



**DMP**

No.15, Wugong 5th Rd., Xinzhuang Dist., New Taipei City  
24890, Taiwan (R.O.C.)

# RoBoard Module

## RM-G212

Manual V1.01

The Heart of Robotics

Jan 2013

DMP Electronics Inc

ROBoard

## • Copyright

The information in this manual is subject to change without notice for continuous improvement in the product. All rights are reserved. The manufacturer assumes no responsibility for any inaccuracies that may be contained in this document. And makes no commitment to update or to keep current the information contained in this manual.

No part of this manual may be reproduced, copied, translated or transmitted, in whole or in part, in any form or by any means without the prior written permission of the DMP Electronics Inc.

©Copyright 2013 DMP Electronics Inc.

Manual No. RM-G212-01 Ver.1.01 • Jan, 2013

## • Trademarks Acknowledgment

Other brand names or product names appearing in this document are the properties and registered trademarks of their respective owners. All names mentioned herewith are served for identification purpose only.

# Table Of Contents

|  |           |
|--|-----------|
| <b>Chapter 1</b> .....                             | <b>4</b>  |
| 1.1 Packing List.....                              | 4         |
| 1.2 Product Description.....                       | 5         |
| 1.3 Specifications.....                            | 6         |
| 1.4 I <sup>2</sup> C Address .....                 | 6         |
| 1.5 Board Dimension .....                          | 7         |
| <b>Chapter 2</b> .....                             | <b>7</b>  |
| 2.1 Board Outline.....                             | 8         |
| 2.2 Connectors & Jumpers Summary .....             | 8         |
| 2.3 Pin Assignments .....                          | 9         |
| <b>J1: I<sup>2</sup>C connector (Top)</b> .....    | 9         |
| <b>J2: I<sup>2</sup>C connector (Bottom)</b> ..... | 9         |
| <b>Chapter 3</b> .....                             | <b>10</b> |
| Sample and development code.....                   | 10        |

# Chapter 1

## Introduction

### 1.1 Packing List

| Product Name   | Package                |
|--|------------------------|
| RM-G212  | RoBoard Module RM-G212 |
|   |                        |
| Cable-RM-1   | 1x6 pin Cable x 1      |
|  |                        |

## 1.2 Product Description

The RM-G212 is a 16X4 array of thermopile sensors suitable to detect thermal radiation and measure temperatures without making contact with the object.

The RM-G212 utilizes innovative non-contact temperature measurement technology to create a highly cost-effective thermography solution.

Covering a -20°C to 300°C temperature range, this 16 x 4 element far infrared (FIR) thermopile sensor array produces a map of heat values for the target area in real time, avoiding the need to scan the area with a single point sensor or the use of an expensive microbolometer device.

The RoBoard Module RM-G212 is an 16x4 thermal array module, simply and all done through I2C interface, the dimension of it is wee as 20 x 20 mm.

Application:

- [Comfort Sensing](#)
- [misting/fogging detection and prevention](#)
- [Seat Occupant Detection](#)
- [Vision Systems \(Night, Fog, Avoidance, Tracking\)](#)
- [Access Control](#)
- [Motion Sensor](#)
- [Temperature measurement](#)
- [Alarm and Security Systems](#)
- [Room Temperature Sensing](#)
- [Anti-Theft Protection](#)
- [Temperature measurement](#)
- [Machine Vision](#)
- [Diagnosis Systems](#)

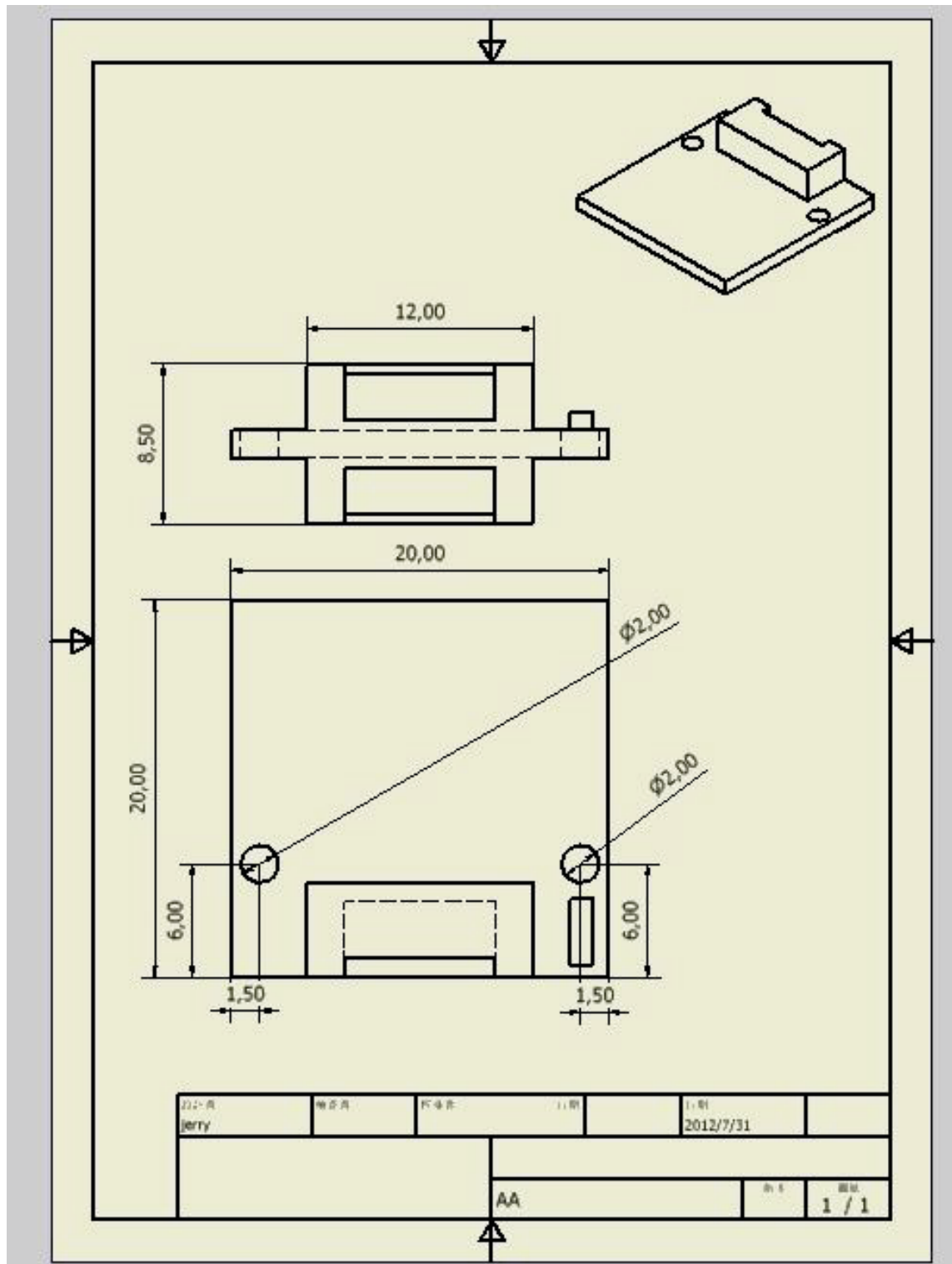
## 1.3 Specifications

|                 |   |
|-----------------|---|
|                 | RM-G212 16x4 thermal array module           |
| 16x4 IR array   | Melexis MLX90620                            |
| Interface       | I <sup>2</sup> C                            |
| Default Address | EEPROM : 0x50<br>RAM : 0x60                 |
| Connectors      | 1.25mm 6-pin wafer for I <sup>2</sup> C x 2 |
| Power Input     | DC-in 5V                                    |
| Dimension       | 20mm X 20mm                                 |
| Weight          | 2.5g  |

## 1.4 I<sup>2</sup>C Address

- EEPROM : 0x50
- RAM : 0x60

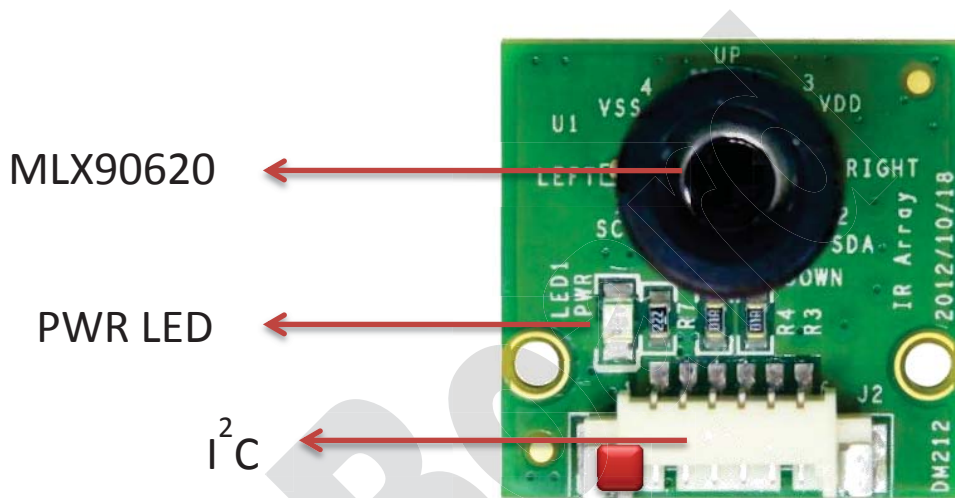
## 1.5 Board Dimension



# Chapter 2

## Installation

### 2.1 Board Outline



### 2.2 Connectors & Jumpers Summary

Summary Table

|           | Description                         | Type of Connections | Pin   |
|-----------|-------------------------------------|---------------------|-------|
| <b>J1</b> | I <sup>2</sup> C connector (Top)    | Wafer, 2.54mm,6x1   | 6-pin |
| <b>J2</b> | I <sup>2</sup> C connector (Bottom) | Wafer, 2.54mm,6x1   | 6-pin |



## 2.3 Pin Assignments

### J1: I<sup>2</sup>C connector (Top)

| Pin # | Signal Name |
|-------|-------------|
| 1     | Vcc (Red)   |
| 2     | GND (Black) |
| 3     | SCL (Blue)  |
| 4     | SDA (Green) |
| 5     | X (White)   |
| 6     | X (Orange ) |

### J2: I<sup>2</sup>C connector (Bottom)

| Pin # | Signal Name |
|-------|-------------|
| 1     | Vcc (Red)   |
| 2     | GND (Black) |
| 3     | SCL (Blue)  |
| 4     | SDA (Green) |
| 5     | X (White)   |
| 6     | X (Orange ) |

# Chapter 3

## Development Note

### Sample and development code

The RM-G212 provides sample and development code.

Please download from official website: <http://www.roboard.com>

### Warranty

This product is warranted to be in good working order for a period of one year from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster. Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, originality to use this product. Vendor will not be liable for any claim made by any other related party. Return authorization must be obtained from the vendor before returned merchandise will be accepted. Authorization can be obtained by calling or faxing the vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description.