## Order No.

| | |
|---|---|
| Model No. | **USB-ITPAK V2.0** |
| Order No. | **06AEN846** |

Upgrade pricing from V1.0 is not available. Please purchase V2.0.

### USB-ITPAK V2.0 USB dongle

A USB dongle must be connected to the PC running the software.

## Operating environment

| | |
|---|---|
| Compatible OS *1 | Windows 2000 SP4<br>Windows XP SP2 or later<br>Windows Vista<br>Windows7<br>Windows8<br>Windows8.1 |
| Supported Excel versions *2 | Excel 2000<br>Excel 2002<br>Excel 2003<br>Excel 2007<br>Excel 2010<br>Excel 2013 |
| Hard disk | Free space of more than 10MB |
| CD-ROM drive | For program installation |
| USB port *3 | 2 ports or more |
| Monitor resolution | 800×600, 256 colors or more |

*1: 32-bit, 64-bit OS supported
*2: Operation with Excel for MAC OS is not guaranteed.
*3: A commercially available hub can be used.
(USB certified product is recommended)

## Language support

- Operation language (15 languages)
  Japanese, English, German, French, Spanish, Italian, Czech, Swedish, Turkish, Polish, Hungarian, Russian, Korean, Chinese (traditional/simplified), and Simplified Chinese
- Operation manual (PDF file)
  Japanese, English, German

## Order No. Price

| | |
|---|---|
| Model No. | **USB-FSW** |
| Order No. | **06ADV384** |

## Foot Switch Adapter USB-FSW


# Common optional software IT-016U/USB-ITN and U-WAVE

## Measurement data collection software USB-ITPAK V2.0 (IT-007R are not supported)

**Upgraded USB-ITPAK now supports U-WAVE, a wireless communication system. Both wired connection (IT-016U/USB-ITN) and wireless system (U-WAVE) are supported.**

### New functions of USB-ITPAK V2.0

- Supports the U-WAVE wireless communication system
- Timer input function
- Measurement date/time display
- Others: Compatible with Windows 8, 64-bit OS, and Russian included in the operating language selection

USB-ITPAK V2.0 creates a procedure to input data from gages equipped with Digimatic output to Excel sheets via USB-ITN or U-WAVE. This optional software facilitates the daily inspection work for mass-produced products.

**The combined use with USB-ITPAK V2.0 will improve the operational efficiency of repetition inspection work. Best suited for keeping track of inspection data of mass-produced products.**

- Automatically calls Excel sheet.
- Cursor moves can be specified.
- Input range can be specified per Digimatic gage, which reduces improper input.
- The last data input can be canceled by a single operation (foot switch, function key etc.)
- Data input or cancellation can be performed at once in multiple-point simultaneous measurement.

## Main features of USB-ITPAK V2.0

- **Setting of Microsoft Excel input:**
  Designation of where to input (workbook, worksheet, cell range), cursor move (right, down), and others.
- **Selection of measuring method (3 modes available)**
  (1) Sequential measurement (2) Simultaneous measurement (3) Individual measurement (refer to page A-12 for details).
- **Control item and instruction at data input** (Note 1: Not available during individual measurement, Note 2: Not available during simultaneous measurement in the event drive mode)

| Control item | Mouse operation | Function key | Foot switch + USB-FSW | Data switch when using U-WAVE | Data switch other than U-WAVE |
|---|---|---|---|---|---|
| Data output request | ✓ (Note 1) | ✓ (Note 1) | ✓ | ✓ (Note 2) | ✓ |
| Data cancel | ✓ (Note 1) | ✓ (Note 1) | ✓ | ✓ Press and hold (Note 2) | – |
| Data skip | ✓ (Note 1) | ✓ (Note 1) | ✓ | – | – |
| Character input (example: OK or NG etc.) | – | – | ✓ Pre-registered character strings | – | – |

- **Number of connectable gages** (Note 3: The actual number can be less depending on the system configuration.)

| Available devices | Maximum number of connection (total of (1), (2), and (3)) | Others |
|---|---|---|
| (1) **IT-016U/USB-ITN**<br>(2) **USB-FSW**<br>(3) **U-WAVE-R**<br>(Up to 100 gages can be per one unit of **U-WAVE**. **U-WAVE-T** ID: 00 to 99) | For Windows 2000/XP<br>Up to 100 units (Note3)<br>For Windows Vista/7/8<br>Up to 20 units (Note3)<br>(For **U-WAVE-R**, plus 100 per unit in terms of available gages.) | • Maximum registration (total of (1), (2), and (3)) 400 units<br>• Control/identification of connecting gage VCP (Virtual COM port) Switch from HID to VCP for (1) and (2). The VCP driver software is supplied with **USB-ITPAK**. |

- **Data loading time:** when using **USB-ITN**, 0.2s to 0.3s per gage unit
  U-WAVE event drive mode: 0.5s data refresh interval
- **Timer input function** (only in simultaneous measurement)
  Input interval (time): 0.1s (Note 4) to 24 hours at maximum
  (Note 4: If a shorter time is set, a priority is given to the longer time compared with the actual communication time.)
- **Measurement date/time display function** (available in sequential and simultaneous measurements)
  The display format is subject to the setting of the Excel sheet.

## USB Foot Switch Adapter USB-FSW

This USB adapter for connecting a PC is required when using the Foot Switch (**No. 937179T**) in **USB-ITN**.
A dedicated VCP driver* for this adapter is included in **USB-ITPAK**.

## Main specification

- With **USB-ITPAK**, application of the foot switch can be set.
- Data control: "Data request","Data cancel", "Data skip"
- Character string input (e.g. GO/NG, etc.)

*USB-FSW is used for installation of the VCP driver.








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# Measurement Data Management

Convenient data collection tool and quality control software

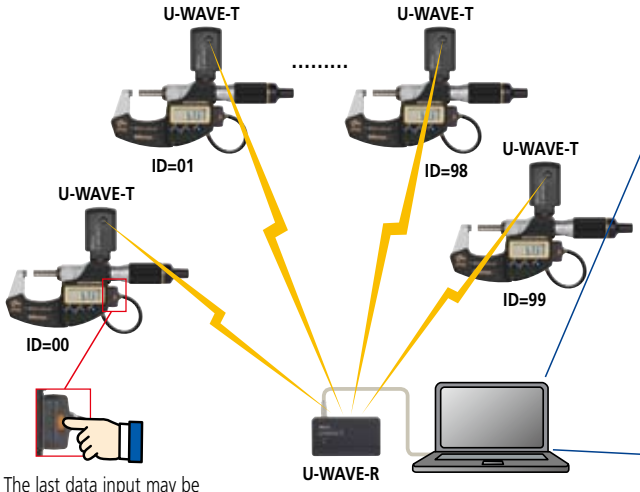
## Measurement Data Management
## USB-ITPAK V2.0 USB-ITPAK V2.0 (Not available for IT-007R)

A

**More applications can be handled due to new features** (Wireless (**U-WAVE**) support, Timer input, Measurement date/time display)

**Example of measurement using the U-WAVE wireless communication system — data sorting of individual measurements**

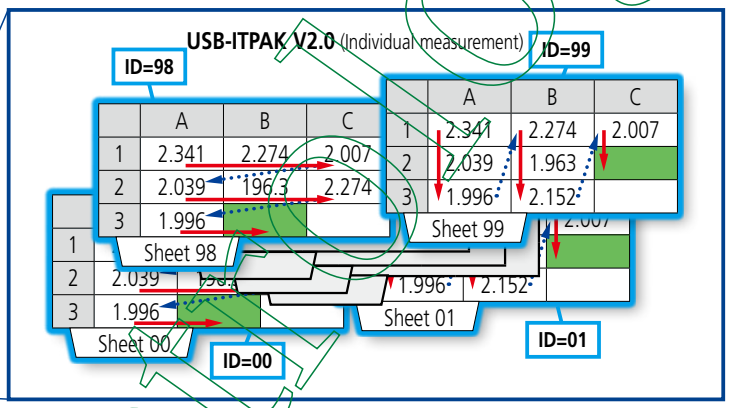
### Data from multiple Digimatic gages sent to separate Excel sheets




The last data input may be cancelled by pressing and holding the data switch

Up to 100 gages can be handled by one **U-WAVE-R** unit

Loading data from multiple Digimatic gages (**U-WAVE-T**) into separate Excel sheets is now available without the need for macro programming.



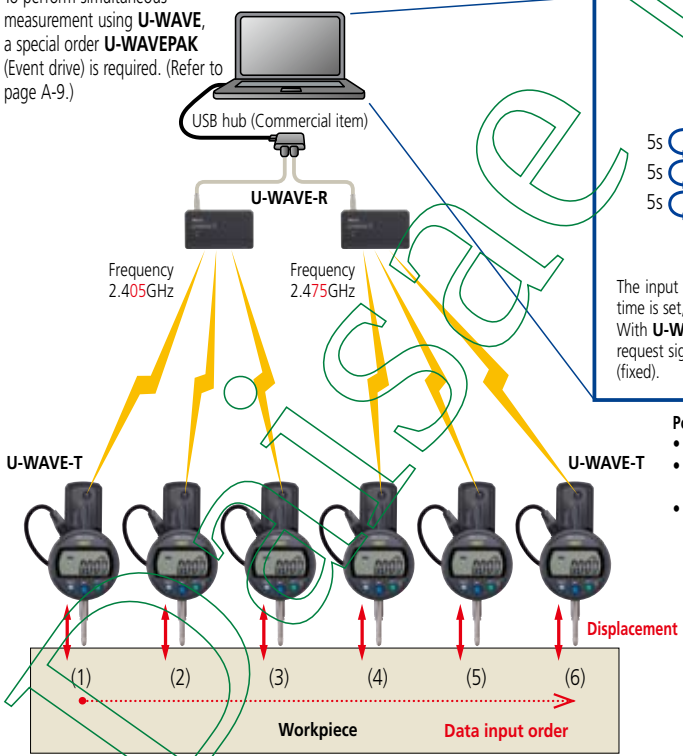

Entry point can be specified per gage (by **U-WAVE-T** ID).
- Specifying an Excel file: Excel Book (full path) + sheet name
- Specifying data input cells (example: A1:C3)
- Specifying cursor move (right or down)

**Example of measurement using the U-WAVE wireless communication system — timer input + measurement date/time display during simultaneous measurement**

### Automatically obtains displacement data in a certain input interval

If using **USB-ITPAK V2.0** supporting **U-WAVE** event drive, arbitrary timer input is allowed without the need for macro programming.

To perform simultaneous measurement using **U-WAVE**, a special order **U-WAVEPAK** (Event drive) is required. (Refer to page A-9.)




**USB-ITPAK V2.0** simultaneous measurement + timer input (example: 5s interval)

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | Displacement (1) | Displacement (2) | Displacement (3) | Displacement (4) | Displacement (5) | Displacement (6) | Measurement date/time |
| 2 | 0.281 | 0.162 | 0.121 | 0.051 | 0.011 | −0.001 | 2013/4/1 7 30 00 |
| 3 | 0.279 | 0.152 | 0.133 | 0.064 | 0.018 | −0.003 | 2013/4/1 7 30 05 |
| 4 | 0.265 | 0.149 | 0.142 | 0.089 | 0.021 | −0.007 | 2013/4/1 7 30 10 |
| 5 | | | | | | | |
| 6 | | | | | | | |

5s
5s
5s

The input interval can be arbitrarily set by 0.1s intervals up to 24 hours. If a smaller value than the data loading time is set, the actual measurement time will be the input interval.
With **U-WAVE**, an error (no data) may occur if less than 0.5s is set for the input interval. This is because the data request signal is issued before the data comes in, based on the event drive data refresh interval that is set to 0.5s (fixed).

**Points to note when performing simultaneous measurement using U-WAVE and USB-ITPAK V2.0**
- Besides **U-WAVE**, a special order **U-WAVEPAK** (Event drive) is required.
- The battery life of **U-WAVE-T** becomes shorter in the event mode, reducing to approximately 20 days for continuous measurement.
- When using several Digimatic gages, communication errors may occur because simultaneous transmission from all gages may cause radio interference.
  With **U-WAVE**, radio wave interference can be mostly avoided if data is transmitted after making sure there is no other radio communication.
  CSMA/CA method: this avoids radio interference and enables successful simultaneous data transmission of three U-WAVE-T units per **U-WAVE-R**.
  To perform simultaneous measurement with more than three units of U-WAVE-T, add U-WAVE-R and set different frequencies (15 ch) to avoid radio interference.

## Create Microsoft Excel input procedures with USB-ITPAK V2.0 to handle data from U-WAVE or the USB Input Tool Direct

## Measurement applications of USB-ITPAK V2.0 (Three examples of how USB-ITPAK V2.0 can be deployed are shown below)

### Sequential measurement

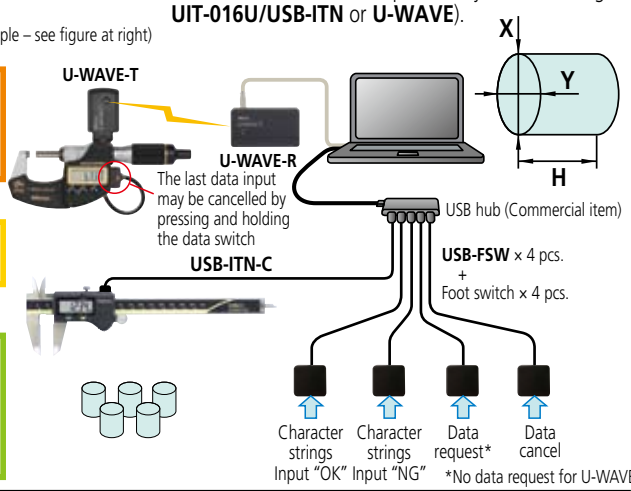
Measurement values are input one by one according to a procedure previously defined by using one or more Digimatic gages (via **UIT-016U/USB-ITN** or **U-WAVE**).

(Measurement example – see figure at right)

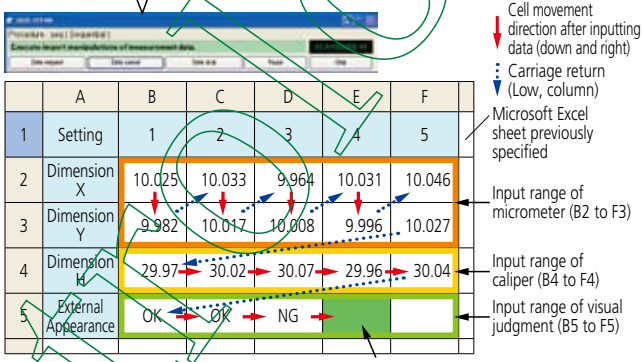
(1) Measure outside diameter at X and Y of 5 workpieces with a micrometer.

(2) Measure length H of 5 workpieces.

(3) Inspect external view to check if there are any scratches or color shading and input "OK" or "NG".



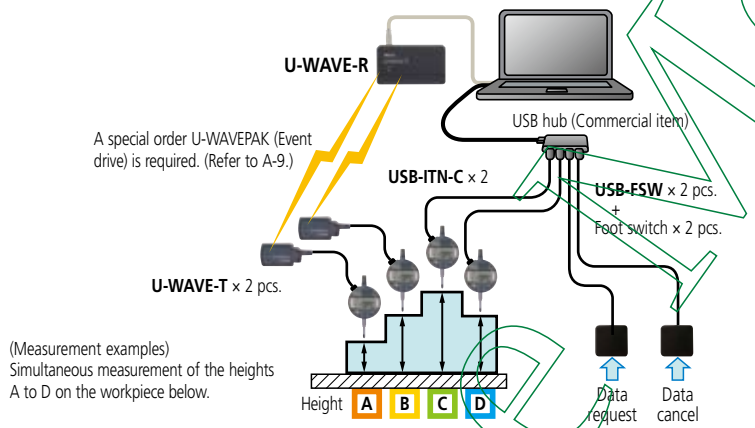

When a measuring procedure is executed, a window (as below) is displayed. "Data request*", "Data cancel*", "Data skip*", "Aborting", "Complete" can be specified.
* These operations can be allocated to the function key or foot switch (via USB-FSW).

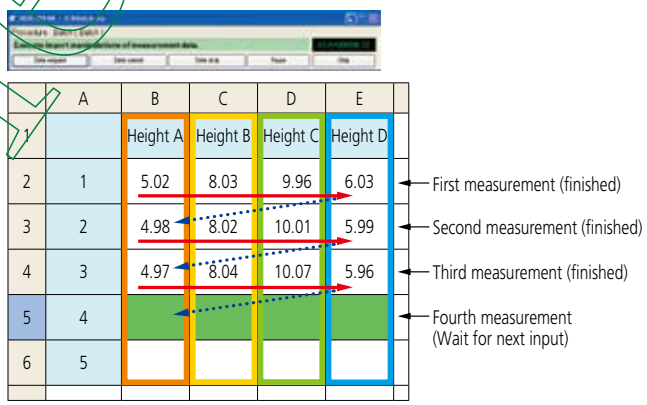



| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | Setting | 1 | 2 | 3 | 4 | 5 |
| 2 | Dimension X | 10.025 | 10.033 | 9.964 | 10.031 | 10.046 |
| 3 | Dimension Y | 9.982 | 10.017 | 10.008 | 9.996 | 10.027 |
| 4 | Dimension H | 29.97 | 30.02 | 30.07 | 29.96 | 30.04 |
| 5 | External Appearance | OK | OK | NG | | |

### Simultaneous measurement

Measurement values are input simultaneously from several Digimatic gages (via **IT-016U/USB-ITN**, **U-WAVE**)



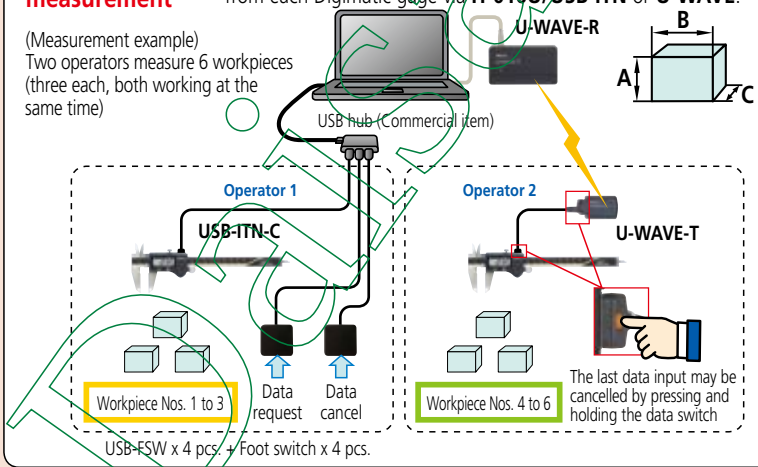




| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | | Height A | Height B | Height C | Height D |
| 2 | 1 | 5.02 | 8.03 | 9.96 | 6.03 |
| 3 | 2 | 4.98 | 8.02 | 10.01 | 5.99 |
| 4 | 3 | 4.97 | 8.04 | 10.07 | 5.96 |
| 5 | 4 | | | | |
| 6 | 5 | | | | |

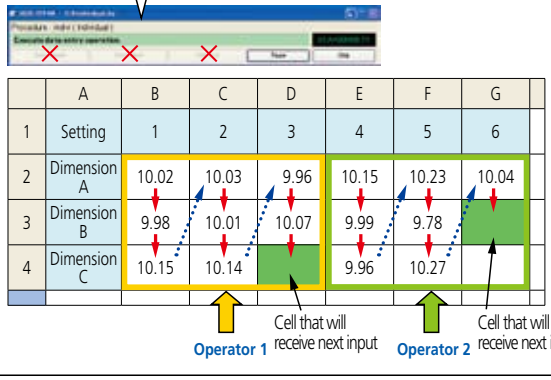
### Individual measurement

Several operators input measurement data asynchronously according to individually defined procedures (where to input, move direction, etc.) from each Digimatic gage via **IT-016U/USB-ITN** or **U-WAVE**.

(Measurement example)
Two operators measure 6 workpieces (three each, both working at the same time)




Since several individual operators perform measurement simultaneously, an operation key and a function key in the window below cannot be used at the same time. The only effective input device in this case is the foot switch (via USB-FSW).




| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | Setting | 1 | 2 | 3 | 4 | 5 | 6 |
| 2 | Dimension A | 10.02 | 10.03 | 9.96 | 10.15 | 10.23 | 10.04 |
| 3 | Dimension B | 9.98 | 10.01 | 10.07 | 9.99 | 9.78 | |
| 4 | Dimension C | 10.15 | 10.14 | | 9.96 | 10.27 | |

Notes on using USB-ITPAK:
Do not merge the cells in the specified range as a measurement data input.
During measurement, the Microsoft Excel worksheet cannot be modified in any way apart from entering data. If you need to modify the sheet, it is necessary to abort or finish the measurement.





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