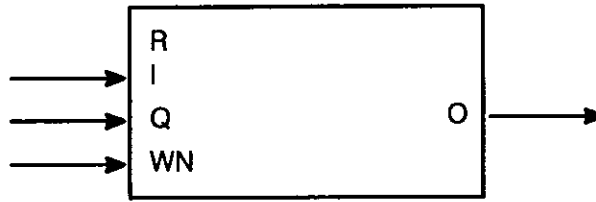


45.0 NOTCH FILTER

This function can be used in AutoMax Control Block tasks only. It cannot be used in UDC Control Block tasks.



Function

$$\text{LAPLACE TRANSFER FUNCTION} = \frac{s^{**2} + \omega n^{**2}}{s^{**2} + \omega n s / Q + \omega n^{**2}}$$

Program Statement

```
CALL NOTCH(INPUT = input%,                                &
           Q_FACTOR = q_factor,                          &
           WN = \omega n,                                 &
           RESET = reset@,                                &
           OUTPUT = output%)
```

Inputs

I (INPUT) =

INTEGER signal input. This parameter must be specified as a variable name only (literal value not accepted).

Q (Q_FACTOR) =

REAL filter Q factor. Equal to $1 / (2 * \text{damping factor})$. May vary from .5 to 100. This parameter must be specified. You must include a decimal point in the actual value.

WN (ωn) =

REAL tunable notch filter frequency in radians/sec. May vary from .01 to $2\pi / 10T$ where $T = \text{scan time in seconds}$. This parameter must be specified. You must include a decimal point in the actual value.

R (RESET) =

BOOLEAN device reset. The default for this parameter is FALSE. When this parameter is TRUE, OUTPUT will be held at zero.

Outputs

O (OUTPUT) =

INTEGER signal output. This parameter must be specified.

*Note that this block is supported only in Version 2.0 and later Programming Executive software.