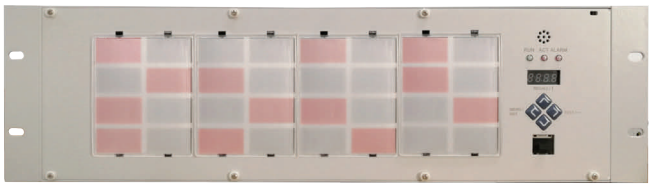
Signal lamp alarm device



Functional description

- Maximum outputs:32 signal lamps and 32 relays;
- Signal lamps have the functions of self-preservation, automatic confirmation and recalling;
- Multiple alarm outputs of relays;
- The contents of the signal lamps are displayed intuitively by the light card;
- It uses RS485 serial communication interface and MODBUS protocol to communicate;
- It is easy to install with the structure of standard 3U;
- It is widely used in power, petroleum, chemical, metallurgy and coal industries.

Version：V1.3 (20180122)

Technical parameters

Working power： AC85V~265V，DC88V~370V

Signal numbers of inputs/outputs: Support 32 inputs with 32 outputs of signal lamps and 32 relays (32 relays are optional)

Color of signal lamps: Red, green are optional

Type of inputs： Switching signals use active signal contact input mode and the contact voltage is the same as that of the device

Time of fault signals' automatic confirmation： It can be set from 10 to 200s

Delay time of alarm signals： It can be set 0~9999ms

Outputs of alarm contacts: 5 alarm relays such as power off alarm、advance alarm、accident alarm、advance letter、accident letter

Response time： ≤100ms

Relay contact capacity: 5A@250VAC/30VDC

Communication interface： RS485，MODBUS

232 serial port debugger with RJ45 interface

Signal lamp flashing frequency： 2Hz

Power consumption： ≤30W

Structure and installation methods： Standard 3U，panel installation

Insulation resistance： Inputs、outputs、power and shell≥100MΩ

Dielectric strength： Inputs、outputs、power and shell 2500VAC，1min，5mA，without breakdown and flashover

Environment temperature： -40℃~+70℃

Storage temperature： -40℃~+85℃

Relative humidity： 5%~95%RH

Naming and selection rules

Typical models	SAD	-32	-J	-D	-S	-Voltage grade

Product category

SAD=Signal lamp alarm device

Signal numbers of inputs/outputs

32=Support 32 or 16 inputs and outputs

Relays

J=With relay outputs；empty=Without relay outputs

RS485 function

D=With RS485 function；empty=Without RS485 function

Audio alarm function

S=With audio alarm function；empty=Without audio alarm function

Voltage grade

empty=AC85V~265V，DC88V~370V Special voltage levels can be customized

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Functions of the device

Alarm functions of fault signals

1. The corresponding lamp will be lit up and relay will act if there is an input signal appears;
2. The trigger type of each input signal can be set as contact closure or contact opening by the panel;
3. Every input signal has three types such as accident signal, advance signal and position signal .We can choose the type of each input signal by the panel;
4. The buzzer will buzz all the time if there is a accident signal input and buzz intermittently if there is a advance signal input. It will not buzz if the input signal is a position signal;
5. The corresponding lamp will flicker and corresponding relay will act if there is a accident signal. When the accident signal disappears, the lamp will light up all the time, the relay will return and the buzzer will stop buzzing by pressing the confirmation key or reaching the automatic confirmation time we set previously in the device, If the input signal is not disappearing, the sound stops when the panel is confirmed and the signal lights continue to flicker. After the signal is disappearing, the signal light is changed from flicker to constant light.
6. We can use the recalling key to recall the input accident signals which have appeared and been confirmed. The fault signal will be lit in turn from the last signal. The device can recall up to 200 signals;
7. We can press the reset key on the panel to reset the device if all signals have been confirmed. All signals the device has confirmed will be removed and can not be recalled any more;
8. When the device is off, the power is reconnected. If the data is not removed, the device can record the state before the power and recover to the state

Other relays outputs

1. Normally closed contact of power off alarm：This contact will become closed when the device loses power;
2. Normally open contact of advance alarm：This contact will become closed when the device has advance signal alarm and will become open after the advance signal has been confirmed;
3. Normally open contact of Preview telegram：This contact will become closed when the warning letter alarm appears. It will become open when the warning letter signal has been confirmed and the reset key has been pressed;
4. Normally open contact of accident alarm：This contact will become closed when the device has accident alarm signal and will become open after the accident alarm signal has been confirmed;
5. Normally open contact of accident letter：The frequent open contact of an accident is closed with the input of the accident signal. It will become open when the accident letter signal has been confirmed and the reset key has been pressed.;

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Functions of keys

There are four keys on the panel, such as testing key, confirmation key, recalling key and menu key.

1. Testing key：All lamps will be lit up ,all buzzers will buzz all the time and corresponding relays will act if this key is pressed. We can confirm whether this device is ok.
2. Confirmation key：We can confirm the current alarm signal immediately by pressing this key if there is an alarm signal appears.
3. Recalling key ：When all the alarm signals have been confirmed, The device will light the signal light in order from the order of the latest failure if we press the key. The accident signals have the priority to display.
4. Menu key：After pressing the menu button and entering the menu interface, the functional parameters of the product can be set.

Other functions

1. Self check ：This device has the function of self check when the power is on and we can see whether it can work normally;
2. Communication：RS485 serial communication interface and MODBUS protocol；

Confirm matrix graph

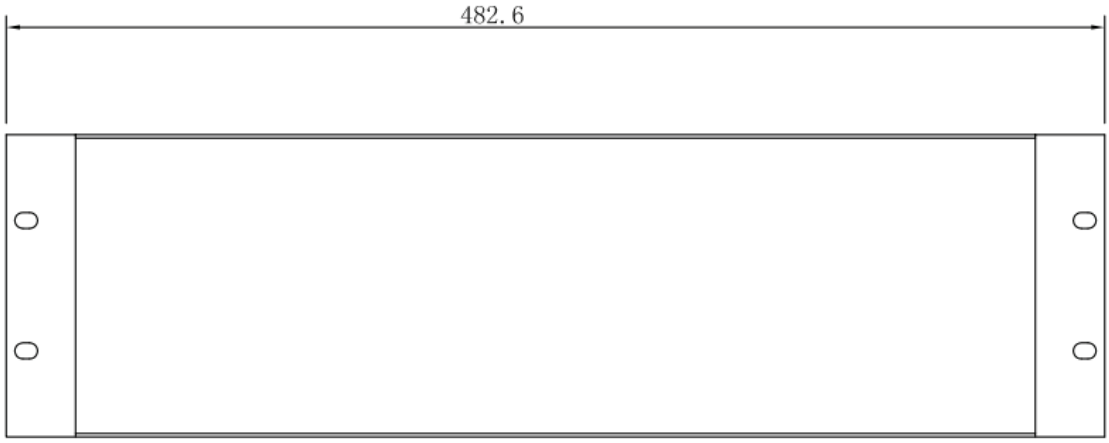
The following table can be referred to when the confirmation keys are confirmed at the site.

	Sound	Led
There is still signal input	Stop sounding	Continue to scintillation, when the signal is disappearing and turn to constant
Non signal input	Stop sounding	Change into an initial state of extin-guishment

Terminal definition diagram(SAD16 without X1,X2, X7, X8)

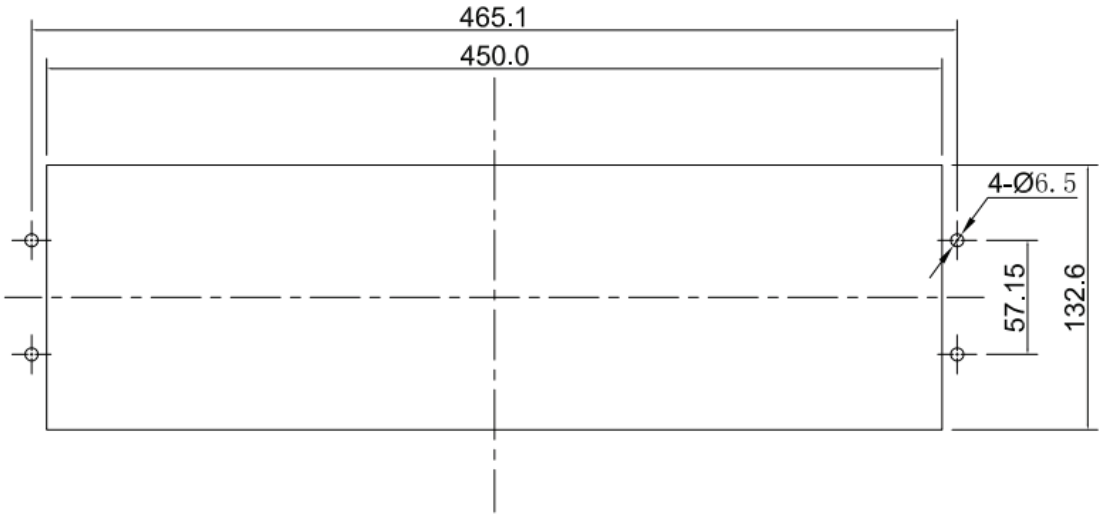
X1		X2		X3		X4		X5		X6		X7		X8		X9	
1	DIN1	1	DIN9	1	DIN17	1	DIN25	1	OUT1	1	OUT9	1	OUT17	1	OUT25	1	DODL
2	DIN2	2	DIN10	2	DIN18	2	DIN26	2	COM1	2	COM9	2	COM17	2	COM25	2	COM
3	DIN3	3	DIN11	3	DIN19	3	DIN27	3	OUT2	3	OUT10	3	OUT18	3	OUT26	3	DODD
4	DIN4	4	DIN12	4	DIN20	4	DIN28	4	COM2	4	COM10	4	COM18	4	COM26	4	COM
5	DIN5	5	DIN13	5	DIN21	5	DIN29	5	OUT3	5	OUT11	5	OUT19	5	OUT27	5	DOYGJ
6	DIN6	6	DIN14	6	DIN22	6	DIN30	6	COM3	6	COM11	6	COM19	6	COM27	6	COM
7	DIN7	7	DIN15	7	DIN23	7	DIN31	7	OUT4	7	OUT12	7	OUT20	7	OUT28	7	DOSGJ
8	DIN8	8	DIN16	8	DIN24	8	DIN32	8	COM4	8	COM12	8	COM20	8	COM28	8	COM
9	N	9	N	9	N	9	N	9	OUT5	9	OUT13	9	OUT21	9	OUT29	9	DOGJJ
10	N	10	N	10	N	10	N	10	COM5	10	COM13	10	COM21	10	COM29	10	COM
11	COM1	11	COM2	11	COM3	11	COM4	11	OUT6	11	OUT14	11	OUT22	11	OUT30	11	N
12	COM1	12	COM2	12	COM3	12	COM4	12	COM6	12	COM14	12	COM22	12	COM30	12	+KM/L
13	N	13	N	13	N	13	N	13	OUT7	13	OUT15	13	OUT23	13	OUT31	13	N
14	N	14	N	14	N	14	RS485-A	14	COM7	14	COM15	14	COM23	14	COM31	14	PE
15	N	15	N	15	N	15	RS485-B	15	OUT8	15	OUT16	15	OUT24	15	OUT32	15	N
16	N	16	N	16	N	16	RS485-S	16	COM8	16	COM16	16	COM24	16	COM32	16	-KM/N

Installation dimension diagram(The whole layer)



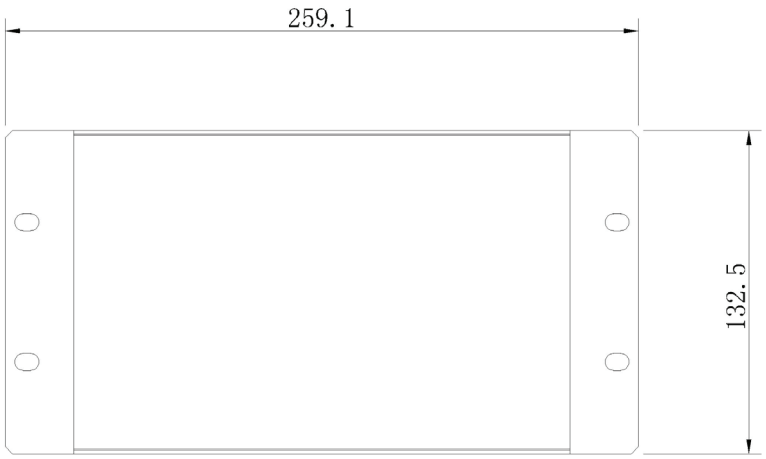
Front view

Vertical view

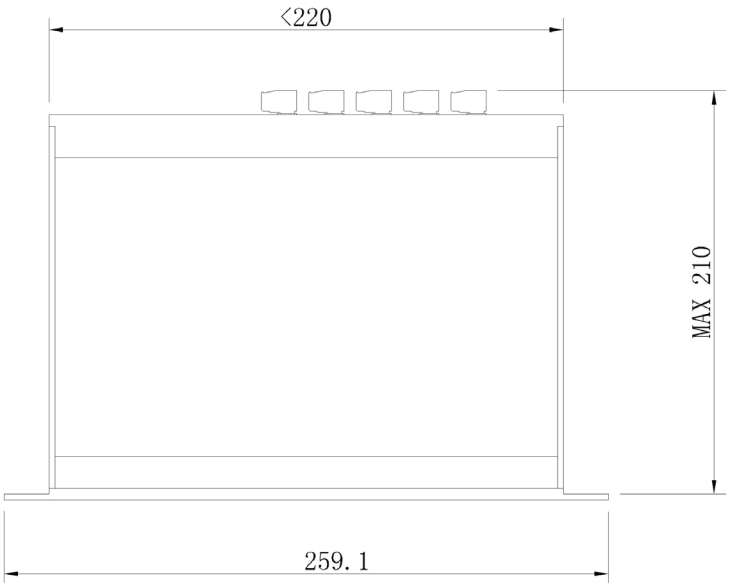


Hole dimension

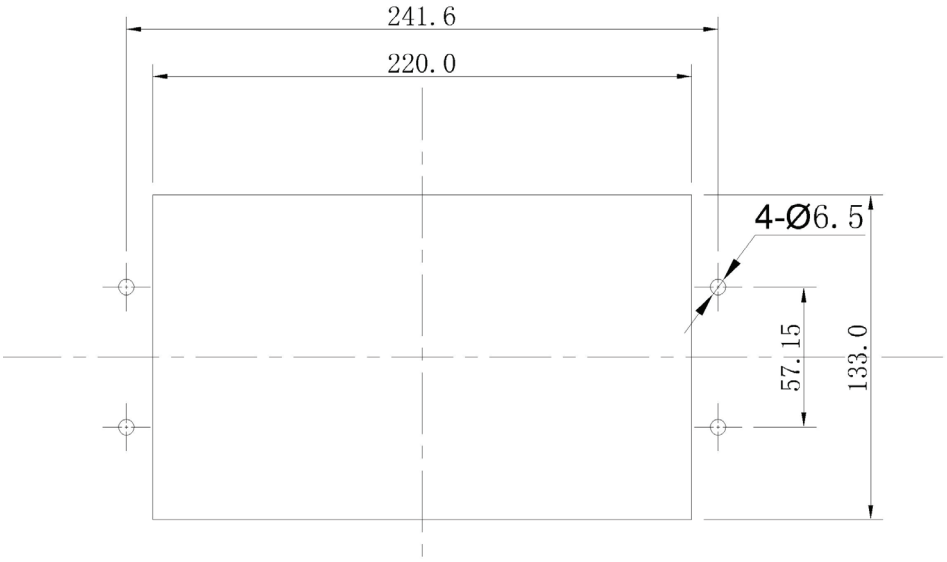
Installation dimension diagram(Half layer)



Front view

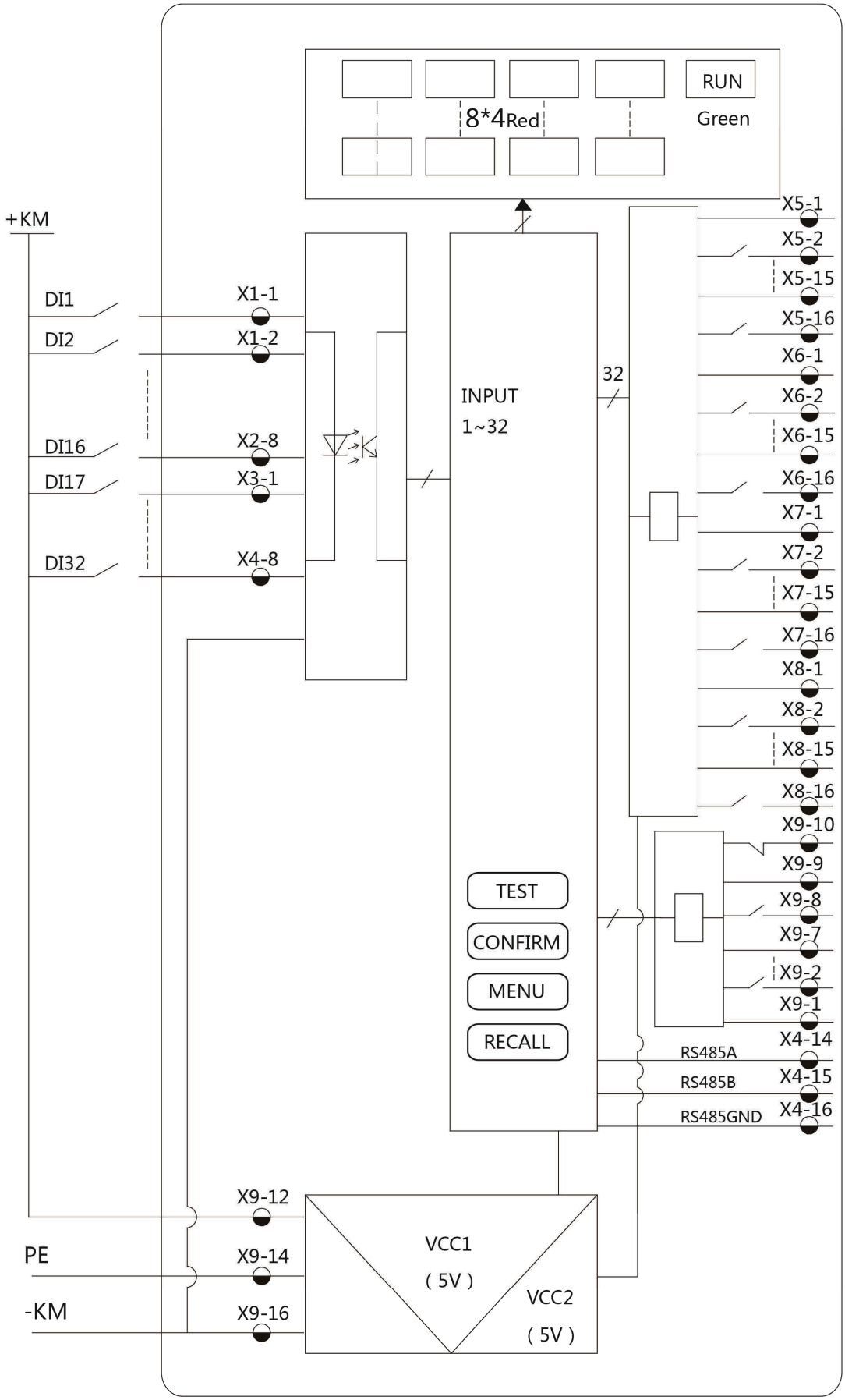


Vertical view



Hole dimension

Schematic diagram



Terminal definition table(SAD16 without X1,X2, X7， X8)

X1		X2		X3		X4		X5	
Number	Function	Number	Function	Number	Function	Number	Function	Number	Function
1	DIN1	1	DIN9	1	DIN17	1	DIN25	1	OUT1 COM
2	DIN2	2	DIN10	2	DIN18	2	DIN26	2	OUT1
3	DIN3	3	DIN11	3	DIN19	3	DIN27	3	OUT2 COM
4	DIN4	4	DIN12	4	DIN20	4	DIN28	4	OUT2
5	DIN5	5	DIN13	5	DIN21	5	DIN29	5	OUT3 COM
6	DIN6	6	DIN14	6	DIN22	6	DIN30	6	OUT3
7	DIN7	7	DIN15	7	DIN23	7	DIN31	7	OUT4 COM
8	DIN8	8	DIN16	8	DIN24	8	DIN32	8	OUT4
9		9		9		9		9	OUT5 COM
10		10		10		10		10	OUT5
11	X1common port	11	X2 common port	11	X3 common port	11	X4 common port	11	OUT6 COM
12		12		12		12		12	OUT6
13		13		13		13		13	OUT7 COM
14		14		14		14	RS485-A	14	OUT7
15		15		15		15	RS485-B	15	OUT8 COM
16		16		16		16	RS485-GND	16	OUT8

X6		X7		X8		X9	
Number	Function	Number	Function	Number	Function	Number	Function
1	OUT9 COM	1	OUT17 COM	1	OUT25 COM	1	Advance alarm
2	OUT9	2	OUT17	2	OUT25	2	
3	OUT10 COM	3	OUT18 COM	3	OUT26 COM	3	Accident alarm
4	OUT10	4	OUT18	4	OUT26	4	
5	OUT11 COM	5	OUT19 COM	5	OUT27 COM	5	Advance Telesignalling
6	OUT11	6	OUT19	6	OUT27	6	
7	OUT12 COM	7	OUT20 COM	7	OUT28 COM	7	Accident Telesignalling
8	OUT12	8	OUT20	8	OUT28	8	
9	OUT13 COM	9	OUT21 COM	9	OUT29 COM	9	Power off alarm
10	OUT13	10	OUT21	10	OUT29	10	
11	OUT14 COM	11	OUT22 COM	11	OUT30 COM	11	
12	OUT14	12	OUT22	12	OUT30	12	POWER+/L
13	OUT15 COM	13	OUT23 COM	13	OUT31 COM	13	
14	OUT15	14	OUT23	14	OUT31	14	PE
15	OUT16 COM	15	OUT24 COM	15	OUT32 COM	15	
16	OUT16	16	OUT24	16	OUT32	16	POWER-/N

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