

LED LAN/RS485 Clocks

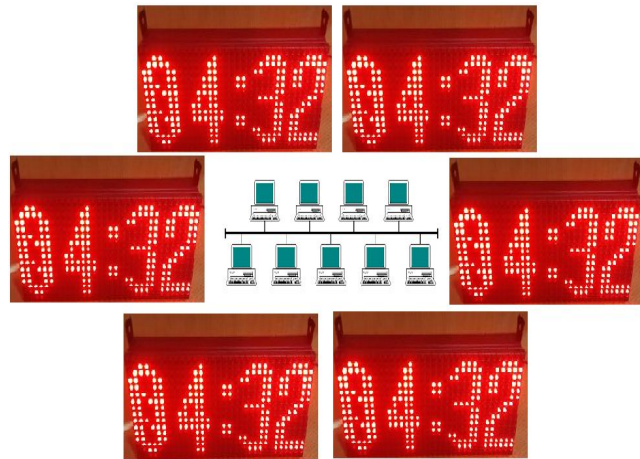
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**Low Cost & Industrial Grade
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Description

Led LAN/RS485 clocks allows the use of the time in a Windows PC to synchronize the time in the clocks with LAN network or RS485 Network .The PC application can be used to set the time. The app can run in the system tray updating the clock at specified intervals from either the PC time or a NTP server. The clock has an ethernet port or a RS-485 Terminal and a PC application is provided to set up Network Parameters like IP address etc. The Clock Sync app communicates over Ethernet or RS-485 Bus with the clock.



**LAN based clock with
synchronization software**

Product Features

- Ideal to synchronize multiple clocks for industrial plants and large facilities.
- LAN clock can be connected to your LAN. Install PC software. PC sends its time to all connected LAN clocks.Default IP address is 192.168.1.1.
- Simple PC application software supplied along with clock to enable IP setting and time sending from your LAN PC.
- An RJ45 Ethernet jack is provided for each clock. Standard 10/100 BASE-T Ethernet is supported.
- Multiple Slave Clocks can be connected through LAN /RS485 Network.
- Outdoor clocks are made with Weather resistant casing (IP65 equivalent)

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Notes and Options.

- LAN cable not part of Clock supply.
- All display are in Single colour.
- The Default supply is always in RED colour.
- Other colours on request at extra cost.
- RED colour Brightness is good for viewing both indoors and outdoors.
- For outdoor units – cost increases by 18% on base price.
- Titles and other fixed designs can be added to your specification.
- All units work off 230V AC mains (110V can be quoted for separately)
- Mounting provision
 - #1 – Top eye bolts – you can hang it from ceiling.
 - # 2 – Side clamps – you can bolt it to your supports.

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

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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)

Electrical connections

Hardware Installation for LAN clocks

- 1) Keep static IP address reserve for each clock, it do not Support "DHCP".
- 2) Before installation on site first Configure clock with IP Address, Subnet mask, Gateway and Device name of Each clock
- 3) After configured clock, Install all clock on site and connect in LAN network
- 4) Install "G-Box Multi device Time Sync " software properly.
- 5) Switch – ON supply to all Digital clocks.
- 6) Add the Clock IP Addresses to the Application.
- 7) The PC application will start to send PC Time to the clocks at specified intervals.

LAN Connector in the cabinet



Connection to LAN Clocks



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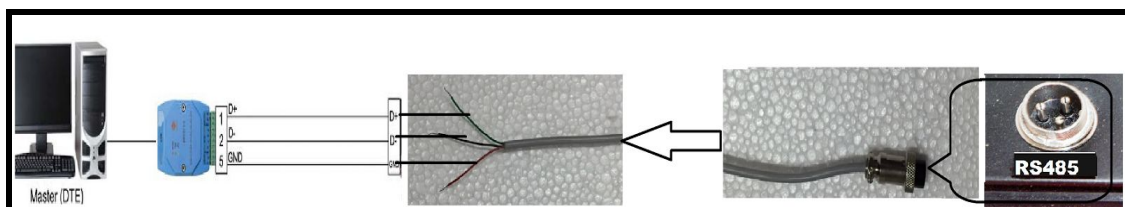
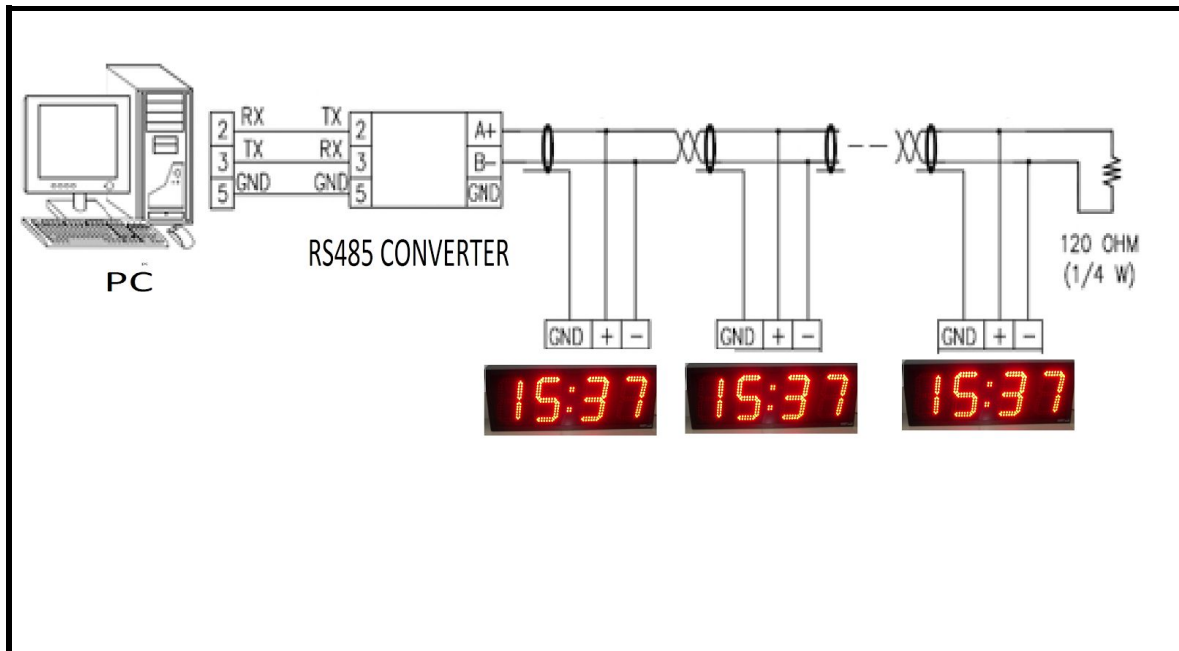
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Hardware Installation for RS485 clocks

- 1) Load "G-Box Multi device Time Sync" software properly
- 2) Connect RS 485 Converter to PC
- 3) Connect all Digital clocks (looping) as per Diagram Tx+ to D+ and Tx- to D-
- 4) Use 2 core twisted pair cable with shield for better performance or Communication Cable CAT5/ CAT6 with shield and Ground one End of shield
- 5) Switch – ON supply to all Digital clocks.
- 6) The PC application will start to send PC Time to the clocks at specified intervals.



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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.

The screenshot shows the 'G-Box Multi Device Time Sync Application' window. It features a table with the following data:

P.No	Type	Address	Status
1	NETWORK	192.168.1.100	

An 'Add Edit' dialog box is overlaid on the table. It contains the following fields and controls:

- Type: NETWORK (dropdown)
- Address: 192.168.1.101:8080 (text input)
- Buttons: OK, Cancel
- Alarms section with columns: Time 24H (HH:MM), Dur (SS), Relay (dropdown), Read Alarms (button)
- Five rows for Alarms 1 through 5, each with a 'Set' button.
- Static label at the bottom.

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.

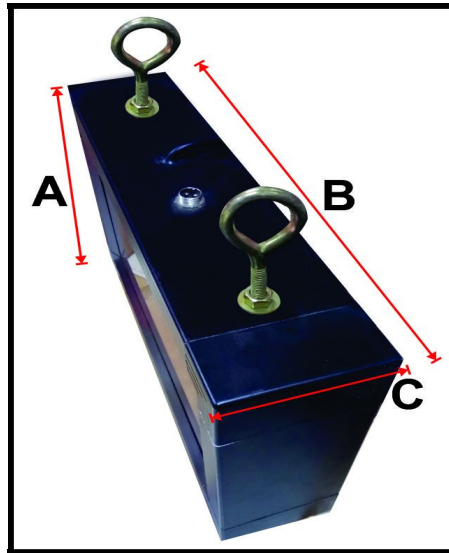
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Dimensions



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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