

# CMG-3ESP/100sec

## VELOCITY RESPONSE

Poles/Zeros (in HZ)	Zeros	Poles	A at 1Hz (normalization factor)
	0	-80.0	2304000
	0	-160.0	
		-180.0	
		-0.00707 + 0.00707j	
		-0.00707 - 0.00707j	

Poles/Zeros (in RAD)*	Zeros	Poles	A at 1Hz (normalization factor)
	0	-502.6548	$2304000 \times 2\pi^{(5-2)} = 5.7151e+08$
	0	-1005.3097	
		-1130.9734	
		-0.0444 + 0.0444j	
		-0.0444 - 0.0444j	

\*(poles & zeros are multiplied with  $2\pi$  and A with  $2\pi^{(Npoles-Nzeros)}$ )

## VELOCITY RESPONSE IN SAC FORMAT

<b>Sensor Gain</b> V/m/s	2000 (approx same for all comp.)	2000 (approx same for all comp.)
<b>Digitizer Gain</b> Counts/Volt	400000 (TAURUS / TRIDENT)	394016 (HRD-24)
<b>SAC constant</b> (A×SensorGain×DigitizerGain)	4.57206e+17	4.50366e+17

## DISPLACEMENT RESPONSE

Poles/Zeros (in HZ)	Zeros	Poles	A at 1Hz (normalization factor)
	0	-80.0	2304000
	0	-160.0	
	0	-180.0	
		-0.00707 + 0.00707j	
		-0.00707 - 0.00707j	

Poles/Zeros (in RAD)*	Zeros	Poles	A at 1Hz (normalization factor)
	0	-502.6548	$2304000 \times 2\pi^{(5-3)} = 9.0958e+07$
	0	-1005.3097	
	0	-1130.9734	
		-0.0444 + 0.0444j	
		-0.0444 - 0.0444j	

\*(poles & zeros are multiplied with  $2\pi$  and A with  $2\pi^{(Npoles-Nzeros)}$ )

## DISPLACEMENT RESPONSE IN SAC FORMAT

<b>Sensor Gain</b> V/m/s	2000 (approx same for all comp.)	2000 (approx same for all comp.)
<b>Digitizer Gain</b> Counts/Volt	400000 (TAURUS / TRIDENT)	394016 (HRD-24)
<b>SAC constant</b> (A×SensorGain×DigitizerGain × 2π)	4.57206e+17	4.50366e+17