

NearSky™ 360

Edge Data Processor with Quad-Core Processor and Universal Lighting Controller Support



CIMCON
Lighting

Cities. Simplified.



CIMCON's NearSky™ 360 is a next generation edge data processor that captures, analyzes, and communicates data from sensors and cameras used in smart city applications. The device comes with a powerful quad-core processor and LTE support, which provides extra bandwidth for image and video data transfers. NearSky 360 can be deployed with intelligent lighting controllers from CIMCON or from other manufacturers and enables cities to quickly deploy various smart city applications such as environmental, noise, parking, traffic and security monitoring. An ANSI-compatible, C136.41, 7-pin connector at its base and ANSI-compatible 7-pin receptacle at its top ensure quick "plug and play" installation and easy repositioning.

Key Features

Edge Computing

This version of the NearSky 360 comes with an advanced quad-core processor to give more power to the edge processing of video and sensor data and create real-time alerts and notifications.

Multi-Sensor Interface

CIMCON's NearSky 360 provides power, processing, and communications to a wide variety of sensors and devices. It includes several communications interfaces (Ethernet, RS-485, USB, LTE CAT 1) to 3rd party sensors (environmental, motion, chemical/gas, vision, sound, etc.).

Power Over Ethernet (POE)

CIMCON's NearSky 360 provides two Power Over Ethernet ports to power and connect an IP camera or other peripheral.

Sensor Connectivity

General purpose sensor inputs allow easy connection to sensors

- Passive, active, modbus, HTTP, TCP
- Sensor data is delivered to applications in JSON messages

Ability to Power Sensors

CIMCON's NearSky 360 can provide AC (metered with 0.5% accuracy) and DC power to various sensors connected to it; this speeds installation and reduces the cost of city-wide deployment.

Configurable Design

CIMCON's NearSky 360 can host multiple sensor applications and communications capabilities (Wi-Fi, Ethernet, or over the existing lighting network) for true multi-vendor support.

Easy to Install

CIMCON's NearSky 360 offers full support for all 7-pins on the ANSI C136.41 dimming receptacle for true "plug and play" installation on any luminaire.

Co-exist with Lighting Controllers

CIMCON's Near Sky 360 includes a 7-pin ANSI C135.41 pass-through receptacle at its top for installing intelligent lighting controllers.

Fully Integrated

Integration with 3rd Party cloud and enterprise applications (Cisco Kinetic for Cities, Google DataStudio, ESRI GIS, OpenDataSoft, etc.).

Software Development Kit

SDK allows creation of new applications to perform edge-based data collection and analytics

- Applications can be remotely installed and managed
- Pre-developed applications include Air Quality Measurements, Street Use Analytics, and Road Surface Temperature.

Transport Services

NearSky 360 data transports to the cloud-based management system using standard communication interfaces, including:

- Lighting control network
- Ethernet high-bandwidth backhaul
- Wi-Fi client mode

Security

Integrated IoT/edge/information security – device, edge and cloud.

Applications and Monitoring

Automatic registration and over-the-air updates of applications. Application monitoring interface allows full control and monitoring of running applications.

Easy to Move

CIMCON's Near Sky 360 is "plug and play" and can be easily relocated as a city's requirements change.

Power Metering

CIMCON's NearSky 360 can monitor electrical parameters such as current, voltage, frequency, power factor, kW and kWh of all the loads connected.

GPS and Tilt Sensor

On-board GPS to provide the location of the device. Tilt Sensor has also been added to provide knock down alerts.

NearSky™ 360

Technical Specifications

Controller	iMX6 series based quad processor 2 GB internal RAM 4 GB SLC eMMC flash
Power Supply	AC input 85-305V, 50/60 Hz (metered)
Metering Accuracy	0.5%
Wireless Communications	Wi-Fi (802.11 b/g/n) (backhaul) Bluetooth (4.0+EDR) (local)
Wired Communications	1x 10/100 base-T Ethernet POE 1x 10/100/1000 base-T Ethernet POE 1x USB-2.0 OTG interface (optional with built-in LTE) 1x RS485
Supply for External Sensors	85-264V AC, 10 A (metered 0.5%) 24V DC, 100 mA
GPS	Receiver type: 22 tracking/66 acquisition channel GPS receiver GPS L1, C/A code Max. update rate: 10 Hz Sensitivity: Tracking: - 165 dBm Reacquisition: -160 dBm Cold starts: -147 dBm Time-to-first-fix: Cold starts: 31s (typical) Warm starts: 30s Hot starts: <1s EPO Assist: 13s (CTTFF) Accuracy: Automatic Position3: 2.5 m CEP Speed: 0.1 m/s
LTE	(US Verizon) Band: LTE B4, B13 Throughput: 10 Mbps download/5 Mbps upload (North America, AT&T, T-Mobile) Band: LTE B2, B4, B12 Throughput: 10 Mbps download/5Mbps upload
Tilt	Bi-directional 45° and -45°, non-sensitive to vibration
ANSI C136.41-Compatible NEMA 7-Pin Receptacle	Located on top of NearSky 360 (for pass-through interface of NEMA controller) Communication with lighting controllers via internal RS485 interface. Order the lighting controllers having RS485 interface to communicate with NearSky 360.
Surge Protection	700 Joule CATC (20kV/10kA)
Operating Conditions	-20°C to +50°C / -4°F to +122°F, 20% to 90% Rh non-condensing
RhHS	Yes
Central Management System	Web-based software allows remote configuration, monitoring, alerts, control and reporting

NearSky™ 360

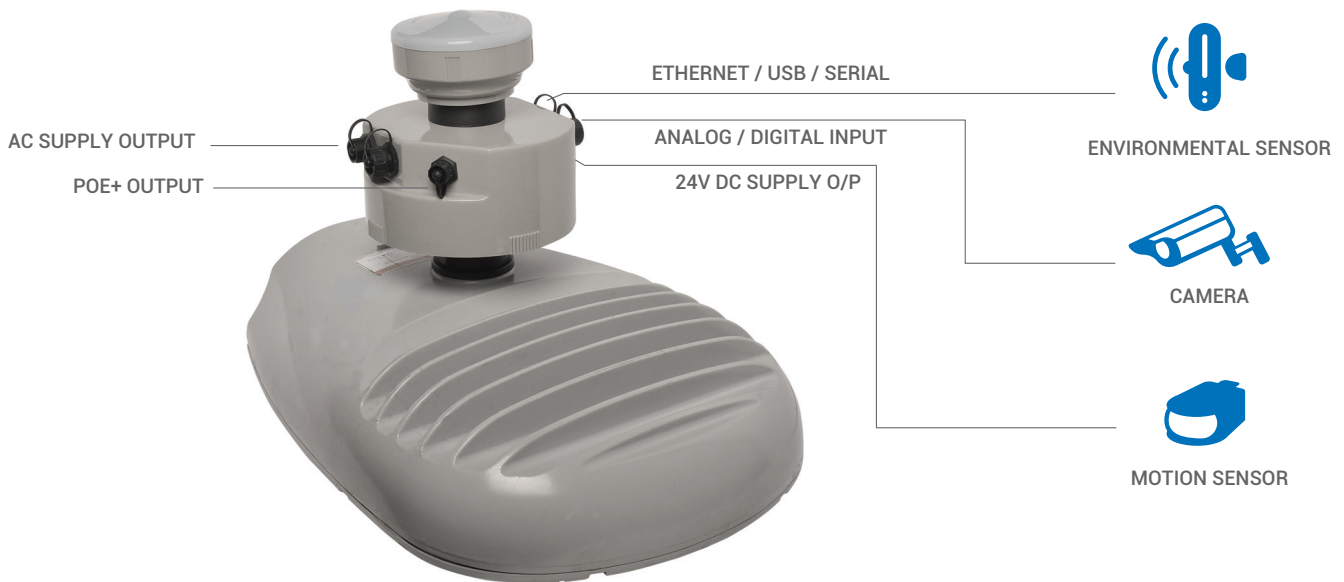
Mechanical Specifications



110 mm
4.33 inch

180 mm
7.08 inch

Wiring Diagram



NearSky™ 360

How It Works

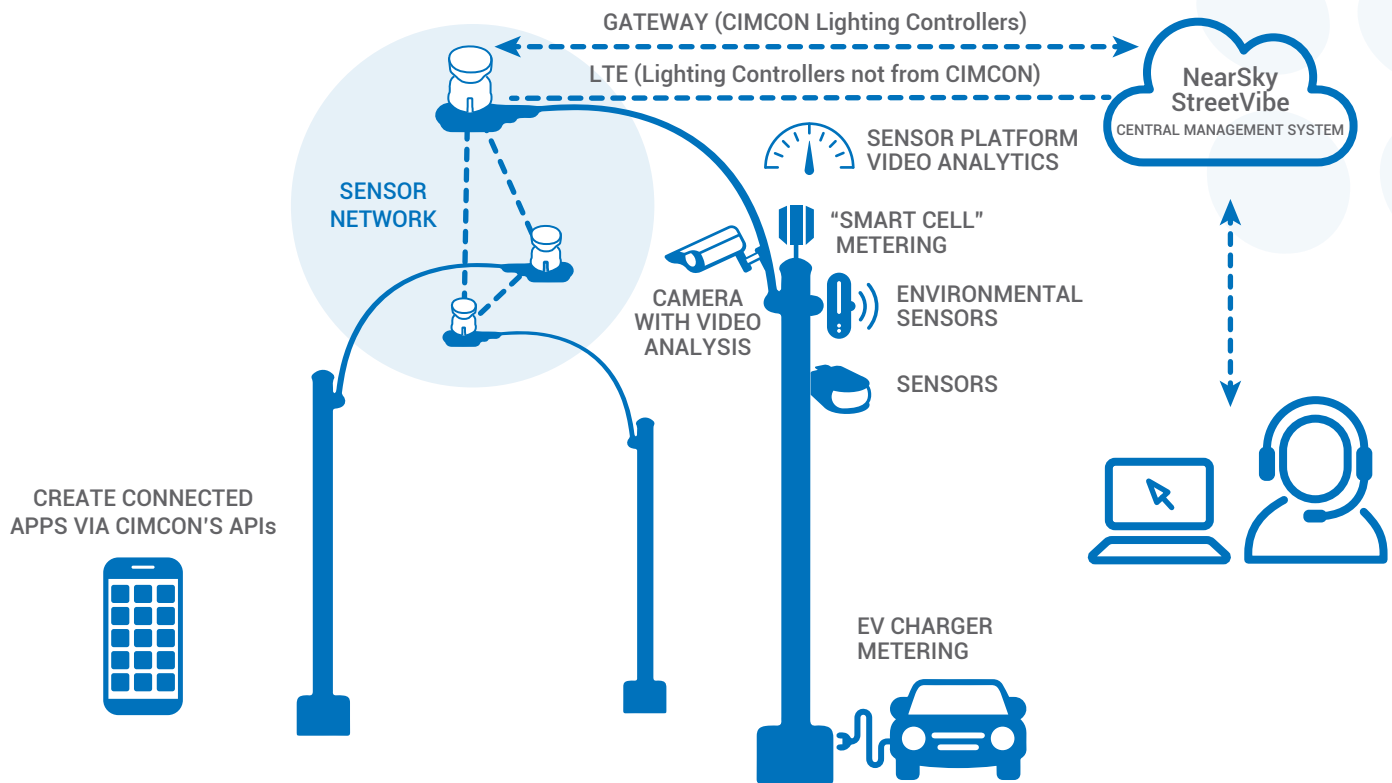


Figure: NearSky 360 can be co-located with intelligent lighting controllers from CIMCON or other manufacturers. CIMCON controllers create a digital canopy, or sensor network, across the city and communicate via a gateway to the cloud-based NearSky StreetVibe central management system and connected apps via CIMCON's APIs. When deployed with controllers from other manufacturers, data from NearSky 360 is sent to NearSky StreetVibe via LTE.

Specifications subject to change without notice.
NearSky 360 – R5
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