

Interact Pro

Wireless gateway
Interact Pro

LCN1840



Specification Sheet

LCN1840/05 Wireless Gateway

The Wireless Gateway (WG) is the basis of the lighting system and connects the system to the cloud via the internet. The IP backbone between the WG enables communication between the luminaires and the cloud. The wireless gateways connect with the luminaires by means of ZigBee.

LCN1850/05

Product description

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

The WG is powered by a 5 Vdc Class 2/SELV power adapter. The system is easily scaled up by connecting multiple WGs over Ethernet.

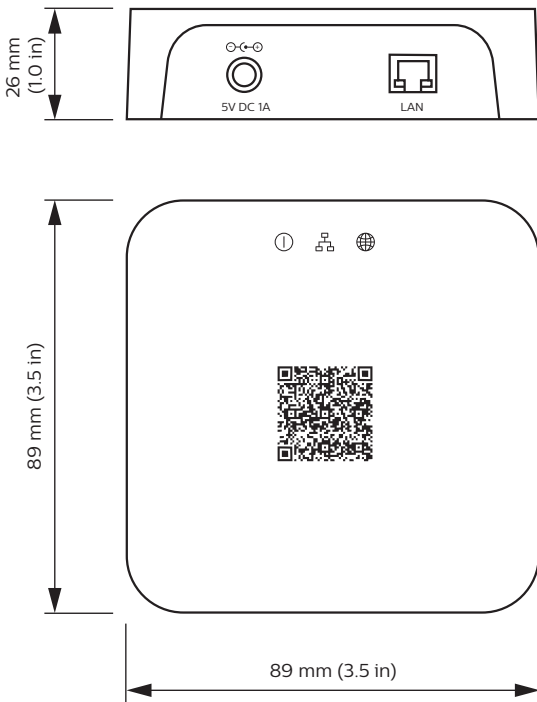
Wireless communication complies with the ZigBee Pro standard (IEEE 802.15.4, WPAN) in the 2.4 GHz frequency band. The WG must be placed within 10 m (33 ft.) from one or more of the ZigBee luminaires to form a mesh network. Communication between Philips Lighting wireless devices and the WG is encrypted,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

The WG establishes a secure wireless ZigBee connection with at average 150 end points. The wireless connections allows for bidirectional control and sensor data exchange between the end points and the Interact Pro 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
- Controls associated end points without access to cloud (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 2.4GHz radio frequency (RF).
- Functions for the WG and all connected devices can be modified with software configurable settings.

Dimensions



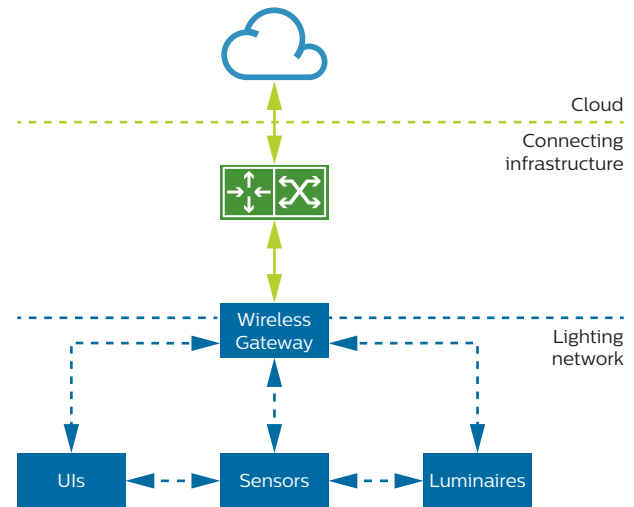
Wireless communication

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.

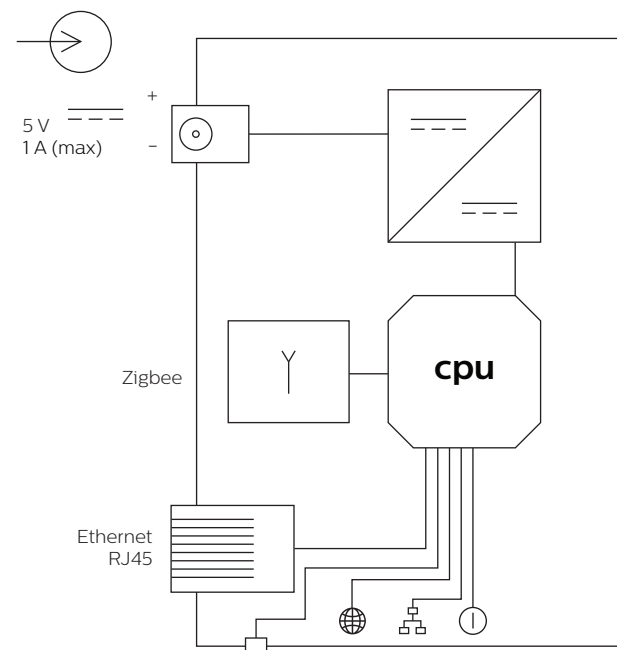
The network is based on a mesh network, so devices pass on the received commands. The distance between the devices should not exceed 10 m (33 ft.). The advantage of a mesh network is the capability for self-healing routing, enabling automatic route discovery over the mesh network. ZigBee has tolerance 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 make use of the same protocol so they can be combined to interact in a seamless way. The WG 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 Pro system.

Note
Wireless signals may be subject to radio frequency interference.

Application area



Electrical diagram



Specifications

Controller LCN1840

General Characteristics

Supply options

Commercial grade regulated power supply	In: 100–240 Vac, 50/60 Hz Out: 5 Vdc Class 2/SELV; 1 A
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Allowed supply ripple	Max. 0.5 Vpp
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Power consumption	Max. 2.5 W
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Communication ports	10/100BaseT Ethernet port ZigBee port
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Supported Ethernet protocols	IPv6, TCP, UDP
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Environmental conditions operating

Ambient temperature range	-20 to 45 °C (-4 to 113 °F)
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Relative humidity range	0 to 80%, non-condensing
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Environmental conditions storage

Temperature range	-40 to 80 °C (-40 to 176 °F)
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Relative humidity range	10 to 90%, non-condensing
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Connector type

Supply in	1x DC plug 5.5 mm (0.2 in) 
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Ethernet	RJ45
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Wireless Communication	ZigBee PRO standard (IEEE 802.15.4, WPAN)
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Housing

Material	ABS
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Color	Signal white (RAL9003)
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Dimensions (length, width, height)	91 × 91 × 26 mm (3.6 × 3.6 × 1 in)
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Weight	95 g (0.21 lb) (incl. mounting bracket)
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Power Adapter	Power Plug SELV/Class2 Exchangeable Plugs for EU & NA mains socket Universal Mains 100–240 VAC 50/60 Hz Length of cable 1.5m
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Mounting bracket

Material	ABS
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Color	Signal white (RAL9003)
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Dimensions (length, width, height)	97 × 97 × 34 mm (3.8 × 3.8 × 1.3 in)
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User Controls	Reset Push Button, Status LEDs (Power, Network, Portal)
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Regulatory compliance

Certifications	UL, CE, FCC, IC
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Approbation (Europe)

R&TTE RF	ETSI EN 300 328 EN 62331
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R&TTE EMC	ETSI EN 301 489-1/17 EN 55022 EN 55024 EN 55032
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Approbation (US & Canada)	FCC Part 15.247; 15.107; 15.109 IC RSS-247 ICES-003
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Safety	EN 60950-1 (UL60950-1 & CAN/CSA-C22.2 No. 60950-1-07)
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Immunity	IEC 61000-4-2, 3, 4, 5, 6, 8, 11
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Reliability	IEC60068
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Environmental standard	ROHS/Reach
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Packing Data

Type	Dimensions	Qty/Box	Material	Weight (net)	Weight (gross)
LCN1850	110 × 80 × 110 mm (4.3 × 3.1 × 4.3 in)	1	Cardboard	0.18 kg (0.40 lb)	0.31 kg (0.68 lb)

Ordering data

EU version

Type	MOQ	Ordering number	EAN code level 1	EAN code level 3	EOC
LCN1840/05 Wireless gateway IA Pro L	1	9137 010 37703	8718696 775790	8718696 775806	775790 00

US version

Type	MOQ	Ordering number	UPC code level 1	UPC code level 3	Catalog code
LCN1840/05 Wireless gateway IA Pro L NA	1	9137 010 37713	046677 476335	50046677476330	LCN1840/05

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 Philips could void the user's authority 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 Philips could void the user's authority 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 should be installed and operated with minimum distance 20 cm between the radiator & your body.

IC Radiation Exposure Statement

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & 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.

