

Addressing

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The terminal can handle the following data types in the controller.

Description	Data type	
	German	English
Flag	M	M
Output	A	Q
Input	E	I
Data block	DB	DB
Timer	T	T
Counter	Z	C

The project memory decides the max length of the Data Block (DB) in SIMATIC S7. The terminal can access all DBs in the controller.

Note!

The controller will stop if you try to access an undefined Data Block.

All data types consist of byte areas. Addressing is always byte specific, regardless of whether it is 1, 16 or 32 bits. The addresses are always decimal, 0 - 65535.

For information about the instructions in SIMATIC S7 we refer to the manual for the controller.

Digital signals

For digital signals you state current bit in the byte. For example I50.3 means bit 3 in input byte 50.

Data type German	Data type English
Exxxx.b	Ixxxx.b
Axxxx.b	Qxxxx.b
Mxxxx.b	Mxxxx.b
DBno.DBXyyyy.b	DBno.DBXyyyy.b

yyyy = 0 - 8191

no = Data Block number

xxxx = address (minimum value = 0, maximum value depend on the controller)

b = bit number 0 - 7.

Writing bits of device type E/I, A/Q and DB from the terminal to the controller is done in three steps:

1. Reading the whole byte from the controller to the terminal.
2. The current bit is set/reset in the terminal.
3. Writing of the whole byte from the terminal to the controller.

Note!

During the time it takes for the terminal to do the three steps the controller may not change the other bits in the current byte since it will be overwritten.

Analog signals

For bytes, you state the suffix B after the data type.

Data type German	Data type English
EBxxxx	IBxxxx
ABxxxx	QBxxxx
MBxxxx	MBxxxx
DBno.DBAdr	DBno.DBAdr

xxxx = address minimum value = 0, maximum value depend on the controller

no = Data Block number

adr = Data byte within the data block

For **16-bit numbers**, you state the suffix W after the data type; e.g. MW100 means 2 bytes from memory byte 100-101.

Data type German	Data type English
EWxxxx	IWxxxx
AWxxxx	QWxxxx
MWxxxx	MWxxxx
DBno.DBWadr	DBno.DBWadr
Txxxx	Txxxx
Zxxxx	Cxxxx

xxxx = address minimum value = 0, maximum value depend on the controller

no = Data Block number

adr = Data Word within the data block

Note!

When storing ASCII values in 16-bit numbers the eight least significant bits contain the second ASCII code.

For **32-bit numbers**, you state the suffix D; e.g. MD100 means 4 bytes from memory byte 100-103.

Data type German	Data type English
EDxxxx	IDxxxx

ADxxxx	QDxxxx
MDxxxx	MDxxxx
DBno.DBAdr	DBno.DBAdr

xxxx = address minimum value = 0, maximum value depend on the controller

no = Data Block number

adr = Data Word within the data block

Control the preset value for timers

In order to control the preset value for S5TIME objects in the controller from the terminal, perform the following operation:

Add a data register for TV/TW on the S5TIME block in the PLC program.

The time base is controlled with the first digit in the object which can be 0, 1, 2, or 3 (10 ms, 100 ms, 1 s or 10 s). The three remaining digits represent the time value. Desired preset value for the timer is acquired by multiplying the time base with the time value.

0000-0999 = 10 ms - 9.99 s 1000-1999 = 100 ms - 99.9 s 2000-2999 = 1 s - 999 s

3000-3999 = 10 s - 9990 s

Use the minimum and maximum input levels for the object in the terminal to protect the time base.

Note!

The first two bytes in a string only contain information about the string.

Station handling

For communication with other stations than the default station, the station number is given as a prefix to the device.

Example:

5:MW8 addresses memory word MW8 in station 5.

8:DB1.DBW12 addresses word DBW12 in datablock 1 in station 8.