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Category	■FAQ □SOP	Related OS	N/A
Abstract	Codesys, How to show system time in visualization		
Keyword	Codesys, Time and date, Visualization		
Related Product	ADAM-5560CDS, APAX-5580CDS		

■ **Problem Description:**

In the visualization function of Codesys, the user can use dynamic texts to show values with different data with a prefix "%" followed by different characters like Table 1 .

However, there are not data format for the system time and date, how can Codesys show the system time and date on visualization?

Format definitions

Character after "%"	Argument/Output as
d, l	Decimal number
b	Binary number
o	Unsigned octal number (without leading zero)
x	Unsigned hexadecimal number (without leading 0x)
u	Unsigned decimal number
c	Single character
s	String: this location in online mode will be replaced by the value of the variable which is specified in the 'Text variables' property 'Text variable'.
f	REAL values Syntax: %[<alignment><minimal width>.<accuracy>]f ■ <alignment>: insert – | + ; minus-sign means left aligned; plus-sign means right aligned (default) ■ <minimal width>: number of places behind the comma ■ <accuracy>: number of places in front of the comma (default: 6)
%e %E	Exponential display for floating-point numbers (REAL/LREAL) with base: 10 Example: 1.234567%e-003 Example: The format definition %e in the output text 'Value: %e' leads to output Value: 1.23e-6. Then, the placeholder variable receives 0.00000123. Example: The format definition %E in the output text 'Value: %E' leads to output Value: 1.23E-6. Then, the placeholder variable receives 0.00000123.

Table 1

■ **Answer:**

In order to show system date and time in dynamic texts, you need to enter **"%t"**, followed by a sequence of special placeholders in squared brackets.

Please see *Table 2* for valid placeholders.

ddd	Name of the weekday, abbreviated, for example, "Wed"
dddd	Name of the weekday, for example, "Wednesday"
ddddd	Weekday as number from 1 = Monday to 7 = Sunday
MMM	Name of the month, abbreviated, for example, "Feb"
MMMM	Name of the month, for example, "February"
d	Day of month as number (1 – 31), for example, "8"
dd	Day of month as number (01 – 31), for example, "08"
M	Month as number (1 – 12), for example, "4"
MM	Month as number (01 – 12), for example, "04"
jjj	Day of the year as number (001-366), for example, "067"
y	Year without specifying the century (0-99), for example, "9"
yy	Year without specifying the century (00-99), for example, "09"
yyy	Year with specifying the century, for example, "2009"
HH	Hour, 24-hours format (01-24), for example, "16"
hh	Hour, 12-hours format (01-12), for example, "4" for 16 o'clock
m	Minutes (0-59), without preceded null, for example, "6"
mm	Minutes (00-59), with preceded null, for example, "06"
s	Seconds (0-59), without preceded null, for example, "6"
ss	Seconds (00-59), with preceded null, for example, "06"
ms	Milliseconds (0-999), without preceded null, for example, "322"
t	Identifier for the display in 12-hours format: A (hours <12) resp. P (hours >12), for example, "A" in case of 9 o'clock in the morning
tt	Identifier for the display in 12-hours format: AM (hours <12) resp. PM (hours >12), for example, "AM" in case of 9 o'clock in the morning
' '	Text strings containing one of the above-listed placeholders must be included in single quotation marks; all other texts within the format string can be used without quotation marks; for example 'update', because it contains "d" and "t"

Table 2

Take visualization project of *Figure 1* as an example, with the syntax like "%t['System time' ddd MMM dd.MM.yy 'at'", will be output as *Figure 2* in online mode.

System Time Output

%t['System time' ddd MMM dd.MM.yy 'at' HH:mm:ss]

Figure 1

System Time Output

System time Mon Aug 22.08.16 at 20:09:07

Figure 2