

MANUFACTURER DOCUMENT PACKAGE

# Manufacturer's Manual

Reference package for procurement and maintenance review

BENTLY NEVADA

**330881-28-05-050-03-02**

SELECTED MANUFACTURER TECHNICAL REFERENCE

Used with the applicable Bently Nevada PROXPAC XL Proximity Transducer Assembly Datasheet 178554 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

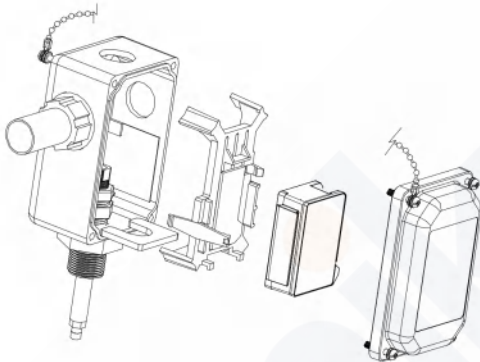
Source: Bently Nevada PROXPAC XL Proximity Transducer Assembly Datasheet 178554

# PROXPAC XL Proximity Transducer Assembly

## Datasheet

Bently Nevada Machinery Condition Monitoring

178554 Rev. D



### Description

The design of the PROXPAC XL Proximity Transducer Assembly is similar to our 31000/32000 Proximity Probe Housing Assemblies. The assembly offers the same advantages and features as the 31000 and 32000 housings for accessing and externally adjusting proximity probes. However, the housing cover of the PROXPAC XL Assembly also contains its own 3300 XL Proximitor sensor. This design makes the PROXPAC XL Assembly a completely self-contained proximity probe system, and eliminates the need for an extension cable between the probe and its associated Proximitor sensor. It also eliminates the need for a separate Proximitor housing, as the field wiring connects directly between the monitors and PROXPAC XL Assemblies.

The PROXPAC XL housing is made of Polyphenylene Sulfide (PPS), which is an advanced, molded thermoplastic. This material replaces the steel and aluminum in previous housings offered in the Bently Nevada product line. It also incorporates glass and conductive fibers in the PPS to strengthen the housing and more effectively dissipate electrostatic charges. The PROXPAC XL housing is rated for Type 4X and for IP66 environments and provides extra protection in severe environments.



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## Specifications

### Electrical

|                                                                    |                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Proximitor Sensor Input                                            | 3300 XL 8 mm Proximity Probe with a 1-metre cable length installed in the probe sleeve.                                                                                                                                                                                                                                                                   |
| Power                                                              | Requires -17.5 Vdc to -26 Vdc without barriers at 12 mA maximum consumption, -23 Vdc to -26 Vdc with barriers. Operation at a more positive voltage than -23.5 Vdc can result in reduced linear range.                                                                                                                                                    |
| Supply Sensitivity                                                 | Less than 2 mV change in output voltage per volt change in input voltage.                                                                                                                                                                                                                                                                                 |
| Output resistance                                                  | 50 $\Omega$                                                                                                                                                                                                                                                                                                                                               |
| <b>Nominal Probe DC Resistance (<math>R_{\text{PROBE}}</math>)</b> |                                                                                                                                                                                                                                                                                                                                                           |
| Resistance from the Center Conductor to the Outer Conductor        |                                                                                                                                                                                                                                                                                                                                                           |
| Probe Length (m)                                                   | $R_{\text{PROBE}} (\Omega)$                                                                                                                                                                                                                                                                                                                               |
| 1.0                                                                | $7.59 \pm 0.50$                                                                                                                                                                                                                                                                                                                                           |
| Field wiring                                                       | 0.2 to 1.5 mm <sup>2</sup> (16 to 24 AWG) . Recommend using 3-conductor shielded triax cable and tinned field wiring. Maximum length of 305 metres (1,000 feet) between the 3300 XL Proximitor Sensor and the monitor. See the frequency response graph (Figure 1, page 7) 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 mm to 2.3 mm (10 mils to 90 mils) (approximately -1 Vdc to -17 Vdc).                                                                                                                                                                                                                                                                                                                                        |
| Recommended Gap Setting                            | 1.27 mm (50 mils)                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Incremental Scale Factor (ISF)                     | 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) at a maximum altitude of 2000m.                                                                                                                                                                                                           |
| <b>Deviation from best fit straight line (DSL)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Standard 1 metre system                            | Less than $\pm 0.025\text{mm}$ ( $\pm 1\text{ mil}$ ) with components at 0 °C to +45 °C (+32 °F to +113 °F).                                                                                                                                                                                                                                                                                                                        |
| Frequency Response                                 | 0 to 10 kHz: +0, -3 dB, with up to 305 metres (1000 feet) of field wiring.                                                                                                                                                                                                                                                                                                                                                          |
| Minimum Target Size                                | 15.2 mm (0.6 in) diameter (flat target)                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Shaft Diameter</b>                              |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Minimum                                            | 50.8 mm (2.0 in)                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Recommended minimum                                | 76.2 mm (3.0 in)                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                    | When gapped at the center of the linear range, the interaction between two separate transducer systems (cross-talk) will be less than 50 mV on shaft diameters of at least 50 mm (2.0 in) or greater. Care should be taken to maintain minimum separation of transducer tips, generally at least 40 mm (1.6 in) for axial position measurements or 38 mm (1.5 in) for radial vibration measurements to limit cross-talk to 50 mV or |

## Ordering Information



For the detailed listing of country and product specific approvals, refer to the *Approvals Quick Reference Guide* (108M1756) available from [Bently.com](http://Bently.com).



Order -00 or -01 (for multi approvals) for the A option and -00 or -000 for all other options to receive just a spare housing with Proximitor Sensor.

## PROXPAC XL Proximity Transducer, English

**330880-AA-BB-CCC-DD-EE**

### A: Probe and Approvals Option

|            |                                                     |
|------------|-----------------------------------------------------|
| <b>0 0</b> | No probe; Proximitor sensor without approvals       |
| <b>0 1</b> | No probe; Proximitor sensor with Multiple Approvals |
| <b>1 6</b> | 3300 XL 8 mm probe without approvals                |
| <b>2 8</b> | 3300 XL 8 mm probe with Multiple Approvals          |

### B: Standoff Adapter Option (B Dimension)

|  |                                         |
|--|-----------------------------------------|
|  | Order in increments of 0.5 in (13 mm ). |
|  | Minimum length: 1.5 in (38 mm)          |
|  | Maximum length: 7.5 in (191 mm )        |

#### Examples

|            |                     |
|------------|---------------------|
| <b>0 0</b> | No standoff adapter |
| <b>1 5</b> | 1.5 in (38 mm)      |

### C: Probe Penetration Option (C Dimension)

|  |                                                                                                           |
|--|-----------------------------------------------------------------------------------------------------------|
|  | For penetration lengths between 1.0 and 2.0 inches, counterbore may be required in machine case to reduce |
|--|-----------------------------------------------------------------------------------------------------------|

probe side view and/or rear view effects.

Order in increments of 0.1 in (2 mm).

Minimum length: 1.0 in (25 mm)

Maximum length: 30 in (762 mm )

#### Examples

|              |                  |
|--------------|------------------|
| <b>0 0 0</b> | No probe sleeve  |
| <b>0 3 7</b> | 3.7 in (94 mm)   |
| <b>2 2 4</b> | 22.4 in (569 mm) |

### D: Fittings Option



For 1/2-14 NPT fittings, order option -03 or spare 26650-01 reducers for either option -01 or -02.

|            |                                                                                |
|------------|--------------------------------------------------------------------------------|
| <b>0 0</b> | No fittings; two plugs and two washers                                         |
| <b>0 1</b> | One 3/4-14 NPT fitting, two plugs                                              |
| <b>0 2</b> | Two 3/4-14 NPT fittings, one plug                                              |
| <b>0 3</b> | One 3/4-14 NPT fitting, one 3/4-14 NPT to 1/2-14 NPT SST reducer and two plugs |

### E: Mounting Thread Option

|            |                                                            |
|------------|------------------------------------------------------------|
| <b>0 0</b> | No outer sleeve assembly                                   |
| <b>0 2</b> | 3/4-14 NPT (Required if ordering Standoff Adapter Option.) |
| <b>0 5</b> | 7/8-14 UNF-2A                                              |

## PROXPAC XL Proximity Transducer, Metric

330881-AA-BB-CCC-DD-EE

### A: Probe and Approvals Option

|     |                                                     |
|-----|-----------------------------------------------------|
| 0 0 | No probe; Proximitor sensor without approvals       |
| 0 1 | No probe; Proximitor sensor with Multiple Approvals |
| 1 6 | 3300 XL 8 mm probe without approvals                |
| 2 8 | 3300 XL 8 mm probe with Multiple Approvals          |

### B: Standoff Adapter Option (B Dimension)

|  |                                                                                  |
|--|----------------------------------------------------------------------------------|
|  | Order in increments of 10 mm.<br>Minimum length: 40 mm<br>Maximum length: 200 mm |
|--|----------------------------------------------------------------------------------|

#### Examples

|     |                     |
|-----|---------------------|
| 0 0 | No standoff adapter |
| 0 4 | 40 mm               |
| 2 0 | 200 mm              |

### C: Probe Penetration Option (C Dimension)

|  |                                                                                                                                                                                                                                       |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | For penetration lengths between 25 and 50 mm, counter bore may be required in machine case to reduce probe side view and/or rear view effects.<br><br>Order in increments of 1 mm.<br>Minimum length: 25 mm<br>Maximum length: 760 mm |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Examples

|       |                 |
|-------|-----------------|
| 0 0 0 | No probe sleeve |
| 0 5 0 | 50 mm           |

|       |        |
|-------|--------|
| 7 6 0 | 760 mm |
|-------|--------|

### D: Fittings Option (supplied as a kit)

|     |                                                                                |
|-----|--------------------------------------------------------------------------------|
| 0 0 | No fittings; two plugs and two washers                                         |
| 0 1 | One M25 fitting, two plugs                                                     |
| 0 2 | Two M25 fittings, one plug                                                     |
| 0 3 | One M20 fitting, two plugs                                                     |
| 0 5 | One PG21 to PG11 reducer, two plugs                                            |
| 0 6 | One 3/4-14 NPT fitting, one 3/4-14 NPT to 1/2-14 NPT SST reducer and two plugs |
| 0 7 | One PG21 x M20 fitting, two plugs                                              |

Two PG21 x M20 fittings, one plug



Conduit fittings are necessary when hardline conduit or metal piping is brought into the housing. If using flexible conduit, you should order with integral 3/4-14 NPT fittings so that you do not require additional conduit fittings with the housing. If using flexible conduit, order the D = 0 0 option.

0 8

### E: Mounting Thread Option

|     |                                                           |
|-----|-----------------------------------------------------------|
| 0 0 | No outer sleeve assembly                                  |
| 0 1 | M24 X 3                                                   |
| 0 2 | 3/4-14 NPT (required if ordering Standoff Adapter Option) |