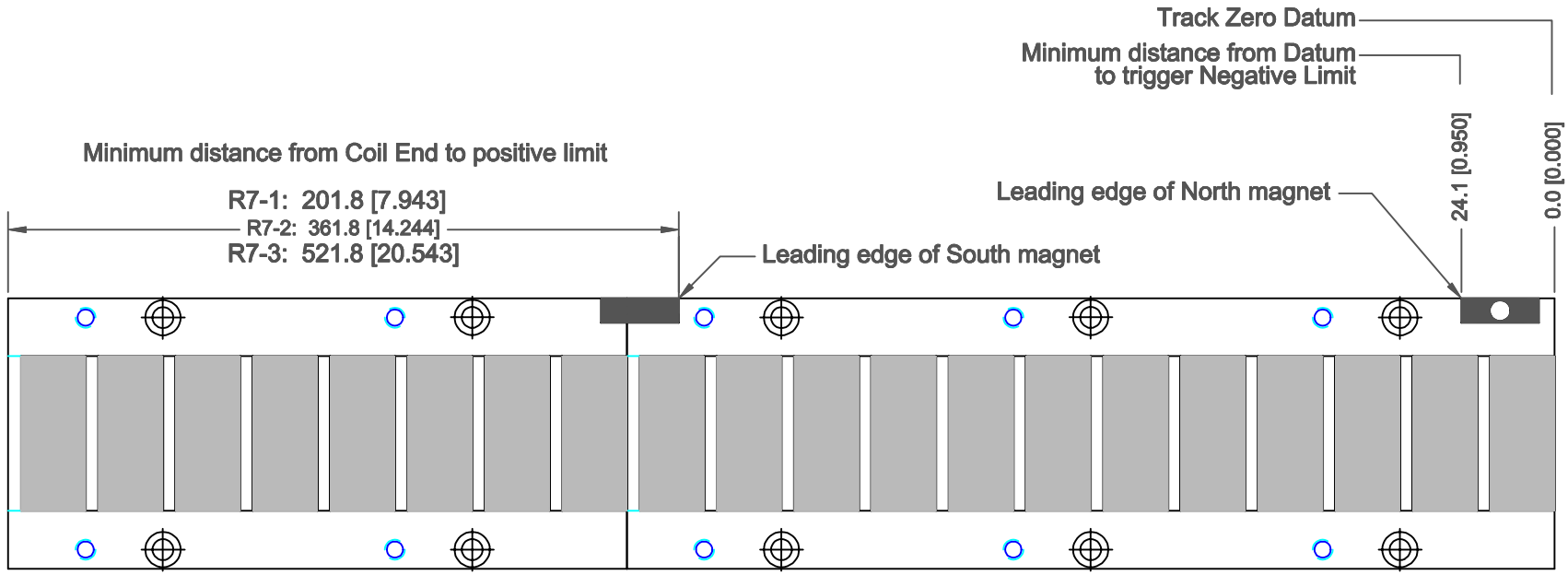
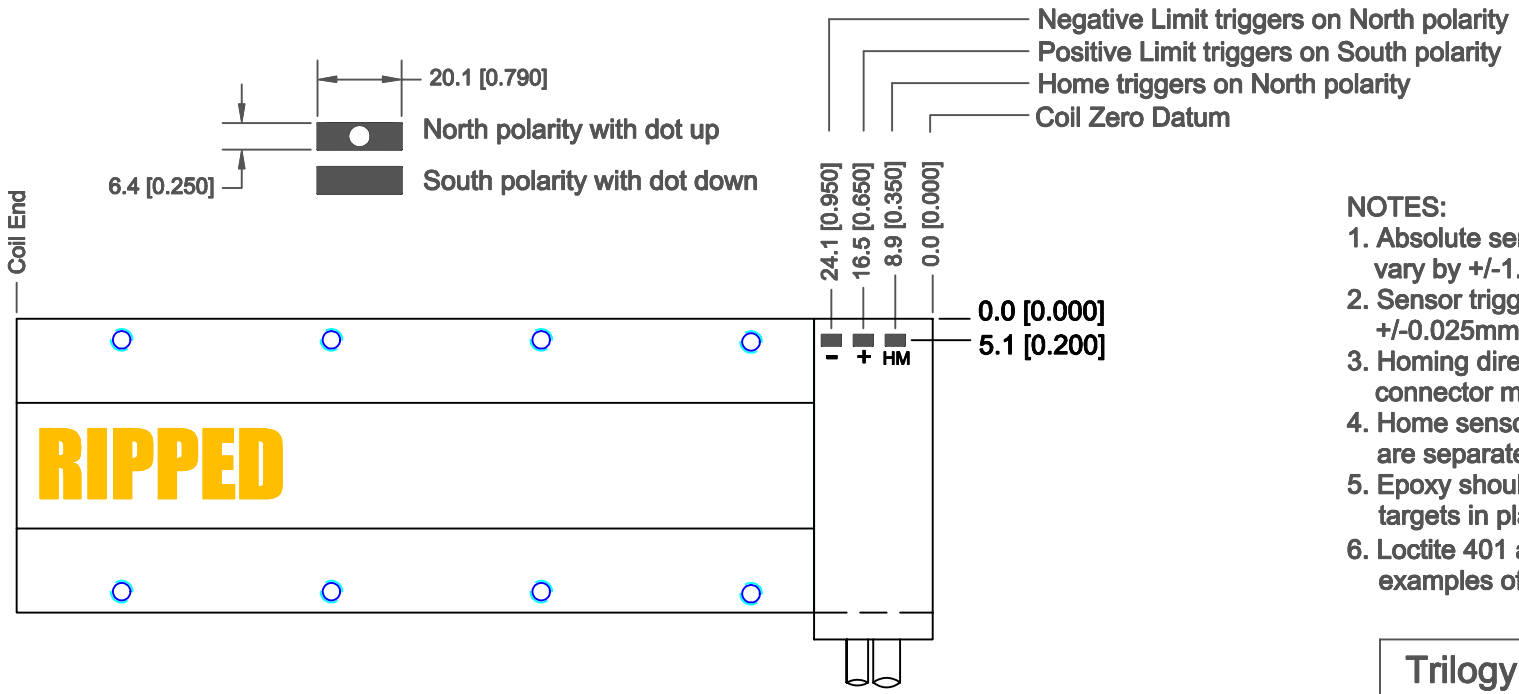
Limit Switch Target Locations

Motor Series: R7 or G4
Connector Module: R7-HED-xx or G4-HED-xx
Magnet Target P/N: MLT1





NOTES:

1. Absolute sensor trigger point may vary by +/-1.0mm (0.039").
2. Sensor trigger point repeatability is +/-0.025mm (+/-0.001")
3. Homing direction is towards the motor connector module.
4. Home sensor and negative limit sensor are separated by 15.2mm (0.60")
5. Epoxy should be used to secure magnet targets in place.
6. Loctite 401 and Permabond 940 are examples of suitable epoxies.

Trilogy Systems Corp.
Document: R7_MLT_040321_1

REVISION	DESCRIPTION	DATE
B	ADDED NOTES FOR REV D Board	7/25/2006

Limit Switch Target Locations

Motor Series: R10 or R16
Connector Module: R10-HED-xx or R16-HED-xx
Magnet Target P/N: MLT-1

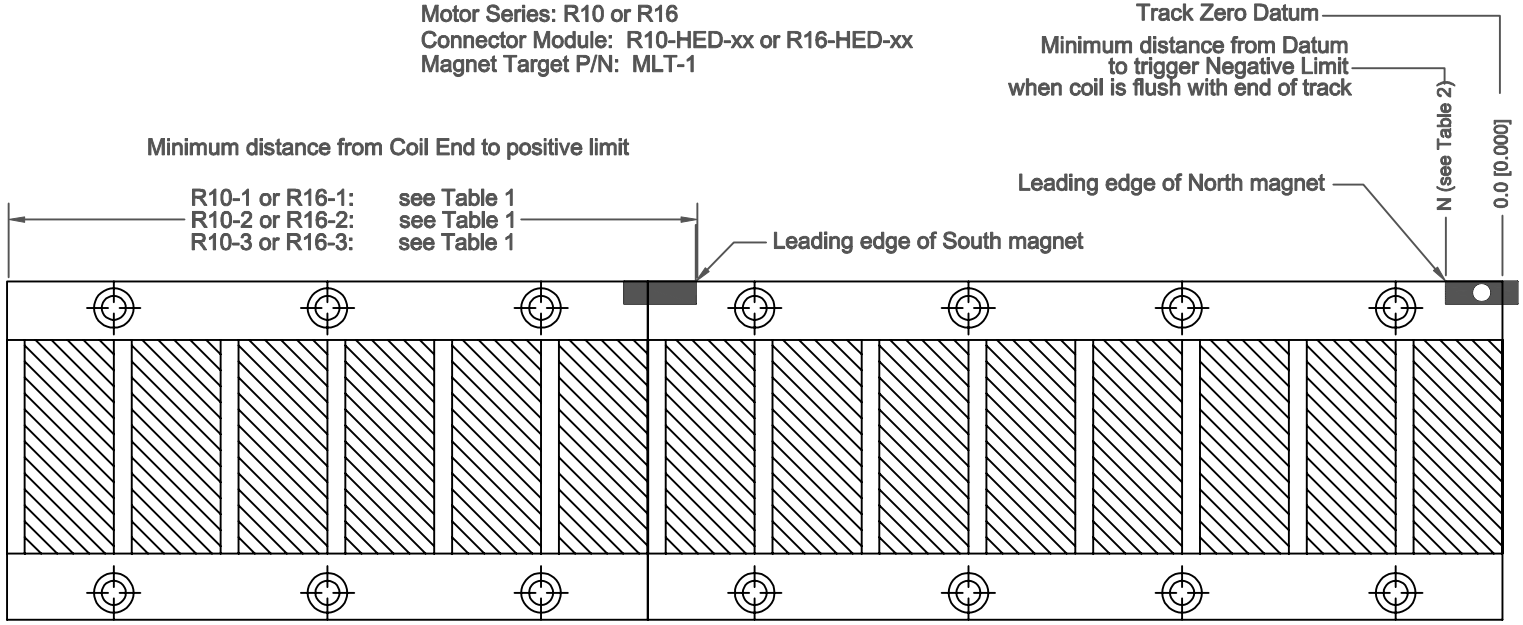


Table 1

REV C Board

	mm	in
-1	295.3	[11.626]
-2	535.3	[21.075]
-3	775.3	[30.524]

REV D Board

	mm	in
-1	301.8	[11.879]
-2	541.8	[21.328]
-3	781.8	[30.777]

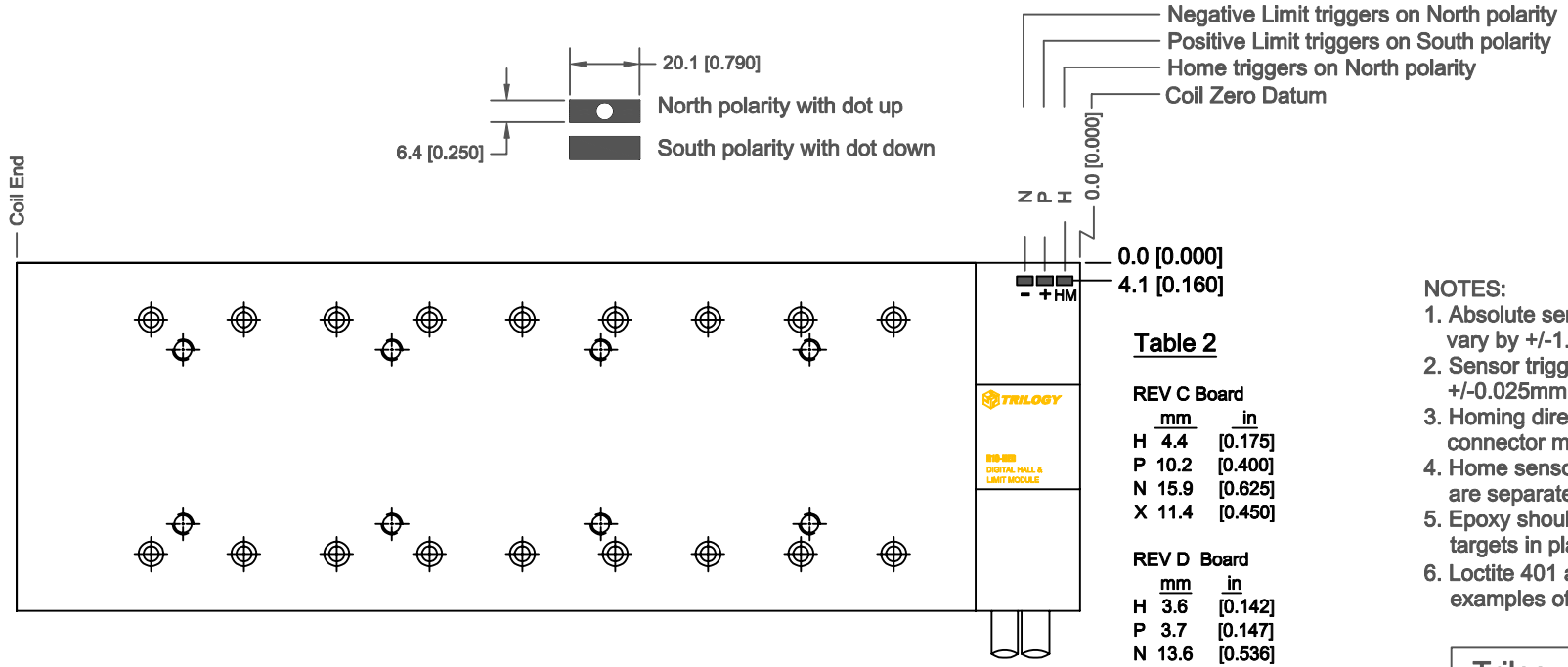


Table 2

REV C Board

	mm	in
H	4.4	[0.175]
P	10.2	[0.400]
N	15.9	[0.625]
X	11.4	[0.450]

REV D Board

	mm	in
H	3.6	[0.142]
P	3.7	[0.147]
N	13.6	[0.536]
X	10.0	[0.394]

NOTES:
1. Absolute sensor trigger point may vary by +/-1.0mm (0.039").
2. Sensor trigger point repeatability is +/-0.025mm (+/-0.001")
3. Homing direction is towards the motor connector module.
4. Home sensor and negative limit sensor are separated by 'X' (see Table 2)
5. Epoxy should be used to secure magnet targets in place.
6. Loctite 401 and Permabond 940 are examples of suitable epoxies.

Trilogy Systems Corp.
Document: R10_R16_MLT-1 REV B

Digital Hall Notes:

The digital hall effect circuit is electrically isolated from the optical limit circuit.
+5 to +15 Vdc is required from HALL_PWR (P1–10) to HALL_GND (P1–11) to power the hall effects.
The hall effect outputs are NPN open collector (sinking) rated at 10 mA, 15 V max.
The hall effect phasing and color code is specified in the Trilogy standard forward timing diagram.

Magnetic Limits Notes:

The limit circuit is electrically isolated from the digital hall circuit.
+5 to +24 Vdc is required from LIMIT_PWR (P1–1) to LIMIT_GND (P1–2).

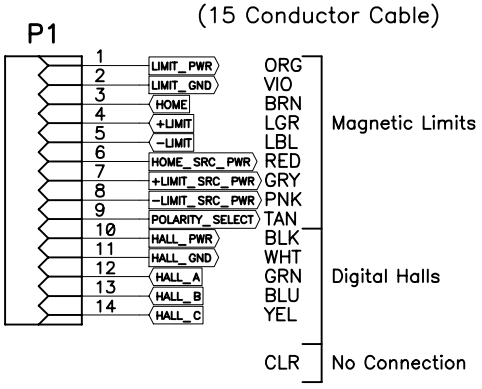
The limit outputs are full drivers. They can both sink (NPN) and source (PNP) current.
Each limit output has a corresponding source power pin. Each output will be pulled to the voltage level on its source power pin when sourcing.
If sourcing is not required the source power pin for any limit output may be left unconnected.
If a source power pin is left unconnected then its corresponding limit output will only be a sinking (NPN type) output.
The source power pins can be connected to any voltage up to +24 Vdc. The voltages powering the limits and each of the source power pins are completely independent and may be any combination up to their rated limits.

Each limit output is rated at 24 Vdc and 25 mA (sink or source) MAX.

DEFAULT LIMIT OUTPUT POLARITY:
The limit outputs are pulled low (to LIMIT_GND) when the sensor IS NOT on a limit magnet.
The limit outputs are pulled high (to their source power pin) when the sensor IS on a limit magnet (if the source power pin IS connected).
The limit outputs are floating (open collector) when the sensor IS on a limit magnet (if the source power pin IS NOT connected).

ALTERNATE LIMIT OUTPUT POLARITY:
The limit output polarity for all limits can be inverted by connecting POLARITY_SELECT (P1–9) to LIMIT_GND (P1–2).
Inverting the limit output polarity will make the outputs behave as described above in the "Default Limit Output Polarity" section except that regions with limit magnets and regions without limit magnets will be exchanged. If the alternate polarity is NOT desired, do NOT connect POLARITY_SELECT to anything. Leave it floating. Make sure it does not short the the shield.

Color Code
(15 Conductor Cable)



Connector Notes:

Mating connector for P1 is
Hirose Electric part # DF11–14DS–2C (DigiKey # H2140).

Tin crimp terminals for 24–28 AWG wire is
Hirose Electric part # DF11–2428SC (DigiKey # H2139).

Title	Gx/Rx–HED Board	
Size: A	Number: I/O Pinout	Rev: C
Date: 2–10–04	Drawn by: David Hoffman	
Filename: Gx–Rx–HED–C.sch	Sheet 3 of 3	