FUNCTION\_BLOCK DELAY (\* N-sample delay \*)

VAR\_INPUT

RUN : BOOL ; (\* 1 = run, 0 = reset \*)

XIN : REAL ;

N : INT (\* 0 <= N < 128 or manufacturer- \*)

END\_VAR (\* specified maximum value \*)

VAR\_OUTPUT XOUT : REAL; END\_VAR (\* Delayed output \*)

VAR X : ARRAY [0..127] (\* N-Element queue \*)

OF REAL; (\* with FIFO discipline \*)

I, IXIN, IXOUT : INT := 0;

END\_VAR

IF RUN THEN IXIN := MOD(IXIN + 1, 128) ; X[IXIN] := XIN ;

IXOUT := MOD(IXOUT + 1, 128) ; XOUT := X[IXOUT];

ELSE XOUT := XIN ; IXIN := N ; IXOUT := 0;

FOR I := 0 TO N DO X[I] := XIN; END\_FOR;

END\_IF ;

END\_FUNCTION\_BLOCK