wireless intelligence

LightGrid™ outdoor wireless lighting control system
measurably smarter

LightGrid™ is a groundbreaking outdoor wireless control system for street and roadway lights. Honored with the 2015 Gold Edison Award for Outstanding Energy Management and Conservation, the unique technology inside this system allows for remote operation and monitoring of all fixtures through a Web-enabled central management system.

Designed with municipalities and transportation departments in mind, LightGrid offers many features, including:

- Accurate, utility-grade energy metering per pole—you pay for what is used
- GPS chip embedded into node—always know the exact location of controllers and fixtures; node automatically connects to the network and acquires location in just minutes, reducing commissioning time
- One-piece control—no special electronics necessary in the fixture; node simply connects to external socket, so it can be added easily at any time
- Operates with programmed schedules in case of network outage

Together with award-winning Evolve™ LED roadway lighting fixtures, LightGrid will deliver the energy efficiency, reliability and flexibility needed to optimize street and roadway lighting.
The LightGrid system is made up of three basic components: nodes, gateways, and servers.

**LightGrid nodes**
- Built-in GPS device lets you know the exact location of each fixture, which provides confirmation of installation, as well as making for more efficient maintenance
- Automatically connects to the network, reducing commissioning time
- Utility-grade metering means you pay for actual energy use, with measurement accuracy of up to ± 0.5%
- One-piece control ensures no special electronics are needed, as node connects to external socket
- Maximum fixture load: 450W
- Power consumption: 120-277VAC: 2W, 347VAC: 3W, 480VAC: 3W

**LightGrid gateways**
Each LightGrid wireless gateway can control a mesh network made up of 500+ nodes. Protected by an IP66 enclosure, they’re designed for reliable operation, even in the harshest environments.
- Automated GPS detection
- 500m line-of-sight range
- Output: Standard TCP-IP interface
- Input: 120-277VAC

**SPECIFICATIONS**

**Node**
- Maximum fixture load: 450W
- Power measurement accuracy: up to ± 0.5%
- Complies with ANSI 136.41–2013
- Power consumption:
  - 120-277VAC: 2W
  - 347VAC: 3W
  - 480VAC: 3W
- Internal GPS
- Dimming control output: 0–10V

**Gateway**
- Supports 500+ nodes
- Output: Standard TCP-IP interface
- High-gain antenna
- Input: 120-277VAC
- IP66 enclosure

**Network**
- Industry standard communications:
  - IEEE 802.15.4 -6LoWPAN
  - 50 channel 902-928MHz FHSS
  - 500m line-of-site range
LightGrid server

With LightGrid, lighting data for every fixture is accessible through a Web-based interface that can be hosted remotely. Protected by a high level of security encryption, our central management server offers secure login for all users.

Armed with actionable information, municipalities and transportation departments can implement smarter energy-saving strategies through more precise on/off and dimming schedules, particularly during a middle-of-the-night operation in low-traffic areas. Other features include the ability to:

- Update easily with “over-the-air” firmware upgrades
- Send automated fault email notifications when something happens to a fixture
- Display GPS coordinates in the Google Maps format
- Present real-time lighting information with a single click
- Access scheduling, customized reporting, grouping and user access level management
- Dim manually with detailed information
Behind every Evolve LED roadway lighting fixture is a century of street-lighting experience. Inside each is the most advanced GE optical system technology available.

Evolve LED Scalable Cobrahead (ERS)

Named Best in Class by the U.S. Department of Energy in the Next Generation Luminaires™ Design Competition, the Evolve LED Scalable Cobrahead luminaire offers excellent lighting uniformity and control with low glare. By focusing more light on the road, where it's needed, Evolve fixtures have a higher Coefficient of Usage (CU) for greater application efficiency.

- 11+ years of service life to significantly reduce maintenance costs

Evolve LED Street Light (ERL)

Like the Scalable Cobrahead, our Evolve LED Street Light lighting offers highly controlled light distribution with less waste and can be paired with programmable dimming options for even greater savings and control.

ERS1, ERS2, ERS3

- Replaces up to 400W HPS fixtures
- Accommodates one- to four-lane widths
- Optimized to meet existing and future Recommended Practices
- Reduces maintenance with long life (50,000 @ L85)
- Offers design flexibility with reversible optics
GE’s solution for Tarentum Borough, Pa.

We replaced 100% of the existing street lighting and facilitated a financing strategy that resulted in a positive cash-flow status from day one.

OPERATING IMPACT
- $40,000 savings per year
- 66% energy savings per year
- Eliminated 100% of maintenance hassles and costs
- Positive cash-flow status from day one

ENVIRONMENTAL IMPACT
- Reduced energy consumption by 223,000 kWh per year

“In a small town like this, you have to be very careful with each and every dollar,” says Carl Magnetta Jr., mayor of Tarentum Borough. “We try to keep taxes as low as possible, and by going into this lighting program, we have saved ourselves a lot of money. This benefits everybody.”
the smartest grid on the block.

As energy efficiency and savings drive outdoor street- and roadway-lighting demands, control means much more than turning on the street lights at dusk. Control means being able to program each fixture, on every street, individually. To brighten areas when more light is needed—or to dim them when it's not. And to detect and correct problems quickly to minimize complications. At GE, we offer you that kind of control with LightGrid—and make it easily accessible anytime, anywhere.

GE brings intelligent design to a simple, easy-to-use system that puts municipalities and transportation departments in complete control, delivering the energy efficiency, flexibility and low-maintenance functionality that cuts costs.

To learn more about the LightGrid Outdoor Wireless Control System, contact your independent lighting representative, email us at lightgrid@ge.com, or visit gelighting.com/lightgrid.