

1. Introduction

The ComGage test step function “Label printout by MS-Excel” is executed by means of MS-Excel 2010 or later.

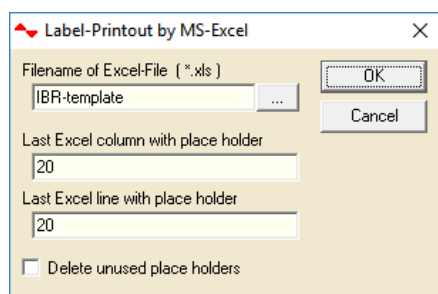
This test step function requires a License for Module 72 (Special Measuring Modes and Test step functions) to operate. The function can only be executed in ComGage test orders.

The layout of the label (e.g. structure, font size, font type, info text, frames, background colours, logos, ...) and the printer settings (e.g. printer, upright / landscape format, ...) are defined in a MS-Excel file (*.xls file). This MS-Excel file also contains additional place holders, which ComGage subsequently replaces by the measurement data, reference information, ... of the current component.

On call of the ComGage function “Label-Printout by MS-Excel”, MS-Excel is started in the background and the specified MS-Excel file is loaded. Afterwards the ComGage function “Label-Printout by MS-Excel” replaces the place holders in the MS-Excel file and automatically starts the printout of the label by MS-Excel or stores the Excel file in XLS or PDF format.

2. Setup settings

- Open the test scheme by selecting the menu “Test Scheme → Create / Change”.
- Add an additional test step or open an existing test step.
- Add the function “Label-Printout by MS-Excel” in the “Expert mode”.
- The following setup window is opened by clicking the Setup-button :



- The filename of the MS-Excel file is entered into the entry field (without ending .xls and without directory information) or selected via ... button. The MS-Excel files must be located in the directory for test orders and the filename length is limited to 12 characters.
- The last column / line containing place holders is defined in the entry fields “Last Excel column / line”. In the example shown above, $20 \times 20 = 400$ cells are scanned for place holders. The larger both values are the more cells are scanned, thus increasing the time required for generating and printing the label.

3. Place holders

The following table contains the list of available place holders :

Place holder	Function
\$ON	Test order number
\$AR	Article number
\$AN	Article name
\$RL	Result of the complete last component in long form (is determined from all characteristics in the test scheme) : In Ordnung / Ausschuß / Nacharbeit
\$RS	Result of the complete last component in short form (is determined from all characteristics in the test scheme) : IO / NIO / NA
\$C1..128\$NA	Characteristic 1..128 : Name
\$C1..128\$UN	Characteristic 1..128 : Unit
\$C1..128\$NS	Characteristic 1..128 : Nominal

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\$C1..128\$US	Characteristic 1..128 : Upper specification limit
\$C1..128\$UC	Characteristic 1..128 : Upper controlling limit
\$C1..128\$LC	Characteristic 1..128 : Lower controlling limit
\$C1..128\$LS	Characteristic 1..128 : Lower specification limit

Last measurement value (= n^{th} measurement value) from file :

\$C1..128\$MV	Characteristic 1..128 : Measurement value
\$C1..128\$RL	Characteristic 1..128 : Result in long form : In Ordnung / Ausschuß / Nacharbeit
\$C1..128\$RS	Characteristic 1..128 : Result in short form : IO / NIO / NA
\$C1..128\$DA	Characteristic 1..128 : Date of the last measurement value from file
\$C1..128\$TI	Characteristic 1..128 : Time of the last measurement value from file
\$R1..30	Reference information dataset of last measurement value from file (Operator, Batch, ...)

An additional term can be added to the place holders “\$C1..128\$..” for the last measurement values from file :

\$C1..128\$..%C	Entry is written in red letters, if the particular characteristic = NIO
\$C1..128\$..%A	Entry is written : - in red letters, if the particular characteristic = NIO - in yellow letters, if the particular characteristic = NA - in green letters, if the particular characteristic = IO
\$C1..128\$..%B	Entry is written in bold characters, if the particular characteristic = NIO
\$C1..128\$..%K	Entry is written in italic script, if the particular characteristic = NIO

Second to last measurement value (= $(n-1)^{\text{th}}$ measurement value) from file :

\$C1..128\$MV\$2	Characteristic 1..128 : Measurement value
\$C1..128\$RL\$2	Characteristic 1..128 : Result in long form : In Ordnung/Ausschuß/Nacharbeit
\$C1..128\$RS\$2	Characteristic 1..128 : Result in short form : IO / NIO / NA
\$C1..128\$DA\$2	Characteristic 1..128 : Date of measurement value from file
\$C1..128\$TI\$2	Characteristic 1..128 : Time of measurement value from file

Last but two measurement value (= $(n-2)^{\text{th}}$ measurement value) from file :

\$C1..128\$MV\$3	Characteristic 1..128 : Measurement value
\$C1..128\$RL\$3	Characteristic 1..128 : Result in long form : In Ordnung/Ausschuß/Nacharbeit
\$C1..128\$RS\$3	Characteristic 1..128 : Result in short form : IO / NIO / NA
\$C1..128\$DA\$3	Characteristic 1..128 : Date of measurement value from file
\$C1..128\$TI\$3	Characteristic 1..128 : Time of measurement value from file

...

$(n-19)^{\text{th}}$ measurement value from file :

\$C1..128\$MV\$20	Characteristic 1..128 : Measurement value
\$C1..128\$RL\$20	Characteristic 1..128 : Result in long form : In Ordnung/Ausschuß/Nacharbeit
\$C1..128\$RS\$20	Characteristic 1..128 : Result in short form : IO / NIO / NA
\$C1..128\$DA\$20	Characteristic 1..128 : Date of measurement value from file
\$C1..128\$TI\$20	Characteristic 1..128 : Time of measurement value from file

$(n-20)^{\text{th}}$ measurement value from file :

\$C1..128\$MV\$21	Characteristic 1..128 : Measurement value
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...

$(n-49)^{\text{th}}$ measurement value from file :

\$C1..128\$MV\$50	Characteristic 1..128 : Measurement value
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\$P,{File},{Width}	Insert image file (e.g. *.bmp, ...) : {File} = Filename of the image file, including directory information {Width} = Width of image file, for scaling Example : With the SFct006, SFct046 and SFct057, BMP files can be created of display windows, polar diagrams and XY diagrams. These graphics can be integrated in the Excel file.
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Notice : An Excel cell can contain only one place holder, i.e. there must not be a second place holder or any other text in that particular Excel cell.
 Uppercase and lowercase are not observed on the place holders.
 The entries %A, %B, %C, %K can be combined freely, e.g. \$C5\$MV%B%K, but always refer to the last measurement values from file.

If IO / NIO / NA (placeholder = \$C1..128\$RS) shall be exchanged with individual texts, these placeholders can be placed outside the print area and the fields where the other texts are needed can be filled conditionally.

A formula can be used for this.

Example :

A placeholder is used to write IO / NIO / NA into the field Z1.

In the field, where the other text is needed, the following formula can be entered :

=IF(Z1="NA","";IF(Z1="NIO","bad","good"))

This leads to the following result :

If the field Z1 contains the text NA, in the other field a blank space is entered.

If the field Z1 contains the text NIO, in the other field the text “bad” is entered.

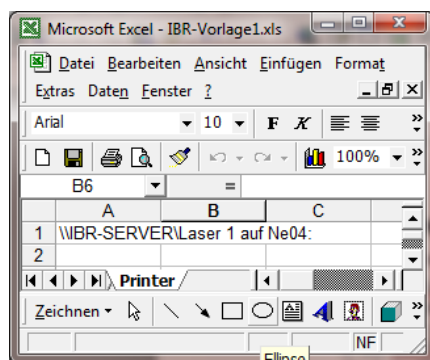
If the field Z1 contains the text IO, in the other field the text “good” is entered.

4. Example of an Excel file (including place holders)

	A	B	C	D	E	F	G	H	I	J	K
1											
2			\$ON				\$C1\$DA		\$C1\$TI		
3											
4							\$RL				
5											
7	C1	\$C1\$NA	\$C1\$MV%C	\$C1\$UN	\$C1\$RS						
8	C2	\$C2\$NA	\$C2\$MV%C	\$C2\$UN	\$C2\$RS						
9	C3	\$C3\$NA	\$C3\$MV%C	\$C3\$UN	\$C3\$RS						
10	C4	\$C4\$NA	\$C4\$MV%C	\$C4\$UN	\$C4\$RS						
11	C5	\$C5\$NA	\$C5\$MV%C	\$C5\$UN	\$C5\$RS						
12	C6	\$C6\$NA	\$C6\$MV%C	\$C6\$UN	\$C6\$RS						
13	C7	\$C7\$NA	\$C7\$MV%C	\$C7\$UN	\$C7\$RS						
14											
15											
16											

5. Specification of printer name (if not specified, the Windows standard printer is used)

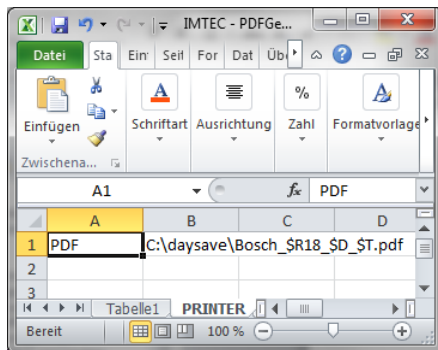
- The Excel file must contain a second table sheet = „Printer“.
- The printer name can be specified in cell “A1” of the table sheet „Printer“ :



- The table sheet containing the label layout must however be the active table sheet of the Excel workbook.

6. Exporting the Excel file as PDF file in MS Excel 2010 or later

- The Excel file must contain a second table sheet = „Printer“.
- “PDF” must be entered into cell “A1” and the filename of the PDF file including the path information into cell “B1”. The filename can contain the place holders : $\$D$ = Date, $\$T$ = Time and $\$R1...R30$ = reference information datasets.



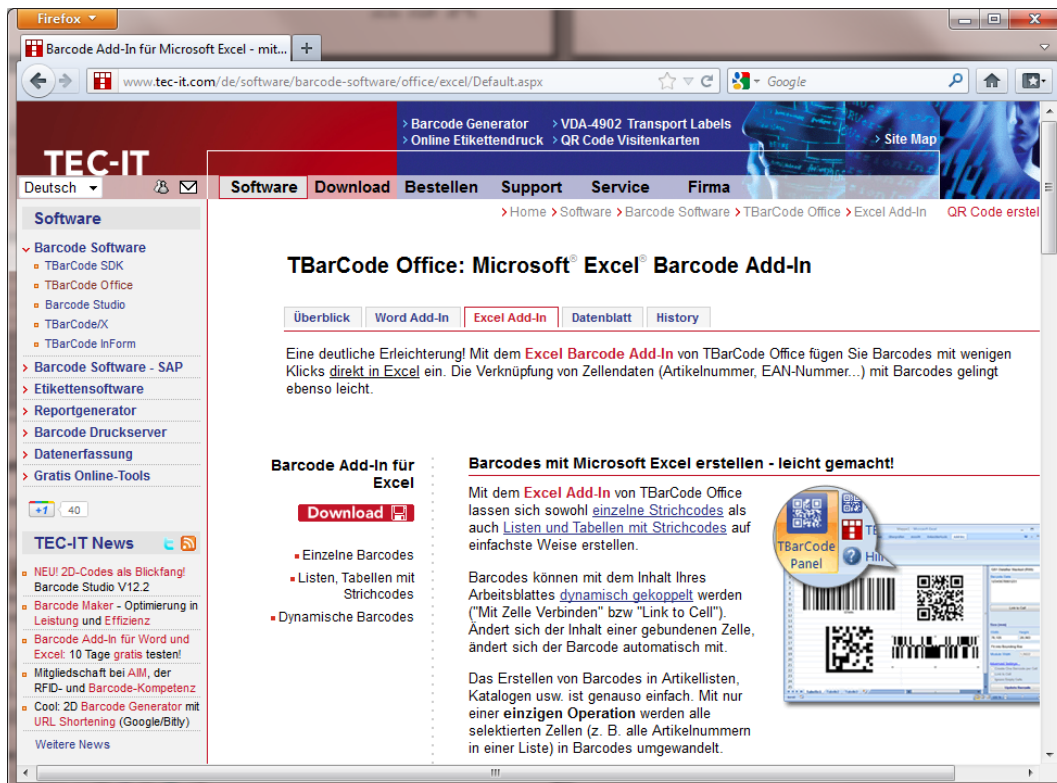
- The table sheet containing the label layout must however be the active table sheet of the Excel workbook.

7. Save the Excel file under new filename in MS Excel 2010 or later

- The Excel file must contain a second table sheet = „Printer“.
- “XLS” must be entered into cell “A1” and the filename of the XLS file including the path information into cell “B1”. The filename can contain the place holders : $\$D$ = Date, $\$T$ = Time and $\$R1...R30$ = reference information datasets.
- The table sheet containing the label layout must however be the active table sheet of the Excel workbook.

8. Integration of 2D bar codes with Excel 2010 or later

- Buy and install the „Microsoft Excel Barcode Add-In“ from www.tec-it.com :



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- b) Insert 2D-barcode into the Excel file containing the place holders via the Add-In menu (red boxes), assign the Excel cell with the place holder to the Barcode Add-In (blue boxes) and place the 2D-bar code in the Excel table (green box) :

