

# Graphic VFD Module GU140x16G-7000

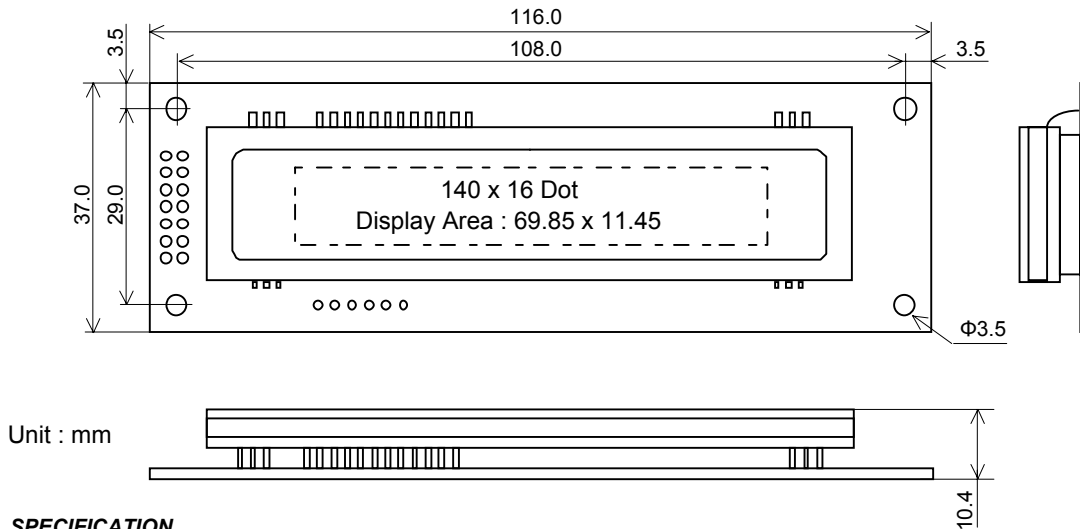
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Ref. MC-016 Dec.02

- Character Graphic, Transformerless display
- Size compatible with LCD Module (U-Version)
- Single 5V power supply
- High Brightness Blue Green display
- Operating temp -40°C to +85°C
- Proportional and scalable fonts
- Screen saver & window definition function
- 8 level brightness control function
- 8 bit Parallel, RS232C serial Interface

The module includes the Vacuum Fluorescent Display glass, driver and micro-controller lcs with refresh RAM, character generator and interface logic. This module have 8 bit parallel & RS232C serial interface. The module can simultaneously display graphic pattern and / or characters on screen.

**Sample software available**



## ELECTRICAL SPECIFICATION

Parameter	Symbol	Value
Power Supply Voltage	VCC	5.0VDC
Power Supply Current	ICC	260mADC typ.
Logic Hi Input (Parallel)	VIH	0.8VDC min. Vcc max.
Logic Low Input (Parallel)	VIL	0VDC min. 0.2VDC max.
Logic Hi output (Parallel)	VOH	3.5VDC min. 3.8VDC min.
Logic Low output (Parallel)	VOL	0VDC min. 0.6 DC max.
Logic Hi Input (RS232)	VIH	3.0VDC min. 15VDC max.
Logic Low Input (RS233)	VIL	-15VDC min. -3VDC max.
Logic Hi output (RS233)	VOH	5.0VDC min.
Logic Low output (RS232)	VOL	-5VDC max.

## OPTICAL and ENVIRONMENTAL SPECIFICATIONS

Parameter	Value
PCB Size (X x Y mm)	116.00 x 37.00
Display Area (X x Y mm)	69.85 x 11.45
Dot size / Pitch (X x Y mm)	0.35 x 0.58 / 0.50 x 0.73
Luminance	700 cd/m <sup>2</sup> Typ.
Color of Illumination	Blue Green (Filter for more colors)
Operating Temperature	-40°C to +85°C
Operating Humidity	20 to 80 % RH (non condensing)

## SOFTWARE COMMANDS - Popular codes, more includec

Command	Code
Write Character to Display	20H~FFH
Cursor Set	1FH 24H xL xH yL yH
Initialize Display	1BH 40H
Specify International Font	1BH 52H n
Vertical / Horizontal Scroll Mode	1FH 02H / 1FH 03H
Screen Saver	1FH 28H 61H 40H p
Display Blink	1FH 28H 61H 11H p t1 t2 c
Bit Image Display Group	1FH 28H 66H 11H xL xH
Font Magnified Display	1FH 28H 67H 40H x y
Brightness Level Setting	1FH 58H n

## COMMON FONT

	2	3	4	5	6	7
	xH	xH	xH	xH	xH	xH
x0H	0	1	2	3	4	5
x1H	6	7	8	9	A	B
x2H	C	D	E	F	G	H
x3H	I	J	K	L	M	N
x4H	O	P	Q	R	S	T
x5H	U	V	W	X	Y	Z
x6H	[	\	]	^	_	`
x7H	{		}	~		
x8H						
x9H						
xAH						
xBH						
xCH						
xDH						
xEH						
xFH						

## INTERNATIONAL FONTS

	8	9	A	B	C	D	E	F
	xH	xH	xH	xH	xH	xH	xH	xH
x0H	0	1	2	3	4	5	6	7
x1H	8	9	A	B	C	D	E	F
x2H	G	H	I	J	K	L	M	N
x3H	O	P	Q	R	S	T	U	V
x4H	W	X	Y	Z	[	\	]	^
x5H	_	`	{		}	~		
x6H								
x7H								
x8H								
x9H								
xAH								
xBH								
xCH								
xDH								
xEH								
xFH								

n=0  
n=19

## RS232C Serial Interface - CN2

Pin	Asyn. Sig
1	Vcc
2	SIN
3	GND
4	SBUSY
5	NC
6	/RESET

## Parallel interface- CN1

Pin	Sig	Pin	Sig
1	GND	2	Vcc
3	NC	4	RS
5	/W	6	/RD
7	D0	8	D1
9	D2	10	D3
11	D4	12	D5
13	D6	14	D7

Please inquire for full specification.

\*\* Subject to change without notice \*\*