

```
1  FUNCTION_BLOCK FILTER_MAV_DW
2  VAR_INPUT
3      X : DINT ;
4      N : UINT ;
5      RST : BOOL ;
6  END_VAR
7  VAR_OUTPUT
8      Y : DINT ;
9  END_VAR
10 VAR
11     init : BOOL ;
12     buffer : ARRAY [ 0 .. 31 ] OF DINT ;
13     i : INT ;
14 END_VAR
15 VAR_TEMP
16     tmp : INT ;
17 END_VAR
18
```

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1  (*
2  version 1.3          23. feb. 2009
3  programmer          hugo
4  tested by          oscat
5
6  FILTER_MAV_DW is a moving average filter with programmable length N for DWORD
7  Data.
8
9  *)
10 (* @END_DECLARATION := '0' *)
11 (* limit N to size of buffer *)
12 N := MIN ( N , 32 ) ;
13
14 (* startup initialisation *)
15 IF NOT init OR rst OR N = 0 THEN
16     init := TRUE ;
17     tmp := UINT_TO_INT ( N ) - 1 ;
18     FOR i := 0 TO tmp DO
19         buffer [ i ] := X ;
20     END_FOR ;
21     Y := X ;
22 ELSE
23     tmp := UINT_TO_INT ( N ) ;
24     i := INCl ( i , tmp ) ;
25     Y := Y + ( X - buffer [ i ] ) / N ;
26     buffer [ i ] := X ;
27 END_IF ;
```