

TROOPER[®] PRO

DIGITAL D.C. MOTOR CONTROL

The TROOPER[®] PRO Series is a microprocessor based D.C. motor control. It provides full-wave, four-quadrant regenerative speed or torque control for 1/8-2 HP shunt wound and permanent magnet D.C. motors.

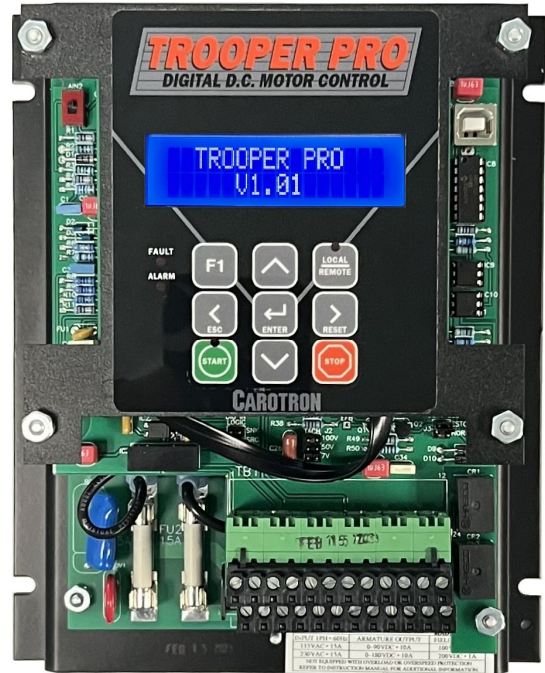
Many years of research and development by Carotron's engineering staff have culminated in a drive series that provides quality, accuracy, flexibility and user friendliness not found in any other drive in the market place. The resulting design is very capable of handling basic control algorithms along with advanced algorithms for system functions such as PID Dancer Controls, Center Winder Controls, Tension Controls, and Customized Control Functions to meet user requirements. The power section design follows the same conservative design practice that Carotron's customers have come to appreciate in all of our designs. The drive comes standard with an 11 key, 4 line, backlit LCD display. English text and menu screens with soft-keys simplify the drive programming and eliminates the need to memorize numeric codes. The programming can be protected via a password to prevent unwanted changes of drive parameters.

Models

- Chassis: TPR902-000
- Enclosed: TPR902-E00 (coming soon)

Standard Features

- Microprocessor/digital control
- USB connectivity standard
- Compatible with Carotron's free CaroLink software
- 9 button keypad with 2 line by 16 character display
- Local Run/Stop/Jog Control
- LED indicators for Run, Fault, Alarm, & Local mode
- Easy to navigate menu structure
- Same footprint as the analog Trooper[®] Series
- Application blocks for Winders, Unwinders, Dancers, Loadcells
- Regenerative action provides four quadrant speed control
- Isolated current and voltage feedback
- Armature feedback, Tachometer feedback, & Encoder feedback



- Encoder power supply, +12 VDC @ 100 mA, terminal strip accessible
- Inputs/Outputs
 - 5 Digital Inputs
 - 1 Analog Voltage Input
 - 1 Analog Voltage/Current Input (selectable)
 - 2 Relay Outputs
 - 2 Analog Voltage Outputs
- High frequency multi-pulse gating
- Conservative power module rating
- R-C decoupling of signal level inputs for superior noise rejection
- AC line fuses
- Line MOV and snubber for transient protection
- Power On/Off switch for control circuit (enclosed models only)

Options

- C14757-000: Modbus/TCP Option Card
- C14757-001: Ethernet/IP Option Card


Driven by Excellence

Specifications

A.C. Input Voltage Range

- 1 phase, 115-230VAC \pm 10%, 50/60Hz \pm 2 Hz, 15A

Armature Output

- 0-90VDC @ 115VAC input
- 0-180VDC @ 230VAC input

Field Output

- 50/100VDC, 1A @ 115VAC input
- 100/200VDC, 1A @ 230VAC input

Horsepower Range

- 1/8-1HP @ 90VDC
- 1/4-2HP @ 180VDC

Power Supplies

- +24 VDC (TB1-1): 50mA
- +15 VDC (TB1-10): 50mA
- +10 VDC (TB1-4): 50mA

Digital Inputs (Qty: 5)

- Sink Mode
 - V_{ih} =20.0 VDC max
 - V_{il} =0.0 VDC min to 17.0 VDC max
- Source Mode
 - V_{ih} =8.0 VDC min to 30.0 VDC max
 - V_{il} =5.0 VDC max
- Current Consumption
 - 5mA each (with 24V supply)

Analog Inputs (Qty: 2)

- Voltage Mode
 - Max Input: \pm 11 VDC
 - Input Impedance: 100K Ω
- Current Mode (AI2 only)
 - Max Input: \pm 22 mADC
 - Input Impedance: 150 Ω
- Resolution: 12 bit

Encoder Feedback/Frequency Input

- Frequency: 50kHz max, square wave
- Uni-directional (single channel)
- Single ended
- Voltage: 15 VDC max
- V_{il} =0.0 VDC to 1.5 VDC max
- V_{ih} =2.5 VDC min to 15.0 VDC max

Tach Feedback/High Voltage Analog Input

- Max Input: \pm 200 VDC

Relay Outputs (Qty: 2)

- 2 A @ 115 VAC (resistive)
- 2 A @ 60 VDC (resistive)
- 1 Form A, 1 Form C

Analog Outputs (Qty: 2)

- \pm 10 VDC max, 20mADC max
- Resolution: 12 bit

Speed Regulation

- Armature Feedback: \pm 0.5% of base speed
- Tachometer Feedback: \pm 0.25% of base speed
- Encoder Feedback: \pm -0.25% of base speed

Torque Regulation

- \pm 1% of Range Selected

Speed Range

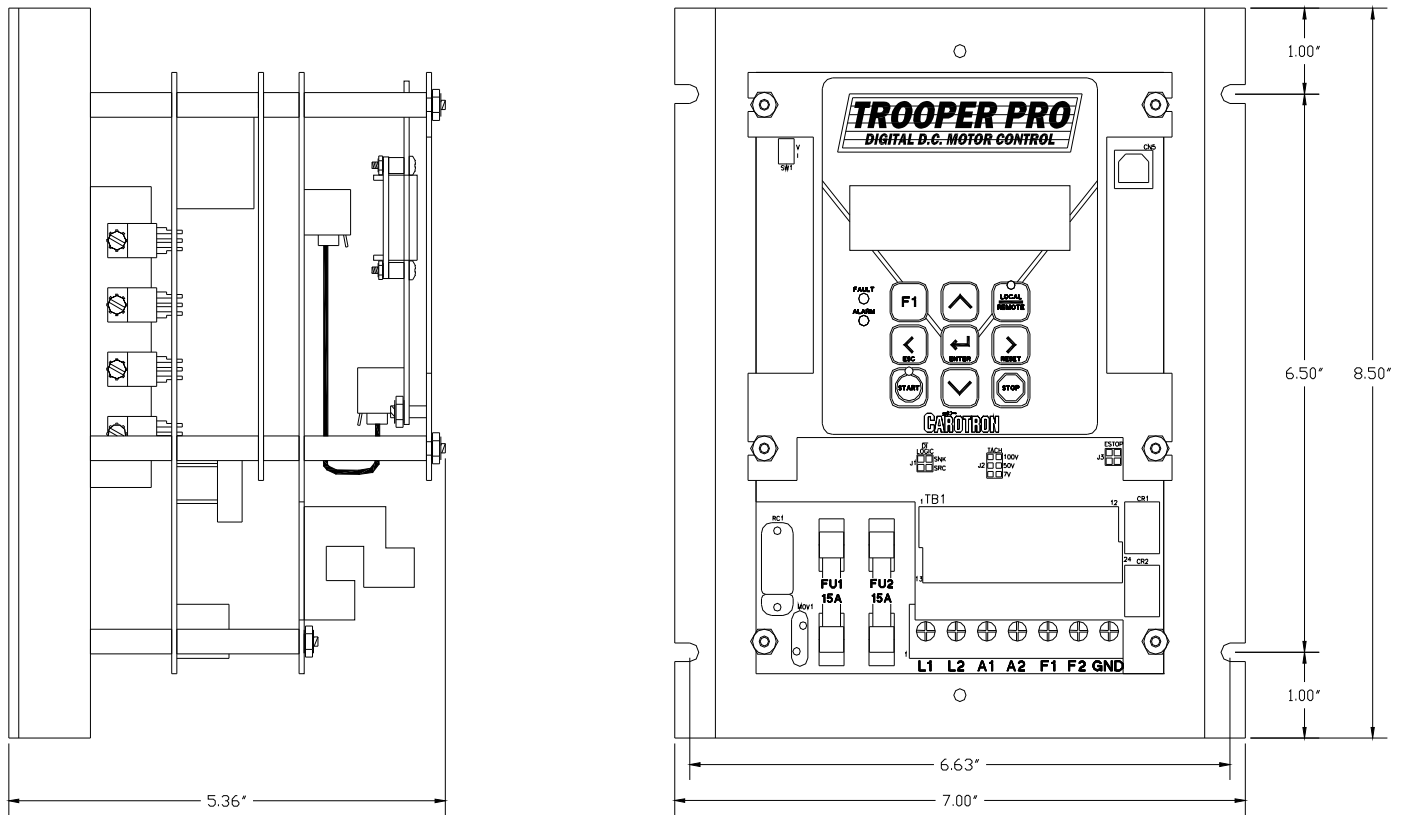
- 20:1 typical when using tachometer or encoder feedback. May be less depending upon motor characteristics

Temperature Range

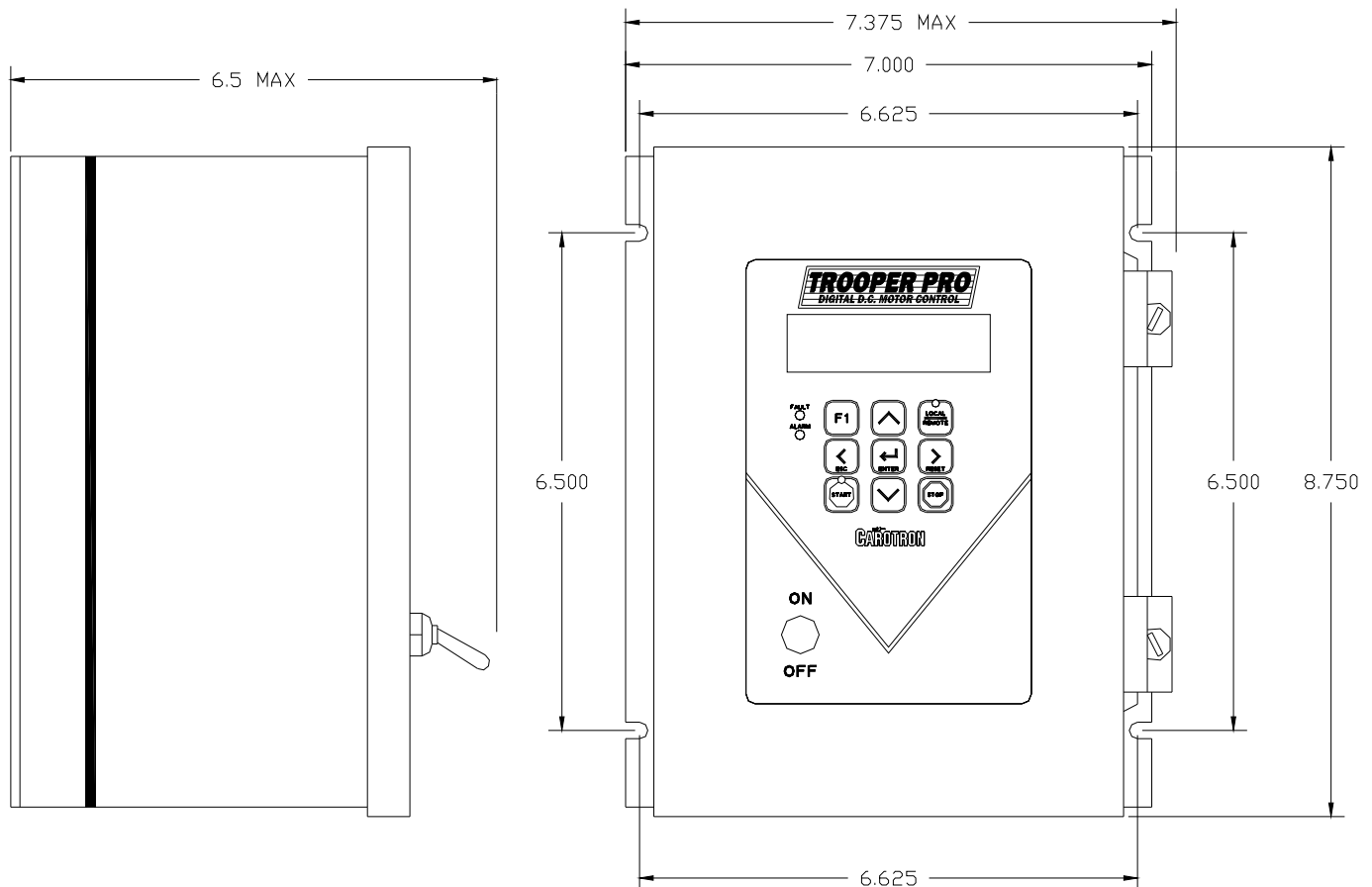
- Chassis: 0-55°C
- Enclosed: 0-40°C

Dimensions

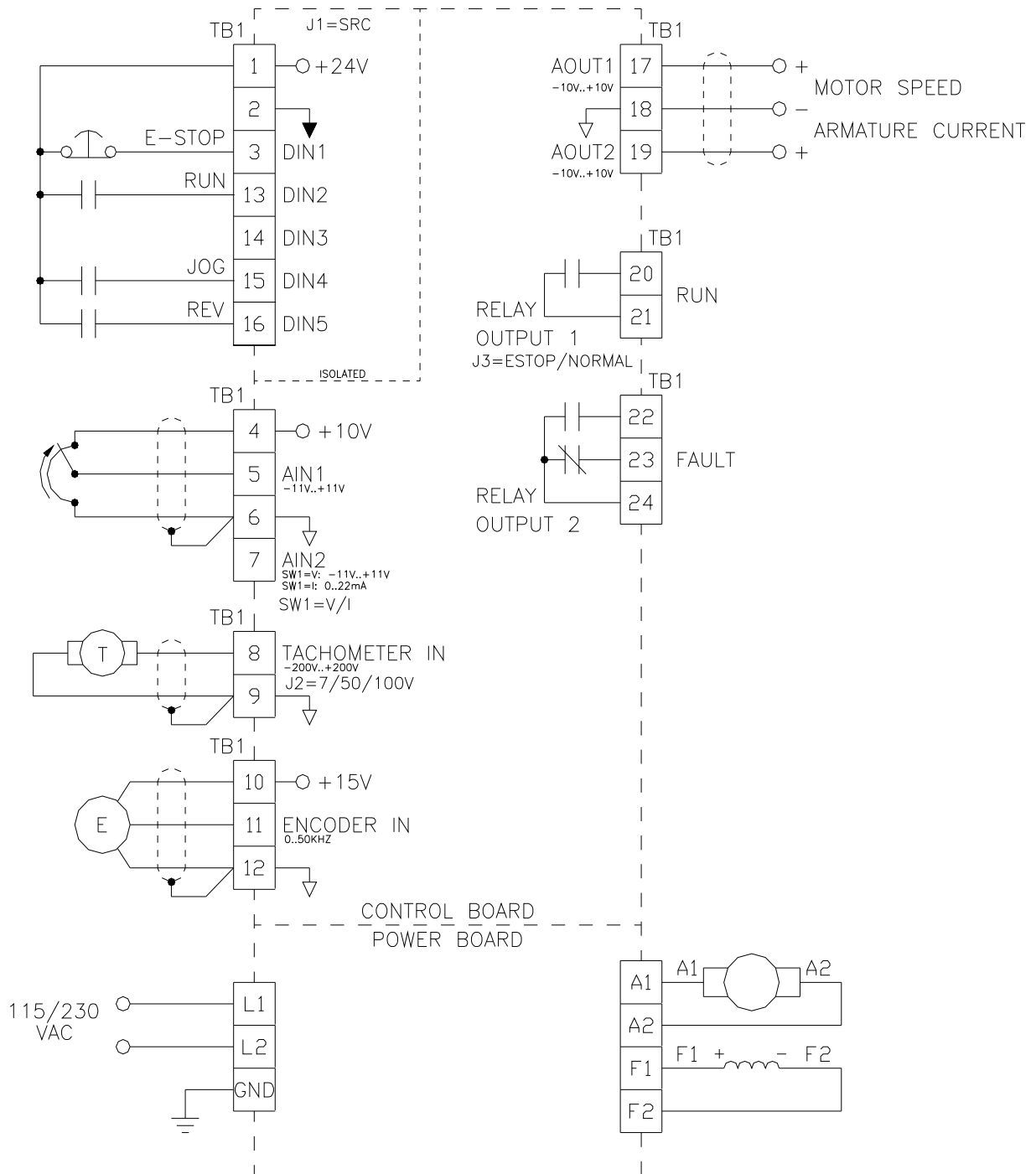
Model: TPR902-000 Now available!



Model: TPR902-E00 (Coming Soon)



Connections



3204 Rocky River Road
Heath Springs, SC 29058
Phone: (803) 286-8614
Fax: (803) 286-6063
Email: saleserv@carotron.com
Web: www.carotron.com
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