Address in Argument Designation	Metric Input	Inch Input
A, C	3 (2)	3 (2)
B (Without B 3-digit option)	3 (2)	3 (2)
B (With B 3-digit option)	0	0
D, H	0	0
E, F (In G94 mode)	0 (1)	1 (2)
E, F (In G95 mode)	2 (3)	3 (4)
I, J, K	3 (2)	4 (3)
M, S, T	0	0
Q, R	3 (2)	4 (3)
U, V, W	3 (2)	4 (3)
X, Y, Z	3 (2)	4 (3)

The value shows the position of decimal point as counted from the least significant digit. The value in parentheses indicates the number of digits that follows decimal point at the time of parameter #6020D_0 = 1, D_2 = 1 for addresses E and F, and parameter #6006D_5 = 1 for the other addresses.

(4) Considerations in Argument Designation

A. Argument designation types I and II may be used concurrently. If the same variable has been designated duplicately, the last one is validated.

B. For both types I and II, addresses I, J, and K should be designated in this order. The other addresses may be designated in any order.

C. In the argument designation part, negative sign and decimal point may be used regardless of the address.

D. In G65 and G66 blocks, G65 and G66 should always be specified before each argument designation. This holds true with the macro call by G code.

2.11.3 OVERVIEW OF USER MACRO BODY

A user macro body is programmed using the combination of the following commands.

(1) Variables

A. Local variable (#1 through #33)

B. Common variable (#100 through #509)

C. System variable (#1000 through #5104)

(2) Operation Commands

A. Arithmetical operations (+, -, *, /, ···)

B. Functional operations (SIN, COS, ROUND,···)

(3) Control Commands

A. Branch command (IF ⟨qualification⟩ GO TO n)

B. Repeat command (WHILE ⟨qualification⟩ DO m)

Using these commands, a program which requires complicated operations and conditional judgements may be written in the general format. Hence, the feature of user macro is to enable the programming of the wide range of NC functions from a simple machining cycle which is rather a subprogram to a special, complicated canned cycle, and the storing of these cycles in the machine. Described below are details of the commands mentioned above.

2.11.4 VARIABLES

Instead of directly assigning a value to an address in a user macro body, the address may be designated by a variable. When this variable is called during execution, the corresponding value is fetched from the variable area to provide the address value.

There are three types of variables: local variable, common variable, and system variable. Each is identifiable by a variable number.

To the local variables, real numbers can be assigned using the argument designation part of macro call command by G65 or G66.

(1) Local Variables (#1 through #33)

A local variable is the one that is used for each macro locally, That is, when the local variable is used, the variable area (#1 through #33) is independently allocated for each macro call, certain values are stored by argument designation, and the results of operations in macro are retained.