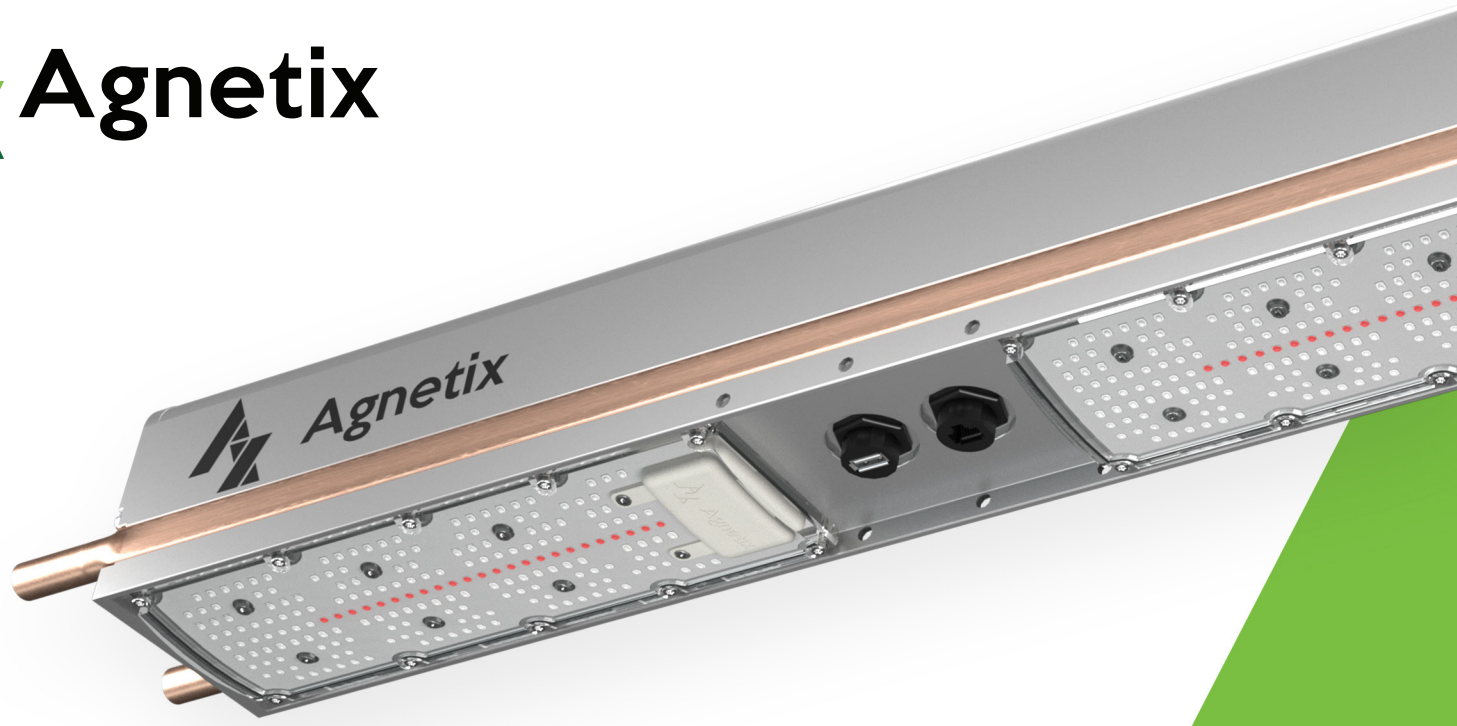
Agnetix



Powerful.
Efficient.
Connected.

Agnetix is a highly-efficient, high powered, LED horticulture lighting system that reduces facility operational costs by up to 70% over high pressure sodium (HPS) and provides real-time visibility to critical grow metrics for fast, smart decision-making.

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Agnetix A3

Agnetix A3 is a **high-performing** and extremely **energy-efficient LED horticulture light** delivering **up to 2.45 µmol/J**. Designed to be the connected backbone of the facility, the A3 has integrated USB and Power Over Ethernet ports for easy networking, light scheduling and crop visibility using advanced sensors and cameras.

2.45 µmol/J — **Highly-Efficient**

1200 WATTS — **High-Power**

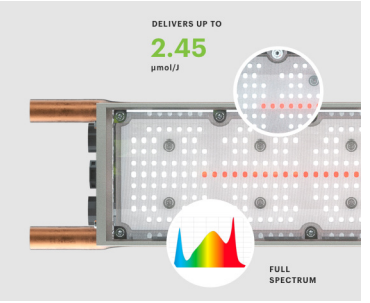
2850 PPF — **High Light Levels**

Liquid-Cooled

Connected

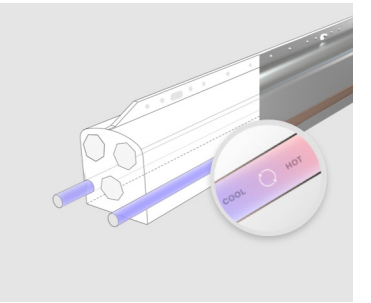
Super High Efficacy

A3 delivers full-spectrum light that is up to 2.45 PAR µmol/J, outperforming traditional lamps and other LED fixtures.



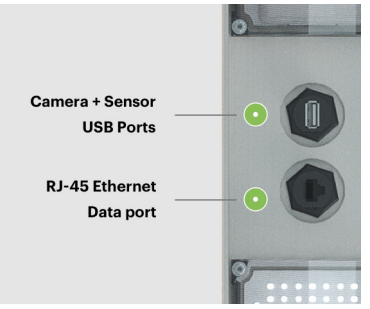
Liquid-cooled System

An integrated copper waterloop that efficiently eliminates 50% of the light's heat from the growth chamber, reducing energy use and operating costs.



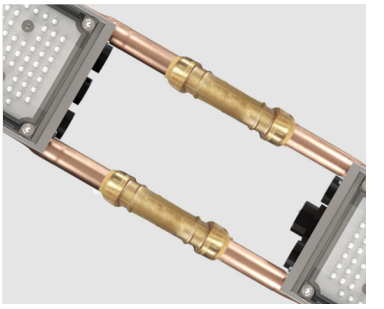
Advanced Sensors

The A3 is IoT enabled with USB and PoE ports integrated into the fixture, allowing for important data collection and crop visibility using the Agnetix HMI.



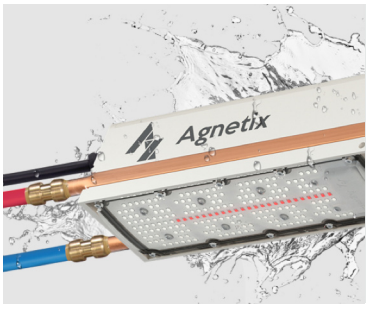
Simple Installation

Tool-less push-to-connect system is fast and simple to install



Waterproof Cable System

Plug-and play power cable and waterproof networking allows 10x faster and cheaper installation with no conduit and easy to wash down regularly.



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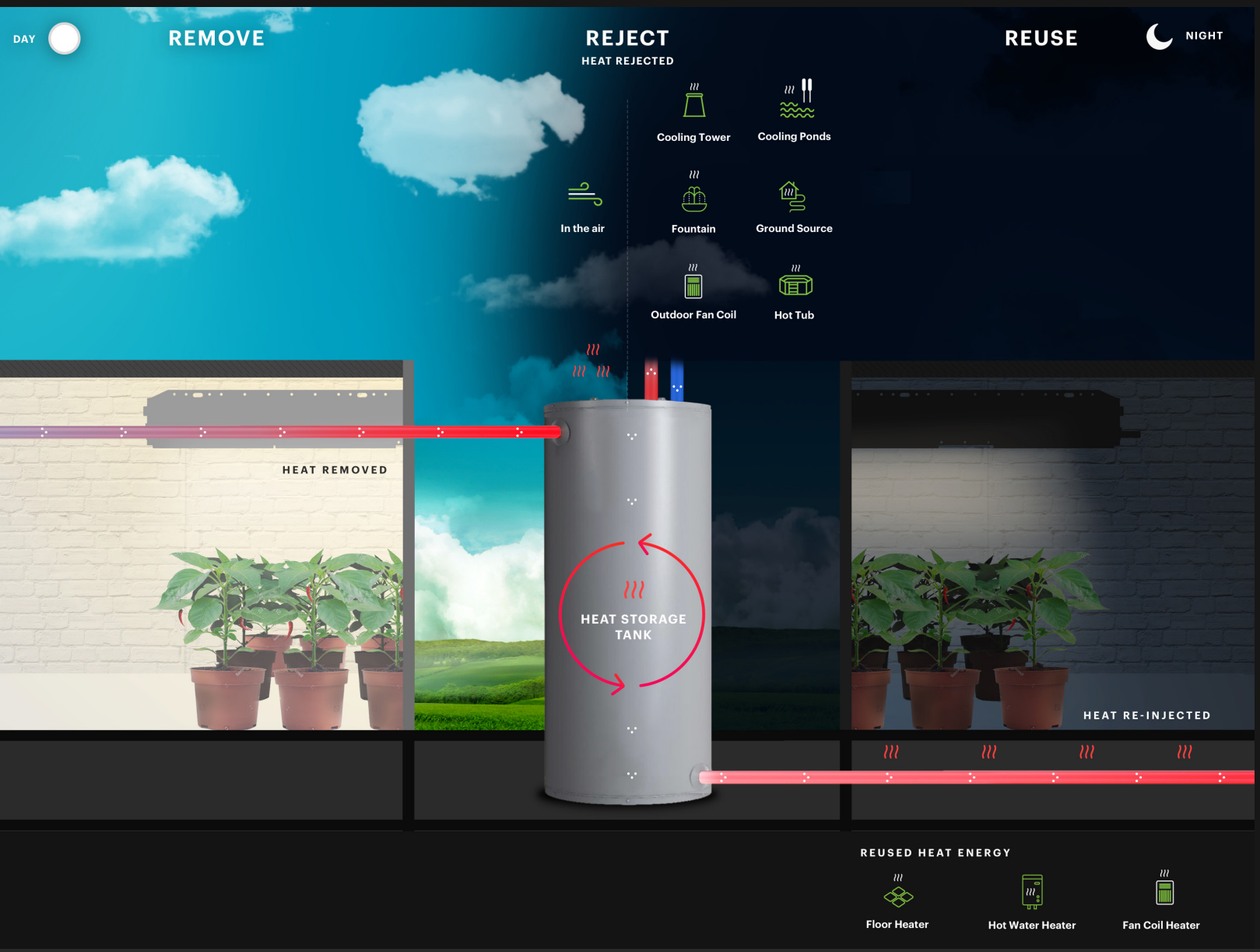
Heat Recovery Technology

The Agnetix A3 platform significantly drives down operational costs with its **unique liquid-cooling and heat recovery system**. The system efficiently removes heat from the lights using a simple waterloop. Piped out of the room, the **heat can be rejected or easily reused** to warm the rest of the facility. This results in a more stable environment for **better plant comfort, reduced costs and better yields.**



More stable & controllable environment

50% less heat from light than HPS

50% lower HVAC & Dehumidifier Loads

Save 20-100% on heating costs

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Environmental Sensor Series

Agnetix all-in-one, environmental sensors connect very easily to the A3 and offer high-resolution, **horticulture readings of temperature, humidity, airflow, CO2, leaf temp** and more for precisely monitoring a grow cycle

All-In-One

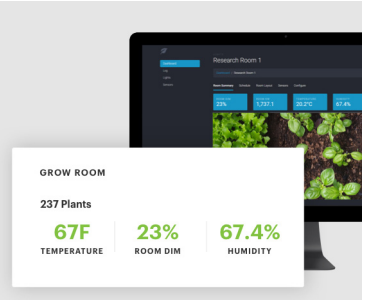
Connected

Multi-point Visibility

High-Value

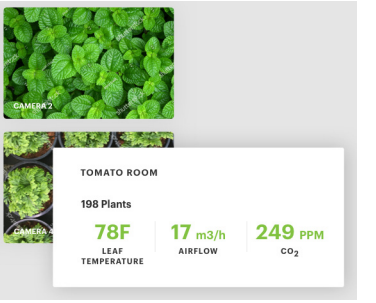
Real-time & Historical Metrics

Clear and instant visibility to real-time data allow for immediate actions. Data is also stored for a historical analysis of the grow cycle.



Targeted Visibility

Sensors capture environmental information and images at the individual fixture level.

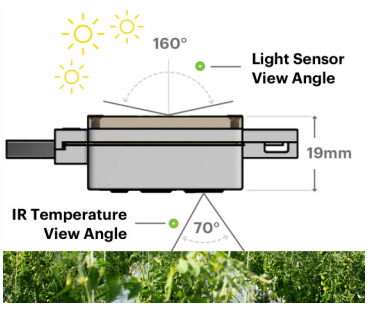


Indoor Grow Chambers

Environmental metrics such as Temperature, Humidity, Air Flow, CO2 and Leaf Temperature can be monitored remotely.

Greenhouse Environment

Unique all-in-one design captures critical data for monitoring and controlling a greenhouse.



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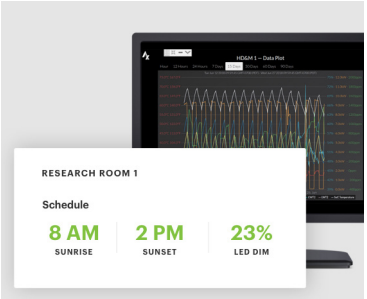
Human Machine Interface (HMI)

HMI is included with the A3 lighting system and delivers **visibility into a grow room's health**, providing growers with critical environmental and **plant data**. HMI provides an **intuitive dashboard** that enables secure and real-time visibility to environment and plant monitoring along with lighting control.

Room Management | **Light Control** | **Real-Time Data Monitoring** | **Bird's Eye View**

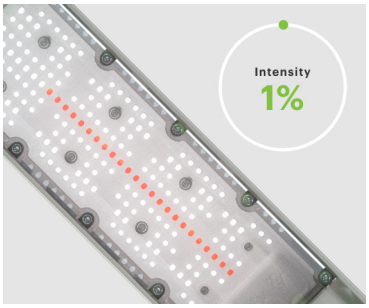
Room Management

Clear and instant visibility to real-time data allow for immediate actions. Data is also stored for a historical analysis of the grow cycle.



Light Control

Easily schedule and control light intensity of each fixture and monitor information such as temperature, and power consumption of the lights.

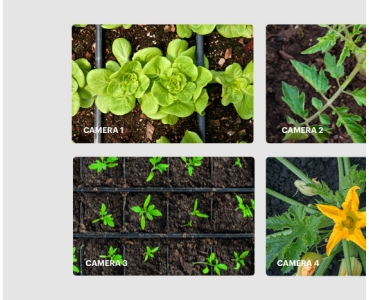


Real-Time Data Monitoring

Customize your view of critical metrics including humidity, temperature, CO2, lighting intensity and power consumption.

Bird's Eye View

Data ports on each fixture allow for downward-facing cameras allowing farmers to visually inspect and continuously monitor their crops in real time.



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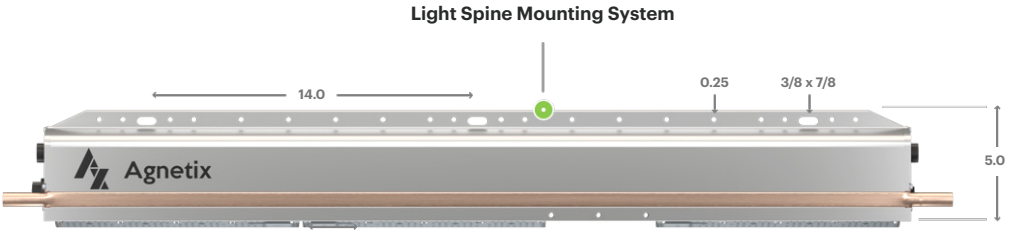
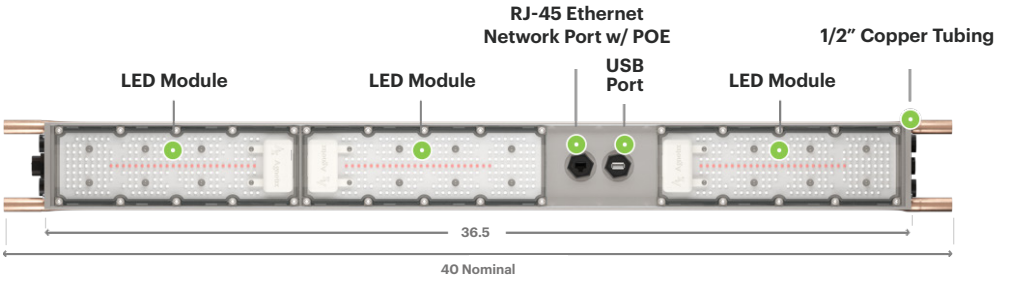
A3 Fixture

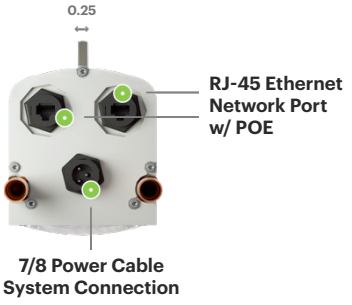
Front View



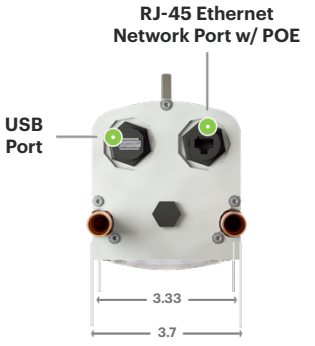
Bottom View



Left View

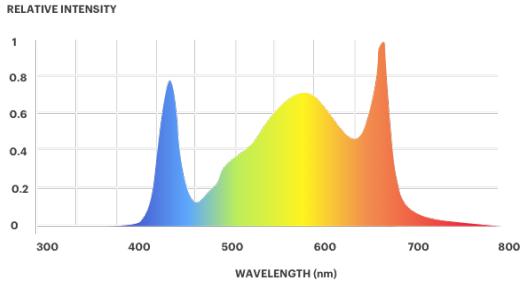


Right View



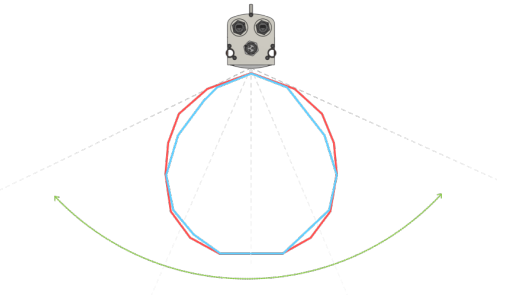
Spectral Distribution

White + 660nm Red



Beam Angle

120°



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A3 Fixture

Product Specifications

Power	1200W
Efficacy	2.23 µmol/J A3 Standard Density 2.45 µmol/J A3 Double Density 3.2 µmol/J A3 HERO
Spectrum	A3 Standard/Double Density - White + 650nm Red (others by request) HERO - 660nm Red Only
Beam Angle	120º
Cooling	Twin 1/2" copper tubes
PPF	Standard 2,650 PPF Double Density 2,850 PPF HERO 4,000 PPF

Physical

Housing	Aluminum extrusion
Dimensions	36" x 4" x 5"
Tube Length	40"
Weight	15 lbs
Mounting	Through bolts on light spine (bolts not included)
Lens	Injection molded plastic

Power

Voltage	180-300 VAC
Current	5 Amps max
Power	1200W Wattage reduced under 240V
PF	>0.95
Frequency	50/60 Hz (Generator compatible)
Connector	Male 3-pin industrial type, UL2237

Optical

Modules	3
LEDs	Standard/Double Density - 5000K + 650nm HERO - 660nm Red only
Efficacy	2.23 µmol/J A3 Standard Density 2.45 µmol/J A3 Double Density 3.2 µmol/J A3 HERO
Beam Angle	120º

Control

Network	4 x 100Mb POE Ethernet
Connectors	4 x Waterproof 13/16 RJ45
Dimming	Down to 1%

Environment

Operating Conditions	-20°C (-4ºF) to 60°C (140ºF) / RH <95%
Storage Conditions (no liquid)	-20°C (-4ºF) to 80°C (176ºF) / RH <95%
IP Rating	IP66 - Wash down

Water Loop/Cooling

*Protect from freezing or use antifreeze

Fluid Temperature Limits	-20°C (-4ºF) to 75°C (167ºF)
Fluid Temperature Recommended	Dew point up to 40°C (104ºF)
Self Protection	65°C (149°F) - Full light to 75° C (167°F) - No light
Max Fluid Temp when using light for heat	75°C (167°F)
Fluid Connection	Twin exposed 1/2" copper tubing Push to connect Do not solder or crimp
Flow Rate	1 to 3 gpm per tube
Temp Rise	Depends on flow rate
Power Delivered to Water	~600W

Warranty and Lifetime

Product warranty (see terms and conditions)	5 years
LED Lifetime ISTMT TM-21 / LM-80	Q90 >60K hrs
Driver Lifetime (@85C internal temp, unit on)	MTTF >60K hrs

C ETL LISTED US
Intertek

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Power Cabling

Power cables are ordered separately from fixtures. An unterminated cable of appropriate length may be ordered for retrofit applications.

The A3 utilizes a UL2237 Multi-point Interconnection Power Cable Assemblies for Industrial Machinery (PVVA listed power cable system) to reduce the time and expense of power wiring. The system parts are listed below. Up to 3 fixtures can be operated from one 15A cable.

For convenient connectivity, various lengths of waterproof network cables are available to connect fixtures. Long leader cables are used to run data to the network's central switch point.

Sample assemblies are displayed on Agnetix website. These show bills of materials for set lengths and PPFD at 6′ and 12′ row spacing.

Power Cables

DROP TEES (15A)

POWER CABLE (15A AND 30A)

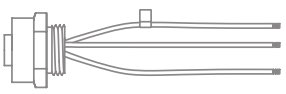
TEE-REDUCING (30A TO 15A)

Network Cables

CAT-5 NETWORK CABLE (15A)

CAT-5 NETWORK CABLE WATERPROOF (15A)

Outlet



OUTLET (15A)
To be installed by your electrical contractor

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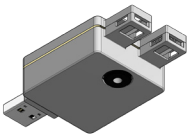
Sensors Collection

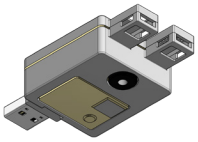
Full assortment of environmental sensors offers a variety of special tracking features specific to your application and needs.

Indoor Applications



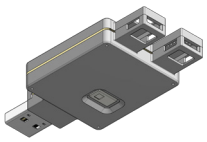
MKT S7-IN-L-00

- Air Temperature
- Humidity
- Air Flow
- Leaf Temp



MKT S7-IN-C-L-00

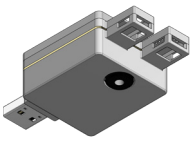
- Air Temperature
- Humidity
- Air Flow
- Leaf Temp
- CO2



MKT S7-IN-IR-00

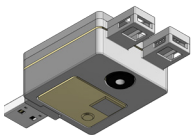
- Air Temperature
- Humidity
- Air Flow
- IR (Infrared) View

Greenhouse Applications



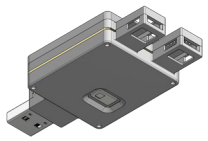
MKT S7-GH-L-00

- Incoming/Ambient Light
- Air Temperature
- Humidity
- Air Flow
- Leaf Temp



MKT S7-GH-C-L-00

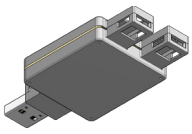
- Incoming/Ambient Light
- Air Temperature
- Humidity
- Air Flow
- Leaf Temp
- CO2



MKT S7-GH-IR-00

- Incoming/Ambient Light
- Air Temperature
- Humidity
- Air Flow
- IR (Infrared) View

Basic Environmental Sensor



MKT S7-ENV-00

- Air Temperature
- Humidity
- Air Flow

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Ordering Information

A3 Fixture

A3-1200-Standard 2.23 µmol/J	A3-1200-0000
A3-1200-DD (Double Density) 2.45 µmol/J	A3-1200-DD00
A3-1200-HERO 3.2 µmol/J	A3-1200-HERO

Sensors

Indoor Sensors	S7-IN-L-00 S7-IN-C-L-00 S7-IN-IR-00
Greenhouse Sensors	S7-GH-L-00 S7-GH-C-L-00 S7-GH-IR-00
Basic Environmental Sensor	S7-ENV-00

Power Cables

7/8 Power Cable 1.6′	CBL-3M22-0050-MF
7/8 Drop Tee 1.6′	CBL-3M22-0050-T
7/8 Power Cable 4′	CBL-3M22-0122-MF
7/8 Power Cable 5′	CBL-3M22-0152-MF
7/8 Power Cable 6′	CBL-3M22-0183-MF
7/8 Power Cable 9′	CBL-3M22-0275-MF
7/8 Power Cable 11′	CBL-3M22-0335-MF
7/8 Power Cable 13′	CBL-3M22-0395-MF
7/8 Power Cable 20′	CBL-3M22-0610-MF
7/8 Power Cable 25′	CBL-3M22-0762-MF
7/8 Tee	CON-3M22-0000-T
7/8 Receptacle	CON-3M22-0100-FP

Controller

Human Machine Interface (HMI) Software	HMI 2018 (4K Monitor not included)

Network Cables

Cat-5 Waterproof 1.2′	CBL-CAT5-0037-WW
Cat-5 Waterproof 2.2′	CBL-CAT5-0067-WW
Cat-5 Waterproof 3.2′	CBL-CAT5-0098-WW
Cat-5 Waterproof 4.2′	CBL-CAT5-0128-WW
Cat-5 Waterproof 5.2′	CBL-CAT5-0158-WW
Cat-5 Waterproof 9.2′	CBL-CAT5-0280-WW
Cat-5 Waterproof 10.2′	CBL-CAT5-0311-WW
Cat-5 Leader 18′	CBL-CAT5-0550-WS
Cat-5 Leader 24′	CBL-CAT5-0730-WS
Cat-5 Leader 30′	CBL-CAT5-0910-WS
Cat-5 Leader 36′	CBL-CAT5-1100-WS
Cat-5 Leader 42′	CBL-CAT5-1280-WS
Cat-5 Leader 48′	CBL-CAT5-1460-WS
Cat-5 Leader 54′	CBL-CAT5-1650-WS
Cat-5 Leader 54′	CBL-CAT5-1100-WS
Cat-5 Leader 60′	CBL-CAT5-1830-WS

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