Quality Management Software
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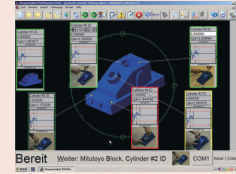
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Mitutoyo

MeasurLink 10

An Integrated Solution for Quality Data Management

Most of Mitutoyo's electronic instruments can output data via optional connecting cables or wireless transmitters & receivers in the form of the Digimatic code. The Digimatic code can also be converted in RS-232C format by any of several available gage multiplexers. In this way, digital data can be sent to PCs for data acquisition and advanced statistical analysis.

As a client/server application, MeasurLink gives you the performance you need through distributed processing. Combined with a multi-user relational database, MeasurLink delivers a safe and organized data warehousing system making quality data available for viewing and analysis by any member of the production, engineering and managerial staff throughout your company. Inspection in the factory produces data for analysis, corrective action, and various reporting needs. As the backbone of your quality efforts, MeasurLink is guaranteed to reduce your production costs and increase your buttom line.

MeasurLink is capable of linking and managing multiple "islands" of inspection into a common database of part information, statistical data, gage information, process, etc. Information is shared across an entire manufacturing facility.
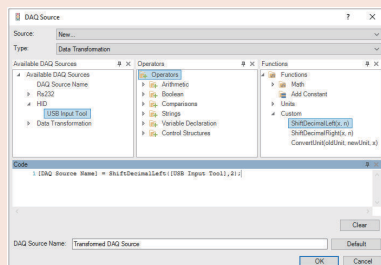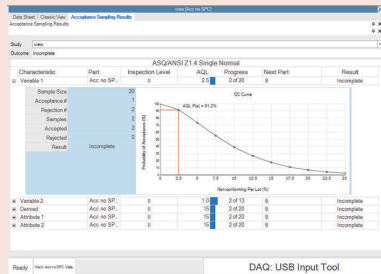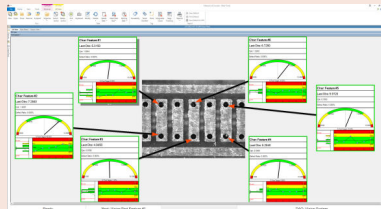
Group Licensing

MeasurLink is available in several modules offering you a wide range of solutions, from data acquisition to manager views and gage management. Details about all modules can be found on the next pages. However, you can create your own package and combine modules by choosing one of the following license bundles:
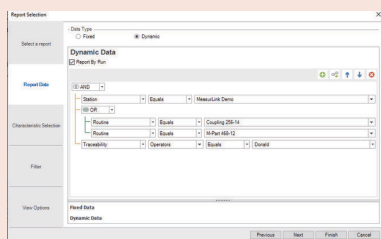

MeasurLink brochure available on request
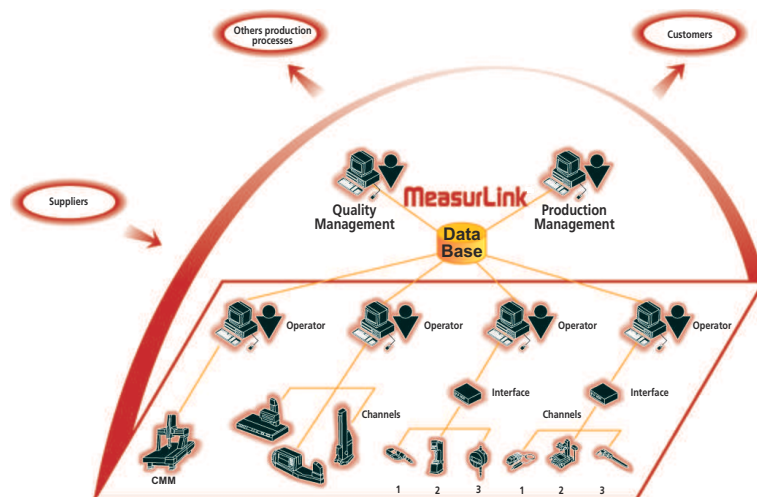
No.	Description
64AAB843R	MeasurLink 10 Site License - 30 Licenses*
64AAB844R	MeasurLink 10 Workgroup License - 15 Licenses*
64AAB846R	MeasurLink 10 Workgroup License - 10 Licenses*
64AAB847R	MeasurLink 10 Workgroup License - 5 Licenses*
64AAB845R	MeasurLink 10 Additional Site License - 1 License after 30 Licenses*
64AAB848R	MeasurLink 10 Academic License - 20 Licenses*
64AAB843R-U	MeasurLink 10 Site License Upgrade - 30 Licenses*
64AAB844R-U	MeasurLink 10 Workgroup License Upgrade - 15 Licenses*
64AAB846R-U	MeasurLink 10 Workgroup License Upgrade - 10 Licenses*
64AAB847R-U	MeasurLink 10 Workgroup License Upgrade - 5 Licenses*
64AAB845R-U	MeasurLink 10 Additional Site License Upgrade - 1 License after 30 Licenses*
64AAB848R-U	MeasurLink 10 Academic License Upgrade - 20 Licenses*

*Real-Time Professional 3D is not included

Mitutoyo

MeasurLink 10

MeasurLink Real-Time Standard Edition

MeasurLink 10 Real-Time Standard Edition is designed for customers that do not need to connect to major instruments such as CMMs, Vision and Form, etc. systems via DDE or ASCII file import.

It has basic views to allow the user to create Parts, Characteristics with nominal and tolerance, Traceability lists, etc. The data collection interface provides real-time graphics for Run charts, Control charts, Histograms, Statistics, etc. Standard views include the Datasheet (observations and charts), the Classic View (chart windows), and the 2D view (pictures with callouts that include charts and statistical data). This application does not support data filters. Full reporting functionality with templates is provided.

Supported data sources include keyboard, RS232C, HID, MTConnect, OPC UA and MQTT devices.

No.	Description
64AAB836R	MeasurLink 10 Real-Time Standard
64AAB836R-U	MeasurLink 10 Real-Time Standard Upgrade

MeasurLink Real-Time Professional Edition

MeasurLink 10 Real-Time Professional Edition is designed for customers that do need to connect to major instruments such as CMMs, Vision and Form, etc. systems via DDE or ASCII file import.

It has basic views to allow the user to create Parts, Characteristics with nominal and tolerance, Traceability lists, etc. The data collection interface provides real-time graphics for Run charts, Control charts, Histograms, Statistics, etc. Standard views include the Datasheet (observations and charts), the Classic View (chart windows), and the 2D view (pictures with callouts that include charts and statistical data). This application does support data filters. Full reporting functionality with templates is provided.

Supported data sources include keyboard, RS232C and HID devices, MTConnect, OPC UA, MQTT, DDE, ASCII and QIF (xml-based) file imports.

No.	Description
64AAB837R	MeasurLink 10 Real-Time Professional
64AAB837R-U	MeasurLink 10 Real-Time Professional Upgrade

Optional accessories

No.	Description
937179T	Footswitch for SPC
63AAA424	USB-Space Footswitch Interface

MeasurLink Real-Time Professional 3D Edition

MeasurLink 10 Real-Time Professional 3D Edition is designed for customers that wish to collect data using the Hoops 3D graphics view.

It has basic views to allow the user to create Parts, Characteristics with nominal and tolerance, Traceability lists, etc. The data collection interface provides real-time graphics for Run charts, Control charts, Histograms, Statistics, etc. Standard views include the Datasheet (observations and charts), the Classic View (chart windows), and the 2D view (pictures with callouts that include charts and statistical data). This application does support data filters. Full reporting functionality with templates is provided.

Supported data sources include keyboard, RS232C and HID devices, MTConnect, OPC UA, MQTT, DDE, ASCII and QIF (xml-based) file imports.

No.	Description
64AAB838R	MeasurLink 10 Real-Time Professional 3D
64AAB838R-U	MeasurLink 10 Real-Time Professional 3D Upgrade

Optional accessories

No.	Description
63AAA424	USB-Space Footswitch Interface
937179T	Footswitch for SPC

Mitutoyo
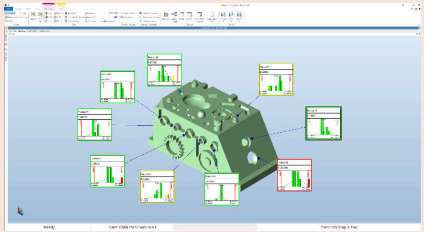
MeasurLink 10

MeasurLink Process Analyse Professional Edition

MeasurLink 10 Process Analyzer Professional Edition is designed for Quality Engineers. Offline viewing of Real-Time data in a networked environment, all views supported by Real-Time Standard edition are supported. Full reporting is provided.

Data is organized by Station, Part or Routine. Merging, Filtering, What-if scenarios and advanced statistical treatments are supported.

No.	Description
64AAB839R	MeasurLink 10 Process Analyzer Professional
64AAB839R-U	MeasurLink 10 Process Analyzer Professional Upgrade

MeasurLink Process Manager Standard Edition

MeasurLink 10 Process Manager is a dashboard view of the current shop floor activity from a single computer. It displays those characteristics that are most in need of attention or adjustment.

The view automatically updates to show a current state of measurement activity.

No.	Description
64AAB840R	MeasurLink 10 Process Manager
64AAB840R-U	MeasurLink 10 Process Manager Upgrade

MeasurLink Gage R&R

MeasurLink 10 Gage R&R is a collection of techniques whose purpose is to measure the capability of a measurement system for a measurement task.

No.	Description
64AAB841R	MeasurLink 10 Gage R&R
64AAB841R-U	MeasurLink 10 Gage R&R Upgrade

MeasurLink Gage Management

MeasurLink 10 Gage Management is designed for Gage inventory management with Calibration procedures and recall methods.

No.	Description
64AAB842R	MeasurLink 10 Gage Management
64AAB842R-U	MeasurLink 10 Gage Management Upgrade

MeasurLink Report Scheduler V10

MeasurLink 10 Report Scheduler is a tool that can be used to schedule MeasurLink reports for print, export or email as Adobe PDF files.

No.	Description
64AAB853R	MeasurLink 10 Report Scheduler
64AAB853R-U	MeasurLink 10 Report Scheduler Upgrade

Mitutoyo
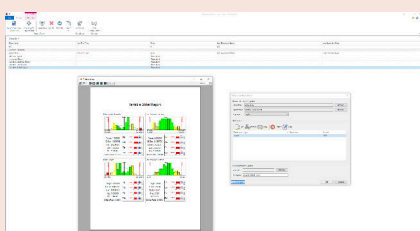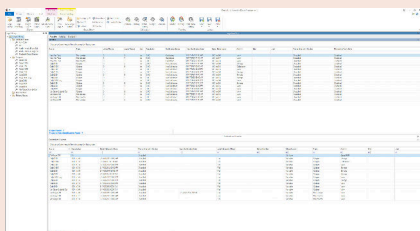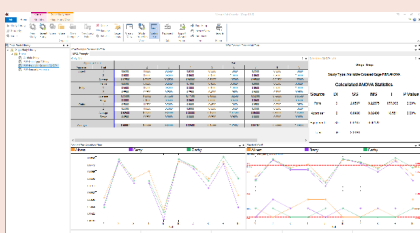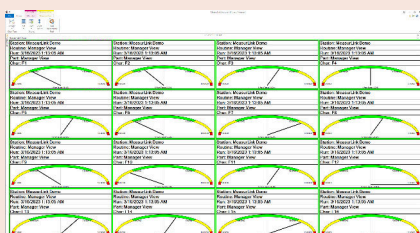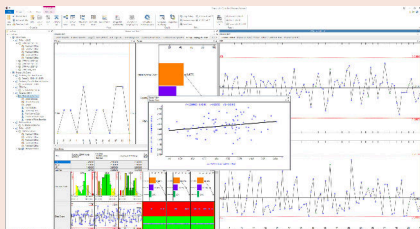
Digimatic Mini Processor DP-1VA LOGGER

Series 264

This DP-1VA printer allows you to print measuring data, statistical evaluations a.s.o.

- Digimatic 2 support. 8 digits output for data printing and analysis even from high resolution or long stroke instruments.
- Statistical evaluations, and data printout from calipers, micrometers and other measuring devices equipped with a Digimatic port.
- Excellent printing speed, prints upon one-touch start and at low noise level. The thermosensitive paper has outstanding durability and chemical resistance for long-term storage.
- Timer function for timed measurement data loading
- Easy data transfer from printer to PC. USB (VCP/HID) output for PC (USB IT-PAK Vers. 2,1 or later, MeasurLink, Excel a.s.o.)
- Data Logger Function. Saves up to 1000 data records with time and date. Data can be saved even after the power is turned off.

264-505D

No.	Delivered	Mass
264-505D	With AC adapter, printer paper (1 roll), strap	390.0 g
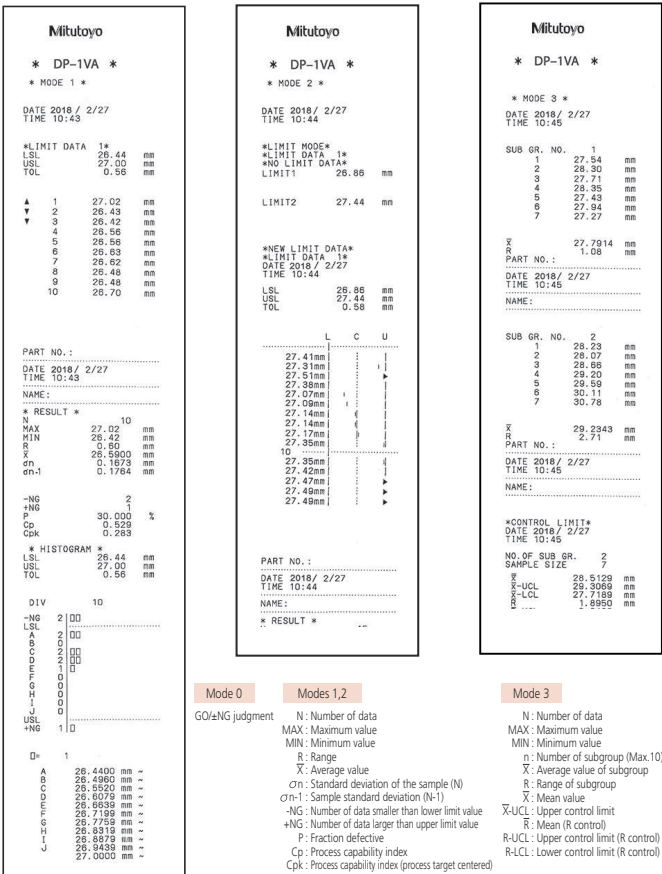
Specifications

Data input	Digimatic, Digimatic 2, RS-232C Input (KA-Counter only)
Printer type	Thermal line printer
Printer speed	6,5 mm/s (using AC adapter)
Printer line number	7000 lines/roll (with large font) 10000 lines/roll (with normal font)
Printer paper	Width: 58 mm, length: 48 m
Processing capacity	Mode 0: 100000 data entries Mode 1/2: 9999 data entries Mode 3: sample size 10x subgroup 9999 = total number of data entries 99990
Logging of the measurement data (to store)	Max. 1000 points
Data output	USB, RS-232C at TTL level, tolerance judgment result (-NG, GO, +NG)
Power supply	AC adapter 6V, battery: LR6 x 4 (alkaline) or AA x 4 Ni-MH (rechargeable, battery is not charged in the device)
Battery life	Appr. 10000 lines (with 1600 mA Ni-MH and print 1 time/5 s)
Timer function	0,25 s; 1 s; 5 s; 30 s; 1 min; 30 min; 60 min (0,25 s only statistical function)

Standard accessories

| No.	Description
06AGZ369D	AC-Adapter, DC 6V 2A, CEE version Germany (Europe)
09EAA069D	Thermal Printer Paper DP1-VR/-VA, 1 Roll

Optional accessories

No.	Description
06AFM386	USB-ITPAK Version 2.1, Software with Dongle
06AGR543	USB-ITPAK Vers. 3.0, USB Dongle + Manual (Software available Online)
09EAA084	RS-232C Cable, DP-1VR/VA to PC, 1m, 9 Pin Connector
06AFZ050	USB Cable 1m
965516	GO/±NG judgement cable, for external device, 2m
09EAA094	RS-232C Cable, DP1-VR/-VA to KA-Counter, 1m, 25 Pin Connector
937179T	Footswitch for SPC
09EAA082-5	Thermal Printer Paper DP1-VR/-VA, 5 Rolls
011037	Battery, LR6, 1,5V, 4 pcs.

09EAA084 and 965516 can not be used simultaneously.

Mode 0
GO/±NG judgment

Modes 1,2
- N : Number of data
- MAX : Maximum value
- MIN : Minimum value
- R : Range
- $\bar{X}$: Average value
- σn : Standard deviation of the sample (N)
- $\sigma n-1$: Sample standard deviation (N-1)
- -NG : Number of data smaller than lower limit value
- +NG : Number of data larger than upper limit value
- P : Fraction defective
- Cp : Process capability index
- Cpk : Process capability index (process target centered)

Mode 3
- N : Number of data
- MAX : Maximum value
- MIN : Minimum value
- $\underline{n}$: Number of subgroup (Max.10)
- $\bar{X}$: Average value of subgroup
- R : Range of subgroup
- $\bar{\bar{X}}$: Mean value
- $\bar{X}$-UCL : Upper control limit
- $\bar{R}$: Mean (R control)
- R-UCL : Upper control limit (R control)
- R-LCL : Lower control limit (R control)

Specifications

Cable length	2 m
Output	USB HID and VCP (with optional software USB-IT-PAK)
OS compatibility	Windows® 2000 Professional (≥SP4), Windows® XP Professional (≥SP2), Windows® XP Home Edition (≥SP2), Windows Vista®/7 (32bit,64bit), Windows® 8, 8 .1, 10 (32bit, 64bit)
Max connectable devices	Microsoft® Windows® 2000, XP: 100 cables, Windows® Vista®, 7, 8, 8. 1, 10: 20 cables

Optional accessories

No.	Description
06AGR543	USB-ITPAK Vers. 3.0, USB Dongle + Manual (Software available Online)
06AFM386	USB-ITPAK Version 2.1, Software with Dongle
06ADV384	USB Input Tool Direct, Footswitch Adapter
937179T	Footswitch for SPC

06AFM380C

937179T and 06ADV384

Common USB Hub

06AFM380A

06AFM380B

06AFM380C

06AFM380D

06AFM380E

06AFM380F

06AFM380G

06AGQ001F

Scan QR Code with your mobile device and watch our product videos on YouTube

USB Input Tool Direct (Digimatic-USB Cable)

Series 06AFM

This input tool allows you to directly connect Digimatic measuring devices to a USB interface, without needing additional software.
Measurement data is converted into keyboard codes, enabling interaction with any program such as Microsoft® Excel® working with keyboard entries (HID).

By adding the optional USB-ITPAK software the following additional features are made available.
• Fixed COM assignment in Microsoft® Windows® as channel identification (VCP).
• Creation of worksheets and multi-channel input for measurement values to Microsoft® Excel®.
• Timed data requests.
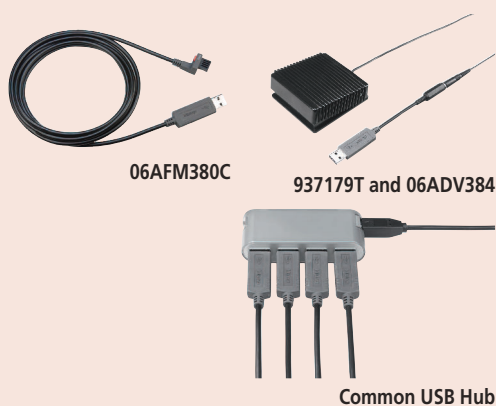• 20 Cables can be cascaded via a standard USB hub.

No.	Model	Remarks
06AFM380A	A	IP USB Input Tool Direct Cable Straight With Data Switch (2m), e.g. for IP67 Caliper
06AFM380B	B	IP USB Input Tool Direct Cable Back Side With Data Switch (2m); e.g. for IP65 Micrometer
06AFM380C	C	USB Input Tool Direct Cable Straight With Data Switch (2m); e.g. for Standard Absolute Caliper
06AFM380D	D	USB Input Tool Direct Cable Plain (2m) e.g. for ID-H/ID-F Indicator
06AFM380E	E	USB Input Tool Direct Cable Round (2m) e.g. for Caliper Gauge Series 209
06AFM380F	F	USB Input Tool Direct Cable Straight (2m) e.g. for ID-C/ID-S Indicator
06AFM380G	G	IP USB Input Tool Direct Cable ID-N/ID-B (2m)
06AGQ001F	SF	Câble d'entrée directe USB pour comparateur ID-F et ID-C avec interface bidirectionnelle Digimatic S1

Advantages of the new Digimatic USB connections

| Application	Situation	Software USB-ITPAK	Data format	Remarks
Arbitrary software which expects a keyboard code	Only a USB Input tools signal cable required.	Software is not needed.	Measured value as keyboard format (HID = Human Interface Device)	Foot switch can not be connected.
Commercial statistics software like e.g. Mitutoyo Measur-Link	A USB input tools signal cable and the software USB IT-PAK are required.	For each measuring instrument (cable) a fixedly assigned virtual COM-Port is generated once; afterwards Software USB IT PAK becomes inactive.	MUX-10 Specifiaction (e.g. 01A+138626) with fixed COM assignment as channel identifiction	
Arbitrary software, which expects a keyboard code e.g. Word, txt-format		- Connected measuring instruments and foot switches are selected and assigned. - Terminator is determined. - Procedure is registered as a part program	Transmission of a measured value in text format (VCP = as virtual COM port)	
Microsoft® Excel®		- Connected measuring instruments and foot switches are selected and assigned. - Performs organization of the Microsoft® Excel®-table, i.e. the transferred measured values are written into the pre-defined cells.	Measuring report Microsoft® Excel®-format and character sequence of max. 31 characters (e.g. text input)	

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Digimatic Data Cables

This is an overview of available data cables, and how you can connect measuring devices with data output e.g.to a PC.

The cables listed are used to connect the measuring devices directly via USB (USB Input Tool Direct Cables), indirectly via standard Digimatic cables and interface box (e.g. DMX box or USB Input Tool Box), or the U-WAVE-T wireless transmitters (box version) to a PC.

Please find the appropriate cable for your particular Digimatic measuring instrument in the "Optional Accessories" section of its product entry.
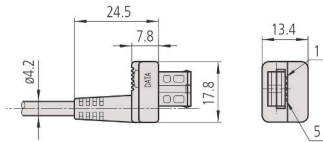
(1) 06AFM380A   (2) 05CZA624 (1 m)   (3) 02AZD790A (Standard)
                     05CZA625 (2 m)   02AZE140A (FSW)
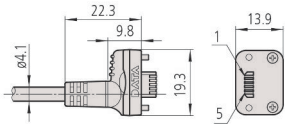
(1) 06AFM380B   (2) 05CZA662 (1 m)   (3) 02AZD790B (Standard)
                     05CZA663 (2 m)   02AZE140B (FSW)
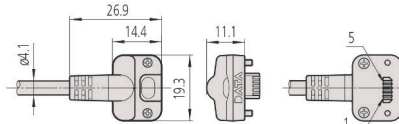
(1) 06AFM380C   (2) 959149 (1 m)   (3) 02AZD790C (Standard)
                     959150 (2 m)   02AZE140C (FSW)

(1) No applicable models   (2) 04AZB512 (1 m)   (3) No applicable models
                                04AZB513 (2 m)
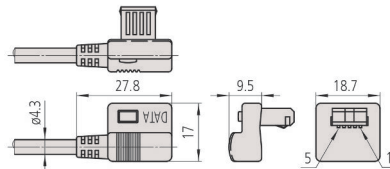
(1) 06AFM380D   (2) 936937 (1 m)   (3) 02AZD790D (Standard)
                     965014 (2 m)   02AZE140D (FSW)
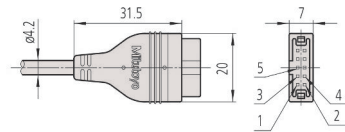
(1) 06AFM380E   (2) 937387 (1 m)   (3) 02AZD790E (Standard)
                     965013 (2 m)   02AZE140E (FSW)
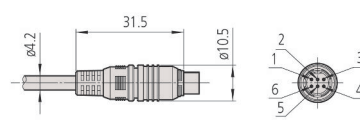
(1) 06AFM380F   (2) 905338 (1 m)   (3) 02AZD790F (Standard)
                     905409 (2 m)   02AZE140F (FSW)
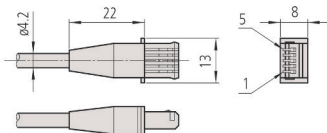
(1) No applicable models   (2) 905689 (1 m)   (3) No applicable models
                                905690 (2 m)
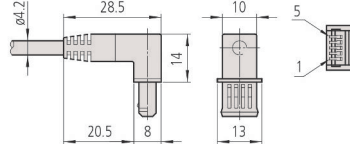
(1) No applicable models   (2) 905691 (1 m)   (3) No applicable models
                                905692 (2 m)
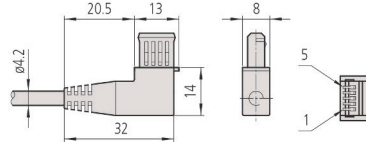
(1) 06AFM380G   (2) 21EAA194 (1 m)   (3) 02AZD790G (Standard)
                     21EAA190 (2 m)   02AZE140G (FSW)
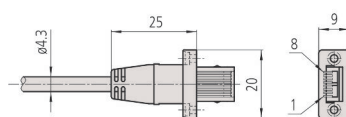
(1) 06AGQ001F   (2) 06AGL011 (1m)   (3) 02AZG011 (Standard)
                     06AGL021 (2m)   02AZG021 (FSW)
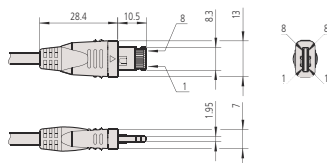
(1)
USB Input Tool Direct Cable
2 m
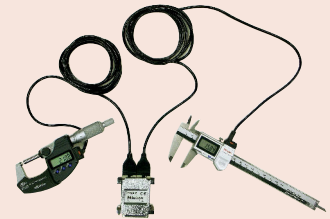
(2)
Standard Digimatic Cable
1 m or 2 m

(3)
U-WAVE Connection Cable
(Standard)

(3)
U-WAVE Connection Cable
with Footswitch Connector
(FSW)

Mitutoyo

20

Digimatic Extension Cables

Series 63

These extension cables allow you to extend Digimatic data cables up to 14 m, extending the working distance between a measuring instrument and an external device such as a PC or DP-1VA Logger/Printer.

63AAA036

DIGIMATIC measurement devices
with data output

DIGIMATIC transmitters or
Digimatic Miniprocessor

DIGIMATIC Signal cable
to the measuring instruments
1 m or 2 m

No. 63AAA034   5 m
No. 63AAA035   8 m
No. 63AAA036   10 m

DIGIMATIC Signal cable
No. 936937 1 m
No. 965014 2 m
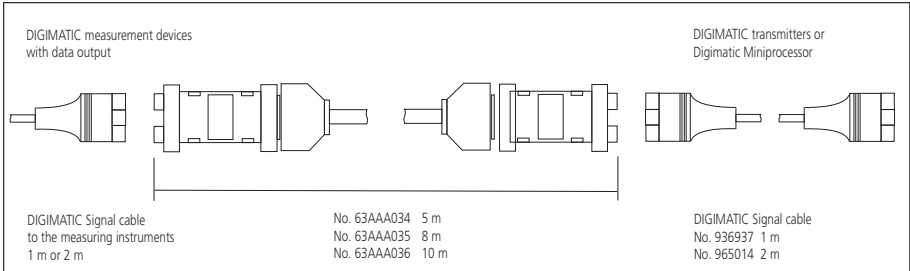
Digimatic Extension Cable

No.	Length [m]
63AAA034	5
63AAA035	8
63AAA036	10

Mitutoyo

U-WAVE

U-WAVE and U-WAVE fit - Wireless Data transmission system

U·WAVE fit

- Approx. 20 m (within visible range).
- Communication frequency: 2,4GHZ wireless system for reliable and secure data transmission.
- Easy data export to Easy data export to Microsoft® Excel® or other professional SPC software applications like Mitutoyo MeasurLink.
- Transmitter confirms data transfer by a buzzer sound or a red/green LED signal.
- An IP67 transmitter is available.
- Low power consumption: 400000 data transmissions with one battery.
- U-WAVE Event will also support a data request from a PC. This is ideal if the system is installed at an inaccessible side.

Specifications

Wireless communication protocol	Proprietary (2,4 GHz by original specification based on IEEE 802.15.4)
Modulation method	DS-SS (Direct Sequence Spread Spectrum)
Communication distance	Approx. 20 m (within visible range)
Communication speed kbps	250
Communication frequency	2,4 GHz band (2,405-2,475 GHz, 15 channels (5 MHz interval)
Communication with measuring tool	Digimatic (6 digits), Digimatic 2 (8 digits) automatic identification
OS compatibility	Windows® 2000 Professional (≥SP4), Windows® XP Professional (≥SP2), Windows® XP Home Edition (≥SP2), Windows Vista®, Windows® 7 (32bit, 64bit), Windows® 8, 8. 1, 10 (32bit, 64bit)

PC with U-WAVE-R (Receiver)

Standard accessories

No.	Description
05SAA217D	Lithium battery CR-2032, 1 pcs.

Optional accessories

No.	Description
06AFM386	USB-ITPAK Version 2.1, Software with Dongle
06AGR543	USB-ITPAK Vers. 3.0, USB Dongle + Manual (Software available Online)
02AZF300	Connection Unit, U-WAVE fit, Standard Type
02AZF310	Connection Unit, U-WAVE fit, Waterproof Type
02AZF700	Connection Unit Indicator, 12,7mm/0,5" Type, U-WAVE fit, U-WAVE fit Bluetooth
02AZD790A	U-WAVE-T Connection Cable A, with Data Button IP Caliper Type
02AZD790B	U-WAVE-T Connection Cable B, with Data Button IP Micrometer Type
02AZD790C	U-WAVE-T Connection Cable C, Straight, with Data Button
02AZD790D	U-WAVE-T Connection Cable D, Flat 10-Pin Type
02AZD790E	U-WAVE-T Connection Cable E, Round 6-Pin Type
02AZD790F	U-WAVE-T Connection Cable F, Flat Straight Type
02AZD790G	U-WAVE-T Connection Cable G, Flat Straight IP Type
02AZG011	U-WAVE-T Connection Cable SF, for Digimatic S1 Interface
63BAA057	U-WAVE T External Power Supply Adapter
02AZF670	U-WAVE fit Transmitter Mounting Plate, for ID-C and ID-S Digital Indicator
02AZF675	U-WAVE fit Transmitter Mounting Plate, for ID-N Digital Indicator
02AZE200	U-WAVE Transmitter Mounting Plate, Universal Type
02AZE990	U-WAVE Transmitter Mounting Plate, for QM-Height
12AAY486	U-WAVE-T Transmitter Mounting Plate, for LH-600F/FG

For Caliper U-WAVE-TC (U-WAVE fit transmitter) with Connection Unit

For Micrometer U-WAVE-TM (U-WAVE fit transmitter) with Connection Unit

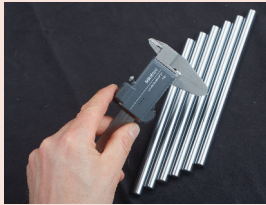**For miscellaneous measuring instruments U-WAVE-T (Transmitter) with Connection Cable**

U-WAVE

U-WAVE (Transmitter)

No.	Measuring Instruments	Remarks	Data reception indication	Transmission output	Type
264-620	100, 150, 200, 300 mm IP67 caliper/standard caliper	IP67	LED (green, red, orange)	2,5 mW (4 dBm) or below	U-WAVE-TC (U-WAVE fit)
264-621	100, 150, 200, 300 mm IP67 caliper/standard caliper	Standard	Buzzer and LED (green, red, orange)	2,5 mW (4 dBm) or below	U-WAVE-TC (U-WAVE fit)
264-622	COOLANT PROOF (IP65) micrometer, indicator	IP67	LED (green, red, orange)	2,5 mW (4 dBm) or below	U-WAVE-TM (U-WAVE fit)
264-623	COOLANT PROOF (IP65) micrometer, indicator	Standard	Buzzer and LED (green, red, orange)	2,5 mW (4 dBm) or below	U-WAVE-TM (U-WAVE fit)
02AZD880G	Indicator, 3-Point Inside Micrometer, Carbon Fibre Caliper, Height Gauge, a.s.o	Standard	Buzzer and LED (green, red, orange)	2,5 mW (4 dBm) or below	U-WAVE-T for miscellaneous instruments
02AZD730G	Indicator, 3-Point Inside Micrometer, Carbon Fibre Caliper, Height Gauge, a.s.o	IP67	LED (green, red, orange)	2,5 mW (4 dBm) or below	U-WAVE-T for miscellaneous instruments

U-WAVE-R (Receiver) for all Mitutoyo U-WAVE Transmitter (except U-WAVE Bluetooth)

No.	Remarks	Number of U-WAVE-R units that can be connected to PC	Number of U-Wave-T units that can be connected	Transmission output	Type
02AZD810D	U-WAVE-R + Software (U-WAVEPAK)	Up to 16	Up to 100	1 mW (0 dBm) or below	U-WAVE-R

264-620 + 02AZF310
U-WAVE-TC (Transmitter) + Connection Unit

264-622 + 02AZF310
U-WAVE-TM (Transmitter) + Connection Unit

02AZD730G + 02AZD790A
U-WAVE-T (Transmitter) + Connection Cable

02AZF670 + U-WAVE-TM

02AZE200 + U-WAVE-T

02AZD810D
U-WAVE-R (Receiver)
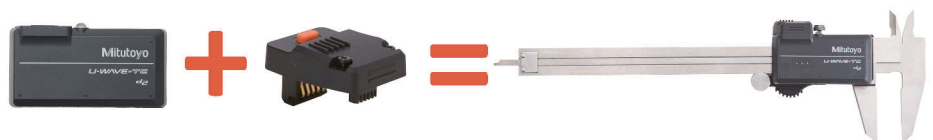
Transmitter and Connection Unit (see next page) for Caliper (U-WAVE-TC + 02AZF300)
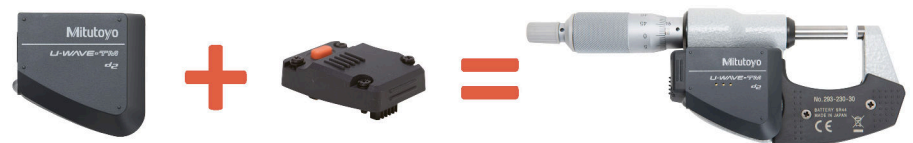
Transmitter and Connection Unit (see next page) for Micrometer (U-WAVE-TM + 02AZF310)

Transmitter and Connection Cables (see next page) e.g. for Digital Indicator

Mitutoyo

U-WAVE Bluetooth

U-WAVE fit Bluetooth

- Bluetooth® communication allows for wireless transmission of measurement data from digimatic micrometers and calipers to PCs, smartphones, tablets, and other terminals alike.
- U-WAVE is now available with Bluetooth® wireless technology. With no receiver required, one PC can connect up to seven units with Mitutoyo U-WAVE Bluetooth ®. For tougher shop floor usage, dust / water-proof models are also available.
- Bluetooth® communication not only allows for cost reduction, as it does not require the conventional dedicated receiver unit, but it also improves operability.
- Communication distance of approx. 16 m in an open space and approx. 10 m in a factory environment.
- The application software for transferring measurement data to smartphones, tablets, or PCs

U-WAVEPAK-BM
Available for both Android and IOS, U-WAVEPAK-BM provides users to make use of simple process control with its measurement data import function.

U-WAVEPAK NAVI
Available only for Android U-WAVEPAK NAVI guides you throughout your measurement. By using pictures, the app tells you where and how to measure as well as in what order or what device to use.

U-WAVEPAK-BW
For use on computers, U-WAVEPAK-BW communicates directly with your measuring instrument, allowing you to transfer measurement data to your computer's software. This software can be downloaded for free on our company's website.

Specifications

Wireless communication protocol	Bluetooth 4.2 nízké energie
Modulation method	FH-SS (frequency-hopping spread spectrum)
Communication distance	Approx. 16 m (line of sight) Approx. 10 m (in factory environment)
Communication with measuring tool	Digimatic (6 digits), Digimatic 2 (8 digits) automatic identification
Transmission output	3,2 mW (5 dBm) or less (Class 2)

Standard accessories

No.	Description
05SAA217D	Lithium battery CR-2032, 1 pcs.

Optional accessories

No.	Description
06AFM386	USB-ITPAK Version 2.1, Software with Dongle
06AGR543	USB-ITPAK Vers. 3.0, USB Dongle + Manual (Software available Online)
02AZF300	Connection Unit, U-WAVE fit, Standard Type
02AZF310	Connection Unit, U-WAVE fit, Waterproof Type
02AZF700	Connection Unit Indicator, 12,7mm/0,5" Type, U-WAVE fit, U-WAVE fit Bluetooth

264-626 + 02AZF310
U-WAVE-TMB + Connection Unit

264-625 + 02AZF310
U-WAVE-TCB + Connection Unit

U-WAVE Bluetooth (Transmitter)

No.	Type	Measuring Instruments	Data reception indication
264-624	U-WAVE-TCB (U-WAVE fit Bluetooth)	100, 150, 200, 300 mm IP67 caliper/standard caliper	LED (green, red, orange)
264-625	U-WAVE-TCB (U-WAVE fit Bluetooth)	100, 150, 200, 300 mm IP67 caliper/standard caliper	Buzzer and LED (green, red, orange)
264-626	U-WAVE-TMB (U-WAVE fit Bluetooth)	COOLANT PROOF (IP65) micrometer, indicator	LED (green, red, orange)
264-627	U-WAVE-TMB (U-WAVE fit Bluetooth)	COOLANT PROOF (IP65) micrometer, indicator	Buzzer and LED (green, red, orange)

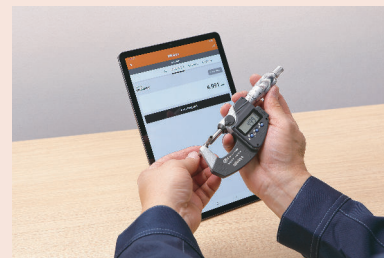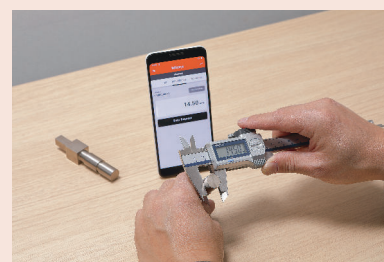For details of connectable measuring instruments please contact Mitutoyo or distributor

U-WAVEPAK-BM available on App Store and Google Play

U-WAVE-NAVI available on Google Play

U-WAVE Connection Cables and Connection Units

Series 02AZD / 02AZE

- This connecting part connects a measuring tool to its U-WAVE T unit. Choose the appropriate cable for your measuring tool from the seven types below, A to G.

Standard accessories

No.	Description
02AZD770	Clip for Cable Fixing - U-WAVE T
05CZA619	Screw Driver

Optional accessories

No.	Description
02AZE200	U-WAVE Transmitter Mounting Plate, Universal Type
02AZF670	U-WAVE fit Transmitter Mounting Plate, for ID-C and ID-S Digital Indicator
02AZF675	U-WAVE fit Transmitter Mounting Plate, for ID-N Digital Indicator
02AZE990	U-WAVE Transmitter Mounting Plate, for QM-Height
12AAY486	U-WAVE-T Transmitter Mounting Plate, for LH-600F/FG

U-WAVE-T

Connection unit for U-WAVE fit (transmitter optional)

Connection cable without foot switch connector and transmitter (optional)

Connection cable with foot switch connector and transmitter + foot switch (optional)

02AZE200 Holder for U-WAVE-T for Indicator a.s.o.

02AZF670 + U-WAVE-TM + 02AZD790F

02AZF675 + U-WAVE-TM + 02AZD790G

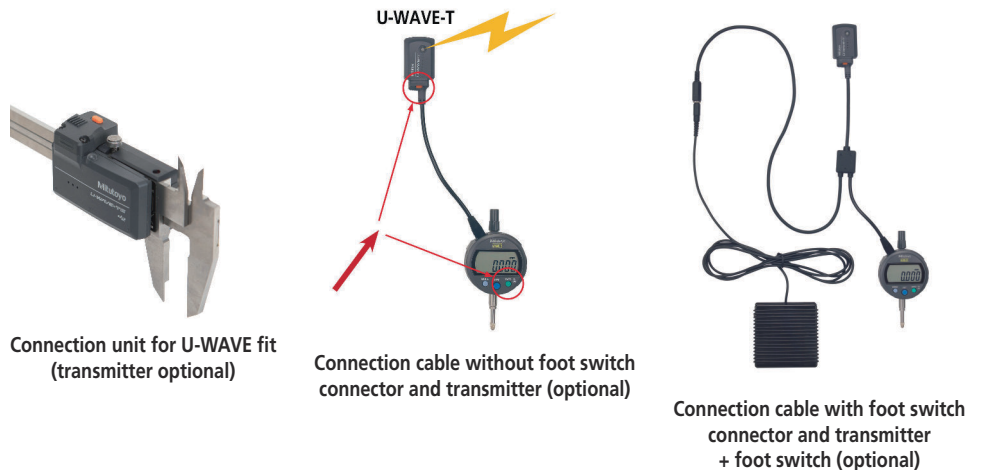**02AZE990 Holder for U-WAVE-T for QM-Height**

02AZF700 and ID-C Indicator

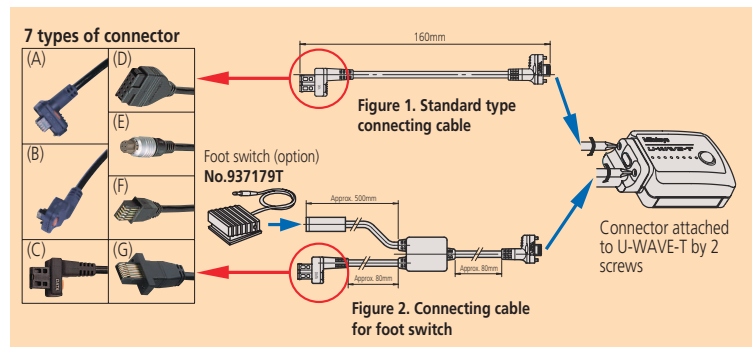### 1. Connection Unit for U-WAVE fit and U-WAVE fit Bluetooth

No.	Remarks
02AZF300	For U-WAVE-TC and U-WAVE TCB Transmitter e.g. for ABS AOS Standard Caliper
02AZF310	For U-WAVE-TC/U-WAVE-TCB and U-WAVE-TM/U-WAVE-TMB e.g. IP67 Caliper, COOLANT PROOF (IP65) Micrometer
02AZF700	For U-WAVE-TM and U-WAVE TMB Transmitter and Digital Indicator ID-C 12,7 mm/0,5" range (2022 model)

2. Cable without foot switch connector

No.	Model	Remarks
02AZD790A	A	IP U-WAVE Data Cable Straight with Data Switch e.g. for IP66 Carbon Fibre Caliper
02AZD790B	B	IP U-WAVE Data Cable Back Side with Data Switch e.g. for IP65 Holtest
02AZD790C	C	U-WAVE Data Cable Straight with Data Switch e.g. for Height Gauge
02AZD790D	D	U-WAVE Data Cable Plain e.g. for ID-H/ID-F Indicator
02AZD790E	E	U-WAVE Data Cable Round e.g. for Digital Caliper Gauge Series 209
02AZD790F	F	U-WAVE Data Cable Straight e.g. for ID-C/ID-S Indidator
02AZD790G	G	IP U-WAVE Data Cable e.g. for ID-N/ID-B Indicator
02AZG011	SF	U-WAVE Data Cable Straight for Instruments with Digimatic S1 Interface e.g. for ID-C, ID-F Indicator

3. Cable with foot switch connector

No.	Model	Remarks
02AZE140A	A	IP U-WAVE Data Cable Straight with Data Switch/Foot Switch Connector e.g. for IP66 Carbon Fibre Caliper
02AZE140B	B	IP U-WAVE Data Cable Back Side with Data Switch/Foot Switch Connector e.g. for IP65 Holtest
02AZE140C	C	U-WAVE Data Cable Straight with Data Switch/Foot Switch Connector e.g. for Height Gauge
02AZE140D	D	U-WAVE Data Cable Plain with Foot Switch Connector e.g. for ID-H/ID-F Indicator
02AZE140E	E	U-WAVE Data Cable Round with Foot Switch Connector e.g. for Digital Caliper Gauge Series 209
02AZE140F	F	U-WAVE Data Cable Straight with Foot Switch Connector e.g. for ID-C/ID-S Indicator
02AZE140G	G	IP U-WAVE Data Cable with Foot Switch Connector e.g. for ID-N/ID-B Indicator
02AZG021	SF	U-WAVE Data Cable Straight with Foot Switch Connector for Instruments with Digimatic S1 Interface e.g. for ID-C, ID-F Indicator

7 types of connector

(A) (D)
(B) (E)
(C) (F)
(G)

160mm

Figure 1. Standard type connecting cable

Foot switch (option) No.937179T

Approx. 500mm
Approx. 80mm

Figure 2. Connecting cable for foot switch

Connector attached to U-WAVE-T by 2 screws

For more information about cable ends see page 21

Mitutoyo

USB Input Tool

Series 264 - Keyboard Interface

The input tool allows you to directly connect Digimatic measuring devices to a USB interface, without needing additional software.
The USB Input Tool Direct offers the following benefits:

- Measurement data is converted into keyboard codes, enabling interaction with any program working with keyboard entries. (HID)
- You can also connect to a USB with fixed COM assignment in Microsoft Windows as a channel identification (VCP) with USB IT PAK software only.
- The USB-IT PAK software lets you easily create Microsoft Excel worksheets.

Specifications

Dimensions (WxDxH)	38 x 64 x 21 mm
Power supply	5 V from the USB
Max. connectable devices	Microsoft® Windows® 2000, XP: 100 cables, Windows® Vista®, 7, 8, 8. 1, 10: 20 cables
OS compatibility	Microsoft® Windows® 2000, XP, Vista®, 7, 8, 8. 1, 10 (32bit, 64bit)

Optional accessories

No.	Description
06AFM386	USB-ITPAK Version 2.1, Software with Dongle
06AGR543	USB-ITPAK Vers. 3.0, USB Dongle + Manual (Software available Online)
937179T	Footswitch for SPC

No.	Data input	Data output	Output decimal mark	Footswitch connector	Power supply	Delivered
264-020	1x Digimatic, Digimatic 2 or Digimatic S1	USB Virtual COM-Port (VCP) with VCP driver (available online). USB keyboard signal (HID)	Emulates the local Windows setting	Yes	5 V from the USB	With USB cable (1 m)

DMX-3T / FS2 USB

Series 63 - Keyboard Interface

- The DMX-3 T/FS2 USB is a keyboard interface that transmits measurement data from measuring instruments equipped with Digimatic interfaces to a PC. Measurement data is converted into keyboard codes, allowing you to easily access it with any program working with keyboard entries, regardless of the operating system. The USB and data conversation interfaces also allow you to directly input the measurement data into a spreadsheet.

63AAA041

rear panel

Specifications

Dimensions (WxDxH)	112 x 122 x 45 mm
Power supply	5 V from the USB
Timer function	0-99 s (1s step) or 0-99 min
OS compatibility	Microsoft® Windows® 2000, XP, Vista®, 7, 8, 8. 1, 10 (32bit, 64bit)
Max. no. of cascadable interface	3 via optional link cable

Optional accessories

No.	Description
63AAA105	Link Cabel DMX-3T/FS2
937179T	Footswitch for SPC

No.	Data input	Data output	Output decimal mark	Footswitch connector	Delivered	Mass [g]
63AAA041	3 x Digimatic	USB keyboard signal (HID)	point or comma (selectable)	Yes	USB cable (1,8 m)	330

DMX-1

Series 63

This D-SUB9 serial interface is a microcontrolled interface for connecting one single measurement device, with Digimatic output, to the RS-232C interface of a computer. It offers you the following benefits:
- Easily connect a measuring device to a computer's RS-232C serial port.
- No external power supply is needed, as the small level of power needed is supplied by the handshake lines RTS and DTR.

No.	Data input	Data output	Interface cable connection	Footswitch connector	Baud rate	Data bits	Stop bits	Parity
63AAA029	1 x Digimatic	RS-232C	D-SUB 9	Yes	9600	8	1	none

Specifications

Dimensions (WxDxH)	58 x 62 x 18 mm

Optional accessories

No.	Description
937179T	Footswitch for SPC
63AAA027	RS-232C Signal Cable, D-Sub9-D-Sub9, 2m

63AAA029

DMX-1 USB

Series 63

- The DMX-1 USB is a micro-controlled interface for connecting 1 Digimatic-output measurement device to the USB interface of a computer. The device appears as a virtual COM-PORT (VCP) to the computer.

63AAA040   **rear panel**

No.	Data input	Data output	Interface cable connection	Footswitch connector	Baud rate	Data bits	Stop bits	Parity	Delivered
63AAA040	1 x Digimatic	USB virtual COM-Port (VCP)	USB Type Mini-B	Yes	9600	8	1	none	USB cable (1,8 m)

Specifications

Dimensions (WxDxH)	33 x 57 x 20 mm
Power supply	5 V from the USB
OS compatibility	Microsoft® Windows® 2000, XP, Vista®, 7, 8, 8.1, 10 (32bit, 64bit)

Optional accessories

| No.	Description
937179T	Footswitch for SPC

DMX-2 S

Series 63

This DMX-2 S D-SUB5 serial interface is a microcontrolled interface for connecting two measurement devices, with Digimatic output, to the RS-232C serial port of a computer. The DMX-2 S offers the following benefits:
- Easily connect two measuring devices to a computer's RS-232C serial port.
- No external power supply is needed, as the small level of power needed is supplied by the handshake lines RTS and DTR.
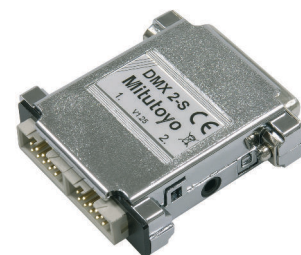
63AAA038

No.	Data input	Data output	Interface cable connection	Footswitch connector	Baud rate	Data bits	Stop bits	Parity
63AAA038	2 x Digimatic	RS-232C	D-SUB 25	Yes	9600	8	1	none

Specifications

Dimensions (WxDxH)	58 x 62 x 18 mm

Optional accessories

No.	Description
937179T	Footswitch for SPC
63AAA108	RS-232C Signal Cable, D-Sub-25-D-Sub-9, 2m
63AAA028	Adapter D-Sub25-D-Sub9, 0,2m

Sample application with footswitch (optional accessory)

Mitutoyo

DMX-2 USB

Series 63

Connecting two measurement devices, with Digimatic-output, to a USB port.
The DMX-2 USB offers the following benefits:
- It appears either as a virtual COM-Port (VCP) or as a keyboard (HID) on the computer.
- It has a mode switch available to easily swap between keyboard format (HID) and virtual COM-Port (VCP).

63AAA037

rear panel

Specifications

Dimensions (WxDxH)	61 x 76 x 35 mm
Power supply	5 V from the USB
OS compatibility	Microsoft® Windows® 2000, XP, Vista®, 7, 8, 8.1, 10 (32bit, 64bit)
Output decimal mark (HID)	point or comma

Optional accessories

No.	Description
937179T	Footswitch for SPC

No.	Data input	Data output	Interface cable connection	Footswitch connector	Baud rate	Data bits	Stop bits	Parity	Delivered
63AAA037	2 x Digimatic	USB virtual COM-Port (VCP) USB keyboard signal (HID) (switchable on the box)	USB Type Mini-B	Yes	9600	8	1	none	USB cable (1,8 m)

DMX-3 USB

Series 63

The DMX-3 3 channel USB VCP interface/ D-SUB9 serial interface is a microcontrolled interface that connects three measurement devices, with Digimatic output, to either the RS-232C serial port or USB port of a computer.
The DMX-3 USB offers the following benefits:
- If the USB output is used, the measuring device will appear as a virtual COM-Port (VCP) on the computer.
- Power is supplied by an AC/DC adapter, which is a standard accessory only required for serial cable D-Sub 9 connection.

63AAA039

rear panel

Specifications

Dimensions (WxDxH)	170 x 128 x 55 mm
Power supply	5 V from the USB or AC-Adapter (for serial connection)
OS compatibility	Microsoft® Windows® 2000, XP, Vista®, 7, 8, 8.1, 10 (32bit, 64bit)

Optional accessories

No.	Description
63AAA027	RS-232C Signal Cable, D-Sub9-D-Sub9, 2m
937179T	Footswitch for SPC

No.	Data input	Data output	Interface cable connection	Footswitch connector	Baud rate	Data bits	Stop bits	Parity	Delivered
63AAA039	3 x Digimatic	USB virtual COM-Port (VCP), RS-232C	Serial cable: D-SUB 9 or USB: Type B	Yes	1200 or 9600 (adjustable with jumper)	8	1	none	USB cable (1,8 m) AC Adapter (only for serial cable connection)

Specifications

Power supply	AC-Adapter, 9V 500mA

Optional accessories

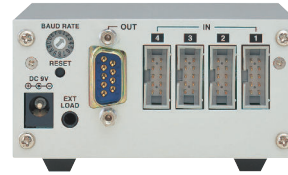| No.	Description
12AAA882D	RS-232C Signal Cable, D-Sub9-D-Sub9, 2m, for MUX-10F and Surftest SJ
937179T	Footswitch for SPC

MUX-10F

Series 264

The MUX-10F 4 channel D-SUB9 serial interface is a microcontrolled interface that connects four measurement devices, with Digimatic output, to the RS-232C serial port of a computer.

264-002D

rear panel

No.	Data input	Data out-put	Interface cable connection	Footswitch connector	Baud rate	Data bits	Stop bits	Parity	Delivered
264-002D	4 x Digimatic	RS-232C	D-SUB 9	Yes	300, 600, 1200, 2400, 9600, 19200	8	1	none	AC Adapter

Specifications

Dimensions (WxDxH)	158 x 204 x 66 mm
Power supply	220-240V 50Hz

Optional accessories

No.	Description
63AAA027	RS-232C Signal Cable, D-Sub9-D-Sub9, 2m
937179T	Footswitch for SPC

DMX-8/2

Series 63

The DMX-8/2 8 channel D-SUB9 serial interface is a microcontrolled interface for connecting eight measurement devices, with Digimatic output, to the RS-232C serial port of a computer. The DMX-8/2 model provides power and an ABS/Zero button to operate Series 575 ABS Linear Gauges.

63AAA033

rear panel

No.	Data input	Data out-put	Interface cable connection	Footswitch connector	Baud rate	Data bits	Stop bits	Parity	Delivered
63AAA033	8 x Digimatic	RS-232C	D-SUB 9	Yes	9600	8	1	none	Power cable

Mitutoyo

DMX-16 / DMX-16C

Series 63

- The DMX-16/16C is a micro controlled Interface for connecting 16 Digimatic output measurement devices to the RS-232C interface of a computer
- DMX-16C features integrated microprocessors for data processing, thus enabling simultaneous input and output from all measurement instruments and increasing data processing speed.
- The DMX-16 and DMX-16C provides power and an ABS/ZERO button to operate Series 575 ABS Linear Gauges

rear panel

63AAA026

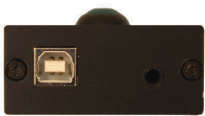| No.	Type	Data input	Data out-put	Interface cable con-nection	Foot-switch connector	Baud rate	Data bits	Stop bits	Parity	Delivered
63AAA026	DMX-16	16 x Digimatic	RS-232C	D-SUB 9	Yes	9600	8	1	none	Power cable
63AAA106	DMX-16C	16 x Digimatic	RS-232C	D-SUB 9	Yes	9600	8	1	none	Power cable

DMX-0-1 USB / DMX-3-2 USB

Series 63

These interfaces enable the connection of measuring devices with RS-232C data output (such as the Mitutoyo QM-Data 200 or LH-600) with the USB port of a computer.
The interfaces offer the following benefits:

- The ability to connect over 70 different measuring instruments with RS232C output, this includes not only Mitutoyo devices but other brands as well (a list is available upon request).
- The interface converts the different signals from the connected measuring instruments into the same format: keyboard signal (HID).
- The DMX-0-1 USB has one RS-232C input while the DMX-3-2 has two RS-232C inputs and also 3 Digimatic inputs for connecting Mitutoyo handheld measuring devices.
- The DMX-3-2 additionally has a virtual COM-Port (VCP) with MUX-10 or MUX-50 format.

63AAA043

rear panel

63AAA042

rear panel

No.	Data input	Data output	Interface cable connec-tion	Foot-switch connector	Baud rate	Data bits	Stop bits	Parity	Delivered
63AAA043	1 x RS-232C	USB keyboard signal (HID)	USB Type B	Yes					USB cable (1,8 m)
63AAA042	3 x Digimatic 2 x RS-232C	USB virtual COM-Port (VCP), USB keyboard signal (HID)	USB Type B	Yes	9600	8	1	none	USB cable (1,8 m)

Specifications

Power supply	220-240V 50Hz
Dimensions (WxDxH)	225 x 204 x 75 mm

Optional accessories

No.	Description
63AAA027	RS-232C Signal Cable, D-Sub9-D-Sub9, 2m
937179T	Footswitch for SPC

Specifications

Power supply	5V from the USB
Timer function	interval 0-99 s or 0-99 min
Mitutoyo measuring instruments with RS232C ouput	KA-Counter Protractor Series 950 EH, EF, EV-Counter Printer DP1-VA Linear Height LH-600 QM-Data 200 Litematic VL-50 Laser Scan Micrometer LSM QM-Height MF-Microscope Series PJ A3000 Projector PJ H30 Projector ID-H Indicator
OS compatibility	Microsoft® Windows® 2000, XP, Vista®, 7, 8, 8. 1, 10 (32bit, 64bit)
Output decimal mark (HID)	point or comma

Optional accessories

No.	Description
63AAA105	Link Cabel DMX-3T/FS2
937179T	Footswitch for SPC

Specifications

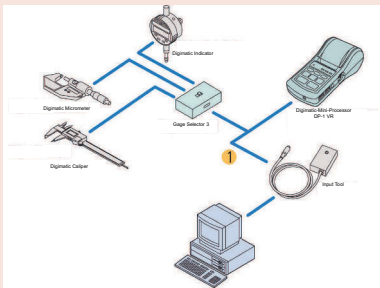|	
Power supply	AC-Adapter, 10 V 120 mA or 5 V from the USB
Timer function	1 s-99 h 59 min 59 s (100 h)
Timer tolerance	±8 s/24 h
Mass	84 g

Sample application with DMX Box

Optional accessories

No.	Description
936937	Digimatic Cable, Flat 10-Pin Type, 1m
965014	Digimatic Cable, Flat 10-Pin Type, 2m
937179T	Footswitch for SPC

937179T for 63AAA030 only

1: cable 936937 (1 m), 965014 (2 m)

Digimatic Timerbox

Series 63

This timerbox allows you to connect to the footswitch connector of a Mitutoyo interface to trigger data transfer, based on a time interval.

- It can be used with all Mitutoyo interfaces featuring 3,5 mm TRS Foot switch connectors (Mono) such as USB Input Tool Direct. It works as a time-controlled footswitch.
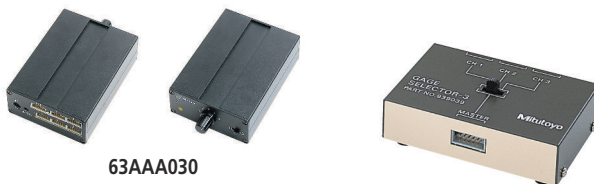
63AAA107   **Sample application with USB Input Tool Direct**

No.	Delivered
63AAA107	USB cable (0,8 m), AC Adapter, footswitch cable TTB1 (0,52 m)

Digimatic Switch Box

Series 63/939

This switch box is a distribution box that connects 3-5 Digimatic tools to one channel interface (for example a DMX-1 USB).

63AAA030

939039

No.	Data output	Data input	Footswitch connector	Delivered
63AAA030	1 x Digimatic (1 channel)	5 x Digimatic	Yes	with AC Adapter
939039	1 x Digimatic (1 channel)	3 x Digimatic	No	with AC Adapter (63AAA30)

Mitutoyo