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Innovative measurement and control solutions for OEMs

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**MOB-T-240128**  
Module On Board Panel  
MOB-T-240128-W

Revision 1.00  
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## 1- Overview:

Haidar Technology Module On board (MOB) LCDs offer the designers fast, perfect and all-in-one solutions for their graphical user interface application, which highly improve the look and feel of their end products.

MOB-T-240128-x-x panels are based on NHD-240128WG LCD from Newhaven and Haidar Technology GUI LCD module **GLC-M11** offering a unique combination of performance enhancements. These include:

- Newhaven **NHD-240128WG** FSTN 240X128 LCD featuring a wide operating temperature, high contrast, high brightness, and high ambient-light legibility.
- Haidar Technology **GLC-M11** module mounted on the rear of the LCD. GLC-M11 includes all the necessary software and hardware to control/drive the LCD (see GLC-M11 manual for more information). Only a 16-pin IDC connector is required to connect the display to your host controller.
- Optional 8 wire resistive touch screen.

## 2- Features:

- **ROHS Complaint**
- TTL RS232 interface
- High voltage converter for the CCFL back light
- Single +5V power supply
- Buzzer and status LEDs on board
- Simple interface ( single 16-pin connector)
- All-in-one solution ( module mounted to the rear of the LCD)

## 3- Part Number:

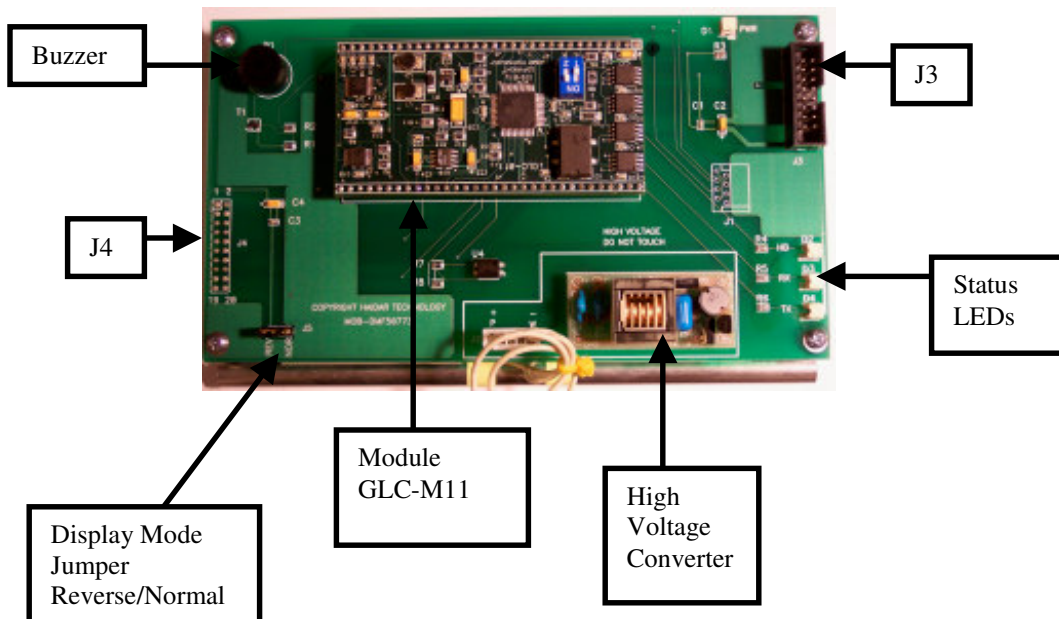
HT Part No.	LCD Part No.	Color	LCD Size	LCD Res.	Touch Screen
MOB-T-240128-W	NHD-240128WG	White CCFL Back light	5.4"	240X128	No
MOB-T-240128-W-T	NHD-240128WG	White CCFL Back light	5.4"	240X128	Yes

## 4- Applications:

- Consumer products
- Industrial test and process control equipment
- Computer peripherals
- Industrial panel meters and data collection displays
- Medical instrumentation

#### 4- Dimensions:

All dimensions in inches



## 6- Connectors

- **J1, 4-pin 1mm FFC connector for touch screen interface**

1	YL
2	YL REF
3	YU REF
4	YU
5	XR
6	XL
7	XL REF
8	XR REF

- **J3, 16-pin standard IDC connector**

Pin Number	Pin Name	Pin Type	Pin Description
1	+5V	PWR	+5V DC In ( 500 MA)
2	+12V	PWR	+12V DC for CCFL HVC
3	GND	PWR	Ground reference
4	GND	PWR	Ground reference
5	RS232-Rx	TTL IN	RS232 Receiver
6	RS232-Tx	TTL OUT	RS232 Transmitter
7	RS422-DE	TTL OUT	RS422 Data Enable
8	AIN-CH0	Analog IN	CH0 Analog input ( 0 – 5V) for chart update
19	AIN-CH1	Analog IN	CH1 Analog input ( 0 – 5V) for chart update
10	AIN-CH2	Analog IN	CH2 Analog input ( 0 – 5V) for chart update
11	HSS	TTL IN	Horizontal Scanning Signal for chart update
12	Alarm-LED	TTL OUT	This output can be used as general visual alarm controlled by software. LED with limiting resistor can be connected to this pin.
13	Buzzer	TTL OUT	This output can be used as general audible alarm controlled by software. A buzzer with proper current sink can be connected to this pin ( This pin is already connected to the buzzer on board)
14	BL-ON/OFF	TTL OUT	This TTL Output indicates the status of the LCD back light. 1 => ON 0 => OFF It can be used to turn external light ( front panel lighting) ON or OFF
15	BL-LED +	PWR out	This pin can be used to drive external light (LED). See GLC-M11 for more information
16	BL-LED -	GND	

- **J2, 5-pin 2.54mm pitch for LCD back light**

1	Power Supply for Driving CCFL
2	NC
3	NC
4	NC
5	Power Supply for Driving CCFL

- **J4, 20 pin standard IDC connector for LCD interface**

1	GND ( Frame Ground)
2	GND
3	VDD (+5V)
4	VEE
5	WR
6	RD
7	CS
8	C/D
9	NC
10	RESET
11	D0
12	D1
13	D2
14	D3
15	D4
16	D5
17	D6
18	D7
19	GND (8X8 pixel/font)
20	Rev/Nor ( H = Rev, L = Nor)

## 7- Status LEDs:

D1	Power ON
D2	Heart Beat LED ( Flashing at 4HZ rate ) indicating the module is running normally
D3	RX-LED ( every time the module receives data, this LED flashes)
D4	TX-LED (every time the module sends data, this LED flashes)

## 8- Interface:

Please see GLC-M11 Manual for more information.

### Important Note:

- The following Configuration bytes are internally fixed by code, changing them through the Module Configuration Utility has no effect on the module performance.  
LCDResX = 240  
LCDResY = 128  
RAM-SEL = 8Kbyte  
Graphic controller = Toshiba T6963
- In the programming mode, the display will be initialized normally and there is no need to disconnect the display in the programming mode. All commands will be accepted except the touch screen commands.