PYRAGON, INC.

900F-P Square Root Extractor

Power	120 VAC or 24VDC, +/-10%
Operating Temp	0-50 C (32-122 F)
Relative Humidity	0-95% RH
Input Signal	4-20 Ma
Output Signal	4-20 mA
Max Output Load	1500 ohms
Seismic Approval	Category B
Transient Immunity	OH A28M-1982 1000 Vpeak
RFI Immunity	OH C5047-77
Accuracy	+/- 0.25%
Drift	Short term +/- 0.05% LongTerm +/- 0.1%
Isolation	1000 vac, input vs output vs power

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The 900F-P was developed as a replacement for the Transmation model 900F Square Root Extractor. This design uses an alternate bulkhead mounting approach that is different than the original Transmation design. However there is an optional adapter plate that can be used to match the original mounting dimensions.

This unit reads the analog signal from a differential pressure transmitter measuring the pressure drop across an orifice plate and calculates an analog output signal that is linearly proportional to the flow rate.

The new unit uses an EPROM with a look up table which contains the calculated square root values. The values in the EPROM are accessed using an A/D and D/A on the circuit board. Using this approach means the design does not have any embedded software.

The new 900F-P has several performance enhancements. The 900F-P has 3 way input-output-power isolation. It has an electrical transient protection circuit on the input and output signal lines as well as the power line. The power supply is a very efficient switching power supply which uses only one electrolytic capacitor as compared to the original unit which had a linear supply with multiple electrolytic capacitors. Additionally the circuit is designed with a low temperature coefficient giving the unit good long term stability requiring reduced calibration maintenance.