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# MicroManager

## Center Reference Generator

### Model MM3000-CRG

The MicroManager 3000 series is a microprocessor based system controller designed to handle a wide range of industrial applications. The simple user interface allows high level microprocessor control of an application but without the need of a computer for configuration.

Model MM3000-CRG (Center Reference Generator) is designed for velocity mode winding applications and for torque mode winding/unwinding applications.

In the velocity mode, the winder sets/controls the line speed. This is typically accomplished by using a potentiometer input to the MicroManager to set the desired line speed. The MicroManager calculates the required center driven take-up speed to maintain the desired line speed.

The MM3000-CRG can also be used on torque mode winders and unwinders (brake and driven). The CRG unit is ideal for use on applications that require more precise torque control than torque taper schemes, but less than full-featured CTCW (constant tension center wind) control methods (such as Carotron's *Cortex LT*®).

The Modbus RS485 communications port allows for all parameters to be read and for selected parameters to be changed. Limited programming capability is also available.

### Operational Modes

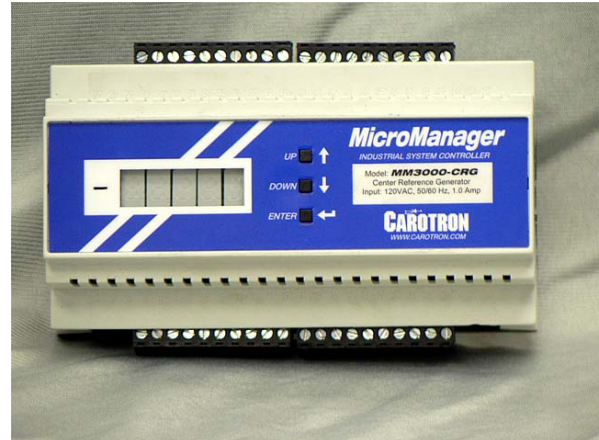
For winders, the MicroManager can operate with a drive in either the velocity or torque mode. For unwinders, the MicroManager can operate with a brake or drive in the torque mode. The MicroManager provides four methods for obtaining the roll diameter:

- 1: External Signal (Velocity or Torque Mode)
- 2: Count Roll Revolutions (Velocity or Torque Mode)
- 3: Count Line Speed Pulses (Velocity or Torque Mode)
- 4: Line Speed & Roll Speed (Torque Mode Only)

### Electrical Specifications

#### A.C. Input Voltage Range - Single Phase

- 115 VAC  $\pm$  10%, 50/60 Hz  $\pm$  2 Hz
- Fused internally



#### Power Supply Output

- +12V regulated, 70mA max.

#### Digital Inputs (4 Total)

- Selectable Sinking or Sourcing Logic
- $V_{il}$ =+10.5 VDC min to +12.0 VDC max
- $V_{ih}$ =0.0 VDC min to +8.5 VDC max

#### Analog Inputs (2 Total)

- 10 bit resolution (over-sampled to achieve 12 bit)
- Voltage Range: 0 to +12 VDC
- Input Impedance: 240k $\Omega$

#### Frequency Inputs (1 Total)

- Frequency: 42kHz max, square wave (sink or src)
- Voltage: +12 VDC max  
 $V_{il}$ =0.0 VDC min to +1.5 VDC max  
 $V_{ih}$ =+2.5 VDC min to +12.0 VDC max

#### Digital Outputs (2 Total)

- Open collector (sinking output)
- 100ma max, 30VDC max

#### Analog Outputs (3 Total)

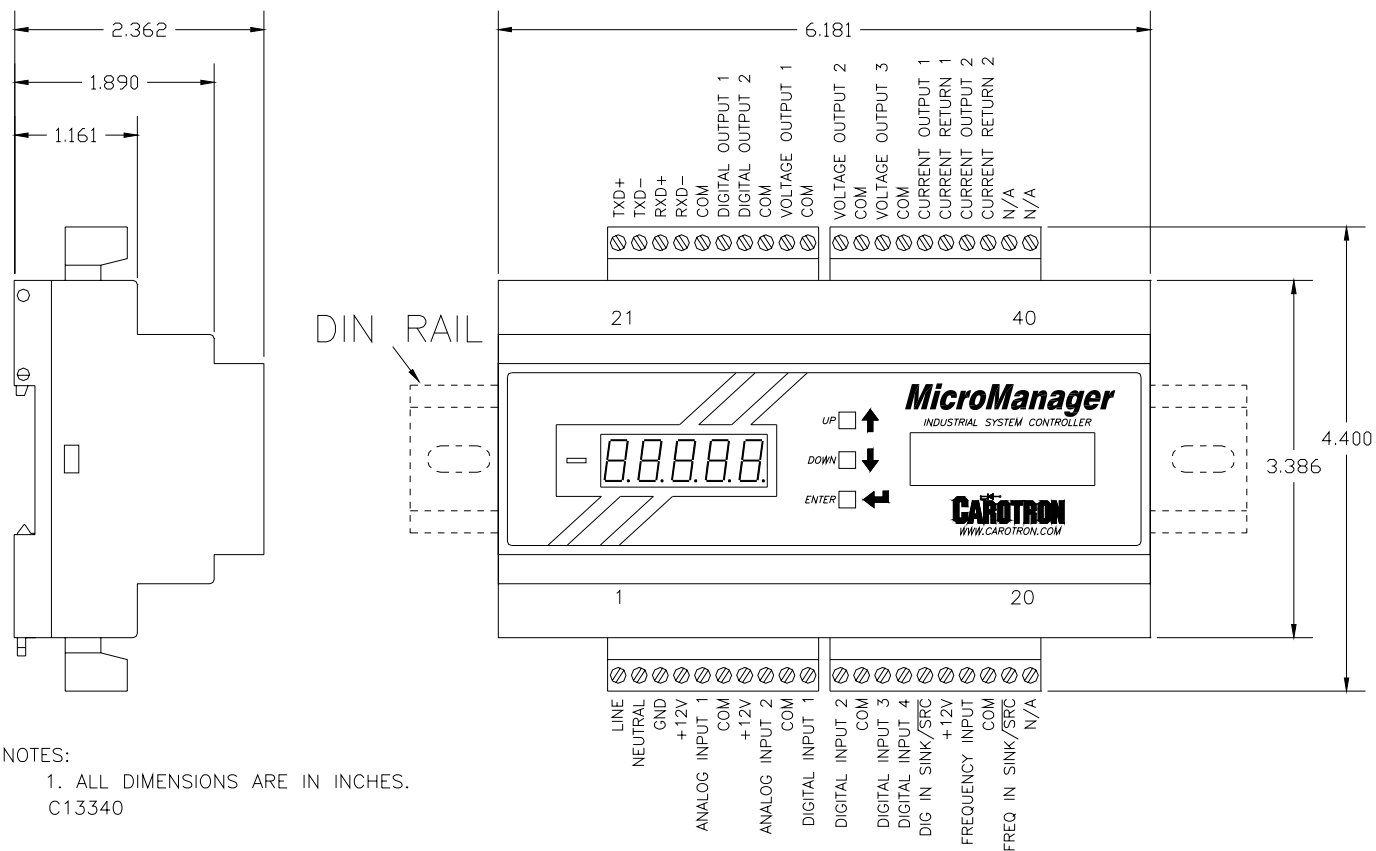
- Outputs 1 & 2:  
12 bits, voltage 0 to +10 VDC max,  
or current 0 to +20 mADC max
- Output 3:  
10 bits, voltage only 0 to + 5 VDC max
- Output with respect to roll diameter is linear in Torque Mode and hyperbolic in Velocity Mode

#### Communications

- Modbus RTU RS485 Multidrop (2 or 4 wire)

#### Temperature Range

- Chassis: 0-55°C



NOTES:  
 1. ALL DIMENSIONS ARE IN INCHES.  
 C13340

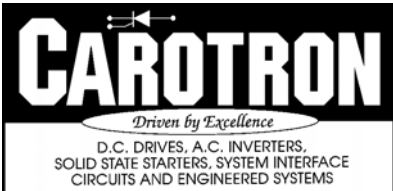
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## Physical Specifications

4.400"H x 6.181W x 2.362"D

Shipping Weight: 2 lbs.

View or download the complete MicroManager Instruction Manual (MAN1048-0X) from [www.carotron.com](http://www.carotron.com).



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