

PRODUCT MANUAL

ELECTRONIC DISPLAYS INC.

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PRODUCT PART NUMBER : ED225MPC-3L-N1-1002-VRT

DESCRIPTION:

- Indoor 4 digit, 2.25 inch high, red LED, 3 line display in a vertical layout
- Line 1 will count up by 1 based on how long the shift is and how many units will be built within the shift.
- Line 2 will display a fixed value.
- Line 3 is an up-counter by 1 w/ a reset to 0. (2 contact operation).
- Terminal block on the bottom right endplate is provided to wire a “wet” or “dry” contact closure. (See wiring diagram)
- Power: 120 VAC @ 60Hz. (6 ft. line cord provided)
- NEMA 1 aluminum enclosure w/ white vinyl lettering.

OPERATION:

The top line of this scoreboard is designed to receive a serial input from a supplied keypad. This line will display an incrementing value based on shift time and how many units will be built within that shift time. See Appendix E for instructions on using the keypad to set shift time and to set the number of units to be built. Once the shift time and number of units is entered the count will be activated by using an input (IN3)

The second line of this scoreboard will display a fixed value that will not change until a new value is entered in. The value will be entered in by using a supplied keypad. See Appendix F for insertions on using the keypad to set a value.

The third line of this scoreboard will be an up-counter that will have two inputs- 1 for up count and 1 for reset.

INPUT OPERATION (See Appendix C for wiring a wet or dry contact):

IN1 – Count Input (for incrementing the third line)

- Example: Active this input by placing a momentary contact closure between VEXT and IN1 to increment line two by 1(dry contact configuration)

IN2 – Reset Input (for resetting the third line back to zero)

- Example: Active this input by placing a momentary contact closure between VEXT and IN2 to reset the scoreboard to 0 (dry contact configuration)

IN3 – Run/Hold Input (for starting the takt time count)

- Example: To place line 1 in run mode apply a closed contact between VEXT and IN3. When the voltage is removed IN3 line 1 will hold.

PRODUCT MANUAL

If there are any questions or comments regarding this order, please call our Toll-free number : 1 - 800 - 367 - 6056

Unpacking Instructions:

A copy of these instructions is packed with each unit. Open carefully to avoid scratching the unit's paint and plastic lens or cutting the line cord.

Mechanical Mounting Instructions:

This unit is equipped with mounting tabs attached to the rear of the unit. The unit is designed to hang from a support or attached to a wall or support.

Power Requirements:

This unit is equipped with a standard, eighteen-gauge, three-wire line cord that is designed to be plugged into a standard, 120 VAC, 60 Hertz, grounded outlet. The maximum current draw for this unit (at 120 VAC) is 1.5 Amperes.

Signal Requirements:

If your unit has serial input (either RS-232, RS-422, RS-485, etc.), the standard communication format for this unit is 1200 bits per second (baud rate) with one start bit, eight data bits, no parity, and one stop bit per character. The expected sequence of characters is specified in a later section of this manual entitled 'Protocol'.

Product Components:

See appendix A.

Wiring Diagram:

See appendix B.

PRODUCT MANUAL

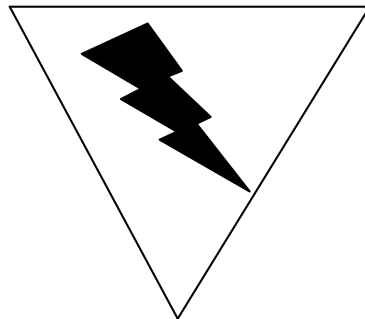
Label Definitions:

The following page shows some commonly used labels and their definitions. Not all of these labels will be found in your unit.

<u>LABEL</u>	<u>DEFINITION</u>
IN1, IN2, IN3	Optically coupled input, active high, requires 12 milli-amperes of current to activate.
RX+	Positive side of balanced data line for RS-422 or RS-485 serial input signals
RX-	Negative side of balanced data line for RS-422 or RS-485 serial input signals
VEXT	Positive voltage output terminal of the customer power supply.
AC	Typically 10 to 12 VAC from EDI supplied transformer
GND	Ground for DC voltage above

WARNING – SHOCK HAZARD

Always completely disconnect power from the display before opening the unit. Do not reapply power to the display until the unit has been securely closed.



PRODUCT MANUAL

Appendix C

Customer Power Supply:

If this unit is equipped with optically coupled inputs, these inputs prevent any electrical or electronic signal from passing directly from the outside world into the logic circuits on the printed circuit boards that we have supplied.

For your convenience, we have also supplied this board with an 'isolated customer power supply' that can be used to drive the customer side of these optically coupled inputs. This isolated supply does not have a direct current connection to the power supply that is used to power the display and logic chips. It will provide 12 VDC to 14 VDC at up to 500 milli-amperes of current. This voltage is unregulated.

'Dry' Contact Configuration:

To use 'dry' contacts, the user need only supply a contact closure between the desired optically coupled input and the positive terminal of the 'isolated customer power supply'. The negative terminal of the isolated supply is already connected to the negative side of each optically coupled input. See Figure A.

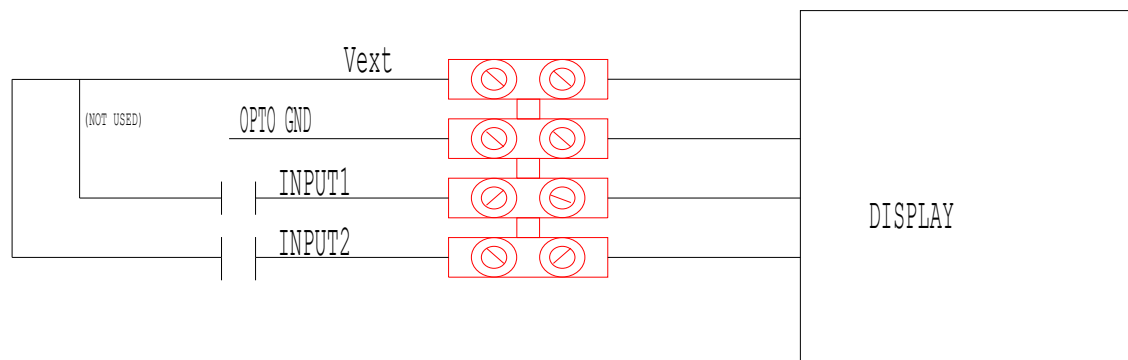


Figure A

'Wet' Contact Configuration:

To use 'wet' contacts, the user must supply his own power to activate the desired optically coupled input. The user may also wish to provide a contact closure in this circuit. The user's power supply must be capable of providing approximately twenty milli-amperes of current at 5 to 24 volts of direct current. If necessary, these inputs can also be ordered for use with higher voltages and / or with alternating current inputs. See Figure B.

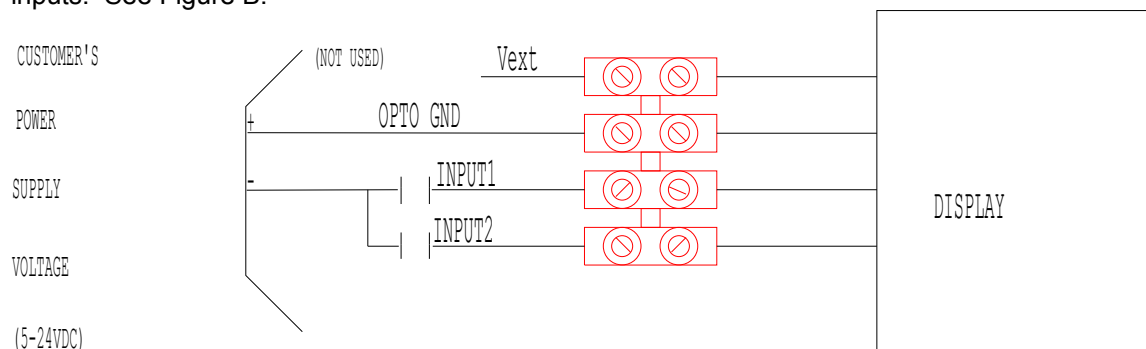


Figure B

PRODUCT MANUAL

Power-up Response:

When power is first applied to this unit, the display will show zeros until data is received or the count input is activated. A value should be entered first on the top line. The bottom line will display the “-“ of this value.

Addressing:

This unit has been set to address ‘1’ and a baud rate of 1200 at the factory.

Protocol:

See Appendix E for protocol details.

Appendix E

Keyboard Input:

General:

This program expects to see the Shift time and the Goal entered from the keypad. When an input is applied to IN3, this will put the scoreboard in run mode. The planned line will then increment when at the pace the parts should be produced.

To set the “Total Shift Goal”:

1. Press the key marked ‘A’ (upper right hand corner).
2. Press the single numeric key representing the address of the scoreboard (factory set to ‘0’).
3. Press the single numeric key ‘1’.
4. Press the one to four numeric keys that represent the number of units desired for this shift (the shift can represent 8 hours, 24 hours, or any other time period that you wish).
5. Press the key labeled ‘D’ (lower right hand corner)

To set the “Total Shift Time”:

Press the key marked with a ‘A’(upper right hand corner).

1. Press the single numeric key representing the address of the scoreboard (factory set to ‘0’).
2. Press the single numeric key ‘2’.
3. Press the one to four numeric keys that represent the length of the shift in hours and minutes(HHMM).
4. Press the key labeled ‘D’ (lower right hand corner)

Example:

To set the shift goal to 1200 units in a shift with 7 hours of actual working time, enter the following two lines: This will cause the “Current Goal” line to increment by one approximately every 21 seconds.

‘A’ ‘0’ ‘1’ ‘1200’ ‘D’

‘A’ ‘0’ ‘2’ ‘700’ ‘D’

To change the “Current Count”:

1. Press the key marked ‘A’(upper right hand corner).
2. Press the single numeric key representing the address of the scoreboard (factory set to ‘0’).
3. Press the single numeric key ‘3’.

PRODUCT MANUAL

4. Press the one to four numeric keys that represent the desired display value.
5. Press the key labeled 'D' (lower right hand corner)

Example:

To reset the "Current Count" to zero at the start of a new shift, the key sequence is as follows:

'A' '0' '3' '0' 'D'

Appendix F

The sequence of keys to enter a fixed value on the second line of the scoreboard is as follows:

1. Press the key marked with an 'A' (upper right hand corner - 'A').
2. Press the (01) two numeric keys representing the desired address of the display
3. Press the one to four numeric keys that represent the value to be displayed
4. Press the key labeled 'D' (lower right hand corner)

Examples:

To display '1234' on the middle line, the key sequence is as follows:

'A' "01" "1234" 'D'

To display '100' on the middle line, the key sequence is as follows:

'A' "01" "100" 'D'

Service:

There are no parts in your unit classified as 'user serviceable' parts. The plastic or glass cover can be cleaned using a soft cloth and a gentle glass cleaning solution.

Warranty:

The standard warranty for all products is one year on all parts and labor at our facilities. All products are designed and manufactured by Electronic Displays Inc. If you need assistance, please call or FAX us and we will be happy to provide technical assistance. If you feel that your unit needs repair, please call us first and then ship the unit to:

Electronic Displays Inc.

135 South Church Street
Unit A
Addison, Ill. 60101
Attn: Repair department

Our telephone number is:

(630) 628-0658

Our FAX number is:

(630) 628-0936

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