



## 953A/953D VMAX™ LDT Data Sheet

### LINEAR DISPLACEMENT TRANSDUCERS

- **Vibration Resistant to 30 Gs (lab tested)**
- **Shock Resistant to 1000 Gs (lab tested)**
- **Digital Outputs - Start/Stop, Variable Pulse (PWM), Control Pulse**
- **Analog Outputs - 0-10 VDC, 10-0 VDC, 4-20mA, 20-4mA**
- **Wide Input Power Range 7-30 VDC**
- **Low Power**
- **Diagnostic Tri-Color LED**
- **Removable Cartridge**
- **IP68 Rating**





# 953A/953D VMAX™ LDT

**Mobile Equipment and Stationary Processing Systems demand absolute accuracy and reliability in linear position feedback . . . Regardless.**

Innovation, proprietary technology and decades of experience were the key to the development of our 953 VMAX Linear Displacement Transducer.

We know the manufacturing challenges of today are extreme, so we designed and built a sensor to meet and exceed these demands, regardless of the application or environment.

**Introducing the 953 VMAX LDT features:**

- High Vibration Resistance to 30 Gs (lab tested)
- High Shock Resistance to 1000 Gs (lab tested)
- Wide Input Power Range of 7 to 30 VDC (no need to specify different models)
- High Accuracy with High Resolution
- Applications Include All Mobile/Stationary Equipment, or Both with the Same Sensor
- Sensor Lengths up to 300"
- Durability and Reliability Exceeds Competitive Offerings
- Tri-Color Diagnostic LED Indicator
- Very Low Power Consumption, 1 Watt Typical, Allows Direct Connection to Display and Control Interface Modules
- Removable Cartridge for Hydraulic Applications
- Digital Output - Start/Stop, Variable Pulse (PWM), Control Pulse
- Analog Output - 0-10 VDC, 10-0 VDC, 4-20mA, 20-4mA
- Contaminant Resistant
- Multi-Magnet Option (Digital Start/Stop only)
- IP68 Rated



**Applications Include**

Absolute linear position feedback for equipment and process automation in extreme applications.

**Process Automation**

- Steel Mills, Primary and Secondary Metals Processing that include Stamping, Roll Forming and Die-Casting
- Hydraulic & Pneumatic Cylinders
- Adaptive Housing Options to Withstand Extreme Temperatures and Contaminants (Gemco 950MD units)

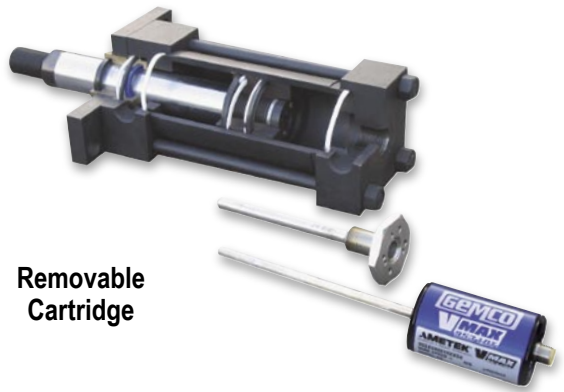
**Mobile Equipment**

- Lumber and Forest Products Processing
- Refuse Collection, Vehicles, Recycling and Compaction
- Off Road

**Stationary Machines**

- Sawmill, Plastic, Rubber, Injection Molding, Extrusion Equipment, Material Handling, Nonwoven, Dancers and Accumulators

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Removable Cartridge



S Connector Style  
5 or 6 Pin Micro, 12mm Euro



M Connector Style  
6 Pin DIN, Fits MTS D60



B Connector Style  
8 Pin DIN, Fits Balluff S32



C Connector Style  
Integral Cable Assembly



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| Specifications  |   |   |   |                              |   |
|---|---|---|---|------------------------------|---|
| <b>953D Connector Interface</b>   | 6 Pin 12mm Euro micro, Integral cable ass'y, 6 Pin or 8 Pin DIN   | <b>Shock</b>                              | 1000Gs (lab tested)<br>IEC 60068-2-27   | <b>953D Output Type</b>      | RS = RS422 Start/Stop Pulse<br>VP = RS422 Variable Pulse (PWM)<br>CP = RS422 Control Pulse<br>TP = TTL Start/Stop Pulse |
| <b>953A Connector Interface</b>   | 5 Pin 12mm Euro micro, Integral cable ass'y, 6 Pin or 8 Pin DIN   | <b>Vibration</b>                          | 30Gs (lab tested)<br>IEC 60068-2-6  | <b>953A Output Type</b>      | 0V to 10V, 10V to 0V<br>4mA to 20mA, 20mA to 4mA  |
| <b>Sensor Housing and Mounting Hex</b>  | Body length 3.2", hex base 1 3/4" dia., 3/4"x16x1" thread. Aluminum housing standard, stainless steel optional. | <b>953D Update Time</b>                   | Controller Dependant  | <b>953A Current Output</b>   | Max Load Resistance: 500 Ohms   |
| <b>Displacement</b>   | 1" to 300"  | <b>953A Update Time</b>                   | < 2mS Typical   | <b>953A Voltage Output</b>   | Minimum Load Resistance: 2K Ohm<br>Output Current: Guaranteed 5mA minimum<br>Analog Ripple: ≤1 mV maximum               |
| <b>Dead Band</b>  | 2.50" (63.5 mm) standard  | <b>Guide Tube Pressure</b>                | 5,000 psi continuous<br>(10,000 psi spike)  | <b>Hysteresis</b>            | 0.001"  |
| <b>Null Zone</b>  | 2.00" (50.8 mm) standard  | <b>Approvals</b>                          | CE (EMC)  | <b>Non-linearity</b>         | < 0.01% or +/- 0.005", whichever is greater,<br>(+/- 0.002 Typical)   |
| <b>Enclosure Rating</b>   | IP68, IEC 600529  | <b>Input Voltage</b>                      | 7 to 30 VDC   | <b>Storage Temperature</b>   | -40° to 221° F<br>(-40° to 105° C)  |
| <b>953D Resolution</b>  | Controller Dependant  | <b>Current Draw</b>                       | 1 watt typical*, 40mA at 24 VDC typical   | <b>Operating Temperature</b> | -40° to 185° F (-40° to 85° C)<br>-40° to 221° F (-40° to 105° C)   |
| <b>953A Resolution</b>  | 0.00006"<br>16-Bit  | <b>953A Zero &amp; Span Adjustability</b> | Factory set at Null & Dead Band locations.<br>Field re-settable at any location within active stroke. | <b>Operating Temperature</b> | Head<br>Guide Tube  |
| NOTE: Specifications subject to change and are based on a typical 48" stroke. |   |   |   |                              |   |

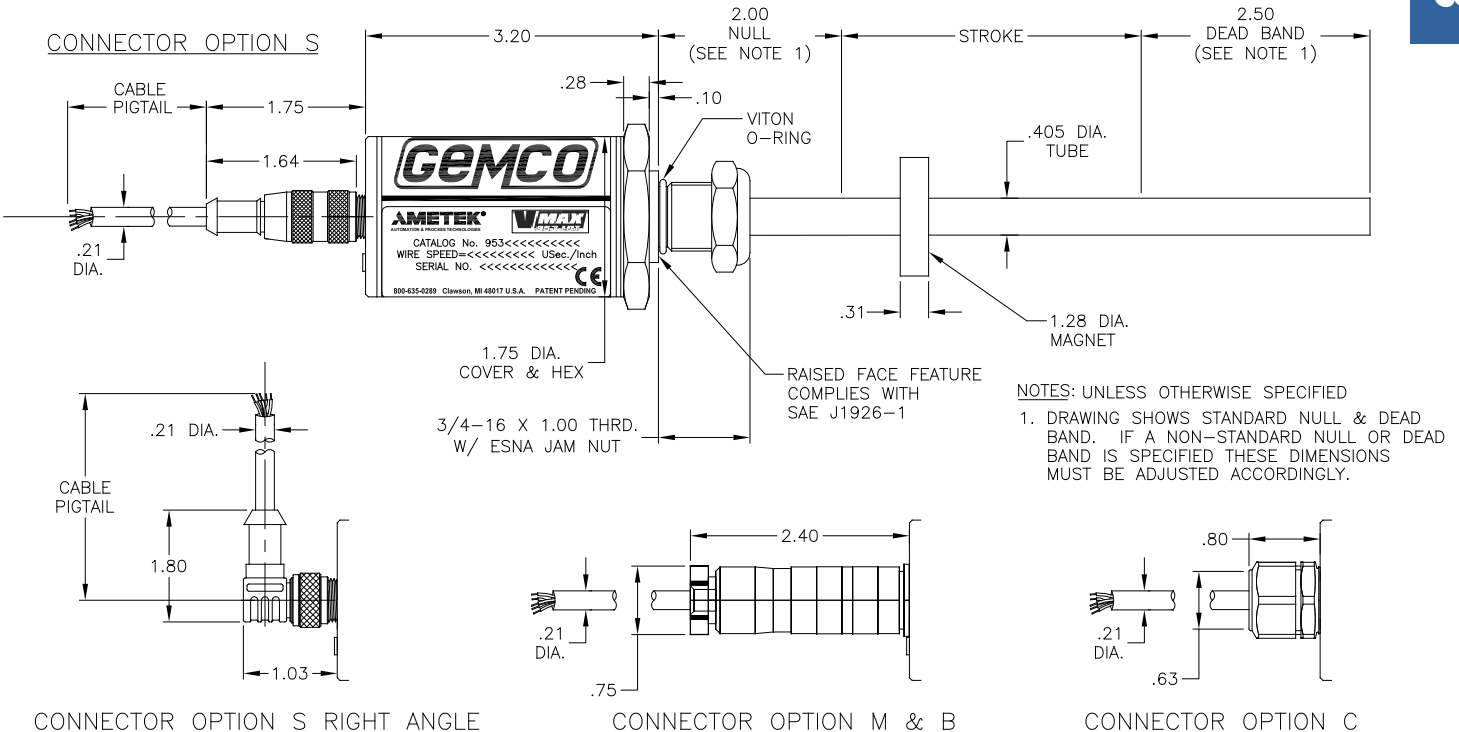
\*One watt typical

| 953A Accessories |  |                    |
|------------------|--|--------------------|
| Part Number      | Description                                  | Use With Connector |
| 949011L6         | 6 Foot, 5 Pin, Straight, 12mm Euro Cable     | S                  |
| 949011L12        | 12 Foot, 5 Pin, Straight, 12mm Euro Cable    | S                  |
| 949012L6         | 6 Foot, 5 Pin, Right Angle, 12mm Euro Cable  | S                  |
| 949012L12        | 12 Foot, 5 Pin, Right Angle, 12mm Euro Cable | S                  |
| SD0553200LXX     | 6 Pin DIN                                    | M                  |
| SD0553300LXX     | 8 Pin DIN Voltage                            | B                  |
| SD0553400LXX     | 8 Pin DIN Current                            | B                  |
| SD0400800        | Standard 4 Hole Magnet                       | All                |

Consult factory for complete accessory offerings. XX = Length in Feet.

| 953D Accessories |  |                    |
|------------------|--|--------------------|
| Part Number      | Description                                  | Use With Connector |
| 949029L6         | 6 Foot, 6 Pin, Straight, 12mm Euro Cable     | S                  |
| 949029L12        | 12 Foot, 6 Pin, Straight, 12mm Euro Cable    | S                  |
| 949030L6         | 6 Foot, 6 Pin, Right Angle, 12mm Euro Cable  | S                  |
| 949030L12        | 12 Foot, 6 Pin, Right Angle, 12mm Euro Cable | S                  |
| SD0554500LXX     | 6 Pin DIN                                    | M                  |
| SD0554600LXX     | 8 Pin DIN                                    | B                  |
| SD0400800        | Standard 4 Hole Magnet                       | All                |

Consult factory for complete accessory offerings. XX = Length in Feet.

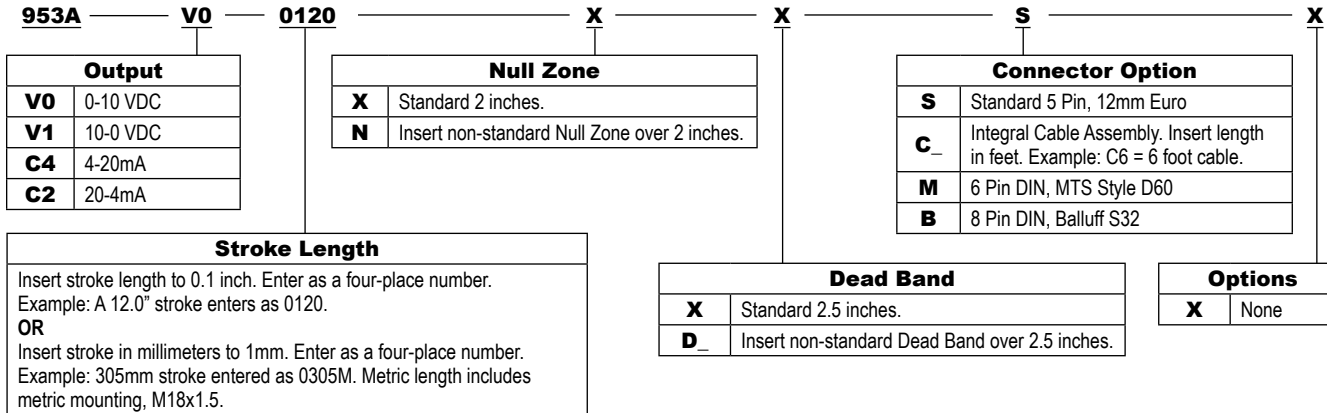


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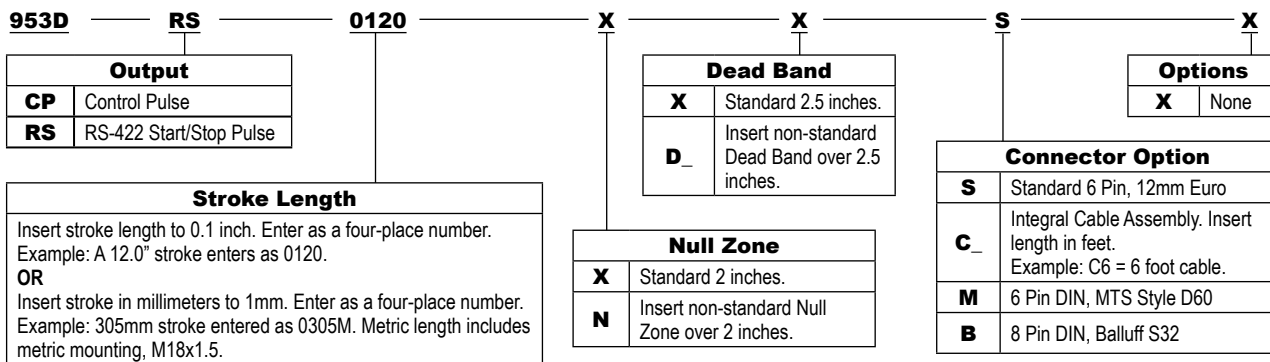


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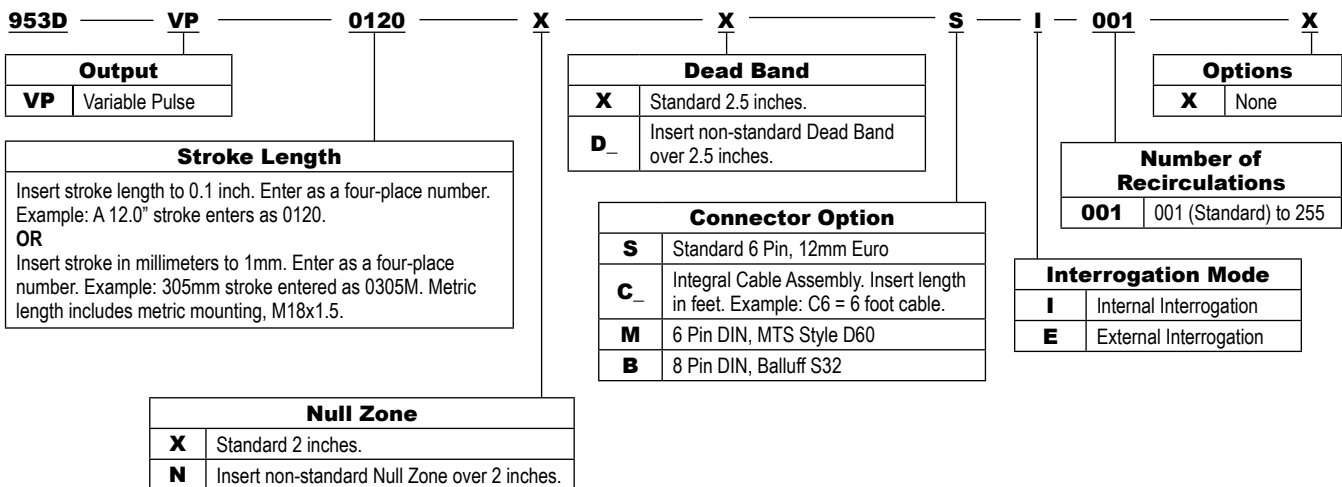
## Analog Part Numbering



## Digital, CP and RS Part Numbering



## Digital, VP (PWM) Part Numbering



NOTE: Metric LDTs cannot be used with standard 950MD housings. Consult factory.

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