

TRAK[®] MTConnect Option

Information & User Manual

Document:	31663
Version:	021821

For Current CNC models:

- **ProtoTRAK RMX**
- **ProtoTRAK RLX**
- **ProtoTRAK RMX Offline**
- **ProtoTRAK RLX Offline**
- **TRAK VMC2**
- **TRAK TMC**

TRAK MACHINE
TOOLS



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1.0 MTConnect Description

1.1 MTConnect Standard

MTConnect is an industry standard for machine communication between a machine tool and software applications. These software applications are targeted at machine monitoring, notifications, and providing a history of the machine's activities.

In the context of Industry 4.0, MTConnect is one of the several protocols that are popular around the world. Currently, the ProtoTRAK only supports the MTConnect protocol.

The MTConnect Standard provides the following benefits:

- Enables third party software to be used with ProtoTRAK machines, which provides more efficient operations, improved production optimization, and increased productivity;
- Allows machine tools and other manufacturing equipment to provide data in a standardized, structured XML format, which eliminates translation issues over multiple proprietary formats for the machines;
- Used on more than 50,000 devices in over 50 countries;
- 11 years since its first release;
- Developed by over 300 machine builders, integrators, and end-users.

2.0 TRAK MTConnect Option Description

2.1 TRAK MTConnect Option

The TRAK MTConnect Option enables customers to add MTConnect functionality quickly and easily to their machines, so that machine data can be collected using the standard MTConnect protocol. With the MTConnect standard, machine tools and other manufacturing equipment can provide standardized and structured data, which eliminates the confusion of handling multiple proprietary formats. With the TRAK MTConnect Option along with 3rd party software, customers can monitor their machine's status, receive notifications, and review their machine's history.

The TRAK MTConnect Option is a software option for the ProtoTRAK RMX, ProtoTRAK RLX, TRAK TMC, TRAK VMC2, and the ProtoTRAK Offline products. When this option is enabled, the ProtoTRAK's will be able to interface to 3rd party software applications. It requires the proper software version, which is Version 2.2.0 and newer of our current software. It is also enabled through our standard Option Key. The TRAK MTConnect Option can work with either the ProtoTRAK's ethernet connection, or through a USB Wi-Fi adapter.

The TRAK MTConnect Option is also available on the ProtoTRAK Offline products, which can be downloaded from our company website (www.TRAKMT.com), and can also be evaluated on any PC.

3.0 Installation Instruction

3.1 Supported Products

The TRAK MTConnect Option is a software option for the ProtoTRAK RMX, ProtoTRAK RLX, TRAK TMC, TRAK VMC2, and the ProtoTRAK Offline products. When this option is enabled, the ProtoTRAK's will be able to interface to 3rd party software applications. It requires Version 2.2.0 and newer of our current software, and it is also enabled through our standard Option Key.

3.1.1 New Machine Orders

The TRAK MTConnect Option is supported on both our Toolroom and Machining Center products. New machine orders with the TRAK MTConnect Option will be processed in the same way as all of the other software options that we offer. The order desk will enable the TRAK MTConnect Option on the physical Option Key for that order. The TRAK MTConnect Option will be verified by our normal machine assembly inspection process.

3.1.2 Field Installed Orders

The TRAK MTConnect Option can also be installed on the ProtoTRAK RMX, ProtoTRAK RLX, TRAK TMC, and TRAK VMC2 products that have already been shipped to customers. The processes for ordering, code generations, and installation are the same; however, the customer will need to download and update the software on the ProtoTRAK before it will work.

3.1.3 Offline Products

The ProtoTRAK RMX Offline and ProtoTRAK RLX Offline products will support the TRAK MTConnect Option, and will be enabled without an Option Key. The intent is to allow potential customers to evaluate our TRAK MTConnect Option before they make a purchase.

3.2 Installation Information

The TRAK MTConnect Option requires the latest software version to be installed in the control, which is Version 2.2.0 and newer. The TRAK MTConnect Option supports the ProtoTRAK RMX, ProtoTRAK RLX and TRAK TMC products.

- Install the latest software (version 2.0.3 and newer for VMC2's, version 2.2.0 and newer for all other products).
- Verify that the option is activated. (Machines Only)

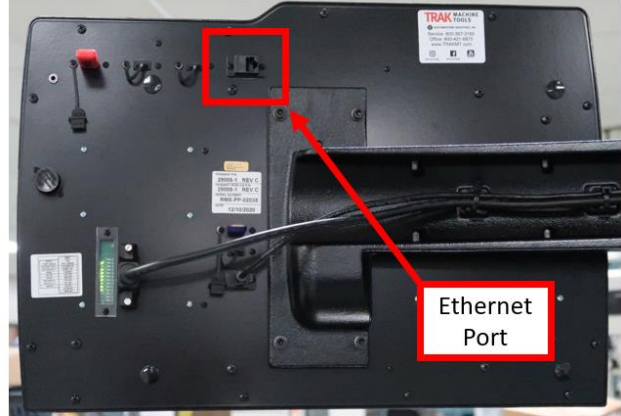
3.2.1 Ethernet Port Locations on Current Products

TRAK Bed Mills

For our current service offerings for the TRAK Bed Mills (TRAK DPM RX2, TRAK DPM RX3, TRAK DPM RX5, and TRAK DPM RX7), the ethernet port is located on the back of their ProtoTRAK RMX CNC pendants:



ProtoTRAK RMX CNC (Front)

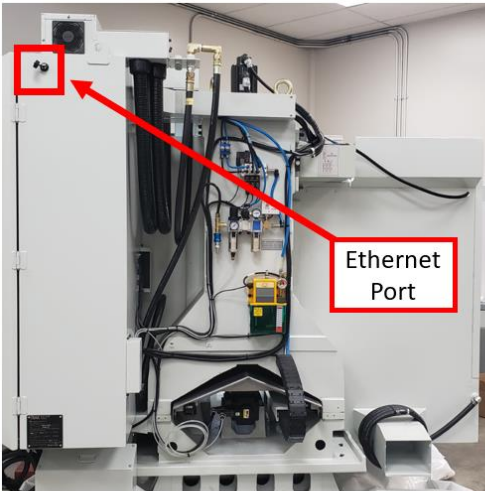


ProtoTRAK RMX CNC (Back)

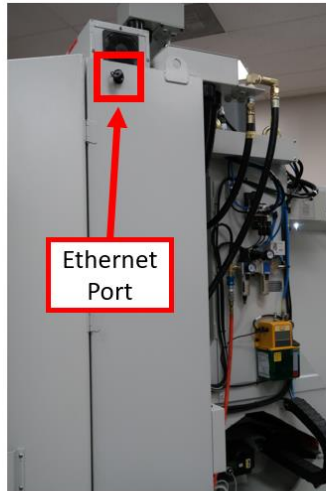
TRAK Toolroom Machining Centers

For our current service offerings for the TRAK Toolroom Machining Centers (TRAK TMC5, TRAK TMC7, and TRAK TMC10), there are two (2) ethernet ports available on the actual machines; one (1) for the user (which can be used for network connection) and one (1) for motion control.

The applicable ethernet port to be used for network connection for all of the TRAK Toolroom Machining Centers is located on the back of the machine, below the resistor cage. The ethernet port also has a removable cover (see image below):



Toolroom Machining Centers (Back)



Ethernet Port



Ethernet Port

TRL Series Lathes

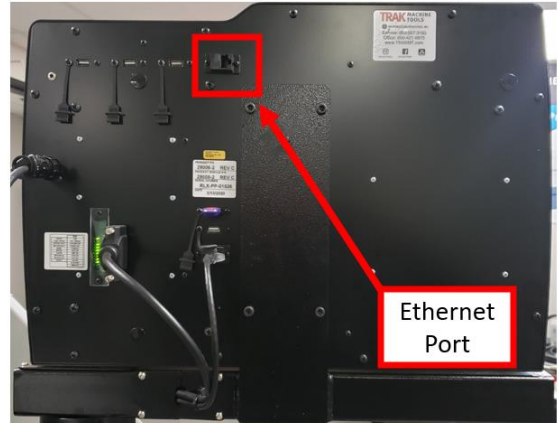
For our current TRAK TRL 1440EX service offering, the ethernet port is not provided.

TRLRX Series Lathes

For our current service offerings for the TRLRX Series Lathes (which are the TRAK TRL 1630RX, TRAK TRL 1630HS-RX, TRAK TRL 1845RX, TRAK TRL 2470RX, and TRAK TRL 30120RX), the ethernet port is located on the back of their ProtoTRAK RLX CNC pendants:



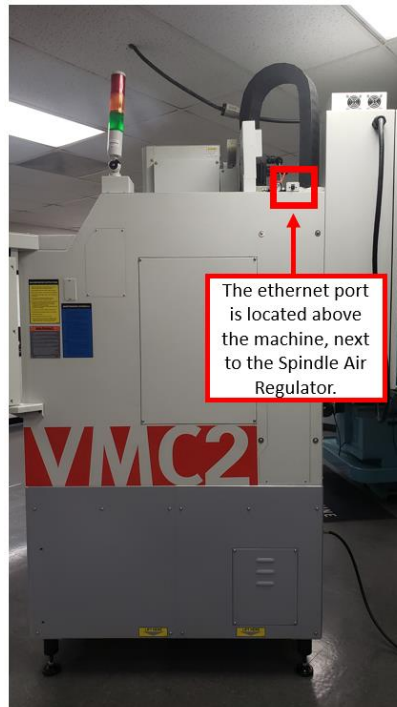
ProtoTRAK RLX CNC (Front)



ProtoTRAK RLX CNC (Back)

TRAK VMC2 Vertical Machining Center

For our current TRAK VMC2 service offering, the ethernet port is located on the right side of the machine, on top next to the Spindle Air Regulator:



Ethernet port with cover



Ethernet port without cover

3.2.2 Installing the Latest Software

The software is installed using our normal installation procedure, which is described on the TRAKMT.com website: <https://www.southwesternindustries.com/software>

To enable the TRAK MTConnect Option for your machine and/or Offline system, customers must have the latest software for both, the current ProtoTRAK RX CNC Software and ProtoTRAK RX Offline Software.

3.2.3 Option Key

The TRAK MTConnect Option is managed using the same software option scheme as all of the ProtoTRAK RX optional products. For new orders, the Option Key must be programmed to enable the TRAK MTConnect Option, and requires the latest software to be installed in the machines before being shipped to customers. For existing customers, the TRAK MTConnect Option requires a new unlock code, and the updated software to be installed in the field.



3.2.4 Service Code 318 Verification Process

You can verify if the TRAK MTConnect Option is enabled for your machine through the use of the Service Code 318 Verification Process. Service Code 318 displays the current software options that are turned on for your machine. An option in **bold letters** means that particular option is active.

You can access the Service Code 318 on the actual machine through the following steps:

1. Click the SET-UP button on the right-hand side of the screen.
2. Click the SERV CODES button.
3. Input "318" within the Service Code #: field (at the bottom right-hand of the screen), and click ABS SET on either the machine and/or the Offline software.

4. You should see a listing of software options that are turned on for your machine. If D. MTConnect Protocol is listed in **bold (black letters)**, it means that the MTConnect Protocol is enabled for your machine.

INFO	A. Advanced Features With Verify			MODES
STATUS	B. TRAKing / E Handwheels			DRO
	C. Auxiliary Functions			
TOOL TABLE	D. MTConnect Protocol Bold (Option Enabled)			PROG
EPA	1. AutoDesk, Inc. (AutoCad DXF)	ACAD	.DXF	EDIT
MATH HELP	2. Southwestern Industries, Inc.	SWI	.MX2	SET-UP
	3. Southwestern Industries, Inc.	SWI	.MX3	RUN
	4. Southwestern Industries, Inc. (IN)	F6M	.CAM	PROG IN/OUT
	7. Southwestern Industries, Inc. (GCD)	SWI	.GCD	
	8. Southwestern Industries, Inc. (OUT)	F6M	.CAM	
	9. Siemens (Parasolid X_T)	X_T	.X_T	
DEFAULTS				
KEY BOARD				
CALC				
		INSTALL		RETURN

- a. Alternatively, if D. MTConnect Protocol is listed in gray letters, it means that the MTConnect Protocol is not currently active for your machine.

INFO	A. Advanced Features With Verify			MODES
STATUS	B. E Handwheels			DRO
	C. Auxiliary Functions			
TOOL TABLE	D. MTConnect Protocol			PROG
EPA	1. AutoDesk, Inc. (AutoCad DXF)	ACAD	.DXF	EDIT
MATH HELP	2. Southwestern Industries, Inc.	SWI	.MX2	SET-UP
	3. Southwestern Industries, Inc.	SWI	.MX3	RUN
	4. Southwestern Industries, Inc. (IN)	F6M	.CAM	PROG IN/OUT
	7. Southwestern Industries, Inc. (GCD)	SWI	.GCD	
	8. Southwestern Industries, Inc. (OUT)	F6M	.CAM	
	9. Siemens (Parasolid X_T)	X_T	.X_T	
DEFAULTS				
KEY BOARD				
CALC				
		INSTALL		RETURN

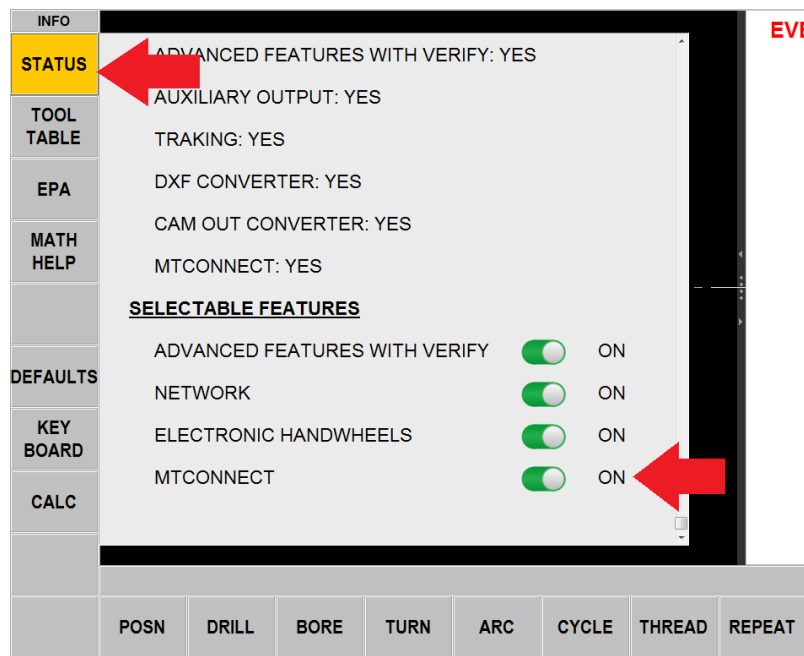
3.2.5 Activating the TRAK MTConnect Option on Your TRAK Product

If the TRAK MTConnect Option is not already enabled for your machine, you must take the following steps:

1. Highlight D. MTConnect Protocol from the list of software options that appear during the Service Code 318 Verification Process, and click INSTALL at the bottom center of the screen.
2. The INSTALL screen should appear next. Per the screen's instructions, in order for the MTConnect Protocol to be activated, it needs an Activation Password. If you do not have an Activation Password, please call the Customer Service Department.
3. During your call with Customer Support, your Customer Support Representative will provide you with instructions on how to proceed with this process, and he/she should be able to generate an Activation Password for you. Input the Activation Password that you receive from the Customer Support Representative into the Activation Password field at the bottom right corner of the INSTALL screen.
4. Once successfully activated, the D. MTConnect Protocol option should then be in **bold (black letters)** from the list of software options that appear during the Service Code 318 Verification Process.

3.2.6 Enabling the TRAK MTConnect Option

1. On your ProtoTRAK RMX / RLX control, click on the STATUS soft key located on the top left corner of the screen.
2. Scroll down to the bottom of the pop out window, and check to make sure that MTCONNECT option is turned ON as shown in the image below.
Note - If the MTCONNECT option is not visible at all, check to make sure that you have updated the software to the latest version available.
 - a. If you are unable to turn the option on, refer to section 3.2.4 above to make sure that the option is activated first.



4.0 Connecting to MTConnect

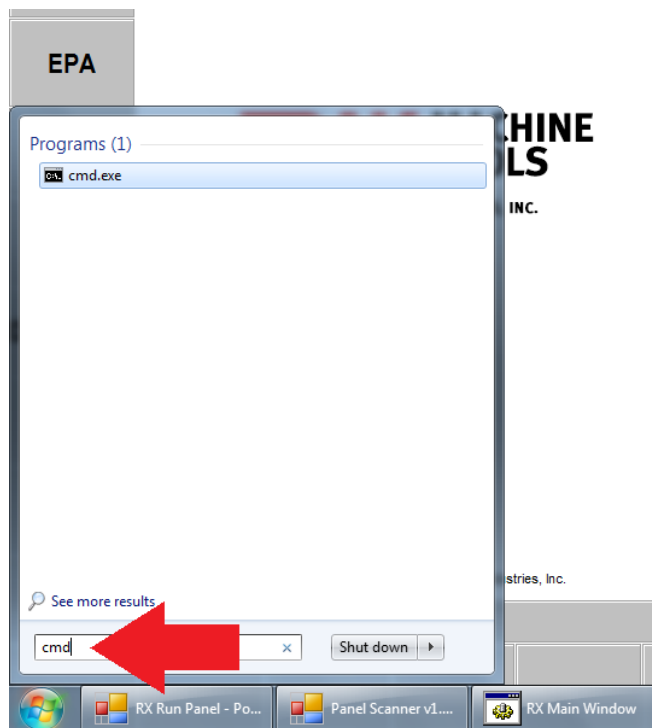
Please note that your PC(s) and your TRAK machine(s) must be connected to the same network in order for the TRAK MTConnect Option to work properly. For more info on how to network your TRAK machine, please refer to its respective programming manual.

In order for your 3rd party software to connect to the TRAK machine and access its MTConnect data, the IP address and port number of the machine are required. Our TRAK controls use port 5000 to send through MTConnect data. Please refer to your software documentation for the exact steps on how to connect. In addition, see below for more information on how to access your TRAK machine's IP address.

4.1 Check the IP Address on Your TRAK Machine

In order to begin, you must launch the Command Prompt window from your machine's Windows desktop.

1. On your keyboard, press CTRL and ESC at the same time to bring up the Windows Start menu.
2. In the search box, type in "cmd" and then press Enter.



3. Once the Command Prompt window pops up, type in "ipconfig." The image below displays an example of the ipconfig output that you would see on a computer and/or a ProtoTRAK machine. Your computer and/or machine may display a different ipconfig result output, which depends on your network setup and the type of network adapters already installed on your particular device.

4. Check the IPv4 Address line from the ipconfig result output to confirm the IP Address, as shown in the image below.

```
Command Prompt
Microsoft Windows [Version 10.0.18363.1198]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\tomc>ipconfig

Windows IP Configuration

Wireless LAN adapter Local Area Connection* 1:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 2:

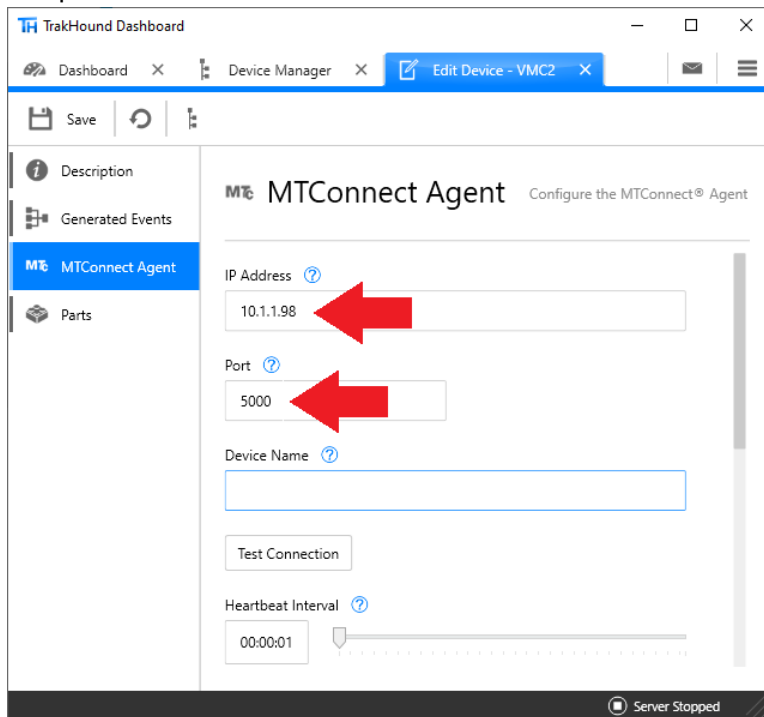
    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : swi.net
    IPv4 Address. . . . . : 10.1.1.98
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.1.1.1
```

Note - It would be worthwhile to perform the above process for both your TRAK machine as well as your PC, and make note of both IP addresses.

5. Once you have your machine's IP address, you can enter this information into your PC's MTConnect compatible software. The image below details the process of entering the IP Address and port number into TrakHound:



5.0 Troubleshooting

This section provides troubleshooting procedures for the most commonly encountered networking, security, and firewall connectivity issues for the TRAK MTConnect Option.

If the following troubleshooting guide does not resolve your problem, please contact your local service representative, or call the Southwestern Industries Customer Service Department.

5.1 Confirm that the TRAK MTConnect Option is Available and Enabled

The TRAK MTConnect Option will only be functional if it is activated and enabled. Refer to sections 3.2.4 and 3.2.6 on how to check for this issue

5.2 Verify Your Network Connection

Using the same Command Prompt window as instructed in section 4.1, you can run a ping test to confirm if your computer can successfully communicate with your ProtoTRAK machine, and vice versa. Through a network connection, the ping test method sends out packets of data to your particular IPv4 Address.

Your computer will then subsequently send these packets back, which will generate test results. These test results will detail how many packets were successfully sent, received, and lost. It will also detail the amount the time it took for the data packets to reach your IPv4 Address.

1. In the Command Prompt window of your computer, type in "ping", and hit the Space bar once on your keyboard.
2. Type in the target IPv4 Address of the TRAK machine (refer to section 4.1 for more information on how to check for the IP Address), and press Enter. For example: ping 10.1.1.98
3. A Windows ping test will typically send out four (4) packets. You will see the replies for each packet sent in the ping test:
 - a. If all four (4) requests are received with no losses, there is a confirmed successful connection between your computer and your ProtoTRAK machine.
 - b. If all four (4) requests are timed out, it is likely that there is no connection between your computer and your ProtoTRAK machine.
 - c. If only one (1) to three (3) requests are received, it could mean there is a very weak communication between your computer and your ProtoTRAK machine.

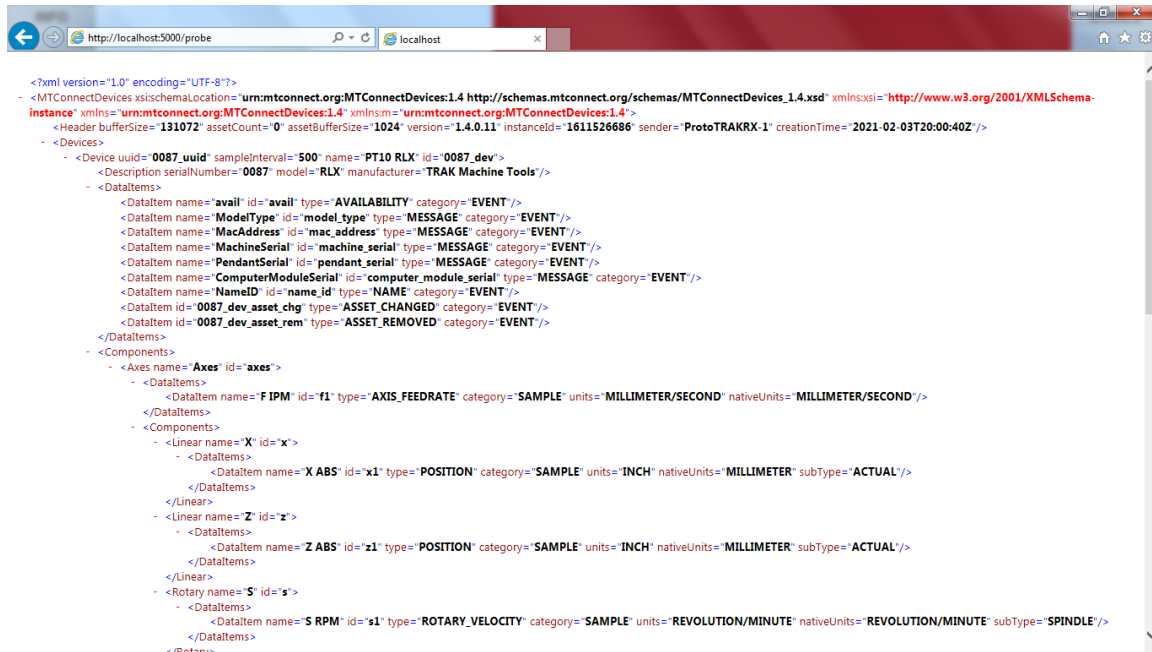
Alternatively, you can also ping the PC from the TRAK machine to ensure that they are communicating both ways. If you are unable to get a successful ping, this likely means that the PC and machine do not have a network connection.

5.3 Verify that You Can See MTConnect Data

5.3.1 Confirm MTConnect Data from TRAK Machine

To confirm that the MTConnect data is available on your TRAK machine, please do the following:

1. At the machine's control, press CTRL and ESC on your keyboard.
2. Click on All Programs, and then on Internet Explorer. Note that you do not need internet connection for this.
3. In the address bar, type in the following: <http://localhost:5000/probe>
You should then see an XML file similar to this:



```
<?xml version="1.0" encoding="UTF-8"?>
<MTConnectDevices xmlns:schemaLocation="urn:mtconnect.org:MTConnectDevices:1.4 http://schemas.mtconnect.org/schemas/MTConnectDevices_1.4.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:mtconnect.org:MTConnectDevices:1.4" xmlns:m="urn:mtconnect.org:MTConnectDevices:1.4">
  <Header bufferSize="131072" assetCount="0" assetBufferSize="1024" version="1.4.0.11" instanceId="1611526686" sender="ProtoTRAKRX-1" creationTime="2021-02-03T20:00:40Z"/>
  <Devices>
    <Device uuid="0087" sampleInterval="500" name="PT10 RLX" id="0087_dev">
      <Description serialNumber="0087" model="RLX" manufacturer="TRAK Machine Tools"/>
      <DataItems>
        <DataItem name="avail" id="avail" type="AVAILABILITY" category="EVENT"/>
        <DataItem name="ModelType" id="model_type" type="MESSAGE" category="EVENT"/>
        <DataItem name="MacAddress" id="mac_address" type="MESSAGE" category="EVENT"/>
        <DataItem name="MachineSerial" id="machine_serial" type="MESSAGE" category="EVENT"/>
        <DataItem name="PendantSerial" id="pendant_serial" type="MESSAGE" category="EVENT"/>
        <DataItem name="ComputerModuleSerial" id="computer_module_serial" type="MESSAGE" category="EVENT"/>
        <DataItem name="NameId" id="name_id" type="NAME" category="EVENT"/>
        <DataItem id="0087_dev_asset_chg" type="ASSET_CHANGED" category="EVENT"/>
        <DataItem id="0087_dev_asset_rem" type="ASSET_REMOVED" category="EVENT"/>
      </DataItems>
      <Components>
        <Axes name="Axes" id="axes">
          <DataItems>
            <DataItem name="FIPM" id="f1" type="AXIS_FEEDRATE" category="SAMPLE" units="MILLIMETER/SECOND" nativeUnits="MILLIMETER/SECOND"/>
          </DataItems>
          <Components>
            <Linear name="X" id="x">
              <DataItems>
                <DataItem name="X ABS" id="x1" type="POSITION" category="SAMPLE" units="INCH" nativeUnits="MILLIMETER" subType="ACTUAL"/>
              </DataItems>
            </Linear>
            <Linear name="Z" id="z">
              <DataItems>
                <DataItem name="Z ABS" id="z1" type="POSITION" category="SAMPLE" units="INCH" nativeUnits="MILLIMETER" subType="ACTUAL"/>
              </DataItems>
            </Linear>
            <Rotary name="S" id="s">
              <DataItems>
                <DataItem name="S RPM" id="s1" type="ROTARY_VELOCITY" category="SAMPLE" units="REVOLUTION/MINUTE" nativeUnits="REVOLUTION/MINUTE" subType="SPINDLE"/>
              </DataItems>
            </Rotary>
          </Components>
        </Axes>
      </Components>
    </Device>
  </Devices>
</MTConnectDevices>
```

This represents the raw data being generated by the TRAK MTConnect Option. If visible, then this means that the option is functioning properly at the machine.

Note - If there is no information displayed, or it cannot connect, confirm that the spelling utilized for the address was correct.

5.3.2 Confirm MTConnect Data from Your Computer

Next, confirm whether the same data is available to a remote PC, which should be connected to the same network as your TRAK machine.

1. Open a browser window from your PC.
2. In the address bar, type in the IP Address of the TRAK machine followed by "/probe". For example: <http://10.1.1.98:5000/probe>

If an XML file is generated upon visiting this port, it means that the TRAK MTConnect Option is working properly, and is communicating with your computer.

If there is no information displayed on this port, you may need to confirm if the computer itself is connected correctly and set up to the same network as the machine, and/or if the spelling utilized was correct.

5.4 Firewall is Not Allowing Communication and Connection

Please note that if the Customer has the latest version of the ProtoTRAK software, the following firewall configurations have already been set on your machine.

However, in the case that your PC firewall is not allowing communication with the TRAK MTConnect Option, you may have to configure a Windows firewall port exception for your PC.

5.4.1 Configuring a Windows Firewall Port Exception

To add a Windows firewall port exception:

1. On the Windows search bar of your PC, type in "firewall.cpl". The Windows Firewall window should open.
2. Click on the Advanced Settings link on the left pane. The Windows Firewall with Advanced security window should open.
3. Click on the Inbound Rules option.
4. On the left pane, click on New Rule.
5. Under Rule Type, select the option Port, and click Next.
6. Select TCP and Specific local ports options.
7. On the Specific local ports field, type in "5000".
8. Click Next.
9. Select the option Allow the connection.
10. Click Next, ensure that Domain, Private, and Public are all checked. Click Next again.
11. Specify a name and a description for this rule.
12. Click Finish.

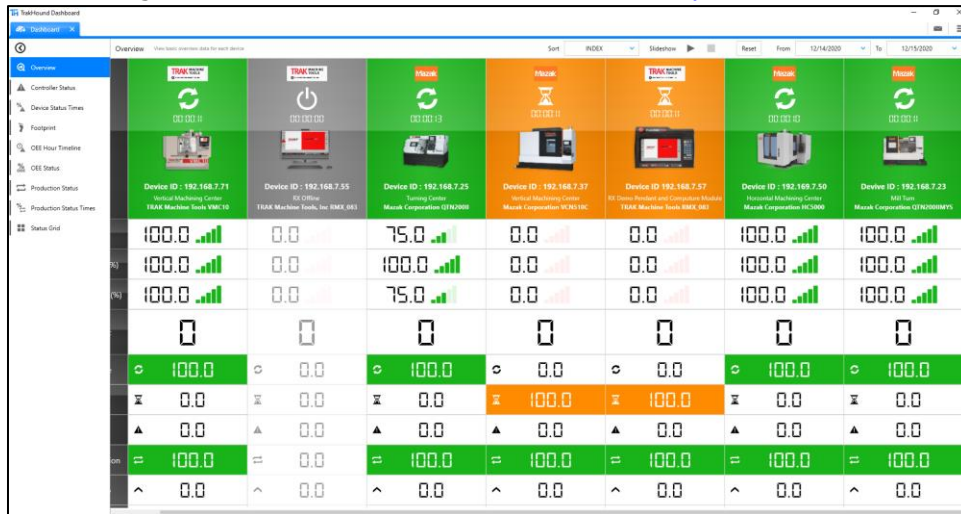
6.0 Demo Applications

6.1 Examples of Demo Applications

Below are dashboard examples of Shop Software Applications that integrate with MTConnect:

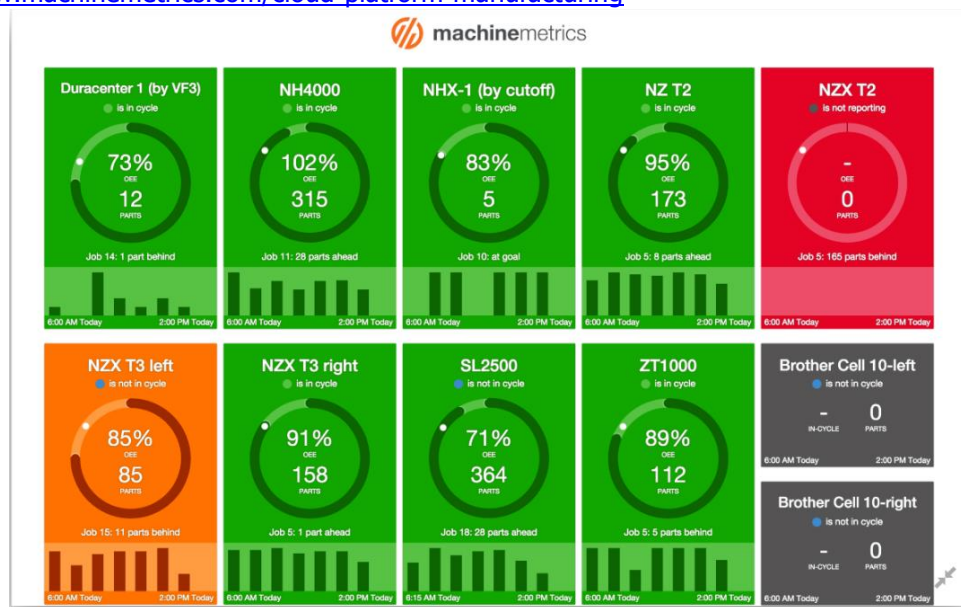
6.1.1 TRAKHound

Please visit the following link for more information on TRAKHound: <https://www.trakhound.com/>



6.1.2 MachineMetrics

Please visit the following link for more information regarding the MachineMetrics Cloud platform: <https://www.machinemetrics.com/cloud-platform-manufacturing>



6.1.3 FactoryWiz

Please visit the following link for more information regarding FactoryWiz: <https://factorywiz.com/>



7.0 Appendix

7.1 List of Supported Data Items

The following is a list of data items / parameters that the TRAK MTConnect Option will output.

7.1.1 Device ID

Name	<ul style="list-style-type: none">• This Data Item describes the name of the device.
ID	<ul style="list-style-type: none">• This Data Item describes the ID Number of the device.
Model	<ul style="list-style-type: none">• This Data Item describes the specific model of a device.<ul style="list-style-type: none">○ For example, "TRAK 1845RX" is a specific TRAK Toolroom Lathe model.
Machine Serial Number	<ul style="list-style-type: none">• This Data Item describes the Machine Serial Number associated with a ProtoTRAK machine.• The Machine Serial Number is defined in Service Code 530.• The Machine Serial Number can also be found on a serial number plate attached to the outside sheet metal on the machine.
Pendant Serial Number	<ul style="list-style-type: none">• This Data Item describes the Pendant Serial Number associated with a ProtoTRAK's pendant control hardware.• The Pendant Serial Number is defined in Service Code 530.• The Pendant Serial Number can also be found on a label on the rear of the pendant.
Computer Module Serial Number	<ul style="list-style-type: none">• This Data Item describes the Computer Module Serial Number associated with a ProtoTRAK's computer module hardware.• The Computer Module Serial Number is defined in Service Code 530.• The Computer Module Serial Number can also be found on a label on the computer module itself.

7.1.2 Overall Machine Status

Availability	<ul style="list-style-type: none"> • This Data Item represents the device’s ability to communicate. • Data values are AVAILABLE or UNAVAILABLE. • Typically, as long as there is a connection established, this should display AVAILABLE.
Emergency Stop	<ul style="list-style-type: none"> • This Data Item describes the current state of the emergency stop signal for the control / machine. • The Data Values for Emergency Stop are ARMED or TRIGGERED. <ul style="list-style-type: none"> ○ ARMED means that the circuit is complete and the device is allowed to operate. ○ TRIGGERED means that the circuit is open, and the device must cease operation.
Alert Fault Messages	<ul style="list-style-type: none"> • This Data Item describes the Alert Fault messages are being displayed on the system. These are typically found when the “WARNING” info button is flashing. • Alert Fault messages are typically errors that will disable the servos and prevent the user from running his program.
Alert Error Messages	<ul style="list-style-type: none"> • This Data Item describes the Alert Fault messages are being displayed on the system. These are typically found when the “WARNING” info button is flashing. • Alert Error messages will warn the user that something is wrong, and can vary in terms of severity. These are typically programming or setup related errors.
Door	<ul style="list-style-type: none"> • This Data Item describes the operational state of a door guard. • The current data values for Door States are OPEN or CLOSED. • TRAK MTConnect option will output the door status, regardless of whether a door guard is present on a machine.
Mode	<ul style="list-style-type: none"> • This Data Item describes the current mode of the Controller. • The Data Values for Mode are AUTOMATIC, MANUAL, or MANUAL DATA INPUT: <ul style="list-style-type: none"> ○ AUTOMATIC means that the device is currently running a program. ○ MANUAL means that the device is being used to access DRO Mode and its associated screens and/or functions. ○ MANUAL DATA INPUT means that the device is being used to access all other screens/functions aside from DRO Mode (such as functions and/or screens for PROG, SET-UP, etc.).
Execution Mode	<ul style="list-style-type: none"> • This Data Item describes the Execution status of the Controller. • READY - machine is idle. • ACTIVE - the GO led is active, and program is running. • PROGRAM_STOPPED – User is in a RUN mode and STOP led is lit. • INTERRUPTED - Power Reset is disabled. • PROGRAM_COMPLETED – Run has completed and is at “Run Over” status.
Block Number	<ul style="list-style-type: none"> • This Data Item describes the Block Number that is currently being executed in a Program. • For event programs, the Block Number corresponds to each specific event number. • For GCD programs, this represents the N label.

7.1.3 Axis Data

Position	<ul style="list-style-type: none"> This Data Item describes the absolute position the machine is currently on within the X, Y, and Z Axes.
Feedrate	<ul style="list-style-type: none"> This Data Item describes the current feedrate of the control, which is measured in Inches Per Minute (IPM). On a program, it describes the feedrate on each axis. If customers wish to display metric measurement, it would be up to their software to convert these values.

7.1.4 Spindle Data

Spindle Speed	<ul style="list-style-type: none"> This Data Item describes the current spindle speed of the control, which is measured in Revolutions Per Minute (RPM).
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7.1.5 Part Information

Program	<ul style="list-style-type: none"> This Data Item describes the current program that is loaded into memory on the control. This is controlled by the filename of the program that is opened.
Part Count	<ul style="list-style-type: none"> This Data Item describes the number of times that the program in memory has been run on the control. The Data Value must be an integer value.

7.1.6 Other

User	<ul style="list-style-type: none"> This Data Item describes the person operating the equipment. The user profile can also be selected in the DEFAULTS flyout window. Service Code 600 can be used to create different profiles in the control.
Operation Mode	<ul style="list-style-type: none"> This Data Item corresponds to the mode of operation as determined by the screens. Operation Mode is unique to SWI. Data Values are DRO, PROG, EDIT, SETUP, RUN, PROG IN/OUT, or MODE screens.
Part ID	<ul style="list-style-type: none"> This Data Item describes an identifier for a program. The user can type in a Program ID under the Program Header, which passes through the MTConnect parameter for Part ID. This was added to give the user a way to associate a different name or part # that is not controlled by the filename.
Comment	<ul style="list-style-type: none"> This Data Item details any program comments associated with events on a program.
MacAddress	<ul style="list-style-type: none"> This Data Item displays the Media Access Control (MAC) Address of the pendant. A MAC Address is a unique hardware identification number for a specific device on a network.

Please note that in order to get your desired information, you may be required to set conditional statements in your 3rd party software. For example, if you wanted to track how many parts each user completed, you can filter by the **User** parameter, and increment a counter when **Execution Mode = PROGRAM_COMPLETED**.

TRAK Warranty Policy

Warranty

TRAK products are warranted to the original purchaser to be free from defects in workmanship and materials for the following periods:

Product	Warranty Period	
	Materials	Factory Labor
New TRAK/ProtoTRAK	1 Year	1 Year
Any EXCHANGE Unit	90 Days	90 Days

The warranty period starts on the date of the invoice to the original purchaser from Southwestern Industries, Inc. (SWI) or their authorized distributor.

If a product, subsystem or component proves to be defective in workmanship and fails within the warranty period, it will be repaired or exchanged at our option for a properly functioning unit in similar or better condition. Such repairs or exchanges will be made FOB Factory/Los Angeles or the location of our nearest factory representative or authorized distributor.

Warranty Disclaimers

- This warranty is expressly in lieu of any other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular purpose, and of any other obligations or liability on the part of SWI (or any producing entity, if different).
- Warranty repairs/exchanges do not cover incidental costs such as installation, labor, freight, etc.
- SWI is not responsible for consequential damages from use or misuse of any of its products.
- TRAK products are precision mechanical/electromechanical/electronic systems and must be given the reasonable care that these types of products require. Evidence that the product does not receive adequate Preventative Maintenance may invalidate the warranty. Excessive chips built up around ballscrews and way surfaces is an example of this evidence.
- Accidental damage, beyond the control of SWI, is not covered by the warranty. Thus, the warranty does not apply if a product has been abused, dropped, hit or disassembled.
- Improper installation by or at the direction of the customer in such a way that the product consequently fails, is considered to be beyond the control of the manufacturer and outside the scope of the warranty.
- Warranty does not cover wear items that are consumed under normal use of the product. These items include, but are not limited to: windows, bellows, wipers, filters, drawbars and belts.