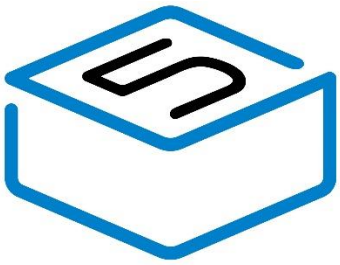

M5STACK

Unit CardK v1.1 User Manual

Shenzhen Mingzhan Information Technology Co., Ltd.

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Unit CardKB v1.1 is a portable matrix keyboard module that can be connected to the host device via I2C.

I. Operating Instructions

Special function keys

(1) **Shift key** : Caps Lock key

The Caps Lock key controls the case of letter input, and its operation is as follows:

- Click: Enable one-time uppercase, automatically reverting to lowercase after entering one character.
- Double-click: Enables Caps Lock; click again or double-click to unlock and restore lowercase.

When Caps Lock is enabled, **the red indicator light flashes** ; when Caps Lock is engaged, **the red indicator light remains on** .

(2) **Sym key** : symbol key

The symbol key is used to set the symbol mode, and its operation is as follows:

- Click: Enable one-time symbol mode, automatically reverting to lowercase after entering a single character.
- Double-click: Enables symbol mode lock. Click again or double-click to unlock and restore lowercase.

When the one-time symbol mode is enabled, **the green indicator light flashes** ; when the symbol mode is locked, **the green indicator light remains on** .

(3) **Fn key** : Custom function key

Custom function keys are used to set a custom key mode, allowing users to customize the function of each key that is pressed.

Its operation is the same as the two buttons mentioned above, and the status of **the blue indicator light** is the same.

II. Key Code Mapping Table

The key code mapping table describes the ASCII code value corresponding to each key on the keyboard in different input modes. When a key is pressed, the device outputs the corresponding ASCII code value via I2C, and the application can identify the key pressed by the user based on these ASCII code values .

Table 1 Normal mode key code mapping table

Line 1	**Key**	**Esc**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**0**	**Back**	**Up**
	Value	0x1B	0x31	0x32	0x33	0x34	0x35	0x36	0x37	0x38	0x39	0x30	0x08	0xB5
Line 2	**Key**	**Tab**	**q**	**w**	**e**	**r**	**t**	**y**	**u**	**i**	**o**	**p**	**Fn**	**Down**
	Value	0x09	0x71	0x77	0x65	0x72	0x74	0x79	0x75	0x69	0x6F	0x70		0xB6
Line 3	**Key**		**Shift**	**a**	**s**	**d**	**f**	**g**	**h**	**j**	**k**	**l**	**Enter**	**Left**
	Value			0x61	0x73	0x64	0x66	0x67	0x68	0x6A	0x6B	0x6C	0x0D	0xB4
Line 4	**Key**		**Sym**	**z**	**x**	**c**	**v**	**b**	**n**	**m**	**,**	**.**	**Space**	**Right**
	Value			0x7A	0x78	0x63	0x76	0x62	0x6E	0x6D	0x2C	0x2E	0x20	0xB7

Table 2 Caps Lock Key Code Mapping Table

Line 1	**Key**	**Esc**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**0**	**Back**	**Up**
	Value	0x1B	0x31	0x32	0x33	0x34	0x35	0x36	0x37	0x38	0x39	0x30	0x08	0xB5
Line 2	**Key**	**Tab**	**Q**	**W**	**E**	**R**	**T**	**Y**	**U**	**I**	**O**	**P**	**Fn**	**Down**
	Value	0x09	0x51	0x57	0x45	0x52	0x54	0x59	0x55	0x49	0x4F	0x50		0xB6

Line 3	Key		Shift	A	S	D	F	G	H	J	K	L	Enter	Left
	Value			0x41	0x53	0x44	0x46	0x47	0x48	0x4A	0x4B	0x4C	0x0D	0xB4
Line 4	Key		Sym	Z	X	C	V	B	N	M	,	.	Space	Right
	Value			0x5A	0x58	0x43	0x56	0x42	0x4E	0x4D	0x2C	0x2E	0x20	0xB7

Table 3 Symbolic mode key code mapping table

Line 1	Key	Esc	!	@	#	$	%	^	&	*	(	)	Back	Up
	Value	0x1B	0x21	0x40	0x23	0x24	0x25	0x5E	0x26	0x2A	0x28	0x29	0x08	0xB5
Line 2	Key	Tab	{	}	[	]	/	\	|	~	'	"	Fn	Down
	Value	0x09	0x7B	0x7D	0x5B	0x5D	0x2F	0x5C	0x7C	0x7E	0x27	0x22		0xB6
Line 3	Key		Shift	;	:	`	+	-	_	=	?		Enter	Left
	Value			0x3B	0x3A	0x60	0x2B	0x2D	0x5F	0x3D	0x3F		0x0D	0xB4
Line 4	Key		Sym								<	>	Space	Right
	Value										0x3C	0x3E	0x20	0xB7

Table 4 Custom Mode Key Code Mapping Table

Line 1	Key	Esc	1	2	3	4	5	6	7	8	9	0	Back	Up
	Value	0x80	0x81	0x82	0x83	0x84	0x85	0x86	0x87	0x88	0x89	0x8A	0x8B	0x99
Line 2	Key	Tab	Q	W	E	R	T	Y	U	I	O	P	Fn	Down
	Value	0x8C	0x8D	0x8E	0x8F	0x90	0x91	0x92	0x93	0x94	0x95	0x96		0xA4
Line 3	Key		Shift	A	S	D	F	G	H	J	K	L	Enter	Left
	Value			0x9A	0x9B	0x9C	0x9D	0x9E	0x9F	0xA0	0xA1	0xA2	0xA3	0x98
Line 4	Key		Sym	Z	X	C	V	B	N	M	,	.	Space	Right
	Value			0xA6	0xA7	0xA8	0xA9	0xAA	0xAB	0xAC	0xAD	0xAE	0xAF	0xA5

Note: 1. Blank indicates that the key value will not be output.

2. The Key row in Table 4 is only for easy identification of each position and its corresponding key value. Please customize the actual function.

III. I2C Information

Key Data Register

directly via I2C and return the ASCII code value corresponding to the key press .

- Communication parameters:
  - Communication address: 0x5F
  - Communication rate: 100kHz
- Return:
  - If a key is pressed: Returns the ASCII code value of the corresponding key (see the key code mapping table for details).
  - No key pressed: Returns to `0x00`