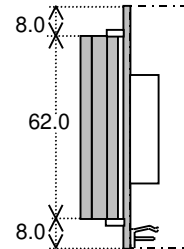
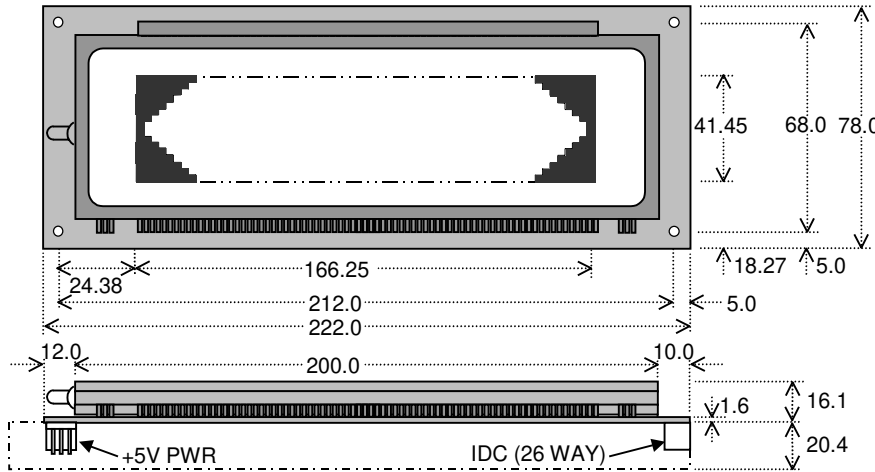


# Dot Graphic VFD Module

# GU256x64-372

- ❑ 256 x 64 Dot Graphic
- ❑ Operating Temp -0°C to +50°C
- ❑ Single 5V Supply.
- ❑ High Brightness Blue Green Display
- ❑ 8 bit High Speed Parallel Interface
- ❑ ASCII + Extended Character Font
- ❑ Twin Graphic/Character RAM
- ❑ 4 Level Brightness Control Function

The module includes the Vacuum Fluorescent Display glass, driver and control ASIC, with refresh RAM, character generator and interface logic. The high speed 8 bit parallel interface is 5V CMOS compatible suitable for connection to a host CPU bus. Brightness control and power down functions are provided. A full data sheet is available.



Dimensions in mm & subject to tolerances.  
Mounting holes 3.5mm dia.

## ELECTRICAL SPECIFICATION

Parameter	Symbol	Value	Condition
Power Supply Voltage	Vcc	5.0VDC +/- 5%	GND=0V
Power Supply Current	Icc	2.0ADC typ.	Vcc=5V
Logic High Input	VIH	2.2VDC min.	Vcc=5V
Logic Low Input	VIL	0.8VDC max.	Vcc=5V
Logic High Output	VOH	Vcc-0.8VDC min.	IOH = -40uA
Logic Low Output	VOL	0.5VDC max.	IOL = 1.6mA

The power on rise time should be less than 100ms. The inrush current at power on can be 2 x Icc.

## OPTICAL and ENVIRONMENTAL SPECIFICATIONS

Parameter	Value
Display Area (XxY mm)	166.25 x 41.45
Dot Size/Pitch (XxY mm)	0.5 x 0.5/0.65
Luminance	515 cd/m <sup>2</sup> (150 fL) Typ.
Colour of Illumination	Blue-Green (Filter for colours)
Operating Temperature	0°C to +50°C
Storage Temperature	-20°C to +70°C
Operating Humidity (non condensing)	20 to 80% RH @ 25°C

## SOFTWARE COMMANDS

Instruction	D0-D4
Screen On/Off Control	00H-03H
Auto Increment Cursor	04H-05H
Character/Graphic Screen 2	06H-07H
Data Write/Data Read	08H-09H
Set Screen 1/ 2 RAM Address	0AH-0DH
Set Cursor Address	0EH-0FH
Screen1/2 Merge Control	10H-12H
Screen Luminance Control	18H-1BH

## INTERFACING

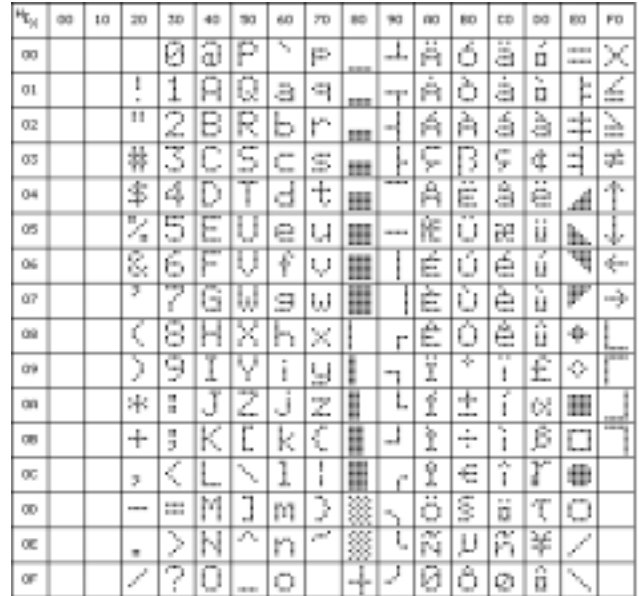
Function	/CS	/WR	/RD	C/D	/BL
Command Write	0	0-1	1	1	-
Data Setting	0	0-1	1	0	-
Display Data Read	0	1	0	0	-
Display Blanking	-	-	-	-	0

As no BUSY signal is available between the processor and module, accessing time between data is required to be greater than 2µs.

## IDC DATA CONNECTOR

Pin	Sig	Pin	Sig
1	D7	2	GND
3	D6	4	GND
5	D5	6	GND
7	D4	8	GND
9	D3	10	GND
11	D2	12	GND
13	D1	14	GND
15	D0	16	GND
17	WR	18	GND
19	C/D	20	GND
21	RD	22	GND
23	CS	24	GND
25	FRP	26	BL

## CHARACTER FONT



## POWER CONNECTOR

Pin	Sig
1	Vcc (5V)
2	NC
3	GND

## TIMING PARAMETERS (min)

Write Pulse Width	100ns
Hold after Write	20ns
FRP Cycle Time	10.4ms
FRP Pulse Width	81µs

## SCREEN COMBINATIONS

The display memory (RAM) has the capacity of producing two display screens for graphic, plus graphic and ASCII characters. This enables up 4 different display combinations, via software commands.

## CONTACT

**Noritake Sales Office Tel Nos**  
**Nagoya Japan: +81 (0)52-561-9867**  
**Canada: +1-416-291-2946**  
**Chicago USA: +1-847-439-9020**  
**Munchen (D): +49 (0)89-3214-290**  
**Itron UK: +44 (0)1493 601144**  
**Rest Europe: +49 (0)61-0520-9220**  
**www.noritake-elec.com**

Subject to change without notice.  
IUK Doc Ref:00925 Iss:4 6Sept00