2.9.30 ABSOLUTE/INCREMENTAL PROGRAMMING (G90, G91)

These G codes are for designating whether the movement data following the axis address are in absolute value or incremental value.

· G90 · · · Absolute designation

In the block including G90 and in the subsequent blocks, the movement data which follow addresses X, Y, Z, α† are regarded as absolute values.

G90 G00 X··· Y··· Z··· ;
··· Absolute designation

· G91 · · · Incremental designation

In the block including G91 and in the subsequent blocks, said data area is regarded as incremental values.

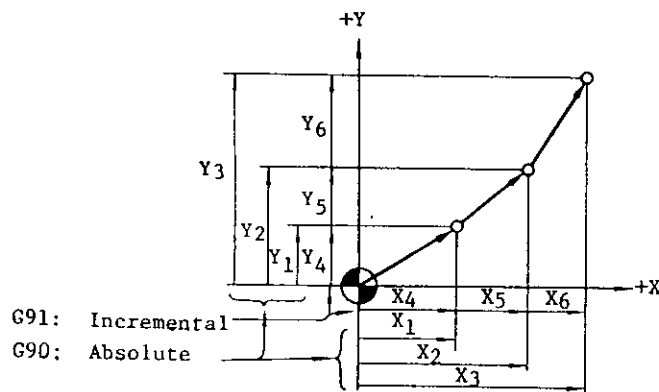G91 G01 X··· Y··· Z··· ;
··· Incremental designation

Fig. 2.85

· G90, G91 are modal G codes of 03 group.

· If both G90 and G91 are programmed in the same block, the G code which was programmed last is valid.

NOTE:

· The initial state of these G codes when the power is turned on can be designated by parameter #6005$_{D0}$.

Parameter(#6005$_{D0}$)	Initial state
"0"	G90
"1"	G91

2.9.31 PROGRAMMING OF ABSOLUTE ZERO POINT (G92)

It is necessary to program the absolute zero point before programming movement command. When an absolute zero point is programmed, one absolute coordinate system is determined, and all absolute movement commands programmed thereafter will move the tool on the programmed coordinate.

· G92 X··· Y··· Z··· (α†···) ;

With this command, the current position of the tool is programmed in the control as absolute coordinate point (X, Y, Z, α†). That is, program the distance (with sign) from the desired absolute coordinate zero position (0, 0, 0, 0†) to the current position. In other words, G92 command is for designating the position of the "absolute zero point."
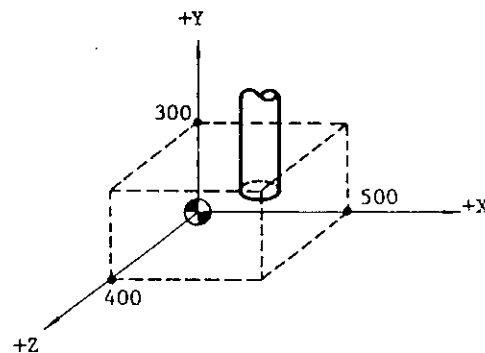
EXAMPLE

G92 X50000 Y30000 Z40000 ;

Fig. 2.86

· G92 is a G code of non-modal group which is valid only in the programmed block. It is not possible to program other G codes, F, M, S, T, B† codes in the same block.

NOTES:

· In principle, program G92 in the state where all tool offset modes are cancelled.

· When the power is turned on, the current position of the tool is set as absolute zero point (0, 0,0,0†). Make sure to reprogram absolute coordinate by G92 before executing the automatic operation.