

## DESCRIPTION

The ConnectWorks iSLC-3100-7P-S is an intelligent wireless lighting controller with exceptional fault tolerance and a multitude of features. Each iSLC-3100-7P-S provides intelligent ON/OFF switching, dimming control, GPS (optional), highly accurate power metering, analog and digital sensor inputs and constant status and health monitoring of your lighting fixtures. The iSLC-3100-7P-S is equipped with a Silver Spring Network Radio, strengthening the Silver Spring Network mesh and is compatible with Silver Spring Street Light Vision Software.

## SPECIFICATION FEATURES

### Controller

Powerful 16-bit Microcontroller

### Power Metering

Parameters measured:  
Voltage, Current, Power Factor, Frequency, kW and kWh.

### Switching Capacity

15A maximum (1560vA)

### Power Supply

Universal AC input 90 V-305 V, 50/60 Hz.

### Radio communications (Silver Spring Networks)

- Processor: ARM 7, RAM: 8 MB, Flash: 16 MB
- Data Rate: 50 to 300 kbps
- Frequency Range: 902-928 MHz
- Spread Spectrum: Frequency Hopping
- Transmit Output: 27-30 dBm (1W)
- Receiver Sensitivity: -98 dBm for 10% PER
- Protocol: IEEE 802.15.4 g
- Addressing: IPv6
- Encryption: Advanced Encryption Standard (AES-128 or AES-256)
- Security: Secure Hash Algorithm 256-bit (SHA-256) and RSA-1024 or ECC-256
- Key storage: Secure NVRAM with tamper detection and key erasure

### GPS Module Specification (Optional)

- 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 Position 3: 2.5 m CEP
  - Speed: 0.1 m/s

### Dimming Interface

Control Voltage:  
0-10V with Short Circuit protection  
Maximum Current: 10mA (Sink)  
**Or**  
PWM Dimming: 10 V p-p, 400 Hz -  
Maximum Current: 10mA (Source)  
**Or**  
DALI (DALI compatible with single LED driver luminaires only)

### Optional Sensor Inputs

Provision of one Digital input and one Analog input that can be used for motion-based lighting controls, adaptive lighting or advanced lighting controls.

### Surge Protection

- Standard:  
445 Joule CATB (6 kV/3 kA),
- Optional:  
700 Joule CATC (20 kV/10 kA)

### Operating Conditions

-40°C to +70°C / -40°F to +158°F,  
20% to 90% Rh non-condensing;  
IP66.

### Central Management System

Compatible with Silver Spring Network and Street Light Vision Software, allowing for remote configuration, monitoring, control and reporting.

### Certifications

RoHS, UL, cUL

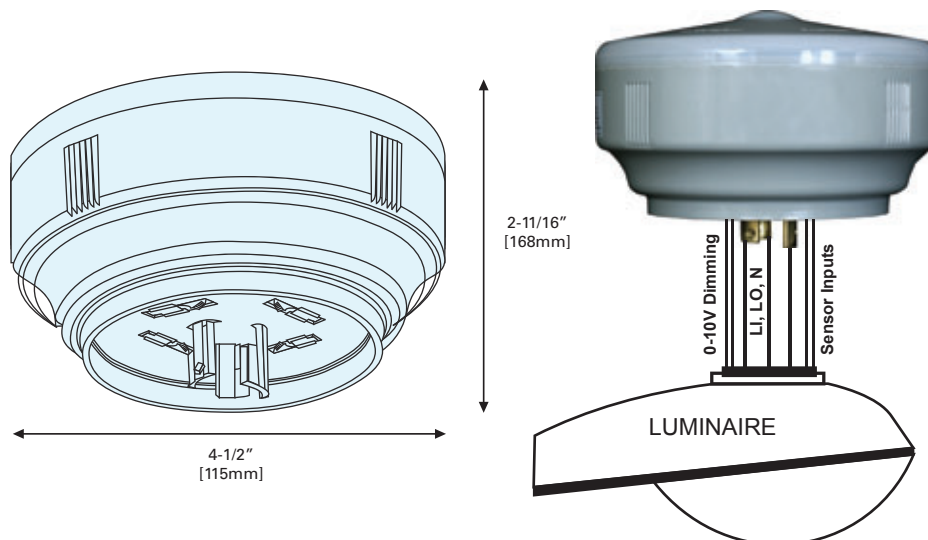


## iSLC-3100-7P-S PLUG & PLAY WIRELESS LIGHTING CONTROLLER

UNIVERSAL VOLTAGE  
SILVER SPRING COMPATIBLE  
7-PIN WIRELESS NODE

CONNECTWORKS CONNECTED  
LIGHTING SYSTEM  
POWERED BY CIMCON

## DIMENSIONS



## KEY FEATURES

**Wireless technology**

The controller utilizes the latest developments in self-forming and self-healing wireless RF technology.

**Plug and play installation**

iSLC-3100-7P uses the latest 7-pin ANSI C136.41 interface for true plug-and-play installation with compatible luminaire.

**A photocell in every controller**

The iSLC dusk-to-dawn photocell operates immediately upon installation without dependency on the network.

**Optional GPS in every controller**

Optional GPS capabilities reduce install times and eliminate future mapping issues. GPS coordinates for each iSLC are sent automatically to the cloud-based Central Management System for overlay on a Google Maps interface. Without GPS, installers must manually record the pole ID, iSLC ID and its Latitude/Longitude location to map them correctly.

**Extended surge protection**

CATB (6kV/3kA) surge protection is standard, while CATC (20kV/10kA) surge protection is available as an option.

**Full ANSI C136.41 7-pin dimming receptacle support**

The iSLCs work with any compatible luminaire with full support for all 7-pins on the ANSI C136.41 dimming receptacle for true “plug and play” installation. The iSLC controllers support the addition of digital or analog sensors, such as motion, vehicle counts or environmental sensors through pins 6 and 7.

**Revenue grade energy metering**

The iSLCs monitor Current, Voltage, Frequency, Power Factor, kW and kWh, and energy metering at 2.0% standard (0.5% optional) for accurate consumption data and billing.

**Fault tolerance**

Each iSLC controller is a highly intelligent stand-alone device that utilizes the latest developments in self-organizing, self-healing, wireless technologies. Proper operation and execution of a schedule is not dependent on network communications.

**Remote control and scheduling**

The iSLC controllers supports multiple control modes such as user configurable ON/OFF/ DIM schedules programmed on a daily / monthly / special events basis, local ad-hoc control, photocell and mixed mode scheduling incorporating sensor inputs.

**Dimming control**

The iSLCs controllers support dimming through analog 0-10V, PWM or DALI interfaces. DALI compatible with single LED driver luminaires only.

**Fault monitoring**

The iSLC controllers provide extensive fault monitoring to report on day burners, burnouts, lamp cycling, ballast failures, over/under voltage, abnormal power consumption, low power factors, communication failures and more. All faults are sent to the cloud-based Central Management System for alarm routing, visualization and fault correction. Alerts can be sent directly to approved users immediately when they occur.

## ORDERING INFORMATION

Sample Number: iSLC-3100-7P-S-XXX-U-A-G-T-CATC-05

Product ID	Network Radio	Customer ID	Voltage	Dimming	GPS	Options	Surge	Energy Metering Accuracy
iSLC-3100-7P=NEMA 7-pin Series	S=Silver Springs Network	XXX <sup>1</sup>	U=Universal (120-277V)	A=Analog (0-10V) P=PWM D=DALI <sup>2</sup>	[BLANK]=Without GPS G=With GPS	[BLANK]=No Options IO=1 Digital / 1 Analog Input T=Tilt Detection <sup>3</sup>	CATB=6kV/3kA (Standard) CATC=20kV/10kA	2=2.0% (Standard) 05=0.5%

**NOTE:**

- 3-Digit Silver Spring customer ID provided by Eaton.
- DALI compatible with single LED driver luminaires only. Contact factory as needed.
- Tilt detection is not compatible for use on installations where the intelligent wireless lighting controller will be installed at more than or equal to 45° angle.

## DESCRIPTION

The ConnectWorks iSLC-3100-7P is an intelligent wireless lighting controller with exceptional fault tolerance and a multitude of features. Each iSLC-3100-7P provides intelligent ON/OFF switching, dimming control, GPS (optional), highly accurate power metering, optional analog and digital sensor inputs and constant status and health monitoring of your lighting fixtures.

## SPECIFICATION FEATURES

### Controller

Powerful 32-bit Microcontroller

### Real Time Clock

Battery-backed RTC

### Power Metering

Parameters measured:  
Voltage, Current, Power Factor,  
Frequency, kW and kWh.

### Switching Capacity

15A maximum, 1560VA 960W

### Power Supply

Universal AC input 90 V-305 V,  
50/60 Hz.

### Radio communications

- 2.4 GHz, IEEE 802.15.4
- RF Data Rate: 250 kbps
- Receiver Sensitivity: -104 dBm
- Network Fault Tolerance:  
Self-healing mesh
- Data Protection:  
128-bit AES encrypt
- Hardware: IEEE 802.15.4-2003  
CSMA-CA algorithm
- Transmit Power: +20 dBm
- Network Type:  
Self-forming mesh network
- Open Field Range: 5,000 ft/1.5 km

### GPS Module Specification (Optional)

- Receiver Type: 22 Tracking/66  
Acquisition Channel GPS Receiver  
GPS L1, C/A Code Max. Update  
rate: 10 Hz
- Sensitivity:
  - Tracking: -165 dBm
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- Time-To-First-Fix:
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- Accuracy:
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2.5 m CEP
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### Dimming Interface

Control Voltage:  
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Maximum Current: 10mA (Sink)  
**Or**  
PWM Dimming: 10 V p-p, 400 Hz -  
Maximum Current: 10mA (Source)  
**Or**  
DALI (DALI compatible with single  
LED driver luminaires only)

### Optional Sensor Inputs

Provision of one digital input and  
one analog input that can be used  
for motion-based lighting controls,  
adaptive lighting or advanced  
lighting controls.

### Surge Protection

- Standard:  
445 Joule CATB (6 kV/3 kA),
- Optional:  
700 Joule CATC (20 kV/10 kA)

### Operating Conditions

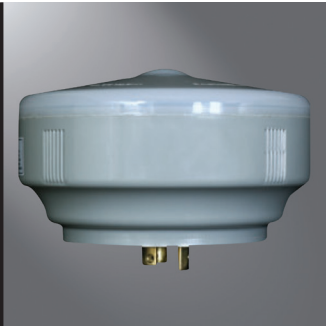
-40°C to +70°C / -40°F to +158°F,  
20% to 90% Rh non-condensing;  
IP66.

### Central Management System

Web-based software that allows  
remote configuration, asset  
management, monitoring, control  
and reporting.

### Certifications

RoHS, UL, cUL

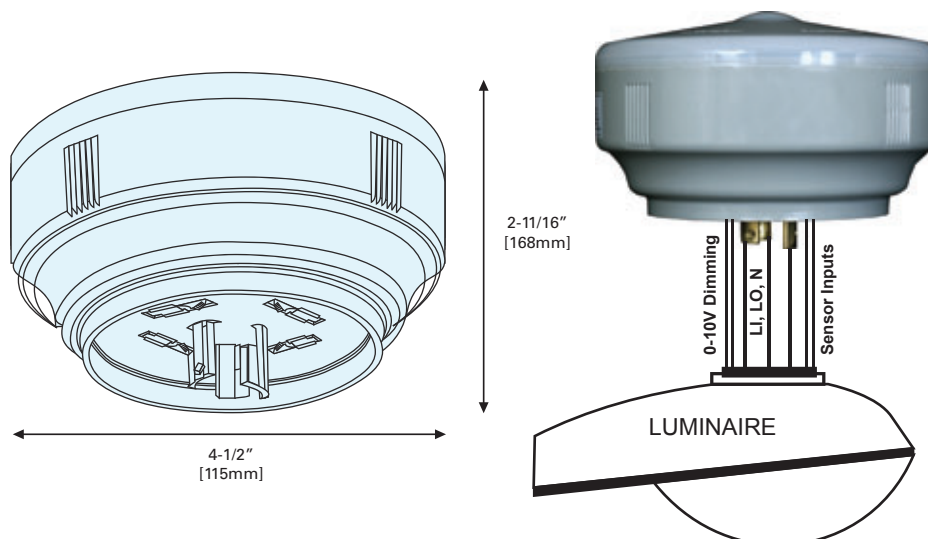


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UNIVERSAL VOLTAGE  
7-PIN WIRELESS NODE

CONNECTWORKS CONNECTED  
LIGHTING SYSTEM  
POWERED BY CIMCON

## DIMENSIONS



**KEY FEATURES****Robust and reliable**

Reliably operates over large distances up to 5,000 feet line of site per hop.

**Wireless technology**

The controller utilizes the latest developments in self-forming and self-healing wireless RF technology

**Simple and easy asset management**

The iSLC controller monitors various assets of the lighting fixture and updates the Central Management System.

**Remote control and scheduling**

The iSLC controller supports multiple control modes such as user configurable ON/OFF/ DIM schedules programmed on a daily / monthly / special events basis, local ad-hoc control, photocell and mixed mode scheduling incorporating sensor inputs.

**Burn hours**

The iSLC controller keeps track of lamp burn hours for predictive maintenance.

**Plug and play installation**

iSLC 3100-7P uses the 7-pin ANSI C136.41 interface for true "plug-and-play" installation with compatible luminaires.

**A photocell in every controller**

The iSLC dusk-to-dawn photocell operates immediately upon installation without dependency on the network.

**Optional GPS in every controller**

Optional GPS capabilities reduce install times and eliminate future mapping issues. GPS coordinates for each iSLC are sent automatically to the cloud-based Central Management System for overlay on a Google Maps interface. Without GPS, installers must manually record the pole ID, iSLC ID and its Latitude/Longitude location to map them correctly.

**Extended surge protection**

CATB (6kV/3kA) surge protection is standard, while CATC (20kV/10kA) surge protection is available as an option.

**Full ANSI C136.41 7-pin dimming receptacle support**

The iSLCs work with any compatible luminaire with full support for all 7-pins on the ANSI C136.41 dimming receptacle for true "plug and play" installation. The iSLC controllers support the addition of digital or analog sensors, such as motion, vehicle counts or environmental sensors through pins 6 and 7.

**Revenue grade energy metering**

The iSLCs monitor Current, Voltage, Frequency, Power Factor, kW and kWh, and energy metering at 2.0% standard (0.5% optional) for accurate consumption data and billing.

**Fault tolerance**

Each iSLC controller is a highly intelligent stand-alone device that utilizes the latest developments in self-organizing, self-healing, wireless technologies. Proper operation and execution of a schedule is not dependent on network communications.

**Dimming control**

The iSLC controller supports dimming through analog 0-10V, PWM or DALI interfaces. DALI compatible with single LED drivers only.

**Alarm call service**

Alarms can be sent directly to approved users via Emails or Text Messages (SMS) when they occur. Messages are time stamped and contain key parameters associated with the fault/ alarm.

**Fault monitoring**

The iSLC controllers provide extensive fault monitoring to report on day burners, burnouts, lamp cycling, ballast failures, over/under voltage, abnormal power consumption, low power factors, communication failures and more. All faults are sent to the cloud-based Central Management System for alarm routing, visualization and fault correction.

**ORDERING INFORMATION**

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Product ID	Voltage	Dimming	GPS	Options	Surge	Energy Metering Accuracy
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**NOTE:**

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