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CoreSync
Advanced Environmental Sensor ❯

The Advanced Environmental Sensor is a low voltage sensor platform leveraging network connected Molex CoreSync infrastructure for digital building applications.

VOCs (volatile organic compounds), temperature, and humidity data granularly collected by Molex sensor array can be transferred to BMS and/or other 3rd-party systems or a cloud platform for augmented building control and automation as well as advanced reporting and analytics.

FEATURES AND ADVANTAGES

CoreSync Enabled	Easy integration with Molex CoreSync system
Class 2 Device	Low voltage PoE infrastructure for power, control, and communication
Individually addressable	Allows easy discovery, commissioning, and control of each sensor
Dual CoreSync IO Connectors	Daisy-Chain capable with easy connection to all CoreSync devices
Air quality/VOC	Metal oxide (MOX) gas sensor to detect a wide range of VOCs
Temperature/Humidity	Temperature and Humidity data to work in tandem with HVAC
Ambient Light Sensing	Provides valuable ambient light data for daylight harvesting applications
Ceiling tile or Surface bracket	Comes with two mounting styles for near universal mounting locations

APPLICATION

Environmental Control	Occupant Comfort & Productivity	Improved Air Quality	Energy Management
HVAC optimization	Daylight Harvesting	Supplemental T/H Control	

SPECIFICATIONS

Electrical
Input Power: CoreSync Bus (42V-57VDC)
Standby Power: 0.6W

Commercial Standards
UL 916 Listed
UL 2043 Listed
CSA C22.2 No. 205-17
FCC Part 15 Subpart B

Product Safety
Internal Over-Temperature Protection
DO NOT hot swap

Mechanical
Housing Material:
ABS Plastic
Color: White/Black
Weight: 48.6 g (1.72 oz)

For installation, please refer to the installation manual.

Environmental
Ambient Temp Range: 0° to 55°C (32°F to 131°F)
Storage Temperature: -40° to 60°C (-40°F to 140°F)
Max Case Temperature: 60°C
Relative Humidity: 10-80% Non-Condensing
Environmental Rating: Indoor

Performance / Detection
Ambient Light Range: 50-2000 lux
Temperature Range: 0 to 60°C (32 to 140°F)
Temp Accuracy: ±0.3°C (0.54°F)
Humidity: 0 to 100% RH ±3%
TVOC: 0 up to 29k ppb (parts per billion)
CO2: 400 up to 32k ppm (parts per million)

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CONNECTION INTERFACES

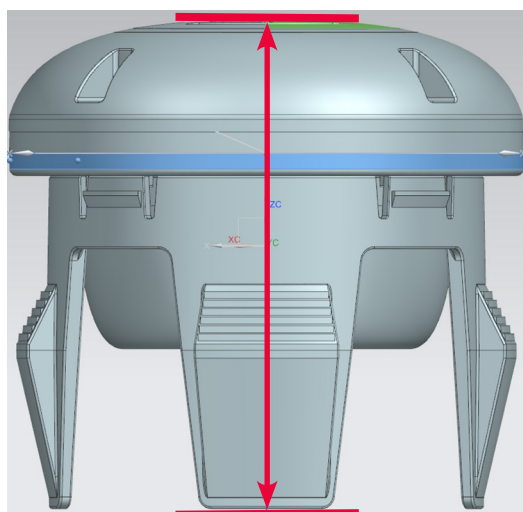| Connection	Connection Specification
CoreSync Input	4-pin Micro-fit 3.0 Connector, *CoreSync Harness*
CoreSync Output	4-pin Micro-fit 3.0 Connector, *CoreSync Harness*

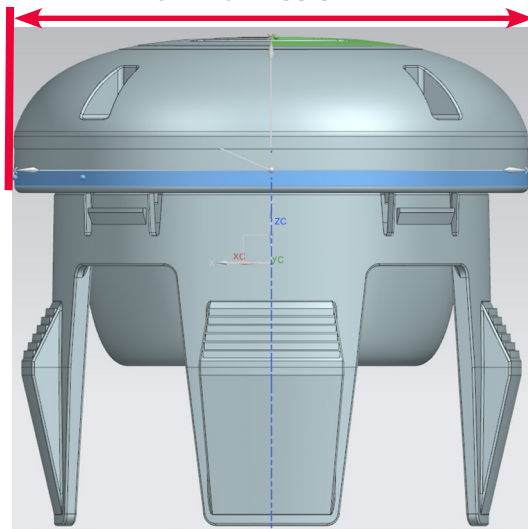### CoreSync IO

Daisy-Chaining

Dimensions

Height: 55.5mm

Max Width: 58.8mm

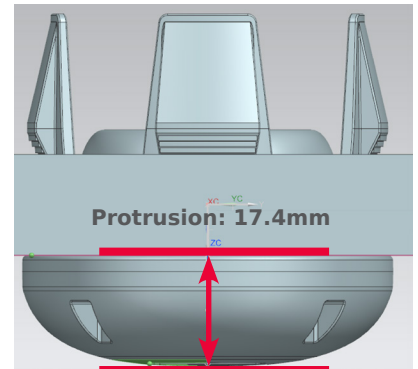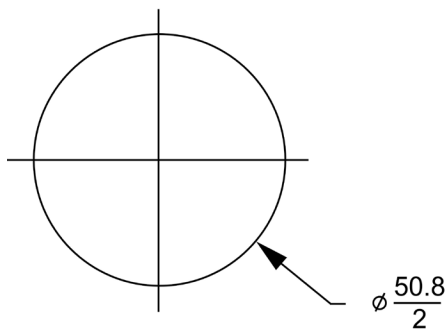For further details, please see dedicated application note.
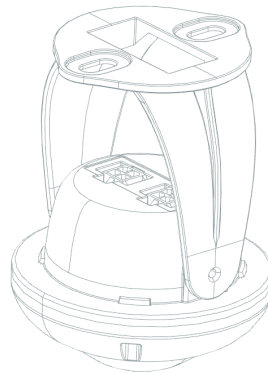
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MOUNTING DIMENSIONS

Surface Mount Clearance

$\phi \dfrac{50.8}{2}$

Protrusion: 17.4mm
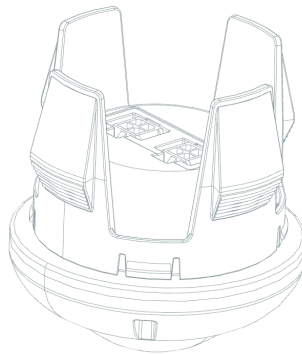
Bracket Mount Clearance

$\dfrac{31.9}{1\ 1/4}$
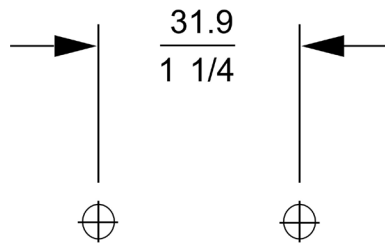
Recommended Max Mounting Height: 5m in order to have best accuracy.
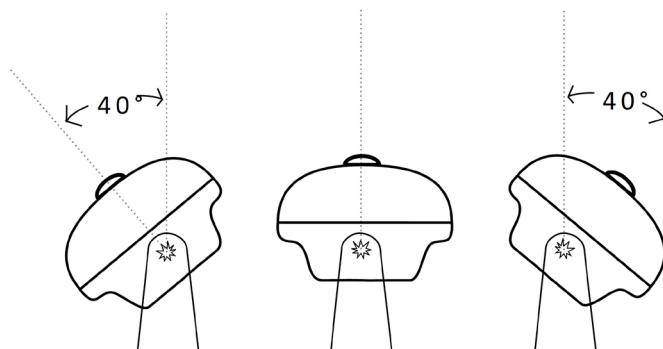
For best performance avoid mounting near drafts and air outlets.

40° ⟲   40° ⟳

When used with the bracket mount, the sensor can be placed 40° one way, 40° the other way, or direct center.

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ORDERING INFORMATION

| Molex Order No.	Description
182089-3000	CoreSync Advanced Environmental Sensor, White
182089-3001	CoreSync Advanced Environmental Sensor, Black

RELATED PRODUCTS

Molex Series	Description	Gauge / Conductor	Start	End	Plenum Rated Cable
180777,180778	CoreSync Daisy-Chain	18/4	4-pin Micro-Fit receptacle	4-pin Micro-Fit receptacle	No
180887, 180888	CoreSync Gateway 1.0 to Driver		10-pin Micro-Fit receptacle	4-pin Micro-Fit receptacle	No
182105-XXX	CoreSync Gateway to Driver, Reverse Gender		10-pin Micro-Fit receptacle	4-pin Micro-Fit plug	No
182106-XXX	CoreSync Extender, 2- Gender		4-pin Micro-Fit receptacle	4-pin Micro-Fit plug	No
182110-00XX	CoreSync Extender, 2-Gender Panel Mount		4-pin Micro-Fit receptacle	4-pin Micro-Fit Plug Panel Mount	No
182110-4XXX	CoreSync Long-Run Cable		4-pin Micro-Fit receptacle	4-pin Micro-Fit receptacle	Yes
182110-5XXX	CoreSync Poke-In Extender		4-pin Micro-Fit receptacle	4-way Poke in	Yes
182110-6XXX	CoreSync Extender, 2- Gender		4-pin Micro-Fit receptacle	4-pin Micro-Fit plug	Yes

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TYPICAL APPLICATION
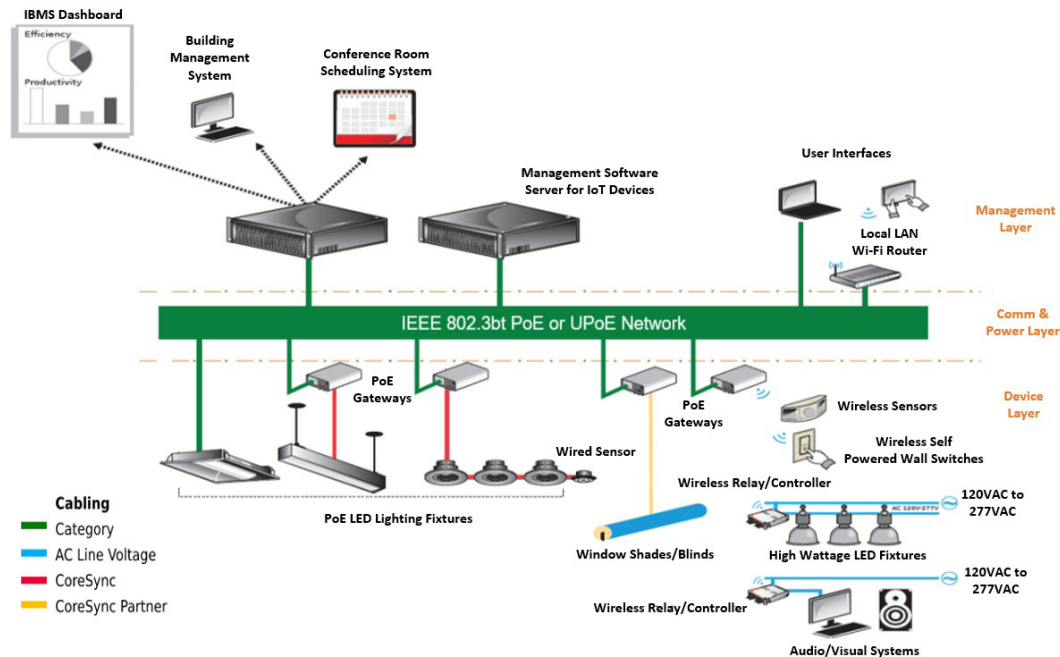
DAISY-CHAINING

Each CoreSync Daisy-Chain device is powered and physically connected by the Molex CoreSync PoE Gateway with a rugged and reliable Molex CoreSync harness cable using a Molex Micro-Fit† 4-pin connection If the power requirement at the input of the Gateway is below 51W for UPoE and below 71.3W for 802.3bt 90W standard, a single Molex CoreSync PoE Gateway can power and control multiple devices in a Daisy-Chain configuration, with the easy-to-use input and output connector scheme.

* Minimum Guaranteed Power for Gateway 1.0 is 51W and Gateway 2.0 is 71.3W. The total power budget on the Gateway must comply with the requirement.

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