AiM K6 Open Keypad Open Version User Guide

Contents

AiM K6 Open Keypad Open Version

Specifications

- Buttons: K6 Open (6 programmable), K8 Open (8 programmable), K15 Open (15 programmable)
- Backlight: RGB with Dimming option
- Connection: USB through 7 pins Binder 712 female connector
- Body Material: Rubber silicon and reinforced PA6 GS30%
- Dimensions:
  - K6 Open: 97.4x71x24mm
  - K8 Open: 127.4×71.4x24mm
  - K15 Open: 157.4×104.4x24mm
- Weight:
  - K6 Open: 120g
  - K8 Open: 150g
  - K15 Open: 250g
- Waterproof: IP67

Product Usage Instructions

Configuring the Keypad:
Download RaceStudio3 software from AiM website at **aim-sportline.com** Software/firmware download area. Install the software and follow these steps:

Setting Pushbutton Modes:
You may set different modes for each pushbutton:

- MOMENTARY: Associates a command to each pushbutton such as Device Brightness command.
- MULTI-STATUS: Allows the pushbutton to assume different values that change every time it is pushed.

Setting Time Threshold:
Regardless of the mode, you can set a time threshold where the pushbutton is set at two different values depending on how long it is pushed. Enable the use timing checkbox to configure this feature.

Configuring CAN Output Messages:
You can configure the CAN Output messages for transmitting pushbutton statuses and the CAN Input messages for receiving feedback from the field. Enter the related tabs to set this up.

Sending Messages:
The Open Keypad can send relevant messages at a fixed frequency or whenever there is a change in the fields transmitted. Configure message transmission frequency as needed.

FAQ

Q: Where can I find more information on CAN Messages?
A: Please refer to the following document for CAN Message information: CAN MessageFAQ

Introduction

AiM Keypad Open Version is the new range of compact expansions based on the CAN bus. It is available in different versions according to the number of pushbuttons whose status is transmitted through the CAN bus. Both buttons and CAN messages are fully configurable through the USB connection 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
- Multistate: the pushbutton value changes from 0 to a max value each time the pushbutton is pushed.

Furthermore, you can define a time threshold for each button that defines different behaviours when a SHORT or LONG compression event is detected.
Each pushbutton can be customised in a different colour or in solid, slow or fast blinking mode.
It is also possible to define a CAN INPUT protocol to allow the LED colour not only to acknowledge a button compression event, but also to show the status of a device.
Finally, it is possible to configure a pushbutton for increasing or decreasing the brightness level of the keypad.

	K6 Open	K8 Open	K15 Open
Buttons	6 programmable	8 programmable	15 programmable
Backlight		RGB with Dimming option	
Connection	USB through 7 pins Binder 712 female connector		
Body Material	Rubber silicon and reinforced PA6 GS30%		
Dimensions	97.4x71x4x24mm	127.4×71.4×24	157.4×104.4×24
Weight	120g	150g	250g
Waterproof		IP67	

Available kits optional and spare parts

Keypad open version available kits are:

- Keypad K6 Open
  - Keypad K6 Open + 200 cm AiM CAN cable X08KPK6OC200
  - Keypad K6 Open + 400 cm AiM CAN cable X08KPK6OC400
- Keypad K8 Open
  - Keypad K6+ 200 cm AiM CAN cable X08KPK8OC200
  - Keypad K6+ 400 cm AiM CAN cable X08KPK8OC400
- Keypad K15 Open
  - Keypad K15 Open + 200 cm AiM CAN cable X08KPK15OC200
  - Keypad K15 Open + 400 cm AiM CAN cable X08KPK15OC400
  - All Keypads open version come with an Open 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:
  - 200 cm open CAN cable V02551770
  - 400 cm open CAN cable V02551780
    All Keypads open version can also be connected to an AiM open CAN cable that can be bought separately as optional. The related part numbers are:
  - 200 cm open AiM CAN cable V02551850
  - 400 cm open AiM CAN cable V02551860
    To connect Keypad open version to the PC a proper optional USB cable is necessary. The related part numbers are:
  - 30 cm USB cable V02551690
  - 50 cm USB cable+12V power V02551960
- Buttons icons:
  - 72 pieces icon kit X08KPK8KICONS
  - single icon click here to know each icon part number

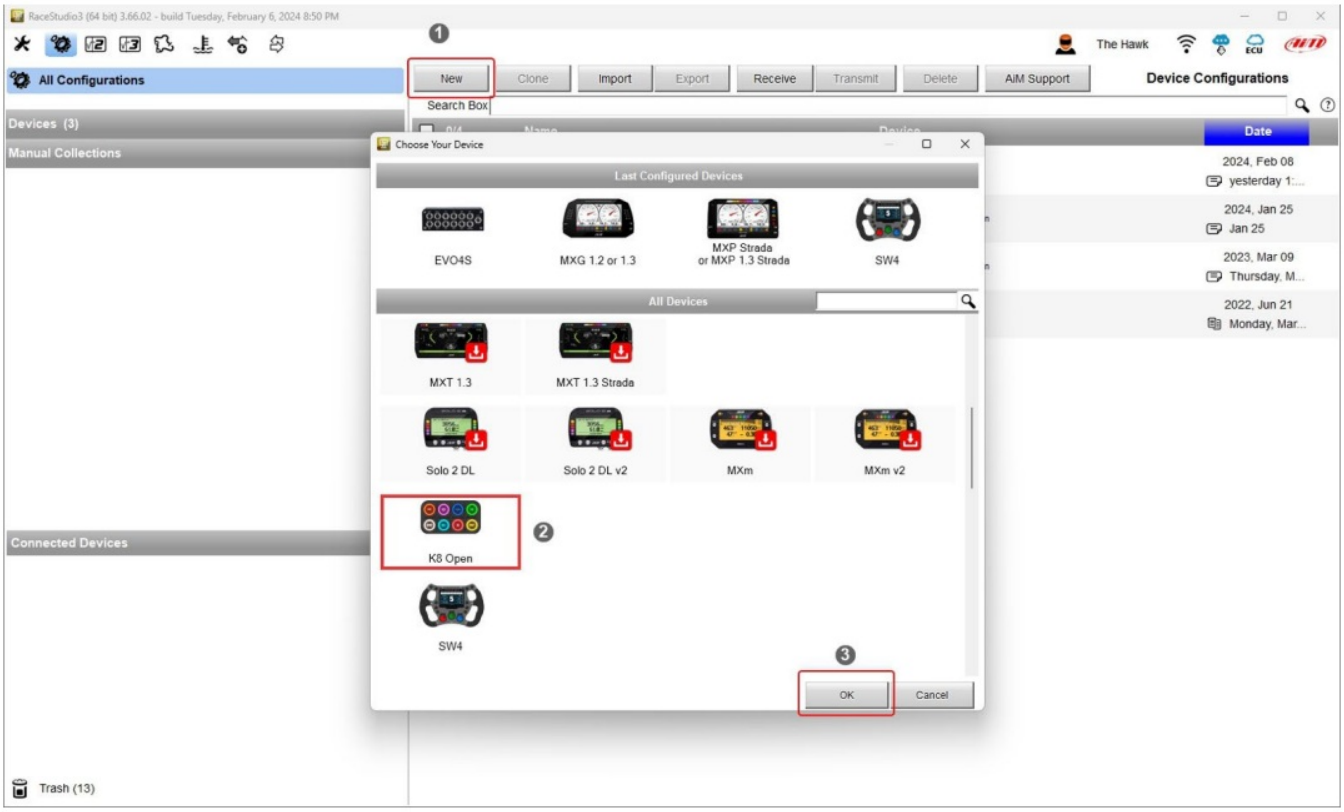
Software configuration

For configuring the Keypad, download RaceStudio3 software from AiM website at **aim-sportline.com**
Software/firmware download area: AiM – Software/Firmware download (**aim-sportline.com**)

Once the software is installed, run it and follow these steps:

- Enter Configuration Menu clicking the icon highlighted below:
-

  press “New” button (1) on the top right toolbar
- scroll the panel that is prompted, select the desired Keypad Open (2)
- press “OK” (3)



You need to configure:

- Buttons
- CAN Input protocol
- CAN Output messages

Pushbuttons configuration
Some quick notes before we start analysing how to configure the Keypad:

- the pushbutton’s 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 pressures in different ways
- the pushbutton status can be transmitted through CAN at a fixed frequency and/or when it changes
- 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 colours as explained in paragraph 3.1.2
- open Keypads can manage a CAN INPUT protocol in order to give feedback through the LEDs colour, based on

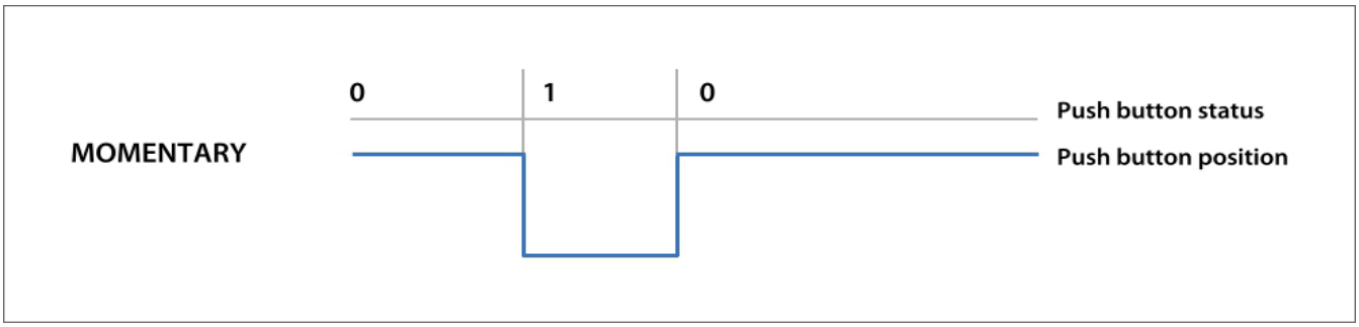
the information it receives.

Pushbuttons status configuration
You may set different modes for 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



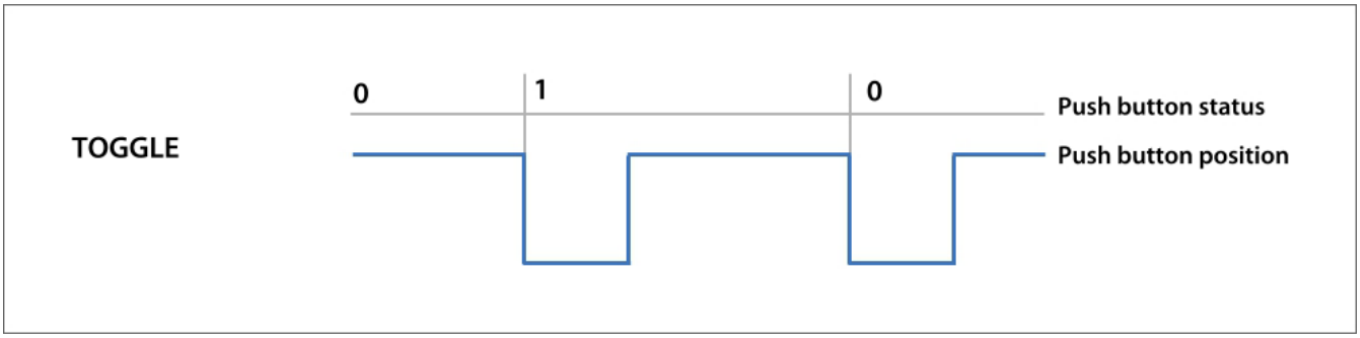
Please note: only setting the pushbutton as Momentary you can associate the following command to each pushbutton: “Device Brightness” command

- Increase
- Decrease

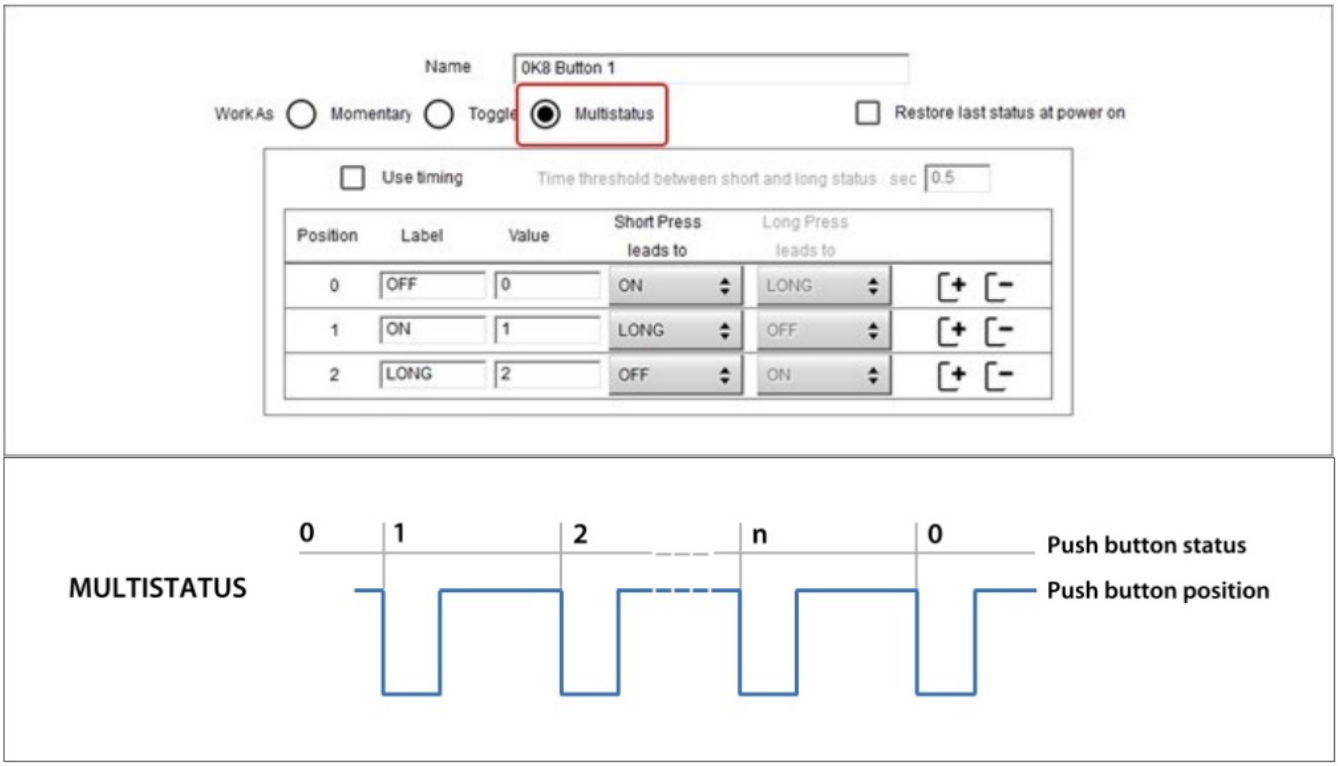
TOGGLE: the status is:

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

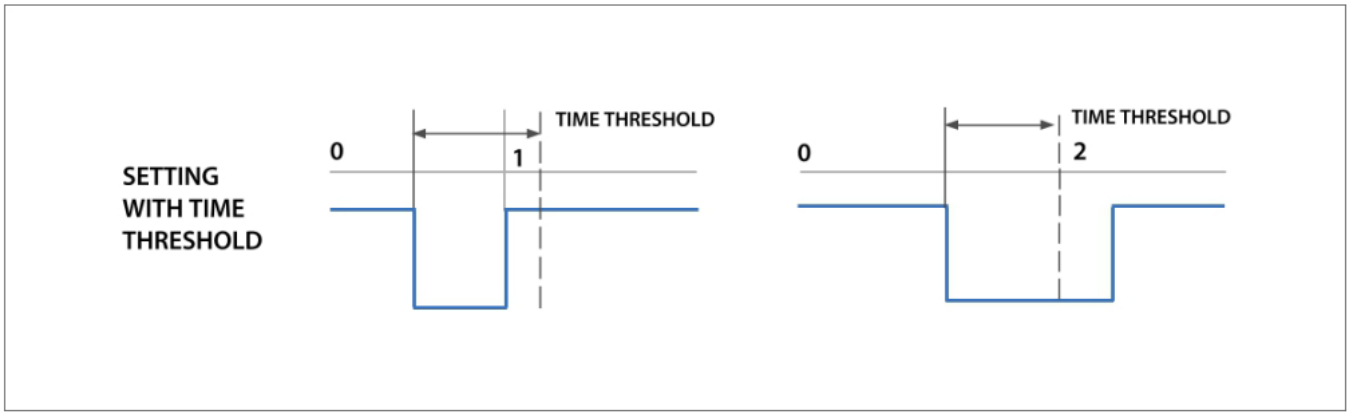
Both status ON and OFF can be freely associated with a numeric value.



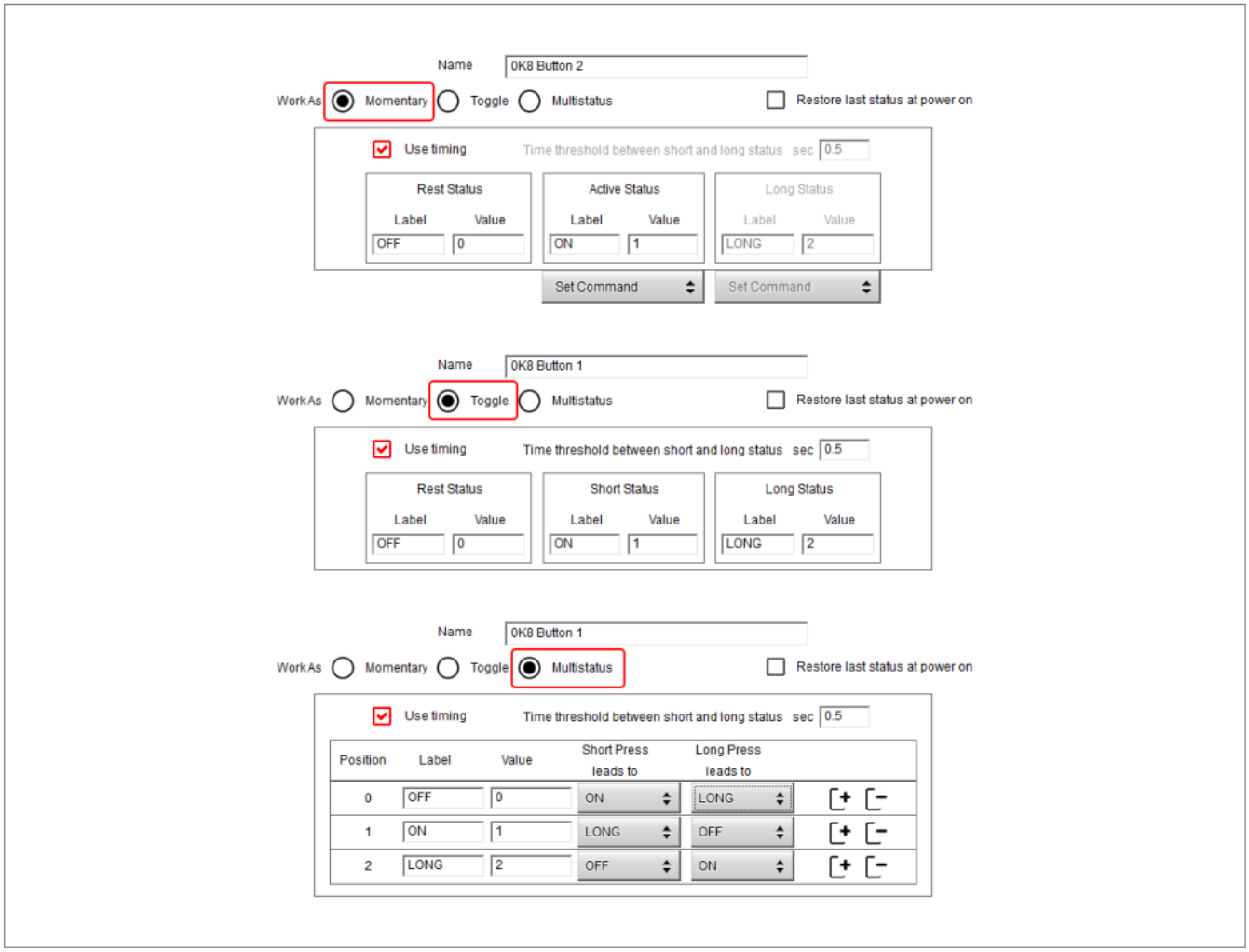
MULTI-STATUS: the status may assume different values that change every time the pushbutton is pushed. This setting is useful, for example, to select one among different maps or to set different suspension levels etc.



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.

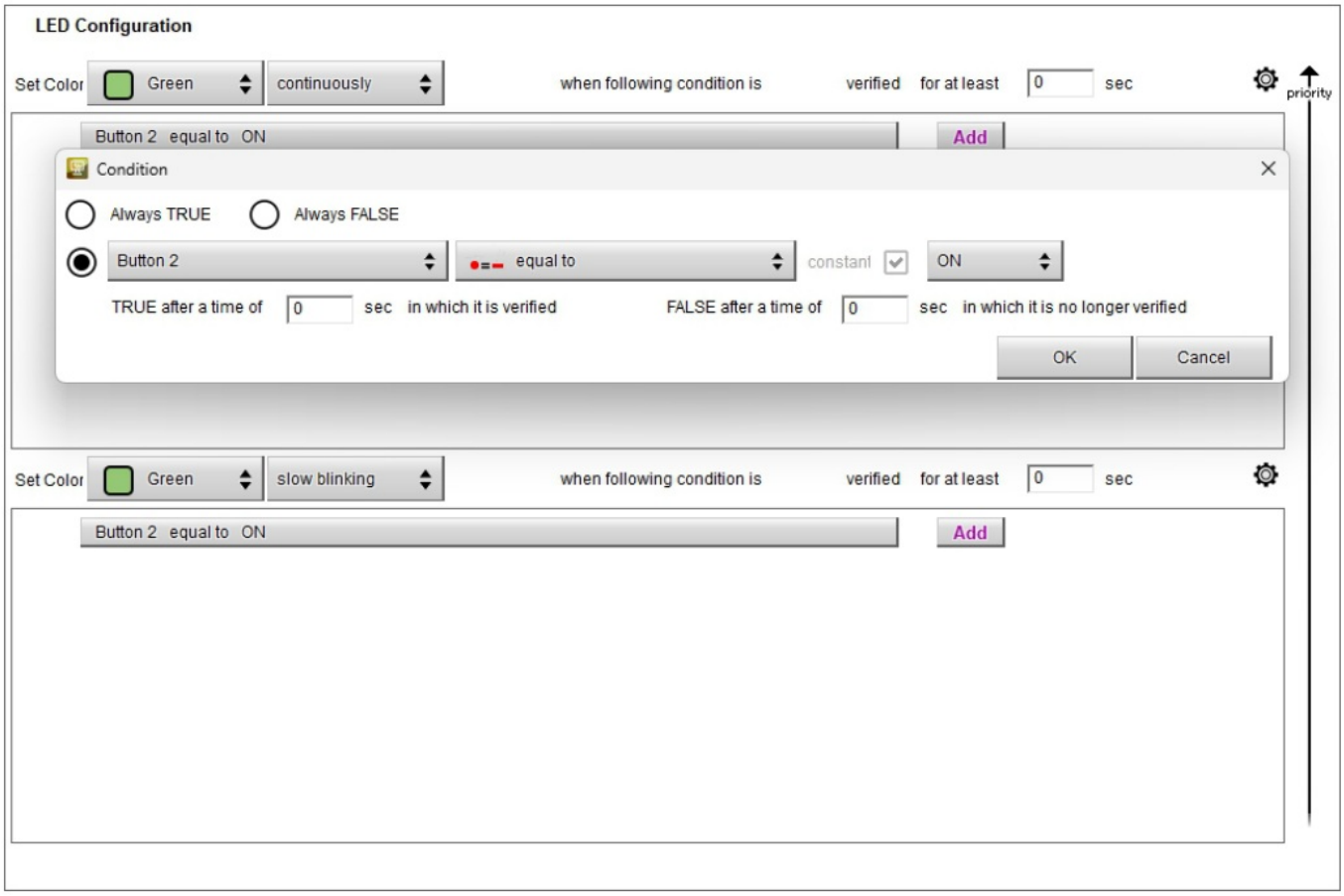


To do so, enable the “use timing” checkbox on the top box of the setting panels. In this case, the pushbutton is set at two different values that you may define according to how long you push it.



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 the pushbutton has been pushed, and solid GREEN when the action is activated.

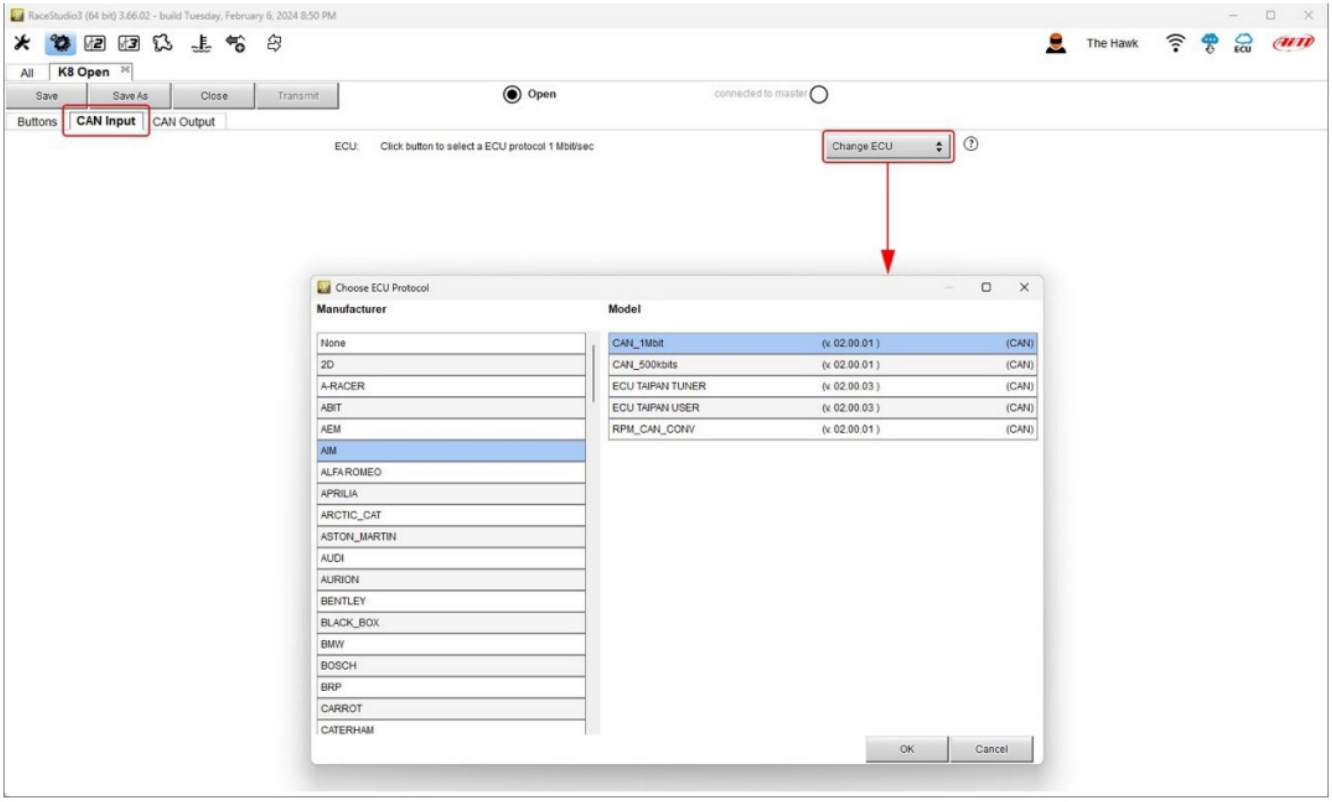


CAN communications

It is possible to configure the CAN Output messages, used for transmitting the status of the pushbuttons, as well as the CAN Input messages, used for receiving feedback from the field entering the related tabs shown here below.

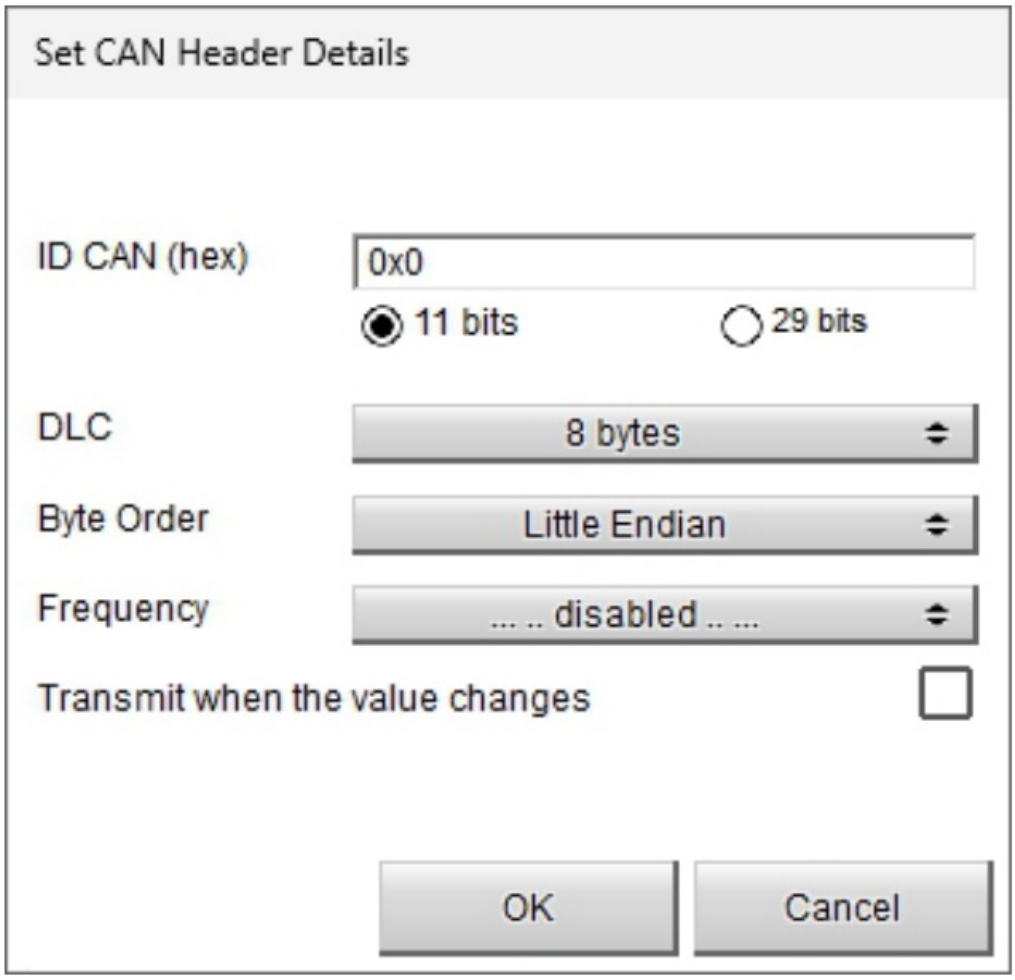
CAN Input messages configuration

The CAN input protocol is a bit more complex to manage: the Keypad is supposed to be connected to a CAN network where more devices share their status and channels. This information can be read to give the driver the accurate status of the device that a pushbutton relates to in order to activate it. To read the CAN messages, you may select the proper protocol if available in the protocol list. In case the protocol needed is not included it is possible to configure a custom protocol using the CAN Driver Builder. Please refer to the proper documentation you find at this link for further information.



CAN Output messages configuration

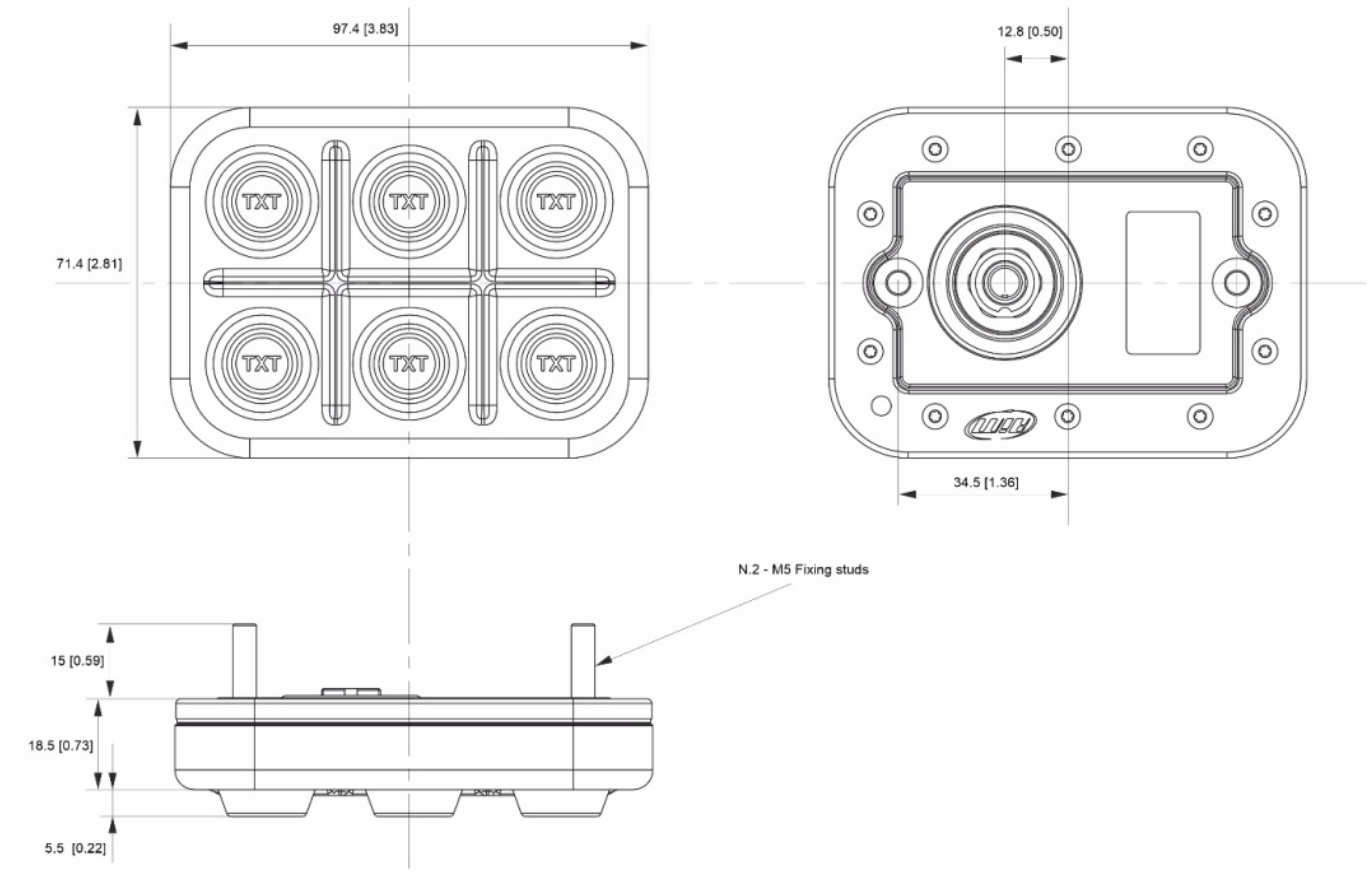
Open Keypad can send all relevant messages and each message can be transmitted at a fixed frequency or whenever there is a change in the fields transmitted. You can, for example, transmit a message every time a pushbutton changes status and/or every second.



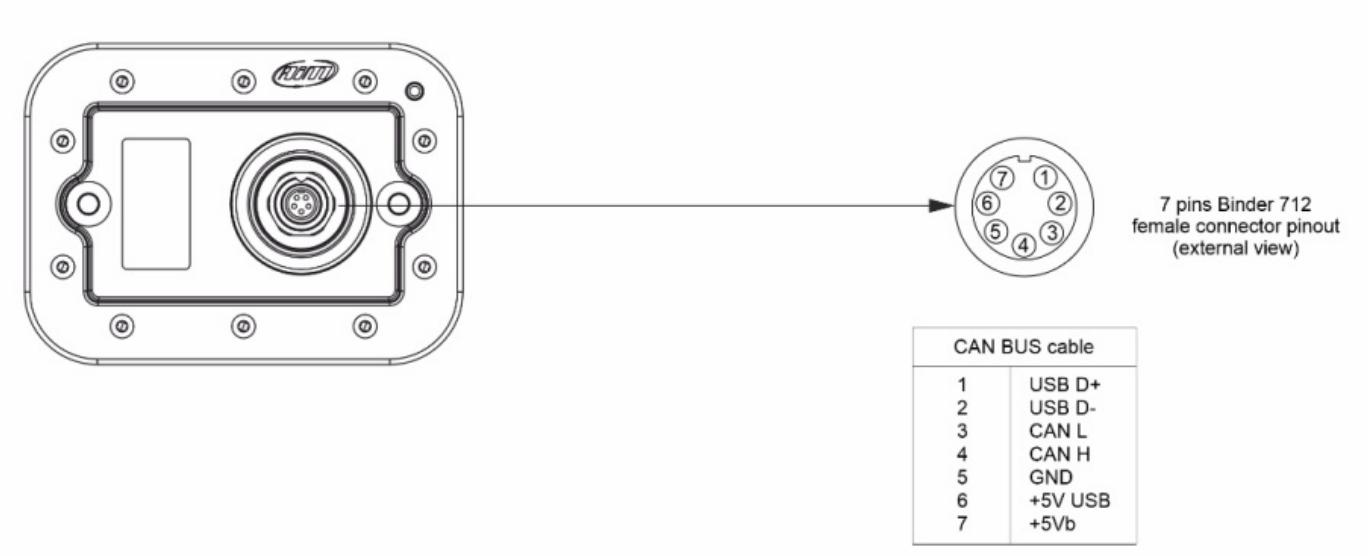
Please refer to the following document for CAN Message information: FAQ_RS3_CAN-Output_100_eng.pdf (aim-sportline.com)

Technical drawings

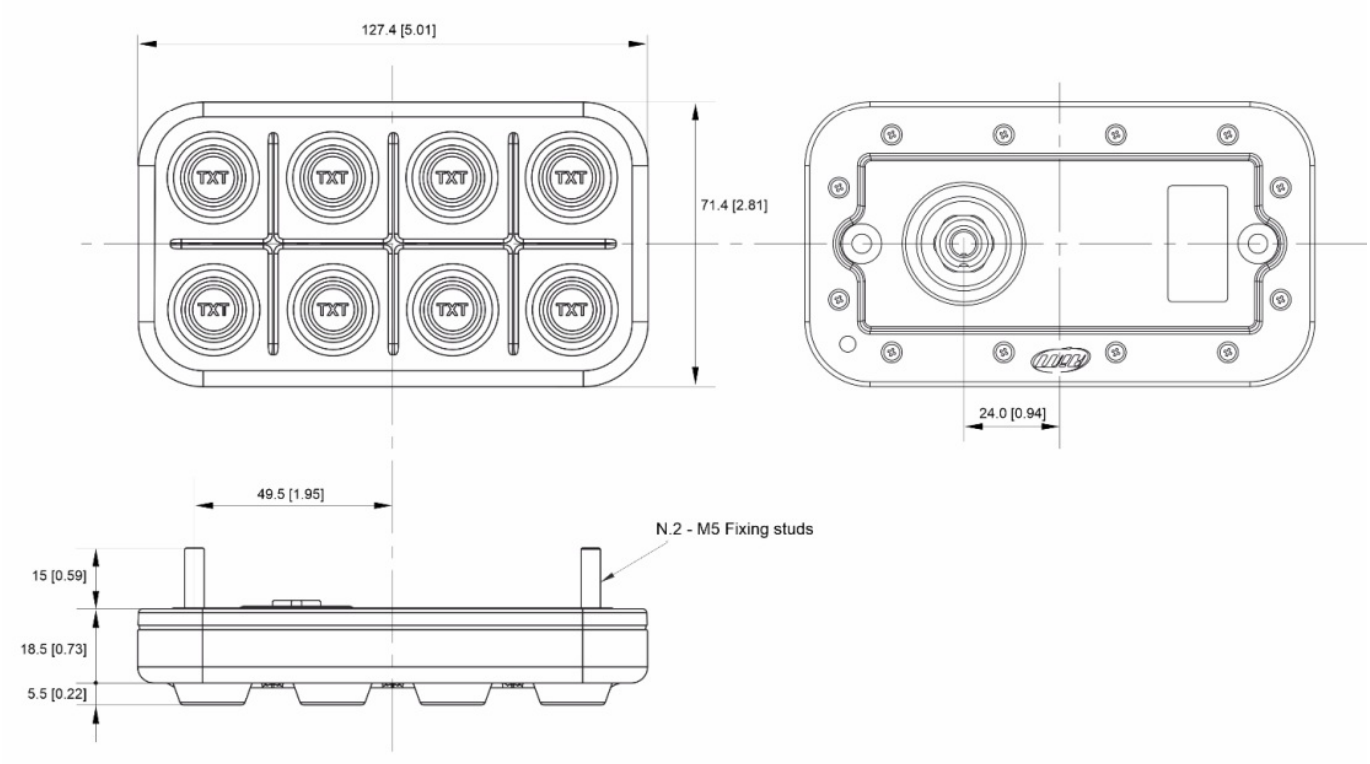
The following images show keypad and cables dimensions and pinout- Keypad open K6 dimensions in mm [inches]



Keypad open K6 pinout



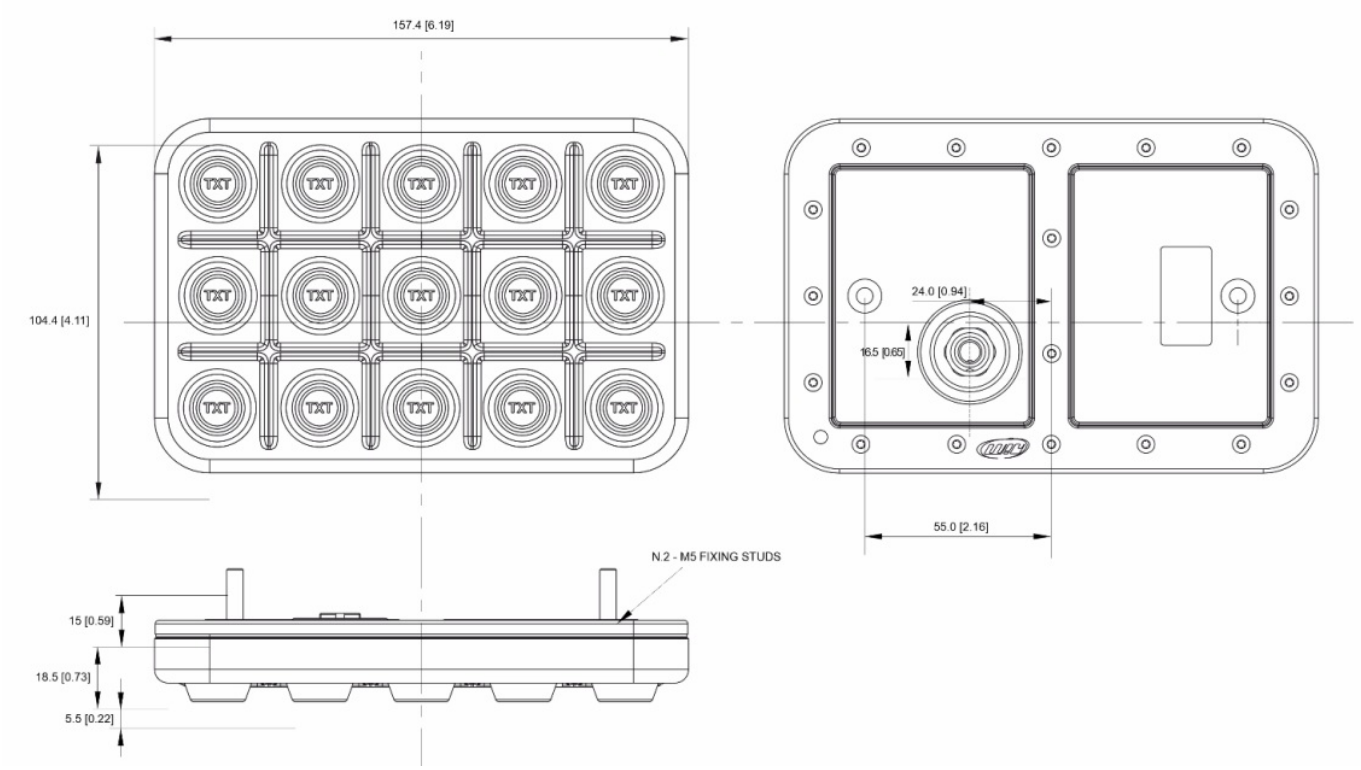
Keypad K8 dimensions in mm [inches]:



Keypad K8 pinout:

CAN BUS cable	
1	USB D+
2	USB D-
3	CAN L
4	CAN H
5	GND
6	+5V USB
7	+Vb

Keypad K15 dimensions in mm [inches]:



Keypad K15 pinout:

CAN BUS cable	
1	USB D+
2	USB D-
3	CAN L
4	CAN H
5	GND
6	+5V USB
7	+Vb

CAN Open cable pinout:

USB Cable pinout:

Documents / Resources

	AiM K6 Open Keypad Open Version [pdf] User Guide K6 Open, K8 Open, K15 Open, K6 Open Keypad Open Version, K6 Open, Keypad Open Version, Open Version, Version

References

- User Manual