



Product Specification

Supplier Authorized Signature				
Status : ☒ Draft ☐ Released	Product name	Wireless Gateway		
	Model	MSKT1300		
	Project	A6022		
	Version	A0		
	Prepared		Date	
	Marketing		Date	
	Quality		Date	
	Approved		Date	

Customer Authorized Signature			
Quality		Approved	

SHANGHAI MOONS' AUTOMATION CONTROL CO.,LTD.

- 1 channel Ethernet interface for uplink data
- 1 channel RS485 interface for data uplink
- A cellular RF module for data uplink
- An accord IEEE802.15.4-2.4GHz standard wireless module for data downlink
- 1 channel active digital input interface
- A micro SD card slot for data backup
- 1 channel USB2.0 for debug
- Security: AES128 encryption.
- 35MM DIN rail mounting
- Warranty: 5 years standard.

2 CHARACTERISTICS

2.1 ABSOLUTE MAXIMUM RATINGS

At 20 °C, 50% RH, 100Kpa conditions.

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Min input voltage		9	/	/	Vdc
Max input voltage		/	/	36	Vdc

2.2 OPERATING CONDITIONS

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Operating temperature		-40	/	55	°C
Storage temperature	Indoor dry, well-ventilated place	-40	/	70	°C
Relative humidity	No frost	10	/	95	%
Vibration		/	/	1	G
Packaging Impact	Drop	/	1	/	M
Ingress protection	Not Installed	/	IP20	/	

2.3 SAFETY

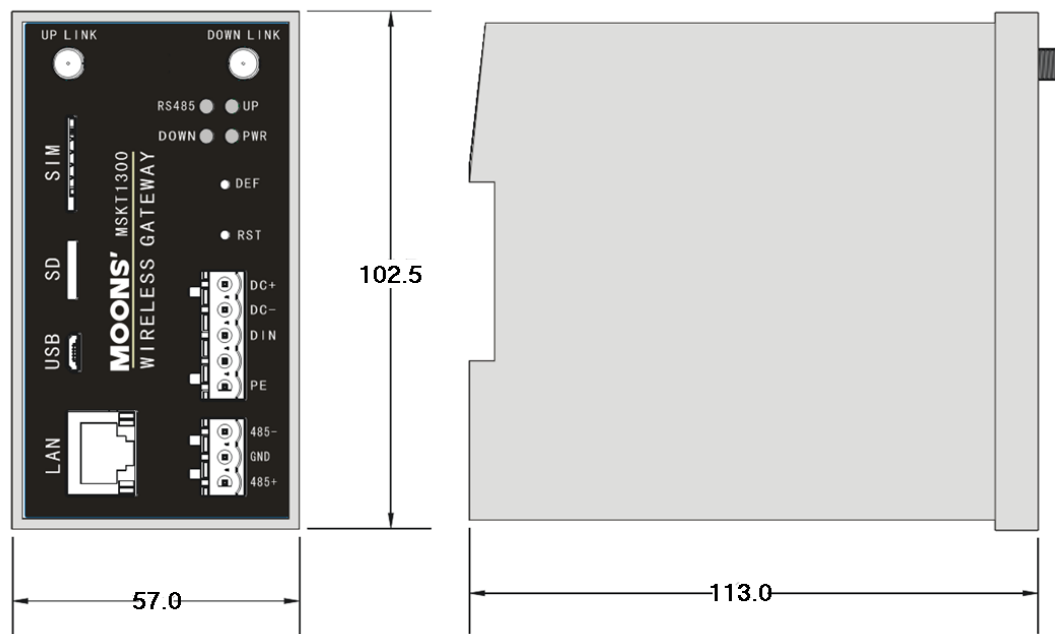
TYPE	Test level	
Isolation Voltage	PE to DCIN	1.5kVac,10mA,1min
	RS485 to DCIN	1.5kVac,10mA,1min
	LAN to DCIN	1.5kVac,10mA,1min
Leakage Current	DC to PE	220Vac,0.75mA

2.4 EMC

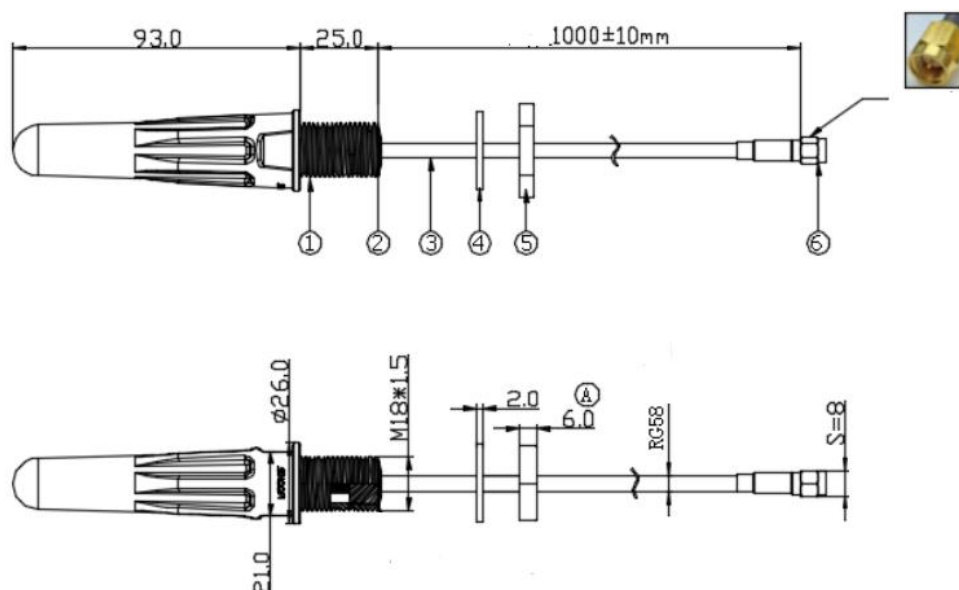
TYPE	Standard	Test level
Electrostatic discharge immunity	IEC61000-4-2	Level 4
RFEMS	IEC61000-4-3	Level 2
Electrical fast transient burst immunity	IEC61000-4-4	Level 3
Surge Immunity	IEC61000-4-5	Level 2
Conducted disturbances induced by RF field immunity	IEC61000-4-6	Level 2
Electromagnetic disturbance characteristics	FCC PART15 Class B / EN55015	

3 MECHANICAL DATA

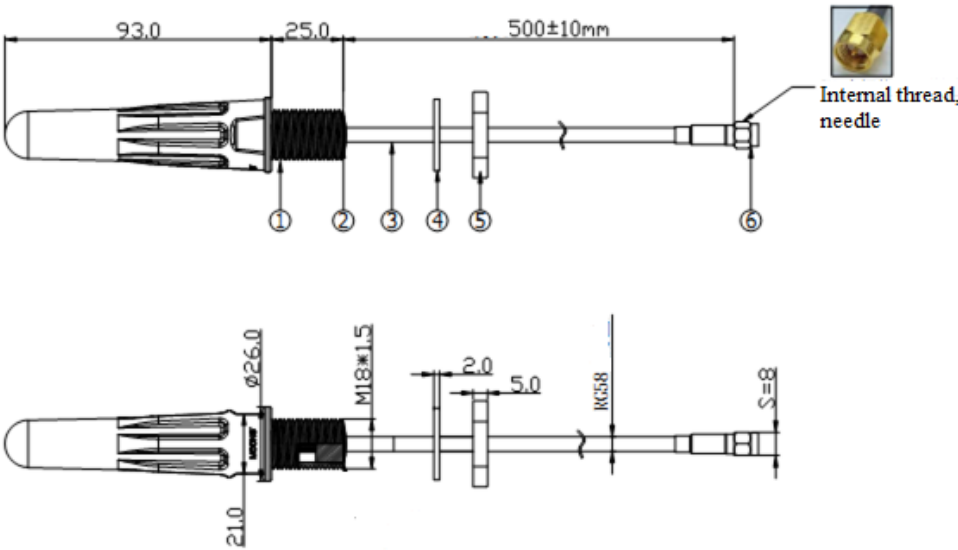
3.1 DIMENSIONS



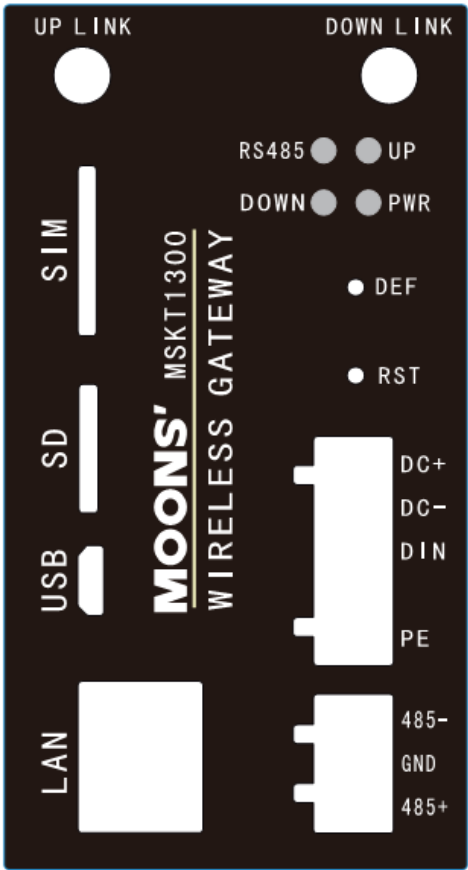
3.2 UP LINK ANTENNA



3.3 DOWN LINK ANTENNA

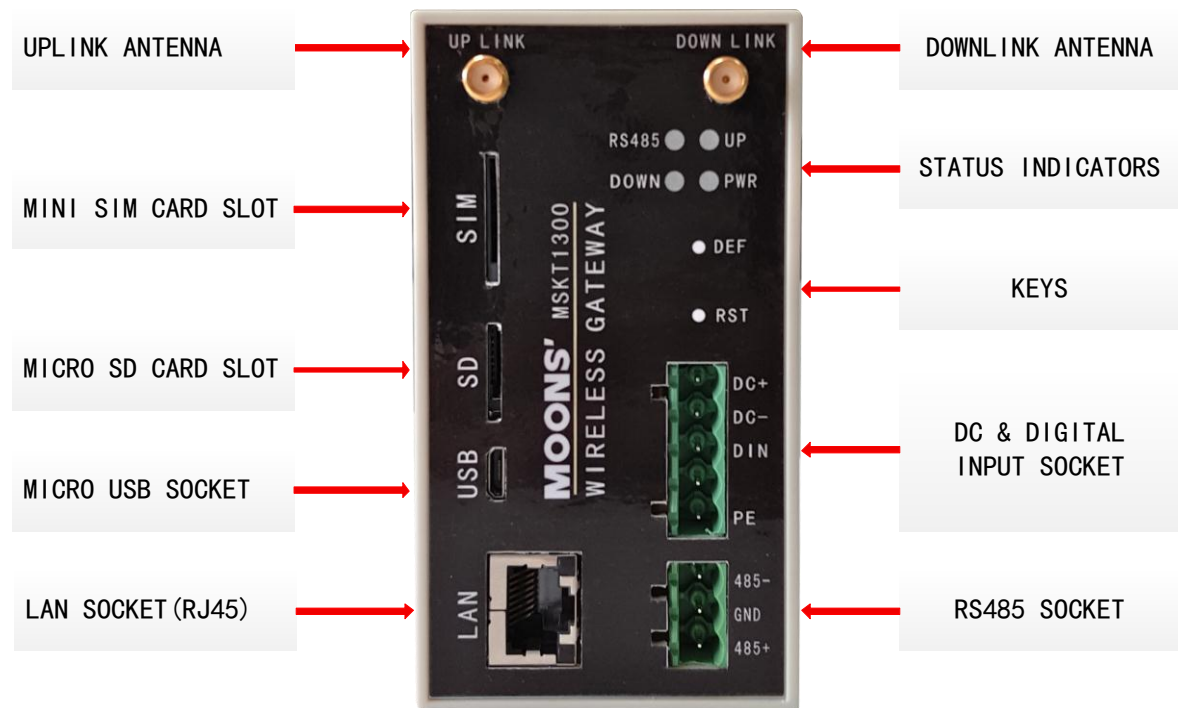


3.4 LABEL



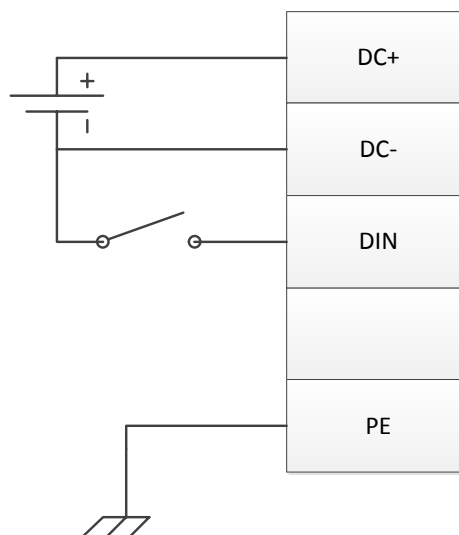
MOONS' WIRELESS GATEWAY	
Model	MSKT1300
Input Voltage	10 to 30VDC
Input Current	<500mA
Operating Temp.	-40 to 55°C
LAN	10/100Mbps
RS485	9600bps
RF Up Link	WCDMA/GPRS/GSM
RF Down Link	IEEE802.15.4-2.4GHz
SHANGHAI MOONS' AUTOMATION CONTROL CO.,LTD. MADE IN CHINA	

4 INTERFAC



4.1 DC & DIGITAL INPUT

- 1 channel Digital input interface, for alarm signal input.
- Use 5-pin 5.08mm pitch, which can be accessed 2.5mm² cable



PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
DC input voltage		10	24	30	VDC
DC input current	RMS	100	/	500	mA
Power Dissipation	24V	/	3	5	W
Digital input voltage		0	24	36	V
Response time	24VDC			1	Ms
Isolation Voltage	PE to DCIN		1500		VAC

4.2 LAN

- RJ45 (8pin)
- Meet TCP / IP or MODBUS TCP protocol
- 100M/10M adaptive

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Transmission rate		10	/	100	Mbps
Transmission voltage	100Mbps	-1.05	/	+1.05	V
Transmission voltage	10M	-2.8	/	+2.8	V
Isolation Voltage	PE, DCIN to LAN		1500		VAC

4.3 RS485

- Support MODBUS protocol
- Use 3-pin 5.08mm pitch, which can be accessed 2.5mm² cable
- Meters and other equipment can be used for data access

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Transmission distance	RVVSP 1.5mm ² cable	500	/	/	m
Transmission voltage		-5	/	+5	V
Transmission current		-250		+250	mA
Transmission rate		4800	9600	115200	Bps
Maximum number of devices connected				64	
Isolation Voltage	DCIN to RS485		1500		VAC

4.4 RF UP LINK

- Support WCDMA/GPRS/GSM
- SMA antenna connector
- Push & Push SIM card slot

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
WCDMA uplink rate				5.76	Mbps
WCDMA downlink rate			/	7.2	Mbps
GPRS uplink rate				42.8	Kbps
GPRS downlink rate			/	85.6	Kbps

4.5 RF DOWN LINK

- Meet IEEE802.15.4 standard;
- Self build network;
- Self health network;
- 128bit AES

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
RF transmission distance	3dBi antenna	500	/	/	m
RF transmission rate	Good signal	/	250	/	Kbps
RF band		2400	/	2483	MHz
RF receiver sensitivity		-98.8	/	/	dBm
RF transmitter power		/	/	20	dBm

4.6 Micro SD CARD

- Push & Push Micro SD Card Slot.
- The default installation a 1GB Micro SD card (Industrial grade).
- Compliant with Secure Digital Input Output (SDIO) V2.0 specifications.

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNI
Voltage		2.7	3.3	3.6	V
Operating frequency				52	MHz

Identification mode frequency,				400	KHz
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4.7 USB

- USB 2.0 , only for debug.
- Micro USB

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input voltage	To PC	4.5		5.5	V
Input current	To PC			50	mA
Date transmitter voltage			3.0		V
Transmitter rate				1	Mbps

5 DATA PROCESSING AND STORAGE

5.1 PROCESSOR

- With ARM9 core processor, Clocked at 270MHz

5.2 MEMORY

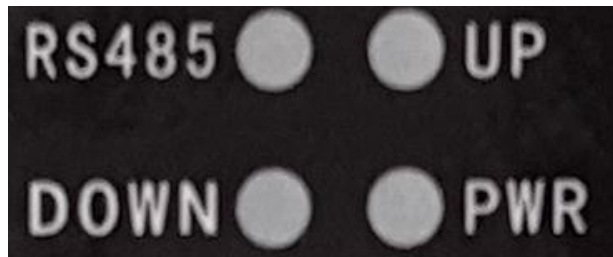
- DDR RAM 64MB.
- NAND FLASH 256MB.
- Data saved more than 10 years.

5.3 RTC

- RTC can continue to work after a power failure for more than 2 days.
- Need to run 24 hours before the power failure.

6 LEDS & KEYS

6.1 STATUS INDICATORS



NAME	Color	Status	Indicate
PWR	Red	On Off	Power on; Power off
DOWN	Green	Flash Off On	RF downlink building network; RF downlink network on; RF downlink network fault.
UP	Red	On Slow flash Fast flash	RF uplink fault; RF uplink searching network; RF uplink transfer data.
RS485	Green	Off Flash	RS485 no data; RS485 transfer data.

6.2 KEYS



NAME	Action	Feature
DEF	Press and hold more than 10 seconds	To restore the default RF downlink CHANNEL, NETID & IP ADDRESS.

		The default CHANNEL=15 The default NETID=255 The default IP ADDRESS=192.168.1.183
RST	Press the key	System reset.