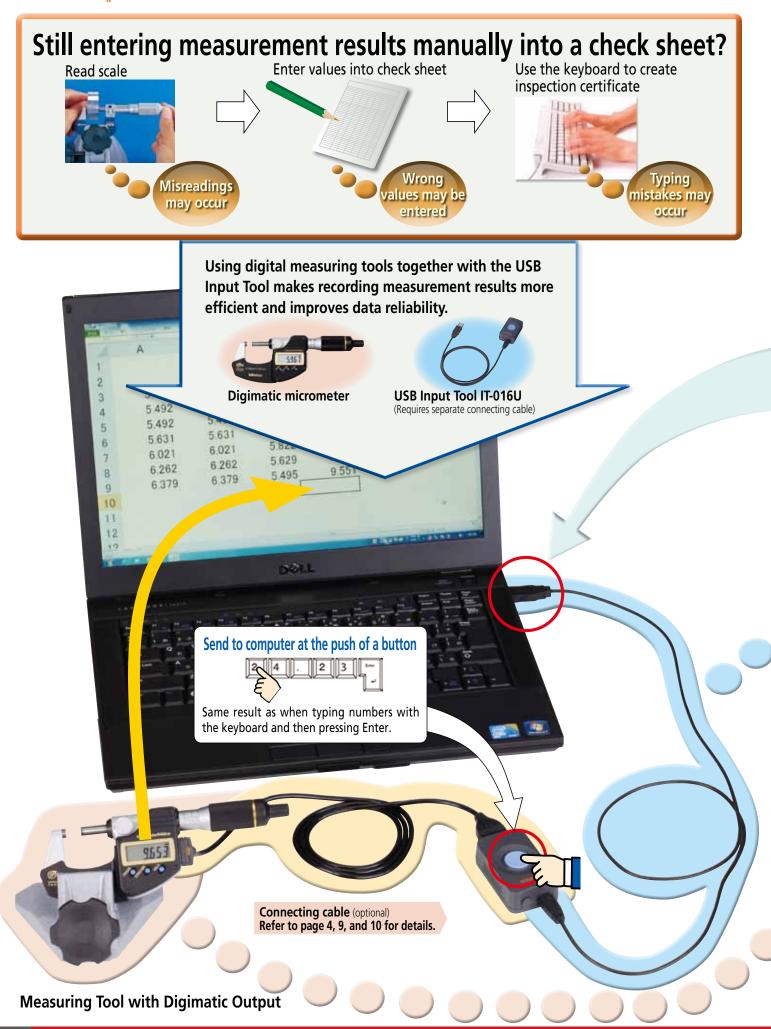


Measurement Data Input Unit

## **USB Input Tool Series**



## **M**itutoyo



# The USB Input Tool lets you send measurement data to a computer at the simple push of a button!

## No need for initial setup, and cost is eminently affordable!



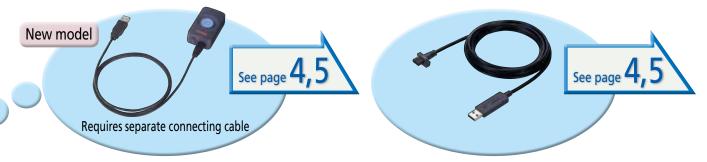
Input Tool Series IT-016U Page 4 and 5
Connecting Configuration / USB-ITN Page 4 and 5
Specifications IT-007R Page 6

Optional Software USB-ITPAK V2.0 Pages 7-9

Measuring Tool Compatibility List Pages 10-11

When connected, the USB Input Tool is recognized automatically as an HID (Human Interface Device) keyboard (using the standard Windows driver).

The USB Input Tool requires no setup and is very reasonably priced. It is ideal for moving away from manual recording and for maintaining quality records in electronic form, which are vital first steps towards higher inspection efficiency and reliability. An existing measuring tool with digimatic output can be used. Simply purchase the USB Input Tool and use it to send measurement data to a personal computer (a connecting cable is required depending on the models). Two different series are available in various configurations to fit different application scenarios.



### **USB Input Tool IT-016U**

### **USB Input Tool Direct USB-ITN**

### Use your existing measuring tool equipped with a data output



Remove the cover to access the output connector

You may already own a measuring tool that can be used. See the photographs below to check whether it has a Digimatic output connector.

The connector type may be different, depending on the measuring tool model. See the list showing measuring tool compatibility on pages 10-11.



**Digimatic Indicator** 



Old-model Digimatic Micrometer



Waterproof Digimatic



**Digimatic Height Gage** 



Hardness Testing Machine (rear view)



Production Line Surface Roughness Measuring Instrument





## USB Input Tool Connecting Configurations/Sp

Merely connecting this tool to a PC allows measurement data to be input to Excel, Memo Pad, etc. Two types of USB input tools are available depending on your purpose.

(1) USB Input Tool

IT-016U

Released in Jan. 2015

#### Box type equipped with a built-in data switch and an add-on foot switch terminal

This interface box is provided with a larger data input switch compared with the old type (from ø4mm to ø18mm), improving operability.

The switch has also widely increased in durability. (From million times to ten million times)



Easy data input is enabled by connecting the foot switch (optional). (The foot switch terminal comes standard.)









#### NOTE:

If your tool is renewed from **IT-012U**, note that some instrument models may not be connected. Please refer to Note 2 in the List of Compatible Instruments on page 11.

#### (2) USB Input Tool Direct

**USB-ITN** 

(7 Models) Released in Jun. 2010

#### Slimline, cable-integrated type

This tool is a cable-integrated type slimmed down by eliminating the interface box. It provides simple connecting to a PC and smooth cable routing, thus improving workability.

#### <Caution in combining with an instrument>

USB-ITN-D/E/F/G type which has no data switch on the connector part of the input tool cannot be used depending on the instrument to be combined.\* In this case, use box type IT-016U with a data switch.





#### Combination of IT-016U and Dedicated Option of USB-ITN

For details, refer to pages 6 to 8.

#### The efficiency of recording inspection results in Excel has improved.

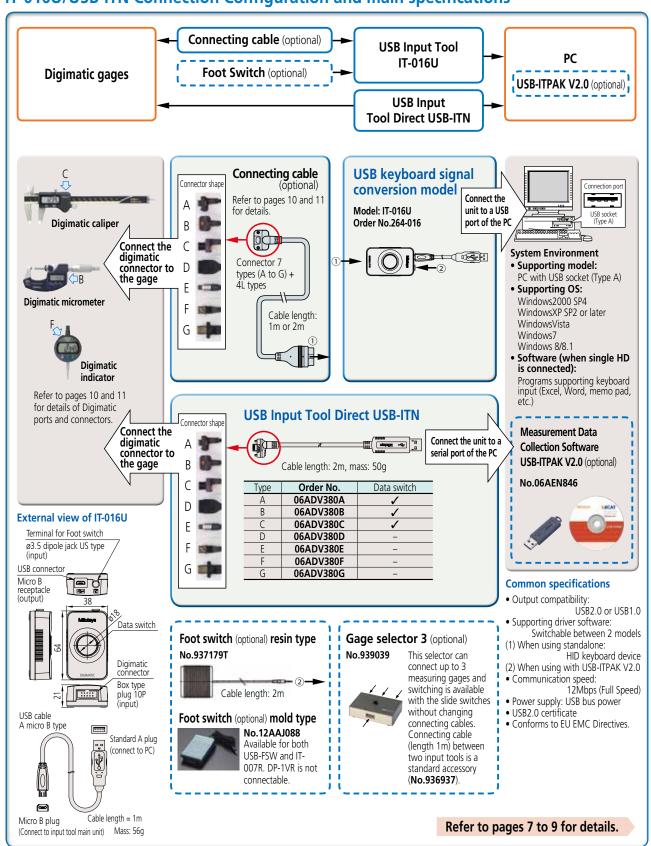
For the clients who feel that it is not enough to merely load numeric data into Excel, Mitutoyo has increased the efficiency of inspection task including repeated operations through the combination of optional software **USB-ITPAK V2.0** that enables creation of inputting procedure to any Excel sheet.

**Usage example in combination with USB-ITPAK V2.0:** Efficiency improvement in inspection tasks to be daily performed in the same repeated procedure such as sampling or 100% inspection of mass-produced products

<sup>\*</sup> Please refer to Note 1 in the List of Compatible Instruments on page 11.

## ecifications

### IT-016U/USB-ITN Connection Configuration and main specifications







## **Input Tool Connection Configuration/Specifications**

### Input tool series RS-232C communication conversion type

## **IT-007R**

#### Input tool for RS-232C communication best suited for communication control of the software!

Control is available by transmitting data request commands via RS-232C communication.

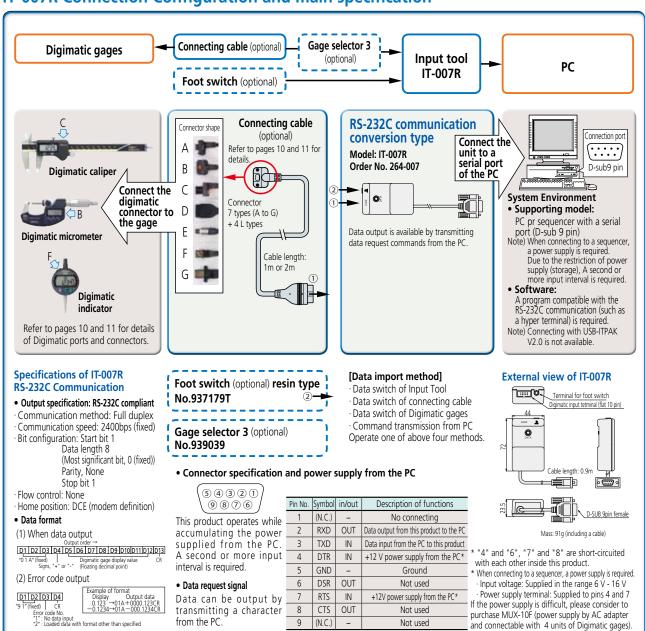
For example, production engineers can create communication programs to load the measurement data by transmitting a command from the PC.

This product is a compact and low-cost RS-232C communication interface, which is convenient when it is installed in a machine tool or dedicated device to feed back measurement data (for connection other than to a PC, a separate power supply is required).



### IT-007R Connection Configuration and main specification

from the PC.



(N.C.)

Not used



Note: These options are common for IT-016U, USB-ITN, and U-WAVE. They cannot be used with the IT-007R. **U-WAVE** is measurement data wireless communication system. For the system summary, refer to the U-Wave leaflet.

#### Measurement data collection software

## **USB-ITPAK V2.0**

(IT-007R are not supported)

Upgraded USB-ITPAK V2.0 now supports U-WAVE, a wireless communication system. Both wired connecting (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 IT-016U or USB-ITN or U-WAVE.

Using together with USB-ITPAK V2.0 will further 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),
- Selection of measuring method (3 modes available)
- (1) Sequential measurement (2) Simultaneous measurement (3) Individual measurement (refer to page 11 for details)
- Data handling
- Commands available: "Data Output Request", "Data Cancel", "Data Skip", "Arbitrary Character Input" (available only after prior registration and with a foot switch) Command input methods: Pressing a mouse, function key, foot switch, etc. (available only with a foot switch in the discrete measurement mode)
- Number of connectable devices and others

Connectable devices: (1) IT-016U, (2) USB-ITN, (3) USB-FSW, (4) U-WAVE-R (Each U-WAVE-R can accept measurement data from up to 100 registered instruments)

Number of connectable devices (total number of (1) (2) (3) (4) ):

- 100 devices or less for Windows 2000/XP
- 20 devices or less for Windows Vista/7/8/8.1

Number of registerable instruments (total number of (1) (2) (3) (4) ): 400 instruments or less Method to control/identify connected devices: VCP (Virtual COM Port) - for device types (1)

- and (2), the driver software is switched from HID to VCP to apply this method.

   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 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.

#### Order No.

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

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

on the Mitutoyo website.

#### **USB-ITPAK V2.0 USB dongle**



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

#### Operating environment

Compatible OS *1	Windows 2000 SP4, Windows XP SP2 or later, Windows Vista, Windows7, Windows8, Windows8.1
Supported Excel versions *2	Excel 2000, Excel 2002, Excel 2003, Excel 2007, Excel 2010, Excel 2013
Hard disk	Free space of more than 20MB
CD-ROM drive	For program installation
USB port *3	2 ports or more (for USB dongle and USB-ITN)
Monitor resolution	800×600, 256 colors or more

- \*1: 32-bit, 64-bit OS supported
- Operation with Excel for MAC OS is not guaranteed
- 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
- USB ITPAK V2.0 and the PC Operating System must use the same natural language

### **USB Foot Switch Adapter**

<TIP> Refer to the USB-ITPAK V2.0 user's manual

http://www.mitutoyo.co.jp/eng/

## JSB-FS

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 V2.0**.

#### **Order No. Price**

Model No.	USB-FSW
Order No.	06ADV384

#### Foot Switch Adapter USB-FSW

Overall length: 160mm



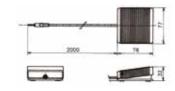
#### Main specification

- USB-ITPAK V2.0 supports use of the foot switch for data handling.
- 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.



#### **External view**

Unit:mm



Output data by causing a contact signal from the Foot Switch.







Note: These options are common for IT-016U, SB-ITN and U-WAVE. They cannot be used with the IT-007R.

## **USB-ITPAK V2.0**

measurement examples: 3 measurement methods by USB-ITPAK V2.0 are explained with example below.

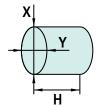
<TIP> User's manual for USB-ITPAK V2.0 is posted on our website with details of setting procedures, etc. http://www.mitutoyo.co.jp/eng/

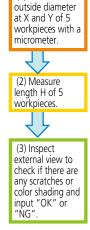


Measurement values are input one by one according to a procedure previously defined by using one or more Digimatic gages (via **IT-016U** or **USB-ITN** or **U-WAVE**).

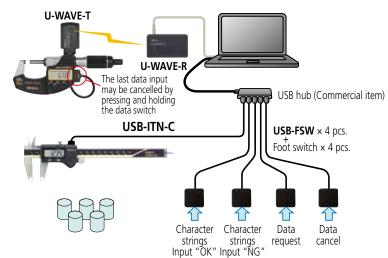
#### <Measurement examples>

Outside diameter in X and Y directions and length H for the workpiece below are measured in order for 5 pieces and finally perform OK/NG judgement for external view by visual check (scratches, color unevenness, etc.).



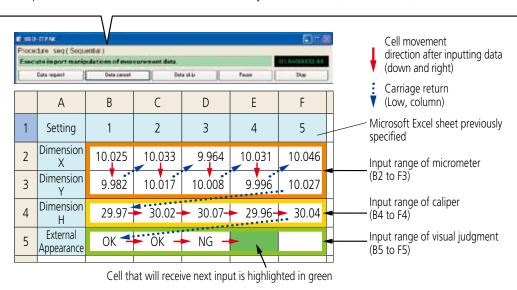


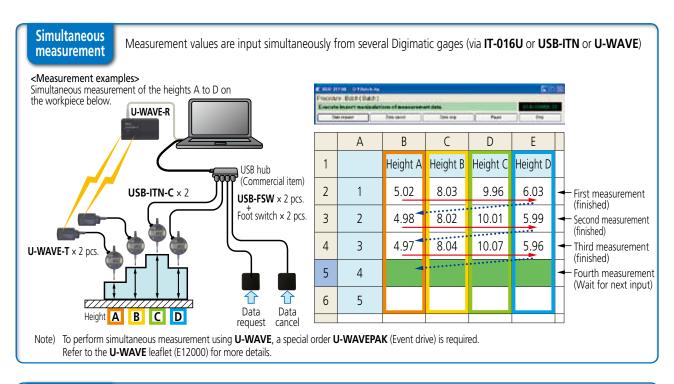
(1) Measure

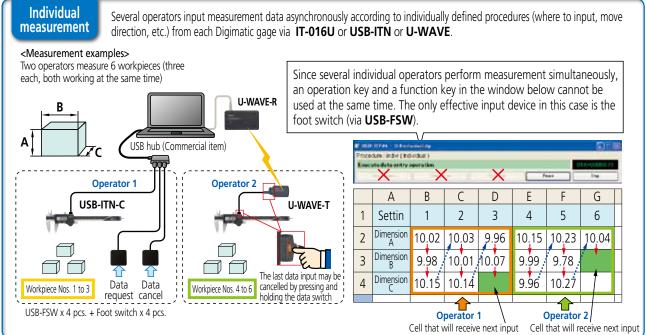


When a measuring procedure is executed, a window (as below) is displayed. "Data request\*", "Data cancel\*", "Data skip\*", "Aborting", "Complete" can be specified.

\* These operations can be allocated to the function key or foot switch (via **USB-FSW**).







#### Notes on using USB-ITPAK V2.0:

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.





## Measuring Tool Compatibility List

## Compatibility of USB-ITN and connecting cables with measuring tools

USB Input Tool Direct USB-ITN Select a USB-ITN	Connector type		(A) Water-proof type with output button	(B) Water-proof type with output button	(C) Straight type with output button	(CR) L type with output switch (cable outlet is right)
whose gage connector fits the Digimatic port on your gage	Model No. Order No.		USB-ITN-A 06ADV380A	USB-ITN-B 06ADV380B	USB-ITN-C 06ADV380C	No applicable models USB-ITN-C is available Refer to the following figure.
IT-016U/IT-007R/DP-1VR/MUX-10F/ EC Counter	Connector type		Water-proof type with output button	(B) Water-proof type with output button	(C) Straight type with output button	L type with output switch (cable outlet is right)
Select a cable whose gage connector fits the Digimatic port on your gage	Order No	1m	05CZA624	05CZA662	959149	04AZB512
0/+00	Order No	2m	05CZA625	05CZA663	959150	04AZB513

	Connector type	(A) Water-proof type with output button	(B) Water-proof type with output button	Straight type with output button	L type with output switch (cable outlet is right)
Gage connectors on data cable	Picture of gage connector	4		-	
	Data switch	Available	Available	Available	Available
Digimatic ports on gage	Picture of Digimatic port				
Please note that some high-precision Digimatic gages are capable of displaying the measurement result to more than 6 digits. However, according to the Digimatic output specification, the result may be output in 6 digits only.  Digimatic gages whose display may exceed 6 digits  Laser Scan Micrometers  Litematic  Linear gage counter (EH)  High-Accuracy Digimatic Micrometer (293-100/293-130)	Applicable models	Digimatic caliper 500-776/500-777, etc. 500-712-10/500-713-10, etc. 500-712-10/500-612, etc. 550-301-10/550-331-10, etc. 551-301-10/551-331-10, etc. 552-302-10/552-303-10, etc. 552-150-10/552-151-10, etc. 552-155-10/552-156-10, etc. 552-181-10/552-182-10, etc.     Digimatic special application caliper 573-601/573-602, etc.     Digimatic depth gage 571-251-10/571-252-10, etc.     Digimatic scale unit 572-600, 572-601, etc.	Digimatic micrometer 293-100/293-130 293-140/293-141, etc. 293-230-30/293-240-30, etc. 340-251-10/340-252-10     Dedicated micrometers for Digimatic 422-230-30/422-231-30, etc. 343-250-30/343-251-30, etc. 345-250-30/345-251-30, etc. 345-250-30/345-251-30, etc. 314-251-30/314-252-30, etc. 314-251-30/314-252-30, etc. Digimatic micrometer head 350-251-30/350-261-30, etc. Digimatic holtest 468-161/468-162, etc.     Digimatic depth gage 329-250-30/329-251-30, etc.	Digimatic caliper 500-150-30/500-151-30, etc. 500-500-10/500-501-10, etc. 500-443/500-453, etc.     Digimatic special application caliper 573-118-10/573-119-10, etc. 573-116-10/573-171-10, etc. 573-191-30/573-291-30, etc.     Digimatic depth gage 571-201-30/571-202-30, etc.     Digimatic micrometer head 164-163/164-164     Digimatic scale unit 572-203-10/572-301-10, etc.	Digimatic micrometer 293-582/293-583, etc. 389-514/389-714      L-shape     L-shape     L-shape     L-shape     Interpret Straight connectors are available, but may interfere with thimble operation.

<b>(D)</b> Flat 10-pin type	<b>(E)</b> Flat 10-pin type	<b>(F)</b> Flat 10-pin type	(FB) Flat L-shape (cable outlet is back)	(FR) Flat L-shape (cable outlet is right)	(FL) Flat L-shape (cable outlet is left)	(G) Flat straight waterproof type
USB-ITN-D 06ADV380D	USB-ITN-E 06ADV380E	USB-ITN-F 06ADV380F		No applicable models USB-ITN-F is available		USB-ITN-G 06ADV380G
(D) Flat 10-pin type	<b>(E)</b> Round 6-pin type	<b>(F)</b> Flat straight type	<b>(FB)</b> Flat L-shape (cable outlet is back)	(FR) Flat L-shape (cable outlet is right)	<b>(FL)</b> Flat L-shape (cable outlet is left)	(G) Flat straight waterproof type
936937	937387	905338	905689	905691	905693	21EAA194
965014	965013	905409	905690	905692	905694	21EAA190

(Note 1) When using ID-F, EB, EC-101D, ID-C112A, ID-U, ID-SS, ID-SX with USB-ITN, it is required to use together with USB-ITPAK.





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 bespoke measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.

Note: Product illustrations are without obligation. Product descriptions, in particular any and all technical specifications, are only binding when explicitly agreed upon.

MITUTOYO and MiCAT are either registered trademarks or trademarks of Mitutoyo Corp. in Japan and/or other countries/regions. Other product, company and brand names mentioned herein are for identification purposes only and may be the trademarks of their respective holders.



www.mitutoyo.com.sg | www.mitutoyo.com.my www.mitutoyo.co.th | www.mitutoyo.co.id www.mitutoyo.com.vn | www.mitutoyo.com.ph

Small Tools Authorized Distributor

## **M**itutoyo

#### Mitutoyo Asia Pacific Pte. Ltd.

Company Reg No. 197800892N

24 Kallang Avenue, Mitutoyo Building, Singapore 339415

Tel: (65) 6294 2211 Fax: (65) 6299 6666 E-mail: mapsg@mitutoyo.com.sg

#### Mitutoyo (Malaysia) Sdn. Bhd.

Mah Sing Integrated Industrial Park, 4, Jalan Utarid U5/14, Section U5, 40150 Shah Alam, Selangor, Malaysia Tel: (60) 3-7845 9318

Fax: (60) 3-7845 9346 E-mail: mmsb@mitutoyo.com.my

Penang Branch

Tel: (60) 4-641 1998 Fax: (60) 4-641 2998 E-mail: mmsbpen@mitutoyo.com.my

Tel: (60) 7-352 1626 Fax: (60) 7-352 1628 E-mail: mmsbjhr@mitutoyo.com.my

#### Mitutovo (Thailand) Co., Ltd.

76/3-5, Chaengwattana Road, Kwaeng Anusaowaree, Khet Bangkaen, Bangkok 10220. Thailand Tel: (66) 2-080 3500 Fax: (66) 2-521 6136 E-mail: office@mitutoyo.co.th Tel: (66) 2-080 3563 Fax: (66) 3-834 5788 **Amata Nakorn Branch** 

Tel: (66) 2-080 3565 Fax: (66) 3-846 8978

#### PT. Mitutovo Indonesia

Jalan Sriwijaya No.26 Desa cibatu Kec. Cikarang Selatan Kab. Bekasi 17530, Indonesia Tel: (62) 21-2962 8600 Fax: (62) 21-2962 8604 E-mail: ptmi@mitutoyo.co.id

#### Mitutovo Vietnam Co., Ltd.

No. 07-TT4, My Dinh - Me Tri Urban Zone, My Dinh 1 Ward, Nam Tu Liem District, Hanoi, Vietnam Tel: (84) 4-3768 8963 Fax: (84) 4-3768 8960 E-mail: mvc-hn@mitutoyo.com.vn Ho Chi Minh City Branch Tel: (84) 8-3840 3489 Fax: (84) 8-3840 3498

E-mail: mvc-hcmc@mitutoyo.com.vn

#### Mitutoyo Philippines, Inc.

Unit 2103, GMV Building 2, 107 North Main Avenue, Laguna Technopark, Biñan, Laguna 4024, Philippines Tel: (63) 49-544 0272 Fax: (63) 49-544 0272 E-mail: mpi@mitutoyo.com.ph

MAP • 1280(2) Printed in Singapore 0.400516(3.7)RP