INTELLIGENT SURGE&POWER MONITOR

iSPM-03

The Safesurge Intelligent Surge & Power Monitor is a multi-function monitoring device for power system and LPS (Lightning Protecting System), a core unit for Intelligent LPS or Surge Protective Devices (iSPDs), an innovative solution to make your LPS smart and intelligent.

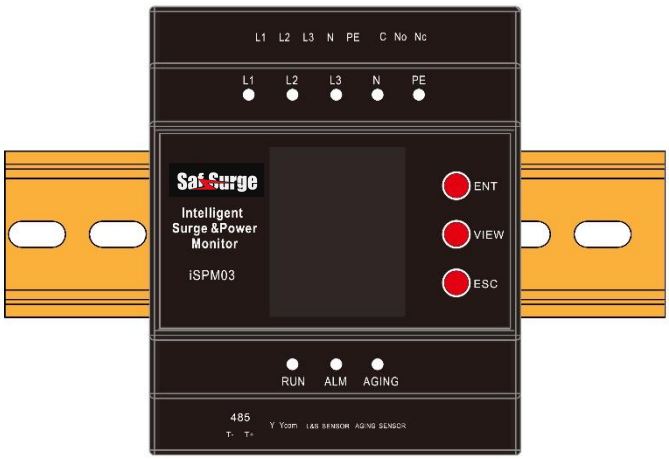
iSPM-03 provides accurate measurements and recording of the amplitude (kA) of surge through the SPDs, which can help us to fully understand the running status of LPS along with other features.

iSPM-03 can be widely used in Telecom, Railway electrical system, Wind power plant, Photovoltaic power plant, Network Communication system, building electrical system and automatic industrial lightning protection etc.. It has a leading technology and stable functions, through local Man-Machine interface or RS485 half-duplex MODBUS RTU protocol communication mode connecting to remote monitoring center, users can check completed LPS information.

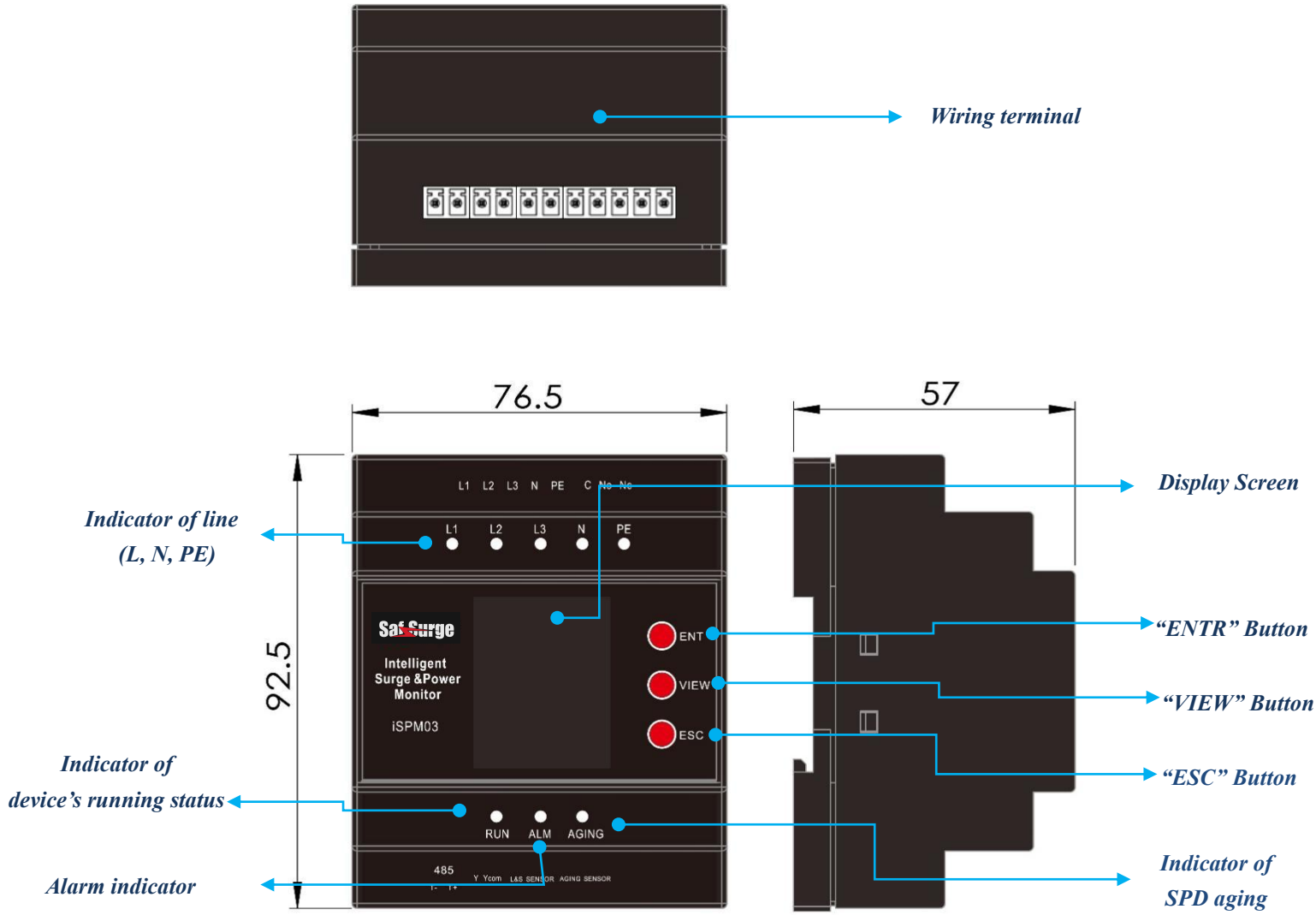
iSPM-03 device will monitor and record power system or LPS system events as listed in real time,

1. SPD working status with alarm
2. **SPD's leakage current measurement**
3. SPD's aging and alarm while close to end-of-life
4. Lightning and surge event (**surge amplitude**, event time, total events quantity)
5. Power line & Grounding monitor with alarm while lost
6. Backup over-current protection device working status (circuit breaker or fuse) with alarm
7. Voltage on SPD in real-time (**all phase lines**), overvoltage alarm

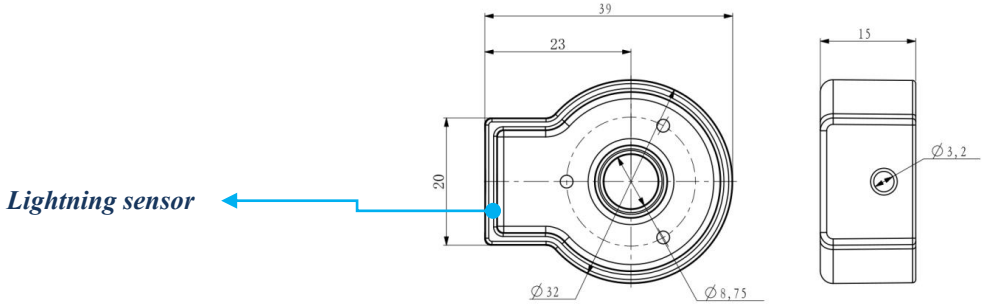
iSPM-03 is a DIN Rail-mounting device, could be used together with SPDs according to end-user's requirements.



- Overview of iSPM-03



Dimension drawing of monitor host



Dimension drawing of Lightning Sensor

- **Wiring terminal of iSPM-03**

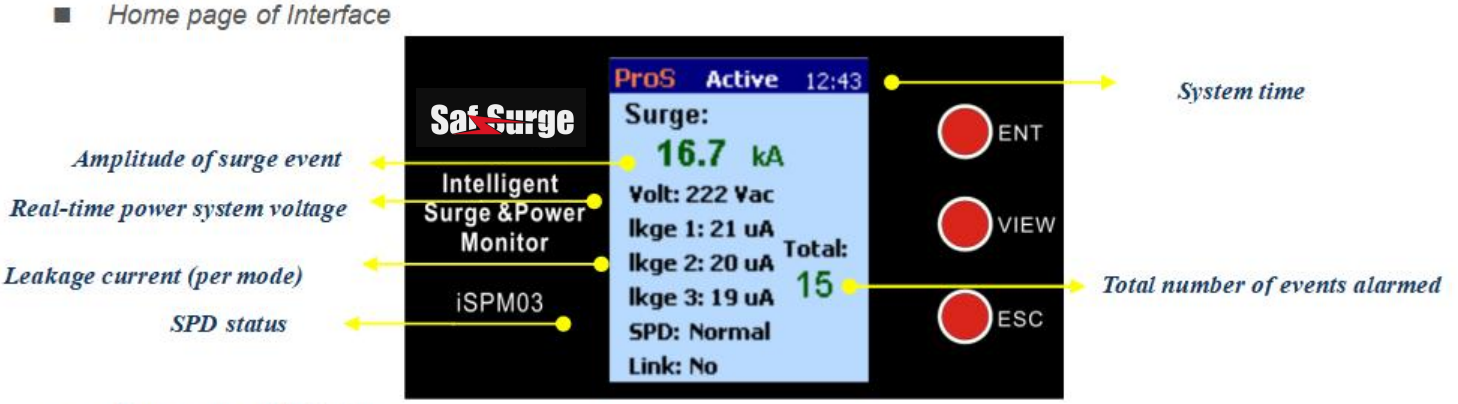
Item	Terminal	Wiring & Function
1	L1,L2,L3,N,PE	,Connect to L, N, PE lines, the link points should be downstream of backup over-current device(Refer to installation diagram)
2	C, NO, NC	Remote signal contact of iSPM (NO: Normally Open; NC: Normally close C: Common point)
3	Ycom. Y	Connect to NO (Y), C(Ycom) of the SPD's remote signal contact
4	Aging sensor	Connect to aging (Leakage current) sensors
5	485- 485+	For RS485 connect
6	L&S sensor	Connect to lightning current sensor

- **User interface of iSPM-03**

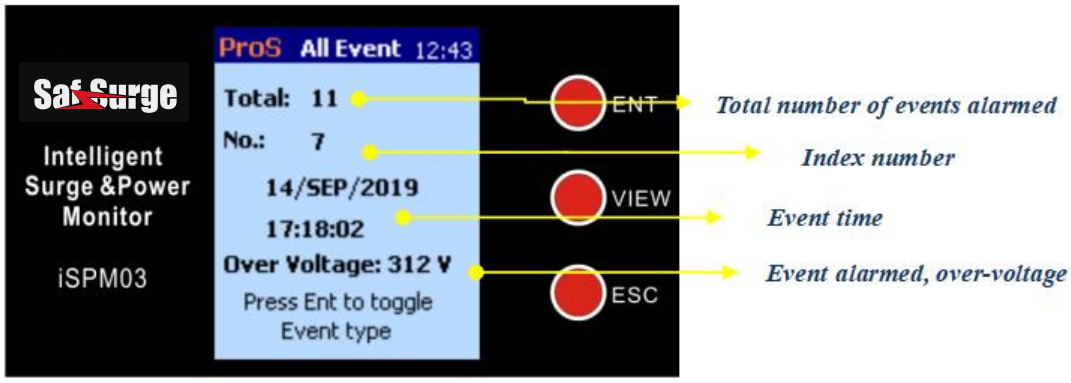
Four page user interfaces are available by pressing the button of iSMP as "ENT", "VIEW" and "ESC".
VIEW: Browse, Modification;
ENT: Enter, Confirm;
ESC: Exit, Return;

For examples:

- *Home page of Interface*



- *Brows page of interface*



More information of user interfaces, please refer working manual.

- **Indicator lamp of iSPM-03**

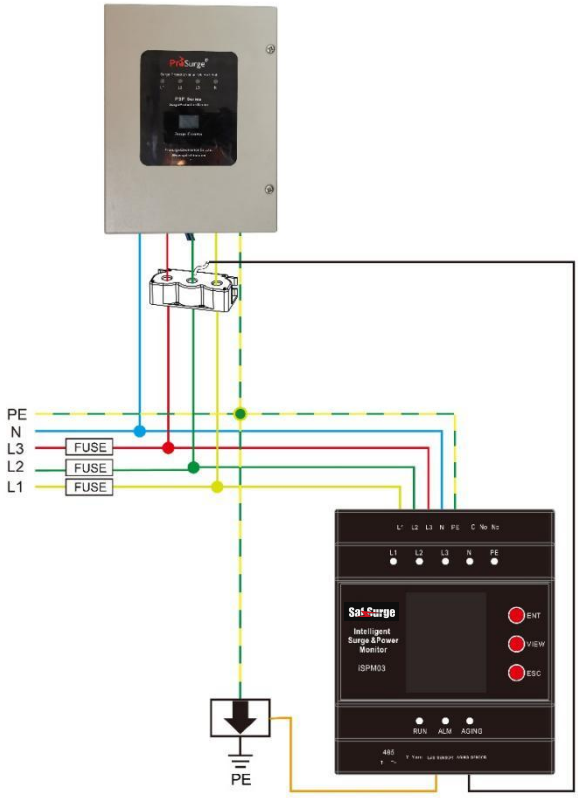
Indicator lamp	Color of lamp	If normal	If abnormal	Description
RUN	Green	Twinkle	Off	No power or device damage
ALM	Red	Off	On	At least one abnormal event happened,
AGING	Red	Off	On	SPD is very close to end of life, Replacement is recommended
L1	Blue	On	Off	L1 line lost
L2	Blue	On	Off	L2 line lost
L3	Blue	On	Off	L3 line lost
N	Blue	On	Off	N line lost
PE	Blue	On	Off	PE line lost

- **Technical Specification**

Model No.	iSPM-03
Power Network	TN/TT (WYE 3ph ,4W+G or 1ph, 2W+G) Note: Specified monitor for other power network is available.
Signal Input	• SPD's Leakage Current, 1~3 channels (range:0~20mA) • SPD working status, 1 channel, • Lightning and surge event, 1 channel • 3 channels real-time power system voltage（range:0~300Vac） • Power line & Grounding monitor, 3~5 channels (based on SPD's config)
Display Screen	TFT screen
Event Logging	5000 events
Surge Event Counting	Counting Current ≥100A
Lightning Current Sensor	Range:1~50kA, Error:±10%
Communication Interface	RS485
Network	Flexible networking
Connection wire	28 AWG~16 AWG
Screw torque	0.2 Nm
Installation	Host ： 35mm DIN rail Lightning Sensor: Wall mounting
Operation Temperature Range	-30℃~+70°C
Humidity	5%~95%
Storage Temperature	-30℃~+80℃
Degree of Protection	IP20
Housing Material	Thermoplastic, UL94 V-0
Dimension (mm)	Host: 92.5 (Length)×76.5(Width)×57(Height) Lightning Sensor: Diameter 32, Thickness:15

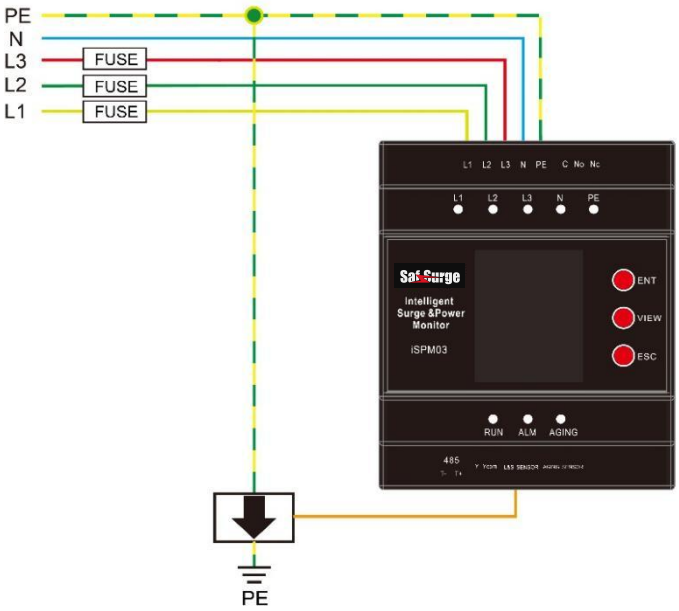
- **Typical Installation**

A. Install with SPD



Lightning current sensor

B. Install without SPD



Lightning current sensor

(End)