MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

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PROXPAC XL PROXIMITY TRANSDUCER ASSEMBLY

330881-28-04-214-00-02

INTEGRATED PROXIMITY TRANSDUCER ASSEMBLY

OFFICIAL SOURCES

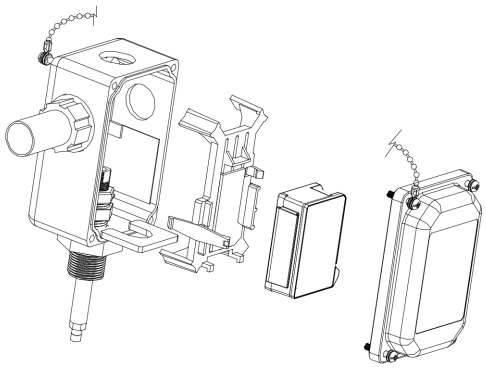
Bently Nevada official manufacturer document for PROXPAC XL proximity transducer assembly. Selected pages retain their original content, color and aspect ratio.

PROXPAC XL Proximity Transducer Assembly

Datasheet

Cordant™

178554 Rev. E



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.

Baker Hughes

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 Ω
Nominal Probe DC Resistance (R_{PROBE})	
Resistance from the Center Conductor to the Outer Conductor	
Probe Length (m)	R_{PROBE} (Ω)
1.0	7.59 ± 0.50

Field wiring	0.2 to 1.5 mm^2 (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) ±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.
Deviation from best fit straight line (DSL)	
Standard 1 metre system	Less than ±0.025mm (±1 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)
Shaft Diameter	
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 less. Radial vibration or position measurements on shaft diameters smaller than 76.2 mm (3.0 in) will generally result in a change in scale factor. Consult Performance Specification 159484 for additional information.

Effects of 60 Hz Magnetic Files Up To 300 Gauss		
Output Voltage in Mil pp/Gauss		
Gap (mils)	1-metre Proximitor Sensor	Probe
10	0.0124	0.0004
50	0.0110	0.0014
90	0.0126	0.0045
Electrical Classification: Complies with the European CE mark.		

Mechanical

Housing Ratings	IP66 rating verified by BASEEFA report number T07/0709.
Probe Tip Material	Polyphenylene Sulfide (PPS)
Probe Case Material	AISI 304 stainless steel
Probe Cable	1-metre length, 75 Ω triaxial, fluoroethylene propylene (FEP) insulated.
Probe Connector	Gold-plated brass ClickLoc connector.
Probe Tensile Strength	330 N (75 lb) between probe cable and case, maximum.
Housing Material	Ultraviolet (UV) resistant, glass-reinforced polyphenylene sulfide (PPS) thermoplastic containing conductive fibers.
Sleeve Material and Retaining Chain	AISI 304 stainless steel
Outer Sleeve and Retaining Screws	AISI 303 stainless steel
Sleeve O-Ring Material	Neoprene
Grounding Liner and Retaining Plate Material	AISI 304 Stainless Steel
Vibration Isolation Material	Extra Soft Cellular Silicone
Lid Label Material	Gloss Radiant White Polyester

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. Minimum length: 40 mm 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. Order in increments of 1 mm. Minimum length: 25 mm 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
0 8	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.
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)

Accessories

159484	Performance Specification - 3300 XL Proximity Transducer System
178761	Operation manual
178850-00	Upgrade Kit, Non-approved (Includes housing lid, 1-metre Proximitor sensor, and support table)
178850-05	Upgrade Kit, Multi-Approvals (Includes housing lid, 1-metre Proximitor sensor, and support table)
178644-01	Proximitor sensor support table
330180-12-00	Spare 3300 XL Proximitor sensor, non-approved
330180-12-05	Spare 3300 XL Proximitor sensor, Multiple Approvals
330105-02-12-10-02-00	Spare 3300 XL 8 mm probe, English, non-approved
330105-02-12-10-02-05	Spare 3300 XL 8 mm probe, English, approved
330106-05-30-10-02-00	Spare 3300 XL 8 mm probe, metric, non-approved
330106-05-30-10-02-05	Spare 3300 XL 8 mm probe, metric, approved
02120015	Bulk Field Wire 1.0 mm² (18 AWG), 3-conductor, twisted shielded cable with drain wire. Specify length in feet.
37948-01	Probe Support / Oil Sleeve Provides seal along probe sleeve. May be used as a probe sleeve support in certain installations.

English Probe Sleeve (Spare)

108883 –AAA

This is the measured probe sleeve length. Order in increments of 0.1 in (3 mm). Note that the individual probe sleeve length **does not** include the distance from the end of the sleeve to the probe tip or the gap from the probe tip to the target material. If only the part number of the original housing is known and the sleeve cannot be measured, use the following formula to determine the sleeve length:

A: **Standoff Adapter Option** from original housing (**330800** option B) + Probe penetration option from original housing (330800 option C) + 025.

Example: Original part number is 330800-16-15-035-03-02. A option for replacement sleeve is (015 + 035 + 025) = 0 7 5**.**

Minimum Probe Sleeve Length:
3.5 in (89 mm)= 0 3 5
Maximum Probe Sleeve Length:
32.5 in (826 mm) = 3 2 5

Metric Probe Sleeve (Spare)

108882 –AAA

This is the measured probe sleeve length. Order in increments of 1 mm. Note that the individual probe sleeve length **does not** include the distance from the end of the sleeve to the probe tip or the gap from the probe tip to the target material. If only the part number of the original housing is known and the sleeve cannot be measured, use the following formula to determine the sleeve length: