MKB-33N-PGA

CAN button panel Version: v1.0



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DESCRIPTION

Six backlit push-button switches with adjustable backlight brightness. Each button has three programmable RGB LEDs. Button icons feature a laser-etched finish, allowing light to pass through while maintaining adjustable brightness; customizable designs are available.

Main Technical Parameters:
Buttons: 6 backlit buttons, each with three controllable RGB LEDs; color and brightness are adjustable.

Power Supply: DC24V (10-36V);

Power Consumption: 100mA@DC24V

Signal Output: CAN;

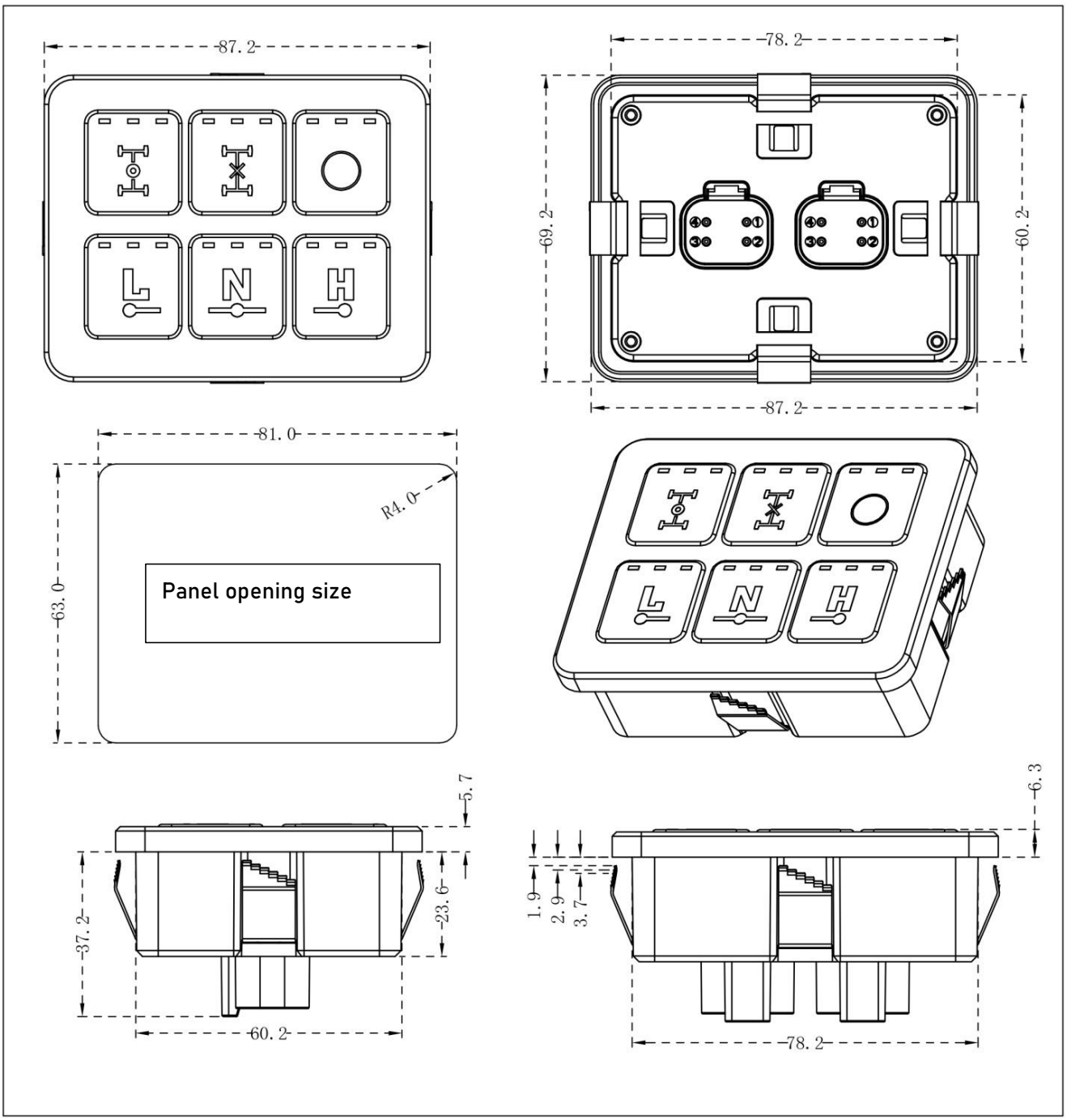
Both interfaces share the same CAN bus, primarily for easy cascading of multiple panels.

No internal 120R matching resistor.

Mounting: Clip-on mounting.

Protection: IP67.

Outline Dimensions



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Button panel → Main controller (uplink data)
Baud rate: 250K
CANID = 0X18FDDA01, 20ms timed transmission

	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0	Description
BYTE0	0xA2								Head
BYTE1			Button6	Button5	Button4	Button3	Button2	Button1	Button status
BYTE2			K1-Led3 0=off,1=R,2=G,3=B		K1-Led2 0=off,1=R,2=G,3=B		K1-Led1 0=off,1=R,2=G,3=B		The status of the 3 LEDs of the K1 button function light
BYTE3			K2-Led3 0=off,1=R,2=G,3=B		K2-Led2 0=off,1=R,2=G,3=B		K2-Led1 0=off,1=R,2=G,3=B		The status of the 3 LEDs of the K2 button function light
BYTE4			K3-Led3 0=off,1=R,2=G,3=B		K3-Led2 0=off,1=R,2=G,3=B		K3-Led1 0=off,1=R,2=G,3=B		The status of the 3 LEDs of the K3 button function light
BYTE5			K4-Led3 0=off,1=R,2=G,3=B		K4-Led2 0=off,1=R,2=G,3=B		K4-Led1 0=off,1=R,2=G,3=B		The status of the 3 LEDs of the K4 button function light
BYTE6			K5-Led3 0=off,1=R,2=G,3=B		K5-Led2 0=off,1=R,2=G,3=B		K5-Led1 0=off,1=R,2=G,3=B		The status of the 3 LEDs of the K5 button function light
BYTE7			K6-Led3 0=off,1=R,2=G,3=B		K6-Led2 0=off,1=R,2=G,3=B		K6-Led1 0=off,1=R,2=G,3=B		The status of the 3 LEDs of the K6 button function light

byte0 has a fixed value.
byte1 is the button status value.
bytes 2-7 are the color status of the function indicator lights for the 6 buttons.

Main controller → Central control panel (downlink data) Indicator light control

CAN received data format: DCL=8; CANID = 0X18FDDB01

Sends data when changing LED status, not continuously. Sends only once when changing status, and does not send data when not changing status.

Byte	Biyt7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0	Description
Byte 0			Button 1 LED-3		Button 1 LED-2		Button1 LED-1		Button1 LED Light
Byte1			Button2 LED-3		Button 2 LED-2		Button2 LED-1		Button2 LED Light
Byte 2			Button3 LED-3		Button3 LED-2		Button3 LED-1		Button3 LED Light
Byte 3			Button4 LED-3		Button4 LED-2		Button4 LED-1		Button4 LED Light
Byte 4			Button5 LED-3		Button5 LED-2		Button5 LED-1		Button5 LED Light
Byte 4			Button6 LED-3		Button6 LED-2		Button6 LED-1		Button6 LED Light
Byte 6									
Byte 7	0-255 Cycle count								Cyclic counter

LED lights: 00 = Off, 01 = Red (R), 10 = Green (G), 11 = Blue (B)

Main controller → Central control panel (downlink data) Brightness control

CAN received data format: DCL=8; CANID = 0X18FDDC01

Sends data when changing LED brightness, does not need to be sent continuously, sends only once when changing status, and does not send data when not changing.

Byte	Biyt7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0	Description
Byte 0	0-100								Backlight brightness (icon backlight)
Byte1	0-100								3-function LED indicator brightness
Byte 2									
Byte 3									
Byte 4									
Byte 5									
Byte 6									
Byte 7	0-255 Cycle count								Cyclic counter

Brightness values cannot be stored. The factory default brightness value will be restored after a power outage. The factory default brightness is 50%.

Setting Communication Parameters

(HEX Hexadecimal)

Extended Frame ID = 00ED0512 Only this CANID can be used for parameter setting.

Data Format: 8 bytes, af xx xx xx xx xx 00 f5

1. ACK Confirmation (Return Data)

CANID = 0x18ffff01

80 00 xx xx xx xx 00 No

No Cyclic Counter

xx Returned Parameters

Indicates that the instruction was received and executed successfully.

2. Reset: af 17 00 00 00 00 00 f5

3. Erase Data: af 19 00 00 00 00 00 f5

Erases all settings; reconfiguration is required.

5. Set Communication Period

af 11 xx 00 00 00 00 f5

xx is the communication period unit in milliseconds (ms); typically 10-200 ms

Effective after reboot

Setting to 20MS: af 11 14 00 00 00 00 f5

Setting to 25MS: af 11 19 00 00 00 00 f5

Setting to 33MS: af 11 21 00 00 00 00 f5

Setting to 50MS: af 11 32 00 00 00 00 f5

Setting to 100MS: af 11 64 00 00 00 00 f5

6. CAN Port Baud Rate:

af 06 xx 00 00 00 00 f5

xx is the baud rate number

af 06 00 00 00 00 00 f5 (HEX) CAN baud rate = 100K

af 06 01 00 00 00 00 f5 (HEX) CAN baud rate = 125K

af 06 02 00 00 00 00 f5 (HEX) CAN baud rate = 250K (default)

af 06 03 00 00 00 00 f5 (HEX) CAN baud rate = 500K

af 06 04 00 00 00 00 f5 (HEX) CAN baud rate = 1000K 7. Set CAN Communication Protocol:

09 0a xx 00 00 00 f5

xx is the protocol number

09 0a 00 00 00 00 f5 is the default

8. Set Address

Format: 09 0d adr 00 00 00 f5

Address=01 09 0d 01 00 00 00 f5

Address=02 09 0d 02 00 00 00 f5

Address=03 09 0d 03 00 00 00 f5

Address=04 09 0d 04 00 00 00 f5

9. Set Transmit CANID:

txCanid CANID for transmitted data

① Standard Frame CANID (11-bit) Method

af 01 80 00 0x xx 00 f5

xxx is the transmitted CANID
Standard frame 0x181: af 01 80 00 01 81 00 f5
Standard frame 0x123: af 01 80 00 01 23 00 f5

②Extended frame CANID (29-bit) method

af 01 xx xx xx xx 00 f5

xxxxxxxx is the transmitted CANID
Extended frame 0x18fdd601: af 01 18 fd d6 01 00 f5
Extended frame 0x12345678: af 01 12 34 56 78 00 f5

10. Set the receive CANID:

rxCanid CANID of transmitted data

①Standard frame CANID (11-bit) method

af 02 80 00 0x xx 00 f5

xxx is the transmitted CANID.
Standard frame 0x191: af 02 80 00 01 91 00 f5
Standard frame 0x123: af 02 80 00 01 23 00 f5

②Extended frame CANID (29-bit) method

af 02 xx xx xx xx 00 f5

xxxxxxxx is the transmitted CANID.
Extended frame 0x18fdc601: af 02 18 fc d6 01 00 f5
Extended frame 0x12345678: af 02 12 34 56 78 00 f5