

## SEFRAM9814 Protocol of Serial Interface

The command of Digital Output is list below:

command	Function	Remarks
A(ASC 41H)	Send encoded data	Return encoded 64 byte
B(ASC 42H)	Backlight ON/OFF	Return 32 bytes
C(ASC 43H)	°C°F button	Return 32 bytes
E(ASC 45H)	REC button	No return byte
H(ASC 48H)	HOLD button	Return 32 bytes
K(ASC 4BH)	Ask for model No.	Return 32 bytes
M(ASC 4DH)	MAX/MIN button	Return 32 bytes
N(ASC 4EH)	Exit MAX/MIN mode	Return 32 bytes
P(ASC 50H)	Load recorded data	
m	MEM function	No return byte

Note:you have to send 7 byte to meter, for example, if you want to send A comand, the format will be 0x02 0x41 0x00 0x00 0x00 0x00 0x03

- **Command B:**

Equivalent to one pushing on the backlight button. Return 32 bytes Only first 7 bytes is useful, it returns the command you send, 0x02 0x42 0x4F 0x4B 0x00 0x00 0x03 , 0x4F 0x4B means OK

- **Command C:**

Equivalent to one pushing on the C/F button. Return 32 bytes Only first 7 bytes is useful, it returns the command you send, 0x02 0x43 0x4F 0x4B 0x00 0x00 0x03 , 0x4F 0x4B means OK

- **Command K:**

Return 32 bytes. For example, when sends command "K" to meter, it will return 32 bytes, first byte is 0x02, last byte is 0x03, 24th=0x35, 24th=0x32, 26th=0x30;

- **Command M:**

Equivalent to one pushing on the MAX/MIN button. Return 32 bytes Only first 7 bytes is useful, it returns the command you send, 0x02 0x4D 0x4F 0x4B 0x00 0x00 0x03 , 0x4F 0x4B means OK

- **Command N:**

Equivalent to one pushing and hold the MAX/MIN button for two seconds to exit MAX/MIN mode.

Return 32 bytes Only first 7 bytes is useful, it returns the command you send, 0x02 0x4E 0x4F 0x4B 0x00 0x00 0x03 , 0x4F 0x4B means OK

- **Command E:**

Equivalent to one pushing on the REC button and no message is returned.

- **Command P:**

Instead of returning all memory, it only return recorded data .

- **Command A: ( return 64 Byte )**

**1<sup>st</sup> BYTE:**

The first byte is the start byte , it value is **02**.

**2<sup>nd</sup> BYTE:**

bat\_status

3->3 cells

2->2 cells

1->1 cells

0->empty

**3<sup>rd</sup> BYTE:**

bit 0 1 -> display T1-T2

bit 1 1-> recall mode

bit 2 1->T1 xxxx 0-> xxx.x

bit3: 1->T2 xxxx 0-> xxx.x

bit4: 1->T3 xxxx 0-> xxx.x

bit5: 1->T4 xxxx 0-> xxx.x

bit6: 1->T1-T2 xxxx 0-> xxx.x

bit7: 1->C 0->F

**4<sup>th</sup> BYTE:**

bit 0 1 -> alarm

bit 1 1-> reading exceed high alarm

bit 2 1-> reading below low alarm

bit3: 1->recording

bit4: 1->memory is full

bit5: 1->HOLD mode

bit6: 1->MAX/MIN mode

bit7: 1

**5<sup>th</sup> BYTE:**

bit 0 1 -> MAX

bit 1 1-> MIN

bit 2 1-> AVG

bit3: 1->MAX/MIN/AVG flash

bit4: 1->

bit5: 1->

bit6: 1->

bit7: 1

**6<sup>th</sup> BYTE:**

0->K type

- 1->J type
- 2->E type
- 3->T type

**7<sup>nd</sup> BYTE:**

- bit 0 -> 1->T1\_OL
- bit 1 -> 1->T2\_OL
- bit 2 -> 1->T3\_OL
- bit 3 -> 1->T4\_OL
- bit 4 -> 1->T1\_unplug
- bit 5 -> 1->T1\_unplug
- bit 6 -> 1->T1\_unplug
- bit 7 -> 1->T1\_unplug

For example: *10<sup>nd</sup> and 11<sup>nd</sup> byte are 0x01 0x02 then T1 will be 0x0102 that is 258 in decimal , then divided by 10 , that is 25.8 degree*

- 10<sup>nd</sup> BYTE and 11<sup>nd</sup> BYTE: channel 1 value*
- 12<sup>nd</sup> BYTE and 13<sup>nd</sup> BYTE: channel 2 value*
- 14<sup>nd</sup> BYTE and 15<sup>nd</sup> BYTE: channel 3 value*
- 16<sup>nd</sup> BYTE and 17<sup>nd</sup> BYTE: channel 4 value ;*
- 18<sup>nd</sup> BYTE and 19<sup>nd</sup> BYTE: T1-T2 value*

39~61 (38~60)lcd segment

62 N/A

**63<sup>th</sup>** checksum **BYTE** (*not include* start byte 02 , end byte 03)

**64<sup>th</sup> BYTE**

The last byte is the end byte , it value is **03**, first and last byte are used to check frame error.