

# Bently Nevada 330101 Series Service Manual

330101-00-52-10-02-CN

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## 1. Description

Manufacturer : Bently Nevada

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## 3. Product Information



Manufacturer : Bently Nevada  
Product No. : 330101-00-52-10-02-CN  
Product Type : 3300 XL 8 mm Probe, 3/8-24 UNF thread,  
without armor  
Made in U.S.A  
330101 - 3300 XL 8 mm Probe, 3/8-24 UNF thread, without armor  
Unthreaded Length Option : 00 - 0.0 in  
Overall Case Length Option : 52 - 5.2 in  
Total Length Option : 10 - 1.0 metre (3.3 feet)  
Connector and Cable-Type Option : 02 Miniature coaxial ClickLoc  
connector, standard cable  
CN=Country Specific Approval

The 3300 XL probe and extension cable also reflect improvements over previous designs. A patented TipLoc molding method provides a more robust bond between the probe tip and the probe body. The probe's cable incorporates a patented CableLoc design that provides 330 N (75 lbf) pull strength to more securely attach the probe cable and probe tip.  
You can also order 3300 XL 8 mm probes and extension cables with an optional FluidLoc cable option. This option prevents oil and other liquids from leaking out of the machine through the cable's interior.

8 mm probes provide a thicker encapsulation of the probe coil in the molded PPS plastic probe tip. This results in a more rugged probe.  
The larger diameter of the probe body also provides a stronger, more robust case. We recommend that you use 8 mm probes when possible to provide optimal robustness against physical abuse

Nominal Probe DC Resistance  
Resistance (RPROBE) from Center Conductor to Outer Conductor

Probe  
Length (m)  
RPROBE(Ω)  
1.0 7.59 ± 0.50  
Extension Cable  
Capacitance  
69.9 pF/m (21.3 pF/ft)  
typical

Field Wiring  
0.2 to 1.5 mm<sup>2</sup> (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)]

#### Incremental Scale Factor (ISF)

##### Standard 5 or 1

##### meter System

7.87 V/mm (200 mV/mil)  $\pm$   
5% including

interchangeability error

when measured in

increments of 0.25 mm (10  
mils) over the 80 mil linear

range from 0°C to +45°C

(+32°F to +113°F).

##### Standard 9

##### meter System

7.87 V/mm (200 mV/mil)

$\pm$  6.5% including

interchangeability error

when measured in

increments of 0.25 mm (10  
mils) over the 80 mil linear

range from 0°C to +45°C

(+32°F to +113°F).

#### Extended

##### Temperature

##### Range (ETR) for 5

##### and 9 Meter

##### Systems

7.87 V/mm (200 mV/mil)  $\pm$

6.5% including

interchangeability error

when measured in

increments of 0.25 mm (10  
mils) over the 80 mil linear

range from 0°C to +45°C

(+32°F to +113°F).

#### Deviation from best fit straight line (DSL)

##### Standard 5 or 1

##### meter System

Less than  $\pm 0.025$  mm ( $\pm 1$

mil) with components at

0°C to +45°C (+32°F to

+113°F).

##### Standard 9



meter System

Less than  $\pm 0.038$  mm ( $\pm 1.5$

mil) with components at

0°C to +45°C (+32°F to

+113°F).

Extended

Temperature

Range 5 and 9

meter Systems

Less than  $\pm 0.038$  mm ( $\pm 1.5$

mil) with components at

0°C to +45°C (+32°F to

+113°F).

Probe Tip

Material Polyphenylene sulfide (PPS).

Probe Case

Material

AISI 303 or 304 stainless steel

(SST).

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 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.

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.

