



Light Engineered Displays, Inc.

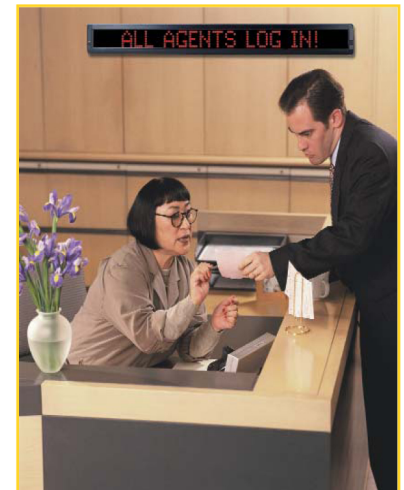


MNS 220-C SERIES

Longer, brighter, better! LED's model MNS - 220C is specifically designed to get your message across as quickly as possible. The new, longer length provides more space to display your message in one line. Brighter, tri-color LED's come standard on this model, to give your message maximum impact.

Perfect for employee communication, to inform, inspire or educate. Regardless of your business needs, it is the best solution to quickly convey information important to your facilities operations. This visual display system cuts through the noise to provide instant Fire, Security & Evacuation information for all your personnel. Even those with a hearing impairment will get the message.

These units are available with a plug-in 120vac to 5vdc transformer, suitable for most applications. There also available as an option, a 24vdc to 5vdc voltage converter. This allows the signs to be operated from a common 24vdc circuit w/ battery backup.



Standard Features

- Easy networking
- Character size: 1.5" – 2.1"
- One year USA Factory Warranty
- Stores & displays over 80 messages
- 15 stimulating presentation styles
- With MNS Controller, messages can be selected by dry contact closure .
- 3 Brilliant colors & 3 rainbow effects
- 14 Character fonts
- Can show Time and Date in addition to your custom messages.

MNS - 220C Specifications

Sizes	220C
Case Dimensions: (With power supply)	37.7"L x 2.9"D x 3.80"H (95.76 cmL x 7.37 cmD x 9.6 cmH)
Approximate Weight:	4.7 lbs (2.13 kg.)
Display Dimensions:	36"L x 2.1"H (91.4 cmL x 5.3 cmH)
Display Array	120 x 7 pixels
Characters Displayed in one-line	minimum/typical/maximum 20/20/24
Display Memory	28,000 characters

Pixel Size (Diameter):	0.2" (.05 cm)
Pixel (LED) Color:	Each dot can be red, green, or amber
Center-to-Center Pixel Spacing (Pitch):	0.3" (0.8 cm)
Character Size	2.1" (4.3 cm)
Character Set:	International Character Set, Block (sans serif), decorative (serif), upper/lower case, slim, wide, double wide, and shadowing
Memory Retention:	One month typical
Message Capacity:	81 different messages can be stored and displayed
Message Operating Modes:	<ul style="list-style-type: none"> - 26 consisting of: Automode™, Hold, Roll (6 directions), Rotate, Sparkle-On, Twinkle, Interlock, Wipe (six directions) Flash, Scroll, Snow, Starburst, Spray-on, Switch, Condensed Rotate and Cycle Color - Continuous message entry with automatic centering in any mode - User programmable logos and graphics - Five hold speeds
Built-in Animations:	Cherry Bomb Exploding, Don't Drink and Drive, Fireworks, Slot Machine, No Smoking, Fish, Welcome and Thank You Tumpet and News Flash
Real-Time Clock:	Date and time, 12 or 24 hour format, maintains accurate time without power for up to 30 days typical

Serial Computer Interface:	RS232 and RS485 (multi-drop networking for up to 255 displays) Options Wireless Interface -Ethernet LAN interface
Power:	100 VAC - 240 VAC Different power cords for specific type plugs Cords Available: 120 VAC (North America), 230 VAC (Europe) 240 VAC (U.K., Australia, New Zealand)
Power Cord Length:	9'10" (3m) to 120 VAC (North America) 7'10" (2.5m) to 230 VAC European
Keyboard:	Handheld, Eurostyle, IR remote
Case Material:	Extruded aluminum
Limited Warranty:	One-year parts and labor, factory servicing
Agency Approvals:	<ul style="list-style-type: none"> - 120 VAC Model: Listed to ANSI/UL 1950-3rd Edition (US) and CAN/CSA-22.2 No.950-M89 (Canada) - 230 VAC Models: Complies with EN 60950:1992 (Europe) and AS/NZS 3260-1993 (Australia/New Zealand) - FCC Part 15 Class A - CE Marked
Operating Temperature:	32° to 120°F, 0° to 49°C
Humidity Range:	0% to 95% non-condensing
Mounting:	Hardware to accommodate ceiling or wall mounting

Note: An option from LED, Inc. is a DC to DC Converter that will allow the sign to connect to a 24vdc circuit. The minimum current draw (blank screen) is 100ma. Maximum draw is 700ma..



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800-251-2512 www.ledinc.com

DRY CONTACTS TO RS-485 DATA INTERFACE

Model: MNS-ctrl - for LEDArray and MegaDot signs

The ALPHA Discrete Input Interface allows messages to be displayed on standard LEDArray electronic signs by using simple on/off contacts to trigger messages that have been stored in a sign. The ALPHA Discrete Input Interface is designed for low-voltage applications.

Messages to be displayed are stored in a sign using either:

- Infrared handheld remote control
- Adaptive software such as ALPHA Messaging software

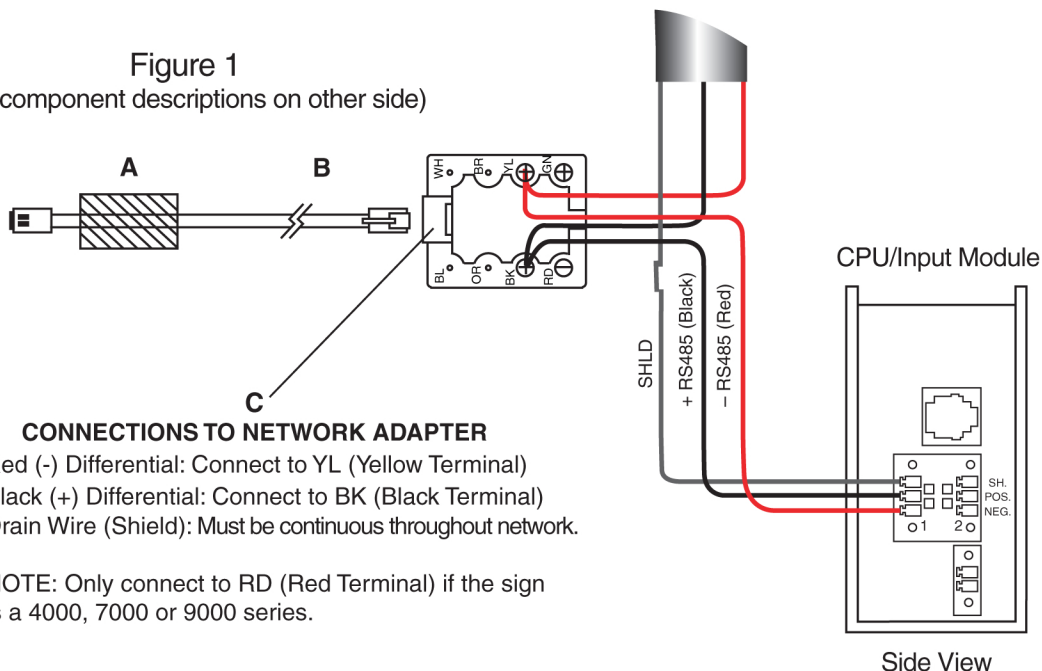
CPU / Input Module — serves as an interface between the Input Modules and LEDArray signs.

Up to four Input modules can be used, depending on the Operating Mode used. The eight, dry contact inputs of each Input Module can be configured to one of five possible Operating Modes:

- Mode 0: Discrete Fixed
- Mode 1: Momentary Triggered
- Mode 2: Binary Coded Decimal (BCD)
- Mode 3: Binary
- Mode 4: Counter

Power Module *not shown* — supplies power to the CPU Module / Input Modules

Figure 1
(see component descriptions on other side)



These modules are installed in a 12"x12"x4" deep box with a hinged door and cam lock to prevent unauthorized access. The inputs to the modules are pre-wired to terminal blocks for easy installation. A pair of wires from your dry contact(s) is all that is needed to activate the associated message(s). The messages are pre-programmed but can easily be changed with a hand-held remote or laptop computer.

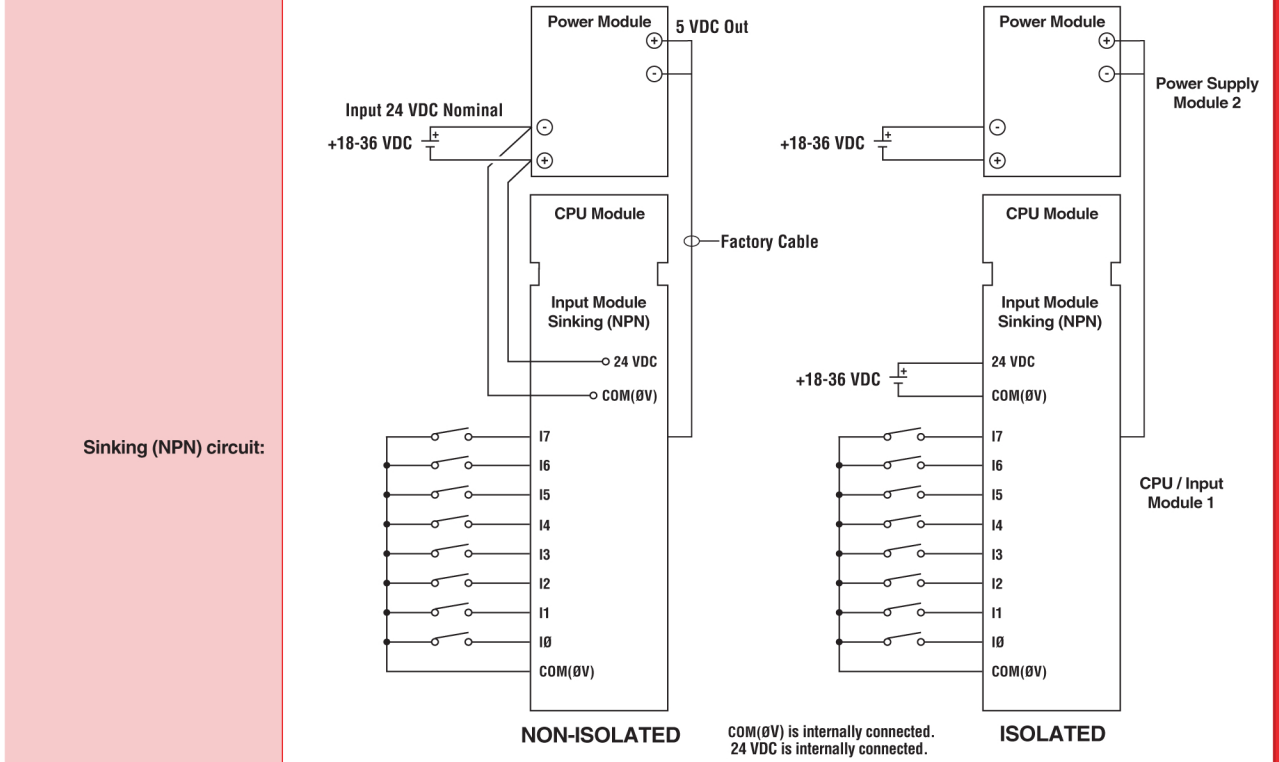
Operating Modes

NOTE: Only one Operating Mode can be used at a time. For example, if three Input Modules were connected together, all three modules would have to use the same Operating Mode.

NOTE: The MNS-Cntrl has been pre-set at the factory.

Description:	When you close a contact, the associated sign message is displayed. It is possible to have several messages running simultaneously on a sign by closing multiple contacts. Multiple messages are displayed one after the other.
Module configuration: 8 messages	<p>Minimum configuration</p>
Maximum no. of messages:	32 - Plus a BackGround message such as Time & Date. BG message appears when contacts are open.
Maximum no. of inputs:	32 (8 inputs per module x 4 Input Modules connected)

NOTE: The MNS-Cntrl has been pre-wired at the factory.

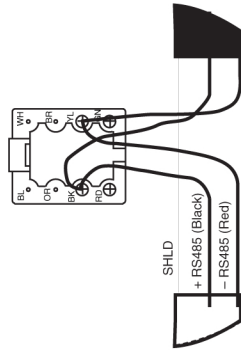


NOTES: Standby current is 83ma plus 20ma for each activated message.
All Input Modules are internally fused.
Wire the modules according to local electrical code.

Connecting Using RS-485 Network

Networking one or more signs (shielded)

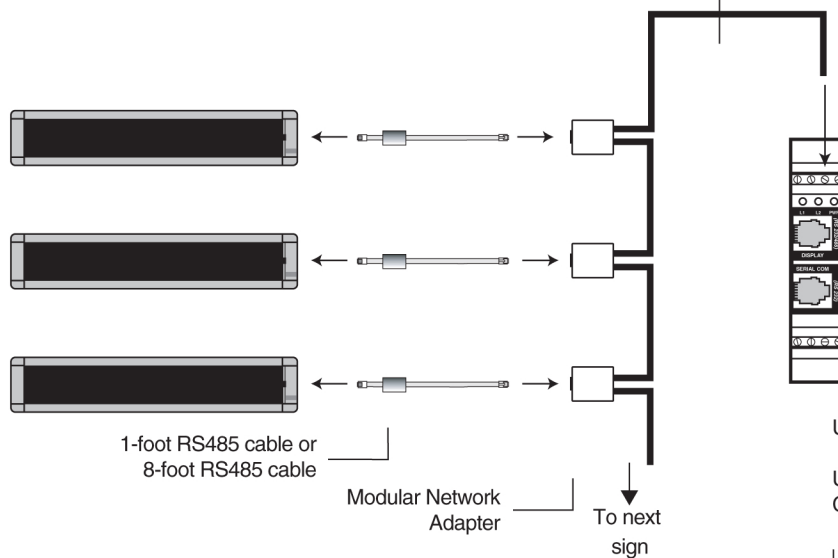
NOTE: When signs are networked to the CPU Module, all the signs must be the same model when ALPHA Messaging software is used.



- Connect RED wire from RS485 cable to YL screw.
- Connect BLACK wire from RS485 cable to BK screw.
- ONLY connect SHIELD wire from RS485 cable to RD screw if the sign is a Series 4000 or Series 7000. For LEDarray, connect the two SHIELD wires to each other, but **not** to the RD screw.



Mass Notification Signs
Connecting using RS-485 Network.



See Figure 1
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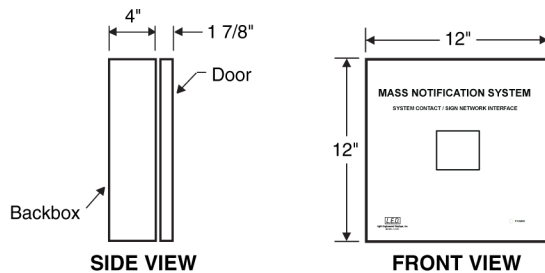
Use a twisted pair, 24awg with common shield.

Use modular adapter for network wiring.
Connect to sign with RJ-11 cable.

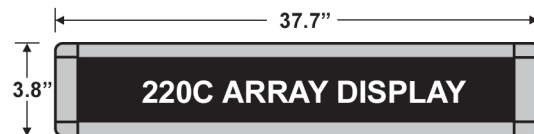
Install EOL Device on last sign in network (supplied with controller).



Enclosures



MNS-CONTROLLER



220C ARRAY DISPLAY
SIGN IS 2.9" DEEP
DISPLAY AREA IS 36" L X 2.1" H