



CONNECTION TECHNOLOGY CENTER, INC.



# SIGNAL CONDITIONERS

## OVERVIEW

# SC150, SC310, AND SC320 SIGNAL CONDITIONERS

## ABOUT SC SERIES SIGNAL CONDITIONERS

All CTC Signal Conditioners are DIN rail mountable modules used to convert a signal from a sensor into a process control output for continuous machine monitoring. It provides signal conditioning, signal conversion, and re-transmission. CTC Signal Conditioners can also be used to trigger alarms and trip shutdowns when used in conjunction with CTC's SCD Series Relay and Protection Enclosures.

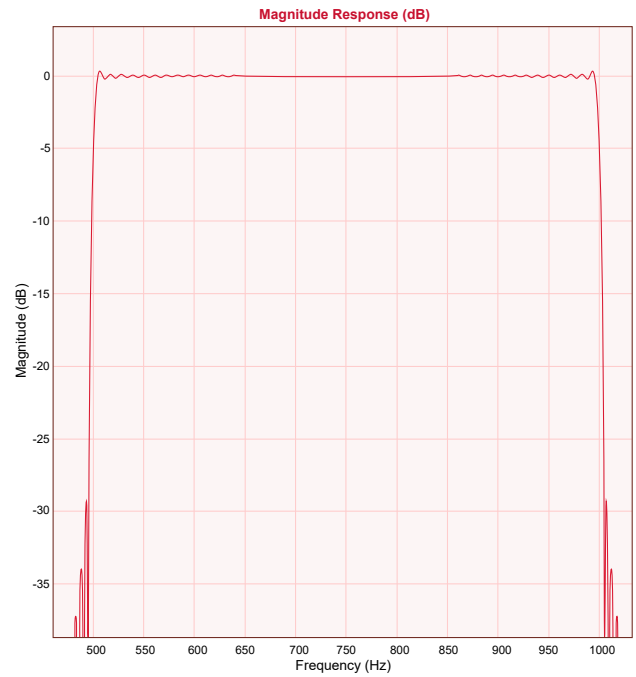
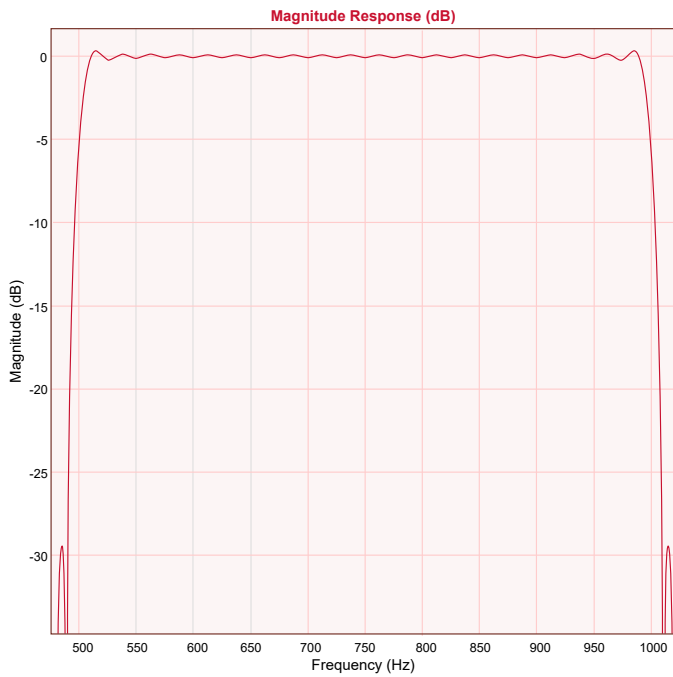
## KEY FEATURES COMPARED



	SC150	SC310	SC320
OUTPUT	Single vibration band output		Dual vibration band output
COST	Cost-effective version	Mid-tier version	Premium version
CONFIGURATION	Limited reconfiguration of inputs including one of two output ranges, IEPE power enabled/disabled, and one of two frequency ranges	Field configuration of input signal, scale values, filtering options and outputs; built-in IEPE supply for powering sensors can be toggled on or off configurations	
ACCEPTED INPUTS	Accepts 100 mV/g accelerometer input only	Accepts acceleration, velocity, temperature and displacement; capable of monitoring vibration and ultrasound frequency signals up to 40 kHz	
TEMPERATURE INPUT	Does not accept temperature input signal	Additional built-in temperature output is a standard feature, which may be utilized when using CTC TA Series dual output vibration and temperature sensors	
PROCESS CONTROL SIGNAL	Provides process control signals to a PLC, DCS, or SCADA system that are proportional to the vibration levels set within the signal conditioner		

# SC150, SC310, AND SC320 SIGNAL CONDITIONERS

## FILTER COMPARISON



SC150	SC310 AND SC320
Digital filter	
Low order filter	High order filter
Slower roll-off response	Sharper roll-off response
Cutoff frequency corresponds to the filter's -3 dB points with $\pm 10\%$ tolerance	Cutoff frequency corresponds to the last guaranteed passband frequency. Roll-off will occur within $\pm 10\%$ on the high pass frequencies
Minimal passband and stopband ripple impact on readings	

Sample plots shown above.

Plots are not reflective of any actual response using an SC150 or SC300 Series Signal Conditioner.

Digital filter responses do not take into account the analog frequency response of the circuitry or sensor being used and are additive.

Filters with bandwidth spanning more than two decades may have different high pass characteristics than shown.

# SC310 AND SC320 SIGNAL CONDITIONERS

## HOW IT WORKS - DUAL BAND MONITORING



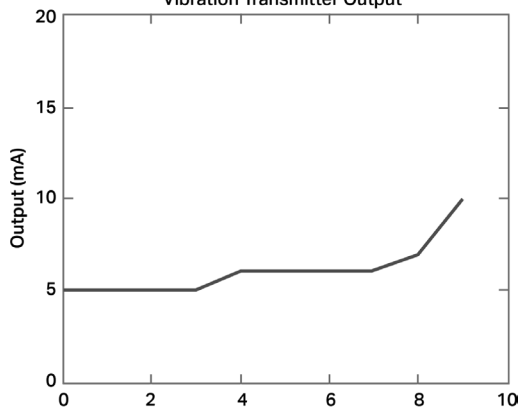
**Band 1**

**Band 2**



**Monitoring Low Frequency**

Vibration Transmitter Output



**Monitoring High Frequency**

Vibration Transmitter Output

