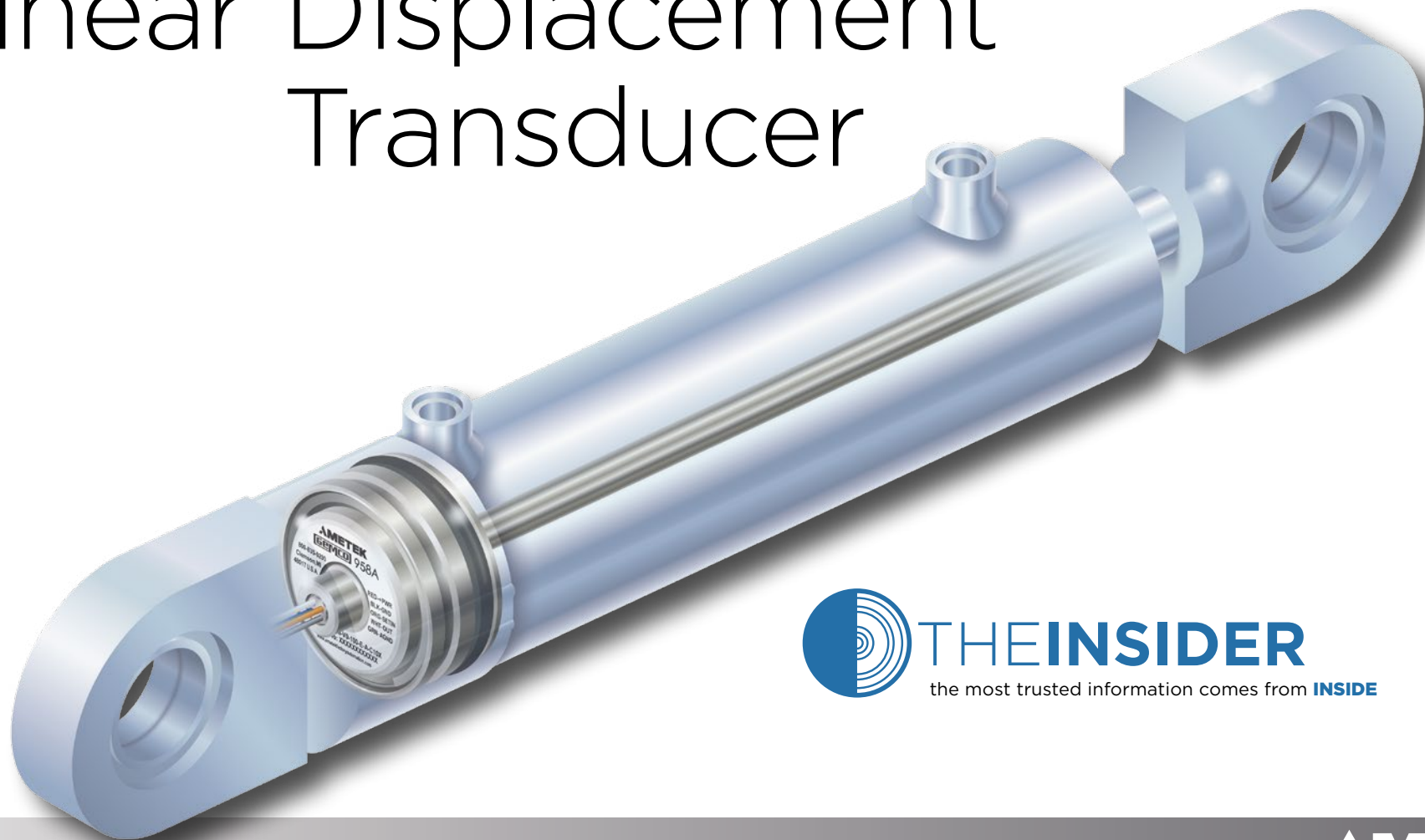




958A Embedded Linear Displacement Transducer

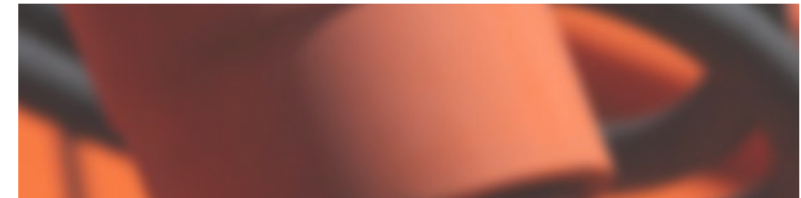


■ The Need for Automation is Greater Today Than Ever Before

LINEAR DISPLACEMENT TRANSDUCERS (LDTs) play an important role in automation. They provide accurate, reliable, absolute position feedback to help automate today's sophisticated machinery. Sensors must deliver value, be easy to set up, and interface easily into the host controller.

We know today's industrial challenges are extreme, so we designed and built a sensor to meet and exceed these demands, regardless of the application or environment. Innovation, proprietary technology and decades of experience were the key to the development of our 958A Embedded Linear Displacement Transducer.

The 958A was designed with the mobile hydraulics market in mind. The 958A is a rugged, accurate, programmable zero and span, auto-tuning, non-contact linear displacement transducer in a compact embedded rod-style package. The embedded package style allows the unit to be totally installed inside of a hydraulic cylinder, thus protecting the transducers from outside conditions. The transducer utilizes our field-proven Magnetostrictive technology to give absolute analog position, accurate to 0.04% of the programmable sensing distance. A variety of different analog outputs are available to meet your needs. All units come 100% calibrated from the factory.



Whether you're in one of the hottest or coldest places on earth, the 958A can handle temperatures from -40 to +105° C.



Stronger. Tougher. Better. Always Reliable

Pounding, Continuous Vibrations, High Pressure, Extreme Temperatures, and Relentlessly Cycled. **The 958A Embedded Sensor Performs Flawlessly** in All Types of Mobile Hydraulic Cylinder Applications.



Shock and Vibration: The 958A is designed to withstand extreme vibration of up to 30 G's, 10 Hz to 2 kHz (per IEC 60068-2-6); and shock up to 1000 G's, single hit (per IEC 60068-2-27). Our durability and reliability exceed competitive offerings to keep your equipment moving.



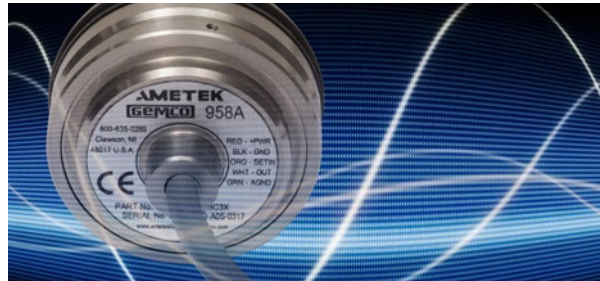
Accurate Feedback: High accuracy, combined with 16-bit output resolution provides reliable, absolute position feedback to help automate today's sophisticated mobile machinery. Programmable zero and span points allow you to adjust the output to exactly match your requirements.



Simplicity by Design: With its easy installation, intuitive interface with host controllers and drivers, and no annual calibrations or field adjustments required, you can be confident that the 958A will deliver the accurate, reliable performance you've come to expect from Gemco.



Magnetostrictive Technology: Gemco's magnetostrictive transducers have been a leader in industrial applications for over 30 years. Our field-proven technology delivers extreme accuracy and resolution, as well as unmatched reliability and durability.



Electromagnetic Compatibility: Unwanted effects like electromagnetic interference (EMI) can generate inaccurate feedback and cause serious damage to your equipment. The 958A embedded sensor provides superior electrical noise and emissions immunity in all types of mobile systems.

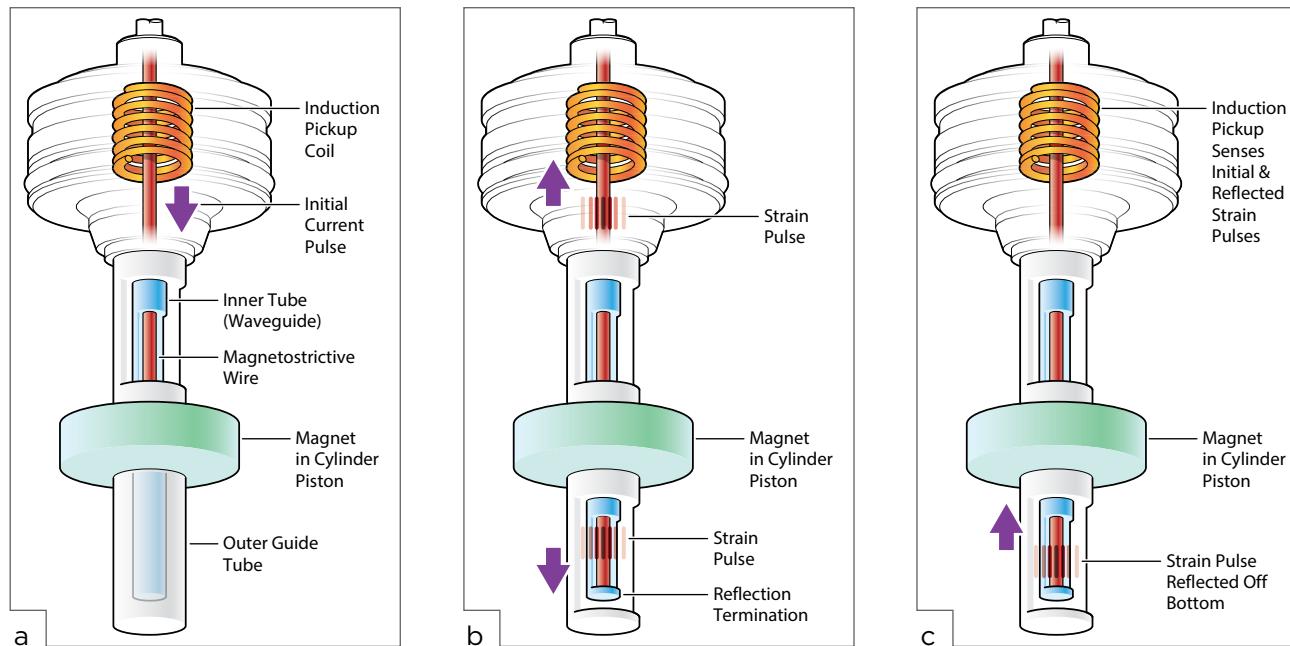


Versatile Power Supply: A wide input power range (from 8 to 30 VDC) allows the 958A to be used in a wide variety of industries and applications.

Technology and Performance

Benefits of Magnetostrictive Technology

MAGNETOSTRICTIVE TECHNOLOGY is the preferred feedback for hydraulic cylinders. The technology is absolute and can withstand the pressures and temperatures associated with hydraulic cylinders. Operating Pressures up to 5000 PSI and Spikes to 10,000 PSI with response times in the milliseconds. *There is simply nothing to Wear out!*



- a** AMETEK / Gemco Linear Transducers use a Magnetostrictive time-based position sensing, where a current pulse is sent down a Magnetostrictive wire in a specially designed waveguide.
- b** The interaction of this current pulse within the magnetic field created by a movable magnet assembly produces a torsional strain pulse on the wire, which travels at sonic speed along the wire.
- c** The strain pulse traveling up the wire is sensed by a small induction pickup coil in the head assembly. The position of the movable magnet is determined with high precision by measuring the time between the launching of the current pulse and the arrival of the torsional strain pulse. The results are highly accurate, non-contact absolute position sensing with absolutely no wear to the sensing element.

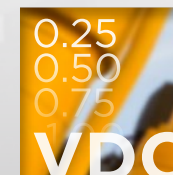
Tools and Options



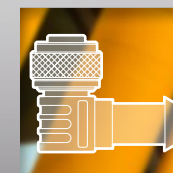
Diagnostics: Eliminate guesswork, and quickly identify the cause of unexpected readings. Diagnostics built into the analog output notify the host controller if the magnet signal is ever lost, or if the machine has moved beyond its programmed range.



Auto-Tuning: Auto-tuning allows the 958A to sense a variety of position magnets, and then optimize the signal for improved performance. There are three magnet choices available for the 958A.



Configuration: Select an output to directly match your controller's input. Analog voltage outputs of 0-10, 0.25-4.75, and 0.5-4.5 VDC are available; as are current outputs of 4-20 mA.



Connector Options: Six different connector options are available to meet your wiring needs.

Ordering Information

Model Numbering

Model	Available Analog Outputs	Stroke	Unit of Measure	Housing Type	Connector	Options
958A	_____	_____	_____	_____	_____	_____
	Voltage Output 0–10 V0	Strokes are indicated from 2" to 100" in either 0.1" or 5 mm increments. ie: 12" Stroke 0120 ie: 100 mm Stroke 0100	English (inches) E	48 mm Housing–10 mm Rod ... A	Integral cable–Insert length in meters C*	No options X
	Voltage Output 10–0 V1		Metric (millimeters) ... M	48 mm Housing–8 mm Rod B	Wire–Bare Leads–Insert length in millimeters W* Available lengths are 50, 100, 200, and 300 mm.	Programmable Zero P and Span
	Voltage Output 0–5 V2				M12–5 Pin (A Code)–Field installable–Pin 1 Power (**). G* S1 Available lengths are 60 and 250 mm.	
	Voltage Output 5–0 V3				M12–5 Pin (A Code)–Field installable–Pin assignment 1-2-3 (**). M* S1 Available lengths are 60 and 250 mm.	
	Voltage Output 0.25–4.75 V4				M12–5 Pin (A Code)–Field installable–Pin assignment 2-3-4 (**). M* S2 Available lengths are 60 and 250 mm.	
	Voltage Output 4.75–0.25 V5				M12–5 Pin (A Code)–Field installable–Pin assignment 1-3-4 (**). M* S3 Available lengths are 60 and 250 mm.	
	Voltage Output 0.5–4.5 V6					
	Voltage Output 4.5–0.5 V7					
	Current Output 20–4 mA C2					
	Current Output 4–20 mA C4					

SAMPLE PART NUMBERS

958AV00120EAC5P 0-10 volt output; 12" stroke; 10 mm rod;
5 meter integral cable; and programmable zero and span.

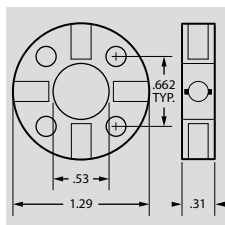
958AV60100MBM60S1X ... 0.5-4.5 volt output; 100 mm stroke;
8 mm rod; and 60 mm, M-12-5 pin connector (pin assignment 1-2-3).

*Insert length of wire.

Accessories

► Magnets

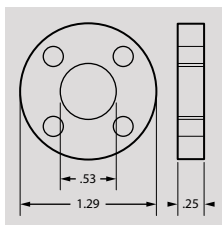
There are four magnet choices available for the 958 Series. Magnets and magnet spacers must be ordered as separate line items. The standard 4 hole (SD0400800) is suitable for most applications.



Standard 4 Hole Magnet

Standard P/N:
SD0400800

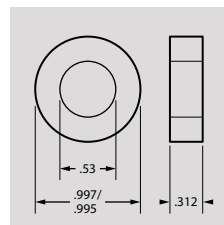
Stainless Steel P/N:
SD0480900



Non-Ferrous Spacer for 4 Hole Magnet

Standard P/N:
M0822400

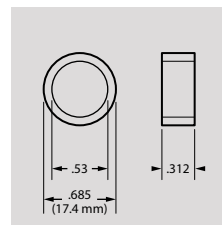
Teflon Cylinder Bushing P/N:
M0822401



1" Cylinder Magnet

Standard P/N:
SD0410300

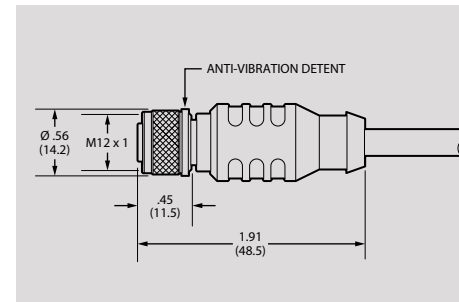
Teflon Coated P/N:
SD0410301



17.4 mm Cylinder Magnet

Standard P/N:
04-588105

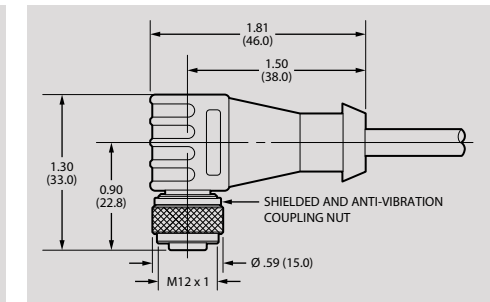
► Cable Assemblies



Straight Connector

Power Cable M12-A Straight to flying leads – Shielded

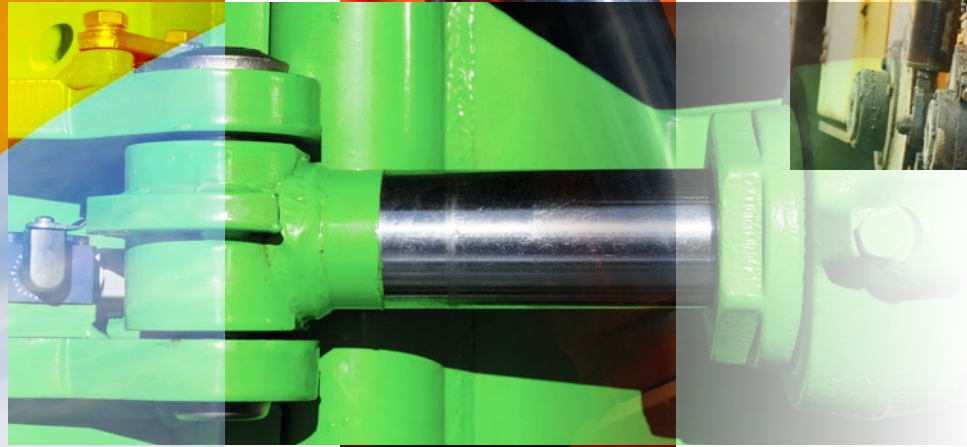
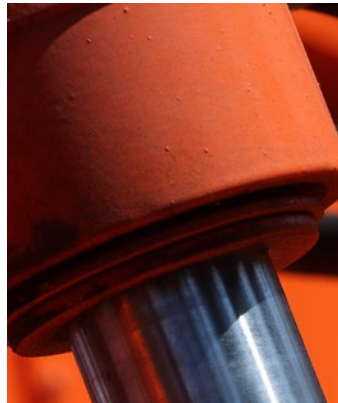
2 meter: **949045L2M**
5 meter: **949045L5M**
10 meter: **949045L10M**



Right Angle Connector

Power Cable M12-A Right Angle to flying leads – Shielded

2 meter: **949046L2M**
5 meter: **949046L5M**
10 meter: **949046L10M**



ametefactoryautomation.com



1080 N. Crooks Road, Clawson, Michigan 48017
©2017 AMETEK STC

No part of this document may be reproduced or modified in any form or by any means, electronic or mechanical, without express written permission from AMETEK Incorporated.