Elementary Data Types

Each elementary data type has a defined length. The following table lists the elementary data types.

Type and Description	Size in Bits	Format Options	Range and Number Notation (lowest to highest value)_	Example
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 Decimal number unsigned	C#0 to C#999 B#(0.0) to B#(255.255)	L C#998 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	2#1000_0001_0001_1000_ 1011_1011_0111_1111
		Hexadecimal number	DW#16#0000_0000 to DW#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 1
DINT (Integer, 32 bits)	32	Decimal number signed	L#-2147483648 to L#2147483647	L L#1
REAL (Floating-point number)	32	IEEE Floating-point number	Upper limit: ±3.402823e+38 Lower limit: ±1.175 495e-38	L 1.234567e+13
S5TIME (SIMATIC time)	16	S7 time in steps of 10 ms (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'