



ComGage software

The image displays several overlapping windows from the ComGage software interface, each showing different data visualization and configuration options:

- Programming of the Numerical Display:** Shows a digital display with the value "0.2456" and options for frame, background color, and value display.
- Programming of the Horizontal Column Display:** Shows a bar chart with a scale from -0.5 to 0.5 and options for frame, background color, and value display.
- Programming of the Analogue Meter:** Shows a needle gauge with a scale from -0.4 to 0.5 and options for frame, background color, and value display.
- Programming of the Combination Display:** Shows a combined display with a histogram, a line graph, and a digital readout showing "0.1375".
- Programming of the Vertical Statistical Data Display:** Shows a vertical statistical data display with a table of values and options for frame, background color, and value display.
- Programming of the Histogram:** Shows a histogram with a normal distribution curve overlaid and options for frame, background color, and value display.
- Programming of the Quality Control Chart:** Shows a quality control chart with a line graph and control limits, and options for frame, background color, and value display.

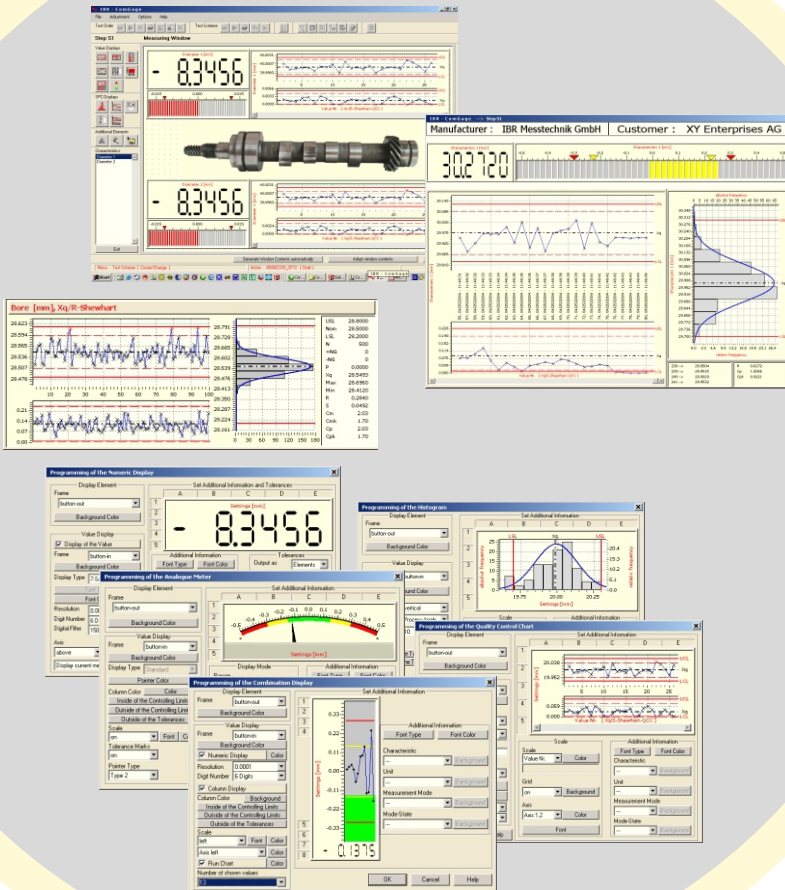


Metrology and SPC with ComGage

ComGage is a software for metrology and statistical process control on manufacturing sites. The software is suitable for simple displaying of measured values up to complex measuring applications with control sequences, as well as for testing of components with several characteristics in small and large series. Additionally the software provides information for statistical process control by means of the included statistical functions.

Features

- Simple and easy handling
- Low cost and modular
- Universally usable for simple hand gauge stations, multi gauging fixtures and automatic measuring sequences
- Data collection from gauges, interfaces and by keyboard
- Universal mixing of measuring inputs as well as measuring programmes for run-out, roundness, flatness, coaxiality, ...
- Integrated wizard function for fast test scheme programming
- Graphical surface for creating the display windows
- Simple measuring sequence control
- Online SPC - elements
- Control of digital outputs and reading of digital inputs
- Collection of reference information
- Printing of test reports and measured values in table form
- Converter for MS-Excel and QS-Stat
- For Win 2000...Win 10 and CE
- European and Asiatic languages



ComGage Level 2

ComGage Level 2 serves for simple and fast solving of measuring applications.

An easily surveyed and user-friendly surface allows a fast settling in the software. Basic functions for control tasks and for collecting reference information make the program useful for nearly all measuring applications.

ComGage Level 1

ComGage Level 1 is part of the standard scope of delivery for the IBR devices with Windows CE operating system and transforms them into gauges for standard mea. applications.

ComGage Professional

ComGage Professional is a complete solution for the field of metrology and SPC on manufacturing sites.

Extended functions for collecting reference information, the order dependent storing of values, a formula editor for complex control tasks and an user setup assure universal usage. Additional functions such as printing of barcodes, sending emails, correction data transfer to CNC machines can be individually added to ComGage Professional.

1

Installation



ComGage

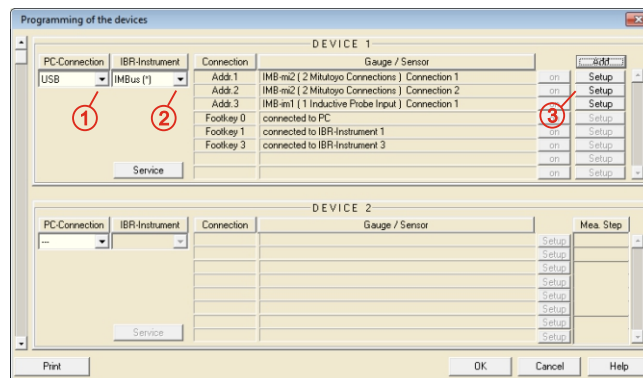


Insert ComGage CD for installation.
The installation occurs automatically and a window for setting up the connected instruments opens.

Connect measuring or interface instruments to the PC.



Selection of the connected measuring and interface instruments :



① Selection of the PC connection to which the gauge or interface is connected to.

② Selection of the connected instrument type.

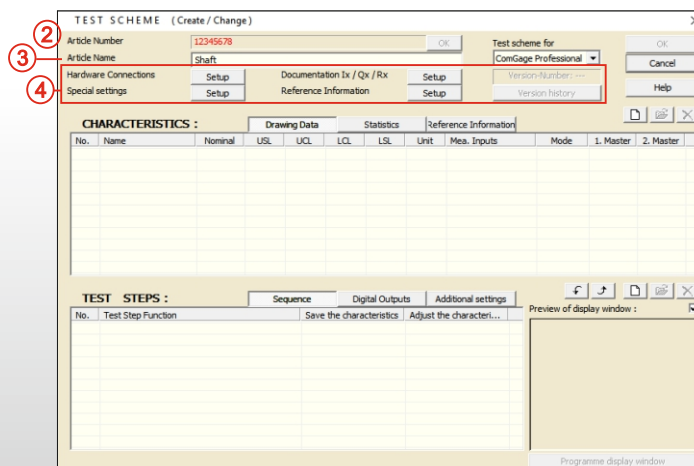
Optional ③ Measuring input configuration e.g. resolution, direction, ...

2

Test scheme

On the use of software in metrology a test scheme must be created for each measuring application. The test scheme contains all information about the measuring application and defines the measuring sequence for the software.

Creation of a test scheme with ComGage



① Button : Test Scheme / Create.

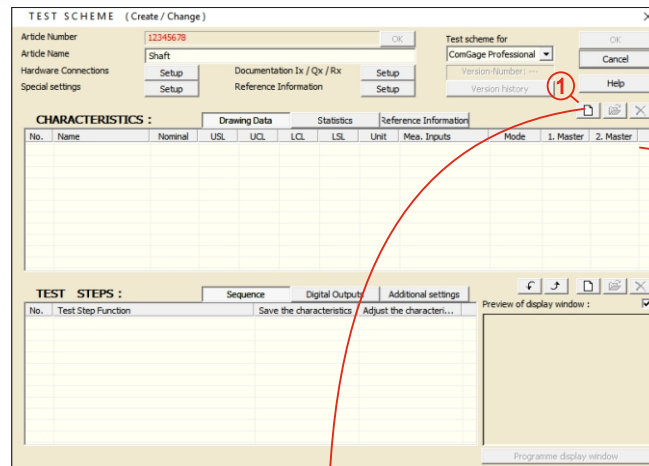
② Enter article number.

③ Enter article name.

Optional ④ Input reference information (operator, machine, ...). Select special settings, hardware configuration and program type. Document registers and I/Os.

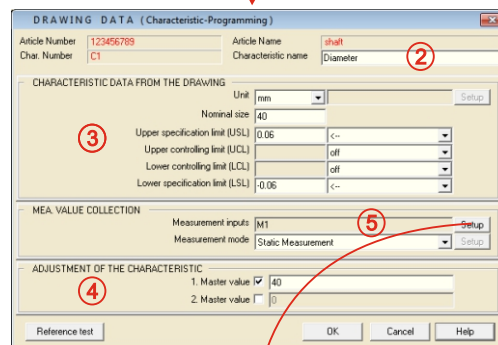
In metrology the measured dimensions are called characteristics. Each characteristic must be described initially in the test scheme.

Creation of characteristics in ComGage test scheme



1 Click on New-Button for creating a characteristic.

Example :
The created characteristic C1 with diameter 40 mm and tolerances of +/-0.06 mm is collected via measuring input M1.

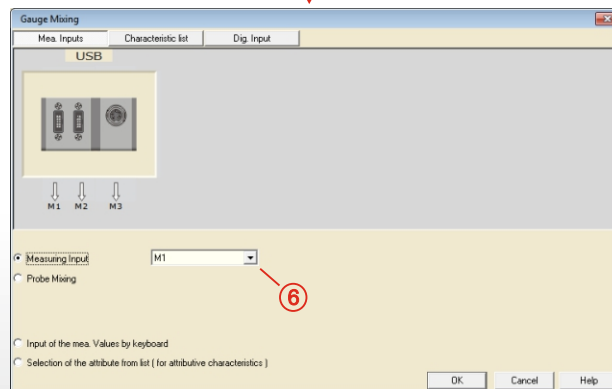


2 Enter characteristic name.

3 Enter characteristic data (unit, nominal size, tolerances) from the drawing.

Optional 4 Enter 1 or 2 Master values for calibration of e.g. inductive probes or air plugs.

5 Selection of a measuring input.



6 Enter measuring input.

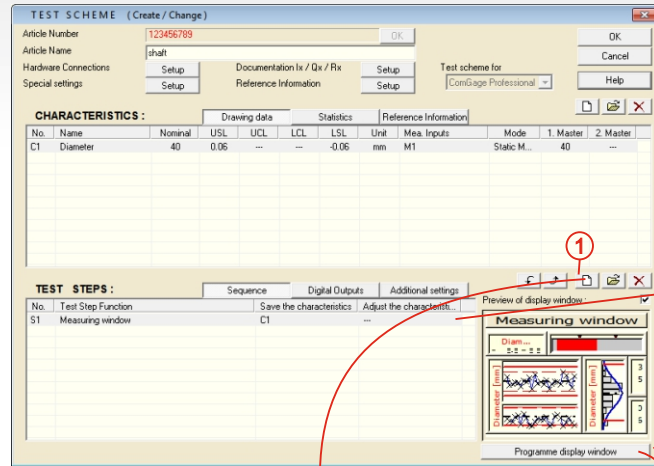
Optionally free formulas for probe-mixings can be entered, e.g. M1+M2.

Alternatively measurement values or attributive characteristics can be input by keyboard.

Additional characteristics of the component can be added by repeatedly clicking on the New-Button.

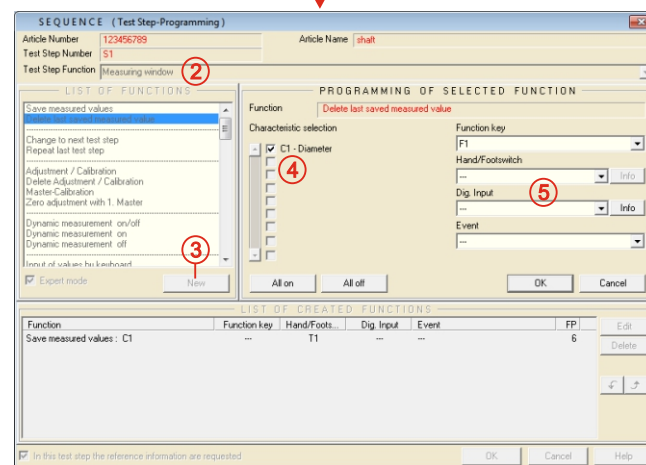
The test sequence contains the single test steps with the display windows.

Creation of test steps in ComGage test scheme



1 Click on New-Button for creating a test step.

Example :
In the test step the characteristic C1 can be saved by foot switch in measuring mode.



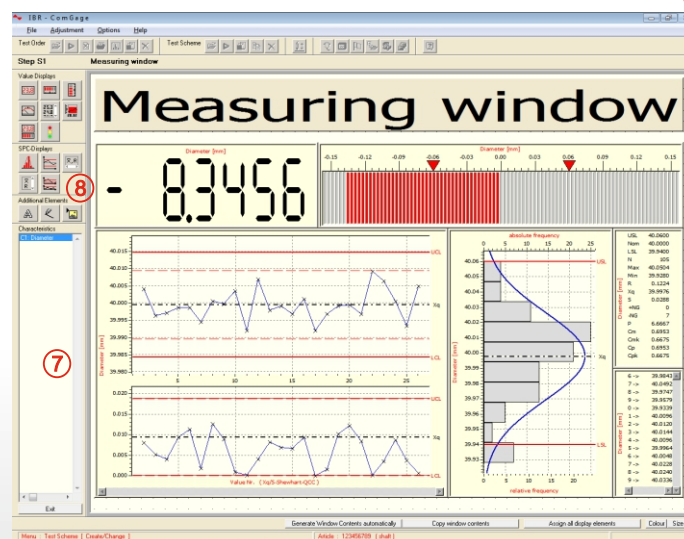
Optional 2 Enter test step function description.

3 Select executable function for test step.

4 Assign characteristics to function.

5 Select foot switch, function key, ... for execution of function.

Example :
In step S1 the last measured value of characteristic C1 is deleted by F1-key and a new measured value is saved by foot switch T1.



6 Call programming menu for display window.

7 Select characteristic for display from list.

8 Select and place display element for selected characteristic.

Additional test steps can be added by repeatedly clicking on the New-Button.

The test scheme is now created and the inspection of components can be started.

	ComGage Level 1	ComGage Level 2	ComGage Professional	
	✓	✓	✓	Basic settings :
	✓	✓	✓	● Selection and configuration of connected instruments
	✓	✓	✓	● Language (DE, GB, FR, ES, CN, JP, ...)
	✓	✓	✓	● Data directories
	✓	✓	✓	● Schemes for display elements
	✓	✓	✓	● Reference info. (operator, events, ...)
	✓	✓	✓	● User setup / Password protection
	✓	✓	✓	● Automatic start and conversion
				Test scheme :
	8	20	128	● Max. number of characteristics
	8	20	128	● Max. number of test steps
	✓	✓	✓	● Free definition of gauges, support of arithmetical and trigonometrical functions
	✓	✓	✓	● Static and dynamic measuring modes (e.g. run-out, roundness, ...)
	✓	✓	✓	● Automatic zero adjustment of gauges
	✓	✓	✓	● Calibration of gauges with two masters (air gauging)
	✓	✓	✓	● Master calibration and reference test
	✓	✓	✓	● Graphical creation of display windows and simultaneous display of several characteristics in one window
	✓	✓	✓	● Different measuring displays (numeric displays, column displays and indicator displays)
	✓	✓	✓	● Statistical trend and analysis displays (histograms, run charts and statistical data)
	✓	✓	✓	● Implementation of pictures, drawings, text / line elements in display windows
	✓	✓	✓	● Extended statistical functions, like control charts and event request
	✓	✓	✓	● Control by function keys, foot switches and digital inputs
	✓	✓	✓	● Simple control of digital outputs
	✓	✓	✓	● Extended control functions, e.g. printing during measurements, ...
	✓	✓	✓	● Control by formula editor with e.g. timers, etc.
	✓	✓	✓	● Parallel starting of 10 test schemes
	✓	✓	✓	● Expansion by customized control functions (sending correction data to CNC machines, emails, barcodes, ...)
				Further processing of meas. values :
		✓	✓	● Printing of meas. values in table form
		✓	✓	● Printing of test reports
	✓	✓	✓	● Excel Converter
		✓	✓	● QS-Stat Converter
				Additional functions :
	✓	✓	✓	● Complete control by keyboard
		✓	✓	● Win 2000...Win 10 and CE
		✓	✓	● Modular structure
		✓	✓	● Order dependent data storage



ComGage Level 2

Art. No. F721 010

ComGage Level 2 is a simple and universal program for fast solving of measuring applications. The program is not split up in modules.



ComGage Professional

The software package ComGage Professional is split up in modules. This allows the cost-optimized usage of the software in different areas of the company.

For the supervisor office only the modules for creation of test schemes / test orders and for the production site only the modules for data collection and analysis are needed.

IBR_TSH Test Scheme Handler

Art. No. F711 010

The module IBR_TSH allows the creation of test schemes. (Programming of characteristics, measuring sequence, digital inputs and outputs, design of display windows)

IBR_TOH Test Order Handler

Art. No. F712 010

The module IBR_TOH allows the creation of test orders. With test orders collected measured values can be afterwards printed, converted into different data formats or can be analysed in ComGage.

IBR_WGL Windows Gauge Library

Art. No. F713 010

The measuring module IBR_WGL allows the collection, calculation and visualisation of measured values. In addition the module assumes the storage of values, the automatic zero adjustment & calibration, the sequence control and switchover between test orders.

IBR_SPC Statistical Process Control

Art. No. F714 010

The module IBR_SPC provides statistical displays and calculation methods for process analysis and process control (Histograms, run charts, statistical data (such as Cp, Cpk) and Shewhart / Acceptance control charts).

IBR_PLC Programmable Logical Control

Art. No. F715 010

The module IBR_PLC serves to monitor and control digital inputs and outputs. It saves the usage of an external PLC and allows automatic control of fixtures and machines.

The modules are activated by a hardware dongle for IMBus (Art. No. F720 003) or for USB (Art. No. F720 002).

A 30 days test version is available.