Bently Nevada 330903&330904&330905&330910 Series Service Manual

330904-00-15-70-02-00

1. Description

330904-00-15-70-02-00 3300 NSv Proximity Probes Configuration Details:

3. Product Information

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·Base Model:330904(M8X1thread with armor)

.Unthreaded Section: 00 mm (complete threading)

.Case Length:150 mm (50% longer than standard)

.Cable:7.0m/23ft with 5.9Ω±0.9Ωresistance

.Connector: ClickLoc miniature coaxial

Certifications: 00(Not required)

Probe dc Resistance

Probe Length

(m) 7.0

Resistance from the Center

Conductor to the Outer

Conductor (RPROBE)

(ohms)

5.9 ± 0.9

The 3300 NSv probe and extension cable are mechanically and electrically compatible and interchangeable with Bently Nevada's previous 3300 RAM proximity probe and extension cable. The NSv probe has increased chemical resistance compared to the 3300 RAM probe, which allows its use in many process compressor applications. The side-view characteristics of the 3300 NSv probe are also superior to those of the 3000-series 190 probe when gapping the 3300 NSv probe at the same distance from the probe target.

Extension cable

dc resistance

Center conductor: 0.220

Ω/m (0.067 Ω/ft)

Shield: 0.066 Ω/m (0.020

Ω/ft)

Extension cable

capacitance

69.9 pF/m (21.3 pF/ft)

typical

Field Wiring

0.2 to 1.5 mm2 (16 to 24

AWG)[0.25 to 0.75 mm2 (18

to 23 AWG) with ferrules].

Recommend using threeconductor shielded triad cable. Maximum length of 305 meters (1,000 feet) between the 3300 XL NSv Proximitor Sensor and the monitor. See the frequency response graphs Figure 16 and Figure 17 for signal rolloff at high frequencies when using longer field wiring lengths.

Linear Range

1.5 mm (60 mils). Linear

range begins at

approximately 0.25 mm (10

mils) from target and is

from 0.25 to 1.75 mm (10 to

70 mils) (approximately -1

to -13 Vdc).

Recommended Gap Setting 1.0 mm (40 mils)

Incremental Scale Factor (ISF) 7.87 V/mm (200 mV/mil) +12.5%/-20% including interchangeability error when measured in increments of 0.25 mm (10 mils) over the 1.5 mm (60 mil) linear range.

Deviation from best fit straight line (DSL) Less than ±0.06 mm (±2.3 mils).

Frequency Response 0 to 10 kHz: +0, -3 dB typical, with up to 305 meters (1000 feet) of field wiring.

Target Size (flat target) Minimum: 8.9 mm (0.35 in) diameter

Recommended minimum: 13 mm (0.5 in) diameter

Axial position measurements on shaft diameters smaller than 13 mm (0.5 in) will generally result in a change in scale factor. Reducing the gap between the probe and target will help limit the change in scale factor. See Figure 12 for additional information.

Probe Tip Material Polyphenylene sulfide (PPS).

Probe Case Material AISI 304 stainless steel (SST).

Probe Cable Specifications 75 Ω coaxial, fluoroethylene propylene (FEP) insulated probe cable in the following total probe lengths: 0.5, 1, 5, or 7 meters.

Recommended torque Finger tight

Maximum torque 0.56 N•m (5 in•lb)

Minimum Bend Radius (with or without sst armor)

25.4 mm (1.0 in)

Operating
Temperature

-52°C to +177°C (-62°F to
+351°F)

Storage
Temperature

-52°C to +177°C (-62°F to
+351°F)

Probe
Pressure

3300 NSv 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.

Connector-to-connector Torque

Probe Case
Torque

Maximum
Rated Recommended

1/4-28 or
M8X1 probe
cases

7.3 N•m
(65 in•lb)

5.1 N•m
(45 in•lb)

Probe
Case
Thread

Maximum Length of Thread
Engagement

M8x1 12 mm