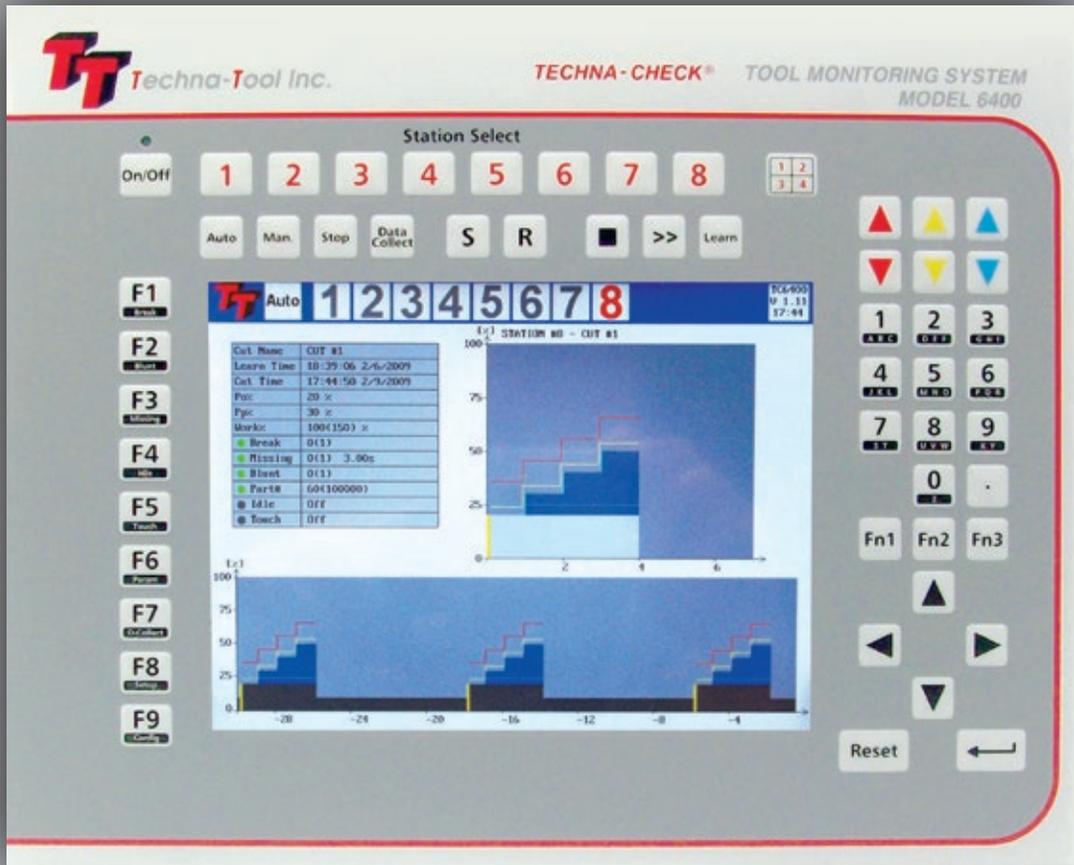


# Tool Monitoring That Works!

## TECHNA-CHECK®



Non-Contact Tool Monitoring.

- HMC
- VMC
- Lathes
- Drills and taps
- Reamers
- Gun Drills
- Milling cutters
- Form tools
- Insert tools
- Tools in bushing plates
- Balancing machines
- Grinding machines



# Tool Monitoring that works!

## Non-Contact Tool Monitoring

The Techna-Check® is a Tool Monitoring system designed to use the PWM series power transducers or the VM series vibration transducers to determine if there is a Broken, Dull or Missing tool. The PWM measures true power on a machine spindle or axis motor. It can be used on standard motors, AC servo motors, variable frequency drives and DC drives. The VM uses an accelerometer to monitor for excess vibrations on spindles, fixtures, parts or tooling.

# Tool Monitoring That Works!

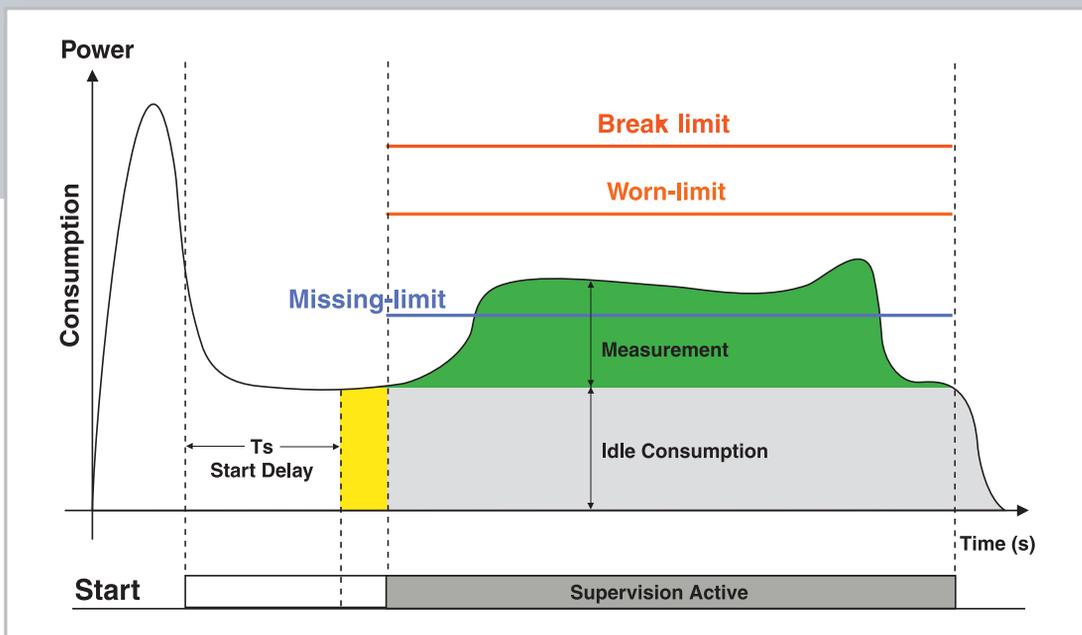
## TECHNA-CHECK®

The TECHNA-CHECK interfaces to the machine control and is given a 24vdc or Profibus signal from the machine to tell the unit when to start monitoring.

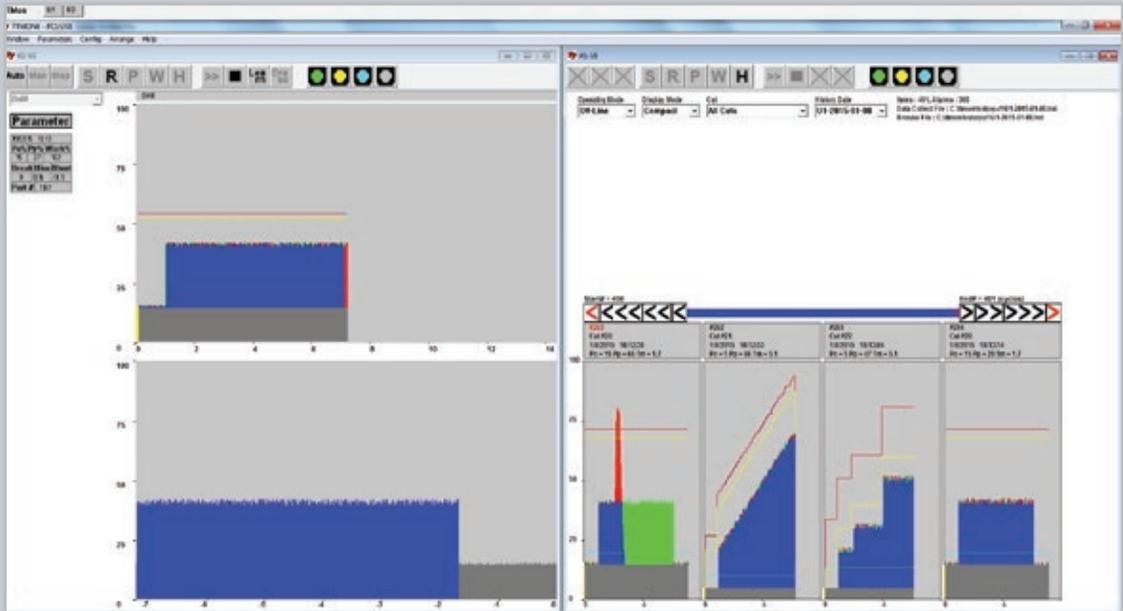
Depending on the system being used, it can learn up to 128 different cutting profiles. The tool selection is done via 24vdc binary inputs, which are typically given using M-codes/custom macro or by using Profibus.

Once the unit has been told to monitor, the system will measure the power that is used just to turn the spindle (labeled as Idle Consumption in graph below).

The unit then learns the amount of power it takes to cut the material (labeled as Measurement in graph below). As a tool becomes blunt (dull), the tool will begin to require more power to complete a machining cycle. When the tool breaks, a short energy peak or spike is created and, if no tool is present or the part has already been machined, the power consumption drops back to zero. If any of these situations occurs, the Techna-Check will output a fault which will immediately stop the machine.



# Techna-Check® Monitoring Software



The Windows based TECHNA-CHECK® TTMON program is a powerful tool monitoring software for use on PC systems. The software is required for use with the PCI & USB systems.

- Collects numerical and graphical data which can later be exported or viewed to determine if there were any faults or problem parts.
- The software opens a separate window for every unit (motor) which graphically displays the progress of the tool monitoring and allows for the easy adjustment of monitoring parameters.
- All parameters from the system can be backed up on the hard disk and loaded or restored from there.
- Can be run directly on most Windows based CNC controls such as Fanuc, Siemens, Okuma, Bosch and More.

# Techna-Check<sup>®</sup> USB & PCI



These systems use USB or PCI to interface with a Windows based CNC control or into a stand-alone computer. They are capable of monitoring up to 128 different cutting processes per sensor and can network up to 20 sensors/channels back to a single unit.

- Convenient configuration with TTMON Windows based software
- Available pre-installed in industrial PC with touch screen for retrofit applications
- 1-20 motors/sensors can be connected to a single USB or PCI card
- Monitors 1-128 tools or cutting processes per motor
- Independent limits for Break, Blunt, Missing and Idle supervision
- Curve enveloping feature for limits
- Profibus compatible
- Measurement data can be transferred via Profibus or TTBUS
- Touch Point limit used for grinding and balancing machines
- Numerical and Graphical data collection

# Techna-Check® 6400 & 6401



The TC6400 series units are standalone systems capable of monitoring between 1-8 motors with one unit. Each channel has the capability to monitor up to 64 unique tools or cutting processes. They have an 8" color display and all programming can easily be done through the face of the unit without the need for an external PC.

## Common Features

- Built in 8" color display and membrane keyboard
- Monitors 1-64 tools or cutting processes per motor
- Parameter setup is done through the front plate of the unit
- Panel door mounted or custom enclosure available
- Independent limits for Break, Blunt, Missing and Idle supervision
- Curve enveloping feature for limits
- On board data collection
- Optional Profibus available
- Touch Point limit used for grinding and balancing machines
- Password protected

## TC6400 Unique Features

- Up to 8 motors can be connected to a single system to monitor multiple machines in the same area or multiple motors on the same machine

## TC6401 Unique Features

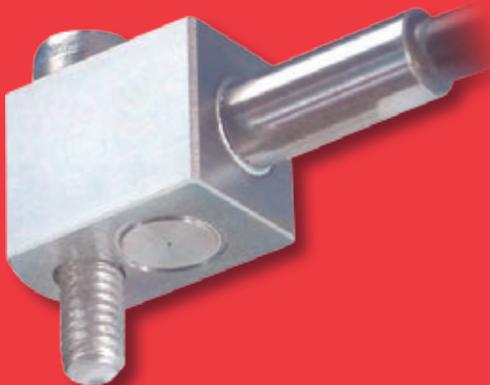
- Low cost unit only capable of monitoring 1 motor

# TECHNA-CHECK® Ultra Fast & Precise Transducers



The Ultra-fast Techna-Check transducers are developed specifically for Machine Tool Monitoring applications and can monitor both AC and DC loads. These sensors mount in the electrical cabinet of the machine and communicate with the Techna-Check units using the proprietary TTBUS network.

- Technologically advanced three-phase sensors guarantee exact measurements of the input or output supply of a motor drive by measuring true power ( $P = \sqrt{3} \times U \times I \times \text{Cos}\phi$ )
- Vibration sensors are available to sense damage to tools or improper spindle balance
- Compact Din rail mounted design
- Different Hall Sensors sizes available depending on motor sizing
- HS-1 Motors to 15HP
- HS-2 Motors to 30HP
- HS-3 Motors greater than 30HP



**Vibration Sensors Are Available To Sense Damage To Tools Or Improper Spindle Balance**



# Tool Monitoring That Works!

Do you want to learn  
more about Techna-Check®?

The easiest way:

**[www.techna-tool.com](http://www.techna-tool.com)**

By phone:

**262-367-8665**



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