






SUPCON Switch
SUP-2218
User Manual
IM19H41-E

Notices
<ul style="list-style-type: none"> ● The reproduction, transmission or use of this document or its contents is not permitted without express written authority. ● Information and specifications in this document are subject to change without notice. ● While information in this document is well edited and checked, mistake or omission may exist. Please don't hesitate to contact SUPCON if you have any question about this document. ● Please contact SUPCON via email "SMS@supcon.com" if you have any question.

Trademarks
<p>Trademarks or marks SUPCON, SPlant, Webfield, ESP-iSYS, MultiF, InScan, SupField are all registered, registering or using by Zhejiang SUPCON Technology Co., Ltd., which owns the properties of all trademarks or marks above. Without the written authority from Zhejiang SUPCON Technology Co., Ltd, no individual or company shall use any trademarks or marks above. We reserve the right to take legal action for any individual or company using trademarks or marks above illegally.</p>

Symbol Definition	
	WARNING: Indicates information that a potentially hazardous situation which, if not avoided, could result in serious injury or death.
	RISK OF ELECTRICAL SHOCK: Indicates information that Potential shock hazard where HAZARDOUS LIVE voltages greater than 30V RMS, 42.4V peak, or 60V DC may be accessible.
	ESD HAZARD: Indicates information that Danger of an electro-static discharge to which equipment may be sensitive. Observe precautions for handling electrostatic sensitive devices
	ATTENTION: Identifies information that requires special consideration.
	TIP: Identifies advice or hints for the user.

Security& Caution Symbols

The following table lists Security& Caution symbols used on equipments.














No.	Symbol	Description
1		Direct current (DC)
2		Alternating current (AC)
3		Ground (Earth) terminal
4		Protective earth (ground) terminal
5		Reference ground (Earth) terminal
6		Frame or chassis
7		Equipotentiality
8		On (power)
9		Off (power)
10		Caution, risk of electric shock
11		Caution, hot surface
12		Caution, risk of danger
13		Electrostatic sensitive devices (ESD)

Table of Contents

SUPCON Switch SUP-2218	1
Section 1 Overview	1
Section 2 Features.....	2
Section 3 Specifications	3
Section 4 Usage.....	4
4.1 Front Panel.....	4
4.2 Installation and Wiring	5
4.2.1 Install to Cabinet.....	5
4.2.2 Connect Power Line	5
4.2.3 Connect TP Twisted-pair	6
4.2.4 Connect SFP Optical Cable.....	6
Section 5 Application	8
5.1 Network Cascade	8
5.1.1 Downlink.....	8
5.1.2 Uplink	8
5.2 Signal Cable	9
5.2.1 Twisted-pair	9
5.2.2 Fiber-Optic Jumper.....	9
5.3 Troubleshooting	9
5.4 Environment Requirements	10
5.5 Notes	10
Section 6 Revision.....	11

SUPCON Switch SUP-2218

Section 1 Overview

Ethernet switch SUP-2218 is provided with port switching and auto-negotiation network speed. Compared with traditional HUB, its full-duplex operation mode greatly enhances network bandwidth.

SUP-2218 can be applied in industrial network, wideband community, telecommunication, financial securities, enterprise, government and campus network, etc.

The couple of fiber-optic interfaces make it possible to access double routine of fiber optical in multiple or single mode. At the same time, the couple of fiber-optic interfaces can complement each other to ensure the smoothness of the uplink.

Section 2 Features

- Comply with IEEE802.3 10BASE-T and IEEE802.3u 100BASE-TX/FX standard.
- 10/100M auto-negotiation RJ-45 ports.
- 100M SFP multi/ single-mode ports.
- Auto-negotiation function of MDI-X.
- Store and forward switching mode.
- IEEE 802.3x flow control applies to full-duplex.
- Backpressure type supports half-duplex flow control.
- Broadcasting storms control.
- Standard rack design.

Section 3 Specifications

- Network Standard: IEEE802.3 10BASE-T and IEEE802.3u 100BASE-TX/FX
- Packet transmission rate: 10BASE-T is 14880pps, 100BASE-TX/FX is 148800pps.
- Protocol: CSMA/CD
- Switching mode: Store and forward
- Port number: 16 RJ-45 ports and optional 1~2 SFP ports
- Cache size: 1.5Mbit
- MAC address: 4k MAC
- Power consumption: <10W
- Weight: 2.5kg
- Input Voltage: (100~240)V AC \pm 10%(50/60Hz)
- RJ-45 ports
 - Type: CAT5 twisted-pair
 - Transmission distance: (0~100)m
 - Transmission rate: 10/100Mbps
- SFP Fiber-Optic ports
 - Type: Multi mode LC fiber 62.5/125 μ m
Single mode LC fiber 9/125 μ m
 - Transmission distance: Multi Mode Fiber (0~2) km
Single Mode Fiber (0~20) km
 - Output power: Multi Mode Fiber (-16 ~ -6) dBm
Single Mode Fiber (-10 ~ -1) dBm
 - Input power: Multi Mode Fiber \leq -34dBm
Single Mode Fiber \leq -34dBm
 - Center wavelength: 1310nm
 - Transmission rate: 100Mbps
 - Transmit signal: TX
 - Receive signal: RX

Section 4 Usage

Appearance of SUP-2218 is shown below.



Figure 4-1 Appearance of SUP-2218

4.1 Front Panel

The front panel of SUP-2218 is shown below.

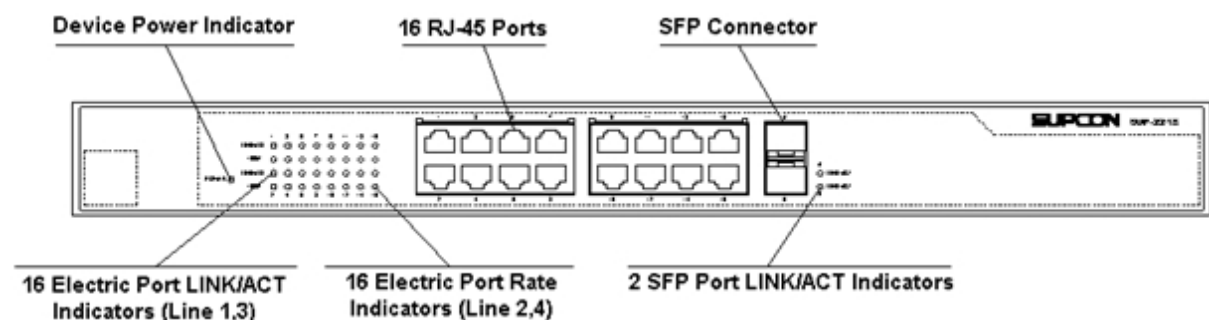


Figure 4-2 Front panel instruction

- 16 RJ-45 ports
 - 10M: use more than 3 types of twisted pair cables
 - 100M: use more than 5 types of twisted pair cables
- SFP fiber ports LINK/ACT indicator
 - Light on: port link normally
 - Light act: data receiving or transmitting
- SFP fiber connector
- Device power indicator
 - Light on: power on
- 16 RJ-45 ports LINK/ACT indicator (Line 1, 3)
 - Green light on: port link normally
 - Green light act: data receiving or transmitting
- 16 RJ-45 ports rate indicator (Line2, 4)
 - Green light off: port is running at 10Mbps

- Green light on: port is running at 100Mbps

4.2 Installation and Wiring

User can install the switch in a cabinet or on a workbench (flat).

4.2.1 Install to Cabinet

The front mounting ears are provided in the standard package. You can install a switch into the iron stand of standard cabinet in using front mounting ears, as shown in Figure 4-3. Fix the bolts (M6×12) into the holes of iron stand. SUP-2218 switch occupies approximately 1U (44.45mm).

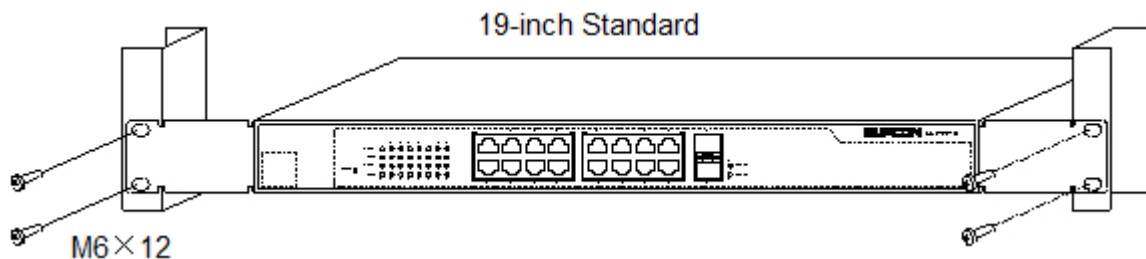


Figure 4-3 Rack mounting the SUP-2218 switch

Switch size and installation hole size of accessories are shown in Figure 4-4. Fixed bolt must be M6.

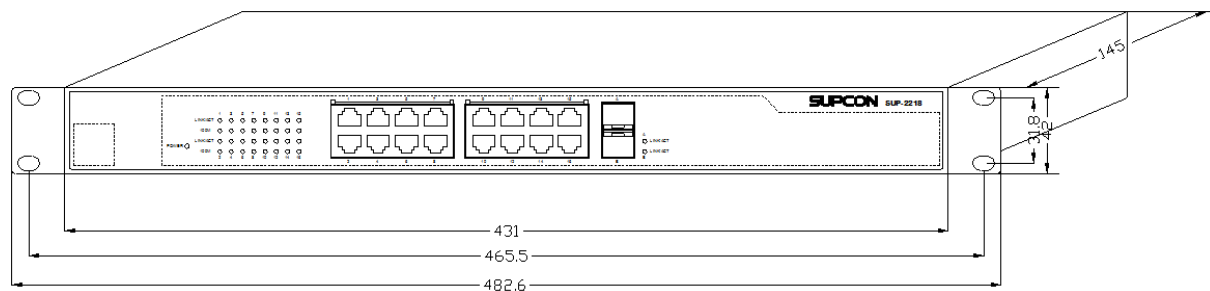


Figure 4-4 Dimension of SUP-2218 switch

4.2.2 Connect Power Line

SUP-2218 switch supports “plug and play”. It will works well under the extension AC (100V~240V) power supply. Connect the power supply, checking whether the POWER LED is ON. If yes, the power is properly connected.

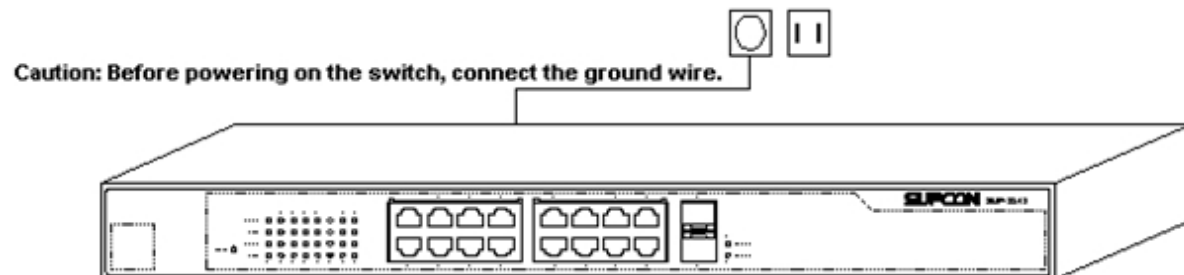


Figure 4-5 Power cord connecting

**Attention:**

Must connect ground before powering on the switch.

4.2.3 Connect TP Twisted-pair

Every port is MDI/MDX-I. It can auto-distinguish wiring type of TP twisted-pair, and is convenient for application.

Insert TP connector into ports, “ge-da” sound indicates the connection state.

The maximum extent of twisted-pair between switch and terminal (switch and switch) is 100 meters.

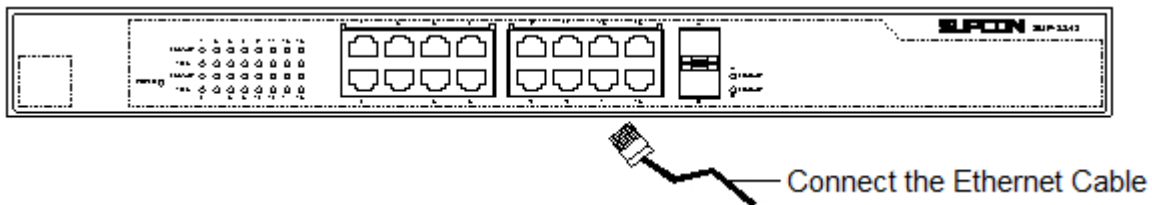


Figure 4-6 Plug TP connector into RJ-45 ports

4.2.4 Connect SFP Optical Cable

SUP-2218 provides 1~2pcs optional SFP ports. The connection of fiber jumper is shown as Figure 4-7. Insert 2pcs joints of fiber-optic jumper separately into SFP ports. The left one is TX sending signal and the right one is RX receiving signal. What should be paid attention to when connecting is that one joint of the fiber-optic jumper must connect TX and the other joint must connect RX.

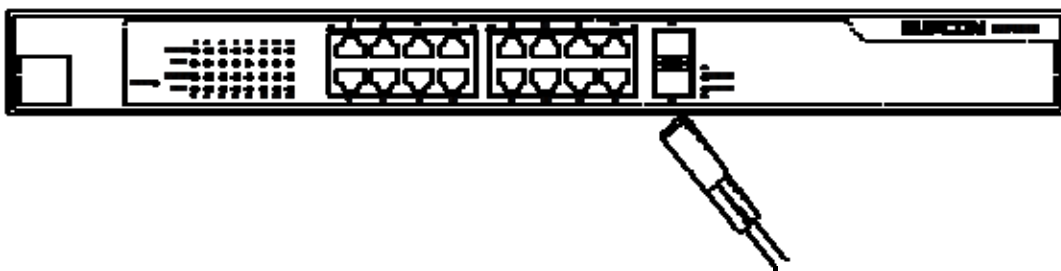


Figure 4-7 Connect fiber-optic jumper joints into LC ports

Multimode or single-mode SFP module has the same physical dimensions, they are optional to connect the switch as required. The optical fiber module is shown in Figure 4-8.



Figure 4-8 Optical fiber module

Optical fiber modules comparison table is shown in Table 4-1.

Table 4-1 Optical fiber modules

Module	Type	Distance	Wavelength	Output Power	Input Power
Multi Mode Dual-Fiber	SFP-02M	0~2 km	1310nm	(-16~-6)dBm	-34dBm
Single Mode Dual-Fiber	SFP-20S	0~20 km	1310nm	(-10~-1)dBm	-34dBm

Section 5 Application

5.1 Network Cascade

5.1.1 Downlink

SUP-2218 switch provides 16pcs 10/100Mbps ports and 1~2pcs SFP ports. These ports can be down-linked to the terminal or HUB. Shown as Figure 5-1:

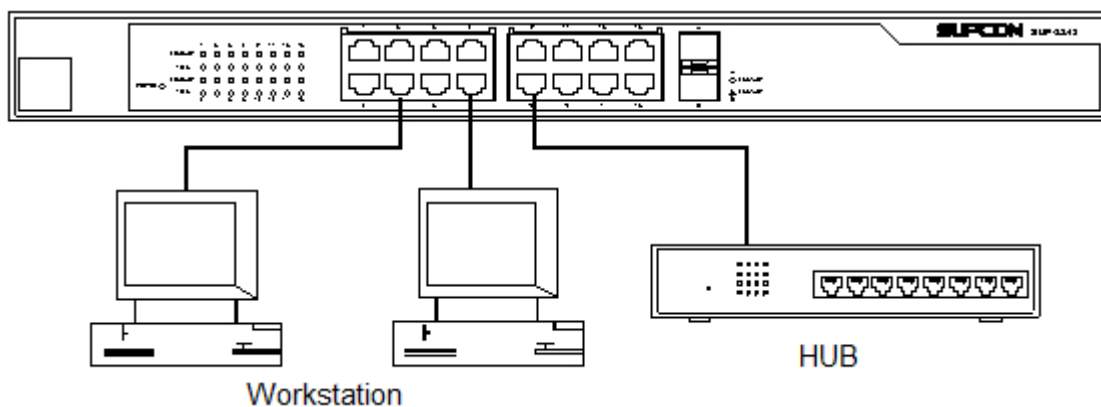


Figure 5-1 Downlink application

5.1.2 Uplink

Generally, the SFP port is often used as uplink port. The RJ-45 port also has this function if necessary. Due to the application of full duplex, this product theoretically has no restrictions on the link layer.

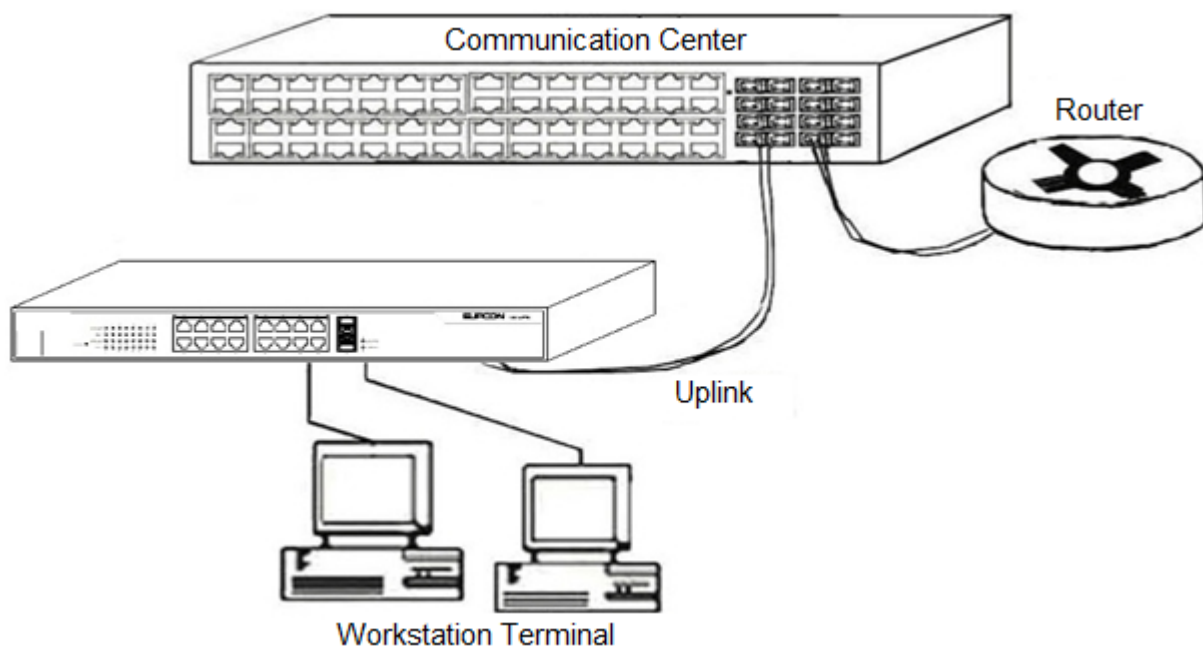


Figure 5-2 Uplink application

5.2 Signal Cable

5.2.1 Twisted-pair

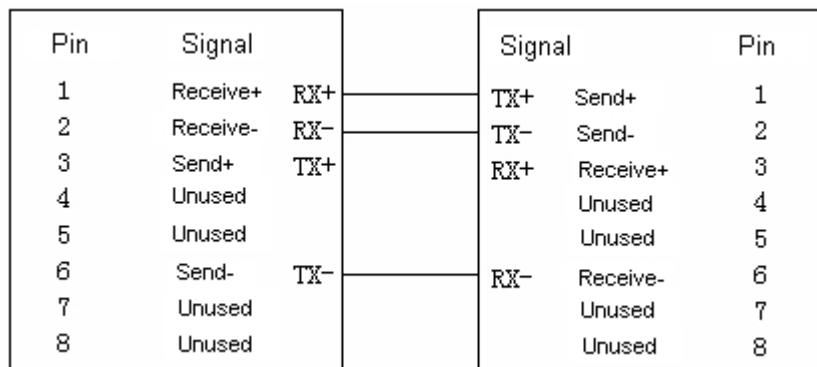


Figure 5-3 TP twisted-pair arrangement

5.2.2 Fiber-Optic Jumper

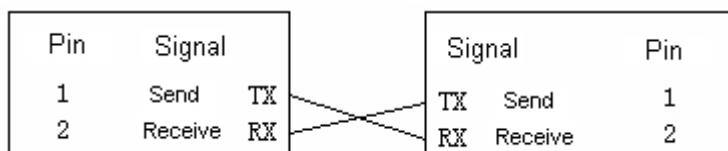


Figure 5-4 Fiber-Optic jumper (dual-fiber LC)

5.3 Troubleshooting

SUP-2218 provides LED indicators to monitor the network running and help eliminate the failures, which are always caused by cable misconnected, damaged or wrong set. To eliminate the failure, please ensure that:

- All devices related to the switch work normally.
- Cut off the power supply, restart it 5 seconds later.

If indicator light is off, please check whether the voltage is proper; check whether the power socket works normally or not; make sure that the power supply cord and cable joint are not damaged.

If the port is connected, the LED indicator light is off or abnormal; make sure that the RJ-45 connector is close enough; make sure that the type, length and order of cable are proper.

If the failures are still not eliminated, please contact us.

5.4 Environment Requirements

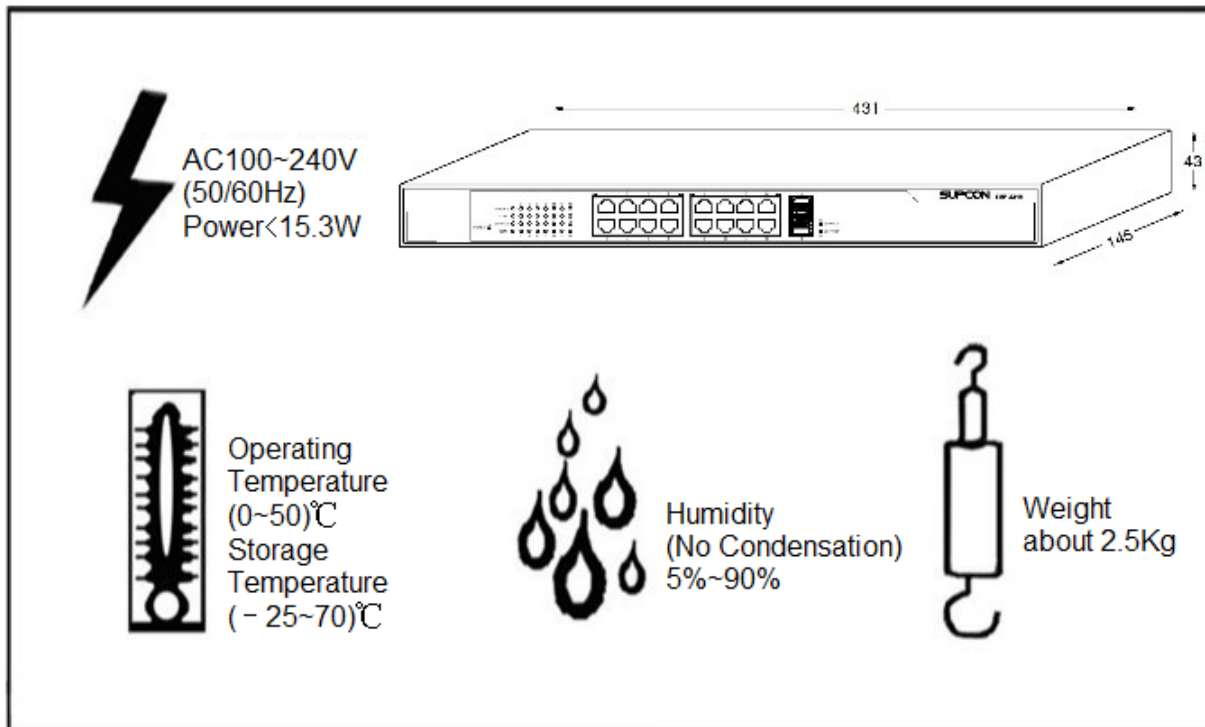


Figure 5-5 Environment requirements and switch dimension

5.5 Notes

- Do not open the switch while the switch is powered on to avoid electric shock.
- Do not let metal sheet and flammability into the switch, unplug the plug immediately when smoking or peculiar smell happening.
- Please do not place the switch near water or medicine.
- Make sure that the cleanness of socket and plug, then plug on the socket.
- When piling up switches, please make sure of the distance between $\geq 10\text{mm}$.
- To avoid electric shock or influence other devices, connect the switch with the universal socket with ground wire terminal.
- Do not apply too much force during the operation on power wire when unplug the plug to avoid the damage to the wire and causing fire or electric shock.
- Do not bend, twist or bundle up the power wires if unnecessary. Do not lay heavy objects on the power wire, or place it between other objects. Actions above may damage the power wire and cause fire or electric shock.

Section 6 Revision

Table 6-1 Retrofit list of the version

Document Version	Applicable Product Version	Remarks
V1.0 (20180830)	SUP-2218 V1.0 and later versions	The first version.
V1.1 (20210206)	SUP-2218 V1.0 and later versions	Correct errors