

# User Guide

## Keypad

Release 1.00

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## 1 – Introduction



AiM Keypad is the new range of AiM compact expansions based on the CAN Bus protocol exclusively used on an AiM network; they can only be connected to AiM PDM08 or PDM32.

Keypad is available in different versions according to the number of pushbuttons it features and whose status is constantly transmitted to the Network Master through an AiM CAN connection.

All buttons are fully configurable using AiM RaceStudio 3 Software.

Each button can be set as:

- **Momentary:** the pushbutton status is ON when the pushbutton is pushed
- **Toggle:** the pushbutton status changes from ON to OFF each time the pushbutton is pushed
- **Multi-status:** the pushbutton value changes from 0 to a MAX Value each time the pushbutton is pushed.

You can also define a time threshold for each button that implies different behaviours when a SHORT or LONG compression event is detected.

Every pushbutton can be customised in a different colour or in a solid, slow, fast or blinking mode.

The keypad automatically shares all the installation channels that can be used – thanks to the colour LEDS – both to acknowledge a button compression event or to the status of a device.

Finally, it is possible to configure a pushbutton to increase or decrease the brightness level of the keypad, and to transmit commands to the master device.

The table below shows the characteristics of available Keypads versions.

	K6	K8	K15
<b>Buttons</b>	6 programmable	8 programmable	15 programmable
<b>Backlight</b>	RGB with Dimming option		
<b>Connection</b>	AiM CAN through 5 pins Binder 712 female connector		
<b>Body Material</b>	Rubber silicon and reinforced PA6 GS30%		
<b>Dimensions</b>	97.4x71x4x24mm	127.4x71.4x24	157.4x104.4x24
<b>Weight</b>	120g	150g	250g
<b>Waterproof</b>	IP67		



## 2 – Available kits and spare parts

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**Keypad available kits are:**

### **Keypad K6**

- Keypad K6+50 cm AiM CAN cable
- Keypad K6+100 cm AiM CAN cable
- Keypad K6+200 cm AiM CAN cable
- Keypad K6+400 cm AiM CAN cable

**X08KPK6AC050**  
**X08KPK6AC050**  
**X08KPK6AC050**  
**X08KPK6AC050**

### **Keypad K8**

- Keypad K8+50 cm AiM CAN cable
- Keypad K8+100 cm AiM CAN cable
- Keypad K8+200 cm AiM CAN cable
- Keypad K8+400 cm AiM CAN cable

**X08KPK8AC050**  
**X08KPK8AC100**  
**X08KPK8AC200**  
**X08KPK8AC400**

### **Keypad K15**

- Keypad K15+50 cm AiM CAN cable
- Keypad K15+100 cm AiM CAN cable
- Keypad K15+200 cm AiM CAN cable
- Keypad K15+400 cm AiM CAN cable

**X08KPK15AC050**  
**X08KPK15AC100**  
**X08KPK15AC200**  
**X08KPK15AC400**

All Keypads come with a **CAN cable** used to connect it to the master device but cables can also be bought separately as spare parts. The related part numbers are:

- 50 cm AiM CAN cable
- 100 cm AiM CAN cable
- 200 cm AiM CAN cable
- 400 cm AiM CAN cable

**V02554790**  
**V02554810**  
**V02554820**  
**V02554830**

### **Buttons icons:**

- 72 pieces icon kit
- single icon

**X08KPK8KICONS**

[click here to know each icon part number](#)

### 3 – Software configuration

For configuring AiM Keypads, please download AiM RaceStudio3 software from AiM website at [aim-sportline.com](http://aim-sportline.com) **Software/firmware download area:** [AiM - Software/Firmware download \(aim-sportline.com\)](http://aim-sportline.com)

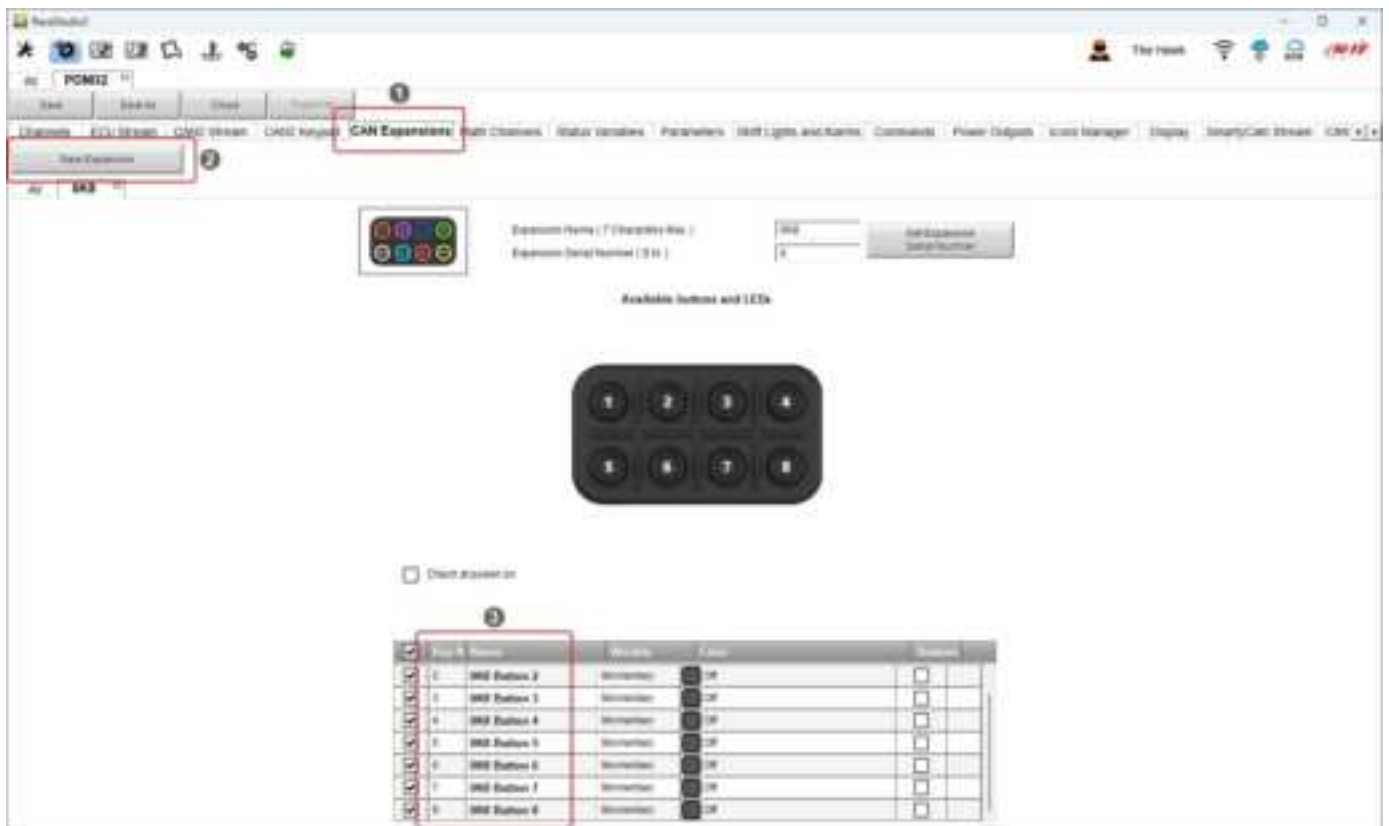
After having installed the software, run it and follow these steps:

- Enter the **Configuration Menu** by clicking the icon highlighted below:



- Press **"New"** button on the top right toolbar and select the PDM you wish to configure
- The software enters PDM Configuration
- Enter **"CAN Expansions"** tab (1) and press **"New Expansion"** (2)
- Select the desired Keypad (K8 in the example)
- Configure it

**Please note:** your master device can manage a maximum of 8 keypads.



### 3.1 – Pushbuttons configuration

Some quick notes before we start analysing how to configure AiM Keypads:

- pushbutton status can be set as **Momentary**, **Toggle** or **Multi-status** as explained in paragraph 3.1.1.; It is also possible to set a time threshold to manage short and long button compression in different ways
- pushbutton status is constantly transmitted through AiM CAN bus
- the status of each pushbutton at power OFF can be restored at the following power ON
- each pushbutton can be customized – solid or blinking – in 8 different colors as explained in paragraph 3.1.2
- it is possible to configure a pushbutton to increase or decrease the LED brightness level
- setting the pushbutton as **Momentary** you can associate a command (“**Menu enter**” etc.) to each pushbutton.

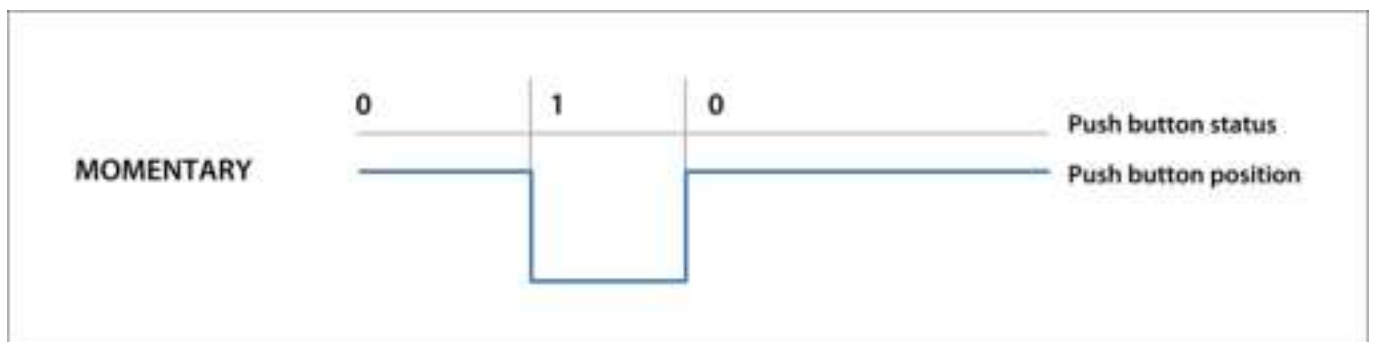
#### 3.1.1 – Pushbuttons status configuration

You may set different modes per every pushbutton:

**MOMENTARY.** the status is:

- ON when the pushbutton is pushed
- OFF when the pushbutton is released

**Please note:** both status ON and OFF can be freely associated with a numeric value.



**Please note:** only setting the pushbutton as Momentary, you can associate a command to each pushbutton but to do so it is necessary to have previously added a Display to PDM configuration.

With reference to the image below, **to add a display to PDM configuration:**

- enter Display tab (1)
- a selection panel is prompted select the one you will add (2)
- press "OK" (3) and select the desired display layout in the panel that is prompted



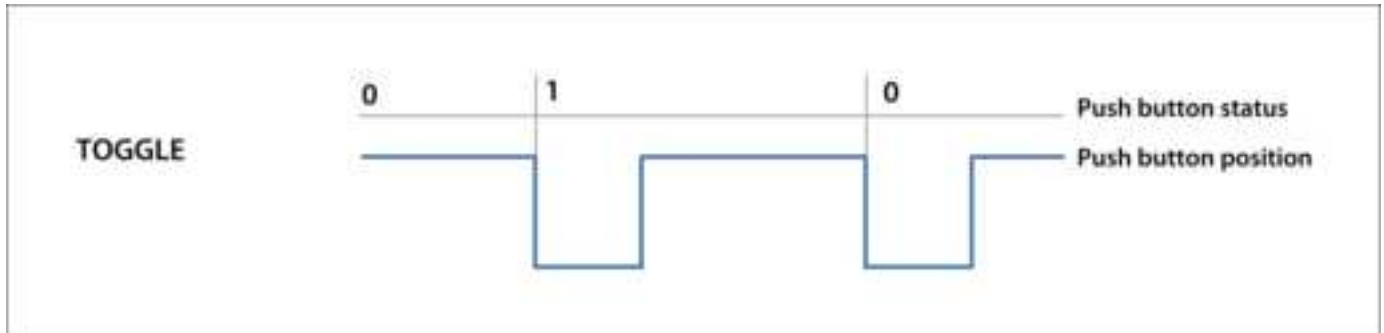
Available commands are:

- *Change display page:*
  - Next display page
  - Previous display page
- *Display button:*
  - Enter menu: to navigate the display menu: four pushbuttons are needed; they become white while the others are disabled. **Please note: used pushbuttons change according to the position – horizontal or vertical – of your keypad**, for this reason a selection of the position is necessary.
  - Enter recall: this command enters the display data recall after a test.
- *Reset alarms whose end condition is a button is pressed.*
- *Reset counters:*
  - Reset all odometers.
  - Reset odometer "x" (according to the number of available odometers)
- *Keypad brightness*
  - Increment
  - Decrement

**TOGGLE**, the status is:

- ON when the button is pushed once, and it remains ON until it is pushed again
- OFF when the button is pushed the second time.

**Please note:** both status ON and OFF can be freely associated with a numeric value



**MULTI-STATUS:** the status may assume different values that change every time the pushbutton is pushed. This setting is useful, for example, to select different maps or to set different suspension levels etc.

Name: OKB Button 1

Work As: ☐ Momentary ☐ Toggle ☒ **Multistatus** ☐ Restore last status at power on

☐ Use timing Time threshold between short and long status: sec 0.5

Position	Label	Value	Short Press leads to	Long Press leads to	
0	OFF	0	ON	LONG	[+ [-
1	ON	1	LONG	OFF	[+ [-
2	LONG	2	OFF	ON	[+ [-

**MULTISTATUS**

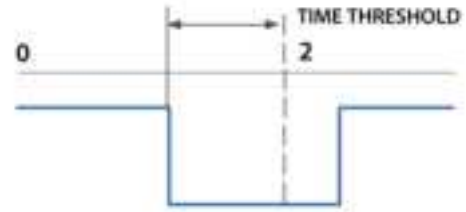
0 1 2 ... n 0

Push button status

Push button position

**No matter the mode the pushbutton is set you can also set a time threshold:** in this case, the pushbutton is set at two different values that you may define depending on how long you push it.

## SETTING WITH TIME THRESHOLD



To do so enable “use timing” checkbox on the top box of the setting panels.

Name: OK3 Button 2

Work As: ☒ Momentary ☐ Toggle ☐ Multistatus ☐ Restore last status at power on

☒ Use timing Time threshold between short and long status: sec 0.5

Rest Status			Active Status			Long Status		
Label	Value		Label	Value		Label	Value	
OFF	0		ON	1		LONG	2	

Set Command Set Command

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Name: OK3 Button 1

Work As: ☐ Momentary ☒ Toggle ☐ Multistatus ☐ Restore last status at power on

☒ Use timing Time threshold between short and long status: sec 0.5

Rest Status			Short Status			Long Status		
Label	Value		Label	Value		Label	Value	
OFF	0		ON	1		LONG	2	

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Name: OK3 Button 1

Work As: ☐ Momentary ☐ Toggle ☒ Multistatus ☐ Restore last status at power on

☒ Use timing Time threshold between short and long status: sec 0.5

Position	Label	value	Short Press leads to	Long Press leads to	
0	OFF	0	ON	LONG	[+] [-]
1	ON	1	LONG	OFF	[+] [-]
2	LONG	2	OFF	ON	[+] [-]



### 3.1.2 – Pushbutton colour configuration

Each pushbutton can be set with different colours to indicate the action performed by the driver and the feedback of that action: the pushbutton may be turned – for example – blinking (slow or fast) GREEN to show that it has been pushed, and solid GREEN when the action is activated.



## 4 – Keypad open versions

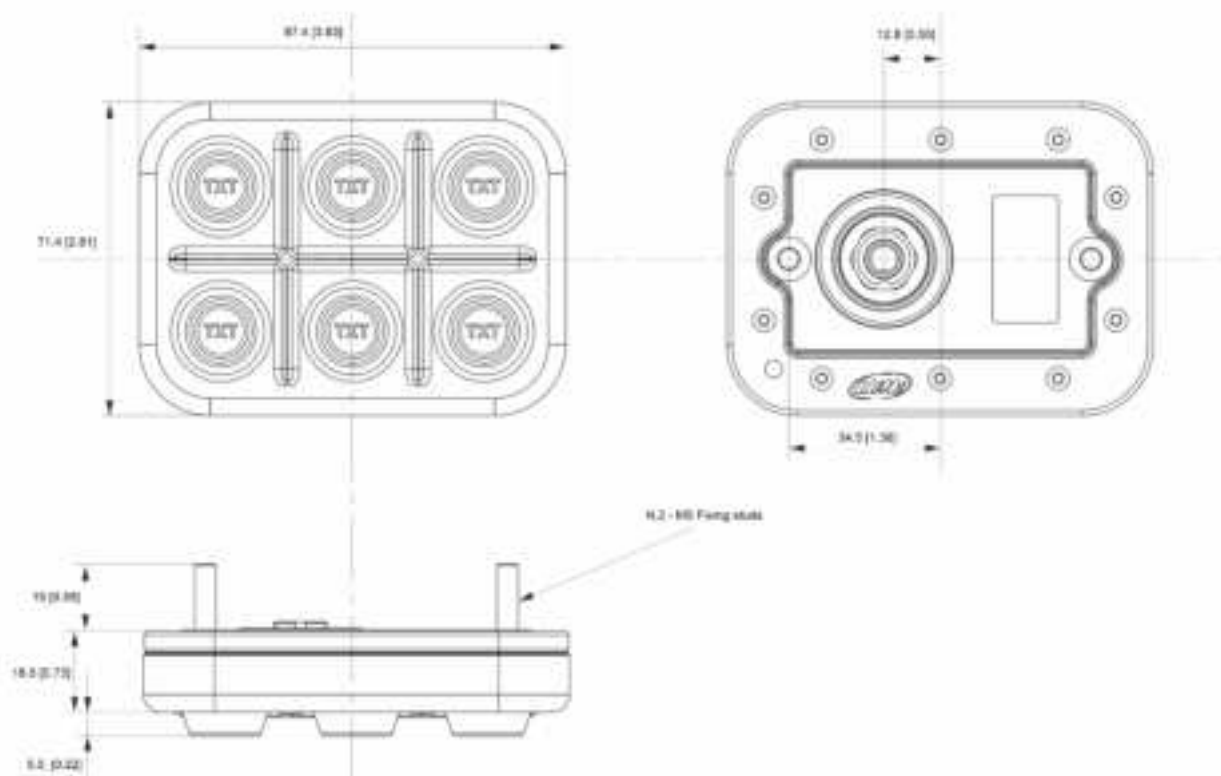
Keypad are also offered in an “Open” version that allows you to define the CAN streams. This version is intended to be used when an AiM master device is not present, but of course, you can use it in any AiM installation. In order to do so, you have to follow these steps:

- set the Keypad as “connected to AiM device”
- transmit the configuration
- open the configuration of the AiM Device
- select the expansion “Open” version and configure it as a normal Keypad K8.

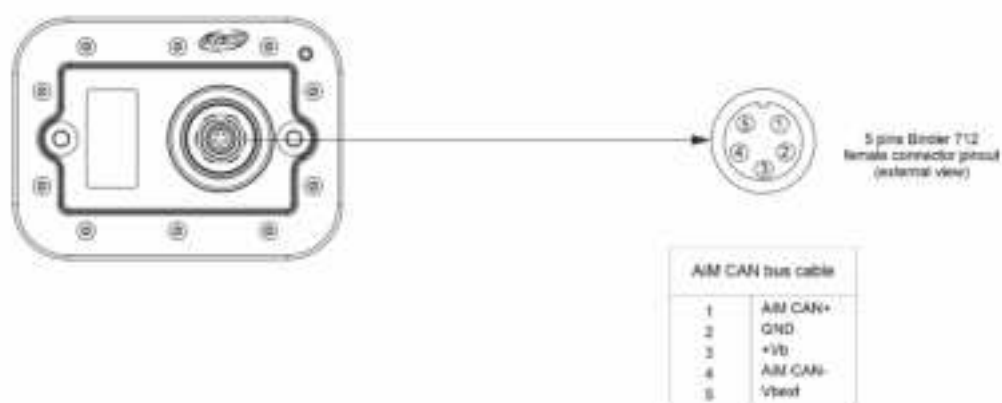
## 5 – Technical drawings

The following images show AiM Keypads dimensions and pinout.

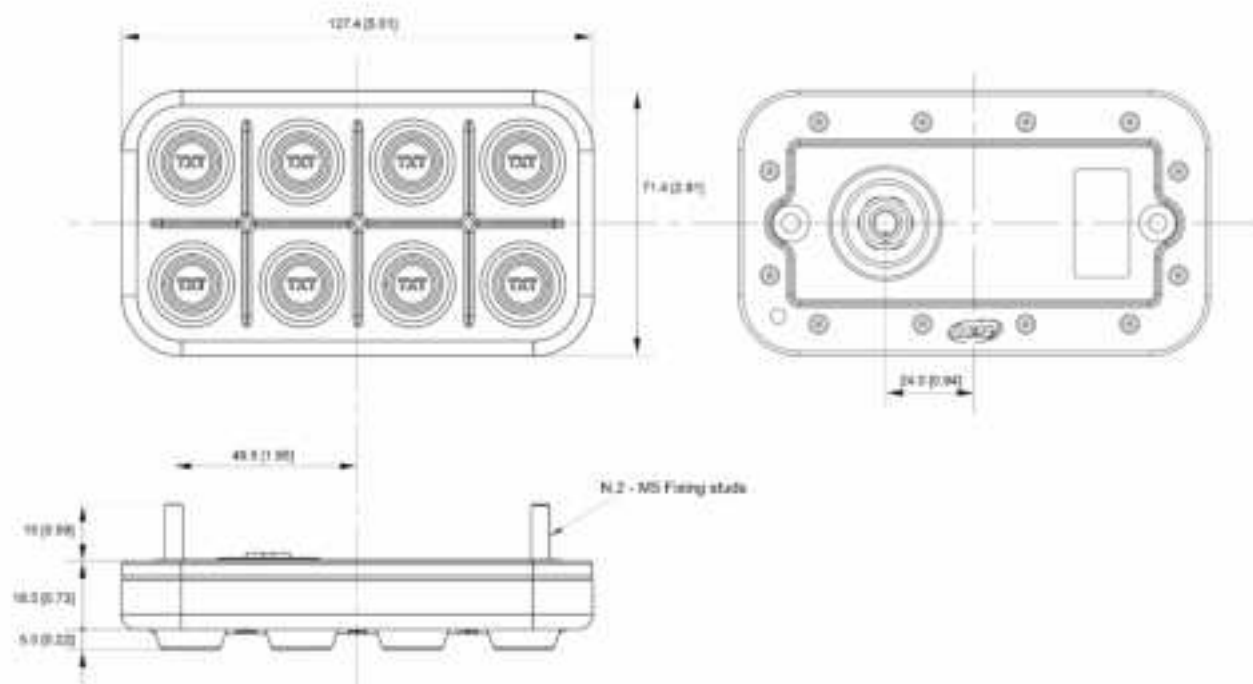
### Keypad K6 dimensions in mm [inches]



### Keypad K6 pinout



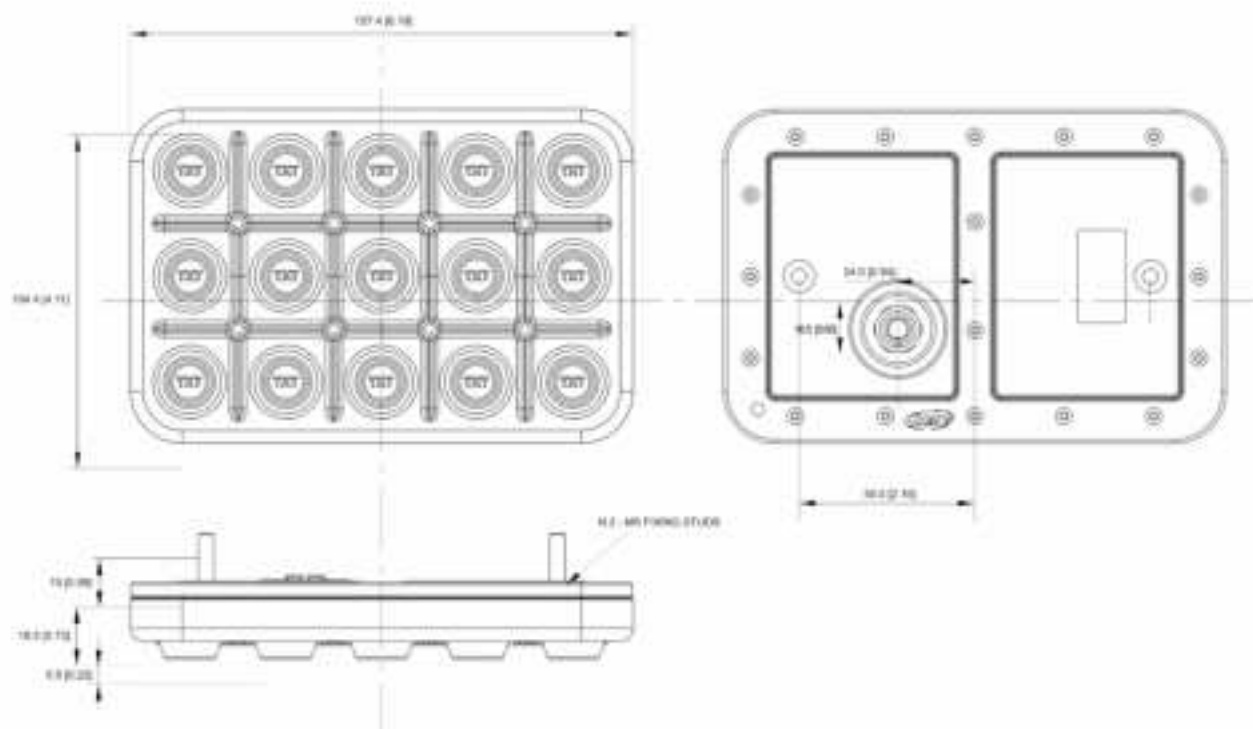
## Keypad K8 dimensions in mm [inches]:



## Keypad K8 pinout:



Keypad K15 dimensions in mm [inches]:



Keypad K15 pinout:

