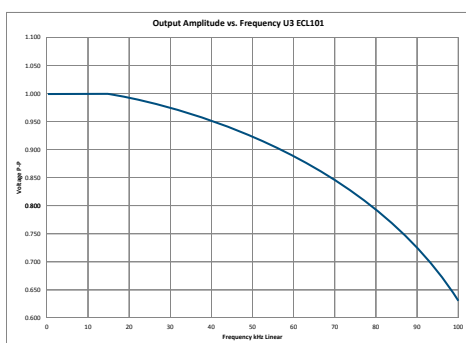


ECL101 and U3 Probe Amplitude/Phase Frequency Response



Applicable Equipment:

ECL101 with U3 Probes at 80 kHz Bandwidth

Applications:

High-speed applications where bandwidth response (amplitude/phase) is critical.

Summary:

Details the output amplitude and phase for the ECL101 with a U3 probe. Because of a constant time delay, output phase and frequency have a linear relationship.

Output Amplitude Response

Natural bandwidth limitations in the ECL101 Eddy-Current Displacement Sensor reduce the amplitude of higher frequency signals. System designers who need to understand the output signal as a function of frequency will find this information useful.

Output Phase Response

Bandwidth limitations create a time delay which appears as a frequency-dependant phase shift in the sensor output. Because the time delay is a constant, the relationship between frequency and phase is linear. The linear relationship between phase and frequency is critical to servo system designers. System designers using the sensor output to control position or process require this phase information to ensure that the system will not oscillate or adjust incorrectly.

The following pages contain graphs charting the output amplitude and phase against frequency.

The charts are presented in linear and logarithmic scales.

