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Knowledge Base Article

Product Category: Software
Product: CMSW 7600 – SKF @ptitude Observer
Version: 10

Abstract

This knowledgebase article describes the rules for using "Acc Env Custom" envelop filter in SKF @ptitude Observer.

Overview

The general rules for using "Acc Env Custom" filter in SKF @ptitude Observer are [Figure 1]:

- Custom low frequency cutoff must be 5 Hz or higher

- Custom high frequency cutoff must be at least 10x or higher than low frequency cutoff

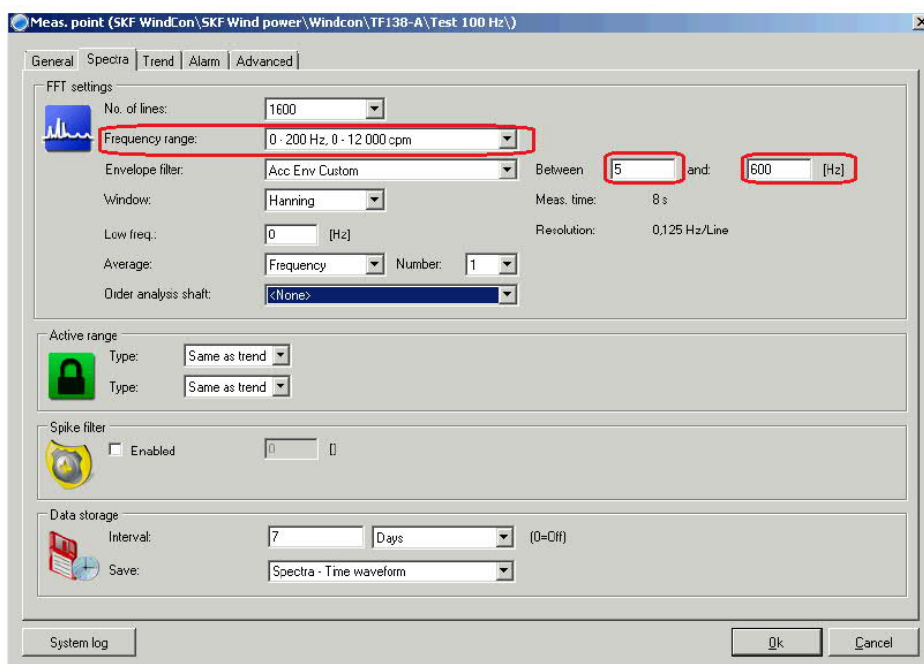- Maximum custom high frequency cutoff is 12500 Hz

Figure 1. Acc Env Custom frequency configuration

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There are also some individual rules for different frequency ranges. Figure 2 provides individual frequency range limits.

Minimum custom low cutoff frequency is 5 Hz
Custom high cutoff frequency / low cutoff frequency must be at least 10x
Maximum custom high cutoff frequency is 12500 Hz (also shown below)

Below is valid spectra Fmax for standard bands 1-3 and custom bands

	Custom high cutoff >	Custom high cutoff <=	Sampling Fmax	Spectra Fmax 40000	20000	10000	5000	2000	1000	500	200	100	50	20	10
Band 4	12500		40000	0	0	0	0	0	0	0	0	0	0	0	0
Band 3 (500-10000)	6250	12500	20000	0,5	1	2	4	10	20	40	100	200	400	1000	2000
	3125	6250	10000	0,25	0,5	1	2	5	10	20	50	100	200	500	1000
	1250	3125	5000	0,125	0,25	0,5	1	2,5	5	10	25	50	100	250	500
Band 2 (50-1000)	625	1250	2000	0,05	0,1	0,2	0,4	1	2	4	10	20	40	100	200
	312,5	625	1000	0,025	0,05	0,1	0,2	0,5	1	2	5	10	20	50	100
	125	312,5	500	0,0125	0,025	0,05	0,1	0,25	0,5	1	2,5	5	10	25	50
Band 1 (5-100)	100	125	200	0,005	0,01	0,02	0,04	0,1	0,2	0,4	1	2	4	10	20

Figure 2. Chart showing ndividual frequency range limits

Example
If the frequency range is set to "0 - 200 Hz, 0 - 12 000 cpm" and the custom low frequency cutoff is set to 5 Hz, then the custom high frequency cutoff must be at least 50 Hz (5*10) up to 125 Hz or from 626 Hz or higher up to maximum 12500 Hz (but not between 126 Hz up to 625 Hz).

For further assistance, please contact the Technical Support Group by phone at 1-858-496-3627, or by e-mail at TSG-CMC@skf.com.