Signify

interact

Specification Sheet

LCN1850/05

Wireless Gateway Pro

The Wireless Gateway Pro (WG Pro) is a wireless communication hub that connects at an average of 150 Zigbee nodes (for example luminaires including a sensor or Zigbee Green Power (ZGP) switches) in a Connected Lighting installation. The WG Pro translates between Ethernet and Zigbee. It provides a wireless networked lighting.

LCN1850/05

Product description

The WG-Pro features an easy commissioning process during initial installation and is ready for later expansions.

The WG-Pro is powered by a 5 V_{dc} Class 2/SELV power adapter. The system is easily scaled up by connecting multiple WG Pros over Ethernet.

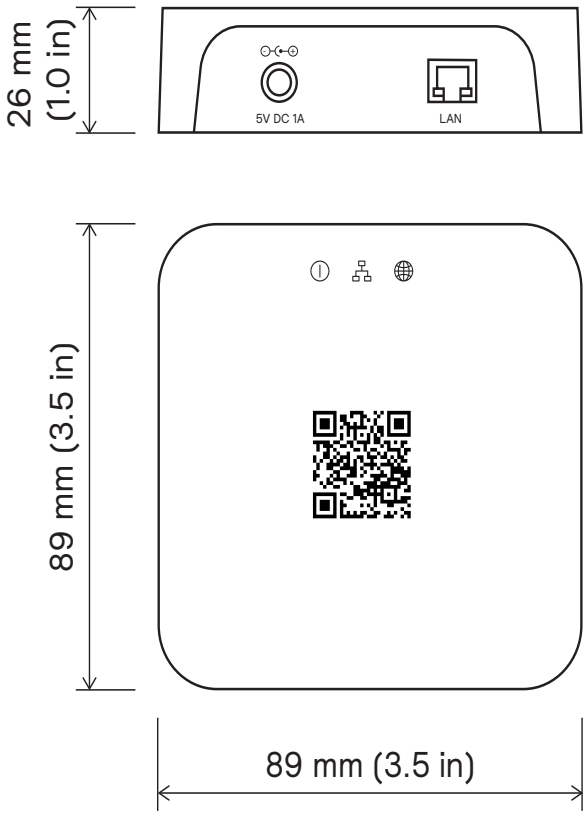
Wireless communication complies with the Zigbee Pro standard (IEEE 802.15.4, WPAN) in the 2.4 GHz frequency band. The WG-Pro must be placed within 10 m (33 ft) from one or more of the Zigbee luminaires to form a mesh network. Communication between Signify wireless devices and the WG Pro is encrypted, as well as the communication between the WG-Pro and the devices on the Interact for Intelligent Buildings system network.

The WG-Pro establishes a secure wireless Zigbee connection at an average of 150 end points. The wireless connections allows for bidirectional control and sensor data exchange between the end points and the Interact for Intelligent Buildings system network.

Features and benefits

- White enclosure, mounting bracket
- 3 LED indicators for feedback on power, connectivity, and communication
- Has unique QR code for install and commissioning
- Supports secure encrypted communication to Building Connectivity Bridge (BCB)
- Controls associated end points without access to cloud/BCB (lighting behavior)
- Lighting behavior of end devices remains operational upon failure
- Can be remotely managed, upgraded, and controlled
- The underlying lighting network will implement graceful degradation upon failures
- Secure wireless communication based on the Zigbee PRO standard (IEEE 802.15.4, WPAN) operating at 2.4 GHz radio frequency (RF)
- Easily scale up the system by connecting multiple Wireless Area Controllers over Ethernet
- Functions for the WG-Pro and all connected devices can be modified with software configurable settings

Dimensions



Wireless communication

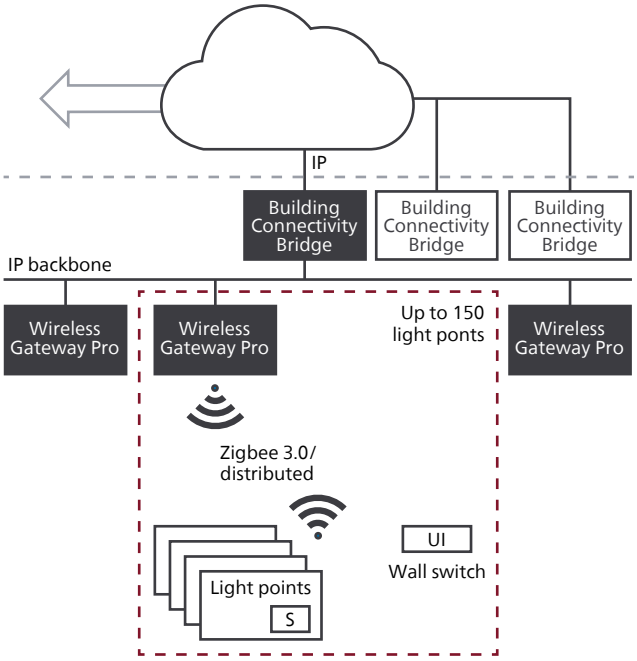
The Wireless network is based on the Zigbee PRO standard (IEEE 802.15.4, WPAN) which is targeted at radio-frequency (RF) applications and operates at 2.4 GHz. The Zigbee protocol enables fully distributed peer-to-peer communication models. This means no master/ slave relationship whereby the application is divided over the devices in the network. Every device knows how it functions within the network. The result is that if one device does not function (removed or defect), the remaining devices keep functioning as intended.

The network is based on a mesh network, so devices pass on the received commands. The distance between the devices should not exceed 10 m (33 ft) for office applications and 15 m (49 ft) for industry applications. The advantage of a mesh network is the capability for self-healing routing, enabling automatic route discovery over the mesh network. Zigbee has tolerance for a large number of co-located networks due to use of multiple communication channels and CSMA-CA channel access. The commands have network security according to AES 128-bits network encryption. Other connected lighting wireless devices like the kinetically-powered Zigbee Green Power (ZGP) Switches and the Wireless Area Controller (Wireless Area Controller) use of the same protocol so they can be combined to interact in a seamless way.

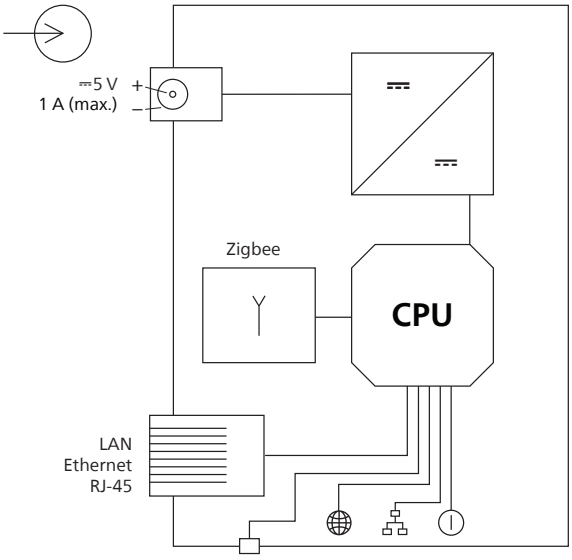
The WG-Pro supports encrypted and secure wireless network communication. Third party Zigbee devices can only join the Zigbee network if their unique identifiers are explicitly enabled in the Interact for Intelligent Buildings system.

Note
Wireless signals may be subject to radio frequency interference.

Application area



Electrical diagram



Specifications

Electrical

Supply options

Commercial grade regulated power supply	In: 100 to 240 V_{ac}, 50/60 Hz Out: 5 V_{dc} Class 2/SELV; 1 A
Allowed supply ripple	Max. 0.5 V_{pp}
Power consumption	Max. 2.5 W
Communication ports	10/100 BaseT Ethernet port Zigbee port
Supported Ethernet protocols	IPv4, IPv6, TCP, UDP, BACnet-IP

Connector type

Supply in	1 × DC plug 5.5 mm (0.2 in)
Ethernet	RJ-45
Wireless Communication	Zigbee PRO standard (IEEE 802.15.4, WPAN)

Housing

Material	ABS
Color	Signal white (RAL9003)
Dimensions (length, width, height)	91 × 91 × 26 mm (3.58 × 3.58 × 1.02 in)
Weight	95 g (0.21 lb) (incl. mounting bracket)

Mounting bracket

Material	ABS
Color	Signal white (RAL9003)
Dimensions (length, width, height)	97 × 97 × 34 mm (3.82 × 3.82 × 1.34 in)
User Controls	Reset Push Button, Status LEDs (Power, Network, Portal)

Environment

Temperature (ambient)	0 to 40 °C (32 to 104 °F)
Relative humidity (ambient)	0 to 80%, non-condensing
Temperature (storage)	–40 to +80 °C (–40 to +176 °F)
Relative humidity (storage)	10 to 90%, non-condensing

Compliances and approvals

Certifications	CE, UKCA, UL, FCC, IC, RCM

Approbation (North America)

General radio equipment	FCC Part 15.247; 15.107; 15.109 IC RSS-247 ICES-003
Safety	EN 62368-1 (UL60950-1 and CAN/CSA-C22.2 No. 60950-1-07)
Immunity	IEC 61000-4-2, 3, 4, 5, 6, 8, 11
Reliability	IEC 60068
Environmental standard	ROHS/Reach

Approbation (Rest of the world)

R&TTE RF	ETSI EN 300 328 EN 62311
R&TTE EMC	ETSI EN 301 489-1/17 EN 55032 EN 61000-3-2 EN 61000-3-3

Packing Data

Type	Dimensions	Qty/Box	Material	Weight (Net)	Weight (Gross)
LCN1850	110 x 80 x 110 mm (4.33 x 3.15 x 4.33 in)	1	Cardboard	0.18 kg (0.40 lb)	0.31 kg (0.68 lb)

Ordering data

North America version

Type	MOQ	Ordering number
LCN1850/05 Wireless Gateway Pro	1	9137 010 65313

Rest of the world version

Type	MOQ	Ordering number	EAN code level 1	EAN code level 3	EOC
LCN1850/05 Wireless Gateway Pro	1	9137 010 65303	8720169 159914	8720169 159921	159914 00

FCC/IC compliance statement
This device complies with part 15 of the FCC rules for the United States and Industry Canada (IC) license - exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by Signify could void the authority of the user to operate this equipment. This product is intended for commercial use only.

FCC Compliance Statement
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IC Compliance Statement
This device complies with Industry Canada license-exempt RSSs. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
Any changes or modifications not expressly approved by Signify could void the authority of the user to operate this equipment. This equipment is intended for commercial use only.

FCC Radiation Exposure Statement
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
This equipment must be installed and operated with minimum distance 0.2 m (7.9 in) between the radiator and your body.

IC Radiation Exposure Statement
This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment.
This equipment must be installed and operated with minimum distance 0.2 m (7.9 in) between the radiator and your body.

Open source statement
This product contains open source software. The acknowledgements, license texts and the written offer can be retrieved from the product after installation using a web browser by opening the following web page https://interact.lighting.com/lightopensource/
This link allows you to enter the mac address that can be found on the label at the back of the product. This web service will subsequently retrieve the acknowledgments, license texts and written offer from the device with that particular mac address, providing you with the information corresponding to the then current open source software in the device.

Specific Data Notice
This Specific Data Notice applies to the wireless gateway as specified in this product specification/data sheet (the "**Gateway**") that is part of or works with a professional system offered by Signify for use in the European Union and supplements and/or corrects the Generic Data Notice For Professional Systems and Services that can be found at: https://www.signify.com/global/legal/digital-terms/data-notices (the "**Generic Data Notice**") by providing additional and/or more specific details specific to this Gateway.

Terms starting with a capital in this Specific Data Notice, will have the meaning as attributed thereto in the Generic Data Notice, unless explicitly defined otherwise in this document.

When used in a professional connected lighting system of Signify with the Interact Building Manager software services ("**Interact Building Manager**") the Gateway is capable of generating*:

- Operational Data, on energy consumption, failures and burning hours, of connected light points and nodes in the system by polling every 15 minutes the connected Zigbee light points/nodes for such Data; and
- Sensor Data on occupancy, temperature, humidity and noise level from Sensors in the system by polling every 1 minute the connected Zigbee Sensors/nodes for such Data

* The type and volume and format of Product Data that is actually generated depends on the actual devices used in the system, the product and/or software configuration and subscription to the relevant Software Service. For further details on data generation capabilities of such devices, please check the product specification/data sheets of such devices.

The aforementioned Product Data is communicated via the Gateway to the Interact cloud where these are stored. Product Data is not stored on the Gateway itself.

Operational Data cannot be accessed directly from the Gateway. Operational Data that is Readily Available Data can be accessed as indicated in the software specification sheet of Interact Building Manager.

Sensor Data can be accessed directly from the Gateway through BACnet integration as specified in the software specification sheet of Interact Building Manager.

This Specific Data Notice may be changed by Signify from time to time. The current version of this notice will apply and can be obtained at request via the point of contact as indicated in paragraph 7 of the Generic Data Notice.

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