# CAN KEYBOARD

**Revision A**

## PRODUCT INFORMATION

CAN keyboard is an universal device that could be connected to PMU and EMU BLACK. All keys are back lighted in 3 colors GREEN, ORANGE and RED.

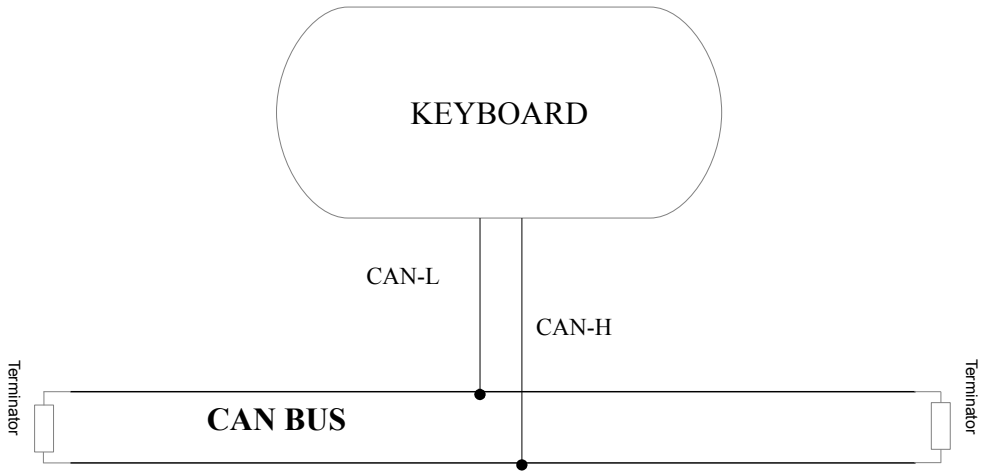
The color indicates current state of the key. Keys inserts are customizable (available icon list included in appendix A). Custom icons are available on request.

The keyboards are water proof (IP67).

## CONNECTION

| TERMINAL | Function |
|---|---|
| 1 (blue) | CAN L |
| 2 (white) | CAN H |
| 3 (black) | Ground |
| 4 (red) | Power (12-24V) |

The mating connector type is Amphenol AT06-4S.



## DEFAULT SETTINGS

| Parameter | Default vale |
|---|---|
| CAN Speed | 500kbps |
| CAN IDs | 0x195 (BASE), 0x615 (RCV), 0x715(STATUS) |

During the start up the device send out the one status message (0x715 by default).

For **EMU BLACK** only this CAN ID configuration is supported.

For **PMU** the base CAN ID could be in the range of 0x180 to 0x195.

Depends on base CAN ID, RCV and STATUS messages ID changes.

For example for base CAN ID 0x180, RCV = 0x600,  STATUS = 0x700.

To determine device base ID status message could be observed.

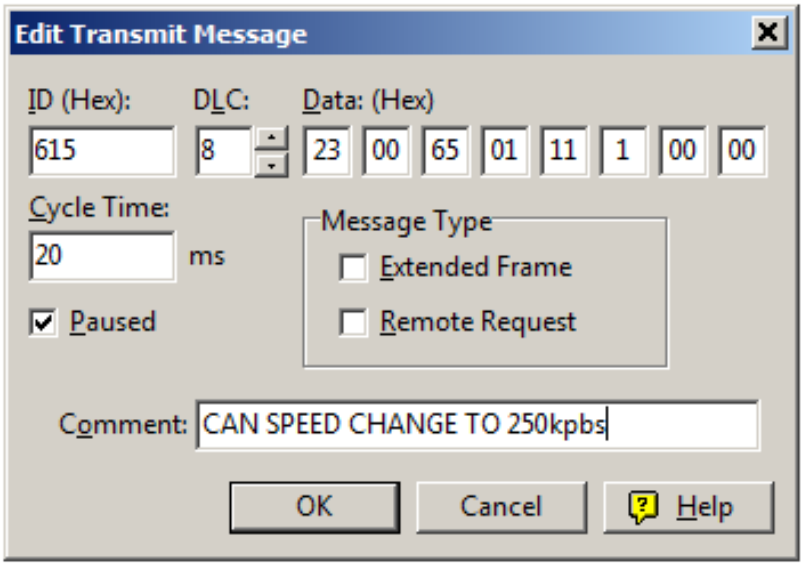
## CAN SPEED CHANGE

To change CAN SPEED the following message should be sent:

| CAN ID | DLC | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| **RCV ID** | 8 | 0x23 | 0x0 | 0x65 | 0x01 | 0x11 | **SPD** | 0x0 | 0x0 |

| SPD VALUE | BAUD RATE |
|---|---|
| 0 | 125kbps |
| 1 | 250kbps |
| 2 | 500kbps |

Sample message for keyboard with 0x195 BASE ID (from PCAN-View software) to change speed to 250kbps.



## BASE ID CHANGE

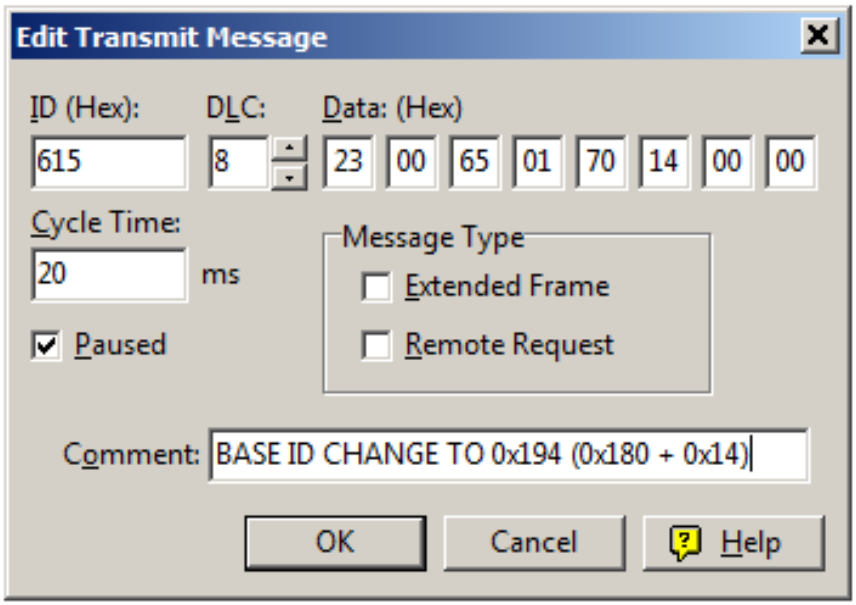
To change BASE ID the following message should be sent:

| CAN ID | DLC | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| **RCV ID** | 8 | 0x23 | 0x0 | 0x65 | 0x01 | 0x70 | **NEW ID** | 0x0 | 0x0 |

New BASE ID = 0x180 + NEW ID

New RCV ID = 0x600 + NEW ID

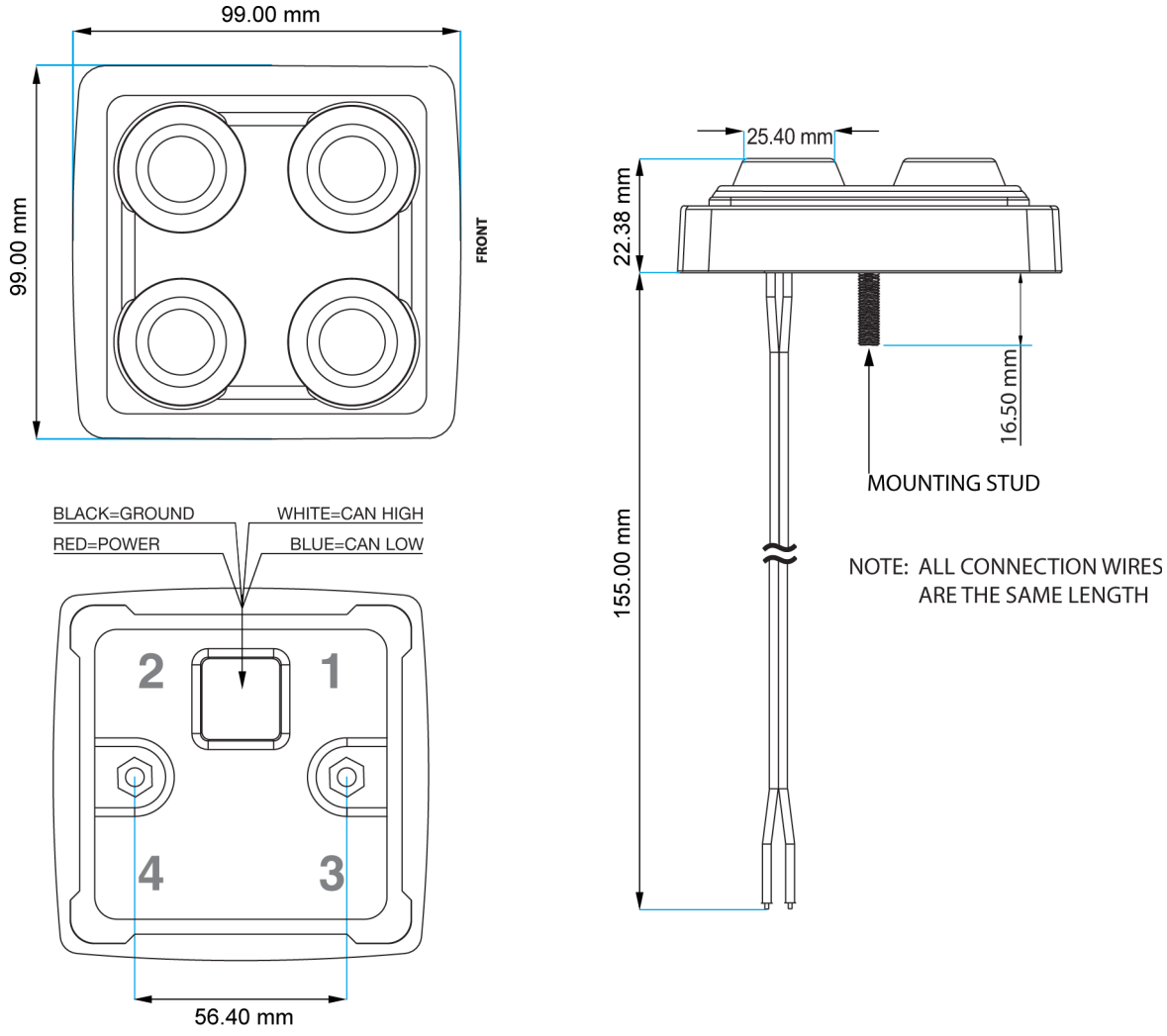
Sample message for keyboard with 0x195 BASE ID (from PCAN-View software) to change BASE ID to 0x194



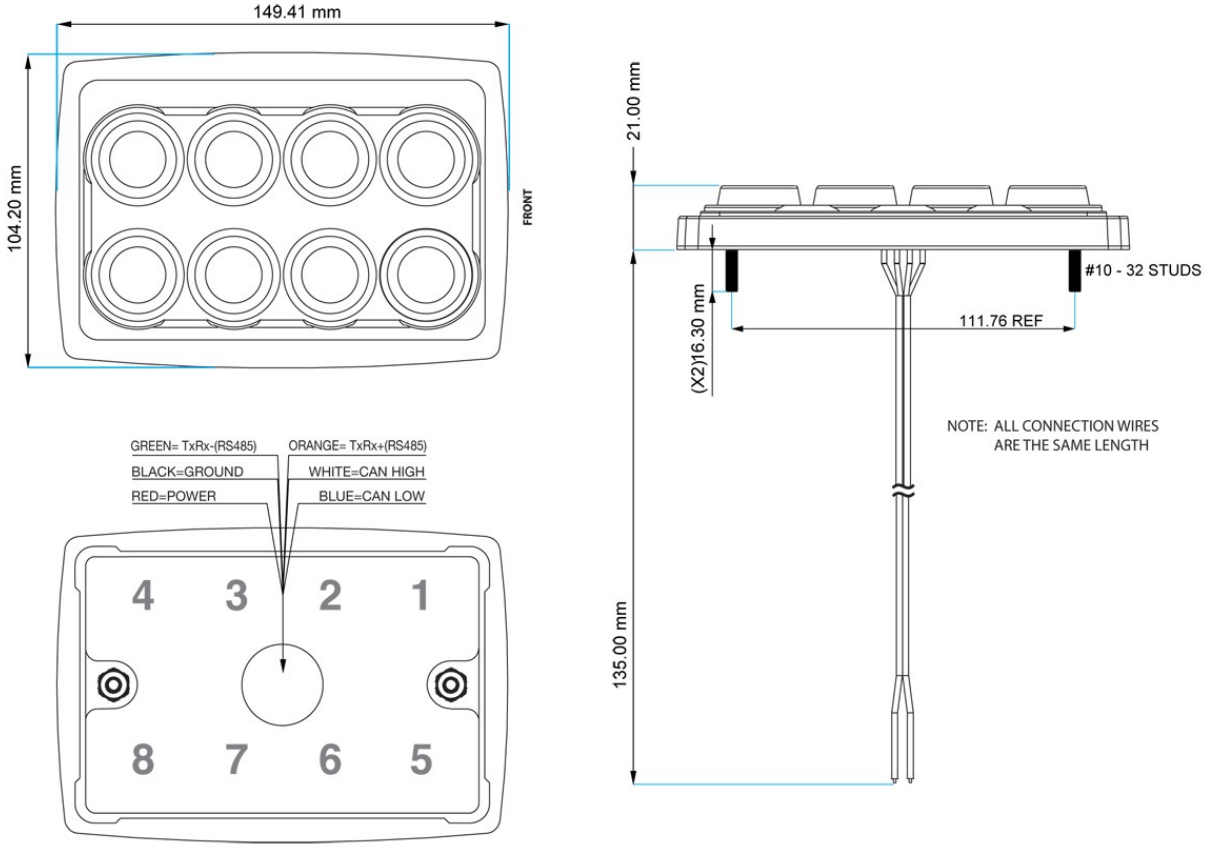
## Technical specification

| | |
|---|---|
| **Power supply** | 8-24V |
| **Standby current** | < 50mA |
| **Switch life** | 3 milion operations |
| **Operating temp.** | -40 to 85C |
| **Enclosure protection** | IP 67 |
| **CAN BUS speed** | 125kbps, 250kbps, 500 kbps |

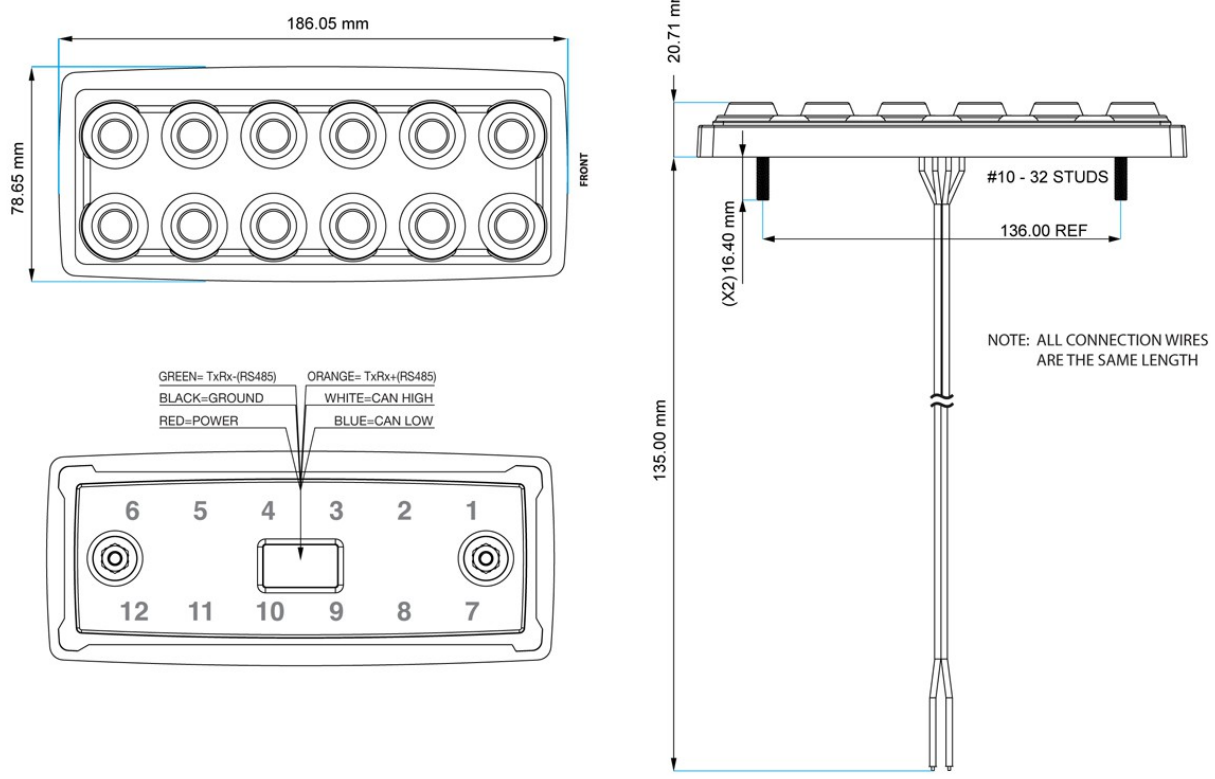
## Technical drawing for 4 keys keyboard



# Technical drawing for 8 keys keyboard



# Technical drawing for 12 keys keyboard



**CAN KEYBOARD INSERTS**

(15mm for 12 keys keyboard, 24mm for 4 and 8 keys keyboard)

| | | | | | |
|---|---|---|---|---|---|
| 002 | 003 | 014 | 016 | 022 | 024 |
| 030 | 031 | 032 | 041 | 052 | 056 |
| 068 | 069 | 071 | 074 | 076 | 091 |
| 092 | 099 | 100 | 101 | 102 | 162 |
| 164 | 169 | 170 | 172 | 173 | 174 |
| 175 | 176 | 163 | 98 | 166 | B193 |
| B212 | B265 | B346 | B409 | B526 | B527 |

| | | | | | |
|---|---|---|---|---|---|
| B528 | B529 | B530 | B531 | B532 | |