Mitutoyo

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Packages for
U-WAVE Wireless and
U-WAVE Bluetooth®

MeasurLink® ENABLED
Data Management Software by Mitutoyo

NEW Products

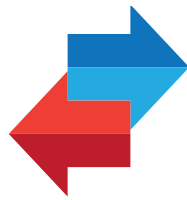**Send data wirelessly from nearly any device and to <u>any</u> software**

SMALL TOOL INSTRUMENTS
AND DATA MANAGEMENT

Mitutoyo

U-WAVE (2 OPTIONS)

U-Wave Wireless
Mitutoyo original communication
(based on IEEE 802.15.4 protocol)

**400,000 data transmission per battery
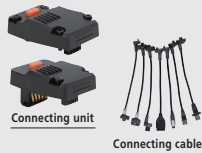20 m range
Up to 100 transmitters/receiver**

Connection

■ **Connecting unit/connecting cable**

- A compact connecting unit or cable connects the U-WAVE-TM/TC/T transmitter to the Digimatic gage.

Connecting unit
Connecting cable

Transmitters

■ **U-WAVE-TM/TC/T**

- Transmits the measurement data displayed on the gage to U-WAVE-R.

U-WAVE fit
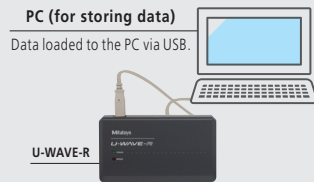U-WAVE-TC
U-WAVE fit
U-WAVE-TM
IP67
U-WAVE-T

20 m range

Receiver

■ **U-WAVE-R**

- Receives measurement data and transmits to the PC via USB.
- Since USB bus power system is used, a battery or adapter is not required.
- The supplied software U-WAVEPAK is required.
- Band ID Scan identifies the optimal frequency for data transmission
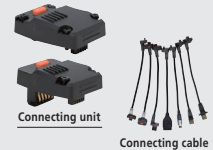
PC (for storing data)
Data loaded to the PC via USB.

U-WAVE-R

**Connect up to
100 transmitters**

U-Wave Bluetooth
**Bluetooth 4.2
communication protocol**

**50,000 to 200,000 data transmissions per battery
16 m range
Up to 7 connections/PC**

Connection

■ **Connecting unit/connecting cable**

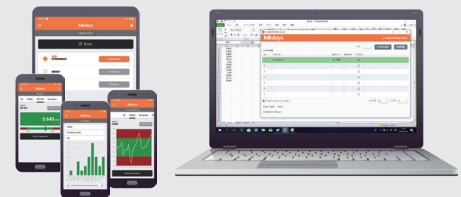- A compact connecting unit or cable connects the U-WAVE-TMB/TCB transmitter to the Digimatic gage.

Connecting unit
Connecting cable

Transmitters

■ **U-WAVE-TMB/TCB**

- Transmits the measurement data displayed on the gage to a Bluetooth enabled device.

U-WAVE-TCB
U-WAVE-TMB
IP67

16 m range

Receiver

- Bluetooth enabled PC, tablet or mobile device receives data.
- Free, optional software available for Windows and mobile devices

**Connect up to
3 transmitters**

**Connect up to
7 transmitters**

■ Function comparison table

	U-Wave Wireless	U-Wave Bluetooth
Communication protocol	Mitutoyo Original <based on IEEE802.15.4>	Bluetooth® 4.2
Communication distance	**Approx. 20 m (line of sight)**	Approx. 16 m (line of sight)
Communication frequency	2.405 to 2.475 GHz	2.402 to 2.480 GHz
Selectable frequency	Yes	Frequency hopping spread spectrum
Selectable control key	**Yes (enter, tab, left, right, up, down)**	No (simulates enter key only)
Battery life	**Approx. 400,000 transmissions**	Approx. 50,000 to 200,000 transmissions
Operating system	Windows	Windows, **iOS, Android**
U-Wave-R compatible	Required (P/N: 02AZD810D)	**No**
Maximum number of connections	**100**	7 (PC) **3 (mobile devices)**
Operation modes	Keyboard emulator or VCP	
Measurement modes	Button or event driven (data request from PC or on timed interval)	
Long button press	Cancel data command	
LED	Data confirmation and low battery warning	
Data export	Microsoft® Excel® or SPC software applications	
Durability	Dust/waterproof and shop-hardened with proprietary fiber-reinforced plastic housing	

Bluetooth® type models have the ❋ mark.

For micrometers
For calipers

MeasurLink® ENABLED
Data Management Software by Mitutoyo

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U-WAVE Wireless Packages

"U-WAVE", the measurement data wireless communication system, collects data in the inspection process swiftly and accurately, and increases a company's competitiveness based on detailed data analysis. In addition, together with MeasurLink, "IoT of Quality Control envisioned by Mitutoyo" can be achieved.

– U-Wave Wireless packages require U-Wave R Part #02AZD810D, sold separately.
– Gages sold separately.

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Order Number	Description	Components
264-622-TYPF	**U-Wave Wireless Package for F-Type Indicators**	02AZF670 02AZD790F 264-622
02AZF670	U-WAVE-TM/TMB BRACKET FOR INDICATORS	
264-622	U-WAVE-TM/IP67 TYPE	
02AZD790F	U-WAVE CONNECTING CABLE F	
264-622-TYPF-FSW	**U-Wave Wireless Package w/ Footswitch for F-Type Indicators**	02AZE140F 937179T
02AZF670	U-WAVE-TM/TMB BRACKET FOR INDICATORS	
264-622	U-WAVE-TM/IP67 TYPE	
02AZE140F	CONNECTION CABLE TYPE F FOR FOOTSWITCH	
937179T	FOOT SWITCH	
264-622-IP-M	**U-Wave Wireless Package for Micrometers**	02AZF310 264-622
264-622	U-WAVE-TM/IP67 TYPE	
02AZF310	CONNECTION UNIT WATERPROOF TYPE	
264-620-IP-S	**U-Wave Wireless Package for Standard Calipers**	02AZF300 264-620
264-620	U-WAVE-TC/IP67 TYPE	
02AZF300	CONNECTION UNIT STANDARD TYPE	
264-620-IP	**U-Wave Wireless Package for Coolant-proof Calipers**	02AZF310 264-620
264-620	U-WAVE-TC/IP67 TYPE	
02AZF310	CONNECTION UNIT WATERPROOF TYPE	
02AZD730G-TYPD	**U-Wave Wireless Package for SJ Units, QMH, and LSM**	02AZD730G 02AZD790D 02AZE200
02AZD730G	U-WAVE-T/IP67 TYPE	
02AZD790D	U-WAVE CONNECTING CABLE D	
02AZE200	U-WAVE-T INSTALLATION KIT	
02AZD730G-HG	**U-Wave Wireless Package for 192 and 570 Series Height Gages**	02AZD730G 02AZD790F 02AZE200
02AZD730G	U-WAVE-T/IP67 TYPE	
02AZD790F	U-WAVE CONNECTING CABLE F	
02AZE200	U-WAVE-T INSTALLATION KIT	

U-WAVE Bluetooth® Packages

U-WAVE-TMB/ TCB are transmitter models using Bluetooth® wireless technology. No receiver is required, and one PC can connect up to seven units of U-Wave Bluetooth®. U-Wave Bluetooth packages require a BLE4.2 enabled device.
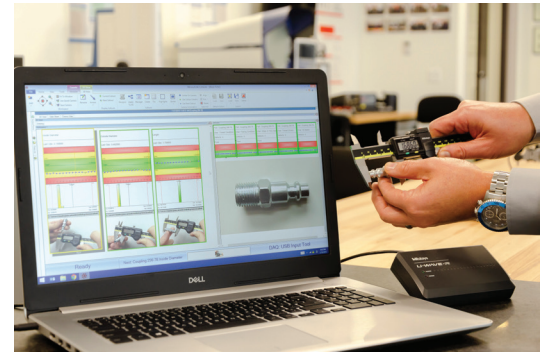– *Gages sold separately.*

MeasurLink® ENABLED
Data Management Software by Mitutoyo

Order Number	Description	Components
264-626-TYPF	**U-Wave Bluetooth Package for F-Type Indicators**	
02AZF670	U-WAVE-TM/TMB BRACKET FOR INDICATORS	
264-626	U-WAVE-TMB/IP67 TYPE BLUETOOTH	
02AZD790F	U-WAVE CONNECTING CABLE F	

02AZF670 · 02AZD790F · 264-626

264-626-TYPF-FSW	**U-Wave Bluetooth Package w/Footswitch for F-Type Indicators**	
02AZF670	U-WAVE-TM/TMB BRACKET FOR INDICATORS	
264-626	U-WAVE-TMB/IP67 TYPE BLUETOOTH	
02AZE140F	CONNECTION CABLE TYPE F FOR FOOTSWITCH	
937179T	FOOT SWITCH	

02AZE140F · 937179T

264-626-MIC	**U-Wave Bluetooth Package for Micrometers**	
264-626	U-WAVE-TMB/IP67 TYPE BLUETOOTH	
02AZF310	CONNECTION UNIT WATERPROOF TYPE	

02AZF310 · 264-626

264-624-CALIPER	**U-Wave Bluetooth Package for Standard Calipers**	
264-624	U-WAVE-TCB/IP67 TYPE BLUETOOTH	
02AZF300	CONNECTION UNIT STANDARD TYPE	

02AZF300 · 264-624

264-624-CALIPER67	**U-Wave Bluetooth Package for Coolant-proof Calipers**	
264-624	U-WAVE-TCB/IP67 TYPE BLUETOOTH	
02AZF310	CONNECTION UNIT WATERPROOF TYPE	

02AZF310 · 264-624

264-624-TYPD	**U-Wave Bluetooth Package for SJ Units, QMH, and LSM**	
264-624	U-WAVE-TCB/IP67 TYPE BLUETOOTH	
02AZD790D	U-WAVE CONNECTING CABLE D	

02AZD790D · 264-624

264-624-HG	**U-Wave Bluetooth Package for 192 and 570 Series Height Gages**	
264-624	U-WAVE-TCB/IP67 TYPE BLUETOOTH	
02AZD790F	U-WAVE CONNECTING CABLE F	

02AZD790F · 264-624

MeasurLink®

Real-Time SPC & Data Collection Software
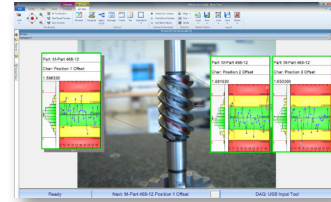
Add MeasurLink® for a complete data management solution

▶ MeasurLink® is a modular data management software system that enables collecting data from a wide range of Mitutoyo measuring tools and systems including Coordinate Measuring Machines.

▶ MeasurLink® supports anything from small-scale, standalone systems to large-scale systems utilizing a PC network environment. Expansion from a standalone installation to a networked system can be performed with ease, allowing a gradual upgrade from a single-test operation in one section to a full-scale operation.

■ Use MeasurLink® to:

● Reduce costs associated with inspection, rework and scrap

● Ensure part quality and consistency

● Increase data visibility and accessibility

● Increase ease of use for Quality and Manufacturing

● Reduce manufacturing defects using real-time SPC

● Retain data in a relational database

Whether collecting, monitoring, analyzing, or storing data in a single application or plant-wide, **MeasurLink® is a complete Data Management solution.**

MeasurLink® Video

Digital Gages Incompatible with Packages

Transmitter models TM, TMB, TC, and TCB packages are not available for all digital gages. See table below for digital gages incompatible with U-Wave packages. For wireless or wired data output for the gages below, please select the individual applicable components from the catalog or contact your Mitutoyo Representative.

	Model	Part Numbers
Micrometers	Adjustable Force Mic	**227 Series**
	MDH	**293-100/293-130**
	Digimatic Micrometers with interchangeable standards 12-20" (300 to 508mm)	**293 Series 12-20" (300 to 508 mm)**
	MDQ	**All Quickmikes**
	Digimatic Micrometers with interchangeable anvils above 12" (300 mm)	**340 series above 12" (300 mm)**
	Disk Micrometers Quickmike Type	**369-411/412/421/422**
	Blade Micrometers Quickmike Type	**422-411/412/421/422**
Calipers	ABSOLUTE Digimatic and Coolant-Proof Calipers above 12" (300 mm)	**500 Series above 12" (300 mm)**
	Super Caliper -- Solar Powered	**500-784**
	Nib style caliper	**551-224-10/226-10/227-10**
	Carbon Fiber Calipers	**552 Series**
	Back jaw centerline caliper	**573-116-10/117-10/118-10/119-10**
	Snap Caliper	**573-181-30/182-30/281-30/282-30**
	Knife-edge caliper	**573-742**
	Digimatic Depth Gage	**571 series above 12"**
Height Gages	LH-600	**518-351A-21/352A-21**
Indicators	ID-N/B	**543-570/571/575/576/580/581/585/586**
	ID-U	**575-121/122/123**

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Coordinate Measuring Machines
Vision Measuring Systems
Form Measurement
Optical Measuring
Sensor Systems
Test Equipment and Seismometers
Digital Scale and DRO Systems
Small Tool Instruments and Data Management

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