CAROTRON
Driven by Excellence
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MicroManager

PID Dancer/Loadcell Control

Model MM3000-PID

The MicroManager 3000 series is a microprocessor based industrial 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-PID (Proportional-Integral-Derivative) is designed for velocity mode applications that use dancers or amplified loadcells. In addition, the unit can also be used as a generic PID controller.

In winding/unwinding applications, the MM3000-PID also uses internal algorithms to determine the required center driven speed based on roll diameter.

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.

Pre-Defined Configurations

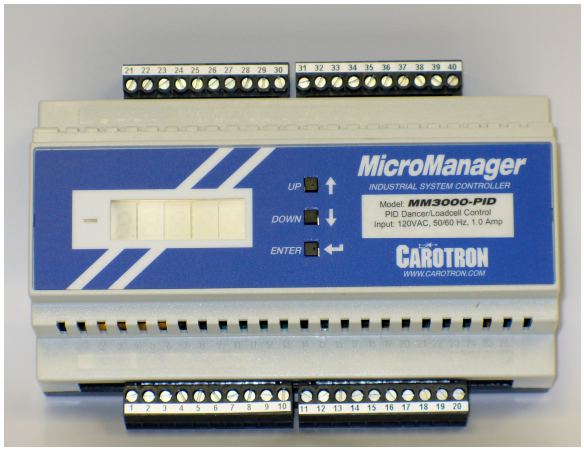
The MM3000-PID has 11 predefined quick start configurations that can be loaded by entering a single parameter. There a five dancer configurations and five loadcell configurations. Also available is a generic PID configuration. Determine the configuration that best matches your application. Then proceed to the adjustment procedure for the configuration that you have chosen.

If using on a winder or unwinder application, determine the method of roll diameter calculation that will be used. The MicroManager provides three methods for obtaining the roll diameter. Each method is described in detail in the Instruction Manual.

In dancer applications, the weight of the dancer roll determines the amount of material tension. Thus, tension is changed by adding or removing weights to the dancer. In more advanced systems, air pressure is used to adjust the force of the dancer. On winder controls with air loaded dancers, the MicroManager can provide a taper tension output signal. This signal can be used with an E/P (Voltage to Pressure) transducer to allow the material tension to be tapered (decreased) as the diameter builds.

Electrical Specifications

A.C. Input Voltage Range - Single Phase
- 115 VAC ± 10%, 50/60 Hz ± 2 Hz
- Fused internally



Power Supply Output
- +12V regulated, 70mA max.

Digital Inputs (4 Total)
- Selectable Sinking or Sourcing Logic
- Vil=+10.5 VDC min to +12.0 VDC max
- Vih=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: 240kΩ

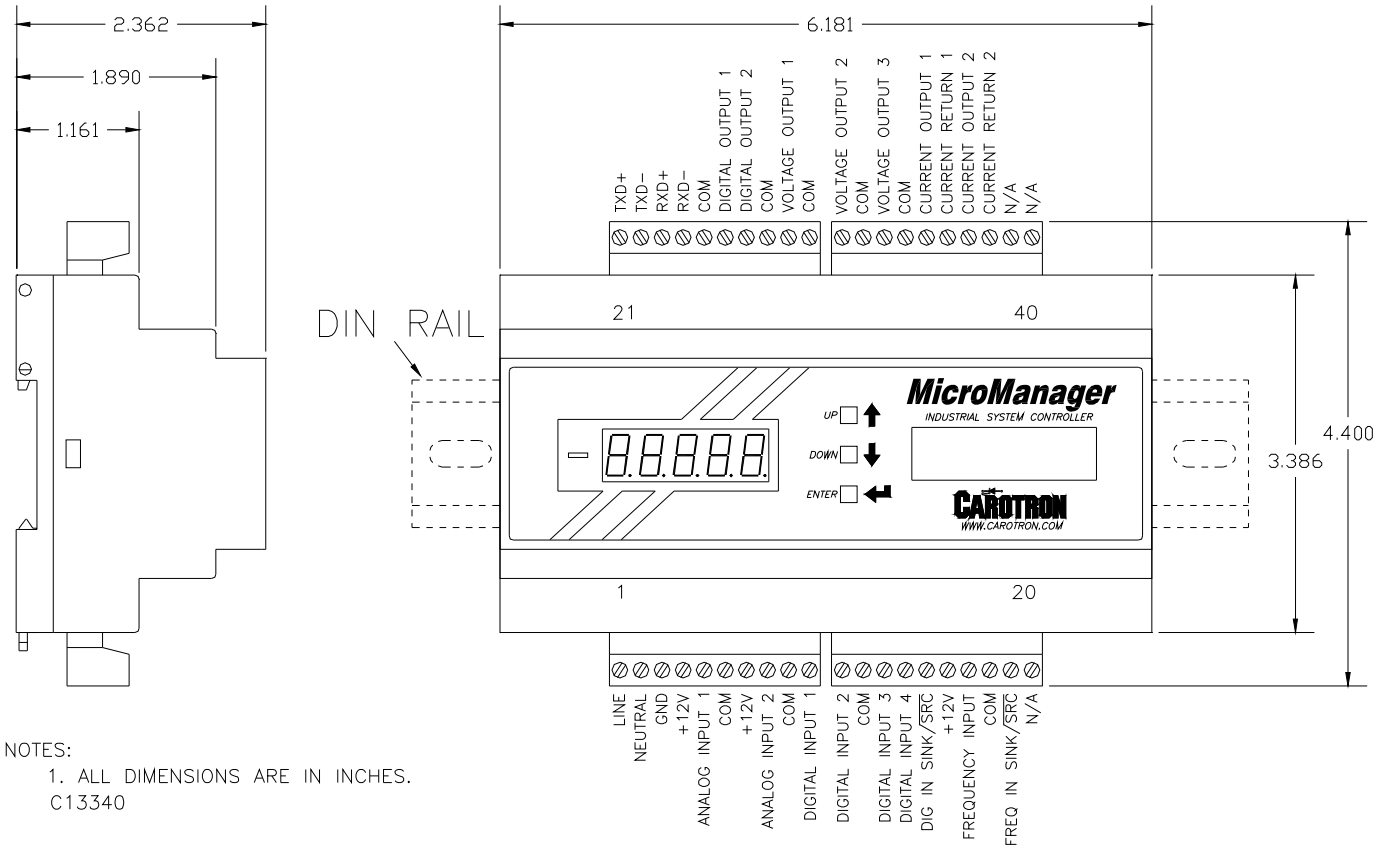
Frequency Inputs (1 Total)
- Frequency: 42kHz max, square wave (sink or source)
- Voltage: +12 VDC max
  Vil=0.0 VDC min to +1.5 VDC max
  Vih=+2.5 VDC min to +12.0 VDC max

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

MicroManager MM3000-PID

Physical Specifications

4.400”H x 6.181W x 2.362”D

Shipping Weight: 2 lbs.

View or download the complete MicroManager Instruction Manual (MAN1048-1X) from www.carotron.com .

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D.C. DRIVES, A.C. INVERTERS,
SOLID STATE STARTERS, SYSTEM INTERFACE
CIRCUITS AND ENGINEERED SYSTEMS

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