Oct. 18, 1991

TYPE 99A-DF
INSTALLATION & OPERATIONS MANUAL
MANUAL #115

Attachments A-4381 & A-4220

INSTALLATION

1. Disconnect power to any circuit(s) which you will be wiring to, or you may come in contact with.

2. Install the electrical enclosure to the wall by drilling through the 4 marked holes in the back.

3. Wire the input power, clock circuit and optional illumination circuit to the terminal strip, per attached Drawing A-4381, following your local and national electric codes.

4. Set the tower & system clocks to 12:00 noon.

5. Energize the clock system.
   NOTE: The clock control will be set to the proper local time and the system clock counter set to 12:00 noon by the factory. If not follow set:TIME & set:HANDS below.

6. LED display should read the correct time & date; if not, see how to set:TIME below.

7. Tower and system clocks should be advancing or stopped, or reading the correct time; if not, see how to set:HANDS below.

OPERATION

Unlock the control by pressing "*" & "1" at the same time. The display will then read "-unlock-" momentarily. After you have finished using the control, lock it by pressing "*" & "1" again, the display will then read "locked" momentarily.

Page through functions by pressing "*" key. Access funtion by pressing "#".

FUNCTION

set:TIME Enter the current time in the form HH:MM using the keypad, use "#" to alternate between "AM" and "PM", press "*" when done.
Note: when "*" is pressed, the clock second counter is reset to zero, i.e. 11:59:00.

set:DATE Enter the current date in the form MM/DD/YY. Then select the day using the "#" to scroll through the display, press "*" when done.
Note: it is important the day of the week is set properly for the daylight/standard time feature to work properly.

set:MODE Allows you to select if you wish seconds to be displayed on the LED display. Use the "#" to alternate between show min & show sec. Press "*" when complete.

set:EVENT Allows programmable "ON" & "OFF" times of the optional illumination circuit. Enter the time you desire the illumination to turn on, and the time you wish the illumination to turn off, following the steps for set:TIME above.
NOTE: This feature may be disabled or enabled, press "#" to alternate and "*" when complete.

man:EVENT Allow manual control of the event circuit. Press "#" to alternate between "event on" & "event off", press "*" when complete.

adv:CLK Allows manual advancing of the tower clocks. When selected advances the tower clocks, press "*" when complete.
Note: The internal tower clock counter is not updated when this feature is selected. Therefore set:HANDS must be always be done afterwards.

stop:CLK Allows manual stop of the tower clocks. When selected stops the tower clocks, press "*" when complete (be sure

to set:HANDS afterwards - see note above).

set:HANDS Allows you to enter the current position of the clock hands on the tower clock. When this function is selected by pressing "#", the tower clocks will stop. Enter the time using the keypad. If you make a mistake you must re-enter the time.

If you encounter any problems installing or programming this master clock please contact us;

Electric Time Company, Inc.
45 West Street
Medfield, MA 02052
Telephone 508/359-4396
FAX 508/359-4482

Configuration Settings (0 = no jumper, 1 = jumper in)

Jumper 1: (U16 pin 1 to pin 16)	Selects dual frequency
Jumper 2: (U16 pin 2 to pin 15)	Selects DST disabled
Jumper 3: (etc.)	Selects internal timekeeping (NOTE: this is a future option)
Jumper 4:	Use 12:00am sync pulse Minimum of 3/4 long
Jumper 5:	Selects split phase drive logic (NOTE: Jumper 1 must not be installed for correct 10x speed reset)
Jumper 6:	Select 50 Hertz Input

Note: when Jumper 4 is in Jumper 2 should also be in.

Jumper 7:	Display Blanks after 20 Seconds
Jumper 8:	Minute Impulse Through Stepper Board

Secondary Jumpers (Labeled on board)

Jumper 1	Changes Illumination Circuit Pins 7 and 8 from lighting circuit to hourly/12 hourly correction circuit **NOTE OUTPUT IS 115VOLTS AND EVENT CIRCUIT MUST BE DISABLED**
Jumper 2	Illumination relay becomes output for minute impulse system.

Shipping Weight is 18" x 18" x 9" (45.72cm x 45.72cm x 22.86cm) and weight is 13 (5.9kg) lbs.

Note: when Jumper 2 is in Jumper 8 should also be in.

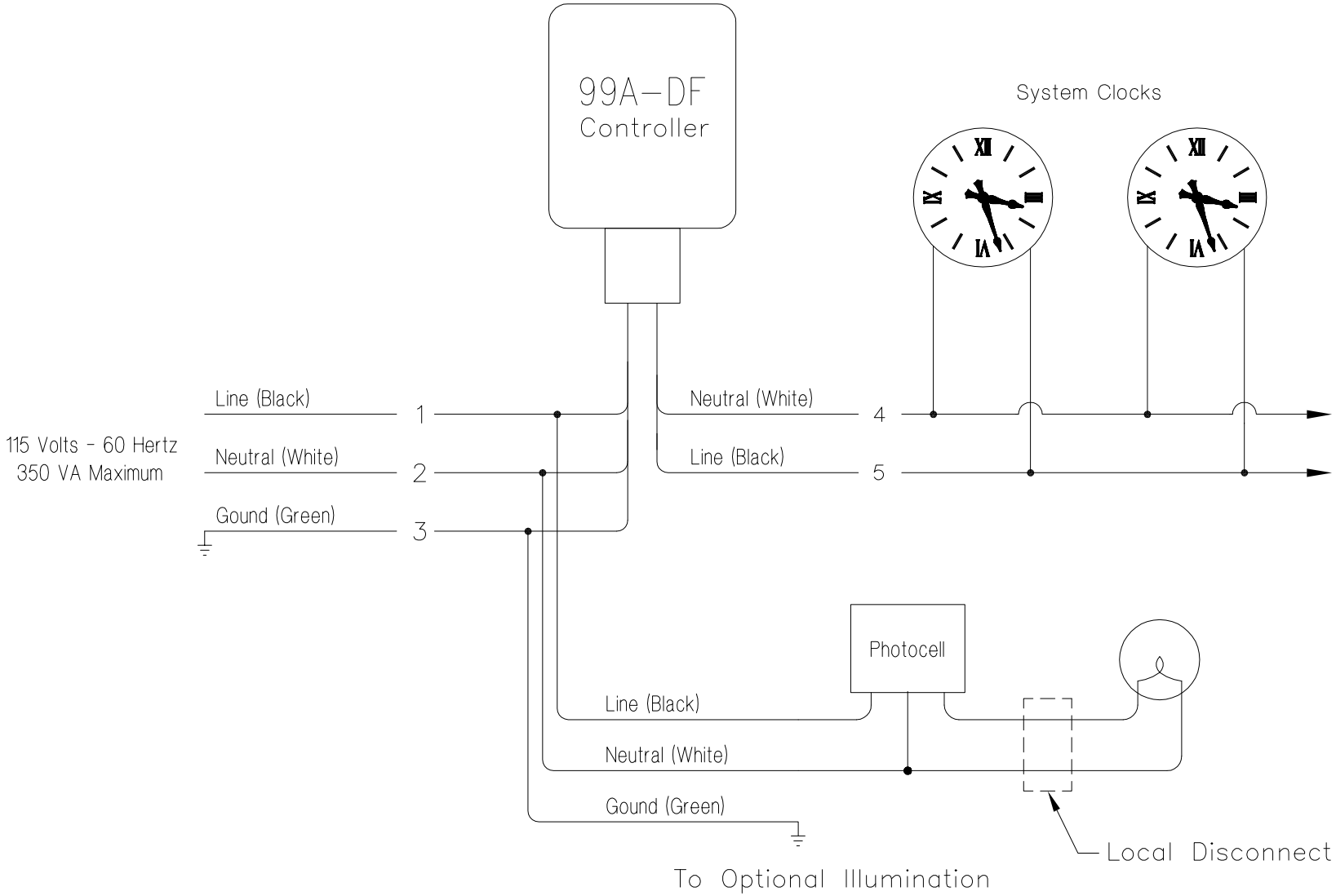
Power Consumption:

Assuming no external loads and (4) RCM-C1 Motors

Normal = 15 watts
Reset = 27 watts

Revision History

Revision A. May 1, 1991	Added Jumper 5
Revision B. May 12, 1993	Added hourly/12hour jumper
Revision C. February 21, 1994	Added Power Comsumption
Revision D. March 18, 1995	Added Jumpers
Revison E. August 22, 1995	Corrected Step 5



PATH D:\ACAD10\A-4381.DWG

TITLE 99A-DF Wiring Diagram

SCALE None | DATE 10-7-91 | DRAWN SRE | APP'V TDE

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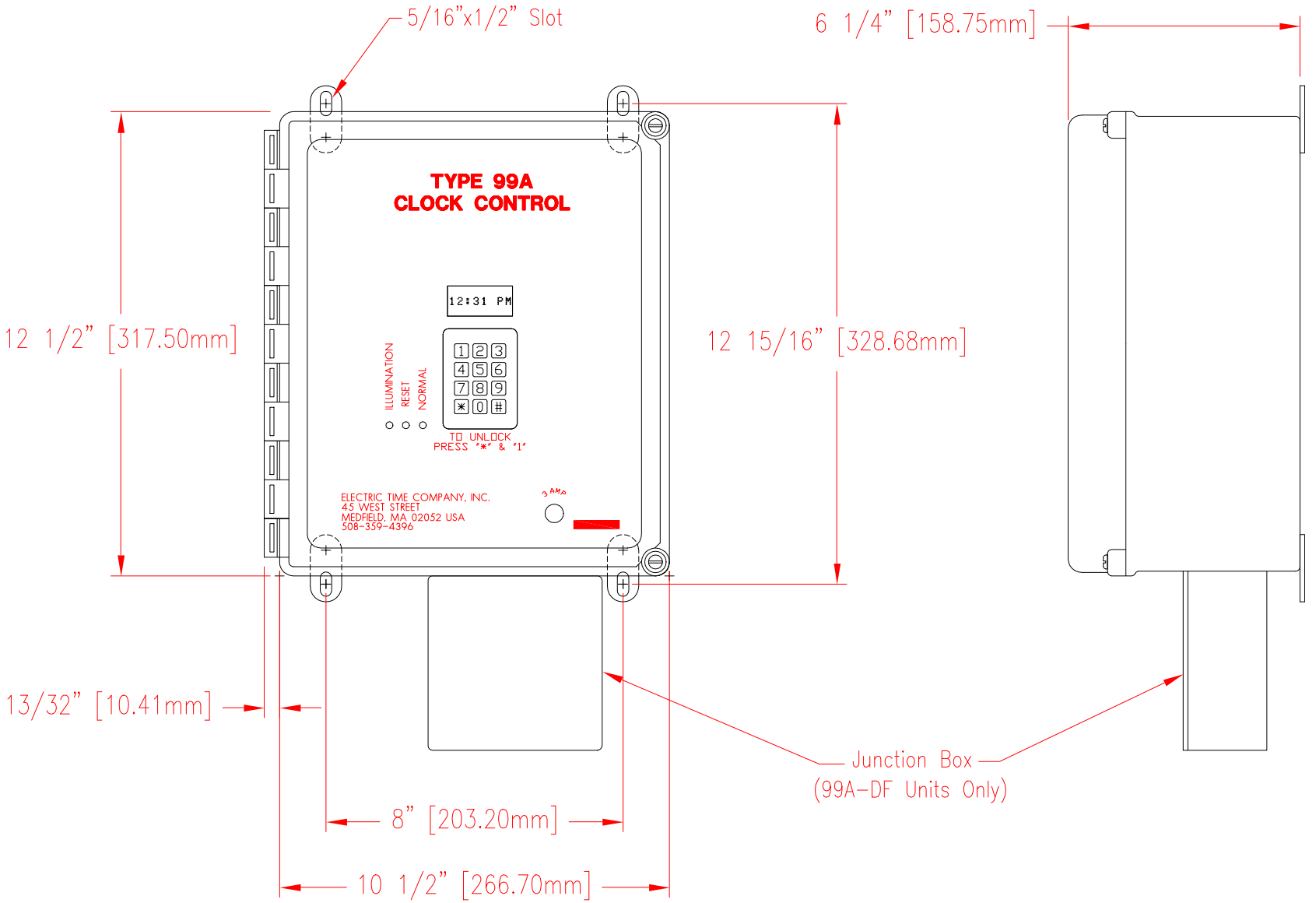
VIEW LASER

REVISIONS

Rev.A	3-24-92	JB
Rev.B	4-30-92	TDE
Rev. C	5-31-94	
Rev.D	9-3-96	DMC
Rev.E	4-23-97	WOR

DRAWING A-4381



SPECIFICATIONS:

Fiberglass Enclosure
NEMA Type 4,4X,12 & 13
Polyester Mounting Feet
"O" Ring Gasket with tongue and groove construction

OPTIONS:

Lockable quick release latch (#A-L48)
(Lock not included)
Transparent Door

TITLE: 99A Enclosure Outline Drawing

SCALE	DATE	DRAWN	APP'V
3"=1'	10-07-91	SRE	TDE

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REVISIONS

Rev. 1. Fiberglass #A-12106CHSCFG
Rev. 2. Added Junction Box 3/24/92
Rev. 3. Lock note 10/19/92

DRAWING A-4220