CAROTRON
Driven by Excellence

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MicroManager
CTCW/Loadcell Control
Model MM3000-CTCW

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-CTCW (Constant Tension Center Winder) is designed for use with a torque mode drive to provide constant tension or taper tension control of a center driven winder. Web tension is regulated by controlling motor torque through varying levels of material roll diameter, line speed, and line acceleration. These diameter, friction, and inertia compensating torque signals can also be used with an optional amplified loadcell feedback signal to provide closed loop tension control.

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-CTCW has 12 predefined quick start configurations that can be loaded by setting P3 to the value listed in the table below. There are seven open loop configurations (no loadcell) and five closed loop loadcell configurations. Determine the configuration that best matches your application. Then proceed to the adjustment for the configuration that you have chosen.

| Diameter Method	No Loadcell	Load-cell
External	1-2	8
Roll Revs	3	9
Line Revs	4	10
Line & Roll Speeds	5-7	11-12

Table 1: Pre-defined Configurations

Determine the method of roll diameter calculation that will be used. The MicroManager provides four methods for obtaining the roll diameter. Each method is described in detail In the Instruction Manual.

Electrical Specifications

A.C. Input Voltage Range - Single Phase
- 115 VAC ± 10%, 50/60 Hz ± 2 Hz
- Fused internally
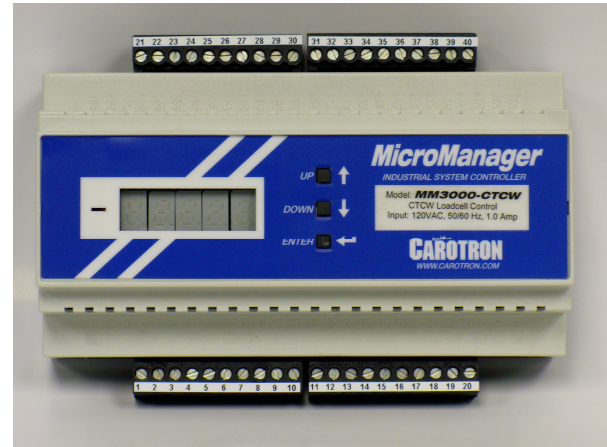
Power Supply Output
- +12V regulated, 70mA max.

Digital Inputs (4 Total)
- Selectable Sinking or Sourcing Logic
- 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: 240kΩ

Frequency Inputs (1 Total)
- Frequency: 42kHz max, square wave (sink or source)
- 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
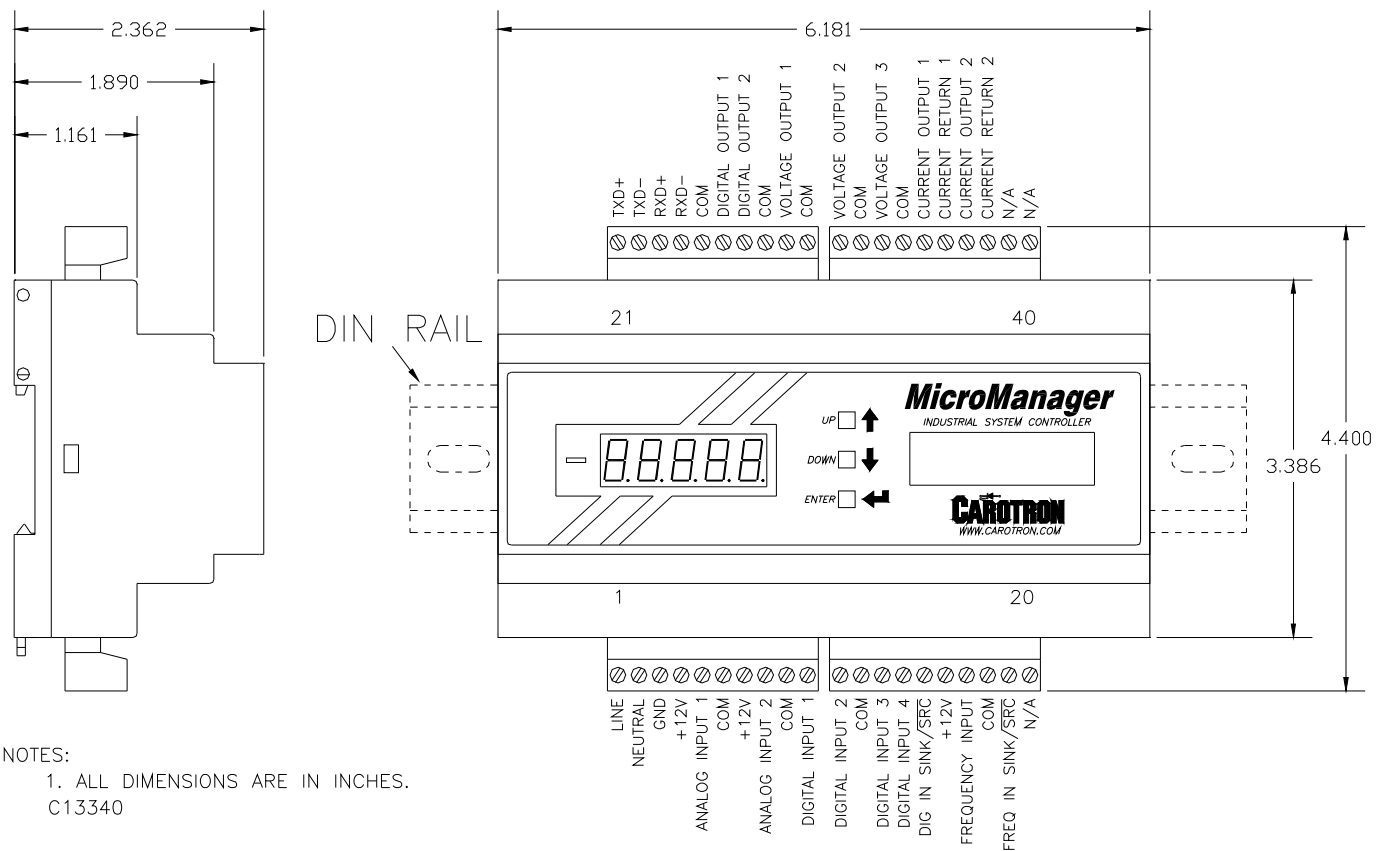
Analog Outputs (3 Total)
- Outputs 1 & 2:
    12 bits, voltage 0 to +10 VDC max,
    or current 0 to +20 mADC max
- Output 3:
    10 bits, voltage only 0 to + 5 VDC max
- Output with respect to roll diameter is linear in Torque Mode and hyperbolic in Velocity Mode

Communications
- Modbus RTU RS485 Multidrop (2 or 4 wire)

Temperature Range
- Chassis: 0-55°C

2.362
1.890
1.161

DIN RAIL

TXD+
TXD−
RXD+
RXD−
COM
DIGITAL OUTPUT 1
DIGITAL OUTPUT 2
COM
VOLTAGE OUTPUT 1
COM
VOLTAGE OUTPUT 2
COM
VOLTAGE OUTPUT 3
COM
CURRENT OUTPUT 1
CURRENT RETURN 1
CURRENT OUTPUT 2
CURRENT RETURN 2
N/A
N/A

21   40

MicroManager
INDUSTRIAL SYSTEM CONTROLLER

UP
DOWN
ENTER

CAROTRON
WWW.CAROTRON.COM

6.181

4.400
3.386

1   20

LINE
NEUTRAL
GND
+12V
ANALOG INPUT 1
COM
+12V
ANALOG INPUT 2
COM
DIGITAL INPUT 1
DIGITAL INPUT 2
COM
DIGITAL INPUT 3
DIGITAL INPUT 4
DIG IN SINK/SRC
+12V
FREQUENCY INPUT
COM
FREQ IN SINK/SRC
N/A

NOTES:
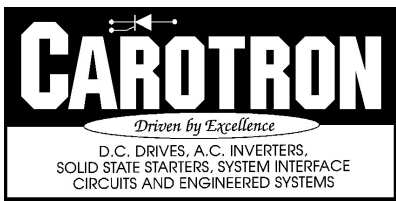1. ALL DIMENSIONS ARE IN INCHES.
C13340

MicroManager   MM3000-CTCW

Physical Specifications

4.400"H x 6.181W x 2.362"D

Shipping Weight: 2 lbs.

View or download the complete MicroManager Instruction Manual (MAN1048-2X) from www.carotron.com .

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