FUNCTION\_BLOCK AVERAGE

VAR\_INPUT

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

XIN : REAL ; (\* Input variable \*)

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

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

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

VAR SUM : REAL := 0.0; (\* Running sum \*)

FIFO : DELAY ; (\* N-Element FIFO \*)

END\_VAR

SUM := SUM - FIFO.XOUT ;

FIFO (RUN := RUN , XIN := XIN, N := N) ;

SUM := SUM + FIFO.XOUT ;

IF RUN THEN XOUT := SUM/N ;

ELSE SUM := N\*XIN ; XOUT := XIN ;

END\_IF ;

END\_FUNCTION\_BLOCK