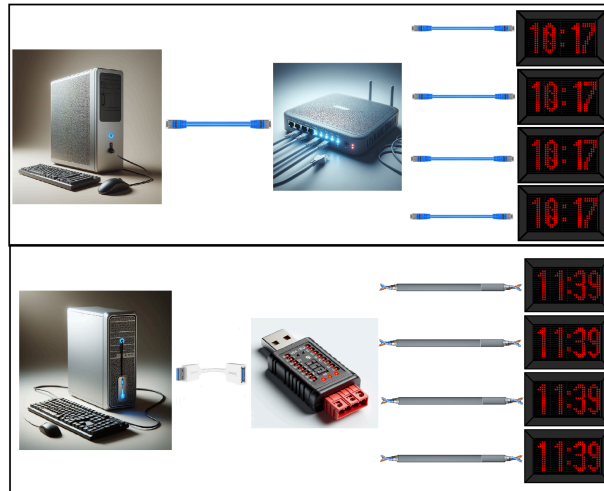# LED LAN/RS485 Clocks

Kamal & Co

Low Cost & Industrial Grade Cabinets

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

Description

The LED LAN/RS485 clocks offer seamless synchronization with a Windows PC's time, facilitating accurate timekeeping within LAN or RS485 networks. A dedicated PC application allows users to conveniently set and manage the clock's time, and the application can operate in the system tray, periodically updating the clock at specified intervals. The clock is equipped with either an Ethernet port or an RS-485 Terminal, and a provided PC application streamlines the configuration of network parameters such as IP addresses. The Clock Sync app establishes communication over either Ethernet or the RS-485 Bus, ensuring precise and reliable synchronization between the PC and the LED clocks.

LAN /RS485 based clock with synchronization software

Product Features

- Designed for optimal time synchronization in industrial plants and expansive facilities.
- LAN clocks easily connect to the LAN network, facilitated by installing the provided PC software.
- The PC software efficiently sends its time to all connected LAN clocks, with a default IP address set at 192.168.1.1.
- A user-friendly PC application accompanies each clock, simplifying IP setting and enabling seamless time synchronization from the LAN-connected PC.
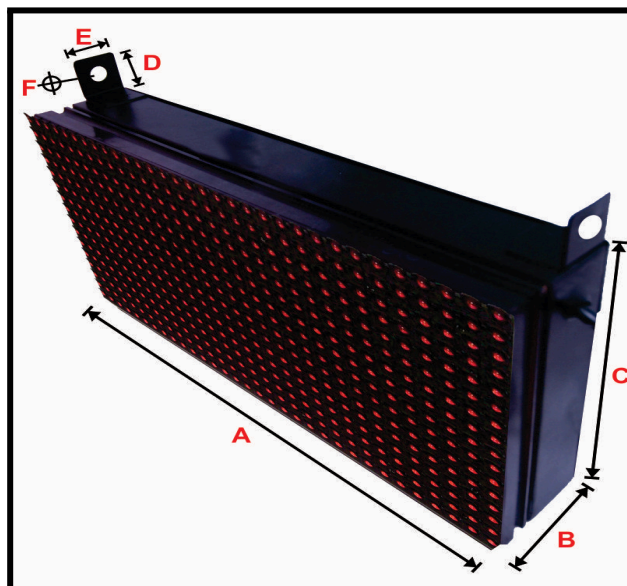
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- Each clock is equipped with an RJ45 Ethernet jack, supporting standard 10/100 BASE-T Ethernet for reliable connectivity.
- The system supports the connection of multiple Slave Clocks through both LAN and RS485 networks, offering flexibility in synchronization options.
- Specifically designed for outdoor use, the clocks feature a weather-resistant casing equivalent to IP65 standards, ensuring durability and functionality in various weather conditions.

Notes and Options.

- LAN cable is not included in the Clock supply package.
- All displays are available in a single colour, with the default supply being in RED.
- Other colour options are available upon request, subject to an additional cost.
- RED colour provides optimal brightness for viewing both indoors and outdoors.
- For outdoor units, the cost increases by 18% on the base price.
- Titles and fixed designs can be added to meet specific specifications.
- All units operate on 230V AC mains (110V available upon separate quotation).
- Mounting provisions include:
  - Top eye bolts for ceiling hanging.
  - Side clamps for secure bolting to supports

LED LAN/RS485 Clocks

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Sizes and Models

Model	Type	Digit Height (mm)	Height (mm)	Width (mm)	Depth (mm)	Max Power (W)
ECON-IC-LAN-CLK-HM-11	HH:MM	140	160	320	50	35
ECON-IC-LAN-CLK-HM-23	HH:MM	260	320	960	50	185
ECON-IC-LAN-CLK-HMS-12	HH:MM:SS	140	160	640	50	65
ECON-IC-LAN-CLK-HMS-24	HH:MM:SS	260	320	1280	50	245

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
BATTERY	CR2032 BATTERY FOR TIME KEEPING
RTC CHIP SET	HIGH PRECISION DS3231 CHIP SET
ACCURACY	The LAN clock displays shall be accurate to within 50 milliseconds of the UTC time reference provided by the PC or NTP server(s) when synchronized.
COMMUNICATION PORT	TCPIP ETHERNET/RS485 BUS
ACCESSORIES	POWER CABLE 1 METER/ RS485 CABLE (Only in RS485 clock)

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Electrical connections

Hardware Installation for LAN clocks

- Reserve a static IP address for each clock as DHCP is not supported.

- Configure each clock with its IP Address, Subnet mask, Gateway, and Device name before on-site installation.

- Once configured, install all clocks on the site and connect them to the LAN network.

- Properly install the "G-Box Multi device Time Sync" software.

- Switch on the supply to all digital clocks.

- Add the clock IP addresses to the application.

- The PC application will automatically begin sending PC time to the clocks at specified intervals.

LAN Connector in the cabinet

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Connection to LAN Clocks

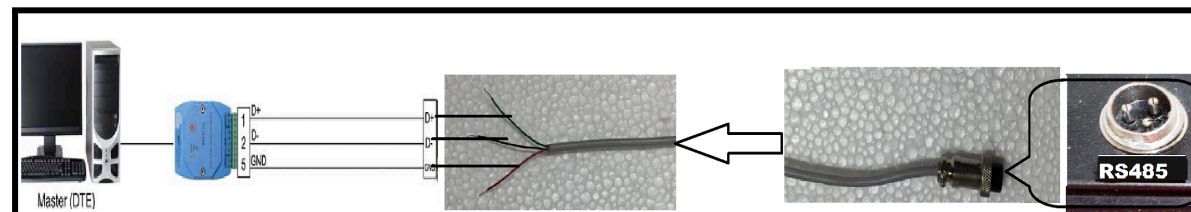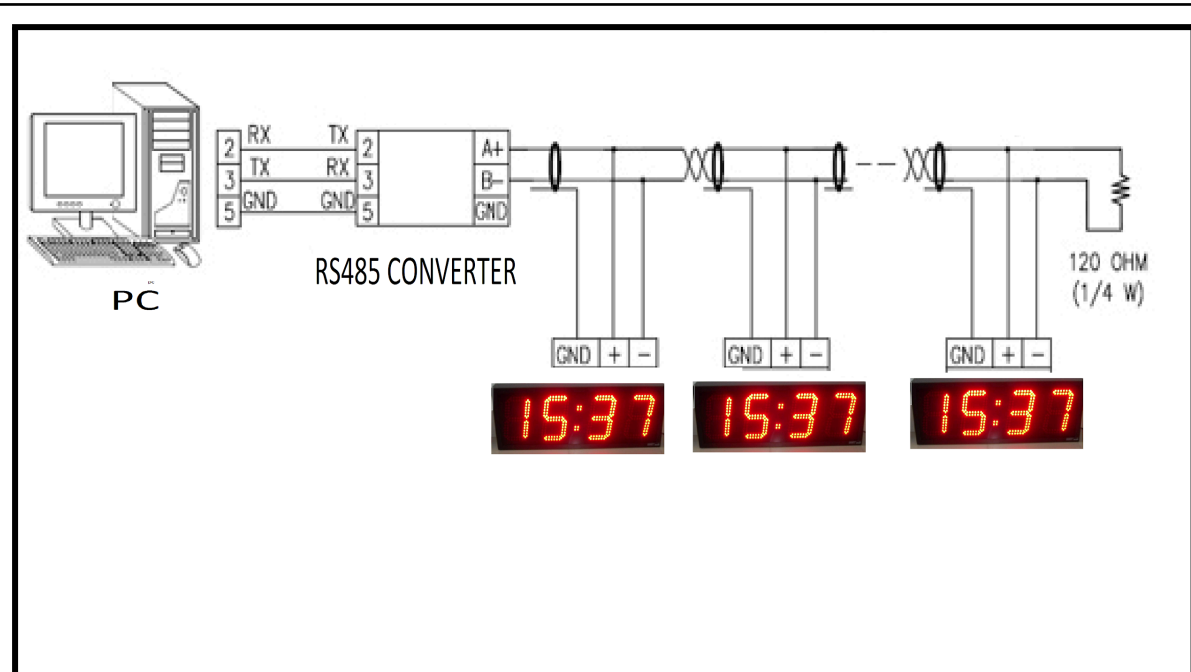### Hardware Installation for RS485 clocks

- Load the "G-Box Multi device Time Sync" software correctly.

- Connect the RS485 Converter to the PC.

- Connect all digital clocks in a looping configuration following the provided diagram, connecting Tx+ to D+ and Tx- to D-.

- Utilize a 2-core twisted pair cable with a shield for enhanced performance, or alternatively, use a Communication Cable CAT5/CAT6 with a shield, grounding one end of the shield.

- Switch on the supply to all digital clocks.

- The PC application will initiate the process of sending PC time to the clocks at specified intervals.

LED LAN/RS485 Clocks

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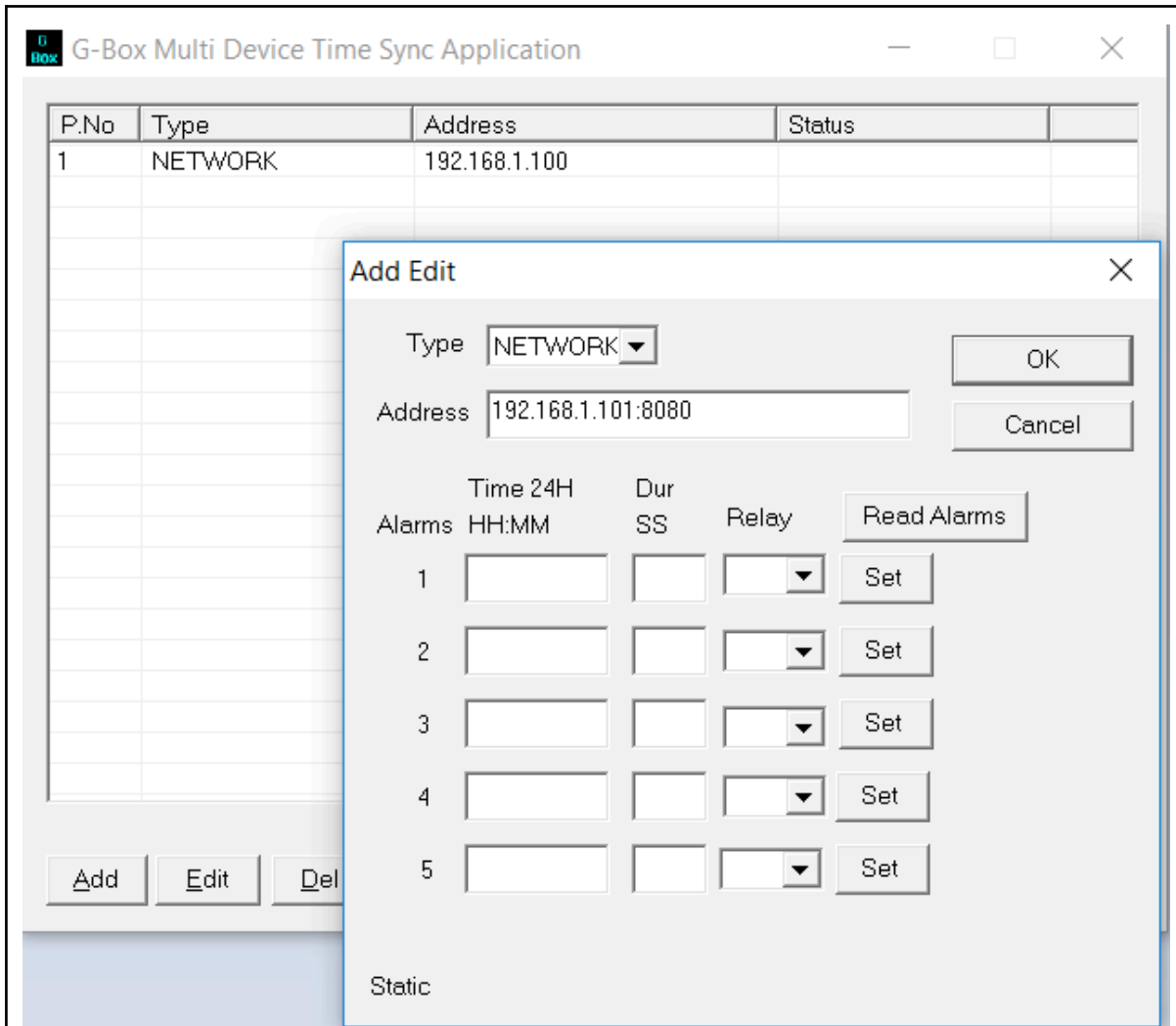
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Application Software

Install G-Box multi Device Time Sync application exe file.
Open the G-Box multi Device Time Sync application exe file.

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Using the PC App one can add the **IP Address:Port** of the Ethernet Clocks. One can also add RS485 Clocks Similarly by providing the **ID** of the clock. In the same Screen you can also setup Alarm Times (**This is an optional Feature and does not come in the default board**).

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G-Box Multi Device Time Sync Application

P.No	Type	Address	Status
1	NETWORK	192.168.1.100	
1	NETWORK	192.168.1.101:8080	
2	RS-485	02	
3	RS-485	03	

Settings

ComPort   \\\\COM1   Ex: \\\\COM11

Refresh   60   Sec

☐ Auto Start

[OK]   [Cancel]

[Add] [Edit] [Del] [Send] [Start] [Settings] [Exit]

Using the Settings Option one can set how often the PC app updates the time to the clocks.

Using the Settings Option one can set the COM Port for the RS-485 transmitter.
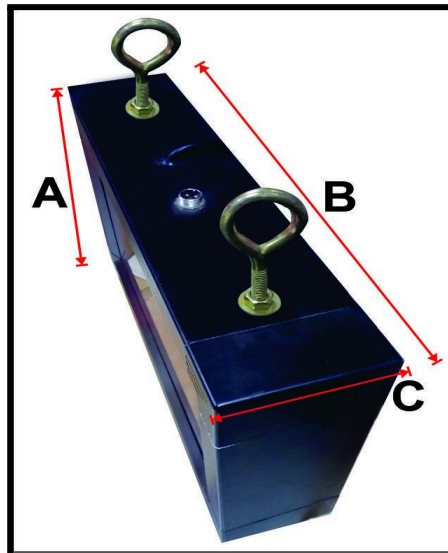

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Dimensions

All Units in mm

Model No	A	B	C
ECON-IC-LAN-CLK-HM-11	250	410	93
ECON-IC-LAN-CLK-HM-23	410	1050	93
ECON-IC-LAN-CLK-HMS-12	250	730	93
ECON-IC-LAN-CLK-HMS-24	410	1370	93

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.

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