Mitutoyo

MITUTOYO
BLUETOOTH® U-WAVE

MEASUREMENT DATA WIRELESS
COMMUNICATION SYSTEM

Bluetooth®

Easy to Connect

Receiver-less Measurement Data Wireless Communication System

Allows direct measurement data transmission to smartphones, tablets and PCs.

❋ Bluetooth®

U-WAVEPAK-BM (English version only), the communication software for transferring measurement data to smartphones and tablets is available at app stores for free download.

Get from **Google Play**

Download from **App Store**

U-WAVEPAK-BW, the computer communication software for transferring measurement data to computer software, is available for download from our company's website.

https://mitutoyo.eu/en_us/downloads/software-and-updates

Manage Measurement Data Centrally and Wirelessly on a Smartphone, Tablet or PC

Mitutoyo *Bluetooth*® U-WAVE

U-WAVE-TMB / TCB

NEW Products

More compact and thinner for a better fit with Digimatic gages, and featuring improved operability and performance inherited from its predecessor, U-WAVE-TMB / TCB is now available with Bluetooth® wireless technology. No receiver is required, and one PC can connect up to seven units of Mitutoyo *Bluetooth*® U-WAVE. Dust / water-proof models are also available for arduous shop floor usage.

IP67
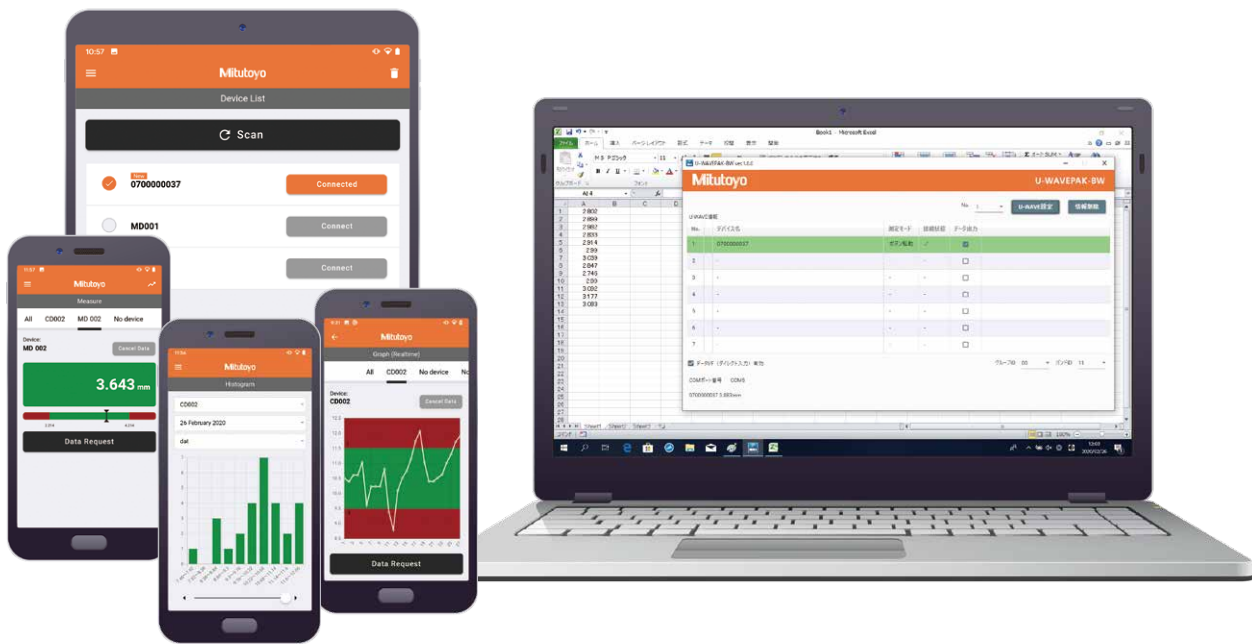
For Digimatic micrometers
U-WAVE-TMB

For Digimatic calipers
U-WAVE-TCB

Note: Connectivity of this application software and **U-WAVE-TMB**/**TCB** to every single Bluetooth® device is not guaranteed.

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Does Not Require a Receiver

Measurement data can be transmitted to PCs, tablets and smartphones without a receiver if they are equipped with Bluetooth® wireless technology.

Cost Reduction Effect

System can be configured at reduced cost, just by connecting to an existing Digimatic gage.

Higher Efficiency

Data can be input by single button operation. Since there is no need for manual input misinput does not occur. Efficiency is greatly improved.

Centralized Data Management

Measurement data can be managed centrally. "Visualization of quality" helps prevent the generation of defective products.

Easy Data Saving

Measurement data can be saved to smartphones and tablets independently of the measurement site.

You can use with confidence since it is labeled with the wireless certification number acquired in the country of purchase.

With Bluetooth® wireless technology for Easy Pairing with Your Digimatic Micrometer or Caliper

U-WAVE-TMB / TCB is compatible with most Digimatic micrometers and calipers.
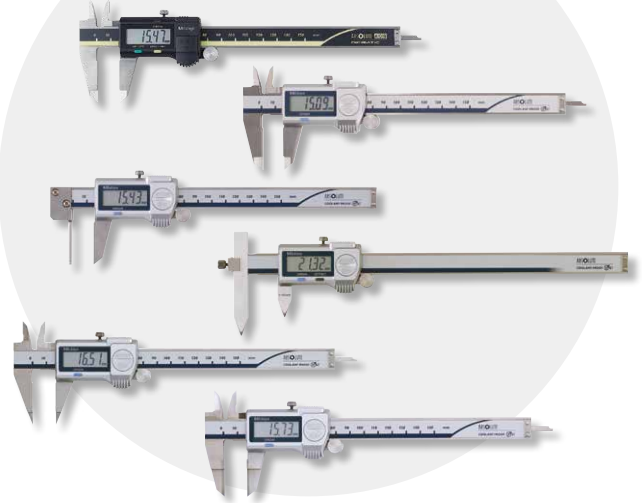**Refer to our company's website for details on product compatibility.**
https://mitutoyo.eu/application/files/8916/3393/9859/U-WAVE-TM-TC.pdf

Digimatic micrometers

Digimatic calipers

Digimatic gage, connecting unit and transmitter combinations

		Assembled appearance	Connecting unit	Transmitter
For micrometers	Standard	IP65	02AZF310	U-WAVE-TMB buzzer type 264-627
For micrometers	Water-proof type	IP65	02AZF310	U-WAVE-TMB IP67 type dust / water-proof 264-626 IP67
For calipers	Standard		02AZF300	U-WAVE-TCB buzzer type 264-625
For calipers	Coolant-proof type	IP67	02AZF310	U-WAVE-TCB IP67 type dust / water-proof 264-624 IP67

Specifications

Transmitter (Refer to page 5 for combinations.)

Product name	U-WAVE-TMB (for Digimatic micrometers)		U-WAVE-TCB (for Digimatic calipers)	
Model	U-WAVE-TMB (IP67 type dust/water-proof)	U-WAVE-TMB (buzzer type)	U-WAVE-TCB (IP67 type dust/water-proof)	U-WAVE-TCB (buzzer type)
Order No.	264-626	264-627	264-624	264-625
Protection level	IP67	N/A	IP67	N/A
Data reception indication	LED	LED, buzzer	LED	LED, buzzer
Power supply	Lithium battery CR2032×1			
Battery life	Approx. 1 year under normal conditions of use, but varies according to usage.			
Mass	18 g			
Appearance				
External dimensions	(mm) 38.8 12.9 41.9		(mm) 56 30.4 11.45	

Connecting unit (Refer to page 5 for combinations.)

Product name	Order No.	Protection level	Mass	Appearance	External dimensions
Connecting unit (for dust/water-proof type)	02AZF310	IP67	6 g		(mm) 27.15 (19.6) (14.8) 21.8 27.15 (12.75)
Connecting unit (for standard type)	02AZF300	N/A	6 g		(mm) 26.25 (19.6) 21.8 26.25 17.65 (12.75)

Wireless Communication Specifications

Wireless communication	Bluetooth® 4.2 Low Energy
Wireless communication distance	Approx. 16 m (line of sight) Approx. 10 m (in a factory environment)
Transmission output	3.2 mW (5 dBm) or less (Class2)
Modulation method	FH-SS (Frequency-hopping spread spectrum)
Communication frequency	2.4 GHz band

Note 1: To use **U-WAVE-TMB/TCB**, conformity to the radio law of each country is required. Please contact your dealer or nearest Mitutoyo sales office.
Note 2: **U-WAVE-TMB/TCB** is not compatible with **U-WAVE fit**, for which communication specifications are different.

Refer to the **U-WAVE** Brochure (PRE1493(2)) for more details.
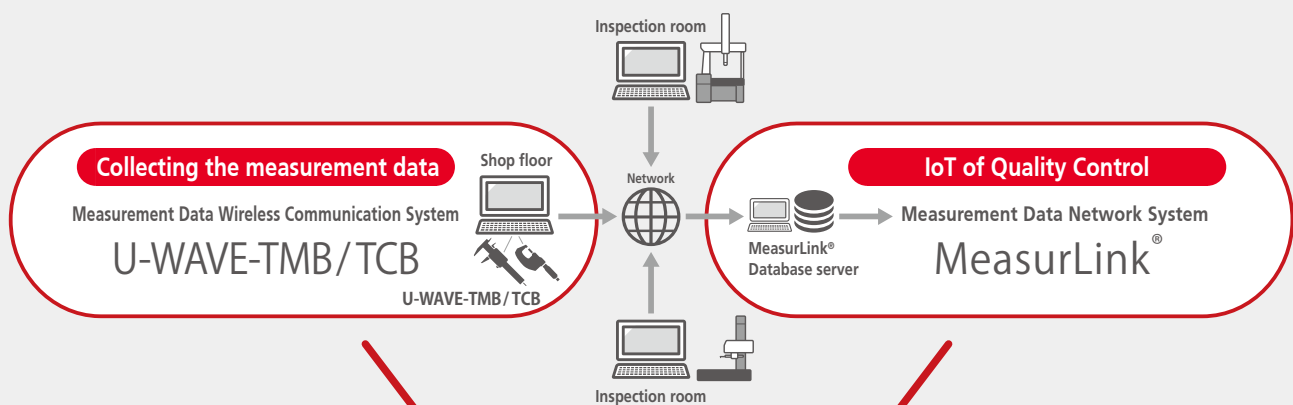https://mitutoyo.de/application/files/5416/0467/0076/PRE14932_U_WAVE_FIT_WEB.pdf

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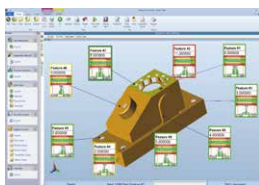## Optional Products

Application system for a PC

Product name	Model No.	Compatible OS: Windows	Compatible Excel version	Order No.	Appearance
USB-ITPAK	USB-ITPAK V2.1	10 (64 bit) Note: **U-WAVEPAK-BW** supports Windows 10 or later. Therefore, Windows 10 or later is required when running **USB-ITPAK** on **U-WAVE** Bluetooth®.	2016 (The operation with Excel for MAC OS is not guaranteed.)	06AFM386	A USB dongle must be connected to the PC running the software.

Configuring the measurement data network system MeasurLink® based on U-WAVE-TMB/TCB

Inspection room

Network

Collecting the measurement data   Shop floor

Measurement Data Wireless Communication System

U-WAVE-TMB/TCB

U-WAVE-TMB/TCB

Inspection room

IoT of Quality Control

MeasurLink®
Database server

Measurement Data Network System

MeasurLink®

Achieve "Visualization of Quality"

With MeasurLink®

MeasurLink® is an IoT platform for quality management that realizes "Visualization of Quality" by enabling real-time data collection from networked Digimatic gages and global control and analysis. **U-WAVE** supports MeasurLink® as an infrastructure that collects and controls data.

Preventing defectives

Collects data from Digimatic gages on the network and performs statistical process control (SPC) to warn of possible generation of defectives.

Diagnosis by data analysis

Checking measurement results by accessing the data base and performing various analyses helps investigate and resolve process performance concerns.

Simply start achieving IoT

In addition to conventional data storage, the network can be configured in steps to simply start IoT of Quality Control.

MeasurLink® is a registered trademark of Mitutoyo Corporation in Japan and Mitutoyo America Corporation in the United States.

Coordinate Measuring Machines	Vision Measuring Systems	Form Measurement	Optical Measuring

Sensor Systems	Test Equipment	Digital Scale and DRO Systems	Small Tool Instruments and Data Management
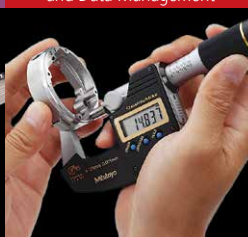
Whatever your challenges are, Mitutoyo supports you from start to finish.

Mitutoyo is not only a manufacturer of top quality measuring products but one that also offers qualified support for the lifetime of the equipment, backed up by comprehensive services that ensure your staff can make the very best use of the investment.

Apart from the basics of calibration and repair, Mitutoyo offers product and metrology training, as well as IT support for the sophisticated software used in modern measuring technology. We can also design, build, test and deliver measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.
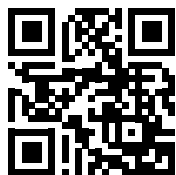
Find additional product literature and our complete catalog here.

www.mitutoyo.eu

Mitutoyo

Mitutoyo Europe GmbH

Borsigstraße 8-10
41469 Neuss
Tel. +49 (0) 2137-102-0
info@mitutoyo.eu
www.mitutoyo.eu