

Southwestern Industries, Inc.

TRAK TMC14 Specifications with the ProtoTRAK RMX Control



Machine Specifications

- Table Size – 23.62" x 62.99"
- T-slots (number x width x pitch) – 5 x .709" x 4.921"
- Travel (X, Y, Z axis) w/ Soft Limits – 60" x 27" x 25"
- Spindle Taper – 40 Taper
- Spindle Speed Range (RPM) – 50 – 8,000 RPM
- Spindle Nose Diameter – 3 3/4"
- Tool Clamping Force (90 psi) – 2,200 lbs.
- Tool Holder Type – CAT 40 or BT 40
- ATC Tool Capacity – 16
- Maximum Tool Weight (incl. holder) – 15 lbs.
- Maximum Tool Diameter – 3.14"
- Carousel Speed – .8 sec from station to station
- Tool Selection System – bi-directional/shortest path
- Spindle Motor HP (peak) – 22.5 HP
- Spindle Motor HP (continuous) – 15 HP
- Power Requirements (standard) 8k spindle – 208V (200-240V is acceptable), 3P, 93A
Note – Current can be as high as 112 amps with all options ordered – CTS (+14A), 4th axis (+5A)
- Power Requirements (standard) 12k spindle – 208V (200-240V is acceptable), 3P, 96A
Note – Current can be as high as 115 amps with all options ordered – CTS (+14A), 4th axis (+5A)

- Power Requirements (optional) 8k spindle– 480V w/ transformer option (432-528V is acceptable), 3P, 48A *Note – Current can be as high as 57 amps with all options ordered – CTS (+6A), 4th axis (+3A)*
- Power Requirements (optional) – 480V w/ transformer option (432-528V is acceptable), 3P, 48A *Note – Current can be as high as 58 amps with all options ordered – CTS (+6A), 4th axis (+3A)*
- Maximum Weight of Workpiece – 2,640 lbs.
- Height of Table from Bottom of Bed*** – 38.37”
- Min. Spindle Nose to Table Distance**** – 2.25”
- Max. Spindle Nose to Table Distance**** – 28.75”
- Distance of Tool Carousel to Table – 21.5”
- Spindle Center to Spindle Head Casting Face – 27.56”
- Min. Machine Height*** – 105”
- Max. Machine Height (head all the way up)*** – 120.5”
- Overall Width of Machine (w/ side doors open, auger chute, and chip container in place) – 224.13”
- Overall Length of Machine (w/ electrical cabinet fully open 180°) – 156.22”
- Footprint of Machine w/ Coolant Tank in Place (w x l) – 157.48” x 144.76”
- Weight Net – 16,500 lbs.
- Weight Ship – 17,000 lbs.
- Rapid Traverse X, Y, Z – 1,000 ipm
- Coolant Capacity – 70.5 gal
- Coolant Pump – 750 Watts
- Coolant Wash Pump – 1290 Watts
- Air Pressure – 3.0 CFM (at 90 psi) or 25 SCFM
- Air Quality – Air dried/water separator upstream of TMC
- Lubrication Pump Capacity – 2 liters

Note: *** Height changes slightly based on how machine is leveled on leveling screws.
 **** Can vary slightly due to home switch location and soft limit settings.

Options

- Electronic Handwheels
- Offline Programming
- Remote Stop/Go Switch
- Vise Kit
- Tool Measurement Cart
- Internal Memory Drive
- Transformer Option
- Gripper – BT 40 Tooling
- Retention Knobs – Cat 40 Tooling
- Auxiliary Functions
- 4th Axis
- CTS
- 12K Spindle

ProtoTRAK RMX System Specifications

Software Features – General Option

- Enhanced ProtoTRAK Assistance (EPA)
 - Context responsive help with control operations
 - Step-by-step instructions, diagrams and videos
- Watch Me videos for quick introduction to ProtoTRAK RMX operation
- What’s New videos for quick review of upgraded features in new releases
- Clear, uncluttered screen display
- Fly out windows for quick access to features and info
- Programming Defaults to simplify part programming
- User profiles for Defaults

- Event Options to modify Defaults or select additional functionality
- QWERTY touchscreen keyboard
- Calculator
- Prompted data inputs
- English language – no codes
- Soft keys - change within context
- Windows® operating system
- Selectable two or three-axis CNC
- Color graphics with adjustable view
- Gestures for pan, zoom, rotate
- Inch/mm conversion
- Convenient modes of operation
- Networking

DRO Mode Features

- Incremental and Absolute dimensions
- Graphical Override of Axis Feed and Spindle RPM
- Jog at rapid with override
- Power feed X, Y or Z
- Teach-in of manual moves
- Programmable Go To dimensions
- Servo return to 0 absolute
- Tool offsets from Tool Library
- Line Center calculation
- Circle Center calculation

Program Mode Features

- Circular interpolation
- Linear interpolation
- Advanced Adaptive Tool Path
- Geometry programming
- Toolpath programming
- Auto Geometry Engine® (A.G.E.) – Built-in CAD to fill in missing print data
- Alphanumeric program names
- Automatic Scaling of print data
- Nesting
- Multiple Fixtures
- Incremental and absolute dimensions may be mixed on a single point
- Automatic diameter cutter comp
- Program data editing
- Part graphics update while programming
- Selectable display between size of drawing and number of events
- List Step graphics relate Events to Drawing
- Editing of programmed data
- Swipe to move through programmed Events

Canned Cycles (Event Types)

- Position
- Drill/Bore/Tap/Helical Drill
- Bolt Hole Drill/Bore/Tap/Helical Drill
- Mill
- Arc
- Circular Profile
- Rectangular Profile
- Irregular Profile (with Auto Geometry Engine)

- Face Mill
- Circle Pocket/Rectangular pocket
- Irregular Pocket (with Auto Geometry Engine)
- Islands including Pocket and Island shapes
- Subroutine Repeat/Mirror/Rotate
- Subroutine Convert Drill to Tap
- Copy - Mirror/Rotate/Convert Drill to Tap
- Helix
- Engrave - Horizontal/Radial/Vertical/Mirror
- Thread Mill
- Program Pause

Advanced Features

- Adaptive Pocket Roughing
- Verify Make Part – solid model simulation of programmed toolpath
- Finish Tool #
- Rest Machining
- Multiple Fixture Offsets
- Event Comments
- G-code editor
- Search Edit
- Tool Library Flyout Window
- Automatic Tool Syncing between carousel, program and library tools
- Pictures and notes saved in Part Programs
- Save and Open Temp
- Program I/O Look
- Chip Clear
- Clipboard

DXF File Converter Option

- Import/convert CAD data into ProtoTRAK programs
- DXF or DWG files
- Add or remove geometry
- Chaining
- Automatic Gap Closing
- Layer control
- Easy, prompted process right at the machine
- Island and Profile Events

Parasolid File Converter Option

- Import and convert 2.5D CAD data into ProtoTRAK programs
- X_T files
- X, Y and Z dimensions are transferred into program events
- 2D and 3D views of part
- Add or remove geometry
- Chaining
- Easy, prompted process you can do right at the machine
- Island and Profile Events