

## Magnetostrictive LDT In A Low Profile Package

The 955DQ BRIK is an accurate, auto-tuning, non-contact linear displacement transducer in an economical, low profile package with direct quadrature output.

This new method of interfacing magnetostrictive transducers offers an interface as common as analog but with the speed and accuracy of pulsed type signaling. The Gemco 955DQ linear transducer provides quadrature output directly from the transducer to the controller. The output from the transducer can be wired directly to any incremental encoder input card, without the need for a special converter module or a PLC interface card designed specifically for use with a pulsed output magnetostrictive transducer.

The streamlined anodized aluminum extrusion houses the sensing element and electronics. The BRIK with quadrature output is a self-contained unit and does not have a can or head assembly. All of the electronics are incorporated in the transducer which is less than one inch deep. The magnet slide is designed to move effortlessly along the transducer in a guide track or a floating magnet assembly can be positioned above the unit.

The 955DQ BRIK has a few truly unique features. First, the LDT has auto-tuning capability. This is the ability to sense a magnet other than the standard slide magnet and adjust its signal strength accordingly. Another feature is a diagnostic LED located at the connector end of the probe that remains green when a good magnet signal is present and power is normal. The LED turns red when there is no magnet present or the magnet assembly is out of the sensing area.

The 955DQ LDT can be ordered with 1-9999 cycles per inch of output resolution in lengths of 5 to 180 inches. 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 customers set zero position. This can be used to achieve absolute position updates when power is restored to the system, eliminating the the time consuming need to "re-home" the machine.



### Specifications

Input Voltage	13.5 to 30 VDC
Current Draw	2.5 Watts Maximum, 120 mA @ 15 VDC Typical
Output	Quadrature Output A+, A-, B+, B-, Z+, Z- Line Drivers: 5V or Input Power
Resolution	0.001"
Non-Linearity	+/- 0.05% of Stroke
Repeatability	+/- 0.006% of Full Stroke
Hysteresis	+/- 0.02% of Full Scale
Update	1mS (Stroke Lengths 5" - 50") 2mS (Stroke Lengths 51" - 100") 3mS (Stroke Lengths 101" - 150") 4mS (Stroke Lengths 151" - 180")
Operating Temperature	-20° to 70° C
Span Length	5" to 180"
Null Zone	3.00"
Dead Zone	2.00"
LED	Green = Power is applied and magnet is present Red = Fault, magnet is in the Dead Zone or lost
Connector	Standard 12 Pin Micro (Option E) 12mm Euro Connector or 10 Pin HRS (Option H)
Approvals	CE
Enclosure	IP67, IP68 Optional (Connector Option E Only)

Specifications are subject to change without notice.  
Specifications are based on a typical 36" LDT.

## Part Numbering

**955DQ** — **0120** — **E** — **1000** — **E** — **F7** — **X1** — **N** — **D** — **X**

### 955DQ BRIK Gen III Quadrature Output 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.

### Connector Style

H = HRS Environmental Connector.

E = Euro 12 Pin, 12mm Connector. Consult factory for others.

### Output Resolution

Cycles per inch, maximum internal resolution is .001 inches. 1000 standard (Available range is 0001 through 9999). Consult factory for for ranges above 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    F4 = 75 KHz    F7 = 250 KHz

F2 = 25 KHz    F5 = 100 KHz    F8 = 500 KHz

F3 = 50 KHz    F6 = 150 KHz    F9 = 1.0 MHz

### Output Mode

X1 = X1 Quadrature

D1 = Dual Magnet, Difference between magnets.

### Zero Offset Storage

V = Volatile (nonretentive).

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.

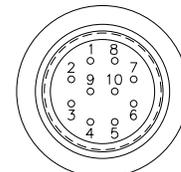
E = Wet environment. Electronics sealed to IP 68 Rating.

Connector Option E only.

Accessories	
Item	Part Number
Slide Magnet	SD0521800
Float Magnet	SD0522100
Mounting Foot	SD0522000
6 Ft. Cable (Option H)	SD0527700L6
12 Ft. Cable (Option H)	SD0527700L12
25 Ft. Cable (Option H)	SD0527700L25
6 Ft. 12 Pin (Option E Connector)	949023L6
12 Ft. 12 Pin (Option E Connector)	949023L12
Control Arm	955ARMXX (X = Length in Inches)
Rod End	04-570252

For non-standard lengths, consult factory.

### Wiring Diagram ( Connector Option H )

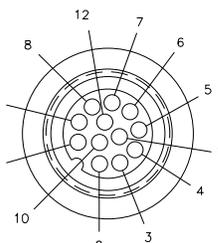


10 PIN HIROSE CONNECTOR

Connector View

WIRE COLOR	10 PIN CONN. DESIG.
BLACK	1
RED	2
GREEN	3
BROWN	4
BLUE	5
ORANGE	6
YELLOW	7
WHITE	8
VIOLET	9
GRAY	10

### Wiring Diagram ( Connector Option E )

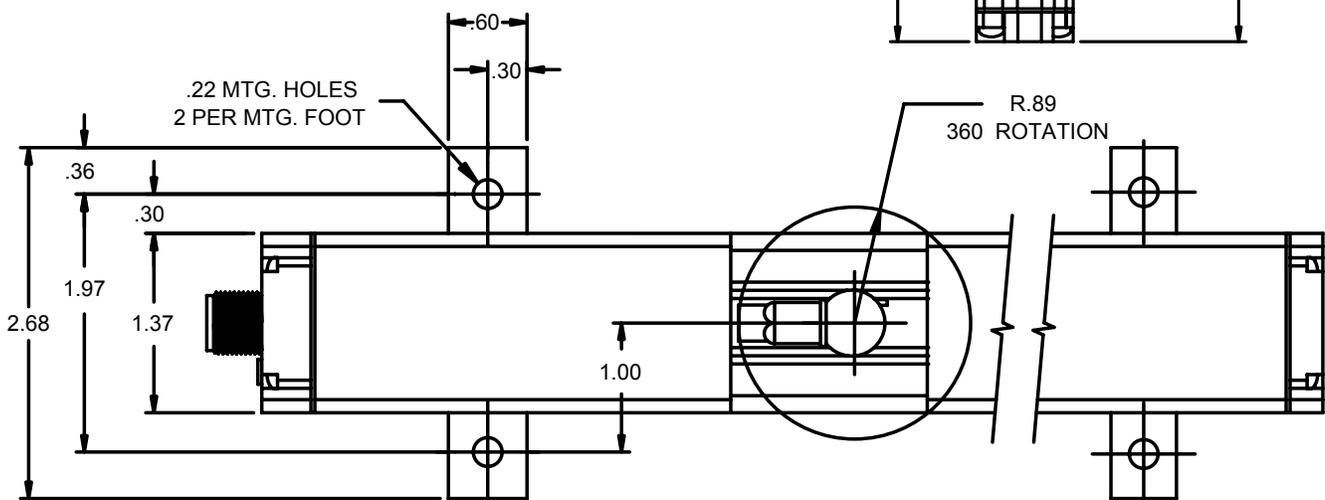
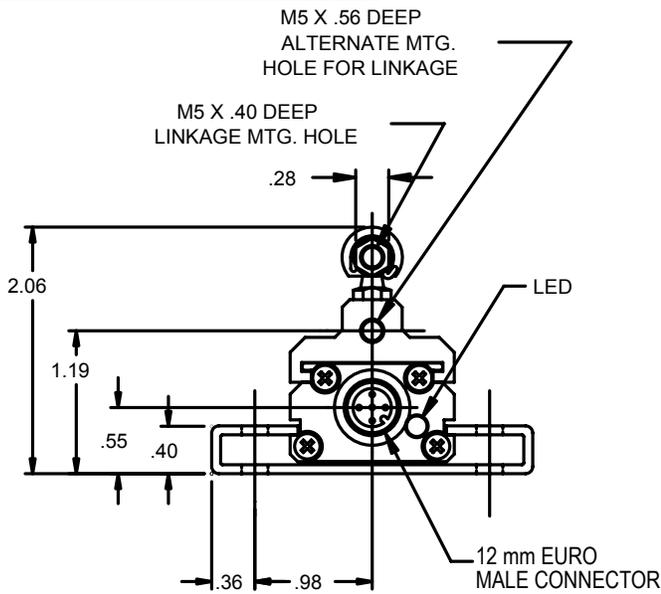
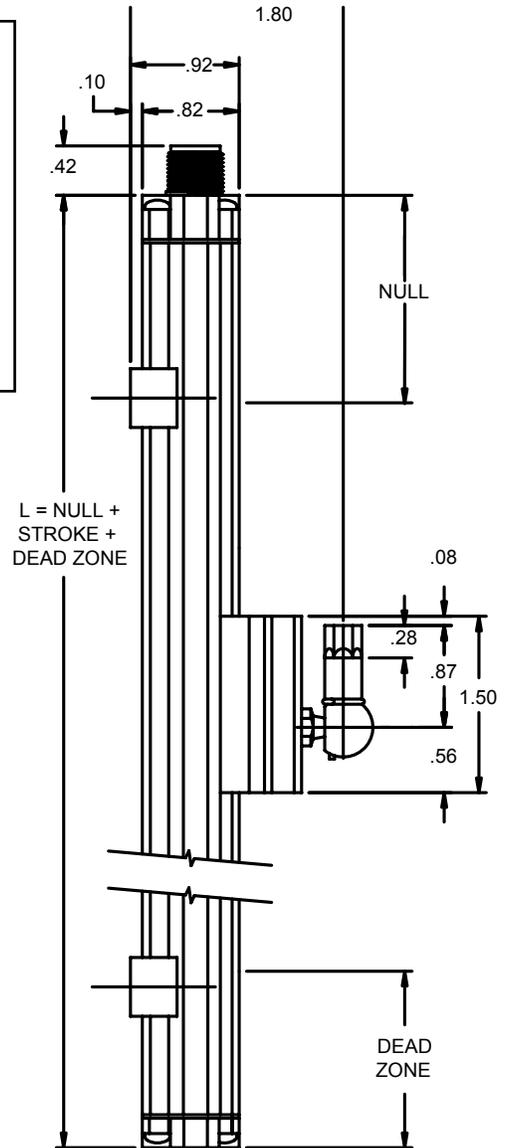
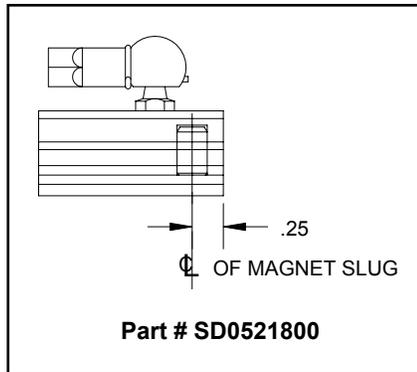
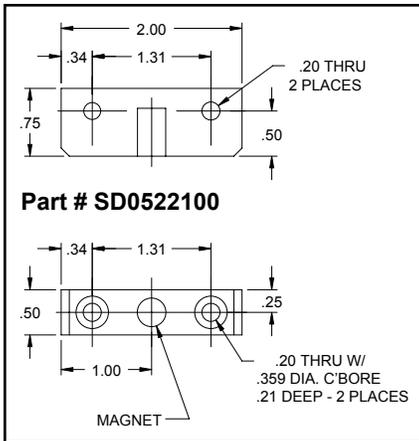


12 PIN CONNECTOR

Connector View

WIRE COLOR	12 PIN EURO CONN. DESIG.	PIN OUT
WHITE	1	B+
BROWN	2	PWR+
GREEN	3	Z+
YELLOW	4	Z-
GRAY	5	A+
PINK	6	A-
BLUE	7	GND
RED	8	BURST
ORANGE	9	ZERO
TAN	10	B-
NC	11	-
NC	12	-

### Dimension Drawing



955