



SMARTPOLE



Solar Lighting International, Inc.

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SLI SMARTPOLE

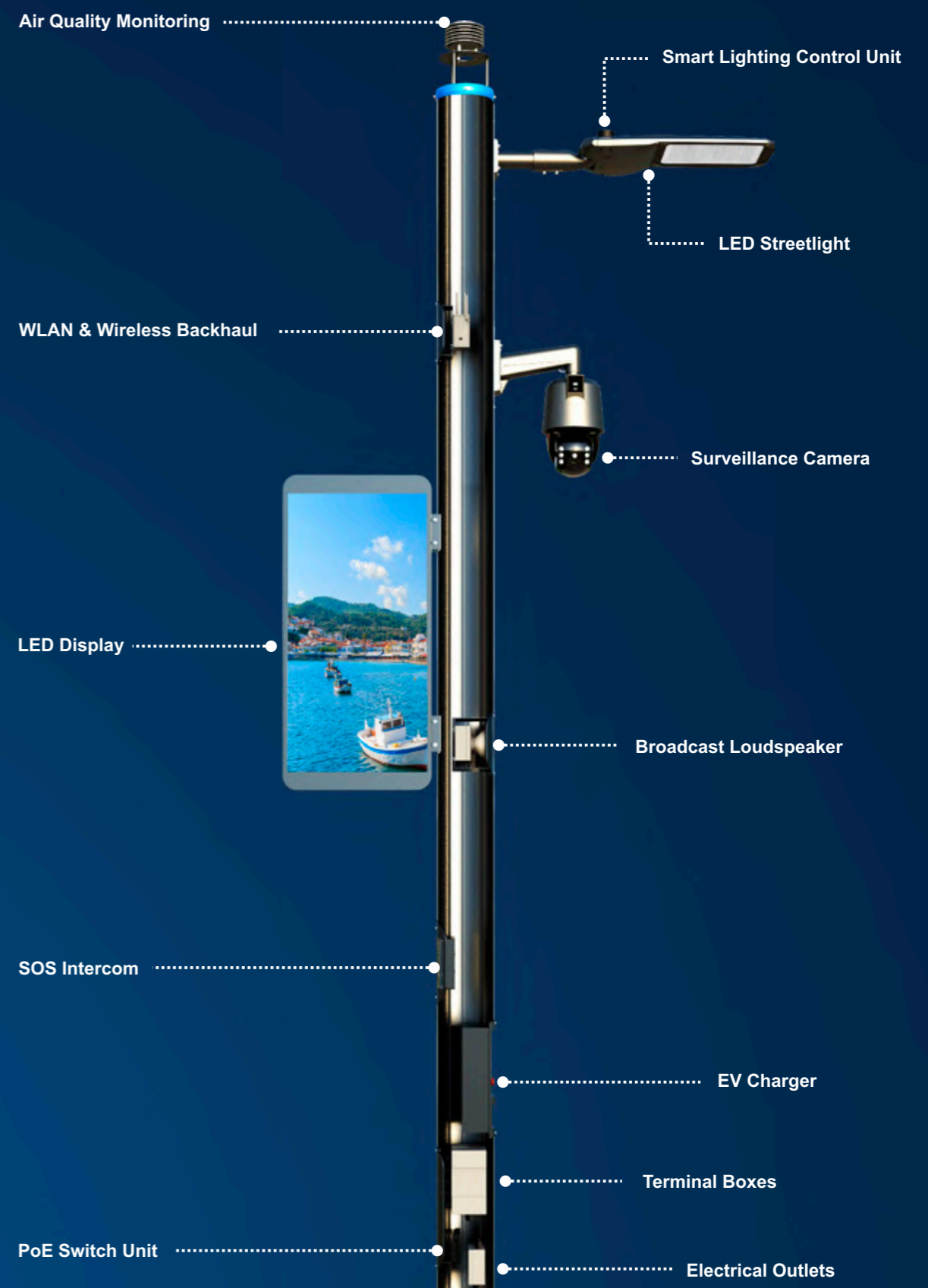
Smart lighting infrastructure creates safer, smart cities.

Solar Lighting International,®Inc. brings innovative smart city solutions to the market with a connected, modular approach to smart poles.

By integrating multiple technologies into one aesthetically pleasing column, Solar Lighting International's smart poles bring an elegant touch to outdoor urban spaces. Our smart poles are completely energy-efficient, yet affordable, and require very low maintenance.



SMARTPOLE OPTIONS

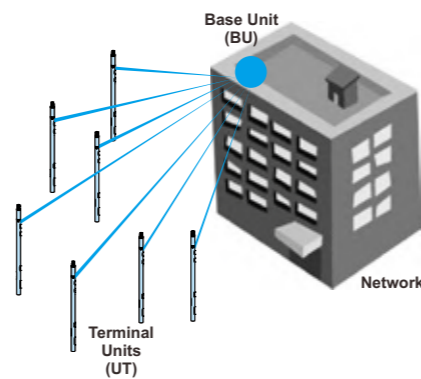
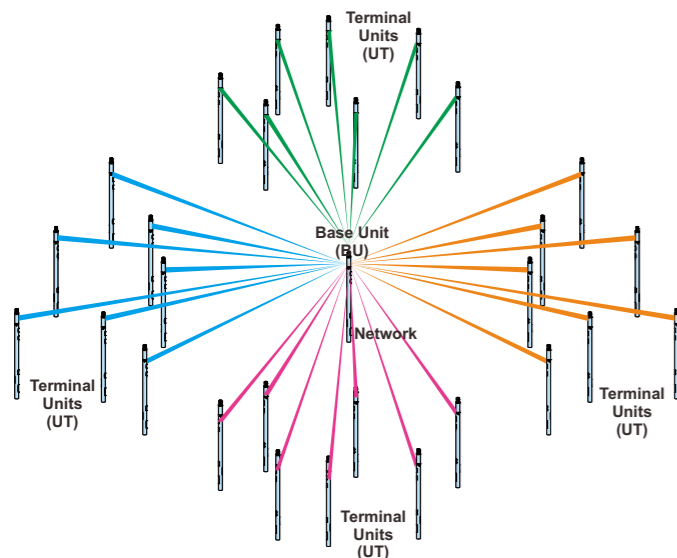


Reliable Wireless Network

Goodbye to heavy-duty infrastructure

Solar Lighting International's smart poles provide gigabit wireless network coverage via its wireless backhaul system. One base unit pole, with Ethernet connection, supports up to 28 terminal unit poles, and/or 100 WLAN terminals within a maximum distance range of 300 meters. The base unit can be installed at any place with Ethernet access, thus providing a reliable wireless network for terminal unit poles and WLAN terminals.

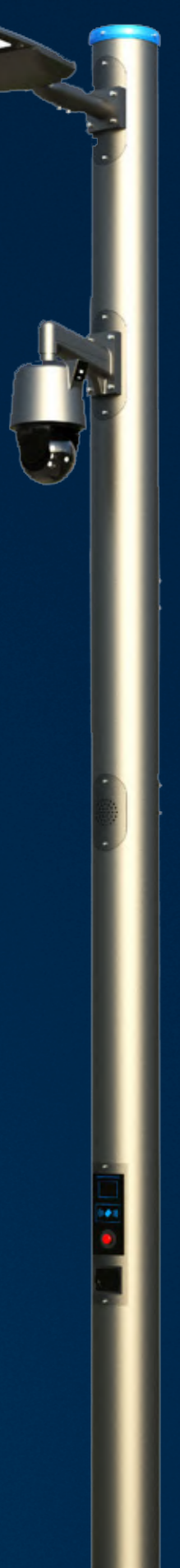
Equipped with a wireless backhaul system, our smart pole communicates in a 90° sector within an unobstructed line-of-sight between radios, with a range of up to 300 meters.



Security



Feeling secure is a basic human right. City residents and visitors want to feel safe at all times. Solar Lighting International, Inc. smart poles address these challenges with advanced lighting and security features by providing a combination of surveillance camera, loudspeaker and SOS strobe, and a monitoring system that enables bidirectional communications from authorities to citizens, and also from end-users to property managers.





Mobility

The global EV forecast will reach an annual growth rate of 29% over the next ten years with total EV sales growing from 2.5 million vehicles in 2022 to 11.2 million vehicles in 2025, then growing exponentially 31.1 million by 2030. Despite this growth, mainstream adoption of EVs is still hindered by an insufficient charging infrastructure in most countries and regions.

Solar Lighting International's Smart Pole with EV charger can be installed in any kind of car park to provide fast charging at any time to electrical vehicles. Cities and governments have been adopting low emission zone (LEZ) programs to reduce ambient exposures to air pollution.



Community

Solar Lighting International's Smart Pole is the right tool for business facilities, condominiums, universities, medical and sport complexes, parks, shopping malls or transport infrastructures such as airports, trains, and bus stations to offer a high-quality experience to their workers, customers, residents, and visitors. It creates safe and pleasant places to connect people to the Internet, to inform and entertain. People are encouraged to spend more time outdoors to socialize, and this in turn helps to contribute to the local economy and develop a true sense of community.



Pole

Solar Lighting International's Smart Pole is elegantly designed and manufactured with a high-grade extruded aluminum profile. It is coated with a corrosive resistant polyester powder finish, providing excellent corrosion protection against the harsh elements in outdoor applications.

Pole height	4500mm / 14.76'
Pole Diameter	200mm / 0.66'
Pole Housing	Akzo polyester powder coating
Standard color	Grey (Other color available upon request)
Ingress protection	IP 66
Impact resistance	IK 10 (polycarbonate) ,IK 05 (PMMA)
Operating temperature	-40° C up to 50° C / -40° F up to 122° F



Dark Sky Compliant

Key Features

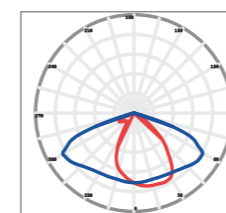
- Seamless integration into the pole
- High performance lighting levels
- Dark sky compliant
- Three different lighting distribution levels
- Dimming controls available
- Optional NEMA-7 socket for smart city IoT control



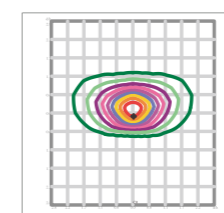
LED	Philips Lumileds 3030 s
Power	40W
Efficacy	130LPW
Lumen	5200lm
LED color temperature (CCT)	3000K / 4000K / 5000K / 5700K /6500K
Color rendering index (CRI)	70 / 80
Input Voltage	100-277V / 100-240V AC
Cover	PC/PMMA
Upward Light	< 1%

Photometrics

70x140(TYPE I)S

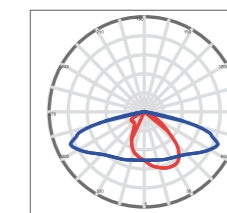


— 0.0~180.0
— 90.0~270.0

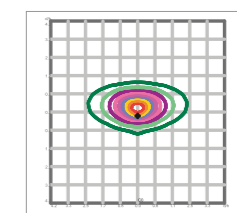


Mount Height(m): 6

70x150(TYPE I)M

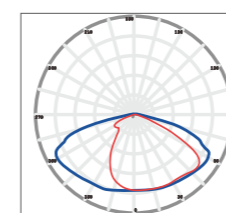


— 0.0~180.0
— 90.0~270.0

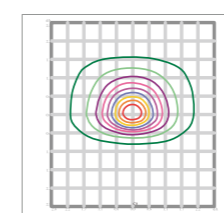


Mount Height(m): 8

95x150(TYPE I)S

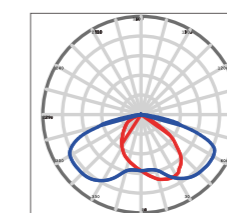


— 0.0~180.0
— 90.0~270.0

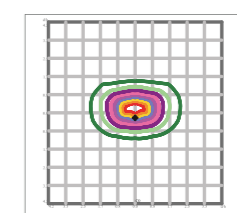


Mount Height(m): 6

85x155(TYPE I)M



— 0.0~180.0
— 90.0~270.0



Mount Height(m): 6

Smart Lighting Control

Key Features

- NEMA type twisted lock installation
- Automatic light on/off or dimming
- Real time operation monitoring
- Real time failure reporting
- Reliable self-healing mesh network



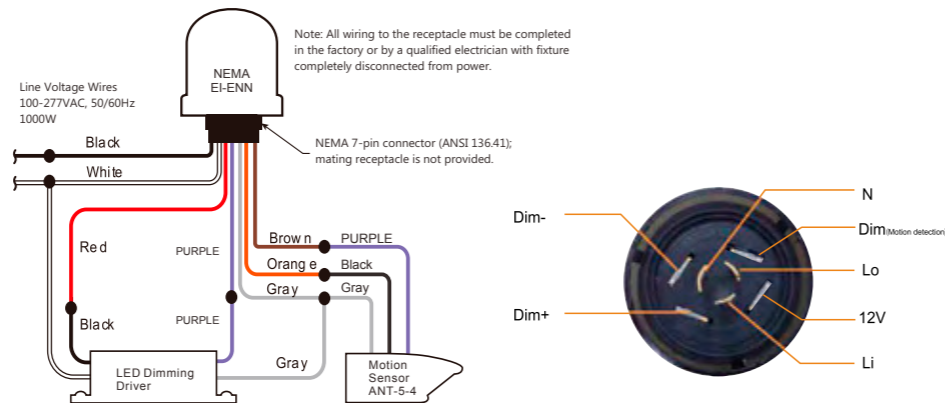
SLI Smart light control unit (LCU)

Receptacle NEMA 7-Pin

Protocol: IEEE 802.15.4, FR 433 / 868 Mhz / 915MHz

Output

- * 0-10V dimming, 12VDC (50mA)
- * On/Off or Dimming Control
- * Power Metering
- * Amp & Voltage Monitoring
- * Integral photocell control
- * Lighting group/policies setting
- * GPS Location
- * Amp & Voltage Monitoring
- * Lighting Fault alarm



Smart Lighting Control

Automatic Light On/Off & Dimming Control

- By time setting.
- On/off or dimming with motion sensor detection.
- On/off or dimming with photocell detection.

Accurate Operation & Fault Monitor

- Real-time monitor on each light's working status.
- Accurate report on fault detected.
- Provide location of fault, no patrol required.
- Collect each light's operation data, such as voltage, current, and power consumption.

Extra I/O Ports for Sensor Expandability

- Environment Monitoring
- Traffic Monitoring
- Security Surveillance.
- Seismic Activities Monitoring

Reliable Mesh Network

- Self proprietary wireless control node.
- Reliable node to node, gateway to node communication.
- Up to 1000 nodes per network.
- Max. network diameter 2000m.

Easy-to-use Platform

- Easy monitoring on each light status.
- Supports lighting policy remote set-up.
- Cloud server accessible from computer or hand held device.





Environment Monitoring

Key Features

- Ambient illuminance monitoring and recording (brightness, light color temperature, sunrise and sunset curve).
- Air quality monitoring and recording, PM2.5/PM10, CO, SO, O.2 2
- Noise monitoring and recording.
- Wind speed & wind direction monitoring and recording.
- Temperature, humidity and atmospheric pressure monitoring and recording.

Power: 0.8W
Color: White

Humidity	0%RH~99%RH
Temperature	-40°C~ +120°C
Light intensity	0 ~ 200,000 Lux
Barometric pressure	0-120Kpa
Noise	30dB~120dB
PM10 PM2.5	0-1000ug/m3



WLAN

Key Features

- WLAN Coverage
- Seamless integration into the pole
- Secure wireless network
- Speed of up to 1.9 Gbps over the air
- Coverage up to 100 connections
- 300m auto-aligned range
- WPA,WPA2, WPA-PSK, WPA2-PSK encryption
- Operates in 2.4GHz band for 600Mbps, or 5GHzband for 1300Mbps
- Easy access for maintenance

Operation temperature -40°C~75°C
External independent power amplifier
Low Noise
Wireless double-frequency 2.4GHz/5GHz



Base Unit



	Base Unit
Wifi coverage	Yes
Wifi throughput	Yes
Ethernet throughput	Yes
Power by PoE	Yes
Dual RF	Yes
Maximum transmission power	1300mbps
Antenna Coverage	360°
SSID	0
Operation Mode	AP/Client



Wireless Backhaul

Goodbye to heavy-duty infrastructure

Key Features

- Reliable, virtually interference-free operations
- Connect up to 28 Terminal Unit poles from one Base Unit Pole, 7 Terminal Unit poles in 90° sector.
- Speeds of up to 1.9 Gbps over the air
- 300m auto-aligned range
- WPA,WPA2, WPA-PSK, WPA2-PSK encryption
- Operates in 2.4GHz band for 600Mbps, or 5GHzband for 1300Mbps

Operation temperature -40°C~75°C

External independent power amplifier

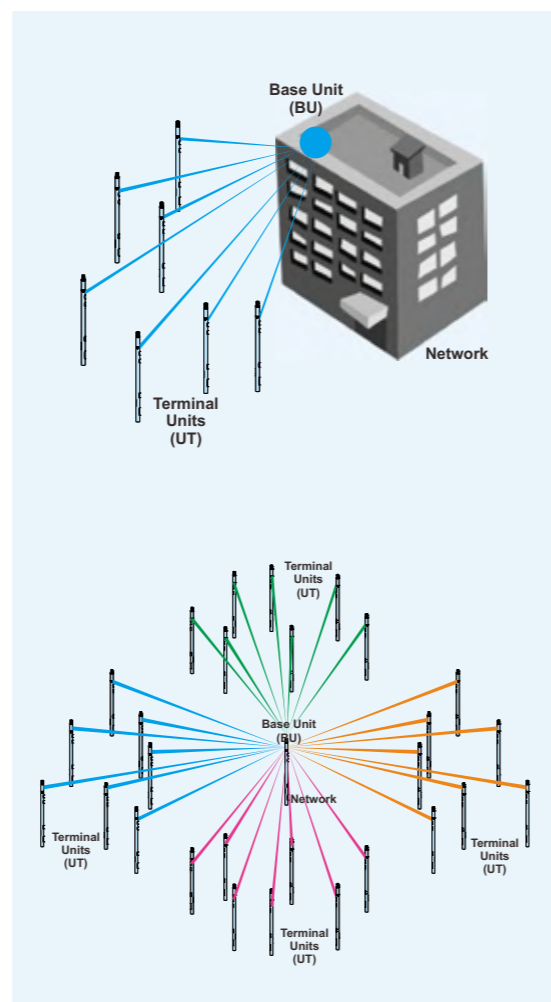
Low Noise

Wireless double-frequency 2.4GHz/5GHz



Base Unit

Terminal Unit



	Base Unit	Terminal Unit
Wifi coverage	Yes	No
Wifi throughput	Yes	Yes
Ethernet throughput	Yes	Yes
Power by PoE	Yes	No
Dual RF	Yes	Yes
Maximum transmission power	1300mbps	300mbps
Antenna Coverage	360°	360°
SSID	0	8
Operation Mode	AP/Client	Client

360° Camera-CCTV

Key Features

- High quality imaging with 8 MP resolution
- Motorized varifocal lens for easy installation and monitoring
- Excellent low-light performance via powered-by-DarkFighter technology
- Clear imaging against strong back light due to 120 dB true WDR technology
- Focus on human and vehicle targets classification based on deep learning
- Audio and alarm interface available



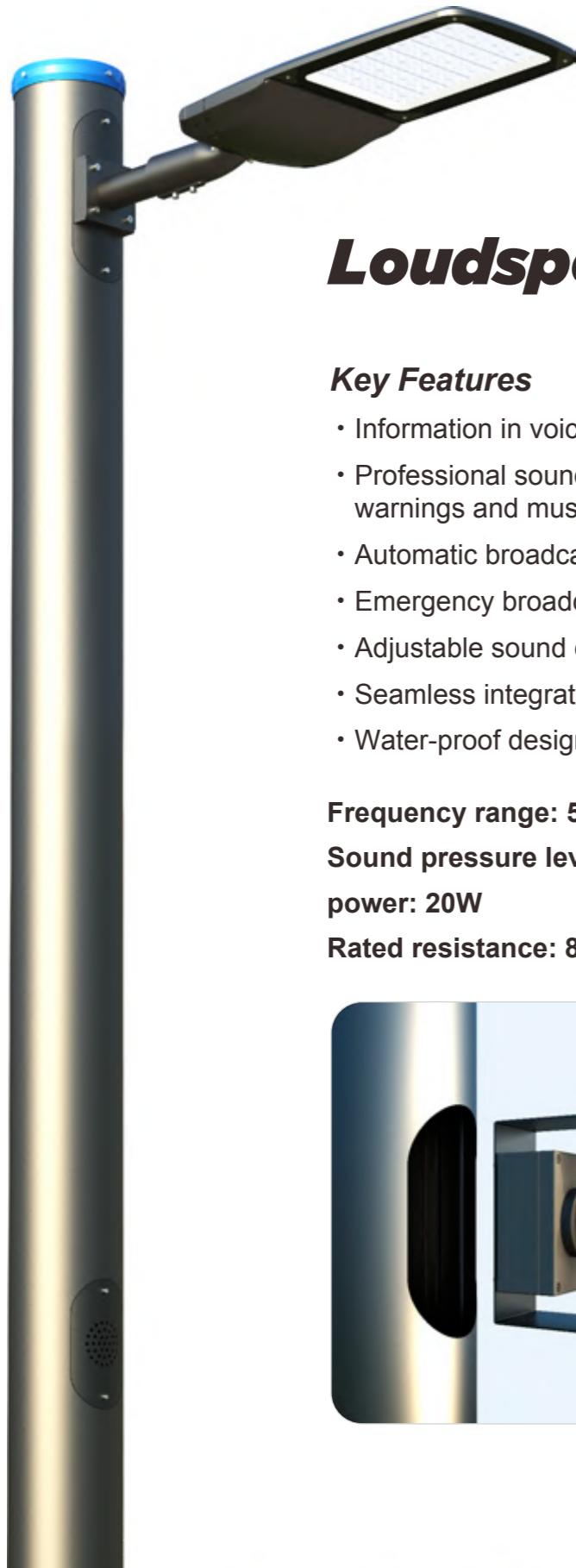
Power Consumption and Current 12 VDC, 0.88 A, max. 10.5

PoE (802.3af, 36 V to 57 V), 0.35 A to 0.22 A, max. 12.5 W

Power Supply:12 VDC ± 25%

PoE: 802.3af, Class 3

Image Sensor	1/1.8" Progressive Scan CMOS	Wide: D	86.0 m, O: 34.1 m, R: 17.2 m, I: 8.6 m
Min. Illumination Color	0.003 Lux @ (F1.4, AGC ON), B/W: 0 Lux with IR	Tele: D	214.0 m, O: 84.9 m, R: 42.8 m, I: 21.4 m
Shutter Speed	1/3 s to 1/100,000 s	Max. Resolution	3840 × 2160
Wide Dynamic Range	120 dB	Video Bit Rate	32 Kbps to 16 Mbps
Day & Night	IR cut filter	Ethernet Interface	1 RJ45 10 M/100 M self-adaptive Ethernet port
SNR	≥ 52 dB	On-Board Storage	Built-in micro SD slot, up to 256 GB
Angle Adjustment Pan	0° to 355° , tilt: 0° to 75° , rotate: 0° to 355°	Simultaneous Live View	Up to 6 channels
Power-off Memory	Yes	API	Open Network Video Interface (PROFILE S, PROFILE G, PROFILE T), ISAPI, SDK
2.8 to 12 mm:	horizontal FOV 108° to 46°, vertical FOV 58° to 26°, diagonal FOV 127° to 52°	Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, NTP, UPnP, SMTP, IGMP, 802.1X, QoS, IPv4, IPv6, UDP, Bonjour, SSL/TLS, PPPoE, SNMP, ARP
Face Capture	Yes		



Loudspeaker

Key Features

- Information in voice
- Professional sound system for public service announcements, warnings and music
- Automatic broadcast set-up
- Emergency broadcast.
- Adjustable sound quality up to CD 44.1K, 16bit
- Seamless integration design
- Water-proof design

Frequency range: 50-20000KHz

Sound pressure level: 91dB Max

power: 20W

Rated resistance: 8



LED Display Screen

Key Features

- Slim and lightweight
- High brightness over 4000nits for outdoor use
- Built-in automatic brightness adjustment system
- Separate PDU and single module control
- Front access with magnet module design allows easy maintenance
- Stable performance guaranteed
- Flame-retardant rating UL94 V0
- IP66 rated

Pixel Pitch 2.85mm

LED Arrangement	3 in 1 SMD
LED Wavelength	R:618-628nm/G:518-530nm/B:460-470nm
Brightness	4000nits
View Angle	160/160
Color Temperature	3500-9000K (6500K Default value)
Control Mode	gigabit ethernet, 4G, Wifi asynchronous control
Control Distance	Ethernet cable<100m or Fiber Optic<15km or 4G infinity
Operation Power	200-240V AC/ 100-277V AC
Ingress protection	IP65
Frame Dimension	515 x 1092 x 82mm
Cabinet Weight	22KG
Maintenance	Front
Cabinet Material	Aluminum



SOS-Intercom

Key Features

- One-touch system to contact operators
- Duplex speaker phone (HF) & Intelligent DSS Keys (Speed dial)
- All in ONE Radio and intercom, intelligent security function
- Seamless integration in the pole

Physical	10/100 Mbps Ethernet
IP Configuration	Static / DHCP / PPPoE
Network Access Control	802.1x
VPN	L2TP (Basic Unencrypted) / OpenVPN
VLAN	Yes
QoS	Yes
Power Supply	10~14V/1.5A DC or PoE
Shell Material	Front plate, aluminum alloy. Back plate, Cast aluminum
Protection level	IP65 and IK10
Working Temperature	-40~70°C
Storage Temperature	-40~70°C
Working Humidity	10~90%
Overall Dimension	195x120x39mm (W x H x L)
Package Dimensions	260x165x62mm (W x H x L)
Package Weight	0.85kg
Compatibility	Yes



EV Charging

Key Features

- Seamless integration in the pole
- Professional AC charging station, 7KW
- Safety locking during charging
- Safety cap ensures real safety when not charging

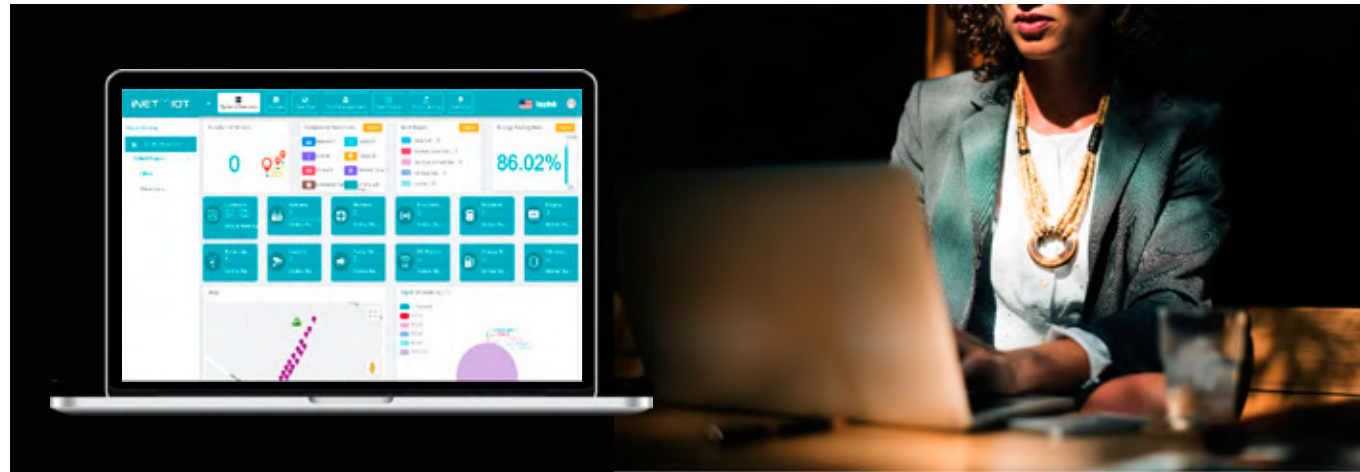


Safety Design

- Over-voltage protection
- Under-voltage protection
- Over-current protection
- Short circuit protection
- Leakage protection
- Earthing protection
- Over-temperature protection
- Low temperature protection
- Lightning protection

Rated Voltage (input/output)	230V AC
Max Power	7KW
Rated Current (input/output)	32A
Standby Power Consumption	< 6W
Ambient Temperature	-30°C~55°C
Ingress Protection	IP65
MTDF	50,000hours
Control	Card swipe control, CAN communication, GPRS networking





Smart Pole Central Management Platform System (CMS)

Solar Lighting International's iNET Central Management Platform System (CMS) is a cloud-based wireless smart system designated for Smart Pole and smart lighting management. With gateways + control node (LCU), iNET System monitors and manages the Smart Pole devices operation as well as lights performance status, collects operation data, controls lights on/off or dimming, and sends an alarm for faults detected.

