

Using Macro Commands to Create a String

1. Copying String

Purpose: Copy a string.

Command: STRCPY(*p1*, *p2*)

Parameter:

p1: The internal memory location to store the destination string.

p2: The internal memory location to store the null-terminated source string.

Example 1a

\$U100 = "ABCDE"

STRCPY(\$U200, \$U100)

After the command STRCPY is executed, the \$U200 contains the string "ABCDE" and its memory content is like the following.

Word	Low Byte	High Byte
\$U200	'A'	'B'
\$U201	'C'	'D'
\$U202	'E'	0

Example 1b

\$U120 = "12"

STRCPY(\$U220, \$U120)

After the command STRCPY is executed, the \$U220 contains the string "12" and its memory content is like the following.

Word	Low Byte	High Byte
\$U220	'1'	'2'
\$U221	0	undefined

2. Appending String

Purpose: Append a string.

Command: STRCAT(*p1*, *p2*)

Parameter:

p1: The internal memory location to store the null-terminated destination string.

p2: The internal memory location to store the null-terminated source string.

Example 2a

\$U100 = "ABC"

\$U120 = "12345"

STRCAT(\$U100, \$U120)

After the command STRCAT is executed, the \$U100 contains the string "ABC12345" and its memory content is like the following.

Word	Low Byte	High Byte
\$U100	'A'	'B'
\$U101	'C'	'1'
\$U102	'2'	'3'
\$U103	'4'	'5'
\$U104	0	undefined

Example 2b

\$U100 = "C:\MyFolder\"

\$U120 = "Test"

\$U140 = ".txt"

STRCAT(\$U100, \$U120)

STRCAT(\$U100, \$U140)

After the second STRCAT is executed, the \$U100 contains the string "C:\MyFolder\Test.txt" and its memory content is like the following.

Word	Low Byte	High Byte
\$U100	'C'	'.'
\$U101	'\'	'M'
\$U102	'y'	'F'
\$U103	'o'	'l'
\$U104	'd'	'e'
\$U105	'r'	'\'
\$U106	'T'	'e'
\$U107	's'	't'
\$U108	'.'	't'
\$U109	'x'	't'
\$U110	0	undefined

3. Getting String Length

Purpose: Get the length of a string.

Command: STRLEN(*p1*)

Parameter:

p1: The internal memory location to store the null-terminated string.

Example 3

\$U100 = "ABC"

\$U200 = STRLEN(\$U100)

After the command STRLEN is executed, the value of \$U200 is 3.

4. Converting Number to String

Purpose: Convert a number to a string.

Command: *p1* = NUM2STR(*p2*, *p3*)

Parameter:

p1: The internal memory location to store the null-terminated destination string.

p2: The number to be converted.

p3: The required number of characters. This parameter specifies the exact number of characters that the result string should have. If the number of digits of the parameter *p2* is less than *p3*, the result string is padded on the left with zeros. If the number of digits of the parameter *p2* exceeds *p3*, the value is truncated. If *p3* is 0, there is no limitation on the length of the result string.

Example 4a

\$U120 = 123

\$U100 = NUM2STR(\$U120, 0)

After the command NUM2STR is executed, the \$U100 contains the string "123" and its memory content is like the following.

Word	Low Byte	High Byte
\$U100	'1'	'2'
\$U101	'3'	0

Example 4b

\$U120 = 1234567 (UD)

\$U100 = NUM2STR(\$U120, 10) (UD)

After the NUM2STR is executed, the \$U100 contains the string “0001234567” and its memory content is like the following.

Word	Low Byte	High Byte
\$U100	‘0’	‘0’
\$U101	‘0’	‘1’
\$U102	‘2’	‘3’
\$U103	‘4’	‘5’
\$U104	‘6’	‘7’
\$U105	0	undefined

Example 4c

\$U120 = 1234567 (UD)

\$U100 = NUM2STR(\$U120, 5) (UD)

After the NUM2STR is executed, the \$U100 contains the string “34567” and its memory content is like the following.

Word	Low Byte	High Byte
\$U100	‘3’	‘4’
\$U101	‘5’	‘6’
\$U102	‘7’	0

5. Converting Current Time to String

Purpose: Convert the current time to a string.

Command: $p1 = \text{TIME2STR}(p2)$

Parameter:

$p1$: The internal memory location to store the null-terminated destination string.

$p2$: The desired format of the string.

$p2$ value	Format	Remark
0	hhmmss	hh: hour(00~23); mm: minute(00~59); ss: second(00~59)
1	hhmm	hh, mm: same as above

Example 5

// Assume that the current time is 12:30:59

\$U100 = TIME2STR(0)

After the command TIME2STR is executed, the \$U100 contains the string "123059" and its memory content is like the following.

Word	Low Byte	High Byte
\$U100	'1'	'2'
\$U101	'3'	'0'
\$U102	'5'	'9'
\$U103	0	undefined

6. Converting Current Date to String

Purpose: Convert the current date to a string.

Command: *p1* = DATE2STR(*p2*)

Parameter:

p1: The internal memory location to store the null-terminated destination string.

p2: The desired format of the string.

<i>p2</i> value	Format	Remark
0	YYMMDD	YY: year (00~99); MM: month(01~12); DD: day(01~31)
1	YYMM	YY, MM: same as above
2	YYMMMDD	YY: year (00~99); MMM: month(JAN~DEC); DD: day(01~31)
3	YYMMM	YY, MMM: same as above

Example 6a

// Assume that the current date is December 7, 2008.

\$U100 = DATE2STR(0)

After the command DATE2STR is executed, the \$U100 contains the string "081207" and its memory content is like the following.

Word	Low Byte	High Byte
\$U100	'0'	'8'
\$U101	'1'	'2'
\$U102	'0'	'7'
\$U103	0	undefined

Example 6b

// Assume that the current date is December 31, 2008.

\$U100 = DATE2STR(3)

After the command DATE2STR is executed, the \$U100 contains the string "08DEC" and its memory content is like the following.

Word	Low Byte	High Byte
\$U100	'0'	'8'
\$U101	'D'	'E'
\$U102	'C'	0

7. Converting Current Time and Date to String

Purpose: Convert the current time and date to a string.

Command: *p1* = TD2STR(*p2*)

Parameter:

p1: The internal memory location to store the null-terminated destination string.

p2: The desired format of the string.

<i>p2</i> value	Format	Remark
0	YYMMDD_hhmmss	YY: year (00~99); MM: month(01~12); DD: day(01~31); hh: hour(00~23); mm: minute(00~59) ; ss: second(00~59)
1	YYMMDD_hhmmss	YY, DD, hh, mm, ss: same as above MMM: month(JAN~DEC)
2	YYMMDD_hhmm	YY, DD, hh, mm: same as above; MM: month(01~12)
3	YYMMDD_hhmm	YY, DD, hh, mm: same as above; MMM: month(JAN~DEC)

Example 7a

// Assume that the current date is December 7, 2008, and the current time is 12:30:59.

\$U100 = TD2STR(0)

After the command TD2STR is executed, the \$U100 contains the string "081207_123059" and its memory content is like the following.

Word	Low Byte	High Byte
\$U100	'0'	'8'
\$U101	'1'	'2'
\$U102	'0'	'7'

\$U103	'_'	'1'
\$U104	'2'	'3'
\$U105	'0'	'5'
\$U106	'9'	0

Example 7b

// Assume that the current date is December 7, 2008, and the current time is 12:30:59.

\$U100 = TD2STR(3)

After the command TD2STR is executed, the \$U100 contains the string "08DEC07_1230" and its memory content is like the following.

Word	Low Byte	High Byte
\$U100	'0'	'8'
\$U101	'D'	'E'
\$U102	'C'	'0'
\$U103	'7'	'_'
\$U104	'1'	'2'
\$U105	'3'	'0'
\$U106	0	undefined