TekLink™

TL2000 Series Cloud-Based
Wireless Control System Overview

Kenall®

Contents

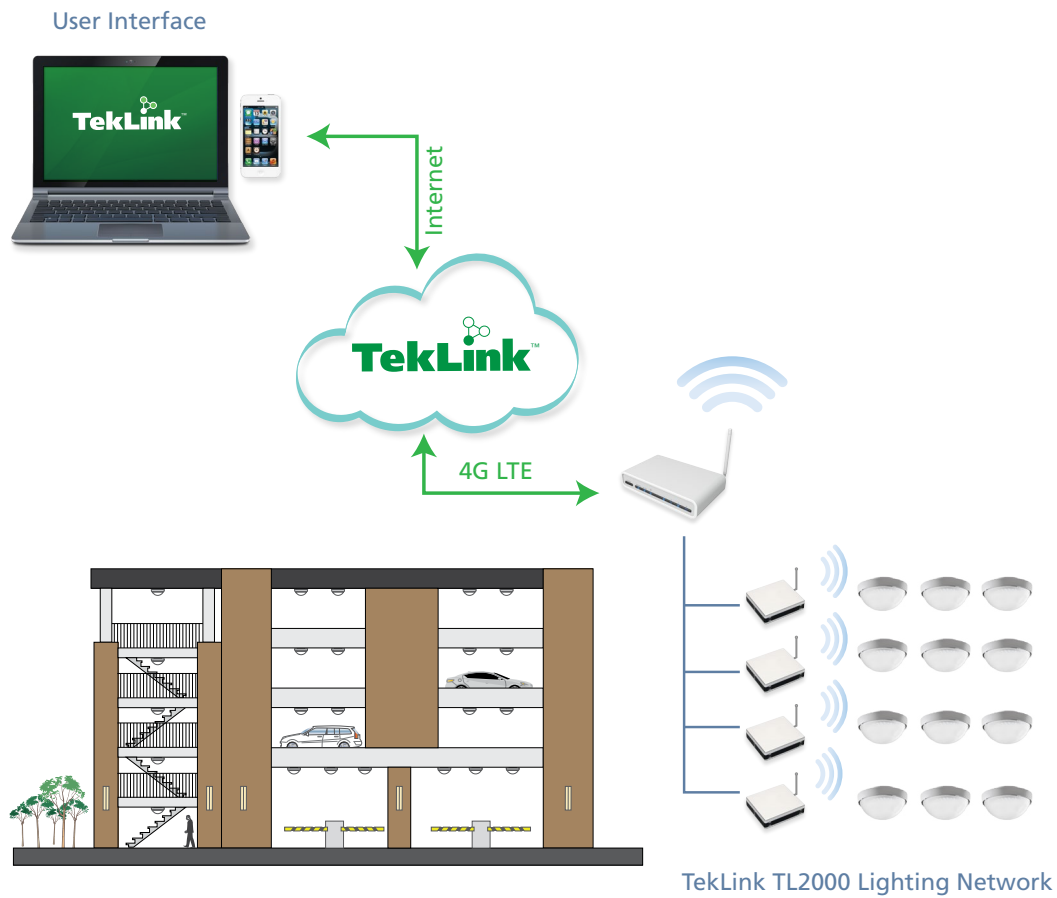**TekLink**

Connectivity • Control • Confidence

1.0 **Introduction**

TekLink TL2000 is an adaptive lighting control system that utilizes a wireless communication between system nodes. In addition to occupancy detection and daylight harvesting, the TL2000 system features advanced scheduling and energy management capabilities with cloud-based control of system settings, reporting and notifications for use in parking decks and high bay applications. The system offers the ability to meet ASHRAE 90.1 and Title 24 requirements.

This guide details the basic operating principles, features, device information, and wiring guide for TL2000 series.

User Interface

Internet

4G LTE

TekLink TL2000 Lighting Network

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2.0 TekLink TL2000 Series Overview

Kenall's TekLink TL2000 Control System reduces luminaire energy consumption by zonal occupancy detection, daylight harvesting, and light load scheduling. Lighting occupancy zones and schedules are configurable through the cloud via a web browser.

System components:

BORG (Board On Radio Grid)
- Supports Microwave or Passive Infrared sensing technology
- Controls luminaire light output
- Data capture

BRIDGE
- Collects data from BORGs
- Maintains zone schedules for 100+ BORGs

GATEWAY & CELLULAR AP
- Connects lighting network to the cloud
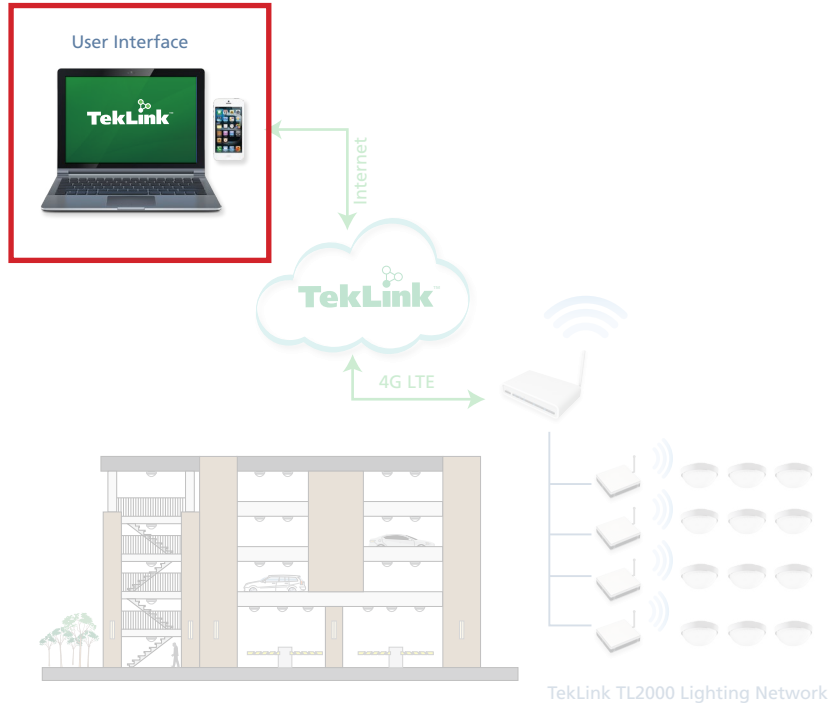- Routes data and system info for up to 15 Bridges

USER INTERFACE
- Lighting zone and schedule configuration
- Provides reports
- Email/Text alert notifications

CLOUD
- Payment Card Industry (PCI) compliant platform allows system control from any location via a webbrowser

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3.0 System Components

User Interface

Internet

4G LTE

TekLink TL2000 Lighting Network

User Interface

Graphical User Interface (GUI)

- Remotely manager your TL2000 series control system(s) through common web browsers
- View and optimize lighting zone settings and schedules through a 3D site model
- Set-up email / text alert notifications
- View reports based on an array of system recordings & algorithms:

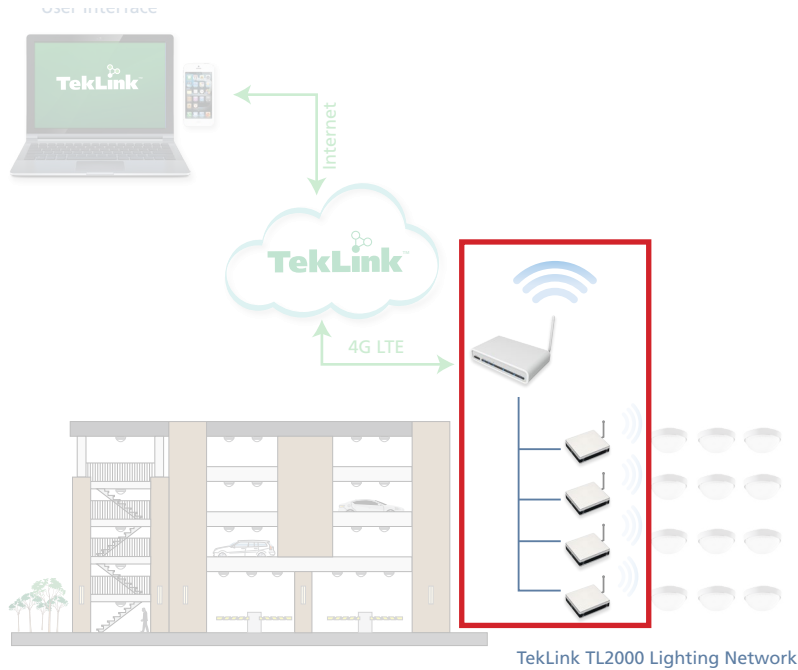**Occupancy Detection**   **Energy Consumption**   **Energy Savings**

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3.0 System Components cont'd

User Interface

Internet

4G LTE

TekLink TL2000 Lighting Network

Cloud Platform

- TekLink TL2000 Series Cloud-based control system is completely isolated from a customer's corporate network, which contains the company's mission-critical information

- Access TekLink web application via a secure server adhering to the Payment Card Industry Data Security Standard (PCI DSS)

- Lighting system data stored in the Cloud and available with customer User ID and password at kenallteklink.com

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3.0 **System Components** cont'd

TekLink TL2000 Lighting Network
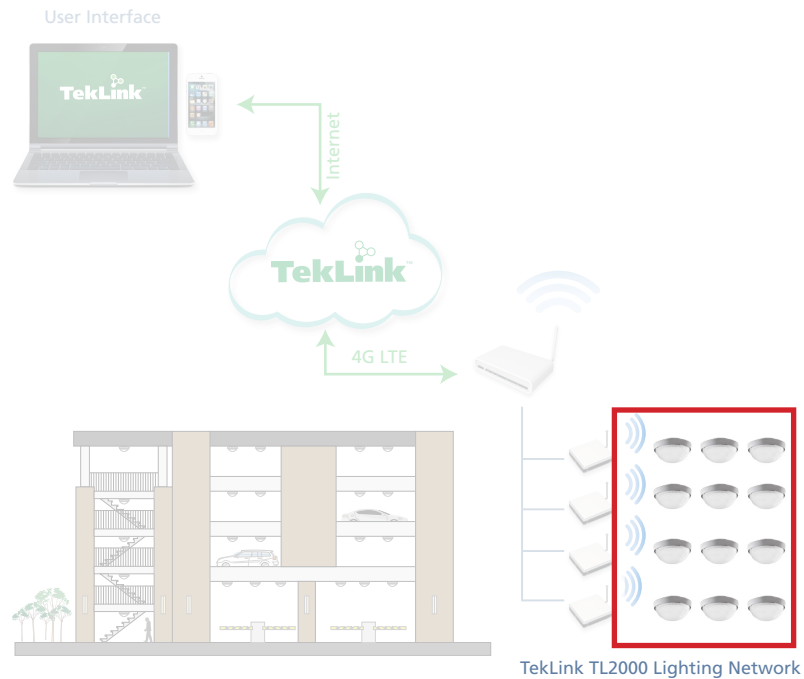

Cellular Access Point

- The TekLink TL2000 Series cellular access point consists of a Gateway, Industrial Ethernet Switch, and Cellular Router integrated into an IP65 sealed enclosure
- TekLink is secured using HTTPS with a self-signed certificate for access to the web services
- The Gateway and Industrial Ethernet Switch push data and information between kenallteklink.com and the local lighting control system
- A Gateway can manage information for up to 15 Bridges

Bridge

- The Bridge passes lighting schedules and zone configuration information from the Gateway to Luminaires containing a BORG (Board on Radio Grid) device
- Uploads data from 100+ BORGs and passes it to the Gateway

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3.0 <u>System Components</u> cont'd

User Interface

Internet

4G LTE

TekLink TL2000 Lighting Network

Board on Radio Grid (BORG)

- The BORG is a lighting controller integrated into a LED luminaire and is the centerpiece of the TL2000 system
- BORGs support Microwave and Passive Infrared sensing technologies
- The BORG controls luminaire light output based on a host of configurable parameters such as; occupancy status, ambient daylight, time of day, and/or special events
- Captures and calculates light level, occupancy event, and energy consumption (kW/hr) data
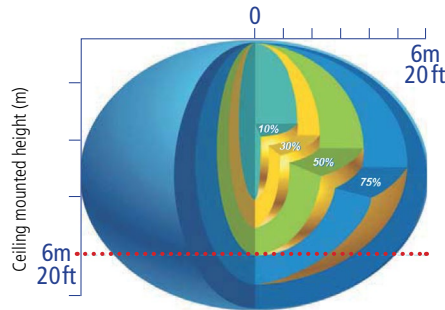
SENSOR COVERAGE AREAS

Passive Infrared Sensor
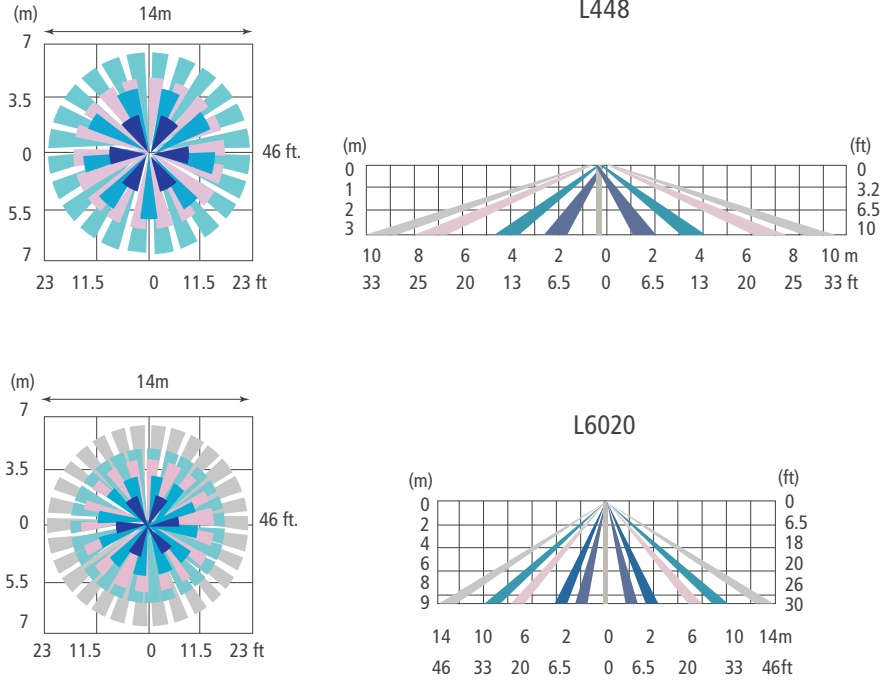
L448

L6020

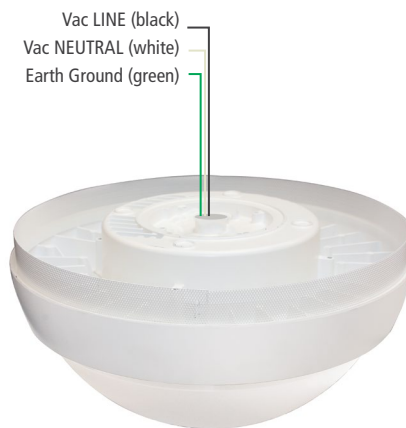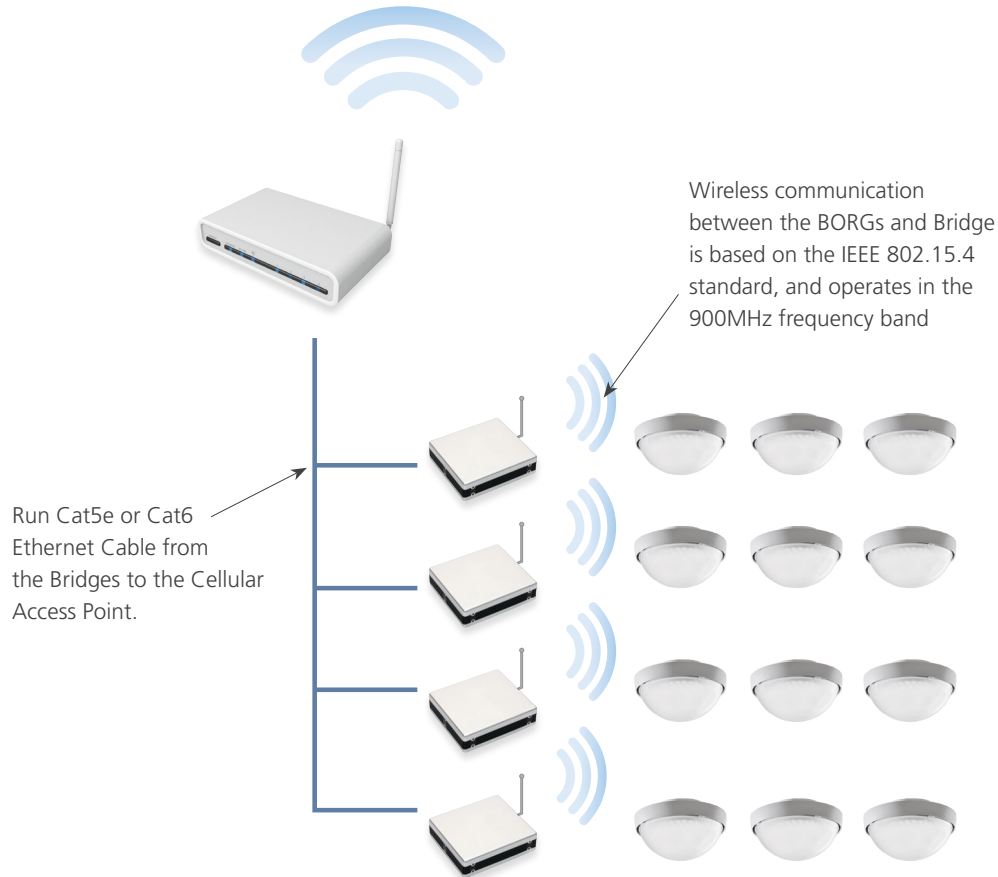| Lens Option	Description
L448	360° lens, maximum coverage 46' diameter from 8' height
L6020	360° lens, maximum coverage 60' diameter from 20' height

Microwave Sensor

Ceiling mounted detection pattern

NOTE: Occupancy pattern dimensions are maximums, may vary due to environment

4.0 **Wiring Guide**

Wireless communication between the BORGs and Bridge is based on the IEEE 802.15.4 standard, and operates in the 900MHz frequency band

Run Cat5e or Cat6 Ethernet Cable from the Bridges to the Cellular Access Point.

Vac LINE (black)
Vac NEUTRAL (white)
Earth Ground (green)

EXAMPLE: TL2000 Device

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5.0 TL2000 Wireless System Features

TL2000 Standard Features

Web User Interface
- *3D-graphical display*
- *Visual zone mapping*
- *Network mapping*
- *Site mapping*
- *Tiered administrative access levels*

System Configuration & Scheduling
- *Adustable Occupancy Light Levels*
- *Fixture Zones Configurable*
- *Fixtures Operate in Multiple Zones*
- *Day and Night Scheduling*
- *Site-wide Special Event Scheduling*
- *Daylight Harvesting*
- *BACnet/IP Compatible*
  - Enables Automated Demand Response

Measured Data
- *Individual occupancy event recording*
- *Signal strength*
- *Light level*

Reports & Notifications
- *Energy Consumption Report*
- *Occupancy Data*
- *Disabled Fixture Alert*
- *Network Communication Alert*

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