

VGA Expansion Module User Guide

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Introduction

Numato Lab's VGA display module provides an easy and cost effective way to add VGA display to your custom project using a 12pin connector. It is designed to be used with Numato Lab's FPGA boards featuring a 2x6 pin Expansion connector (Boards without 2x6 Expansion Connector may need IO breakout modules or manual wiring)

Applications

- Learning Prototyping
- Simple game consoles
- Customer information and token display

Board features

- Dimension: 38mm X 39mm
- 8 bit color depth

How to use the module

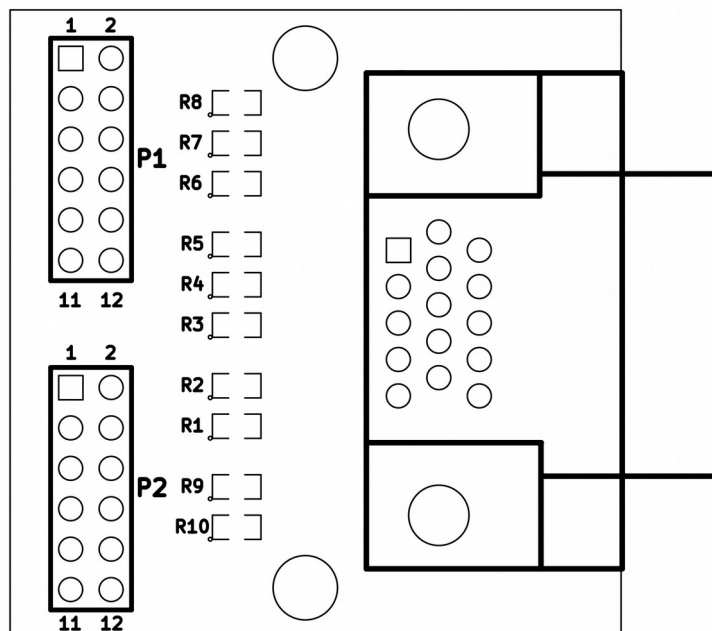
The following section describes how to use this module.

Components/Tools required

Along with the module, you may need the items in the list below for easy and fast installation.

1. Any FPGA board featuring two 2x6 pin Expansion connectors.

Connection Diagram



This diagram should be used as a reference only. For detailed information, see the schematics at the end of this document. Details of individual connectors are as below.

Connection Details

Header P1

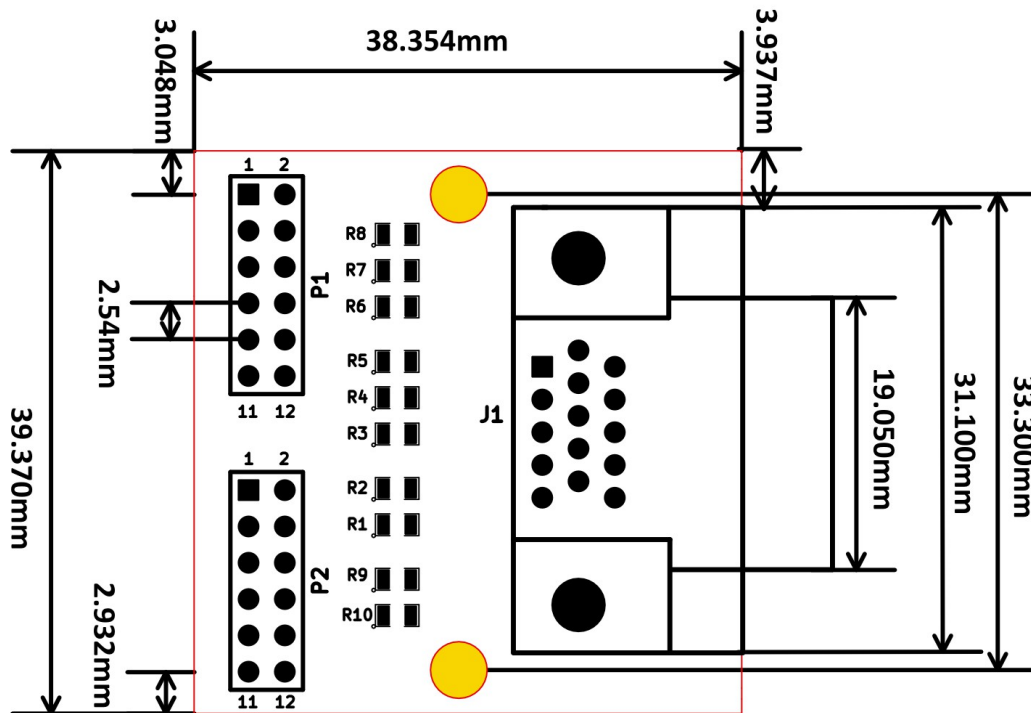
Header Pin No.	Pin Details
1	R2
2	R1
3	R0
4	G2
5	G0
6	G1
7	B0
8	B1
9	GND
10	GND
11	VCC3V3
12	VCC3V3

Header P2

Header Pin No.	Pin Details
1	HSYNC
2	VSYNC
3	-
4	-
5	-
6	-
7	-
8	-
9	GND
10	GND
11	VCC3V3
12	VCC3V3

For more information, please refer to the schematics below.

Physical Dimensions

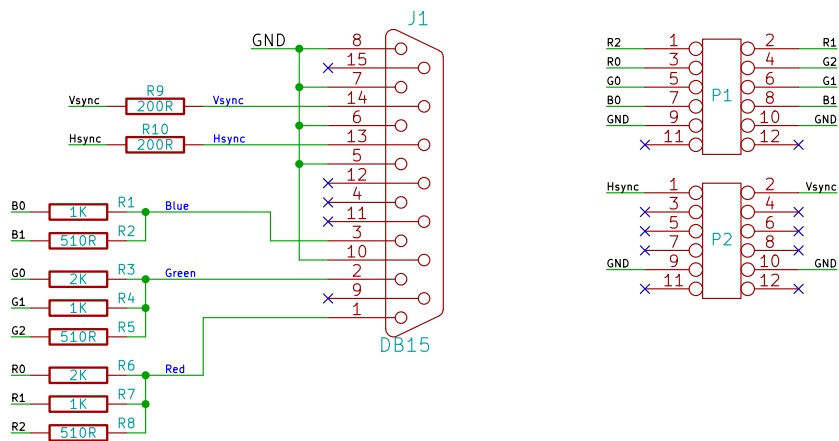


L x W x H : 39.370 mm x 38.354 mm x 17 mm
Mechanical Hole Diameter : 3.0 mm

Schematics

See next page

VGA Connector Expansion Connectors



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