# **Measurement Data Management**

Convenient data collection tool and quality control software

### MeasurLink Data Collection/Analysis Software

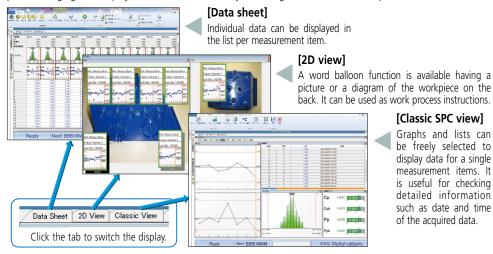
## Real-Time Standard (RT Std)

**Real-Time Professional** (RT Pro) Real-Time Professional 3D (RT Pro 3D)

MeasurLink Real-Time is the Statistical Process Control (SPC) MeasurLink module that collects data from Mitutoyo and third-party measuring devices and systems to provide analysis functionality in real-time by displaying control charts or process capability indexes. Three versions are offered so that a customer can choose the version that best suits the requirements, from a standard version providing basic functionality through to the full-spec version offering data handling using Hoops 3D graphics. (Refer to Table 1 on the next page.)

#### Various data views

The measurement results are displayed in various views, including statistical analysis results, data lists, and work process imaging. The display can be switched instantly according to the needs of the operator.



#### Adding traceability information

Traceability information for each workpiece can be added, for example, serial no., lot no., inspector name, machine no., or cause of problems and remedies.

This information can be used as search criteria when extracting data using the filtering function (RT Pro/ RT Pro 3D) when a problem occurs.

A-7

#### Alarm function

The operator is notified when an "Out of Tolerance" or "Out of Control Limit" situation occurs.

The method of notification can be selected from a pop-up window, E-mail (Fig. 1), or log file recording.

Measurement data can be exported to an Excel file. This function is useful if the data needs to be used in a department

| Subject: Out of tolerance             |
|---------------------------------------|
| ,                                     |
| MeasurLink                            |
| Status : Out of tolerance             |
| Station : MeasurLink Demo             |
| Routine: AAA                          |
| Run: 2014/01/28 TEST-LOT-03           |
| Characteristic: A                     |
| TimeStamp: 2014/12/01 10:19:44        |
| Subgroup Number: 18                   |
| Observation Number: 1                 |
| Observation: 3                        |
| Upper Tolerance Limit: 2.5            |
| Target: 2                             |
| Lower Tolerance Limit: 1.5            |
| (Fig. 1) Alarm potification by E-mail |

(Fig. 1) Alarm notification by E-mail

## LTL Terpt 1.50 2.00 2.50 1.076059 0.978018 1.129124 1.026249 Kely Kely Kely Teylor Teylor Kely Kely Kely Smith Smith 2.19 2.08 2.09 2.16 1.82 2.20 2.09 1.95 2.31

(Fig. 2) Export to Excel

#### RT Std/RT Pro/RT Pro 3D Common Functions

- Connectable measuring instruments
- · Measuring tool with Digimatic output (equipped with PC data processing unit) [Supported interfaces]
- Wireless (USB) U-WAVE (VCP) Wired (USB) IT-016U/USB-ITN (VCP or HID)
- Wireless (D-sub 9 pin) IT-007R, MUX-10F, DP-1VA LOGGER, and others
- Various RS-232C devices (partially restricted) • Screen display mode when collecting data
- Classic SPC view Data sheet
- 2D view
- · Parts data sheet, etc.
- Statistical Analysis result
- [Chart]

Xbar-R, Xbar-S, X-Rs control charts, Histogram, Run chart, Pre-control chart, Tear chart, Box plot chart, Meter chart, Indicator bar, multivariate data control chart, etc. [Statistics]

Maximum value, Minimum value, Standard deviation, Average  $\pm 3\sigma/4\sigma/6\sigma$ , Process capability indexes (Cp, Cpk, Pp, Ppk), Defect ratio, etc.

- Alarm function
- [Target items]
- Out of tolerance
- 1 point exceeds control limit line (following are related to management chart)
- Consecutive 9 points on one side of center line
- 6 points successively increasing or decreasing Others including 8 judgment criteria for Shewhart control chart
- Adding traceability information
  - Measurement date (automatically added)
  - Serial No. (Keyboard entry)
  - Special causes and remedies
  - Selection from comment list registered as an option Enter from keyboard when measuring classified title
  - registered as an option
  - (e.g. Lot No. LOT 001)
  - · Report print out function
  - · Measurement values, analysis calculation results and various charts can be arranged to output according to requirements.
  - Export function of measuring result
  - · Excel format
  - · CSV format
  - Security function
  - · Once the access authorization is set, it requires "User name" and "Password" input before the program will start. Data editing actions such as reference, entry and changes require authorization according to the user's role in order to preserve data reliability.
  - Operation languages
  - 17 languages are supported: English, Japanese, French, German, Dutch, Spanish, Swedish, Polish, Italian, Turkish, Korean, Chinese (simplified/traditional), Czech, Finnish, Portuguese, Russian

Exporting data to an Excel file

that does not have MeasurLink. (Fig. 2)