

Machine Tester Series

Handheld Condition Monitoring Instrument



Timken offers a wide range of condition monitoring solutions, including the machine tester series, which will help you:

- Monitor your critical equipment
- Avoid unplanned downtime
- Increase profits through early detection and
- Improve workplace safety.



Designed for efficient and profitable production

Timken's machine tester is a handheld instrument for periodic machine condition monitoring. It is applied by leading industries around the world for early fault detection, to avoid production losses through unplanned downtime and to reduce overall maintenance costs.



The machine tester uses two leading condition monitoring methods. On each machine you can select the combination of measurements that best meets your specific needs:

- **Shock-pulse measurement** for ball and roller bearings supplies data on bearing damage, lubrication condition and the effects of alignment and load. Installation faults and inadequate lubrication, the root cause in many bearing failures, are easily detected.
- **Vibration severity measurement** is the ISO-recommended method for general condition monitoring. It detects the most common mechanical faults, such as imbalance, misalignment and loose parts.



In addition, the machine tester measures rotational speed and temperature.

The instrument can be used for spot checks, large-scale data collection and extended recording on a single measuring point. The machine tester is available in the MT-I Basic and MT-II Logger versions. At each level, the measuring results are automatically evaluated and displayed on a green-yellow-red condition scale, highlighting potential trouble spots. By calibrating and adjusting limit values, you can fine tune the automatic evaluation process with great precision and receive an immediate, reliable diagnosis.

The MT-I Basic version requires manual recording of measuring results. The MT-II Logger version communicates with the Condmaster®Pro software platform. This fifth-generation platform receives the measuring results, evaluates the data and presents the results.

What do you need to know?

One instrument, many answers

Condition monitoring can directly impact the bottom line and in some cases provide a necessary safety precaution. The aim is to detect developing faults before they become a severe problem. This becomes more important with increases in both production levels and unmanned operations.

The signals generally used to diagnose machine condition are shocks and vibrations. Make a strategic choice and select the most reliable and cost-efficient method that provides the correct condition evaluation of your machinery.

The machine tester has several enhanced functions. You can measure rotational and peripheral speed and the temperature of solids and liquids, record the readings of dials and meters, save written comments to the instrument and attach them to the measurement.

For up to 50 hours, you can continuously record shock values, vibration, temperature or rpm. You can place memory tags, loaded with measuring instructions and the results of previous measurements, onto measuring points.

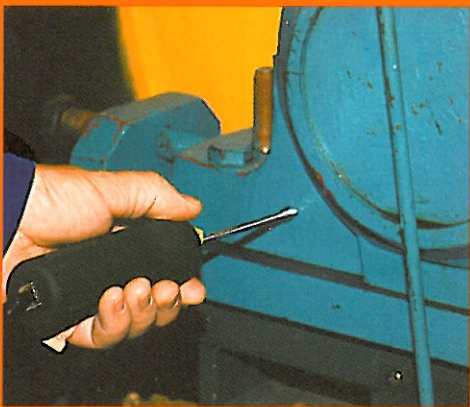
You receive immediate evaluated condition readings. The measuring results are displayed on a green-yellow-red condition scale, enabling you to quickly investigate the causes of a reading in the red or yellow zone.



Contact-free ID tags store the measuring point data along with the latest measuring results. The transfer of data and measuring results occurs via radio transponder between the logger instrument and the ID tag.



Special transducers are available for measuring points that are inaccessible during normal operation. The transducers are permanently installed and connected via cables to measuring terminals.



Speed data is necessary for condition evaluation and monitoring machine temperature often supplies valuable information. The machine tester uses temperature probes for solids and liquids. Speed can be measured by contact or noncontact means.

Full control with online condition data

CondmasterPro is the universal condition monitoring platform used for both handheld instruments and online systems. CondmasterPro stores basic data on machines and measuring points, using a familiar numbering system defined by the customer. The expert knowledge needed to evaluate machine condition is integrated in the CondmasterPro platform, which includes bearing catalog, evaluation rules, ISO limit values and much more.

You define the alarm conditions and set measuring rounds and intervals. Scheduling and other administrative routines connected with data collection and lubrication are assisted by the software.

A tool for efficient maintenance

For required input data, you receive instructive menus, default values and online help texts. Copy and edit functions save time when registering machines and measuring points.

As always, Timken emphasizes the main requirements of industrial condition monitoring – fast and easy fault detection through immediate evaluated results.

Product features:

- Comprehensive measuring functions
- Immediate evaluation on a green-yellow-red scale
- Shock-pulse transducers: handheld probe, adapter probe, permanently installed
- Vibration transducers: handheld, attached by magnet or permanently installed
- Continuous recording of shock pulses, vibration, speed or temperature for up to 50 hours
- Fast data logging: download measuring round, upload results to PC
- Save results for up to 500 measuring points
- Probes for temperature and speed measurement
- Contact-free measuring point identification with ID tags
- LCD screen, 4 x 16 characters, with automatic back light
- Battery typically lasts up to 5,000 measurements

Available options

MT-I Basic Machine Tester

Package includes all of the following:

- Shock-pulse method dbm/dbc
- Lube and condition diagnosis of rolling element bearings
- RMS vibration, ISO 2372
- General machine condition diagnosis
- Speed measurement, contact and non-contact
- Temperature measurement (accessories optional)
- Language selection
- Intrinsically safe (ex-proof) design available

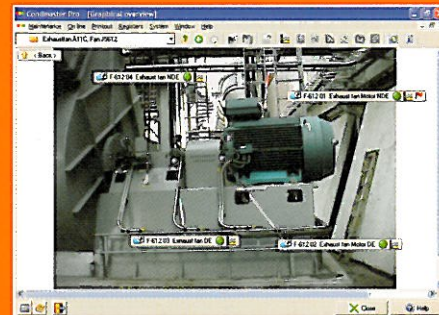
MT-II Logger Machine Tester

Package includes all of the MT-I plus the following:

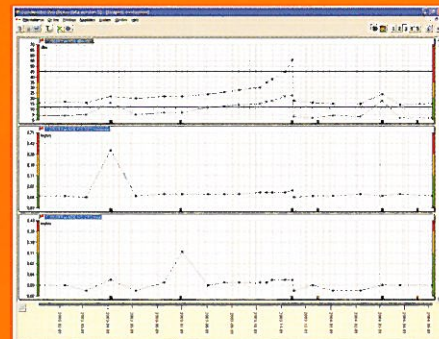
- Data logging with CondmasterPro software
- Intrinsically safe (ex-proof) design available



Condmaster®Pro Software (supplied with MT-II)



Your primary tool for fast fault detection is the graphical overview, which identifies potential trouble spots.



Click on a point to view the details: measurement results, graphical trends, comments and more.

Date/Time	Alarm type	Number	Name	Result
2004-05-04 15:22:00	Cooling water pump	T-200.04	Fan NDE	4 Bar
2004-08-22 09:15:00	dBm/dbc	T-200.04	Fan NDE	26 / 13
2004-07-01 11:09:00	Temperature	T-200.04	Fan NDE	55 °C
2004-04-04 09:06:00	ISO2372 axial	T-200.04	Fan NDE	3 mm/s
2004-04-04 09:06:00	ISO2372 horizontal	T-200.04	Fan NDE	8.5 mm/s
2004-04-04 07:43:00	FA05 Out of balance	T-200.04	Fan NDE	

Alarm lists are generated on the basis of automatically applied evaluation rules that can be modified by customer-defined thresholds. You also can program alarm-delay conditions, log all alarm messages on a printer and connect any or all measuring channels to the main alarm relay.



- **Graphical overview of your facilities and equipment**
- **Alarms highlighted in green-yellow-red**
- **Machine-specific evaluation of measurement results**

Fully committed

In every industry, the goal is the same – maximize uptime, safety and profitability. Any unscheduled downtime must be avoided. Any unsafe condition must be identified. Any repair must be made immediately.

The Timken Corporation has a broad offering of condition monitoring products and services that includes portable instruments, continuous monitoring devices and online systems. We can help you maximize uptime with the development of cost-effective solutions to achieve maximum output and reliable service. Increasing the useful life and productivity of your machinery directly impacts the bottom line.

When you choose Timken, you gain access to an industry leader with more than 100 years of experience in industrial applications. Every design, production phase and service call is driven by one thing – exceeding the expectations of our customers. You can rely on Timken for products, services, analysis and ongoing technical support to help maximize uptime, reduce maintenance costs and improve productivity. Timken is committed to being your friction management solutions provider.

Friction management solutions

Industrial customers turn to Timken to provide comprehensive friction management solutions. Extending beyond bearings, these solutions include related parts and accessories, expert sales and service support, integrated logistics and a host of other programs to help keep your systems running efficiently. We help customers analyze performance and recommend solutions that make sense for their unique operating systems and conditions.

First, the bearing. Then:

How do you monitor the health of your bearing?
You can use StatusCheck, handheld devices or Timken Reliability Services.

How do you plan to lubricate the bearing?
There are many advantages to using Timken lubricants.



Do you need a simplified method of lubricating bearings?
Use Timken G-Power and M-Power single-point lubricators.

Do you plan to protect machinery from contamination?
There are many advantages to using Timken's line of industrial seals.