

TR3 Heavy Duty Tru-Trac™

Encoder and Spring Loaded Measuring Wheel



An integrated heavy duty encoder and spring loaded measuring wheel assembly all in one, easy-to-use, compact unit. Available in a single, or optional dual-wheel format, the TR3 Heavy Duty Tru-Trac™ is a versatile solution for tracking velocity, position or distance over a wide variety of surfaces in almost any industrial application.

Its spring loaded torsion arm provides a simple-to-adjust torsion load, allowing the TR3 Heavy Duty Tru-Trac[™] to be mounted in any orientation, even upside-down. The TR3 Heavy Duty Tru-Trac[™] housing is an all metal work horse, specifically designed to take on your toughest application environments at operating speeds up to 3000 feet per minute. Just one look and it's easy to see the TR3 Heavy Duty Tru-Trac[™] is the ideal solution for countless applications.

Key Features

- Heavy Duty Encoder And Measuring Wheel Solution Integrated Into One Industrial Strength Unit
- Spring Loaded Torsion Arm Makes Wheel Pressure Adjustments A Snap
- Easily Installed In A Vertical, Horizontal, or Upside-Down Orientation
- Operates Over A Variety Of Surfaces At Speeds Up To 3000 Feet Per Minute
- · Integrated Module Simplifies Your System Design, Reducing Cost

Applications

- Lumber
- Corrugated
- Converting
- Metal Roll Forming
- · Paper Monitoring
- Glue Dispensing

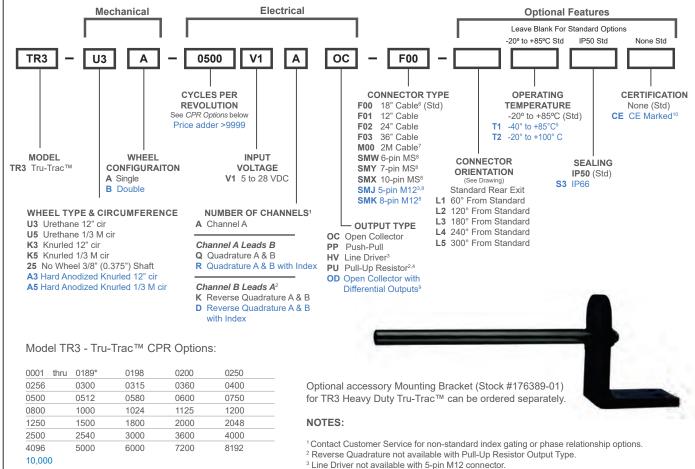
- Linear Material Monitoring
- Conveyor Systems
- Printing
- Labelling
- Mining
- Construction





Ordering Information

Blue type indicates price adder options. Not all configuration combinations may be available

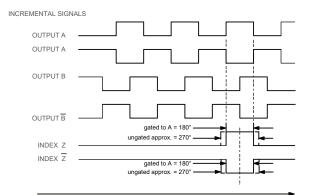


*Contact Us For Availability

New CPR values are periodically added to those listed. Contact us to determine all currently available values. Special disk resolutions are available upon request and may be subject to a one-time NRE

- With Input Voltage above 16 VDC, operating temperature is limited to 85° C.
- ⁵ For mating connectors, cables, and cordsets visit www.encoder.com. For Connector Pin Configuration Diagrams visit www.encoder.com.
- ⁶ For non-standard English cable lengths enter 'F' plus cable length expressed in feet. Example: F06 = 6 feet of cable. Frequency above 300 kHz standard cable lengths only.
- ⁷ For non-standard metric cable lengths enter 'M' plus cable length expressed in meters. Example: M06 = 6 meters of cable.
- ⁸ Body Mount connector options only available with connector orientation L1 thru L5.
- Rated to -40° C during encoder operation. Storage and startup below -25° C not recommended.
- 10 Please refer to Technical Bulletin TB100: When to Choose the CE Mark at www.encoder.com

Waveform Diagrams



CLOCKWISE ROTATION AS VIEWED FROM THE SINGLE WHEEL SIDE

NOTE: ALL DEGREE REFERENCES ARE ELECTRICAL DEGREES WAVEFORM SHOWN WITH OPTIMAL COMPLEMENTARY SIGNALS A, B, Z FOR HV AND OD OUTPUTS ONLY

Wiring Table

For EPC-supplied mating cables, refer to wiring table provided with cable

Function	Gland Cable [†] Wire Color	5-pin M12**	8-pin M12**	10-pin MS	7-pin MS HV, OD	7-pin MS PU, PP, OC	6-pin MS PU, PP, OC
Com	Black	3	7	F	F	F	A, F
+VDC	White	1	2	D	D	D	В
Α	Brown	4	1	А	А	А	D
A'	Yellow		3	Н	С		
В	Red	2	4	В	В	В	Е
B'	Green		5	I	E		
Z	Orange	5	6	С		С	С
Z'	Blue		8	J			
Case				G	G	G	
Shield	Bare*						

^{*}CE Option: Cable shield (bare wire) is connected to internal case.

^{**}CE Option: Use cable cordset with shield connected to M12 connector coupling nut



[†]Standard cable is 24 AWG conductors with foil and braid shield.



Specifications

Electrical

4.75 to 28 VDC max for temperatures up to 85°C Input Voltage

4.75 to 24 VDC for temperatures between 85°C to

100°C

Input Current 100 mA max (65 mA typical) with no output load

Output Format Incremental- Two square waves in quadrature with

channel A leading B for clockwise shaft rotation,

as viewed from the wheel side. See Waveform

Diagrams below.

Output Types Open Collector- 20 mA max per channel

Push-Pull- 20 mA max per channel Pull-Up- Open collector with 2.2K ohm Pull-Up 20mA max per channel

Line Driver- 20 mA max per channel (Meets RS

422 at 5 VDC supply)

Index Once per revolution. 0190 to 10,000 CPR: Gated to output A

0001 to 0189 CPR: Ungated See Waveform

Diagrams below.

Max. Frequency Standard Frequency Response is:

> 200 kHz for CPR 1 to 2540 500 kHz for CPR 2541 to 5000

> 1 MHz for CPR 5001 to 10,000

Extended Frequency Response (optional) is 300 kHz for CPR 2000, 2048, 2500, and 2540

Tested to BS EN61000-6-2; BS EN50081-2; BS

EN61000-4-2; BS EN61000-4-3; BS EN61000-4-6,

BS EN500811

Symmetry Quad. Phasing Min. Edge Sep

Noise Immunity

180° (±18°) electrical 90° (±22.5°) electrical 67.5° electrical

Accuracy Within 0.017° mechanical or 1 arc-minute from

true position. (for CPR>189)

Mechanical

Max Linear Speed 3000 FPM not to exceed a maximum shaft speed

of 6000 RPM.

Stainless Steel **Shaft Material Shaft Size** 00.375"

Radial Shaft Load Up to 10 lb max. Controlled by spring torsion

feature

Starting Torque 1.0 oz-in typical with IP50 seal

2.5 oz-in typical with IP66 seal and single wheel 4.0 oz-in typical with IP66 seal and dual wheel

Electrical Connection 18" cable (foil and braid shield, 24 AWG

conductors)

Mounting 5/8" diameter thru hole with clamp

Powder coated aluminum Housing

Wheel Width 3/4" standard

Weight 2.5 lb typical with single wheel 3.0 lb typical with

dual wheel

Environmental

-20° to +85° C for standard models **Operating Temp**

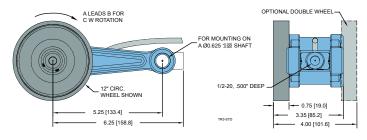
-40° to +85° C for low temperature option -20° to +100° C for high temperature option

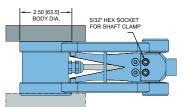
Storage Temp -25° to +85° C

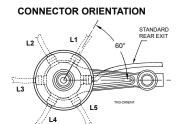
Humidity 98% RH non-condensing Vibration 10 g @ 58 to 500 Hz 80 g @ 11 ms duration Shock Sealing IP50 standard; IP66 available

Dimensions

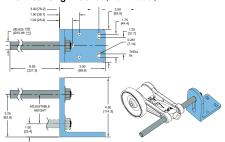
Model TR3 - Heavy Duty Tru Trac™







Model TR3 Mounting Bracket (Order #176389-01)



Model TR3 Double Wheel Pivot (Order #176391-01)

