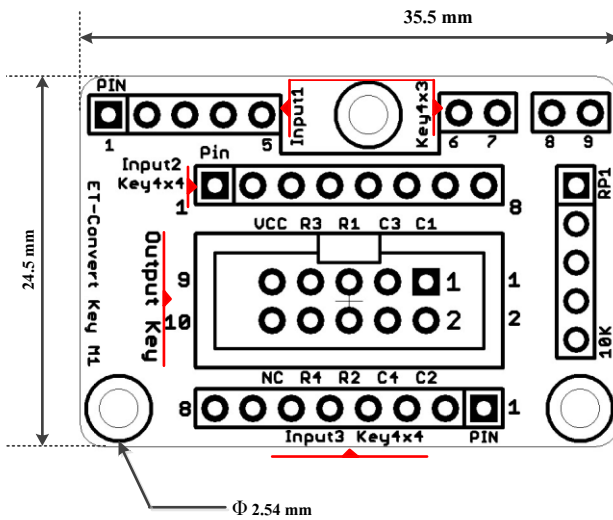
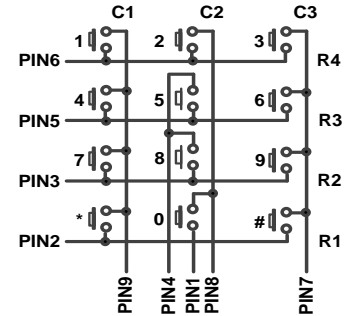


Board **ET-Convert Key M1** converts PIN of Key Pad Matrix 4x4 and 4x3 to be Connector Box 10 Pin that is easier to interface and use with Board MCU or Board ET-Matrix Key Decoder of ETT.



**Structure:** It consists of 3 Inputs to interface with Key Pad and another 1 Output is Connector Box 10 Pin to interface with Pair Cable as described below;

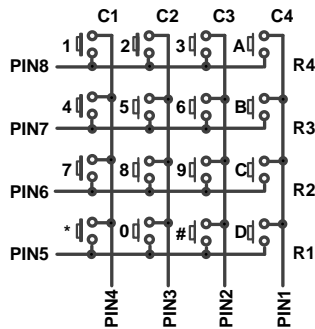
**-Input1 Key4x3:** It is joined with Key Pad 4x3 that must have the structure of Matrix Key, pin arrangement and position of Row/Column according to the Diagram below.



Feature of Key Pad 4x3

Diagram Key Pad 4x3

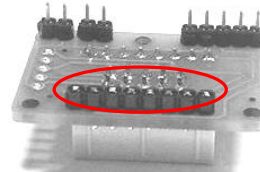
**-Input2 Key4x4:** It is joined with Key Pad 4x4 that must have the structure of Matrix Key, pin arrangement and position of Row/Column according to the Diagram below.



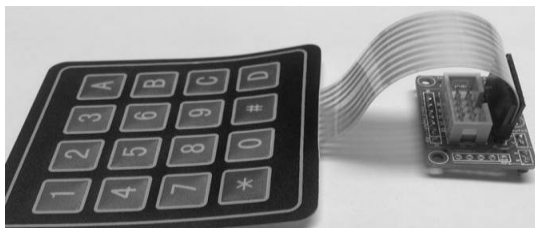
**How to interface Keypad4x3 with ET-Convert Key Input1**

**1. Cut Connector -Input3**

**2. Assemble Module with Key and solder the front Key**



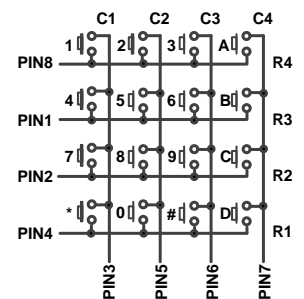
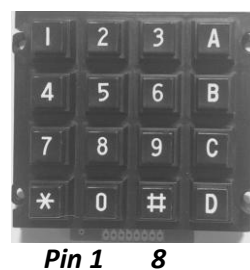
**How to interface Keypad4x4 with ET-Convert Key Input2**



**-RPI:** This OPTION is used to insert R-Pull up 10K for Pin Column C1, C2, C3, and C4 of Connector Output if Port Pin of the connected Board MCU has no any R-Pull up, or MCU cannot set Pull-Up insides when enabled as INPUT.

**-OUTPUT Key:** It is Connector OUTPUT of Matrix Key that is connected via Input1 or Input2 or Input3 and it will be converted into Connector Block 10 Pin. For pin arrangement of this Connector, please look at the figure below. User can use Pair Cable for connection directly. When writing program, it has to refer to new pin position and position of Row/Column as shown in the figure below; it has to set Pin of MCU that is connected with Pin C1, C2, C3, C4 as INPUT

**-Input3 Key4x4:** It is joined with Key Pad 4x4 that must have the structure of Matrix Key, pin arrangement and position of Row/Column according to the Diagram below.



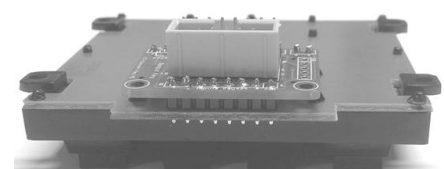
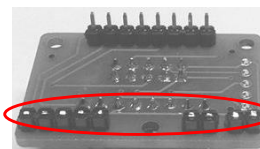
Feature of Key Pad 4x4

Diagram Key Pad 4x4

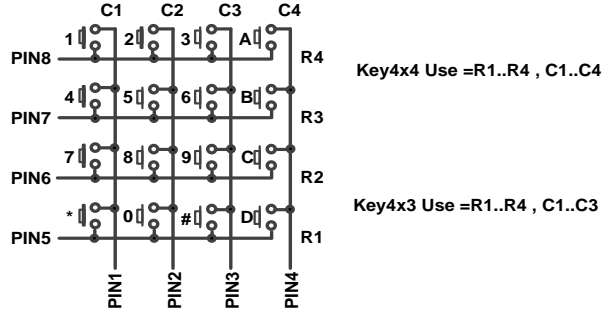
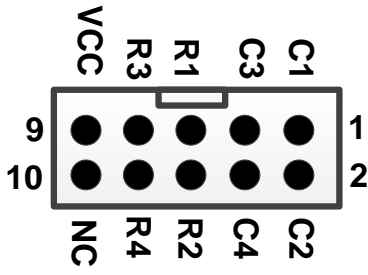
**How to interface Keypad4x4 with ET-Convert Key Input3**

**1. Cut Connector -Input1**

**2. Assemble Module with Key and solder the front Key**



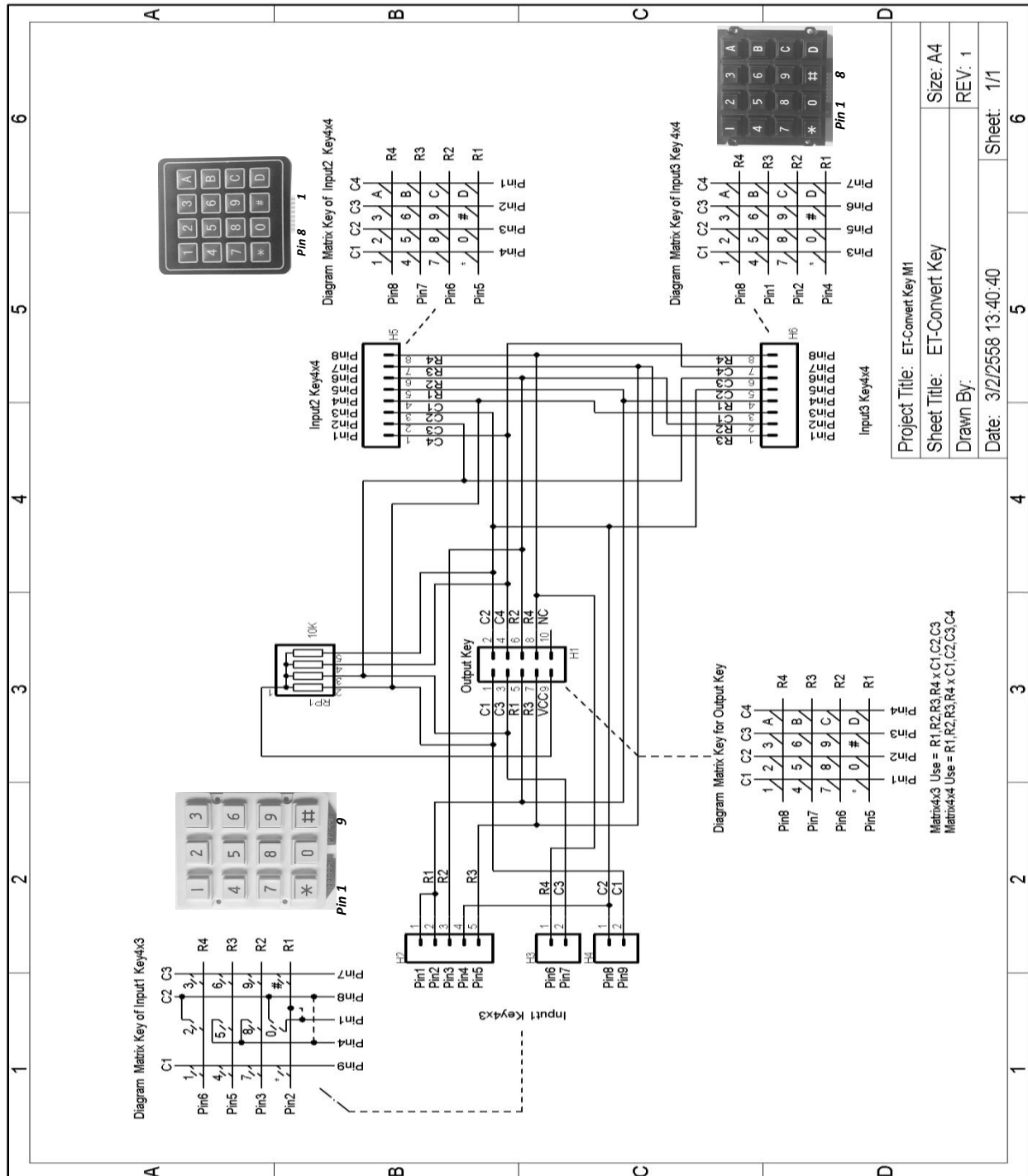
and set Pin of MCU that is connected with Pin R1, R2, R3, R4 as OUTPUT. In case of Key Pad 4x3, it is connected via INPUT to connect with OUTPUT, user considers and uses Pin Row = R1, R2, R3, R4 and Column = C1, C2, C3 only.



Pin Position of Connector Output Key

Diagram Output Key to be reference for writing program

**NOTE:** This OUTPUT Key can be connected with Port KEY\_IN1 of Board ET-Matrix Key Decoder directly to decode the Key.



Project Title:	ET-Convert Key M1
Sheet Title:	ET-Convert Key
Drawn By:	
Date:	3/2/2558 13:40:40
Size:	A4
REV:	1
Sheet:	1/1