Bently Nevada 3300 Series Service Manual

86517-01-01-01-02

1. Description

Manufacturer : Bently Nevada

3. Product Information

Manufacturer : Bently Nevada

Product No. : 86517-01-01-01-02

Product Type : 159840-01 Acceleration Interface Module

Made in U.S.A

Accelerometer Interface Module

86517 – AXX – BXX – CXX - DXX

Transducer Charge Input Sensitivity Option : 01 = 50 pC/g

Filter Corner Frequency Option : 01 = 25 Hz high pass corner, 350 Hz low pass corner

DC Signal Bias Voltage : 01 = -10 Vdc, No other option available

Agency Approval : 02 = CENELEC (SIRA)

Dimensions (LxWxH) : 13.97cm x 8.26cm x 7.62cm

POWER

Supply Voltage: -23 Vdc to -26 Vdc

Current Draw: 22 mA maximum

INPUT

Acceleration: Differential input from a piezoelectric accelerometer with a sensitivity of 50 pC/g pk or 100 pC/g pk.

Accelerometer pole to pole capacitance plus extension cable capacitance should not exceed 8300 picofarads.

Overload: 50,000 pC peak for accelerometers with 50 pC/g pk sensitivity, and 100,000 pC peak for accelerometers with 100 pC/g pk sensitivity.

ACCELERATION OUTPUT

Sensitivity: 10 mV/g pk (1.02 mV/m/s2 pk) balanced output, 50 ohm nominal output impedance.

Dynamic Range: 750 gs (7350 m/s2) without barriers typical. 500 gs (4902 m/s2) with barriers typical.

Frequency Response:

The low frequency response is controlled by the charge amplifier. The -3 dB corner is at 4.7 Hz. The high frequency response is controlled by the combination of the accelerometer and extension cable capacitance, the charge amplifier/scaling stage, and the load capacitance on the acceleration output buffer. For an accelerometer capacitance of 1000 pF and a cable capacitance of 1000 pF the upper -3 dB frequency is approximately 5000 Hz.

VELOCITY OUTPUT

Accuracy: ±5.0% of calculated velocity from an ideal input in the passband of the bandpass filter at 77_x001f_ F (25_x001f_ C)

FILTERS

High and low pass corner frequencies are ordered as pairs, the following pairs can be ordered:

High Pass Corner	Low Pass Corner
25 Hz	350 Hz
40 Hz	300 Hz
100 Hz	560 Hz

The high and low pass filters are 6th order with -36 dB/octave rolloff and have a butterworth response. Attenuation at the corner frequency is -3 dB ±0.5 dB.

ENVIRONMENTAL

Operating Temperature: +32° F to +158° F (0° C to 70° C)

Storage Temperature: -40° F to +185° F (-40° C to +85° C)

Humidity: 0 to 95%, noncondensing

MECHANICAL

Accelerometer Input Connector: MS-3112-8-3P

Power/Output Connector: 8 lug terminal block

Dimensions:

Height: 3.00 inches, (76.2 mm)

Width: 3.25 inches, (82.6 mm)

Length: 5.50 inches, (139.7 mm)

Mounting: Two 0.16 inch diameter 8 - 32 allen head bolts
located at opposite diagonal corners of a 4.45 inch
by 2.05 inch (113 mm by 52 mm) rectangle . The
interface module must be isolated from ground.