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Step 7 Elementary Data Types

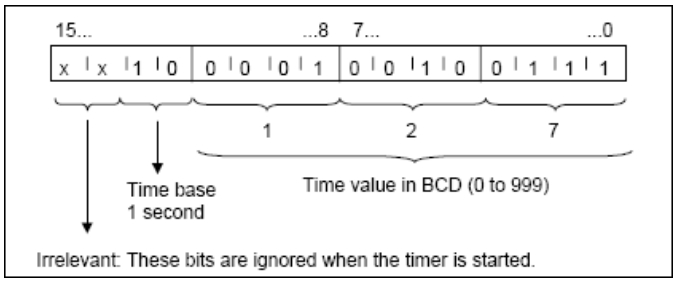
Type and Description	Size in Bits	Format Options	Range and Number Notation (lowest to highest values)	Example in STL
BOOL (Bit)	1	Boolean text	TRUE/FALSE	TRUE
BYTE (Byte)	8	Hexadecimal number	B#16#0 to B#16#FF	L B#16#10 L byte#16#10
WORD (Word)	16	Binary number	2#0 to 2#1111_1111_1111_1111	L 2#0001_0000_0000_0000
		Hexadecimal number	W#16#0 to W#16#FFFF	L W#16#1000 L word#16#1000
		BCD	C#0 to C#999	L C#998
		Decimal number unsigned	B#(0,0) to B#(255,255)	L B#(10,20) L byte#(10,20)
DWORD (Double word)	32	Binary number	2#0 to 2#1111_1111_1111_1111_1111_1111_1111_1111	L 2#1000_0001_0001_1000_1011_1011_0111_1111
		Hexadecimal number	W#16#0000_0000 to W#16#FFFF_FFFF	L DW#16#00A2_1234 L dword#16#00A2_1234
		Decimal number unsigned	B#(0,0,0,0) to B#(255,255,255,255)	L B#(1, 14, 100, 120) L byte#(1,14,100,120)
INT (Integer)	16	Decimal number signed	-32768 to 32767	L 101
DINT (Double integer)	32	Decimal number signed	L#-2147483648 to L#2147483647	L L#101
REAL (Floating-point number)	32	IEEE Floating-point number	Upper limit +/-3.402823e+38 Lower limit +/-1.175495e-38	L 1.234567e+13
S5TIME (SIMATIC time)	16	S7 time in steps of 10ms (default)	S5T#0H_0M_0S_10MS to S5T#2H_46M_30S_0MS and S5T#0H_0M_0S_0MS	L S5T#0H_1M_0S_0MS L S5TIME#0H_1H_1M_0S_0MS
TIME (IEC time)	32	IEC time in steps of 1 ms, integer signed	T#24D_20H_31M_23S_648MS to T#24D_20H_31M_23S_647MS	L T#0D_1H_1M_0S_0MS L TIME#0D_1H_1M_0S_0MS

DATE (IEC date)	16	IEC date in steps of 1 day	D#1990-1-1 to D#2168-12-31	L D#1996-3-15 L DATE#1996-3-15
TIME _OF_DAY (Time)	32	Time in steps of 1 ms	TOD#0:0:0.0 to TOD#23:59:59.999	L TOD#1:10:3.3 L TIME_OF_DAY#1:10:3.3
CHAR (Character)	8	ASCII characters	A', 'B' etc.	L 'E'

S5TIME NOTES

- Underscores in time and date are optional
- It is not required to specify all time units (for example: T#5h10s is valid)
- Maximum time value = 9,990 seconds or 2H_46M_30S

S5TIME Format



Time base	Binary Code
10 ms	00
100 ms	01
1 s	10
10 s	11

‹ Siemens Technical Terms up Symbol Table Allowed Addresses and Data Types ›

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(categories: Siemens)

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