LED Andon Display Board

Kamal & Co

Low Cost & Industrial Grade Cabinets

42, Mambalam High Road,
T Nagar, Chennai,600017
sales@factorydisplay.com

Description

The LED Andon Display Boards facilitates seamless connection of up to 5 potential-free contacts, each mapped to predefined messages, with an option for an IDLE message. Utilizing ASCII protocol over Serial, users can configure text, font, effects, and speed for each message, including handling text larger than the display board. This system ensures precise control and dynamic customization, enabling efficient visual signaling and communication in diverse environments.
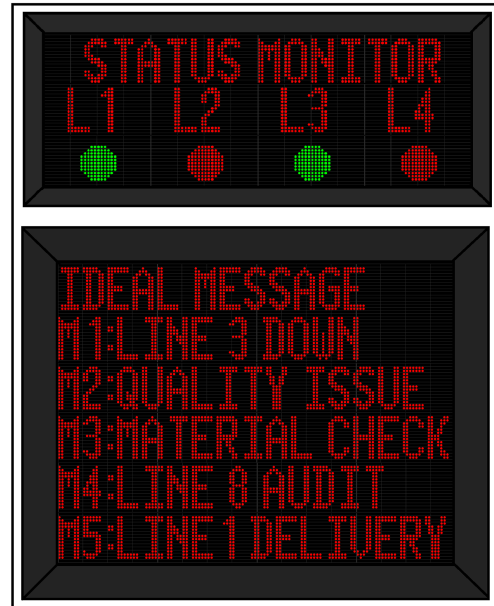
Product Features

- The Andon display system supports activation of up to 5 GPIOs for corresponding messages, including an IDLE message when no GPIO is active.
- ASCII protocol features Start and End Characters with CRC for reliable error detection in communication.
- Easily configurable via RS-232 or RS-485, offering flexibility in communication methods.
- Four built-in fonts and ten effects enhance customization of displayed messages.
- Adjustable parameters such as speed and stay time for messages cater to user preferences.
- Settable IDLE time triggers the display of a default message after a predefined duration.
- 5 contacts on the LED board cabinet provide input triggers for the system.
- Active triggering of any GPIO displays the associated message on the Andon display.
- Simultaneous triggering of multiple GPIOs results in smooth page scrolling of messages.
- Supports both Pulse and Latch modes for versatile GPIO activation.
- Well-suited for various applications, including triggering alarms, ANDON signaling, line status monitoring, Building Management Systems (BMS), and responding to fire alarms.
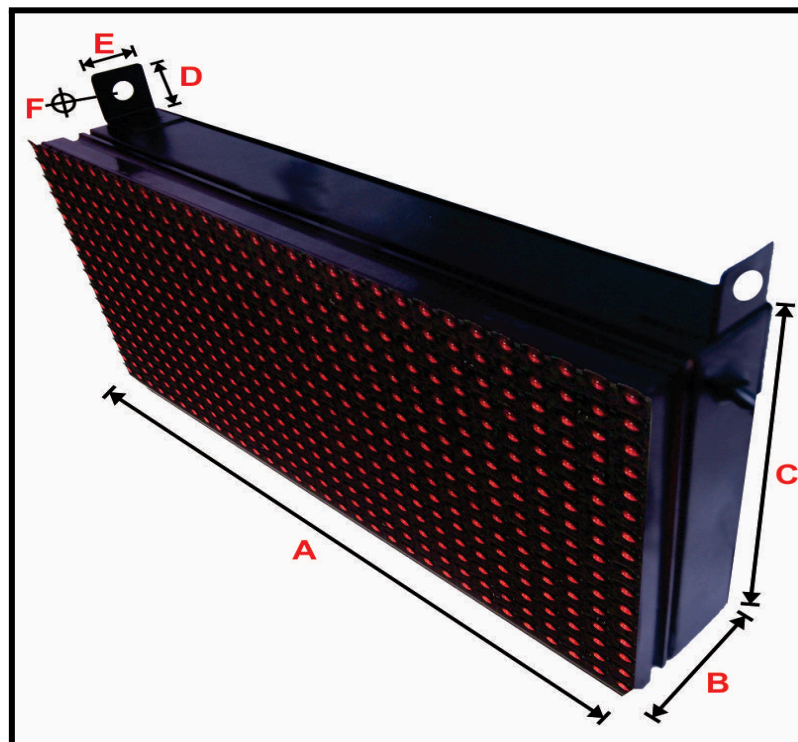
LED Andon Display Board

Kamal & Co

Low Cost & Industrial Grade Cabinets

**42, Mambalam High Road,
T Nagar, Chennai,600017**
sales@factorydisplay.com

Notes and Options.

● Display Characteristics: All units feature a single-colour display with the default supply in vibrant RED, offering excellent brightness suitable for both indoor and outdoor viewing.
● Colour Customization: Alternative colours are available upon request, incurring an extra cost.
● Outdoor Units: For outdoor applications, the cost increases by 18% over the base price to account for additional specifications.
● Customization Options: Titles and fixed designs can be added to meet specific requirements.
● Power Supply: All units operate on a standard 230V AC mains power source, with the option for 110V available upon separate quotation.
● Mounting Flexibility: Two mounting options are provided - top eye bolts for ceiling suspension and side clamps for secure bolting to supports.

LED Andon Display Board

Low Cost & Industrial Grade Cabinets

Kamal & Co

42, Mambalam High Road,
T Nagar, Chennai,600017
sales@factorydisplay.com

Low Cost Cabinet Sizes and Models

Model	Digit Height (mm)	No. Of Characters/ Digits per screen		Height (mm) C	Width (mm) A	Depth (mm) B	Max Power (W)
		140mm high	70mm high				
ECON-GPIO-11	One line of 140mm OR Two lines of 70mm	4	10	160	320	50	35
ECON-GPIO-12		8	20	160	640	50	65
ECON-GPIO-13		12	30	160	960	50	95

Technical Specifications

VOLTAGE	230 VAC 1 PHASE MAIN POWER
OPERATING TEMP	5 TO 55'C
STORAGE TEMP	0 TO 65'C
RELATIVE HUMIDITY	UPTO 95% RH NON CONDENSING
DISPLAY	FULL MATRIX
LED COLOUR	RED
CHARACTERS TABLE	ASCII CHAR. (CODE 30H TO 5 FH)
PROTOCOL	ASCII PROTOCOL
INTERFACE BY	RS232/RS485 COMMUNICATION
DATA TRANSFER RATE	9600 BAUD (8,n,1)
DATA TYPE	CHARACTER,INTEGER AND FLOAT
ACCESSORIES	POWER CABLE 1 METER

LED Andon Display Board

Low Cost & Industrial Grade Cabinets

Kamal & Co

**42, Mambalam High Road,
T Nagar, Chennai,600017**
sales@factorydisplay.com

Electrical Connections.

- Connect up to 5 potential-free Andon LED display inputs to designated terminals on the cabinet side.
- Ensure the common terminal is connected to Ground.
- Avoid applying electrical pulses to the connected terminals.
- Power up the unit to initiate the display.
- The Andon LED display is now ready to receive GPIO inputs.
- Upon triggering any GPIO input, the corresponding message will be displayed on the LED display.
- Activating multiple GPIOs will initiate a page-scrolling effect, displaying messages sequentially.
- In the absence of active GPIOs, an IDLE message will be displayed.
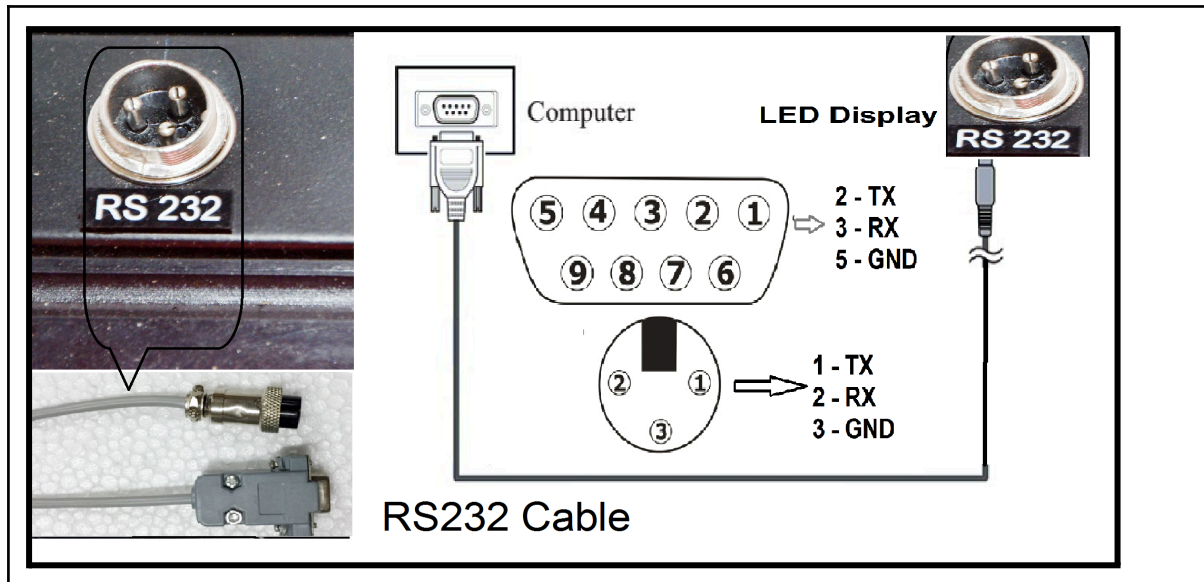- Customize different messages for each GPIO using Simple ASCII Commands via RS232 or RS485.

LED Andon Display Board

Low Cost & Industrial Grade Cabinets

Kamal & Co

**42, Mambalam High Road,
T Nagar, Chennai,600017
sales@factorydisplay.com**

RS232 Cable

Configuration Protocol.

- All modules are equipped with built-in communication ports. Establish a connection between the PC and the module using the RS232/RS485 communication port.

- For RS232 communication, link the module to the PC's serial port using an end-to-end DB9 connector cable.

- In the case of RS485 communication, employ a suitable RS232 to RS485 or USB to RS485 adapter on the PC side.

- Enhance performance by utilizing a 2-core twisted pair cable with a shield or a Communication Cable CAT5/CAT6 with a shield. Ground one end of the shield for optimal functionality.

- Employ terminal programs such as Hyperterminal, TeraTerm, RealTerm, or Putty to transmit ASCII protocol settings to the board via RS232/RS485 communication. Configure the terminal program with the following technical settings:
  - Communication port number
  - Baud rate set to 9600 Baud
  - Data set to 8 bits
  - Parity set to none
  - Stop bit set to 1 bit

LED Andon Display Board

Low Cost & Industrial Grade Cabinets

Kamal & Co

42, Mambalam High Road, T Nagar, Chennai,600017
sales@factorydisplay.com
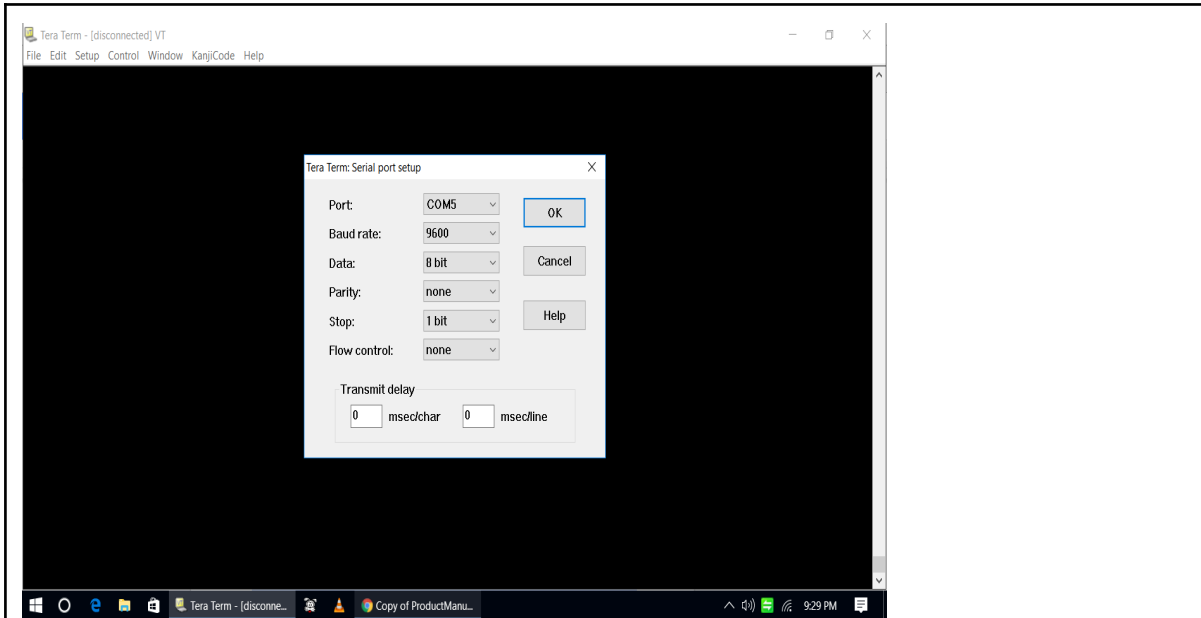
Packet Format

Start of Packet SOP => [
End Of Packet EOP =>]

[ID Command Data CRC]

ID (2 chars) is the ID of the board default is 01
Command (1 char) is the command character which defines the function.
Data (n chars) is the data associated with the command.
CRC (2 chars) is the CRC for the data packet. To ignore CRC provide XX.

Command	Description	Example
Set Device ID	This command sets the device ID when multiple devices are connected. Default device will be 01.	**[ID ZD DD CRC]** DD-01234567890123456789 Ex: **[01ZD02XX]**
Set Brightness	This command is used to set the brightness of the	**[ID ZH N CRC]**

LED Andon Display Board

Low Cost & Industrial Grade Cabinets

Kamal & Co

**42, Mambalam High Road,
T Nagar, Chennai,600017**
sales@factorydisplay.com

	led display.Where Brightness can be from 0-9.	Ex: To set minimum brightness **[01ZH1XX]**
Set TEXT to GPIO	This command set message to respective GPIO and it will be displayed when that respective GPIO is triggered.When No GPIOS are triggered then IDLE Message is displayed.	**[ID GPIO(1-6) Font(1-9) Effect(A-Z) Speed(00-FF) Stay(00-FF) Align(0-F) ttttttttttt CRC]** Ex: **[0113A0F1F8Gbox Message1XX]** **[0123A0F1F8Gbox Message2XX]** **[0133A0F1F8Gbox Message3XX]** **[0143A0F1F8Gbox Message4XX]** **[0153A0F1F8Gbox Message5XX]** **[0163A0F1F8Gbox Message6XX]**
Set IDLE message	This command set IDLE message to display When No GPIOS are triggered	**[ID U Font(1-9) Effect(A-Z) Speed(00-FF) Stay(00-FF) Align(0-F) ttttttttttt CRC]** Ex: **[01U3A0F1F8Gbox Idle MessageXX]**

Effect	ASCII Value	Example Command
SCROLL_ANIM_STAY	A	**[0123A0F1F8Message2XX]**
SCROLL_ANIM_SCROLL_LEFT	B	**[0123B0F1F8Message2XX]**
SCROLL_ANIM_SCROLL_CONT_LEFT	C	**[0123C0F1F8Message2XX]**
SCROLL_ANIM_SCROLL_BLINK_LEFT	D	**[0123D0F1F8Message2XX]**
SCROLL_ANIM_BLINK	E	**[0123E0F1F8Message2XX]**
SCROLL_ANIM_BOT2TOP	F	**[0123F0F1F8Message2XX]**
SCROLL_ANIM_CONT_BOT2TOP	G	**[0123G0F1F8Message2XX]**
SCROLL_ANIM_BLINK_BOT2TOP	H	**[0123H0F1F8Message2XX]**
SCROLL_ANIM_WIPE_TOP2BOT	I	**[0123I0F1F8Message2XX]**
SCROLL_ANIM_WIPE_BLINK_TOP2BOT	J	**[0123J0F1F8Message2XX]**
SCROLL_ANIM_WIPE_BOT2TOP	K	**[0133K0F1F8Message2XX]**

Low Cost & Industrial Grade Cabinets

42, Mambalam High Road,
T Nagar, Chennai,600017
sales@factorydisplay.com

SCROLL_ANIM_WIPE_BLINK_BOT2TOP	L	[0123L0F1F8Message2XX]
SCROLL_ANIM_WIPE_L2R	M	[0123M0F1F8Message2XX]
SCROLL_ANIM_WIPE_BLINK_L2R	N	[0123N0F1F8Message2XX]
SCROLL_ANIM_WIPE_R2L	O	[0123O0F1F8Message2XX]
SCROLL_ANIM_WIPE_BLINK_R2L	P	[0123P0F1F8Message2XX]
SCROLL_ANIM_WIPE_TOP2BOT_ FULL	Q	[0123Q0F1F8Message2XX]
SCROLL_ANIM_WIPE_BLINK_TOP2BOT_FULL	R	[0123R0F1F8Message2XX]
SCROLL_ANIM_WIPE_BOT2TOP_FULL	S	[0123S0F1F8Message2XX]
SCROLL_ANIM_WIPE_BLINK_BOT2TOP_FULL	T	[0123T0F1F8Message2XX]
SCROLL_ANIM_WIPE_L2R_FULL	U	[0123U0F1F8Message2XX]
SCROLL_ANIM_WIPE_BLINK_L2R_FULL	V	[0123V0F1F8Message2XX]
SCROLL_ANIM_WIPE_R2L_FULL	W	[0123W0F1F8Message2XX]
SCROLL_ANIM_WIPE_BLINK_R2L_FULL	X	[0123X0F1F8Message2XX]
SCROLL_FIXED_MESSAGE	Y	[0123Y0F1F8Message2XX]
SCROLL_FIXED_BLINK	Z	[0123Z0F1F8Message2XX]

SCROLL_FIXED_MESSAGE and SCROLL_FIXED_BLINK are special since they display text messages directly without textwrapping etc. Special Characters in the string can be used to position text.

Char = 0x0A   => Will move the text cursor to the next line   ex "Line1""\x0A""Line2"
Char = 0x0D   => Will move the text cursor to the X start.(Will make X=0).
Char = 0x0E   => Will move the text cursor to the Y start.(Will make Y=0).

Char = 0x0C   => Will Switch the font between 16 and 5x7

Char = 0x0B   => Will move the text cursor to the starting of the current module.

Char = 0x01 - 0x07 => Will move the text cursor by 1 - 7 pixels So if you want two pixel gap
                       between Two words then you can specify "Test1""0x02""Text2".

Char = 0x08 '\t'   => Will move the text cursor to the starting of the next module.

LED Andon Display Board

Kamal & Co

Low Cost & Industrial Grade Cabinets

42, Mambalam High Road,
T Nagar, Chennai,600017
sales@factorydisplay.com

Font	ASCII Value	Example Command
FONT_GBOX_5X7 (included)	1	[0121A0F1F8Gbox Message2XX]
FONT_GBOX_8	2	[0132A0F1F8Gbox Message3XX]
FONT_GBOX_16(included)	3	[0123A0F1F8Gbox Message2XX]
FONT_GBOX_16_WIDE	4	[0134A0F1F8Gbox Message3XX]
FONT_GBOX_24	5	[0145A0F1F8Gbox Message4XX]
FONT_GBOX_16_LARGE_NUM	6	[0156A0F1F8Gbox Message5XX]
FONT_GBOX_28	7	[0167A0F1F8Gbox Message6XX]
FONT_GBOX_32	8	[0128A0F1F8Gbox Message2XX]
FONT_GBOX_32N	9	[0139A0F1F8Gbox Message3XX]

Alignment	ASCII Value	Example Command
No Alignment (Default)	0	[0121A0F0F0Gbox Message2XX
Top Left	1	[0121A0F0F1Gbox Message2XX
Center Left	2	[0121A0F0F2Gbox Message2XX
Bottom Left	3	[0121A0F0F3Gbox Message2XX
Top Center	8	[0121A0F0F8Gbox Message2XX
Center Center	A	[0121A0F0FAGbox Message2XX
Bottom Center	B	[0121A0F0FBGbox Message2XX
Top Right	C	[0121A0F0FCGbox Message2XX
Center Right	E	[0121A0F0FEGbox Message2XX

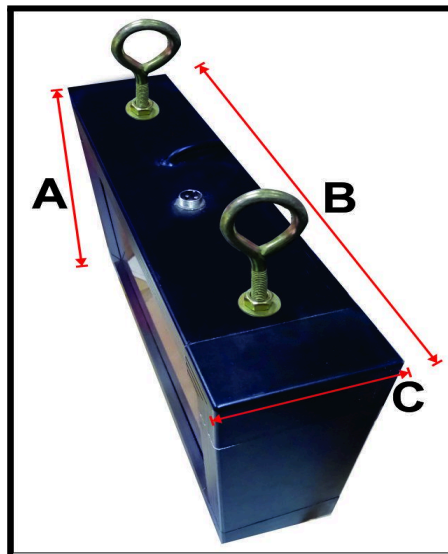# LED Andon Display Board

Kamal & Co

Low Cost & Industrial Grade Cabinets

**42, Mambalam High Road,
T Nagar, Chennai,600017**
sales@factorydisplay.com

Bottom Right	F	[0121A0F0FFGbox Message2XX

Speed	**00-FF**	**Ex:For Min speed** [0121A001F8Gbox Message2XX] **Ex:For Max speed** [0121AFF1F8Gbox Message2XX
Stay Time	**00-FF**	**Ex:For Min stay time** [0121A00008Gbox Message2XX] **Ex:For Max stay time** [0121AFFFF8Gbox Message2XX

Industrial Grade Cabinet Models and Dimensions

LED Andon Display Board

Low Cost & Industrial Grade Cabinets

Kamal & Co

**42, Mambalam High Road,
T Nagar, Chennai,600017**
sales@factorydisplay.com

All Units in mm

Model No	A Height (mm)	B Width (mm)	C Depth (mm)	Max Power (W)
IC-GPIO-11	250	410	93	35
IC-GPIO-12	250	730	93	65
IC-GPIO-13	250	1050	93	95
IC-GPIO-14	250	1370	93	125
IC-GPIO-22	410	730	93	125
IC-GPIO-23	410	1050	93	185
IC-GPIO-24	410	1370	93	245

Heavy Duty Cabinet

❏ The Heavy Duty Cabinets make the LED board more durable and robust.

❏ The cabinets are made from extruded aluminium profiles and moulded corners for better appearance.

❏ The front filter used is Perspex / LEXAN ® sheets for UV and robust.

❏ The hanging hooks are also heavy and suited for mounting from your support structure.

Contact Information

No. 42, Mambalam High Road,
T. Nagar, Chennai - 600017,
Tamil Nadu, India

LED Andon Display Board

Kamal & Co

Low Cost & Industrial Grade Cabinets

**42, Mambalam High Road,
T Nagar, Chennai,600017**
sales@factorydisplay.com

Phone : 91-44-28140111/222/333/444/555

Fax : 91-44-28140814

Email: sriram@factorydisplay.com, kamalco@gmail.com

Important Notice