Bently Nevada 200350&200355 Series Service Manual

330450-20

1. Description

Manufacturer : Bently Nevada

3. Product Information

Manufacturer : Bently Nevada

Model : 330450-20

Product type : High Temperature Acceleration System

Made in U.S.A

20 - Length : 2 metres

Sensitivity: 10.2 mV/m/s2 (100 mV/g) ±5%.

Acceleration range: 785 m/s2 (80 g) peak overall acceleration within the 15 to 10000 Hz frequency span.

Amplitude Linearity: ±2% to 785 m/ s2 (80 g) peak.

Input Voltage : -24 ± 0.5 Vdc

Weight : 635 grams (1.40 lb)

Sensing Head

Maximum mounted surface temperature

-55°C to +400°C

(-67°F to +752°F)

Integral Hardline

Cable

-55°C to +400°

(-67°F to +752°F)

Electronics -55°C to +100°C

(-67°F to +212°F)

Shock

Survivability 24,535 m/s2 (2500 g) peak

Relative

humidity:

To 100% non-submerged; case is hermetically

sealed.

Sensitivity 10.2 mV/m/s2 (100 mV/g) ±5%.

Acceleration

Range

785 m/s2 (80 g) peak overall acceleration within

the 15 to 10000 Hz frequency span.

Amplitude

Linearity

±2% to 785 m/ s2 (80 g) peak.

Broadband Noise

Floor (10 Hz to 15

kHz)

0.059 m/s2 (0.006 g) rms.

Frequency

Response

15 to 10000 Hz

(900 to 600,000 cpm) ±3dB;

40 to 4000 Hz

(2400 to 240,000 cpm) ±5%

Transverse

Sensitivity Less than 5% of axial.

Mounted

Resonant

Frequency

Greaterthan 15 kHz.

Maximum Cable

Length

305 metres (1000 ft) with no degradation of

signal.

Powerrequirements

Input Voltage -24 ± 0.5 Vdc.

Bias Current 2 mA nominal.

Output Bias

Voltage -12 ± 0.5 Vdc.

Grounding Case isolated

Case material 300 series stainless steel.

Connector 3-pin Mil-C-5015 receptacle, hermeticallysealed, 304 stainless steel shell.

Polarity

Pin A goes positive with respect to Pin C when the applied force is from the base to the top of the sensing head.

Bend Radius

Minimum bend radius of 51mm (2.0in)

Hazardous Area Approvals

Ex ia IIC T4:

AEx ia IIC T4:

Class I, Div 1, Groups A, B, C, D.

Class II, Div 1, Groups E, F, G;

Class III, Div 1

Install per drawing 168078

T4 @ Ta (-40°C to 100°C)

Enclosure Type 4X

Ex nL IIC T4:

Ex ec IIC T4:

Class I, Zone 2

Class II, Div 2, Groups A, B, C and D

Install per drawing 168078

T4 @ Ta (-40°C to 100°C)

Enclosure Type 4X

Temperature Class T4

Temperature Range -40°C to+100°C

Equipment Electrical Housing

Temperature Class T1

Temperature Range -40°C to+400°C

Equipment Sensor and Cable

Temperature Class T4

Temperature Range -40°C to +482°C

Equipment Sensor and Cable (3509000)

ATEX/IECEx

Zone 0/1:

Equipment must be connected to equipment, which meets the above listed entity parameters.

The cables type A or B (in compliance with EN 60079-25) must respect the cable parameters listed with the entity parameters.

Special Notes for 330450, 330750, 330752 and 350900

This equipment is intrinsically safe and can be used in potentially explosive atmospheres.

l The intrinsically safe apparatus shall only be connected to an associated intrinsically safe apparatus. The association shall comply with the requirements of EN 60079-25 standard.

l Operating ambient temperature range:

o -40°C Tamb +100°C (electronic housing)

o -40°C Tamb +400°C (sensor and cable)

o -40°C Tamb +482°C (sensor and cable) for model 350900

Zone 2 :

The supply electrical parameters shall not exceed the values mentioned in the tables above.

Special Notes for 330450, 330750, 330752 and 350900

l The equipment is safe when connected to an associated source, containing a reliable material limiting current and voltage meeting the entity parameters.

l Operating ambient temperature range:

o -40°C to +100°C (Electronic Housing)

o -40°C to +400°C (Sensor and Cable)

o -40°C to +482°C (Sensor and Cable for 350900).

l The mating part of the connector shall provide IP54 ingress protection or better according to requirements of IEC 60079-0 and IEC 60079-7 or IEC 60079-15.

l Provisions shall be made for ensuring that the rated voltage and current are not exceeded while in service.

l Shall be supplied from Class II limited energy source according to requirements of C22.2 No 61010-1-12 and UL 61010-1 3rd Edition.

l Transient protection shall be provided that is set at a level not exceeding 140 % of the peak rated voltage value at the supply terminals to the equipment.