# Bently Nevada 330102&330103&104 Series Service Manual

330104-00-15-10-02-00

## 1. Description

Manufacturer : Bently Nevada

## 3. Product Information

Manufacturer : Bently Nevada

Product No. :330104-00-15-10-02-00

Product type : 3300 XL 8 mm Proximity Probes, Metric

330104 : 3300 XL 8 mm Probe, M10 x 1 thread,with armor

Unthreaded Length Option 00= 00mm

Overall Case Length Option :15=150mm

Total Length Option : 10 =1.0 meter (3.3 feet)

Connector and Cable-Type Option :02 = Miniature coaxial ClickLoc

connector, standard cable

Agency Approval Option : 00 = Not required

Probe Tip Material: Polyphenylene sulfide (PPS)

Probe Case Material: AISI 303 or 304 stainless steel (SST).

Probe Pressure : 3300 XL 8 mm probes are designed to seal differential pressure between the probe tip and case. The probe sealing material consists of a Viton® O-ring. Probes are not pressure tested prior to shipment. Contact our custom design department if you require a test of the pressure seal for your application.

Nominal Probe DC Resistance

Resistance (RPROBE) from Center Conductor

to Outer Conductor

Probe Length (m) 1.0m

RPROBE(Ω) 7.59 ± 0.50

Field Wiring

0.2 to 1.5 mm2 (16 to 24

AWG). Recommend using

3 conductor shielded triad

cable and tinned field

wiring. Maximum length of

305 meters (1,000 feet)

between the 3300 XL

Proximitor Sensor and the

monitor. See the frequency

response graphs, Figures

10 and 12, for signal rolloff

at high frequencies when

using longer field wiring

lengths.

Linear Range

2 mm (80 mils). Linear

range begins at

approximately 0.25 mm (10

mils) from target and is

from 0.25 to 2.3 mm (10 to

90 mils) (approximately –1

to –17 Vdc).

Recommended

Gap Setting for

Radial Vibration

-9 Vdc [approximately 1.27

mm (50 mils)]

Mechanical

Probe Tip

Material Polyphenylene sulfide (PPS).

Probe Case

Material

AISI 303 or 304 stainless steel

(SST).

Probe Case Thread M10x1

Maximum Length of Thread Engagement 15 mm

Probe 323 g/m (11.4 oz)

Probe Temperature Range

Operating and Storage Temperature

Standard
Probe
-52°C to +177°C (-62°F to
+350°F)
Extended
Temperature
Range Probe
-52°C to +218°C (-62°F to
+425°F) for the probe tip; -
51°C to +260°C (-60°F to
+500°F) for the probe cable
and connector.
Exposing the probe to temperatures
below –34˚C (-30˚F) may cause
premature failure of the pressure
seal.
Probe Relative Humidity
Less than a 3% change in Average Scale
Factor (ASF) when tested in 93% humidity in
accordance with IEC standard 68 2 3 for up to
56 days.
3300 XL Probe
ia
When installed
with
intrinsically
safe zener
barriers per
drawing 141092
or when
installed with
galvanic
isolators.
Class I, Zone 0: AEx/Ex ia IIC T5...T1 Ga;
Class 1, Groups A, B. C, and D,
Class II, Groups E, F, and G,
Class III;
nA, ec
When installed
with nonincendive
circuit
connected per
drawing
140979.
Class I, Zone 2: AEx/Ex nA IIC T5...T1 Gc;
Class 1, Division 2, Groups A, B, C, D;
Class 1, Zone 2: AEx/Ex ec IIC T5...T1 Gc;
Class I, Division 2, Groups A, B, C, and
D;
Temperature Schedule
(Probe Only)
For EPL Ga and Gc
Temperature Classification T1 Ambient Temperature -55°C to +232°C
Temperature Classification T2 Ambient Temperature -55°C to +177°C
Temperature Classification T3 Ambient Temperature -55°C to +120°C
Temperature Classification T4 Ambient Temperature -55°C to +80°C
Temperature Classification T5 Ambient Temperature -55°C to +40°C
For EPL Dc
Temperature Classification T280°C @ Ta Ambient Temperature -55°C to +232°C

Temperature Classification T225°C @ Ta Ambient Temperature -55°C to +177°C

Temperature Classification T170°C @ Ta Ambient Temperature -55C to +120°C

Temperature Classification T130°C @ Ta Ambient Temperature -55°C to +80°C

Temperature Classification T105°C @ Ta Ambient Temperature -55°C to +100°C

Temperature Classification T90°C @ Ta Ambient Temperature -55°C to +40°C

Effects of 60 Hz Magnetic Fields Up to 300

Gauss (5 meter system)

Output voltage in mil pp/gauss

Gap  0.5 mm (20 mil)  Probe 0.001

Gap  2.5 mm (100 mil) Probe  0.009

Gap  4.6 mm (180 mil)Probe  0.027

Effects of 60 Hz Magnetic Fields Up to 300 Gauss

Output Voltage in Mil pp/Gauss

Gap:10

5 or 1-meter Proximitor Sensor: 0.0119

9 meter Proximitor Sensor: 0.0247

Probe : 0.0004

Ext.Cable: 0.0004

Gap:50

5 or 1-meter Proximitor Sensor: 0.0131

9 meter Proximitor Sensor: 0.0323

Probe : 0.0014

Ext.Cable: 0.0014

Gap:90

5 or 1-meter Proximitor Sensor: 0.0133

9 meter Proximitor Sensor: 0.0348

Probe : 0.0045

Ext.Cable: 0.0045