

Models 4900, 4901 and 4902 DC Transmitters

Features

- 0 to +10V Input and 4-20mA Output
4-20mA Input and 0 to +10V Output
0 to +10V Input and +1 to +5 Output
- 1500 Volts RMS of CMV Isolation
- Factory Calibrated for Accuracy of $\pm 0.1\%$
- Operates from 115VAC 50/60Hz or 230VAC
- Rugged Epoxy Encapsulated Design

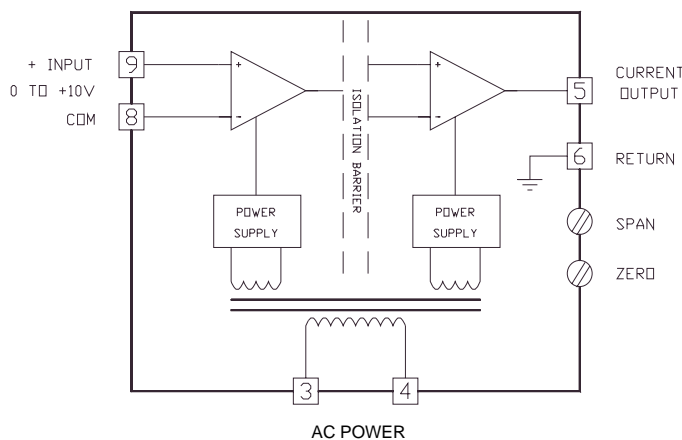
Description

The CALEX 4900 series Transmitters isolate the input from the output and the power line. These units are ideal for eliminating ground loops and common mode signals. For the 4901, which converts 4-20 mA to 0 to 10V, the input resistance is less than 50 ohms generating less than 1 Volt loop voltage at 20mA loop current. For all models, the 400Hz frequency response provides a settling time of less than 0.003 seconds to 0.1% which will prevent signal degradation. Power line related noise is less than 0.03% P-P of the span.

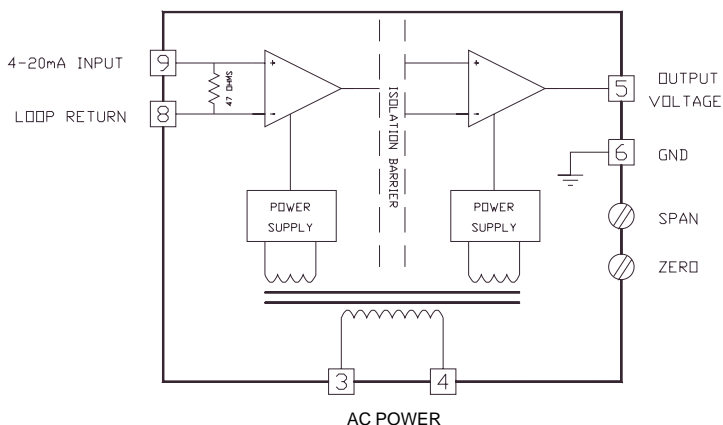
The 4900 Isolators are factory calibrated for accuracy of 0.1% of span. ZERO and SPAN potentiometer access is provided for field fine tuning if required. With the 4901, these adjustments are easily made by supplying a known 4mA input current and adjusting the ZERO potentiometer for zero Volts output. The span is then adjusted for +10 Volts output with a full scale input of 20mA. This procedure should be repeated due to some interaction between the adjustments. The Model 4901 output will go to a negative 2.5 Volts with zero input current, providing a positive indication of the current loop integrity. The 4900 is adjusted by first shorting the inputs together, pins 8 and 9, adjusting the ZERO for 4mA output. Then apply 10 Volts to the input and adjust the SPAN for 20mA output.

These models are completely encapsulated for use in rugged environments. They are similarly protected against shock and vibration for years of reliable and accurate operation. All connections are easily made to conveniently located barrier strips. The 4900 series operates on 115 Volts 50/60 Hz and is available for 230 Volt line operation.

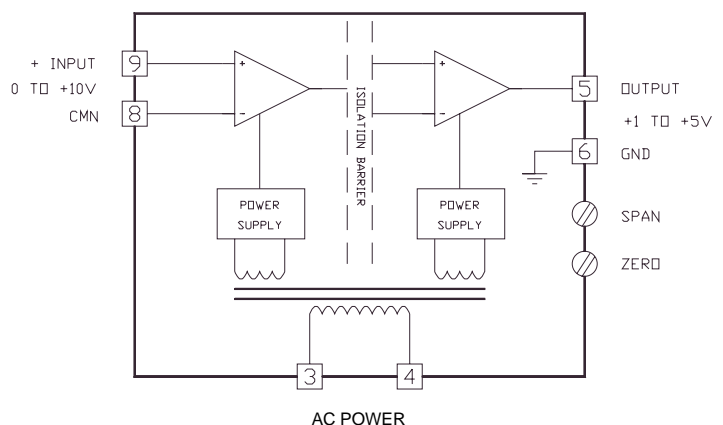
Model 4900 Block Diagram



Model 4901 Block Diagram



Model 4902 Block Diagram

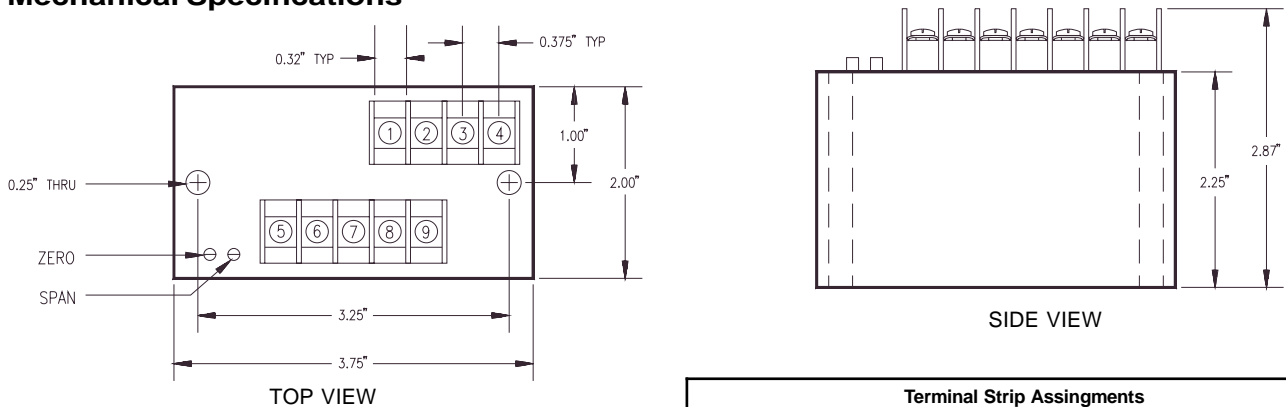


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4900 Series Specifications

Specifications	4900	4901	4902
Input	0 to +10V	4 to 20mA	0 to +10V
Output	4 to 20 mA	0 to +10V	+1 to +5V
Loop Resistance	Zero to 1000 ohms	n/a	
Loop Compliance Voltage	20 Volts maximum		
Load Resistance	n/a	2000 ohms minimum	
Load Capacitance		0.01µF maximum	
Isolation	1500V RMS 50/60 Hz		
Capacitance	30 pF typical		
Line to Input or Output	30 pF typical		
Input to Output	80 pF typical		
Accuracy	±0.1% of span maximum		
@ 23° ±3°C			
Nonlinearity	±0.05% of span		
Temperature Stability	0° to 55°C		
Span	±35 ppm/°C typical		
Zero	±50 ppm/°C of span typical 1µA/°C	±35ppm/°C of span typical	
Input Resistance	10 megohms minimum	47.6 ±0.3% ohms	10 megohms minimum
Input Current Maximum	7 nA	70mA No Damage	7 nA
Response			
3dB Bandwidth	400Hz typical		
Rise Time 10% to 90%	0.9 ms typical		
Settling Time to 0.1%	Less than 3 ms		
Noise	Less than 0.01% RMS of span		
0.1 Hz to 400Hz			
CMRR	100dB typical		
50/60Hz			
Power Requirement	105 to 125 VAC 50/60 Hz 3.2 VA 230 Volt Option Available	105 to 125 VAC 50/60 Hz 2.5 VA 230 Volt Option Available	
Temperature Range			
Operating	-20° to +70°C		
Storage	-20° to +85°C		
Size	3.75" L x 2" W x 2.87" H		
Weight	19 oz		

Mechanical Specifications



Terminal Strip Assignments							
Screw Terminal	4900	4901	4902	Screw Terminal	4900	4901	4902
	Function				Function		
1	N/C	N/C	N/C	5	OUTPUT I	OUTPUT	OUTPUT
2	N/C	N/C	N/C	6	RETURN	GND	GND
3	AC	AC	AC	7	N/C	N/C	N/C
4	AC	AC	AC	8	CMN	RETURN	CMN
				9	+ INPUT	INPUT I	+ INPUT