



LINT (64-bit integers)

Description

An operand of data type LINT (Long INT) has a length of 64 bits and consists of two components: a sign and a numerical value in the two's complement. The signal states of bits 0 to 62 represent the number value. The signal state of bit 63 represents the sign. The sign may assume "0" for the positive, or "1" for the negative signal state.

An operand of data type LINT occupies eight BYTE in the memory.

The following table shows the properties of data type LINT:

Length h (bits)	Format	Value range	Examples of value input
64	Signed integers (decimal system)	-9_223_372_036_854_775_808 to +9_223_372_036_854_775_807	<ul style="list-style-type: none"> • +154_325_790_816_159 • LINT#+154_325_790_816_159 • LINT#10#+154_325_790_816_159
	Binary numbers (only positive)	2#0 to 2#0111_1111_1111_1111_1111_1111_1111_1111	<ul style="list-style-type: none"> • 2#0000_0000_0000_0000_1000_1100_0101_1011_1100_0101_1111_0000_1111_0111_1001_1111 • LINT#2#0000_0000_0000_0000_1000_1100_0101_1011_1100_0101_1111_0000_1111_0111_1001_1111 • LINT#2#10
	Octal numbers (only positive)	8#0 to 8#7_7777_7777_7777_7777_7777	<ul style="list-style-type: none"> • 8#4305_5705_7417_3637 • LINT#8#4305_5705_7417_3637
	Hexadecimal numbers (only positive)	16#0 to 16#7FFF_FFFF_FFFF_FFFF	<ul style="list-style-type: none"> • 16#0000_8C5B_C5F0_F79F • LINT#16#0000_8C5B_C5F0_F79F

Example

The following figure shows the integer +154325790816159 as a binary number:

Bit	31	28	27	24	23	20	19	16	15	12	11	8	7	4	3	0					
	1	1	0	0	0	1	0	1	1	1	1	0	0	1	1	1					
	2	147	483	648	67	108	864	8	388	608	1	048	576	16	384	4	096				
	1	073	741	824	16	777	216	2	097	152	32	768	8	192	1	024					
																256					
																4	194	304			
Bit	63	60	59	56	55	52	51	48	47	44	43	40	39	36	35	32					
	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0				
Sign										4	398	046	511	104	68	719	476	736			
Decimal values:										140	737	488	355	328	274	877	906	944			
																	8	589	934	592	
																	8	796	093	022	208
																		34	359	738	368
																					= 154 325 790 816 159

See also

- [Overview of the valid data types](#)
- [Overview of data type conversion \(S7-1500\)](#)
- [Basics of constants](#)
- [Implicit conversions \(S7-1500\)](#)
- [Explicit conversions \(S7-1500\)](#)
- [Data type conversion for S7-1200 \(S7-1200\)](#)