

User Guide

Keypad

Release 1.01



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



2 – Available kits and spare parts

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 **Software/firmware download area:** [AiM - Software/Firmware download \(aim-sportline.com\)](http://aim-sportline.com)

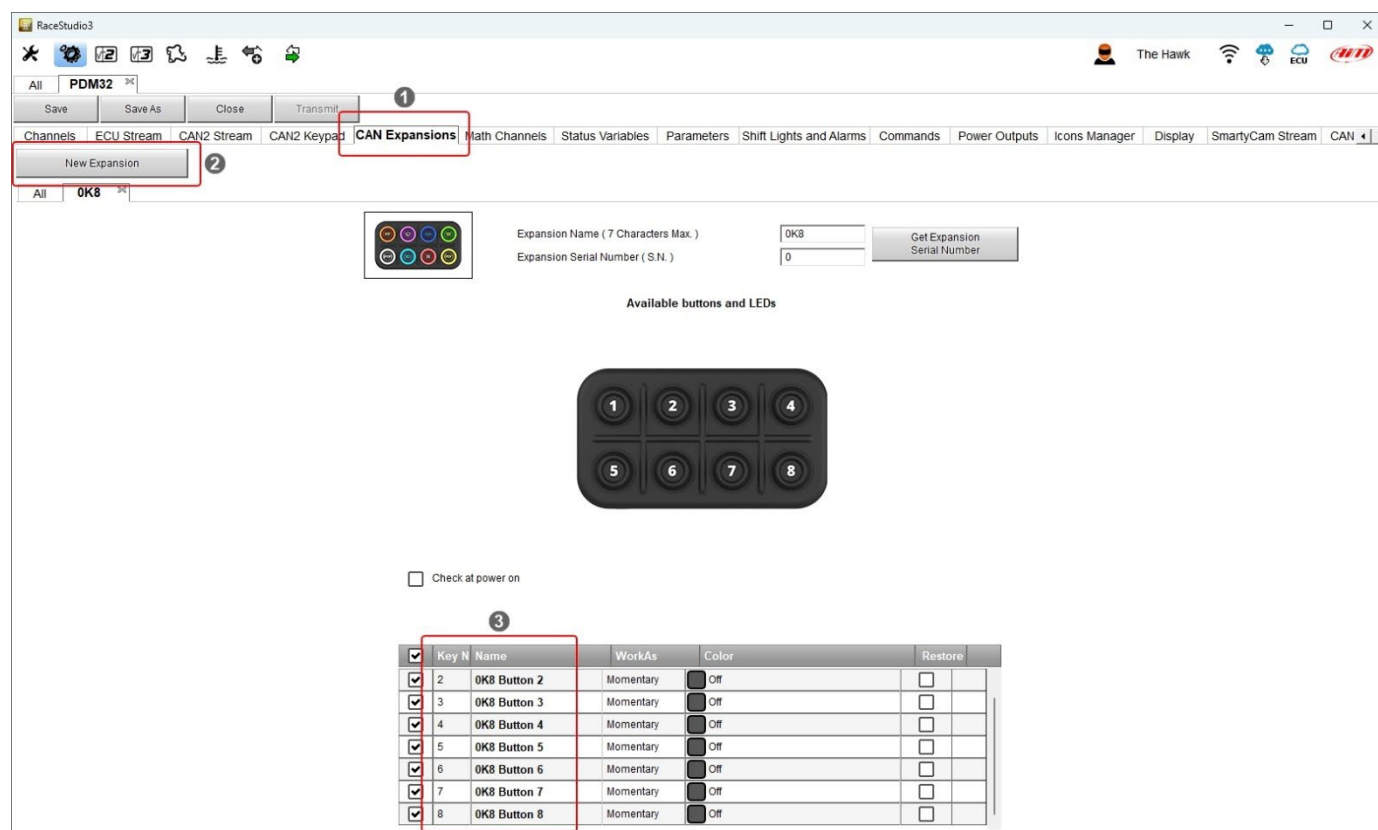
After having installed the software, run it and follow these steps:

- 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.

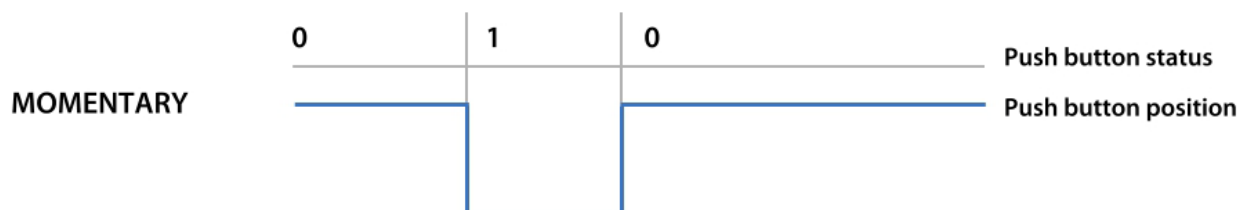
3.1.1 – Pushbuttons status configuration

You may set different modes per every pushbutton:

MOMENTARY. the status is:

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

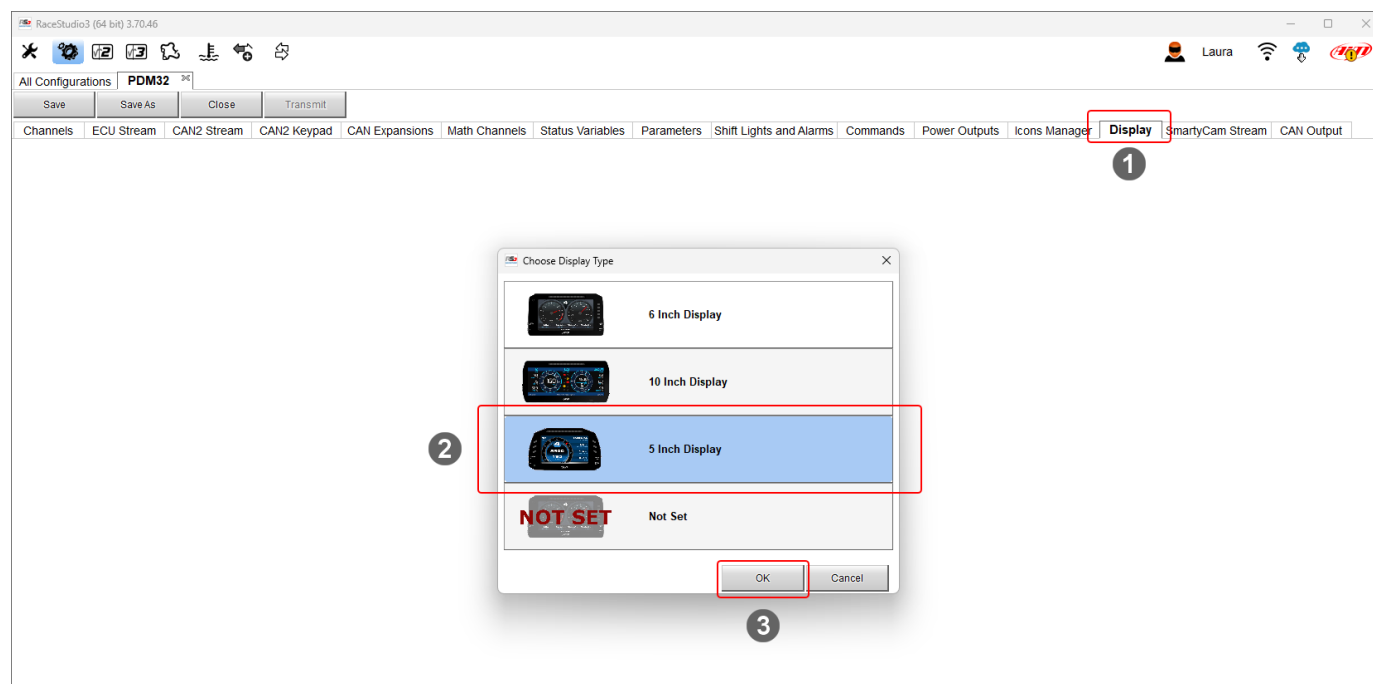
Please note: both status ON and OFF can be freely associated with a numeric value.



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:

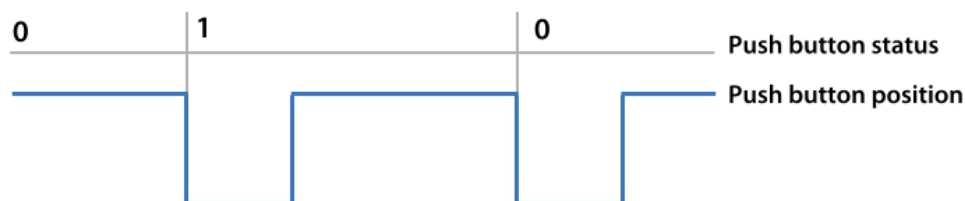
- *Change display page:*
 - Next display page
 - Previous display page
- *Display button:*
 - Enter menu: to navigate the display menu: four pushbuttons are needed; they become white while the others are disabled. **Please note: used pushbuttons change according to the position – horizontal or vertical – 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

TOGGLE



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.

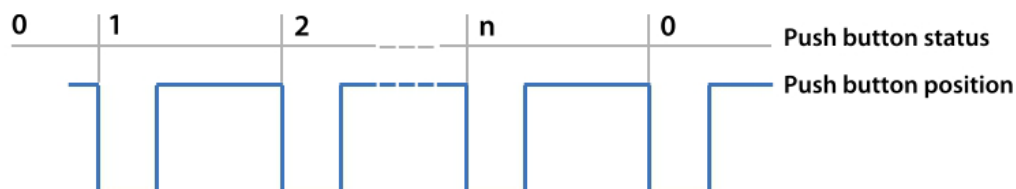
Name

WorkAs ☐ Momentary ☐ Toggle ☒ Multistatus ☐ Restore last status at power on

☐ Use timing Time threshold between short and long status sec

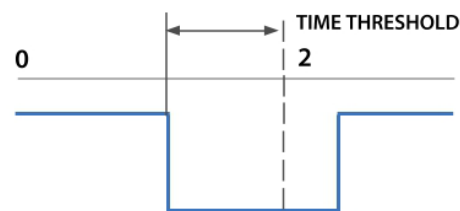
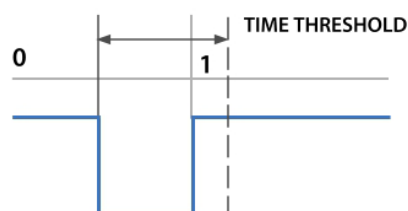
Position	Label	Value	Short Press leads to	Long Press leads to	
0	OFF	0	ON	LONG	[+] [-]
1	ON	1	LONG	OFF	[+] [-]
2	LONG	2	OFF	ON	[+] [-]

MULTISTATUS



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: OK8 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

Name: OK8 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

Name: OK8 Button 1

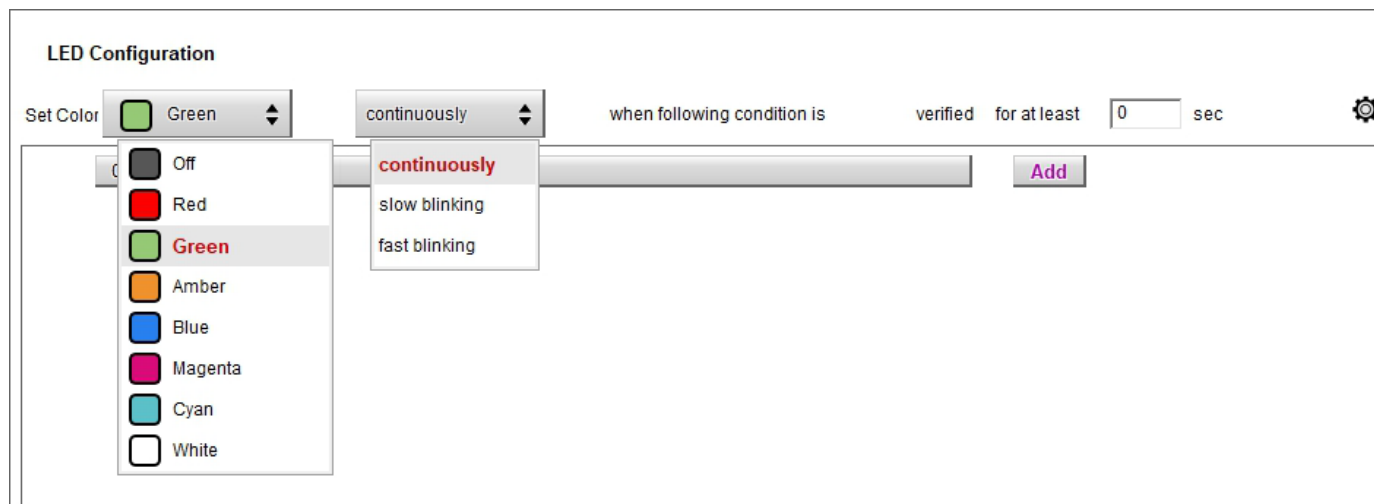
Work As: ☐ Momentary ☐ Toggle ☒ Multistatus ☐ Restore last status at power on

☒ 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.



The screenshot shows the 'LED Configuration' window. On the left, a 'Set Color' dropdown menu is open, displaying a list of color options: Off (black), Red, Green (highlighted), Amber, Blue, Magenta, Cyan, and White. To the right of the color menu, there is a 'continuously' dropdown menu, which is also open, showing options: 'continuously' (highlighted), 'slow blinking', and 'fast blinking'. Further right, the text 'when following condition is' is followed by a 'verified' checkbox and a 'for at least' field containing the number '0' and the unit 'sec'. An 'Add' button is located to the right of the 'continuously' dropdown menu.

4 – Keypad open versions

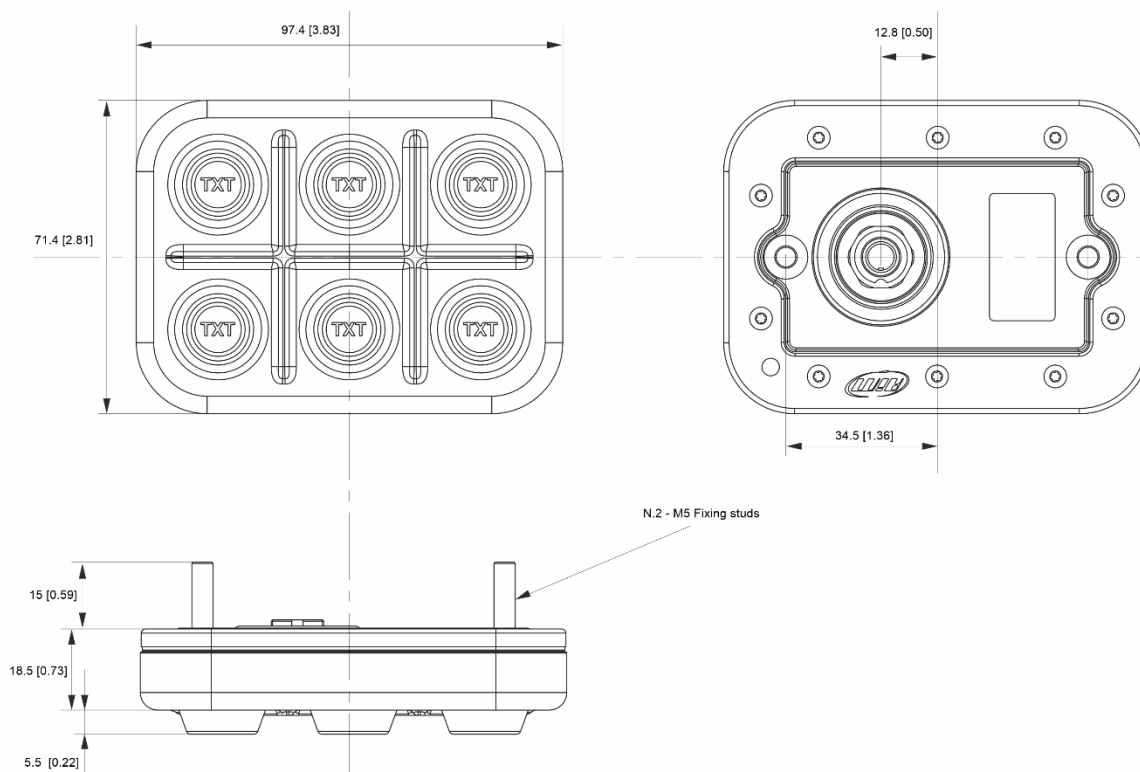
Keypad are also offered in an "Open" version that allows you to define the CAN streams. This version is intended to be used when an AiM master device is not present, but of course, you can use it in any AiM installation. In order to do so, you have to follow these steps:

- 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.

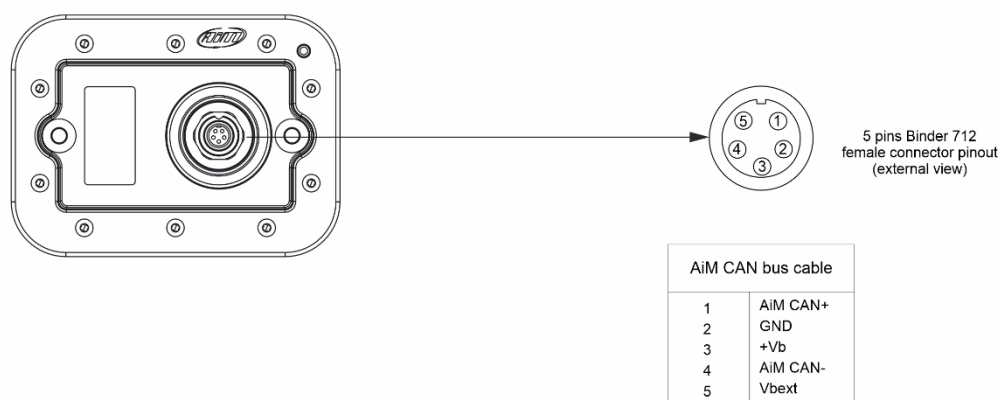
5 – Technical drawings

The following images show AiM Keypads dimensions and pinout.

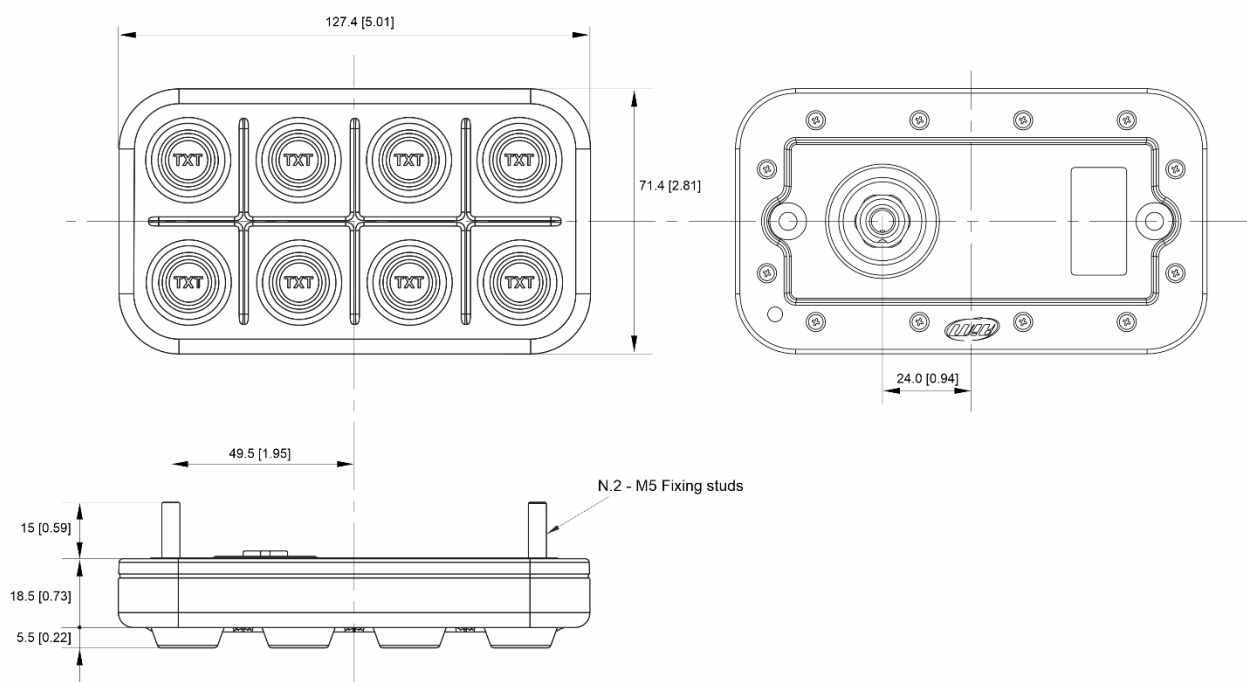
Keypad K6 dimensions in mm [inches]



Keypad K6 pinout



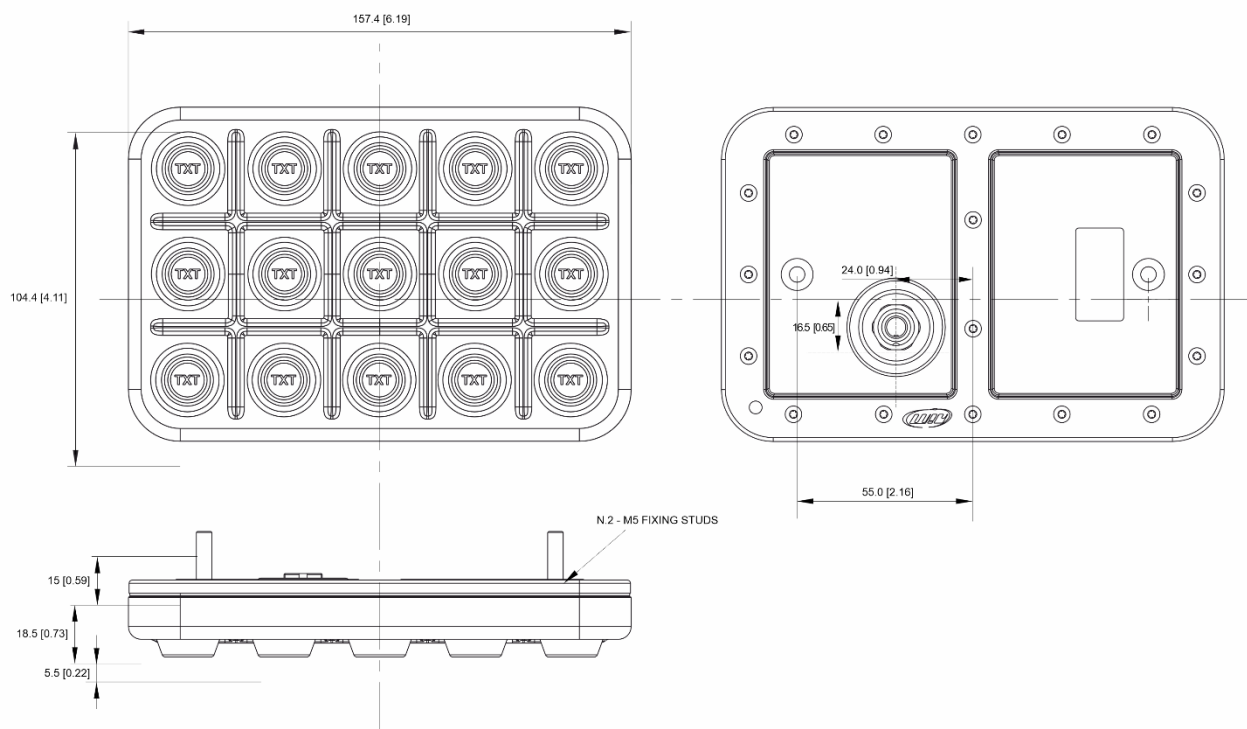
Keypad K8 dimensions in mm [inches]:



Keypad K8 pinout:



Keypad K15 dimensions in mm [inches]:



Keypad K15 pinout:

