Smart switch panel register address mapping table

(The register is double-byte data, 0x1000～0x1FFF, high order first).
Smart switch panel communication number: 1----42, factory default address: 0x02; 0XFF is the broadcast address. Note: If the address is greater than 42, the absolute key value of the 100B register description in the protocol is invalid.

<table>
<tr><td>Register address (hexadecimal)</td><td>Register Description</td></tr>
<tr><td>1000</td><td>[Note: This register is used for system configuration, the factory default is 02, if you do not need to modify it, the user can ignore it]
Panel address register, the default address is 0x02;
The panel address should not exceed (decimal) 42;
Command example:
02 06 10 00 00 01 4C F9 set to address 01
FF 06 10 00 00 01 59 14 set to address 1 (broadcast mode)</td></tr>
<tr><td>1003</td><td>Panel working mode configuration register, the default register data is 0;
<table>
<tr><th>Bit15..Bit6</th><th>Bit5</th><th>Bit4</th><th>Bit3</th><th>Bit2</th><th>Bit1</th><th>Bit0</th></tr>
<tr><td>－
－</td><td>Release the button to send data enble =1 to send =0, not to send</td><td>Button delay off LED = 1 enable delay = 0 no delay, the backlight is always on</td><td>Induction enable =1 enable =0 disable</td><td>The key is actively sent. =1 Actively send =0 master-slave polling</td><td>remote control bit =1 RCU mode</td><td>demo bit (local control), =1 demo mode</td></tr>
</table>
Command example:
02 06 10 03 00 01 BC F9 Demo Mode
02 06 10 03 00 07 3C FB button active sending, remote control bit, demo mode
02 06 10 03 00 1F 3C F1 Sensing enable, button delay off LED, button active sending, remote control bit, demo mode
BIT0 = 1, demonstration mode control, local control of the panel, mainly to show the sample to the customer for demonstration, that is, the panel can see the backlight control effect without going through the RCU.
Example: 02 06 10 03 00 01 BC F9 - Change the status indicator of the switch panel with address 02 to demo mode;
BIT1=1 represents the RCU mode: the indicator lights on the panel are controlled by the RCU.
BIT2 = 0 is the master-slave polling mode, and the host performs polling access control; 1 is the button to actively send the mode</td></tr>
</table>

Press to actively send the key value to the host;
Example: 02 06 10 03 00 04 7C FA—configured to send active keys
The format of the key to actively send data is as follows:
Example: 02 03 00 02 08 02 62 38 , the key K2 is pressed to actively send data;
Panel address (1 byte 0x02) + read command (1 byte 0x03) + return data length (2 bytes 0x00-0x02) + absolute key value (1 byte 0x08) + key bit number (1 byte 0x02) + CRC check (2 bytes 0x62 0x38)
BIT3 = 1 switch panel sensing enable, indicating whether infrared sensing and touch sensing are enabled;
Example: 02 06 10 03 00 08 7C FF start panel sensing function
BIT4 = button backlight, status indicator delay off function, 0 - no activation, the character backlight remains on, 1 - activated, the button does not move within 15 seconds, the character backlight automatically turns off; customers can enable it according to their own needs. , if our built-in delay cannot meet the requirements, the panel delay function will not be activated, and the RCU will define its own desired delay function.
Example: 02 06 10 03 00 10 7C F5
BIT5 = Enable bit to send data when the button is released. This function requires BIT2 = 1 (button active mode) to work. It is mainly used for long-press function recognition such as dimming. =1, release the button to actively send data; =0, do not send any data;
Configuration example: 02 06 10 03 00 24 7D 22
The format of the data sent when the key is released is as follows:
Example: 02 03 00 02 08 00 E3 F9 , press the key K2 (code 08) to send data actively; release the flag data is red "00";

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Indicator backlight D1～D16 Display control: mainly refers to the relevant indicators on the switch panel such as aperture, status circle, character backlight, etc.

B15-B9	B8	B7	B6	B5	B4	B3	B2	B0
--	Backlight LED	--	--	Button 6 LED	Button 5 LED	Button 4 LED	Button 3 LED	Button 1 LED

1. When a bit is 1, the corresponding button LED is on, and when it is 0, the LED is off.
2. Bit0-5 are status indicators: they are synchronized with the lights on and off, and are controlled by the RCU. Aperture products
The white aperture of the product is the status indicator, the small circle or other graphic symbols of the status + backlight product (such as G2) is the status indicator, and the white backlight of the backlight product (that is, after changing the light) is the status indicator;
3. Bit8-character backlight indicator: The yellow character backlight on the switch button is mainly to facilitate users to find the corresponding button.

<table>
<tr><td></td><td>For non-variable backlight products, the backlight of characters on a certain key cannot be individually controlled to turn on or off. It can only be fully on or off; for products with variable backlight, after the white backlight is turned on, the yellow backlight will automatically turn off due to overlapping positions. ;
Note: When the smart panel is a product that changes backlight (such as yellow backlight to white backlight), since the position of the status indicator and character indicator overlaps, if you need to change the color of the backlight (such as the backlight changes from yellow to white), directly change the BIT0-6 can be set to 1. However, the character backlight bit BIT8 is the indicator display control bit. Set 1 to allow LED display, and set 0 to all LEDs off.
Command example:
02 06 10 08 00 01 CD 3B Button 1 LED on (other buttons LED and backlight off) - status + backlight
02 06 10 08 01 01 CC AB Button 1 LED turns white (other keys are backlit yellow) - backlit
02 06 10 08 00 01 CD 3B All LEDs (yellow and white) are off -- backlit
02 06 10 08 00 02 8D 3A Button 2 LED on (other buttons LED and backlight off) - status + backlight
02 06 10 08 01 01 CC AB button 1 LED on and backlight on (other buttons LED off) - status + backlight
02 06 10 08 00 03 4C FA Button 1 LED on and button 2 LED on (other buttons LED and backlight off) - status + backlight
02 06 10 08 00 3F 4C EB Button 1 to Button 6 LED on (backlight LED off) - status + backlight
02 06 10 08 01 00 CC AB backlight on, all key LEDs off - status + backlight
02 06 10 08 00 00 0C FB All key LEDs are off (including backlight) - status + backlight
In the above examples, except for the 2nd and 3rd examples (red fonts), the others are products with separate status and character backlights (such as products with apertures). Set to 1, as in the second example;</td></tr>
<tr><td>100B</td><td>key value register: Bit0～Bit5 correspond to key 1 to key 6 respectively. Bit8～Bit15 are absolute key values.
<table><tr><th>B15-B8</th><th>B7-B6</th><th>B5</th><th>B4</th><th>B3</th><th>B2</th><th>B1</th><th>B0</th></tr><tr><td>absolute key value</td><td>--</td><td>=0 button 6 bounces up,
=1 button 6 pressed.</td><td>=0 button 5 bounces up,
=1 button 5 pressed.</td><td>=0 button 4 bounces up,
=1 button 4 pressed.</td><td>=0 button 3 bounces up,
=1 button 3 pressed.</td><td>=0 button 2 bounces up,
=1 button 2 pressed.</td><td>=0 button 1 bounces up,
=1 button 1 pressed.</td></tr></table>BIT0~BIT7, corresponding to keys 1~8;</td></tr>
</table>

	Read the key value, the key 1 is pressed, the panel address is 02. Host computer send: 02 03 10 0B 00 01 F1 3B Panel return: 02 03 00 02 07 01 27 C9 (absolute key value is 7) Note: In master-slave polling mode, after the key is released, the key value will be automatically reset after 2 seconds; The read command of the machine is automatically cleared; Active sending mode, if the key value does not need to be stored in the register, that is, the key is sent immediately and cleared immediately, and the order is marked; Absolute key value = (Panel address - 1) * 6 + key number (Key number: the key number of key 1 is 1, the key number of key 2 is 2... and so on, this byte can realize the unified coding of the keys of all panels.)
100E	To restore the factory default registers: Writing 0x0000 to this register will restore the panel to factory settings. Command example: FF 06 10 0E 00 00 F9 17 Note: This command restores the factory parameters, you need to send the save command (see 100F register command description) to save it in the EEPROM, or wait 30 seconds for the panel to automatically save;
100F	[Note: This register is used for system configuration. If the user does not modify the system configuration (such as modifying the panel address), they do not need to pay attention] Save the control register: Write 00FE to this register and the panel will save the configuration. Every time you modify the system configuration (such as modifying the panel address), you must send a save command, and the panel will save the settings, or the panel will automatically save after 30 seconds. Command example: 02 06 10 0F 00 FE 3C BA
1310 ～ 131F	Key K1~K16 status bits (0: off, 1: on, 2: long-press sign, FF key stuck sign) 1310 corresponds to the state of key K1, the host can read this register to get it. Automatically clear key value register 100B after reading; Note: Long press the logo only after more than 2 seconds. Reference light aperture example: Long press for more than 1 minute, the default button is stuck, the button value is cleared to 0, and the long-pressed flag is cleared to 0 (until the microcontroller detects that the button has bounced, it will re-detect whether the button is in the long-pressed state, that is, temporarily shielded). The active sending mode does not have this data, can it be increased?