

# EcoAve

## %EcoAve function

Old name

%EcoAveR

Function

The function returns the average of the specified object's values in an elapsed time period (given by the parameter *ResetTrigger*) according to the methodology based on [flags](#) of individual values entering the calculation. The result is a real value. An [eval tag](#) must be evaluated on a change ([Evaluation method](#) parameter set to **On change** value). Function evaluation time is rounded to a minute, i.e. seconds and milliseconds = 0.

Declaration

```
REAL %EcoAve(  
    REAL in Arg,  
    REAL in ValidCriterion,  
    BOOL in ResetTrigger  
)
```

Parameters

<b>Arg</b>	A parameter, average of which is to be calculated.
<b>Valid Criterion</b>	Validation criterion value [%].
<b>Impulse</b>	Change of the parameter into the TRUE state causes evaluating the average, which is to be assigned to the eval tag value. At the same time, input values for the next period of time (Arg) are to be processed.

Note

Flag type	Flag name	Meaning	Description for ESC Datalogger
CF	A	Measurement invalidity	<
	B	Unsteady operation	F
VF	C	Calibration	C
	D	Malfunction	B
	E	Maintenance	M
	F	Power supply failure	P
	G	Disabled – disable (switching stopped)	D
	H	Missing measurement	
TF	I	Layoff	F
	J	Start	
	K	Putting out of operation	
	L	Fuel change (unsteady process)	
	M	Desulphurization failure	
	N	Reserve	
IF	O	Reserve - fuel type - coal	
	P	Reserve	

Types of flags for Automated measurement systems:

- CF - complex flags (input attributes of value validity)
- VF- validated flags (input attributes for measurement validity) - they condition A flag
- TF- technological flags (input attributes of operation status) - they condition B flag
- IF- informative flags

The value is valid if the A flag is not set, i.e. A=FALSE. The operation is stabilized if the B flag is not set, i.e. B=FALSE.

The following validation criteria are applied on CF flags of processed values:

- **Flag A** Resultant value of the flag is TRUE, if the sample count containing at least one of VF flags (with TRUE value), is bigger than 100 - ValidCriterion (%) of all measurements in a specified time period.

- **Flag B** Resultant value of the flag is TRUE, if the sample count containing at least one of TF flags (with TRUE value), is bigger than  $100 - \text{ValidCriterion}(\%)$  of all measurements in specified time period.

Condition of flags processing:

- Value with set at least one of VF flags is not included into average but a flag counter is added into it.
- The processed values should have time with step of maximum 10 sec. If the value is missed during more than 10 seconds, the flag count „D“ - the counter for invalid measurements, is incremented.
- If the resultant flag „A“ is TRUE, all flags that appeared in time period, are included in VF flags of calculated average.
- If the resultant flag „A“ is FALSE, all VF flags are FALSE, even if some of them appeared in the processed data.
- If the resultant flag „B“ is TRUE, all flags that appeared in time period, are included TF flags of calculated average.
- If the resultant flag „B“ is FALSE, all TF flags are FALSE, even if some of them appeared in the processed data.



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