# Bently Nevada 330101 Series Service Manual

330101-00-27-50-02-00

## 1. Description

Manufacturer : Bently Nevada

## 3. Product Information

Manufacturer : Bently Nevada
Product No. : 330101-00-27-50-02-00
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 : 27 - 2.7 in
Total Length Option : 50 5.0 meters (16.4 feet)
Connector and Cable-Type Option : 02 Miniature coaxial ClickLoc
connector, standard cable
00 Not required
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)
5.0 8.73 ± 0.50
Extension Cable
Capacitance
69.9 pF/m (21.3 pF/ft)
typical
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)]
Incremental Scale Factor (ISF)
Standard 5 or 1
meter System
7.87 V/mm (200 mV/mil) ±
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)
± 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) ±
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 ±0.025 mm (±1
mil) with components at
0°C to +45°C (+32°F to
+113°F).
Standard 9

meter System

Less than ±0.038 mm (±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 ±0.038 mm (±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.