

ComGage – Test step function SFct061

“Universal Label Printing”



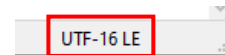
1. Introduction

The ComGage test step function *Universal Label Printing* allows the designing and printing of a label with barcode / DataMatrix code / QR code and additional information.

The format of the label is determined with a configuration file (*.lbl).

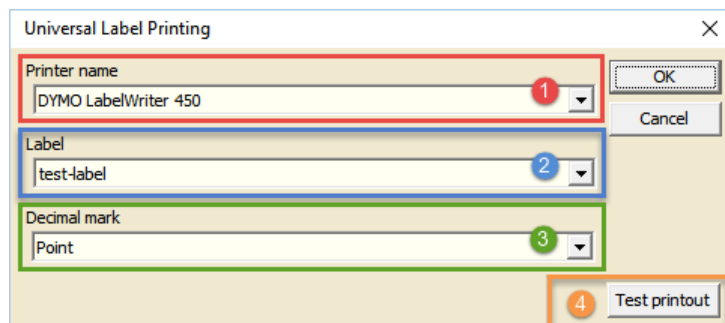
Important:

- The function is carried out only in a ComGage test order.
- For executing this function the software licence 72 (ComGage Special Modules) and at least ComGage V3.98 is required.
- The files **SFct061.dll**, **TBarCode11.dll** and **zlib1.dll** must be located in the ComGage programme directory, so that barcodes / DataMatrix codes / QR codes can be printed.
- The barcode library requires the **Microsoft VC10 Common Runtime DLLs**. You can download and install it from the following links:
 - For 32 Bit (x86) ComGage version : <http://www.microsoft.com/en-us/download/details.aspx?id=8328>
 - For 64 Bit (x64) ComGage version : <http://www.microsoft.com/en-us/download/details.aspx?id=13523>
- The sizes of individual elements of labels are stated in millimetres as absolute values. If the defined label is larger than the set paper format of the selected printer in Windows printer settings, only a part of the label is printed.
- The proper encoding of the label configuration file is UTF-16 LE. ASCII label configuration files will not work.
- The label configuration file must end with an empty line.



2. Configuration

The function is set up within a test step. The following dialogue is opened with the Setup Button :



The dialogue offers the following configuration options :

1. Printer name

This allows the selection of a printer currently configured in Windows, on which the label should be printed. If necessary, its standard paper format must be set to the format of the label in the configuration options of Windows printer driver. The test step function “Universal Label Printing” does not have this option.

2. Label

This allows the selection of a label configuration file (*.lbl). The selection shows all label configuration files, which are located in ComGage directory for test orders. The file's extension (*.lbl) is not displayed.

3. Decimal mark

A point or a comma can be determined here as the decimal mark for measured values, tolerances....

4. Test printout

A test print of the label with the selected settings can be printed. Some of the placeholders used in the configuration file cannot be filled out in a test print and are filled with standard values.



3. Format of label configuration file (*.lbl)

The label configuration file is a Unicode text file. It contains the commands for printing the label. Comments are also possible and they start with a semicolon (;).

The last line always has to be an empty line.

Following commands are possible :

textColor,R,G,B

Text colour for the following text outputs.

R = Red (0...255)

G = Green (0...255)

B = Blue (0...255).

Example : `textColor,0,0,0`

The text colour is black.

bkColor,R,G,B

Background colour for the following text outputs.

R = Red (0...255)

G = Green (0...255)

B = Blue (0...255).

Example : `bkColor,255,255,255`

The colour of the text background is white.

font,b,h,Font,Emphasis

Sets the font for the following text outputs.

b = Width of individual characters in mm

h = Height of individual characters in mm

Font = Name of the installed font on the system (e.g. Arial)

Emphasis = Emphasis of the font. Following values are supported:

- **FW_HEAVY** Heavy
- **FW_BOLD** Bold
- **FW_NORMAL** Normal
- **FW_THIN** Thin
- **ITALIC** Italic

Example : `font,3,7,"Arial",FW_BOLD`

Font Arial, characters 7 mm, type bold

line,x1,y1,x2,y2

Draws a line. The sizes are in mm as absolute values, measured from the top left side of the label.

x1 = x position (in mm) of the top left corner of the line

y1 = y position (in mm) of the top left corner of the line

x2 = x position (in mm) of the bottom right corner of the line

y2 = y position (in mm) of the bottom right corner of the line

Example : `line,3,30,51,45`

Start point of line : 3 mm from the left edge, 30 mm from the top edge.

End point of line : 51 mm from the left edge, 45 mm from the top edge.

rect,x1,y1,x2,y2

Draws a rectangle. The sizes are in mm as absolute values, measured from the top left side of the label.

x1 = x-Position (in mm) of the top left corner of the rectangle
y1 = y-Position (in mm) of the top left corner of the rectangle
x2 = x-Position (in mm) of the bottom right corner of the rectangle
y2 = y-Position (in mm) of the bottom right corner of the rectangle

Example : rect, 3, 30, 51, 45

Rectangle, 3 mm from the left edge, 30 mm from the top edge, 51 mm from the left edge, 45 mm from the top edge

roundRect,x1,y1,x2,y2,ew,eh

Draws a rectangle with rounded corners. The sizes are in mm as absolute values, measured from the top left side of the label.

x1 = x position (in mm) of the top left corner of the rectangle
y1 = y position (in mm) of the top left corner of the rectangle
x2 = x position (in mm) of the bottom right corner of the rectangle
y2 = y position (in mm) of the bottom right corner of the rectangle
ew = width (in mm) of the ellipse used to draw the rounded corners
eh = height (in mm) of the ellipse used to draw the rounded corners

Example : roundRect, 3, 30, 51, 45, 10, 10

Rectangle with rounded corners, 3 mm from the left edge, 30 mm from the top edge, 51 mm from the left edge, 45 mm from the top edge

text,x1,y1,x2,y2,"Text",Parameter

Places the text "Text" on the position (x1,y1,x2,y2). Different parameters can be given for formatting the texts. The surrounding rectangle is not shown.

x1 = x-Position (in mm) of the top left corner
y1 = y-Position (in mm) of the top left corner
x2 = x-Position (in mm) of the bottom right corner
y2 = y-Position (in mm) of the bottom right corner
"Text" = Text to be printed. Placeholders can also be used (see chapter 4).

Parameter = different parameters for the formatting of text output. The parameters can be linked with | :

- **DT_TOP** Align text to the top edge of the surrounding rectangle
- **DT_LEFT** Align text to the left
- **DT_CENTER** Align text to the centre
- **DT_RIGHT** Align text to the right
- **DT_VCENTER** Align text to the vertical centre
- **DT_BOTTOM** Align text to the bottom edge of the surrounding rectangle
- **DT_WORDBREAK** Automatic line break, if the text does not fit in one line
- **DT_SINGLELINE** Write text only in a single line
- **DT_END_ELLIPSIS** Trim text and add (...) and (...), if it does not fit in the surrounding rectangle.

Example : text, 3, 75, 51, 83, "Z-Bau", DT_LEFT|DT_VCENTER|DT_SINGLELINE

The text "Z-Bau" (without quotation marks) is placed in the surrounding rectangle (rect,3,75,51,83). The text is aligned to the left, centred vertically and limited to one line.



textInRect,x1,y1,x2,y2,"Text",Parameter

Places the text “Text” in a surrounding rectangle. The position of the surrounding rectangle is determined as (x1,y2,x2,y2). Different parameters can be given for formatting the texts. The surrounding rectangle is shown.

x1 = x-Position (in mm) of the top left corner of the surrounding rectangle

y1 = y-Position (in mm) of the top left corner of the surrounding rectangle

x2 = x-Position (in mm) of the bottom right corner of the surrounding rectangle

y2 = y-Position (in mm) of the bottom right corner of the surrounding rectangle

ew = width (in mm) of the ellipse used to draw the rounded corners

eh = height (in mm) of the ellipse used to draw the rounded corners

"Text" = Text to be printed. Placeholders can also be used (see chapter 4).

Parameter = different parameters for the formatting of text output. The parameters can be linked with | (see **text,x1,y1,x2,y2,"Text",Parameter**)

Example : `textInRect,3,75,51,83,"Z-Bau",DT_LEFT|DT_VCENTER|DT_SINGLELINE`

The text “Z-Bau” (without quotation marks) is placed in the surrounding rectangle (rect,3,75,51,83). The text is aligned to the left, centred vertically and limited to one line. The surrounding rectangle is shown.

textInRoundRect,x1,y1,x2,y2,"Text",Parameter

Places the text “Text” in a surrounding rectangle with rounded corners. The position of the surrounding rectangle is determined as (x1,y2,x2,y2). Different parameters can be given for formatting the texts. The surrounding rectangle is shown.

x1 = x-Position (in mm) of the top left corner of the surrounding rectangle

y1 = y-Position (in mm) of the top left corner of the surrounding rectangle

x2 = x-Position (in mm) of the bottom right corner of the surrounding rectangle

y2 = y-Position (in mm) of the bottom right corner of the surrounding rectangle

"Text" = Text to be printed. Placeholders can also be used (see chapter 4).

Parameter = different parameters for the formatting of text output. The parameters can be linked with | (see **text,x1,y1,x2,y2,"Text",Parameter**)

Example : `textInRoundRect,3,75,51,83,10,10,"Z-Bau",DT_LEFT|DT_VCENTER|DT_SINGLELINE`

The text “Z-Bau” (without quotation marks) is placed in the surrounding rectangle with rounded corners (rect,3,75,51,83,10,10). The text is aligned to the left, centred vertically and limited to one line. The surrounding rectangle is shown.

picture,x1,y1,x2,y2,<file name>,mode

Draws a picture to position (x1,y1,x2,y2).

x1 = x-Position (in mm) of the top left corner

y1 = y-Position (in mm) of the top left corner

x2 = x-Position (in mm) of the bottom right corner

y2 = y-Position (in mm) of the bottom right corner

<file name> = Picture file name. If no file path is given, the ComGage directory for pictures is used as prefix. Placeholders can also be used (see chapter 4). The file formats BMP, PNG and JPG are supported.

mode = Modes for fitting in the picture :

- **0** Fit in with minding the width-to-height relation of the picture
- **1** Fit in without minding the width-to-height relation of the picture
- **2** The picture will not be fit in.
Overlapping parts of the picture may be cut off.

Example : `picture,3,15,51,24,"drawing.BMP",0`

The picture drawing.BMP is printed 3 mm from the left edge, 15 mm from the top edge, 51 mm from the left edge, 24 mm from the top edge.



code39,x1,y1,x2,y2,"TEXT"

A barcode (Code 39) with the content “TEXT” is placed on the position (x1,y1,x2,y2).

x1 = x-Position (in mm) of the top left corner

y1 = y-Position (in mm) of the top left corner

x2 = x-Position (in mm) of the bottom right corner

y2 = y-Position (in mm) of the bottom right corner

"Text" = Content of the barcode. Placeholders can also be used (see chapter 4).

Example : code39, 3, 15, 51, 24, "<\$AN>"

A barcode (Code39) with the content *ComGage Article number* is placed 3 mm from the left edge, 15 mm from the top edge, 51 mm from the left edge, 24 mm from the top edge.

dmc,x1,y1,x2,y2,"TEXT"

A DataMatrix code with the content “TEXT” is placed on the position (x1,y1,x2,y2).

x1 = x-Position (in mm) of the top left corner

y1 = y-Position (in mm) of the top left corner

x2 = x-Position (in mm) of the bottom right corner

y2 = y-Position (in mm) of the bottom right corner

"Text" = Content of the DataMatrix code. Placeholders can also be used (see chapter 4).

Example : dmc, 3, 15, 51, 24, "<\$AN>"

A DataMatrix code with the content *ComGage Article number* is placed 3 mm from the left edge, 15 mm from the top edge, 51 mm from the left edge, 24 mm from the top edge.

qr,x1,y1,x2,y2,"TEXT"

A QR code with the content “TEXT” is placed on the position (x1,y1,x2,y2).

x1 = x-Position (in mm) of the top left corner

y1 = y-Position (in mm) of the top left corner

x2 = x-Position (in mm) of the bottom right corner

y2 = y-Position (in mm) of the bottom right corner

"Text" = Content of the QR code. Placeholders can also be used (see chapter 4).

Example : qr, 3, 15, 51, 24, "<\$AN>"

A QR code with the content *ComGage Article number* is placed 3 mm from the left edge, 15 mm from the top edge, 51 mm from the left edge, 24 mm from the top edge.

; Comment line

Comments in the label configuration file are started with a leading semicolon (;).

Example : ; This is a comment

4. Wildcards

The following table contains the list of available wildcards :

| Wildcard | Function |
|-------------|--|
| <\$ON> | Test order number |
| <\$ON\$-B> | Test order number (blank characters are removed) |
| <\$ON\$L15> | Test order number (Length = 15 Bytes / missing bytes = blank) |
| <\$AR> | Article number |
| <\$AR\$-B> | Article number (blank characters are removed) |
| <\$AR\$L15> | Article number (Length = 15 Bytes / missing bytes = blank) |
| <\$AN> | Article name |
| <\$AN\$-B> | Article name (blank characters are removed) |
| <\$AN\$L15> | Article name (Length = 15 Bytes / missing bytes = blank) |
| <\$D\$Y> | Print date : Year (4 digits) |
| <\$D\$M> | Print date : Month (2 digits) |
| <\$D\$MDE> | Print date : Month, German (3 characters) (Jan, Feb, ... Dez) |
| <\$D\$MEN> | Print date : Month, English (3 characters) (Jan, Feb, ... Dec) |
| <\$D\$D> | Print date : Day (2 digits) |
| <\$T\$H> | Print time : Hour (2 digits) |
| <\$T\$M> | Print time : Minute (2 digits) |
| <\$T\$S> | Print time : Second (2 digits) |

| Wildcard | Function |
|---------------|---|
| <00> ... <ff> | ASCII-Code (as HEX number) of one character |

Characteristic data & values :

| Wildcard | Function |
|----------------------|--|
| <\$C1..128\$NA> | Characteristic 1..128 : Name |
| <\$C1..128\$NA\$-B> | Characteristic 1..128 : Name (blank characters are removed) |
| <\$C1..128\$NA\$L15> | Characteristic 1..128 : Name (Length = 15 Bytes / missing bytes = blank) |
| <\$C1..128\$UN> | Characteristic 1..128 : Unit |
| <\$C1..128\$UN\$-B> | Characteristic 1..128 : Unit (blank characters are removed) |
| <\$C1..128\$UN\$L15> | Characteristic 1..128 : Unit (Length = 15 Bytes / missing bytes = blank) |
| <\$C1..128\$NS> | Characteristic 1..128 : Nominal size |
| <\$C1..128\$NS\$L12> | Characteristic 1..128 : Nominal size (Length = 12 Bytes / missing bytes = "0") |
| <\$C1..128\$US> | Characteristic 1..128 : Upper specification limit (relative to nominal size) |
| <\$C1..128\$US\$L12> | Characteristic 1..128 : USL (Length = 12 Bytes / missing bytes = "0") |
| <\$C1..128\$UC> | Characteristic 1..128 : Upper controlling limit (relative to nominal size) |
| <\$C1..128\$UC\$L12> | Characteristic 1..128 : UCL (Length = 12 Bytes / missing bytes = "0") |
| <\$C1..128\$LC> | Characteristic 1..128 : Lower controlling limit (relative to nominal size) |
| <\$C1..128\$LC\$L12> | Characteristic 1..128 : LCL (Length = 12 Bytes / missing bytes = "0") |
| <\$C1..128\$LS> | Characteristic 1..128 : Lower specification limit (relative to nominal size) |
| <\$C1..128\$LS\$L12> | Characteristic 1..128 : LSL (Length = 12 Bytes / missing bytes = "0") |
| <\$C1..128\$UT> | Characteristic 1..128 : Upper tolerance limit (\$NS + \$US) |
| <\$C1..128\$UT\$L12> | Characteristic 1..128 : UT (Length = 12 Bytes / missing bytes = "0") |
| <\$C1..128\$LT> | Characteristic 1..128 : Lower tolerance limit (\$NS + \$LS) |
| <\$C1..128\$LT\$L12> | Characteristic 1..128 : LT (Length = 12 Bytes / missing bytes = "0") |
| <\$C1..128\$M1> | Characteristic 1..128 : Master Value 1 |
| <\$C1..128\$M1\$L12> | Characteristic 1..128 : Master 1 (Length = 12 Bytes / missing bytes = "0") |
| <\$C1..128\$M2> | Characteristic 1..128 : Master Value 2 |
| <\$C1..128\$M2\$L12> | Characteristic 1..128 : Master 2 (Length = 12 Bytes / missing bytes = "0") |
| <\$C1..128\$NO> | Characteristic 1..128 : Note |
| <\$C1..128\$NO\$-B> | Characteristic 1..128 : Note (blank characters are removed) |
| <\$C1..128\$NO\$L15> | Characteristic 1..128 : Note (Length = 15 Bytes / missing bytes = blank) |

ComGage – Test step function SFct061

“Universal Label Printing”



Last measured value from the file:


| Wildcard | Function |
|--|---|
| <\$C1..128\$MV\$5> | Characteristic 1..128 : Measured value \$5 : Number of decimal places No entry = 6 decimal places \$0 = no decimal places \$1 ... 5 = number of decimal places according numeral |
| <\$C1..128\$MV\$5\$L12> <\$C1..128\$MV\$T1> | Characteristic 1..128 : Value (Length = 12 Bytes / missing bytes = "0") Characteristic 1..128 : Output of measured value if ... \$T0 : inside controlling limits \$T1 : inside controlling limits and inside tolerance limits \$T2 : inside controlling limits and outside tolerance limits \$T3 : outside tolerance limits |
| <\$C1..128\$MV\$5\$T1> | Characteristic 1..128 : Measured value \$5 : Number of decimal places (see above) \$T0 : Output of measured value if ... (see above) |
| <\$C1..128\$RS\$x\$y\$z> | Characteristic 1..128 : Tolerance result of the last measuring value x : exported text on value within controlling limits or within tolerance limits on deactivated controlling limits. y : exported text on value outside controlling limits but within tolerance limits z : exported text on value is outside tolerance limits |
| <\$C1..128\$R1..30> <\$C1..128\$R1..30\$-B> <\$C1..128\$R1..30\$L15> | Characteristic 1..128 : Reference information dataset (Machine, Batch, ...) Characteristic 1..128 : Reference information (blank characters are removed) Characteristic 1..128 : Reference information (length = 15 Bytes / missing bytes = blank) !!! The numbers R1...30 of the reference information datasets you find in menu "Options / Reference information" |

5. Example

File example.lbl:

```
; example.lbl - Sample label for ComGage SFct061 (Universal Label Printing)
; Text colour black
textColor,0,0,0
; Background colour for text : white
bkColor,255,255,255
; Font=Arial, characters 3 mm wide, 7 mm high, in bold
font,3,7,"Arial",FW_BOLD
; Article number with a surrounding rectangle, Text horizontally + vertically centred
textInRect,3,5,51,15,"<$AN>",DT_CENTER|DT_VCENTER|DT_SINGLELINE
; Barcode "Code 39" with article number
code39,3,15,51,24,"<$AN>"
font,2,3,"Arial"
textInRect,3,24,51,30,"<$C1$R18>@<$C1$R11>@",DT_CENTER|DT_VCENTER|DT_SINGLELINE
; Simple rectangle
rect,3,30,51,45
font,2,5,"Arial",FW_BOLD
text,3,31,51,37,"<$C1$NA$3>",DT_CENTER
font,4,7,"Arial",FW_BOLD
text,3,38,51,45,"<$C1$MV>",DT_CENTER
font,1,2,"Arial"
textInRect,3,45,27,48,"VK-groß",DT_CENTER|DT_VCENTER|DT_SINGLELINE
textInRect,27,45,51,48,"VK-klein",DT_CENTER|DT_VCENTER|DT_SINGLELINE
font,3,4,"Arial"
textInRect,3,48,27,54,"Gr. <$C2$MV$0>",DT_CENTER|DT_VCENTER|DT_SINGLELINE
textInRect,27,48,51,54,"Gr. <$C3$MV$0>",DT_CENTER|DT_VCENTER|DT_SINGLELINE
font,1,3,"Arial"
textInRect,3,54,51,60," Behälter-Nr.",DT_LEFT|DT_VCENTER|DT_SINGLELINE
textInRect,3,60,51,65," Lage im Behälter",DT_LEFT|DT_VCENTER|DT_SINGLELINE
;
font,1,2,"Arial"
textInRect,3,65,27,75,"STZA",DT_CENTER
textInRect,27,65,51,75,"ZYLI",DT_CENTER
textInRect,3,75,51,83," Z-Bau",DT_LEFT|DT_VCENTER|DT_SINGLELINE
textInRect,3,83,51,91," Typ",DT_LEFT|DT_VCENTER|DT_SINGLELINE
```

Output

| | |
|---|----------|
| CA 31230-001 | |
|  | |
| F-4-1296@ANO@ | |
| Ø-Mittelbohrung | |
| -0.0001 | |
| VK-groß | VK-klein |
| Gr. 0 | Gr. 0 |
| Behälter-Nr. | |
| Lage im Behälter | |
| STZA | ZYLI |
| Z-Bau | |
| Typ | |