

## Energi Savr Node™ Programming Interface

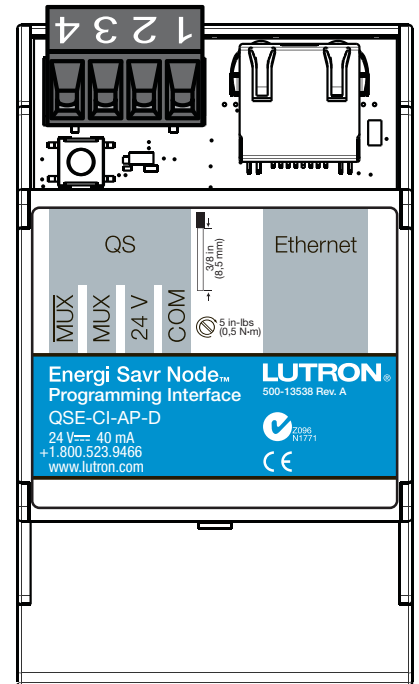
The QSE-CI-AP-D is a programming interface designed to be used with *Energi Savr Node* units. It is compatible with the entire *Energi Savr Node* product family (models starting with QSN and QSNE-), and works with an intuitive application for the *Apple iPhone* or *iPod touch* mobile digital devices.

### Features

- Program all *Energi Savr Node* modules connected to the same QS link as the *Energi Savr Node* Programming Interface using the *Energi Savr Node* app on the *Apple iPhone* or *iPod touch* mobile digital devices.
- A system is defined as all devices connected on a single QS link. For installations with multiple QS links, one *Energi Savr Node* Programming Interface is required for every QS link.
- Powered by the QS link, line voltage not required.
- Install using one of the three following methods:
  1. DIN rail
  2. Surface mount
  3. Junction box

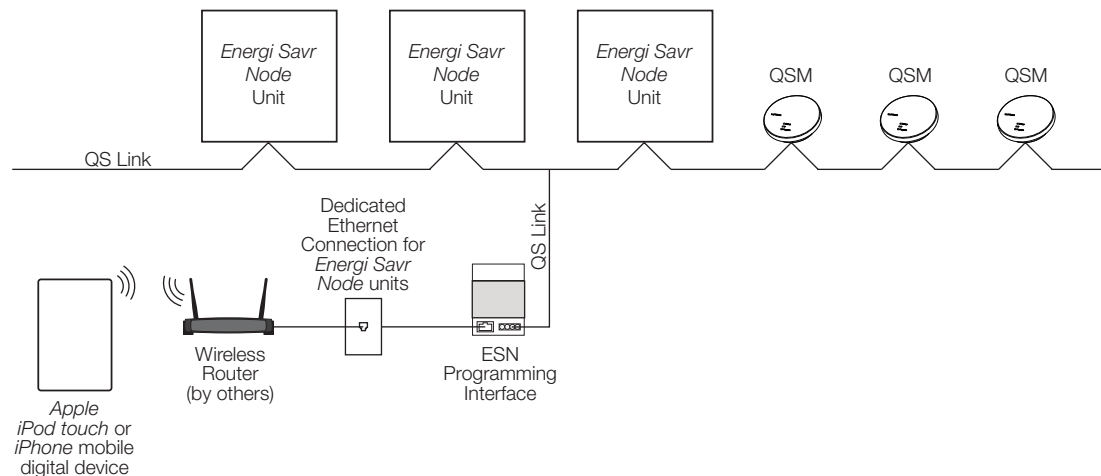
### Requirements

- The *Energi Savr Node* Programming Interface is powered by the QS link, and consumes 2 power draw units. See “**Table 2 - QS System Limits**” for more information.
- QS Communication Link Wire (NEC® Class 2/PELV), see “**Table 1 - QS Link Wiring Options**” for further details.
- Connect a WiFi router to the *Energi Savr Node* Programming Interface for *Apple iPhone* or *iPod touch* programming.



Unit shown at actual size

### System Example



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<b>Job Name:</b>	<b>Model Numbers:</b>
<b>Job Number:</b>	

## Specifications

### Power

- Low-voltage PELV (Class 2:USA)
- Operating voltage: 24 V $\overline{=}$  40 mA
- Uses two (2) power draw units on the QS link

### Standards

- CE Certified
- Lutron® Quality Systems registered to ISO 9001.2000

### Environment

- Ambient Temperature Operating Range: 32 °F to 140 °F (0 °C to 60 °C)
- Relative humidity: less than 90% non-condensing
- For indoor use only

### Terminals

- Ethernet port
- QS Link Wiring: 22 AWG to 12 AWG (0.5 mm<sup>2</sup> to 4.0 mm<sup>2</sup>)

### Mounting

- DIN rail - occupies three DIN rail mount spaces at 2 1/8 in (53.0 mm) wide
- Surface mount
- Junction box

### Programming Requirements

- An *Apple iPod touch* or *iPhone* mobile digital device with the *Energi Savr Node* app is required for programming *Energi Savr Node* units.
- The *Energi Savr Node* app for *Apple iPod touch* or *iPhone* is used to program the *Energi Savr Node* unit in installations requiring an ESN Programming Interface for commissioning. The *Energi Savr Node* app is available from the *iTunes Store* online marketplace.
- The *Energi Savr Node* app cannot be used to program the *Energi Savr Node* units when installed as part of a Quantum® system.
- The *Apple iPod touch* or *iPhone* communicates with the *Energi Savr Node* unit via a WiFi router (not included).
- See “Programming Options” section for further information.

### Ethernet Connection

- Standard CAT5 (or better) cable connects the QSE-CI-AP-D interface to a wireless router.
- Supports MDI/MDIX auto-crossover (no crossover cable needed).
- Total cable length must be 327 ft (100 m) or less.
- Ethernet network and cable provided by others.

### QS Link Limits

- Each *Energi Savr Node* Programming Interface consumes two (2) power draw units. See “Table 2 - QS System Limits” for details.
- Each *Energi Savr Node* Programming Interface counts as 1 device towards the 100 device QS link limit.
- QS communication link uses NEC® Class 2/PELV wiring. Follow all local and national electrical codes when installing *NEC* Class 2/PELV wiring with line voltage wiring.
- The total length of the QS link must not exceed 2000 ft (610 m). See table below.

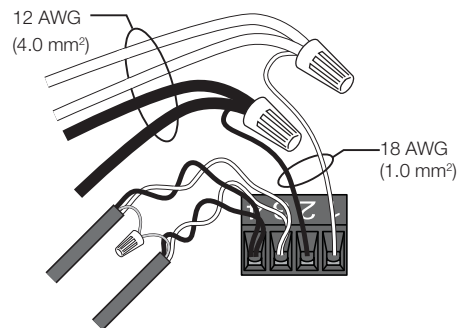
Table 1: QS Link Wiring Options

Control Link Length	Wire Gauge	Available from Lutron in one cable:
Less than 500 ft (153 m)	Power (terminals 1 and 2): 1 pair 18 AWG (1.0 mm <sup>2</sup> )	GRX-CBL-346S
	Data (terminals 3 and 4): 1 pair 22 AWG (0.5 mm <sup>2</sup> ), twisted and shielded*	
500 ft (153 m) to 2000 ft (610 m)	Power (terminals 1 and 2): 1 pair 12 AWG (4.0 mm <sup>2</sup> )	GRX-CBL-46L
	Data (terminals 3 and 4): 1 pair 22 AWG (0.5 mm <sup>2</sup> ), twisted and shielded*	

\* Alternate Data-only cable: Use approved data link cable (22 AWG (0.5 mm<sup>2</sup>) twisted/shielded) from Belden®, model #9461.

### QS Link Terminal Connections

- Each QS link terminal can accept only two 18 AWG (1.0 mm<sup>2</sup>) wires. Two 12 AWG (4.0 mm<sup>2</sup>) conductors will not fit. Connect as shown below using appropriate wire connectors.



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**Powering the QSE-CI-AP-D**

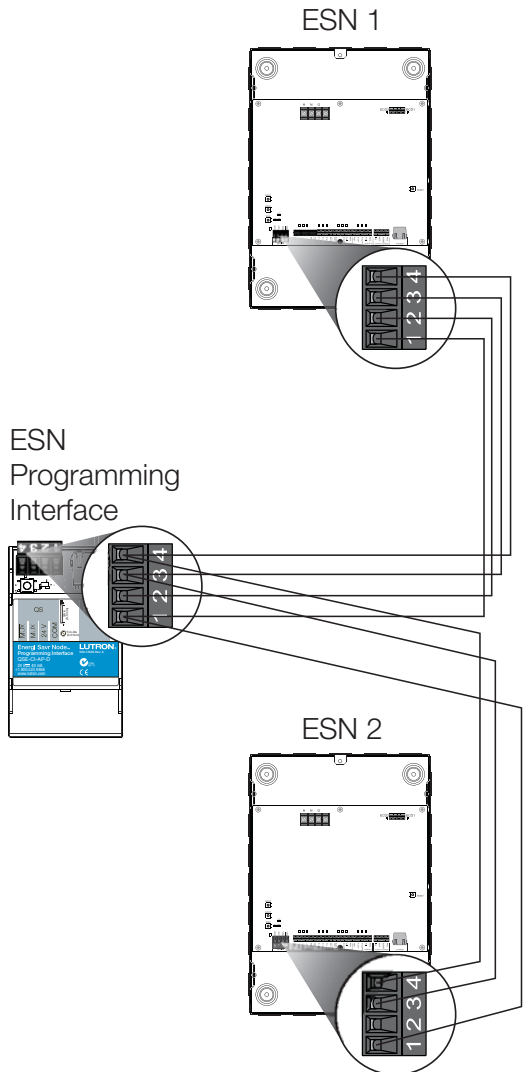
- The QSE-CI-AP-D uses two (2) power draw units on the QS link and counts as one device toward the 100 device QS link limit.
- The QSE-CI-AP-D may also be powered by a QS Link power supply (QSPS-P1-1-50, QSPS-P2-1-50, or QSPS-P3-1-50) or a QS shade panel power supply (QSPS-P2-10-60 for 230 V~, or QSPS-P1-10-60 for 120 V~).

**Wiring Example: Using a QS Link Power Supply**

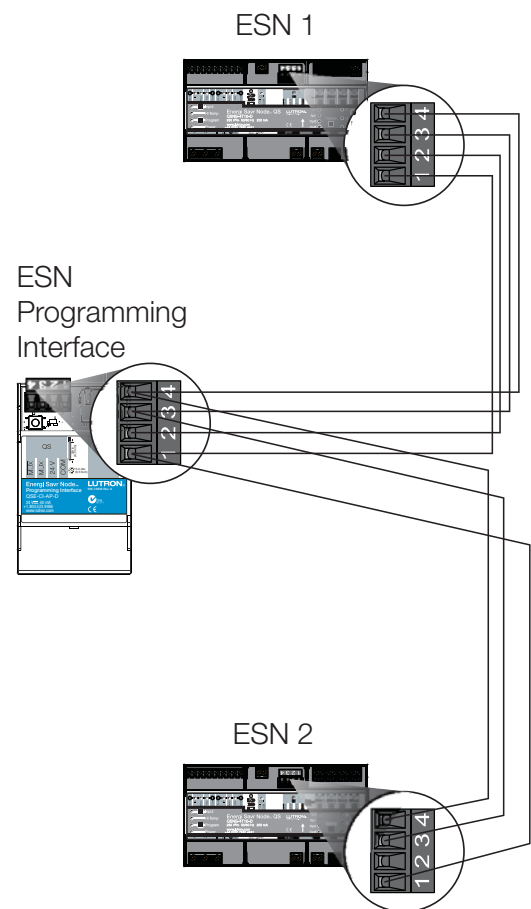
ESN = *Energi Savr Node*

**120-277 V~ UL Products**

**230 V~ CE Products**



The ESN Programming Interface is powered by ESN 1 only. Terminal 2 terminates at the ESN Programming Interface.



Job Name:	Model Numbers:
Job Number:	

## QS System Limits

The table below lists the devices available on the QS link. See below for each device's count toward the link maximums for zones and devices.

A QS link can have up to 100 zones (outputs), 100 devices, and 512 ballasts.

Table 2: QS System Limits

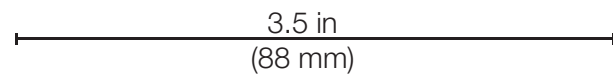
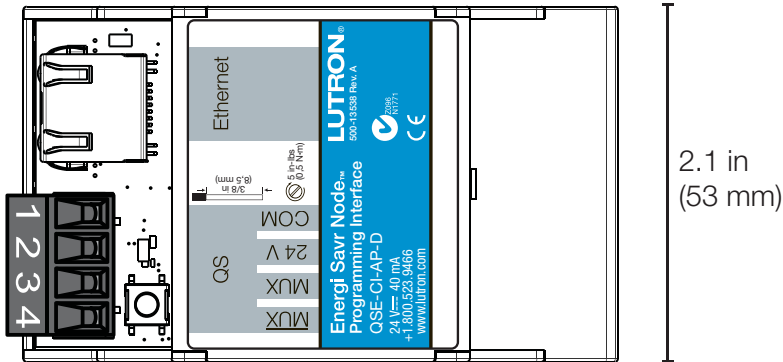
QS Device Description	Zone Count	Device Count	Power Draw Units (supplied)	Power Draw Units (consumed)
<i>Energı Savr Node</i> Programming Interface (QSE-CI-AP-D)	0	1	0	2
Softswitch® <i>Energı Savr Node</i> unit (QSN-4S16-S)	4	1	14	0
<i>Energı Savr Node</i> unit for 0-10 V/Softswitch (QSN-4T16-S)	4	1	14	0
EcoSystem® <i>Energı Savr Node</i> unit	up to 100	1	30	0
QS Sensor Module (QSM), not including attached wired inputs	0	1	0	3
Lutron® Occupancy Sensor (connected to QS Sensor Module)*	0	0	0	2
Lutron Daylight Sensor (connected to QS Sensor Module)*	0	0	0	0.5
Lutron Infrared (IR) Receiver (connected to QS Sensor Module)*	0	0	0	0.5
3-zone GRAFIK Eye® QS	3	1	3	0
4-zone GRAFIK Eye QS	4	1	3	0
6-zone GRAFIK Eye QS	6	1	3	0
6-zone GRAFIK Eye QS with EcoSystem	6	1	3	0
8-zone GRAFIK Eye QS with EcoSystem	8	1	3	0
16-zone GRAFIK Eye QS with EcoSystem	16	1	3	0
seeTouch® QS	0	1	0	1
QS contact closure interface (QSE-IO)	up to 5	1	0	3
QS network interface for audio-visual integration (QSE-CI-NWK-E)	0	1	0	2
QS link power supply (QSPS-PX-1-50)	0	0	8	0
Emergency Lighting Interface (LUT-ELI-3PH)	0	0	0	1
<i>Energı Savr Node</i> QS DALI (QSNE-2DAL-D)	up to 32	1	3	0
<i>Energı Savr Node</i> - 230 V $\sim$ 0-10 V/Switching (QSNE-4T10-D)	4	1	14	0
<i>Energı Savr Node</i> - 230 V $\sim$ Switching (QSNE-4S10-D)	4	1	14	0

**\*Note:** Power draw units are consumed by wired Occupancy Sensors, Daylight Sensors, and IR Receivers only if connected to the QS Sensor Module (QSM). Power draw calculations are not needed for inputs connected directly to the *Energı Savr Node* unit.

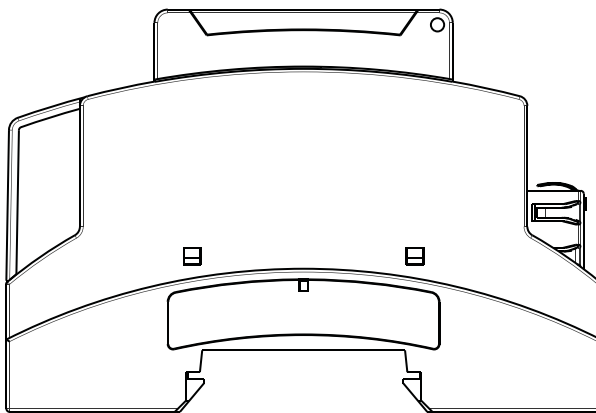
Job Name:	Model Numbers:
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## Mechanical Dimensions (using DIN rail only)

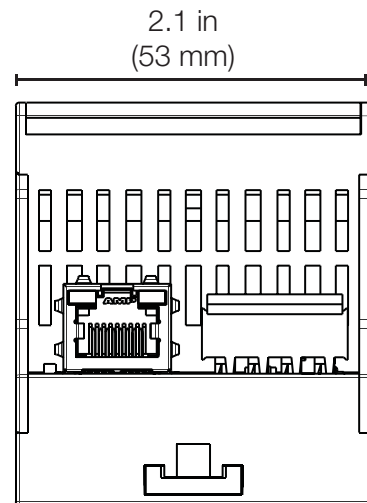
All dimensions shown as inches (mm)



2.1 in  
(53 mm)



2.4 in  
(60 mm)

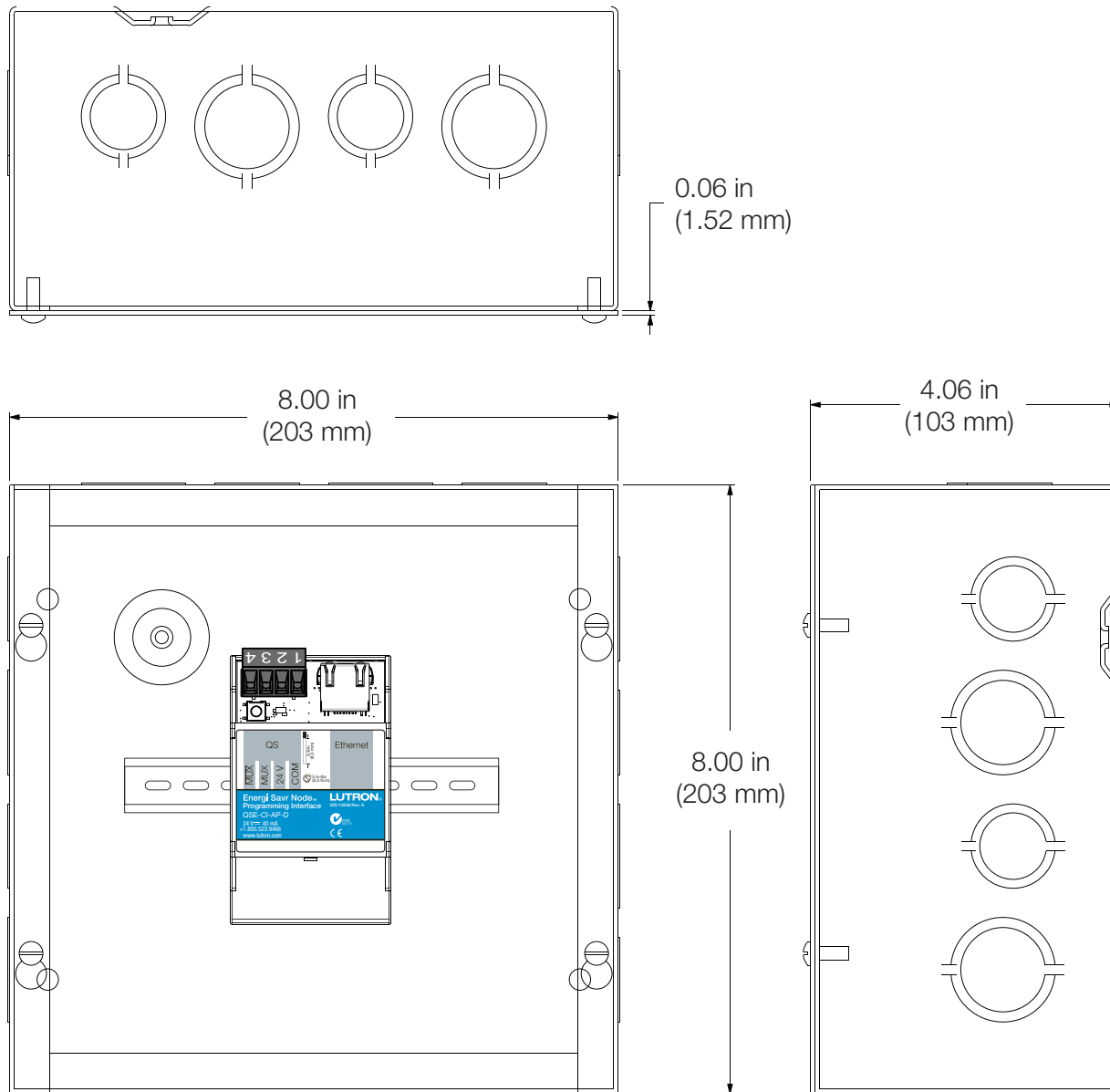


2.1 in  
(53 mm)

Job Name:	Model Numbers:
Job Number:	

### Mechanical Dimensions (using metal enclosure LUT-8X8-ENC)

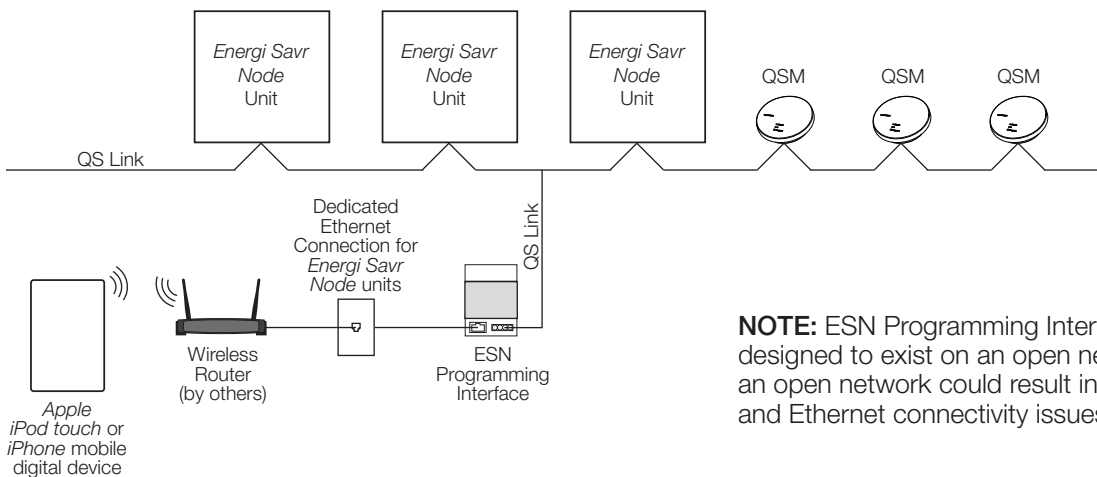
All dimensions shown as inches (mm)



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### Programming with *Apple iPod touch* or *iPhone*

- Use the intuitive programming application for the *Apple iPod touch* or *iPhone* to program systems with multiple *Energi Savr Node* units and QSMs on the QS link.



**NOTE:** ESN Programming Interface units are not designed to exist on an open network. Connection to an open network could result in reduced performance and Ethernet connectivity issues.

### Features unlocked by programming application and interface

- Share sensors and controls connected to an *Energi Savr Node* unit on the link to other *Energi Savr Node* units on the link (NEC® Class 2/PELV Dry Contact Switch inputs cannot be shared to other *Energi Savr Node* units)
- Associate multiple QSMs to one or more *Energi Savr Node* units on QS link

### Associate up to 100 of each type of input to multiple *Energi Savr Node* units connected to a single QS link.

- Inputs can be connected to *Energi Savr Node* units or QS Sensor Modules (QSM)

### Link input limits:

- 100 wired or wireless occupancy sensors on the QS link
- 100 wired or wireless daylight sensors on the QS link
- 100 wired wallstations or PICOs on the QS link
- 16 wired or wireless daylight sensors on an EcoSystem® link

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