

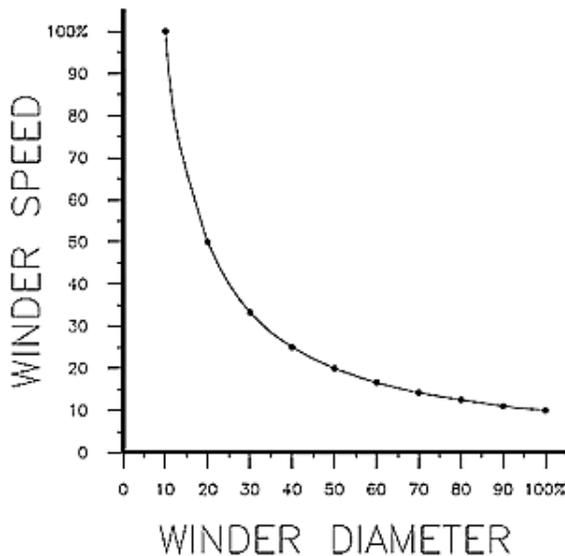


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Divider Module

Model DIV280-000

A problem encountered in center driven takeup and letoff velocity mode applications is the nonlinear relationship between the diameter of a roll and the motor speed required to maintain constant surface speed of the roll during diameter increase or decrease. A plot of this relationship shows a hyperbolic curve.



When the line speed and roll diameter values are known, the required roll speed can be calculated (i.e. Roll Speed = Line Speed/Roll Diameter). The material surface speed on a takeup or letoff would be held constant during roll diameter changes. Furthermore, in torque applications, the torque required to maintain constant tension is proportional to roll diameter. When the line speed and roll rotational speed values are known, the required torque can be calculated (i.e. Roll Diameter = Line Speed/Roll Speed). The tension applied to the material on a takeup or letoff would be held constant during roll diameter changes.

Model DIV280-000 is designed for the above industrial applications where the division of DC voltage signals is required to produce the non-linear plot. The module has two voltage inputs



(X & Y). Each voltage input has an associated Teach terminal that can be used to calibrate the minimum and maximum input levels. The output is based on the following formula:

$$Output = \frac{InputX}{InputY \times BuildRatio}$$

Multiturn GAIN, BIAS, BUILD RATIO, and Y TRIM RANGE potentiometers are used to calibrate the DIV280-000 module. An internal jumper allows selection of a voltage or current output. Onboard EEPROM is used to backup and retain the calibration values during a power loss.

Electrical Specifications

D.C. Power Input

- 24 VDC $\pm 10\%$, 60mA max, internally fused

+10VDC Reference Output

- 10mA max

X & Y Inputs

- Range: 0-10VDC
- Input Impedance: $10^{12} \Omega$

Potentiometers

- Turns: 15

Temperature Range

- 0-55° C

Signal Output

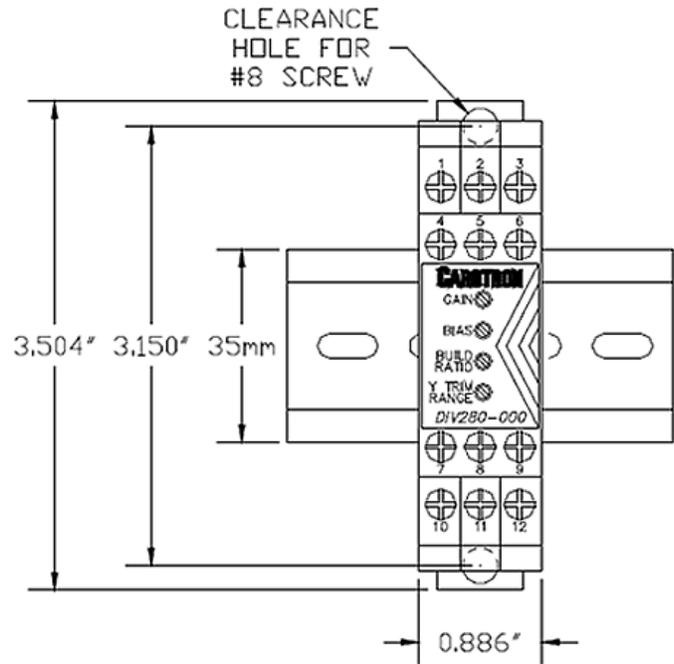
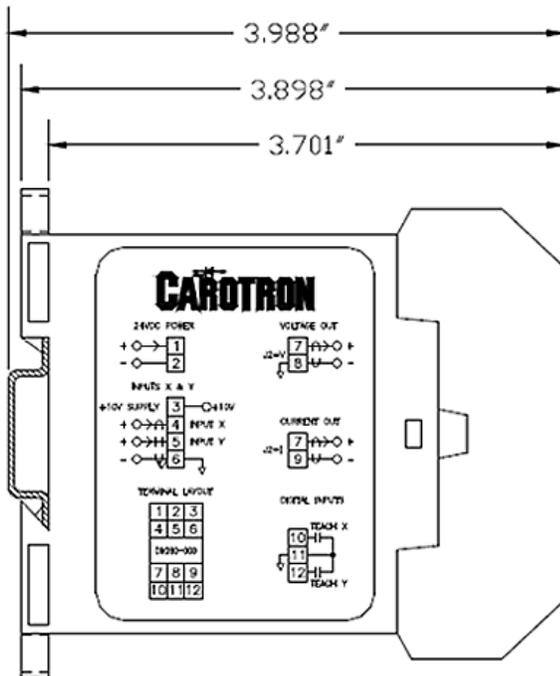
• Voltage Output

Selected by position V on J2. This circuit allows the output to source a voltage level of up to +10 VDC into a minimum resistance of 600 Ohms. If resistance is too low, output linearity may be affected.

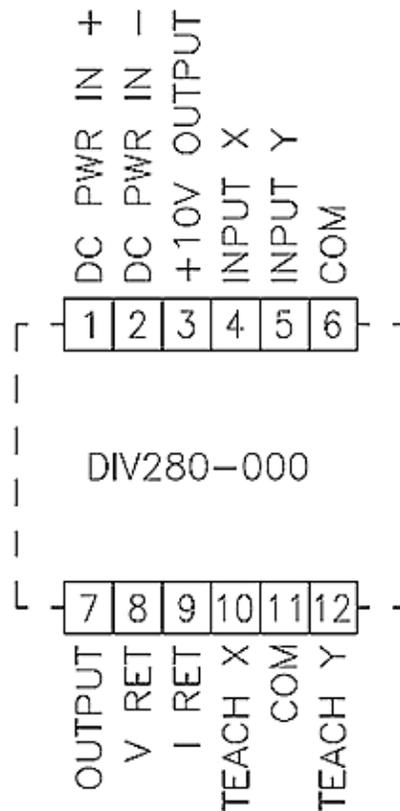
• Current Output

Selected by position I on J2. This circuit allows the output to source a regulated current up to 20mA into a maximum resistance of 500 Ohms. Using the BIAS pot, the output can source a 4 to 20mA signal.

Physical Dimensions



General Connections



Divider Module DIV280-000

Physical Specifications
 3.504" H x 0.886" W x 3.898" D
 Shipping Weight: 2 lbs.

View or download the complete Divider Module Instruction Manual (1060-0A) from www.carotron.com.



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