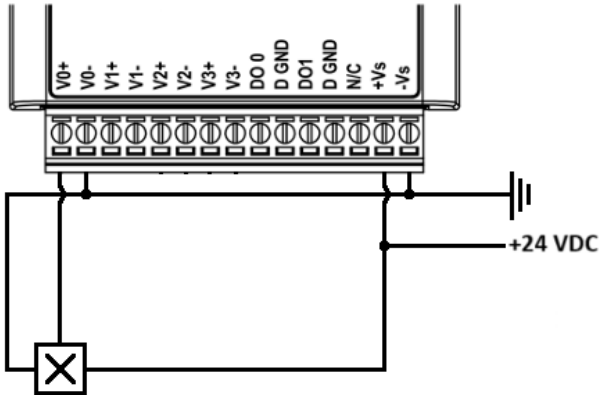- The latching magnetic cam switch (DA51721). See figure 2.

Figure 2 – Magnetic cam switch wiring.

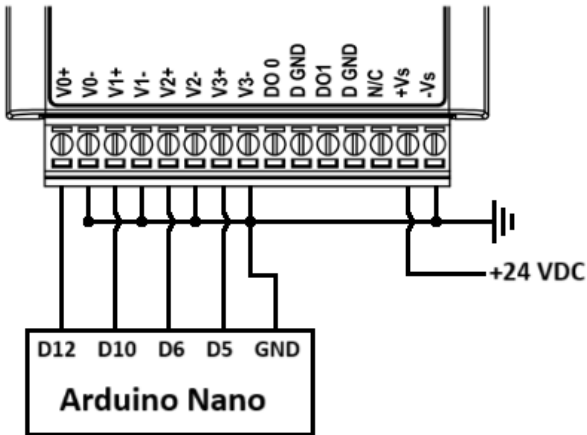- Output of an Arduino (NPN open collector). See figure 3.

Figure 3 - Arduino Wiring

Analog

0-10 VDC, 0-5 VDC

Pressure sensor, temperature sensor, and current sensor.