

A man in a light blue shirt is shown from the side, holding a tablet computer. He is looking at the screen, which displays a software interface with various charts and data. The background is a blurred industrial factory setting with machinery and equipment.

**SIEMENS**

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# Operands with Quotation Marks in STEP 7 (TIA Portal)

Specification

<https://support.industry.siemens.com/cs/ww/en/view/109477857>

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# 1 Validity

This specification applies for STEP 7 (TIA Portal) V10 and higher.

## 2 Definitions

### 2.1 Operands

An operand is a language element on which specific operators like, for example, an addition or a Boolean operation can be used during programming.

An operand in a controller can be, for example, a hardware input or output, a marker, a time, a counter, a date or even a block. [31](#)

To address an operand you should use a meaningful symbolic identifier like "motorON" (camel case), which makes it a great deal easier to read and understand a program.

The identifier of an operand should be, in compliance with IEC 61131-3, a character string consisting of letters, numbers and the underscore character ("\_") and starting with a letter or underscore.

Upper/lower case lettering is not significant here.

## 3 Using Quotation Marks

With some characters it is necessary to use quotation marks ("...") in operands. This specification lists the relevant cases.

### 3.1.1 Special Characters

In STEP 7, all the characters of the Unicode font supported by the operating system are available for the symbolic designation of operands.

Various other standards apart from IEC 6 1131-3 have defined signal identifiers that also include special characters and should be used in programming.

In order to be able to use these identifiers that include at least on special character for operands you must set them in quotation marks.

The following characters are special characters:

!"#\$%&'()\*+,-./:;<=>?@[\\]^\_{|}~ ¡¢£¥¦§¨ª«¬®¯°±²³´µ¶·¸¹º»¼½¾¿.

Examples: "¼hour"

"one\*two"

"Hall17/Block3.7"

### 3.1.2 Letters

All letters, regardless of the language, are used without quotation marks. This applies also for characters that are not part of the Latin alphabet.

Examples: 愁愆憎

año

Überstrom

### 3.1.3 Numbers

- Operands consisting only of numbers must be written in quotation marks.  
Example: "1235"
- Operands beginning with one or more numbers (0...9) must be written in quotation marks.  
Example: "2times"
- Operands beginning with a normal character and including numbers are written WITHOUT quotation marks.  
Example: Factor\_2

### 3.1.4 Underscore

An underscore may be at the beginning of a symbolic name or anywhere else. However, an underscore may not be in a multiple uninterrupted sequence or be the last character of a symbolic name. In the latter case symbolic names have to be written in quotation marks.

Examples: \_UnderscoreAtTheBeginning

"double\_\_underscore"

### 3.1.5 Blank

Operands including a blank must be written in quotation marks.

Example: "first value"

### 3.1.6 Quotation Marks

It is not permissible to put quotation marks inside operand names.

### 3.1.7 Local Variable

If the operand is a local variable and contains a character that has to be written in quotation marks, the symbolic name in quotation marks is prefixed by the character "#".

Example: #"locale variable"

## 4 Further Information

In the Online Help of STEP 7 (TIA Portal) under "Keywords" you will find expressions that are reserved for SIMATIC and should not be used.

## 5 References

Table 5-1

	Subject area	Title
\1\	Siemens Industry Online Support	<a href="https://support.industry.siemens.com/cs/ww/en/">https://support.industry.siemens.com/cs/ww/en/</a>
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