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Multiplier and Divider Card

Model D11005-000

Model D11005-000 Multiplier and Divider Card is designed for applications where the multiplication or division of DC voltage signals is required. The D11005-000 has two isolated input channels which are also isolated from the output. Each input signal is conditioned by scaling circuits which can be modified via onboard multi-turn OFFSET, GAIN and BIAS Potentiometers. The final output after the multiplication or division stage can also be modified by OFFSET, GAIN and BIAS Potentiometers.

Terminal strip connections are provided for a Trim Potentiometer, 2 Auxiliary Inputs, Summing Input and Meter Output. A single turn TRIM RANGE adjustment is provided to limit the range of the external Trim Potentiometer. A METER RANGE adjustment is provided to limit the range of the meter output. The Output Circuit can be configured to source either a voltage or a current. Typical output ranges are -10 to +10 VDC, 0 to 20mADC, or 4 to 20mADC.

Standard Features

- Operates from 115VAC Input
- Two isolated input channels
- A and B voltage inputs to A precision multiplier/divider circuit
- Can be configured for multiplication or division
- Depluggable Terminals
- Voltage input (A & B channels): 10mV to 250VDC
- 20 turn pots for critical calibration adjustments
- Scalable meter output
- Summing inputs at both inputs & output
- Terminals provided for optional Trim Pot

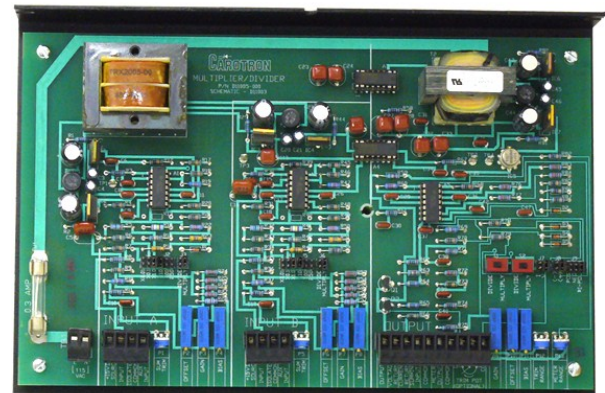
Specifications

A.C. INPUT

- 115 VAC 50/60 Hz, internally fused at 0.3 AMPS

ISOLATION VOLTAGE

- 2400V peak at 1 second or 1500 VRMS



LINEARITY

- $\pm 0.5\%$ of 10 VDC span

SIGNAL INPUTS

- **Potentiometer Input (Input A & B)**
+15 VDC available to source a 2K to 10K Ohm potentiometer. The 10 VDC input range should be selected for this type of input.
- **Voltage Input (Input A & B)**
7 selectable ranges with 100K to Ohm input impedance.

Input Range	Input Impedance
-100 mVDC to +100 mVDC	100K
-1 VDC to +1 VDC	1M
-2.5 VDC to +2.5 VDC	100K
-10 VDC to +10 VDC	10M
-2.5 VDC to +2.5 VDC	1M
-100 VDC to +100 VDC	10M
-250 VDC to +250 VDC	10M

Note: Negative input voltages cannot be used at Input A when the D11005-000 is used in the Divide Mode of Operation.

INPUT TYPES

• Auxiliary Input A

This allows a fixed or variable signal (-10 VDC to +10 VDC) to be summed directly with the scaled input signal at Input A. Isolation is maintained from the Auxiliary Input A to Input B signals and the Output.

• Auxiliary Input B

This allows a fixed or variable signal (-10 VDC to +10 VDC) to be summed directly with the scaled input signal at Input B. Isolation is maintained from the Auxiliary Input B to Input A signals and the Output.

• Summing Input

This input allows a fixed or variable signal (-10 VDC to +10 VDC) to be summed directly with the output. Isolation is not maintained between the summing input and the output.

OUTPUT TYPES

• Voltage Output

This circuit allows the output to source a voltage level into a minimum resistance of 500 OHMS. (Lower load resistance may affect output linearity.)

• Current Output

This circuit allows the output to source a regulated current of up to 20mA into a maximum resistance of 500 OHMS. Using the BIAS Potentiometer, the output can source a 4-20mA signal.

• Meter Output

This output can be used to source a voltage level to a meter with a minimum 2K internal resistance. Its range can be set by the METER RANGE Potentiometer.

Formulas

Multiplication: $\frac{\text{Scaled Input A (0-10 VDC)} \times \text{Scaled Input B (0-10 VDC)}}{10 \text{ VDC}} = \text{OUTPUT}$

Division: $\frac{\text{Scaled Input B (0-1 VDC)}}{\text{Scaled Input A (0-10 VDC)}} \times 10 \text{ VDC} = \text{OUTPUT}$

Application Example

Center Winder

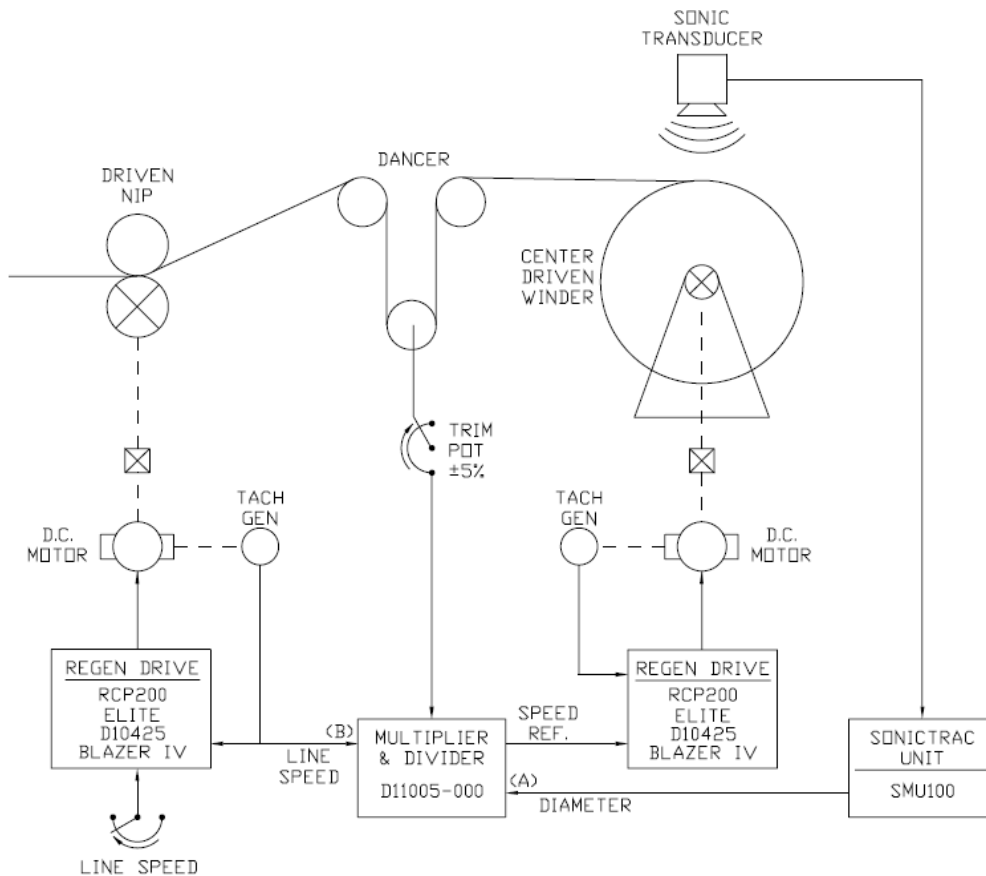


Fig. C.21

Dimensions

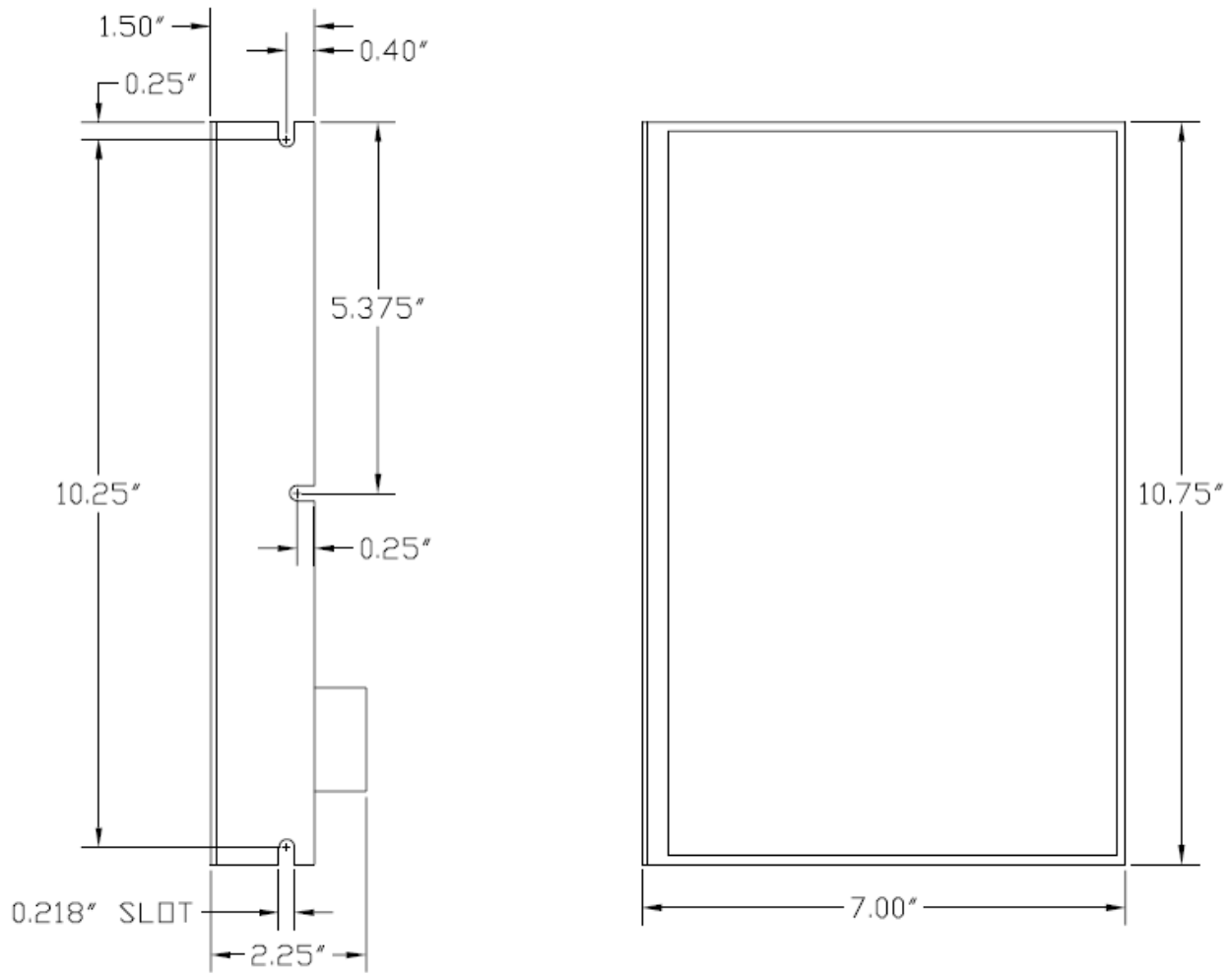


Fig. C.22

Connections

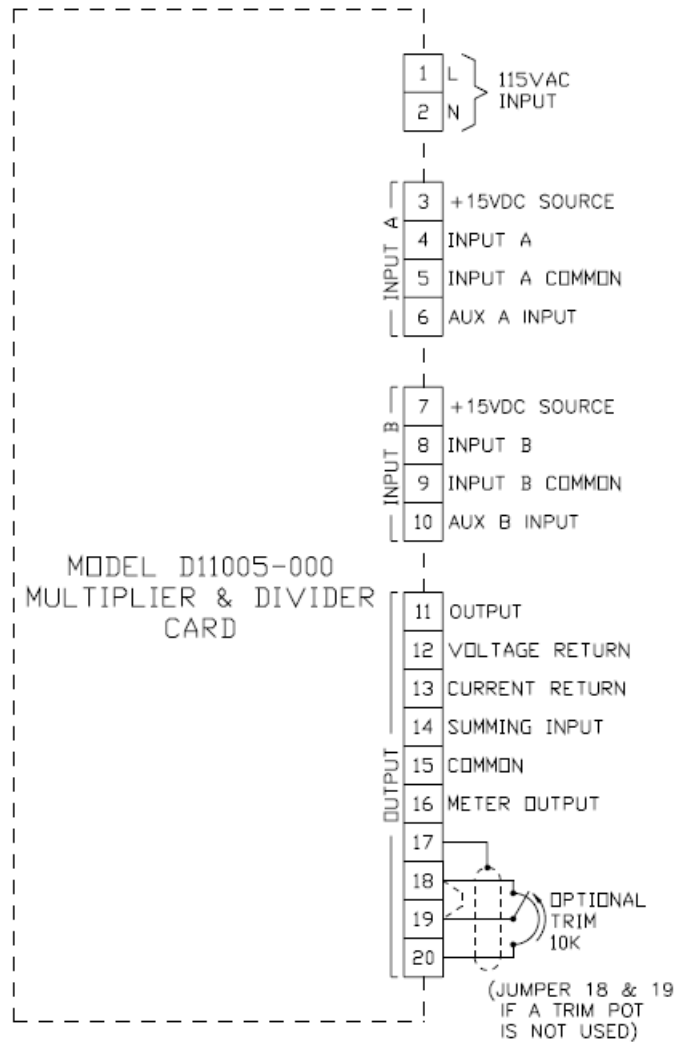


Fig. C.23

Multiplier and Divider Card Model D11005-000

View or download the complete D11005-000 Instruction Manual (MAN 1023-00) from www.carotron.com.



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