

# Southwestern Industries, Inc.

## ProtoTRAK KMX Upgrade Specifications

### ProtoTRAK KMX System Specifications

#### ProtoTRAK Upgrade Hardware

- Use your current motors, servo amplifiers and ballscrews (there are some exceptions, see the details for your kit).
- Two- or three-axis CNC, 3-axis DRO
- 9.0" Color LCD
- Rugged industrial PC
- 2 USB ports for interface with a storage device, keyboard and mouse
- RJ45 Port and Ethernet card for Networking
- Aux Functions supported (only when present on original control):
  - Coolant on/off
  - Spindle off
  - Signal to programmable indexer

#### Software Features – general operation

- Clear, uncluttered screen display
- Prompted data inputs
- English language – no codes
- Soft keys – change within context
- Windows® operating system
- Selectable two or three-axis CNC (3-axis models)
- Color graphics with adjustable views
- Inch/mm selectable
- Convenient modes of operation

#### DRO Mode features

- Incremental and absolute dimensions
- Jog at rapid with override
- Powerfeed X, Y or Z (3-axis models)
- Teach-in of manual moves
- Servo return to 0 absolute
- Tool offsets from library
- Go To Dimensions (Optional with TRAKing®)
- Fine/Course handwheel resolution (Optional with TRAKing®)

#### Program Mode features

- Auto Geometry Engine
- Geometry-based programming
- Tool Path programming
- Scaling of print data
- Programming of Auxiliary Functions (when present in original control)
- Three-axis Geometry conversational programming (3-axis models)

- Incremental and absolute dimensions
- Automatic diameter cutter comp
- Circular interpolation
- Linear interpolation
- Look –graphics with a single button push
- Event editing within the program
- Conrad – automatic corner radius
- Math helps with graphical interface
- Tool step over adjustable for pocket routines
- Selectable ramp or plunge cutter entry
- Subroutine repeat of programmed events
- Nesting
- Subroutine Rotate about Z axis for skewing data
- Subroutine Mirror of programmed events
- Copy repeat for editing of repeated events
- Copy rotate for editing of rotated events
- Copy mirror for editing of mirrored events
- Run Island, Helix, Thread Mill and Engrave events when present in an imported ProtoTRAK program

### **Canned cycles**

- Position
- Drill
- Bolt Hole
- Programmed pause
- Mill
- Arc
- Circle pocket
- Rectangular pocket
- Irregular Pocket
- Face Mill
- Circular profile
- Rectangular profile
- Irregular Profile

### **Set Up Mode Features**

- Service Codes
  - Software
  - Machine Setup
  - Advanced Diagnostics and service logs
  - Operator Defaults and options
- Set Pocket and Face Mill step-over (in Service Codes)
- Tool library
- Tool names
- Tool length offset with modifiers
- Tool path graphics with adjustable views
- Verify – solid model representation of finished part (as programmed)

### **Run Mode Features**

- TRAKing (Optional)
- 3D CAM file program run
- 3D G code file run with tool comp
- Real time run graphics with tool icon

### **Program In/Out Mode Features**

- Program storage to USB flash drive
- CAM program converter
- Converter for prior-generation ProtoTRAK programs
- DXF/DWG file converter (Offline version only)
- Selection of file storage locations
- Preview graphics for unopened files
- Networking
- Save Temp to save current program, tool offsets and home positions for running the next day with minimal setup

## Control Options

### **KMX Offline programming**

- All features of the ProtoTRAK KMX organized to run on your PC
- Program and set up your jobs and then load into the ProtoTRAK KMX
- Windows operating system (will not work with Mac OS)

### **Converter Package for Offline** (requires purchase of KMX Offline Programming)

- **Verify**  
Solid model representation of machining the part including the tool path
- **The DXF File Converter**  
Import and convert CAD data into ProtoTRAK programs  
DXF or DWG files  
Chaining  
Automatic Gap Closing  
Layer control  
Easy, prompted process you can do right at the machine
- **The Parasolid File Converter**  
Generate ProtoTRAK KMX programs from the data in the solid file  
.x\_t 3D CAD format  
No specialized knowledge required

### **TRAKing/Electronic Handwheels Option** (not available on all machines)

- Electronic Handwheels on X and Y (replaces the mechanical handwheels)
- TRAKing of programs during program run
- Go To Dimensions
- Selectable Fine/Coarse handwheel resolution

*Once you use TRAKing®, you will never want to crank manual handles again!*