



KREO HMI TUTORIAL
Time based trend

Tutorial dedicated to the Time based Trend programming

Connect
Ideas.
Shape
solutions.



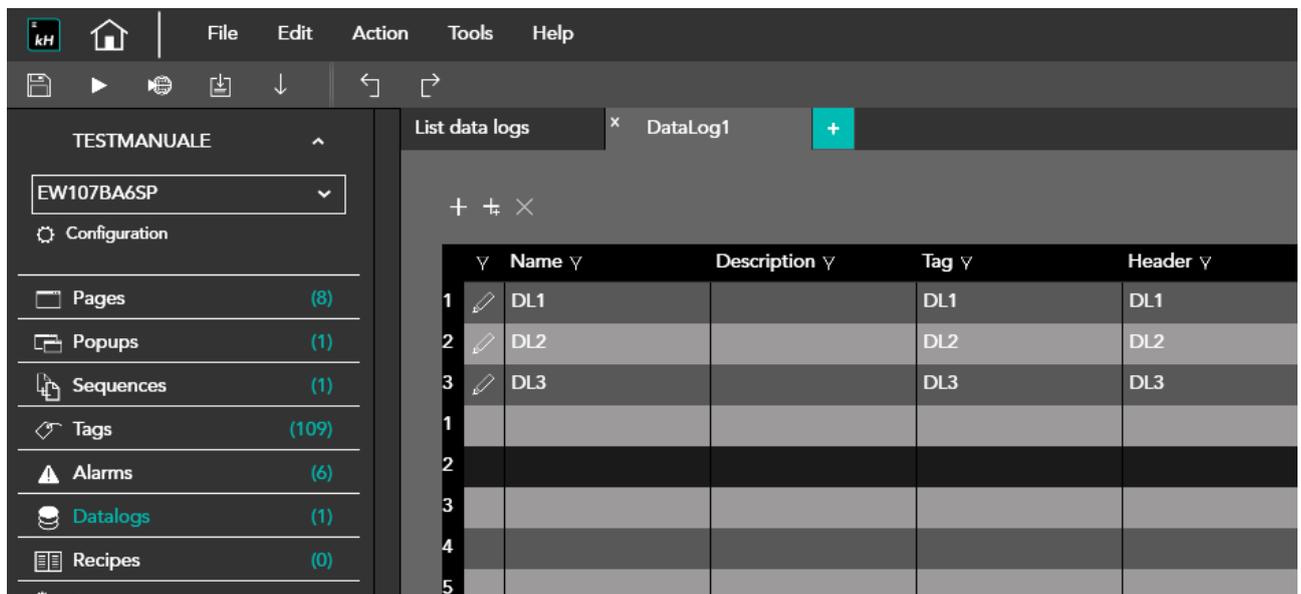
Introduction

Timed Trends (t) are graphs representing the tag values time based. The memory buffer is programmed in the same way of datalogs. We can, indeed, say that it is exactly the same for both.

The sampling of these values can be based on time, command, events,... and at RUNTIME this buffer will be populated with the sampled values of the tags. The difference between DATALOG and TREND (t) is therefore in the graphical representation of these values: tabular the first, graphic the second.

How to do:

- 1) We create the memory buffer of the samples for the TREND (t) made of 3 tags DL1, DL2, DL3.



- 2) Suppose you configure the following LOG buffer properties.
 - Sampling-tags in time (3 sec.)
 - Buffer-log memory size (sample no. =1000)
 - The complete log-buffer will be 3000sec. long (50min.)



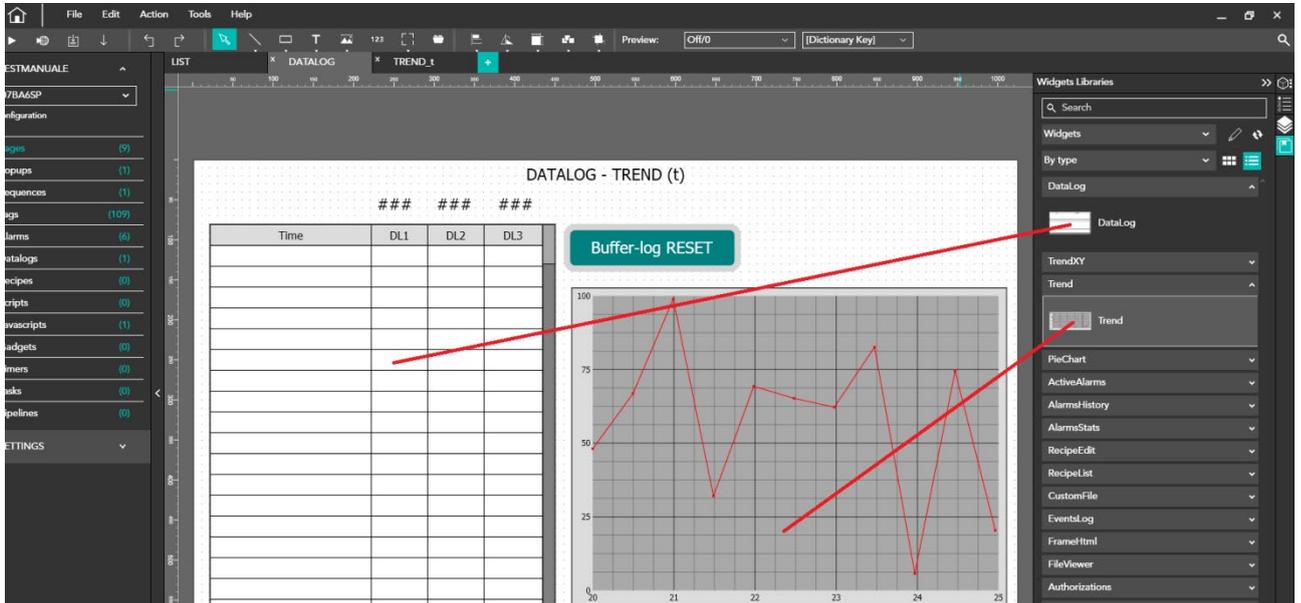
- BUFFER-WARNING threshold = 75%. A DATALOG event will be raised as soon as the threshold will be reached. Other events are configurable such as 100% full DATALOG.
- Log-file enabled. This allows you to keep the log-samples after the device reboot.
- Sampling enabled at start-up
- Possibility to stop the sampling temporarily by the user and then reactivate it, through tags, buttons, events,...
- Data export table-LOG enabled (CSV/XML file) for all tags and any read quality

Below is an example:

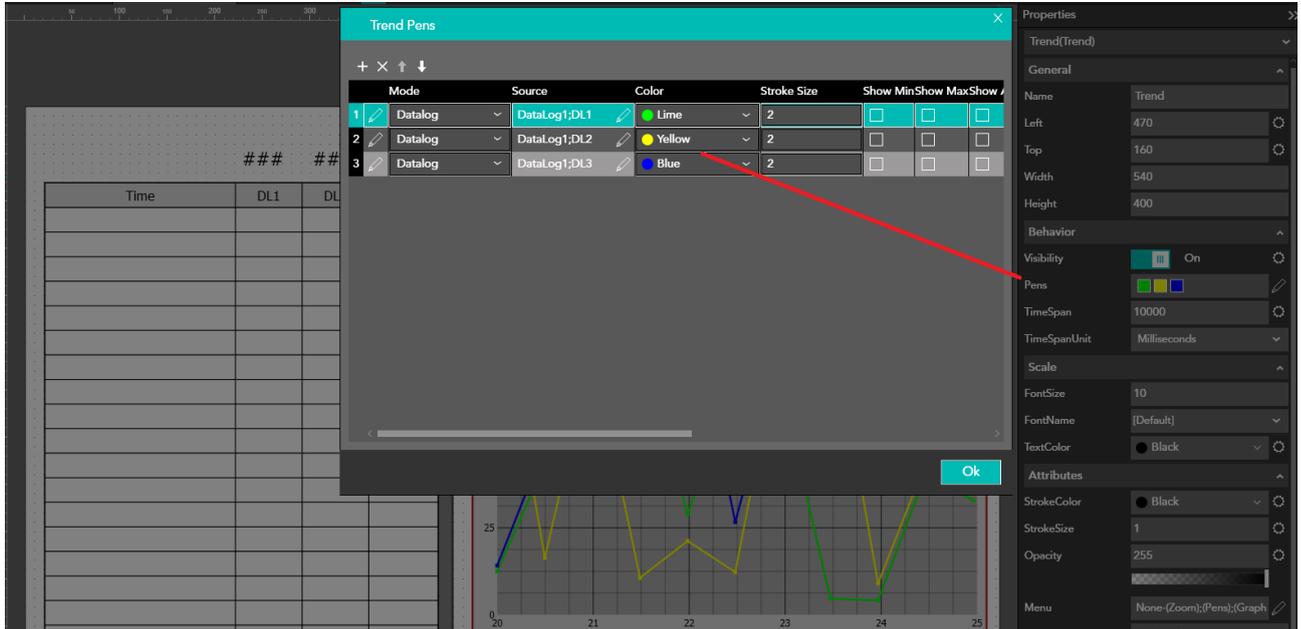
Properties >>	
Name	DataLog1
Description	
Strobe Type	OnTime ▾
Strobe timer	000h 00m 03s 0d
Size (Samples)	1000
Size (Time)	000h 50m 00s 0d
Warning level (%)	75
Enable log file	<input checked="" type="checkbox"/>
Enable at startup	<input checked="" type="checkbox"/>
Can enabled/disabled	<input checked="" type="checkbox"/>
Export file format	Date;Time;Value;Value;Valu 
Print column width	10



3) You now can drag & drop the TREND (time based) widget to the page.



The PENS graphics property is defined as below:



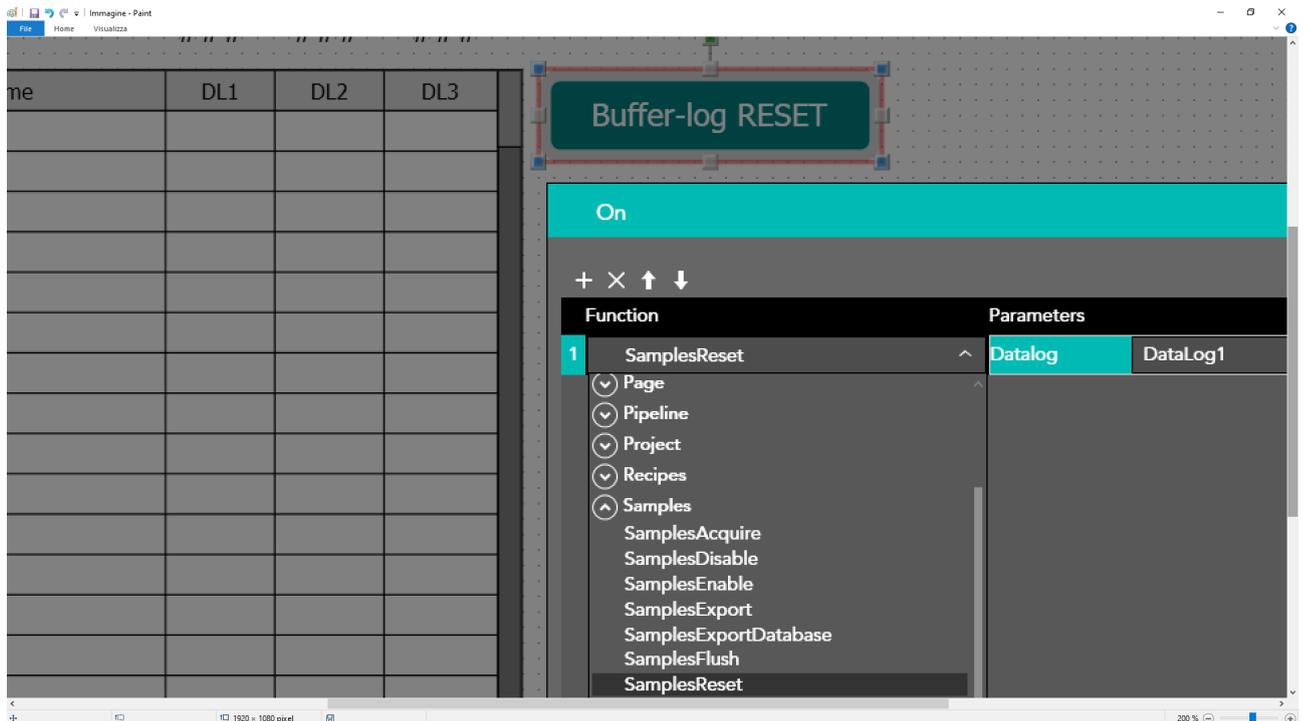


Some specific icons are available for the commands described below:

- ZOOM: ZOOMs the trend to full screen
- PENS: runtime handles tracks dynamically (ON/OFF, color,)
- GRAPH-MODE: track display in points, lines, areas, digital,...
- PAUSE: pauses the TREND and restarts it
- CROSSHAIR: highlights the tag values at a precise point in the base-timeframe
- RESET: Reset the TREND view to the default values (time base, scale).

6) Some predefined FUNCTIONS and EVENTS are available in order to manage the functionality:

Default FUNCTIONS Table





Log EVENTS table:

Events	
OnSamplesFull	None
OnSamplesWarning	None
OnSamplesEnabled	None
OnSamplesDisabled	None
OnSamplesReset	None
OnSamplesStart	None
OnSamplesComplete	None
OnSamplesSuccess	None
OnSamplesError	None
OnSamplesExportStart	None
OnSamplesExportCorr	None
OnSamplesPrintStart	None
OnSamplesPrintComp	None



Connect
ideas.
shape
solutions.

[ESA S.p.A. | www.esa-automation.com](http://www.esa-automation.com) |