

## Mini-Printer Equipped with Data Logging Function Digimatic Mini-Processor DP-1VA LOGGER

Small Tool Instruments  
and Data Management



# Digimatic Mini-Processor DP-1VA LOGGER

## Digimatic data-logging processor delivers outstanding performance

Using real-time measurement data directly from a Digimatic-output measuring tool, the high performance DP-1VA LOGGER performs complex statistical calculations such as those needed for Xbar-R control charts, histograms and D-charts.

The data logger function also allows storage of up to 1,000 pieces of data in memory, and batch transfer of stored data to an Excel-format inspection certificate, etc., by connecting to a PC with a USB cable. The DP-1VA LOGGER is the result of the pursuit of excellent portability and flexibility in the 2-way power supply system, and provides significant potential for efficiency improvements in the quality control function.



"d2" is the generic name for Mitutoyo Digimatic output compatible with up to 8 digits of I/O data.

Data input to a custom inspection sheet created by Mitutoyo-specific application software or Excel

Custom Excel sheet

Batch output of logging data by connecting the processor to a PC

**Analysis by PC**

The combination of USB-ITPAK V2.1 and MeasurLink allows the processor to register/automate the Excel input procedure and display statistical processing results such as a control chart in real time.

**Transfer**



Equipped with the data logger function able to store up to 1000 pieces of measurement data.

**Measurement and storage at site**



## Clock function

Allows printing of CE year, month, day, hour and minute.

## GO/±NG judgment lamps

- NG: Indicates measurement result is smaller than the lower limit
  - GO: Indicates measurement result is within the tolerance limits
  - +NG: Indicates measurement result is larger than the upper limit
- Five sets of GO/±NG judgments can be set.

## USB micro-connector

Allows transmission of measurement data to Excel, etc., by connecting the processor to a PC with a USB cable (option). (Both real-time data transmission upon measurement and batch transmission of logging data are possible.)



## Large and easy-to-operate keys

### [POWER] key

Press to power on/off.

### [PRINTER] key

Press to turn on/off the print function for measurement and data logging.

### [CLEAR] key

Press to clear all measurement data.

### [TOL./REC/STOP] key

Press briefly to enter/exit the setting mode for limit data (upper/lower tolerance).  
Press longer to start/stop data logging.

### [CANCEL] key

Press to cancel the most recently input measurement data. Press longer than 10 seconds to reset hardware, clear measurement data/log data, and initialize the current date and time.

### [FEED] key

Press and hold to feed printer paper.

### [STAT./OUT LOG] key

Press to perform statistical calculation based on all input measurement data and create a histogram by printing calculation results. Press longer than usual to print and USB-output log data.

### [DATA] key

Executes data output.





## 48m printer paper (highly-durable thermosensitive paper)

Excellent environmental resistance allows prolonged storage.

- Standard characters: About 10,000 lines per roll
- Enlarged characters: About 7,000 lines per roll

## One-touch paper loading

Thermosensitive paper:  
Standard accessory (1 roll)



## 2-way power system

Allows the AC adapter (standard accessory) and AA alkaline batteries (LR6) or nickel-metal-hydride batteries to be used. The battery compartment is located at the rear of the main unit.

## Data output connector

Outputs measurement data and GO/±NG judgment results in RS-232C format at TTL voltage levels.

### Output via RS-232C

Data description

- Measurement data
- Error message

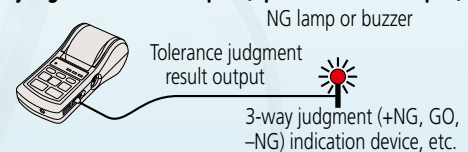


PC  
Note: Appropriate communication software is required separately.

### RS-232C output cable (optional accessory)

- Cable for PC with D-SUB 9-pin connector
- Cable length 1m • Order No. **09EAA084**

### GO/NG judgment result output (open collector output)



Tolerance judgment result output

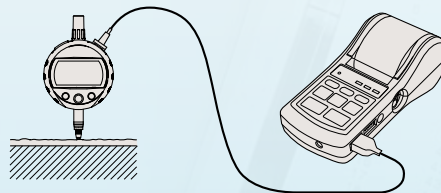
3-way judgment (+NG, GO, -NG) indication device, etc.

### RS-232C output cable (optional accessory)

- 10P terminal for discrete wiring
- Cable length 2m • Order No. **965516**

### Timer input

Data from a measuring tool can be automatically input at a certain interval (0.25 sec, 1 sec, 5 sec, 30 sec, 1 min, 30 min, 60 min), allowing automatic recording and logging of measurement data.



Continuous measurement

## Data input connector

Connects a cable from a Digimatic measuring tool.

## Strap attachment



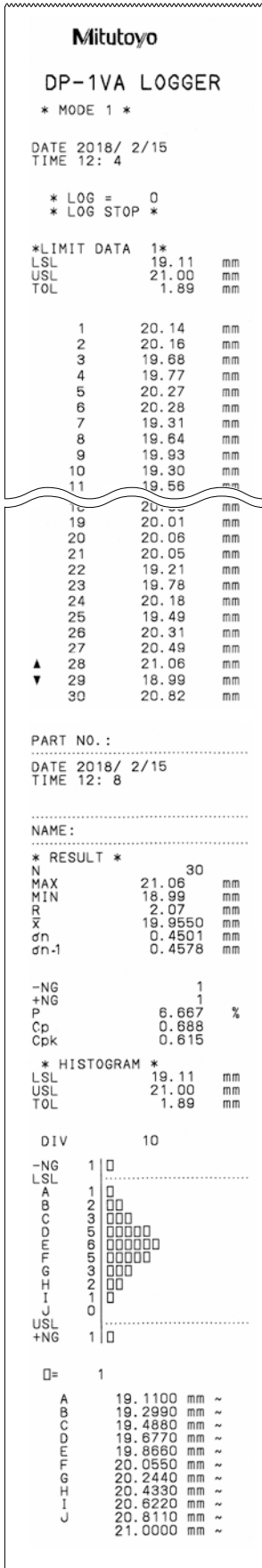
## Foot switch connector

Connects the foot switch (option) for executing data output in place of the DATA switch.

## Example of printout

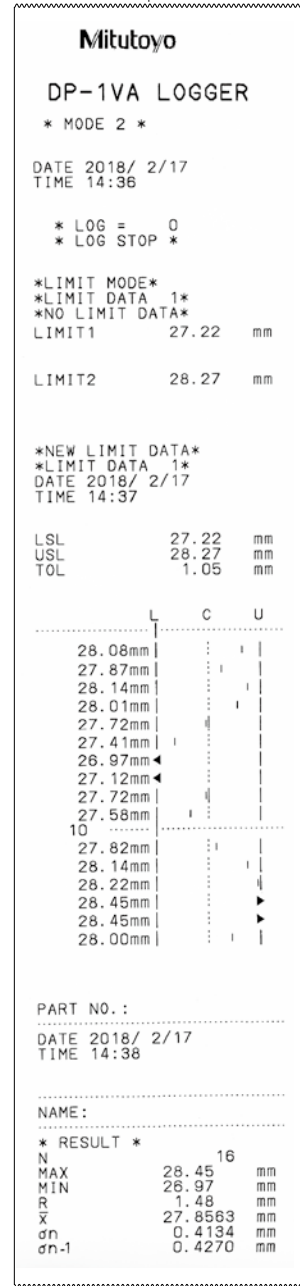
### MODE1

Various statistical calculations are executed using all input data. If the tolerance limits have been set, GO/±NG judgment and histogram creation are also enabled.



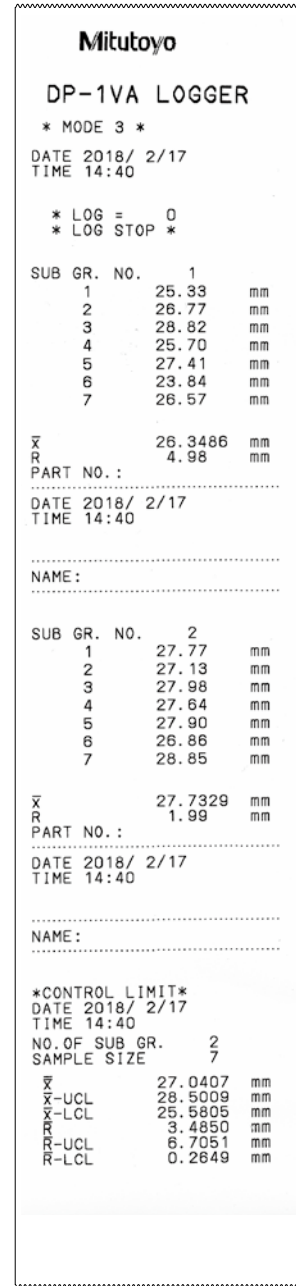
### MODE2

In addition to the MODE1 function, measurements within the tolerance limits are printed out as a D chart\*. This chart allows you to identify the trend of variations in measurement data.  
\* D chart stands for Displacement chart.



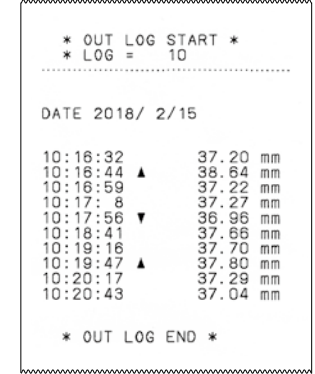
### MODE3

Only input of data automatically enables calculation processing of complex control limit values as well as calculation for creating an Xbaar-R control chart.



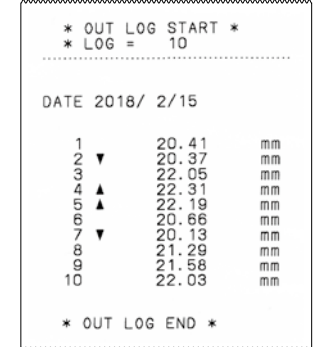
## Example of batch printing log data

### In OUT LOG Setting 1



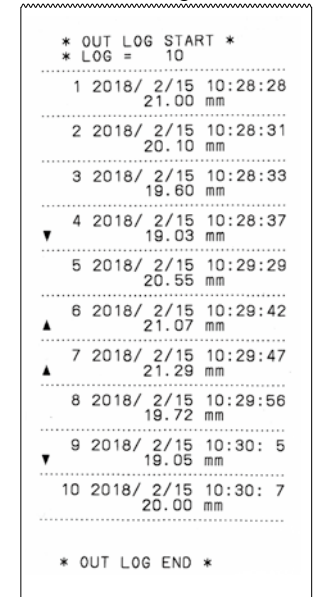
This setting allows printout of measurement time, measurement value, and GO/±NG judgment result.

### In OUTLOG Setting 2



This setting allows printout of data number, measurement value, and GO/±NG judgment result.

### In OUTLOG Setting 3



This setting allows printout of data number, measurement date and time, and GO/±NG judgment result.

## Statistical calculation data

### MODE0

GO/±NG judgment

### MODE1, 2

N: Number of pieces of data  
MAX: Maximum value  
MIN: Minimum value  
R: Range  
X̄: Mean value  
n: Standard deviation of a population (N)  
n-1 Sample standard deviation (N-1)  
NG: For the number of pieces of data smaller than the lower limit  
NG: For the number of pieces of data larger than the upper limit  
P: Percentage of rejects  
Cp: Maximum process capability potential  
Cpk: Actual process capability achieved

### MODE3

N: Number of pieces of data  
MAX: Maximum value  
MIN: Minimum value  
n: Number of subgroups (up to 10)  
X̄: Mean value in a subgroup  
R: Range of a subgroup  
X̄: Mean value  
X̄-UCL: Upper control limit  
X̄-LCL: Lower control limit  
R: Center (R control)  
R-UCL: Upper control limit (R control)  
R-LCL: Lower control limit (R control)

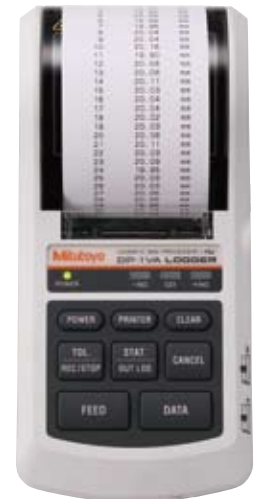
## SPECIFICATIONS

Order No.	<b>264-505</b> *1
Data input	Digimatic input, Digimatic 2 input, RS-232C input (specific to Mitutoyo KA counter)
Printing method	Thermal line printer
Character specification	Total number of dots: 384 dots/line Dot size: 8 dots/mm
Printing speed	0.8s per line (6.5mm/s)
Printing paper*2	High durability thermo-sensitive paper Width 58mm x length 48m
Power supply	2-way power supply system 1. 100-240V 50/60Hz AC adapter (6V, 2A) 2. AA alkaline battery (LR6) or nickel-metal-hydrate battery (NiMH Size AA) 4 pieces (Manganese dioxide batteries are not usable.)
Battery life*3	About 10,000 lines (if data is printed once every 5 seconds using 1,600mA NiMH batteries at 20°C)
Data processing capacity	MODE0: 100,000 pieces of data MODE1, MODE2: 9,999 pieces of data MODE3: Sample size 10 x 9999 subgroups = 99,990 pieces of data GO/±NG judgment (five sets can be defined)
Tolerance judgment	Five sets can be set.
Measurement data logging (storage)	Up to 1,000 pieces
Input timer	0.25s, 1s, 5s, 30s, 1 min, 30min, 60min
Output	USB output RS-232C data output at TTL levels GO/±NG judgment result output (-NG, GO, +NG)
Clock accuracy	Maximum time difference per month: ±2 minutes
Operating temperature	0 to 45°C (using AC adapter) 10 to 45°C (using battery)
Storage temperature	-10 to 50°C
Mass	390g (main unit)
External dimensions	94 (W) x 201 (D) x 75.2 (H) mm
Standard accessories	AC adapter : 06AEG180, printing paper (one roll), strap, user's manual
Optional accessories	1. USB cable (A-microB) : 06AFZ050 (1m) 2. RS-232C output cable: 09EAA084 (1m, D-SUB 9 pin) 3. GO ±NG judgment cable: 965516 (2m, 10 pin terminal/separate ) 4. Foot switch: 937179T (2m)
Consumable items	Printing paper (10 rolls)

\*1: To denote your AC line voltage add the following suffixes. A for North America, D for Europe, E for UK, K for Korea, DC for China, B for Oceania without AC adapter and no suffix is required for Japan.

\*2: The printer paper has excellent environmental and chemical resistance, but it has limitations in durability due to thermosensitivity. If recorded paper is stored for more than 5 years, or used as a public document, it is recommended to make a more durable copy.

\*3: The battery life quoted is not a guaranteed value, but only a typical value.



**264-505 DP-1VA LOGGER**

- USB cable (A-microB) (optional)  
06AFZ050



- Foot switch (optional)  
937179T



## Measurement Data Collection Software (optional)

### Excel-specific Measurement Data Collection Software USB-ITPAK V2.1 (06AFM386)

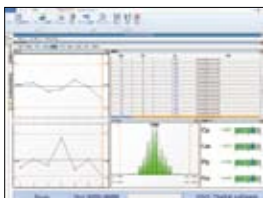
This software allows efficiency improvements in inspection tasks that include repetitive work by automating input operations to Excel.



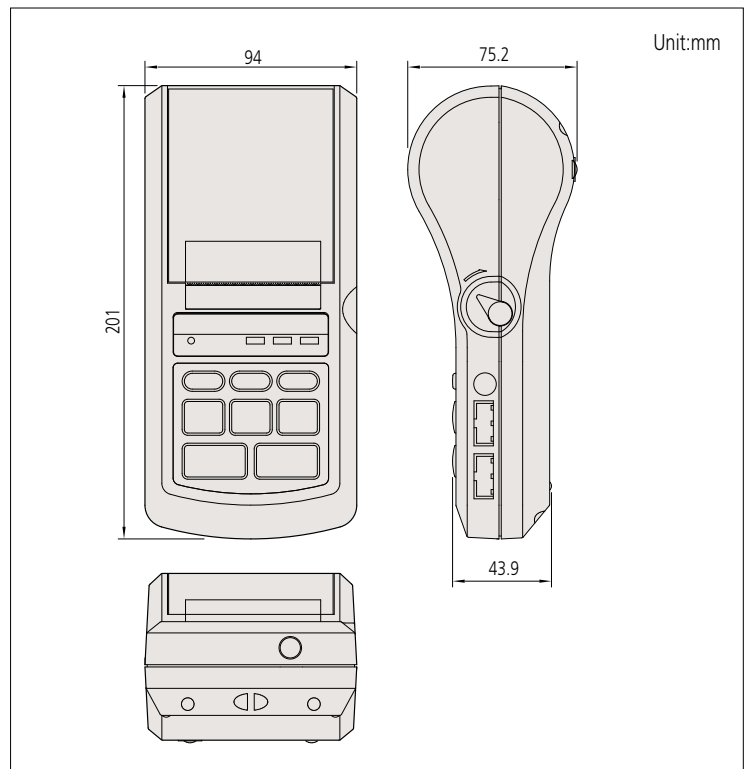
	A	B	C	D	E	F
1	Setting	1	2	3	4	5
2	Dimension X	10.025	10.033	9.964	10.031	10.046
3	Dimension Y	9.982	10.017	10.008	9.996	10.027

### Measurement Data Collection/Statistical Analysis Software MeasurLink Real-Time Standard (02NDB100D)

This software visualizes statistical processing such as a control chart and process capability index in real time, thus achieving "Quality Visualization".



## DIMENSIONS



Coordinate Measuring Machines



Vision Measuring Systems



Form Measurement



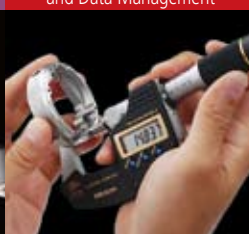
Optical Measuring



Sensor Systems

Test Equipment  
and Seismometers

Digital Scale and DRO Systems

Small Tool Instruments  
and Data Management

## 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.



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# Mitutoyo

## Mitutoyo Corporation

20-1, Sakado 1-Chome,  
Takatsu-ku, Kawasaki-shi,  
Kanagawa 213-8533, Japan

T +81 (0) 44 813-8230

F +81 (0) 44 813-8231

<http://www.mitutoyo.co.jp>