



# 952QD BlueOx with Quadrature Output

## Magnetostrictive LDT with Quadrature Output

The BlueOx Quadrature is a magnetostrictive linear displacement transducer (LDT) for continuous machine positioning in a variety of industrial applications. The quadrature output makes it possible for customers to have a direct interface to virtually any incremental encoder input or counter card, eliminating costly absolute encoder converters and special PLC interface modules.

The BlueOx Quadrature LDT is lab tested and field proven to stand up to high shock and vibration without effect. With test results of 2,000 G's of shock and 30 G's of random vibration without false signals or mechanical damage, the BlueOx Quadrature LDT is ready to perform in the most demanding applications.

The BlueOx Quadrature LDT can be ordered with 1 to 9999 cycles per inch of output resolution and the position data is absolute. The transducer features an input to re-zero the probe "on the fly". Another unique feature is the "burst" mode. An input on the transducer triggers a data transfer of all the incremental position data relative to the transducer's absolute zero position. This can be used to achieve absolute position updates when power is restored to the system.

The BlueOx Quadrature is shipped from the factory pre-calibrated and ready for installation. In addition to its ability to withstand shock and vibration, the BlueOx Quadrature is rugged in other ways. Sensing tube construction is welded stainless steel, suitable for insertion in 5,000 PSI hydraulic cylinders.

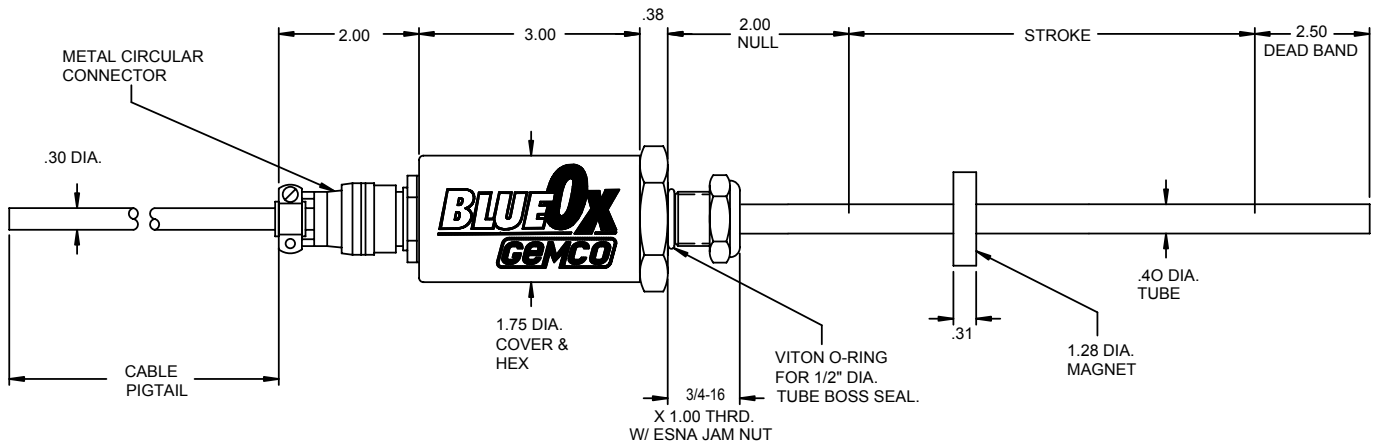
The electronics are enclosed behind an aluminum housing with O-ring seals. The BlueOx Quadrature LDT, with its rugged construction, is at home in heavy duty areas such as lumber mills, steel mills, stamping plants and any other harsh environment where accurate and reliable continuous linear position sensing is needed.



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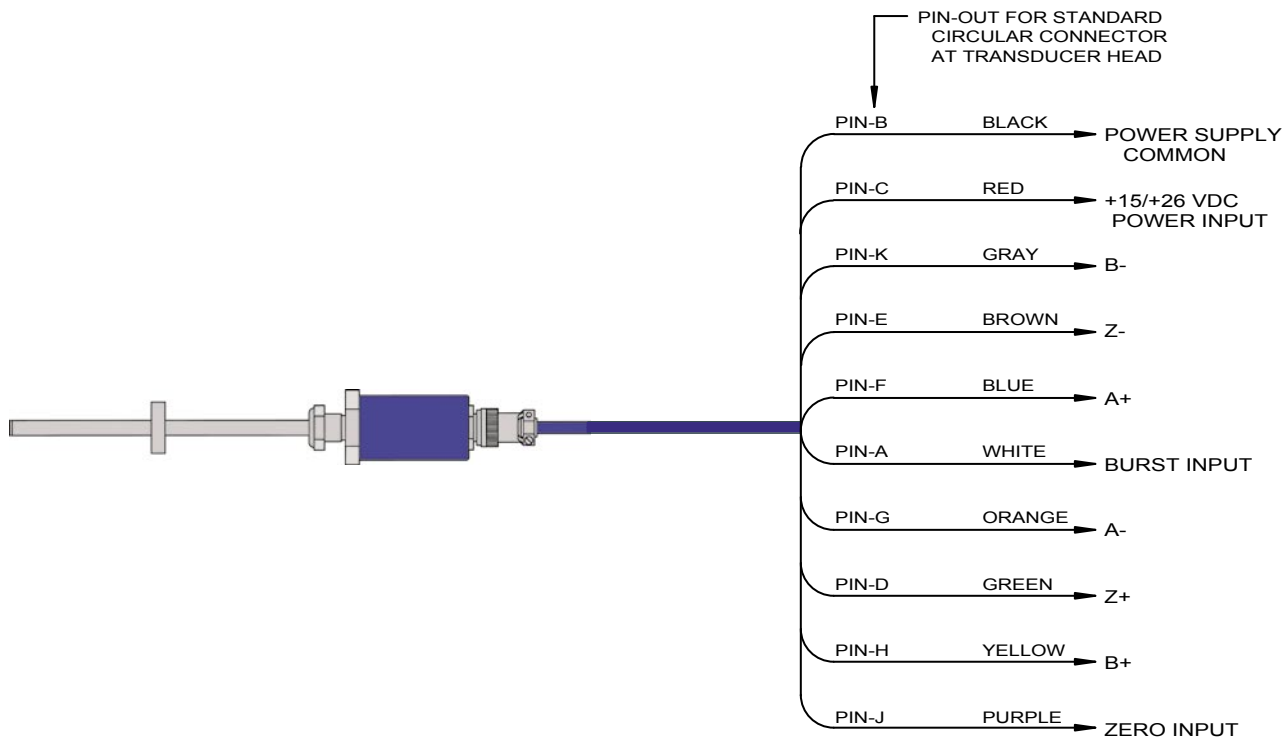
Specifications	
Input Voltage	13.5 - 26.4 VDC
Current Draw	< 200 mA at 15 VDC
Output	Quadrature Output A+, A-, B+, B-, Z+, Z-. Line Drivers: 5V or Input Power
Inputs	10 - 30 VDC
Resolution	0.001"
Non-linearity/Accuracy	<.05% (+/- .002" Min)
Repeatability	0.001% of Full Stroke (+/- .002" Min.)
Hysteresis	+/- .02% of Full Scale
Operating Temperature	
1) Head Electronics	-40° to 155° F (-40° to 70° C)
2) Guide Tube	-40° to 220° F (-40° to 105° C)
Operating Pressure	5000 PSI Operational, 10,000 PSI Spike
Span Length	2" - 168"
Null Zone	2.0"
Dead Zone	2.5"
Connectors	1/4 Turn MS Style Connector Standard. Potted Pigtail Assembly Available Optionally
Update Time	Approx. 1mS for < 60° Approx. 2mS for > 60° to < 120° Approx. 3mS > 120°
Enclosure	IP67
Specifications are subject to change without notice. Specifications are based on a typical 36" LDT .	

## Dimension Drawing



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## Wiring Diagram





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## Part Numbering

952QD — 0120 — X — X — E — 1000 — E — F7 — M1 — N — D — X

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### Stroke in Inches

Insert stroke in inches to 0.1 inch. Enter as a four-place number. **Example:** 12.0 in stroke entered as 0120. To convert a metric stroke in millimeters, multiply millimeter value by 0.03937 to arrive at inch value.

### Null Dimension

X = Standard 2 inch Null  
N□ = Insert non-standard Null over 2 inches (Add non-standard portion of Null length to stroke length to calculate list price)

### Dead Zone

X = Standard Dead Zone of 2.5 inches  
D□ = Insert non-standard Dead Zone over 2.5 inches (Add non-standard portion of Dead Zone length to stroke length to calculate list price)

### Connector Style

E = Environmental MS Connector\*  
C□ = Potted Pigtail Cable Assembly. Insert Pigtail length in feet.

### Output Resolution

Cycles per inch, maximum internal resolution is 0.001 inches  
1000 standard (available range is 0001 through 9999)

### Input Type

E = Sinking (typically used with sourcing output type)  
C = Sourcing (typically used with sinking output type)  
T = TTL Level

### Quadrature Cycle Output Frequency Range

F1 = 10 KHz F2 = 25 KHz F3 = 50 KHz F4 = 75 KHz  
F5 = 100 KHz F6 = 150 KHz F7 = 250 KHz F8 = 500 KHz F9 = 1.00 MHz

### Output Mode

M1 = X1 quadrature, Consult factory for other output modes.

### Zero Offset Storage

V = Volatile (non retentive)  
N = Nonvolatile (retentive, 100,000 storage cycles maximum).

### Output Drivers

D = Differential RS422 line driver, TTL compatible  
L = Differential line driver 10 - 30 VDC, V out = V in (LDT Power) -1 volt

### Options

X = None

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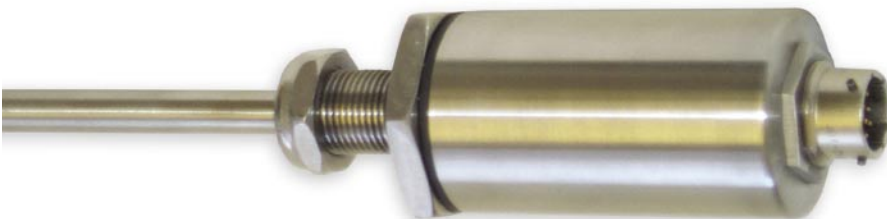
Option "T"  
Threaded Metal Connector  
(MTS - "RB" on Tempo II & III)



Option "Q"  
Bayonet Style Connector  
(MTS - "RC" on Tempo II & III)



Option "M"  
1/4 Turn Quick Disconnect Connector  
(MTS - "MS" on Tempo II & III)



Stainless Steel Head  
Cover and Connector  
(Consult Factory)