

AMETEK[®]
PATRIOT SENSORS

Series 2120

Gemco[™]
PLC Encoder Module

**For Accurate
Positioning Data
In Harsh Industrial
Environments...**

**The Only Answer
Is The Series
2120 PLC
Encoder Module**



You pick the input... You pick the output... We'll deliver absolute, instrument grade position

Nobody understands position sensing in harsh environments like we do.

Problem: In harsh, noisy environments encoders mounted on machines can experience mechanical failures and inconsistent signal transmission because of ambient electrical noise invading the signal.

Solution: Place rugged Gemco transducers (resolver or LDT) at the machine and transmit a noise immune position signal to a safe location up to 3,000 feet away. At that location, the signal is converted by our Series 2120 PLC Encoder Module to either Binary, BCD, Gray code or analog outputs for use by your PLC. We just described the Gemco Series 2120 PLC Encoder Module system in two sentences. Following is the long version...

the features of the Series 1994 in one encoder module with added features our customers wanted.

Customer: "My encoder modules have to survive any conditions."

Series 2120 is the only encoder module featuring an all metal housing.

Customer: "I need a smaller module footprint for easier mounting."

Series 2120 is a full 2 inches shorter in depth than the Series 1994 models.

Customer: "I want to program all functions from the face plate."

Series 2120 allows you the program scale factors, digital and analog outputs, machine offset, over travel limits, reset to preset values and more from the face plate.

Customer: "I must have power supply flexibility in a single unit."



The Series 2120 PLC Encoder Module



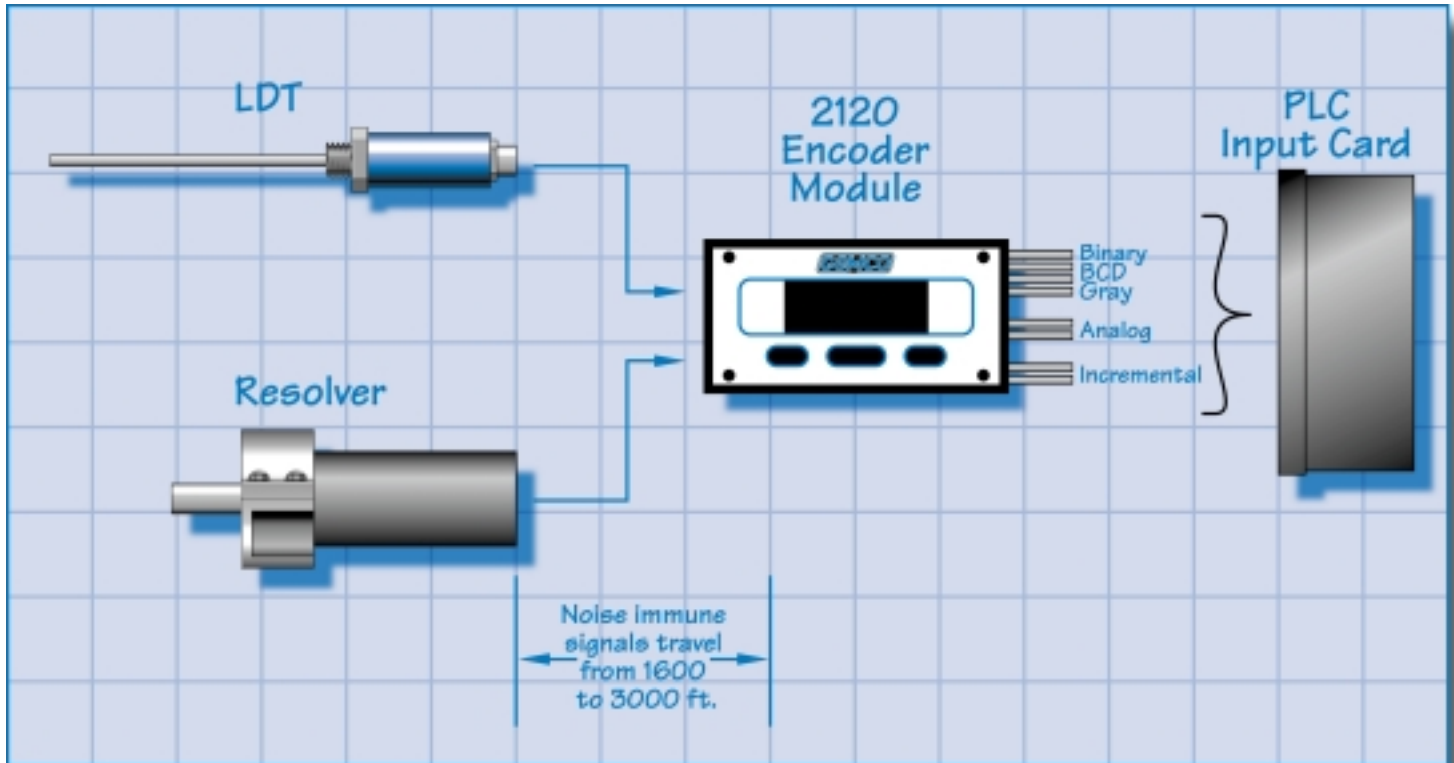
This product is an accurate, absolute position sensing device for use with rugged, noise immune transducers in harsh environments. They can be used as simple indicators of position or as a PLC encoder module generating digital signals, as well as serial and analog outputs to feed PLCs. The Series 2120 PLC Encoder Module improves on our popular Series 1994R and 1994L PLC Encoder Modules. In fact, the Series 2120 combines all

Series 2120 has an automatic switching power supply that accepts 85 to 265 VAC, 50/60 Hz.

Customer: "I am pushing for plant standardization. I want one module for monitoring rotary or linear position."

Series 2120 delivers all inputs and outputs from one unit.

Position signals to your PLC.



Customer: “I have to be able to feed position data to my plant network computers.”

Series 2120 features standard RS232/485 communication ports.

Other Field Selectable Programming Features:

- Binary, BCD or Gray codes selectable from the face plate.
- Scale factor in any engineering units to customize outputs.
- Electronic Offset to synchronize the outputs and display to known machine positions.
- Single Turn Resolver with 14 bit (16,384) resolution.
- Turns Counting software eliminates the need for gear reducers. 14 bit resolution per turn while electronically counting the turns.
- Incremental quadrature outputs of position or velocity with field selectable pulses per revolution.
- Latch or Handshake inputs to provide a stable signal for PLC read.
- Reset to Preset input automatically compensates for machine or process slippage, or to I.D. the leading edge of a product in the process.

- Read in either inch (0.001”) or millimeter (0.01mm) for LDT based units.
- Fault Detection Relay is used to monitor fault conditions in our system. You can program this relay to also monitor fault conditions in your drive mechanism.
- Optional Analog Output Board provides two simultaneous voltage or current outputs of velocity and/or position that are scaleable over any portion of the transducer’s operating range.
- Optional Relay Output Board provides two 8 amp mechanical relay outputs that are programmable over any portion of the transducer’s operating range.

Series 2120 PLC Encoder Module Applications

- Material Handling
- Assembly Machines
- Packaging Machines
- Press Automation Systems
- Robotic Applications
- Injection Molding Machines
- Steel Mill Equipment

Series 2120 PLC Encoder Module

Specifications

Power Requirements:	85-265 VAC 50/60 Hz; internally fused at 1.5 Amps
Temperature:	Operating: 32° to 131° F; Storage: 0° to 150° F
Environment:	Humidity: 5% to 95%; Non-condensing
Shock & Vibration:	Tested to MIL-Std 810E, Method 514.4, Category 10, 20-2K Hz, 2G sine, 0.04 G ² /Hz random, UL 491, 5A 19, 10-150 Hz, 10G sine
Electromagnetic Compatibility:	Tested to: IEC 801-2, Level 5 (electrostatic discharge requirements); IEC 801-4, Level 4 (Electrical fast transient/burst requirements); IEC 801-5, Level 3.5 (Surge immunity requirements)
Digital Outputs:	TTL/CMOS @ 24 mA, 24V sinking/sourcing @ 200 mA; Update time: 50µS
Analog Outputs:	+/- 10 VDC into 2K ohm; 4/20 mA (sourcing) into 500 ohm; Update time: 5mS
Memory Retention Time:	Maintains last programmed values to ten years without power
Relay Contact Ratings:	All relays rated UL & CSA for 1/4 HP, 125 to 250 VAC; 8A 250 VAC, 30 VDC, Shock Resistant to 10G
Movement Input:	85 - 265 VAC, 12 mA (rms) max; optical isolated to 3200 VDC/2250 VAC
Program Mode Key Input:	Dry contact; Open collector (drain) ONLY; +5 VDC Max.–current 0.2 mA
RS232 Output:	115.2 K baud
RS485 Output:	115.2 K baud

Rugged Transducer Products



Series 951 LDT, 952 BlueOx™ LDT (not pictured) and 950 MD Mill-Duty Housings



Series 1986 Standard Resolver Packages
Gemco is a trademark of Patriot Sensors & Controls Corporation.

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PATRIOT SENSORS

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