

Measurement Data Management

Measurement Data Wireless Communication System
U-WAVE-TMB/TCB (U-WAVE fit Bluetooth®)

- Bluetooth® communication allows for wireless transmission of measurement data from Digimatic micrometers and calipers to PCs, smartphones, tablets and other such terminals.
- Bluetooth® communication does not require a conventional receiver unit (U-WAVE-R) which improves operability and reduces costs. Use in outdoor locations where PCs cannot be used can now be easily realized.
- U-WAVEPAK-BM (free), the measurement support application software for smartphones is available for download from app stores (Google Play, Apple Store).
- U-WAVEPAK-BW (free), the communication software for transferring measurement data to optional computer software (USB-ITPAK, MeasurLink®) is available for download from our company's website.
<https://www.mitutoyo.co.jp/eng/contact/products/u-wave/>

U- WAVEPAK-BM

 Get from Google Play



 Download from App Store



U-WAVE fit Bluetooth® system configuration



No receiver is required, and one PC can connect up to seven units of U-WAVE fit Bluetooth®.

For Digimatic micrometers

U-WAVE-TMB



For Digimatic calipers





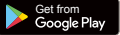



U-WAVE-TCB





Example of attaching the Digimatic indicator

Measurement Navigation Applications

Application	 Mitutoyo U-WAVE Navi	 U-WAVEPAK-BM	 U-WAVEPAK-BW
Purpose	Using the application, create a measurement procedure, display and navigate the measurement, and manage the measurement results	Measure a workpiece to perform a simple trend management	Up to seven units of U-WAVE-TCB/TMB can be set up. Measuring results can be transferred to Excel spread sheet.
Possible actions (Functions)	<ul style="list-style-type: none">Create/perform a measurement procedure (including GO/NG judgement)Navigate a measurement procedureManage/transfer a measurement procedureDisplay a list of measurement resultsTransfer a measurement result	<ul style="list-style-type: none">Go/±NG judgmentData loggingGraphical display of measurement resultDisplay the histogram of measurement resultsTransfer a measurement result (log data)	Identification of data origin Upper application (connection with USB-ITPAK, MeasurLink)
Display language	Japanese/English (Depends on the OS settings)	16 languages including English*	Japanese/English (Depends on the OS settings)
Compatible OS	Android 7.0 or later (iOS not supported)  Available from Google Play for free download.  U-WAVE Navi	Android 7.0 or later/iOS 10.0 or later  U-WAVEPAK-BM (English version only) can be downloaded for free from each app store.   U-WAVEPAK-BM	Windows10 Pro 64bit DL from the following URL https://www2.mitutoyo.co.jp/eng/contact/products/u-wave/index2.html

* Japanese, English, German, French, Italian, Polish, Portuguese, Hungarian, Korean, Chinese (traditional/simplified), Vietnamese, Thai, Malay, Indonesian, Spanish
Note1: Google Play and the Google Play logo are trademarks of Google LLC. Apple and the Apple logo are trademarks of Apple Inc.
Note2: We cannot guarantee the operation of this application and U-WAVE TMB/TCB with all Bluetooth® equipped devices.

U-WAVE-TMB / TCB (U-WAVE fit Bluetooth®)
System Communication Specifications

• 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	2.5 mW (5 dBm) or less (Class2)
Modulation method	FH-SS (Frequency-hopping spread spectrum)
Communication frequency	2.4 GHz band

- Note 1: Please purchase U-WAVE-TMB/TCB in the country where you intend to use it.
Note 2: U-WAVE-TMB/TCB is not compatible with U-WAVE fit, for which communication specifications are different.
Note 3: Connectivity of U-WAVE-TMB/TCB to every single Bluetooth® device is not guaranteed.

USB-ITPAK V3.0

Download software



USB dongle



Allows for use of all functions of the software when connected to a PC

USB-ITPAK V2.1



USB dongle



Allows for use of the software when connected to a PC

Typical applications



U-WAVE-TMB (264-626)



U-WAVE-TCB (264-625)

Transmitter/connecting unit



264-626



02AZF310



264-625



02AZF300

SPECIFICATIONS

	For Digimatic micrometers		For Digimatic calipers	
Code No.	264-626	264-627	264-624	264-625
Model	U-WAVE-TMB (IP67 type)	U-WAVE-TMB (buzzer type)	U-WAVE-TCB (IP67 type)	U-WAVE-TCB (buzzer type)
Protection level	IP67	N/A	IP67	N/A
Data reception indication	LED	LED, buzzer	LED	LED, buzzer
Power source	Lithium battery CR2032×1			
Battery life	Windows OS: Approx. 3 months, iOS/Android: Approx. 1 year			
Mass (g)	18			

Choose a connecting unit compatible with your gage.

Code No.	02AZF310	02AZF300	02AZF960	02AZF700
Protection level	IP67	N/A	IP67	N/A
Mass (g)	6			10
Connectable transmitter	U-WAVE-TMB/TCB (IP67 type)	U-WAVE-TCB (for standard type)	U-WAVE-TM (for QuantuMike*)	ID-CNX/ID-FNX (12.7mm type only)

Note: Water-proof performance is ensured only when attached to measuring instruments of IP67 type.

* 02AZF960 is applicable to new models (293-14X-40/293-18X-40). Refer to 02-5.

Compatibility of measuring tool and unit

Digimatic gage		Connecting unit/connecting cable		Transmitter	
Digimatic Micrometers		Standard type	 02AZF310	 Buzzer type U-WAVE-TMB 264-627	
		QuantuMike* (Refer to 02-5)	 02AZF960	 IP67 IP67 type U-WAVE-TMB 264-626	
Digimatic Calipers		Standard type	 02AZF300	 Buzzer type U-WAVE-TCB 264-625	
		Coolant-proof type	 02AZF310	 IP67 IP67 type U-WAVE-TCB 264-624	
Digimatic Indicators		ID-CNX/ID-FNX Series (12.7 mm type only)	 02AZF700	 Buzzer type U-WAVE-TMB 264-627	 IP67 IP67 type U-WAVE-TMB 264-626

* 02AZF960 is applicable to new models (293-14X-40/293-18X-40). Refer to 02-5.

Product catalog
E12051

