

ARC121

Networked Lighting Control & Remote LED Driver

AREA CONTROLLER



12 CHANNELS | 1200W MAX

24-57VDC INPUT
 12-55VDC PROGRAMMABLE OUTPUT

Applications

- Architectural & energy-management lighting
- Hospitality
- Healthcare
- Education
- AC or DC electrical systems
- On-grid / off-grid applications
- RV, marine and accessory dwelling units

Overview

The ARC121 Area Controller powers and independently controls LED luminaires while powering and communicating with SDCnet devices including occupancy sensors, daylight sensors, temperature sensors, wall switches and relay interfaces. It combines remote LED driving, device networking and architectural lighting control in a compact 1U platform.

Key Features

- 12 independently controlled LED outputs; up to 100W (VA) per channel.
- 1,200W maximum LED output power.
- Each channel configurable for constant-current (CC) or constant-voltage (CV) loads.
- 16-bit dimming with specified dim-to-dark performance to 0.01%.
- Programmable output current up to 4A per channel.
- Programmable output voltage from 12-55VDC in 50mV steps.
- Real-time clock control for lighting commands and scheduled operation.
- RESTful API for integration with third-party systems.
- 10/100 Ethernet port enables multiple ARC controllers to connect and scale.
- Automatic-reset overload and short-circuit protection on Class 2 outputs.
- Compact 1U rack-height construction with removable mounting brackets.

Electrical Specifications - Core

Driver Type	Independantly Programmable Constant Current or Constant Voltage Channels
LED Outputs	12 independently configurable outputs
Maximum LED Output Power	1200W total; up to (12) x 100W (VA)
Output Current	Up to 4A per channel; programmable in ~50mA increments
Output Voltage	12-55 VDC; programmable in 50mV steps
Nominal Input Voltage	24-57 VDC

Compliance

Source sheet states UL2108, UL1310, UL8750, CSA C22, UL924 and CE compliance, plus Buy American Act / Trade Agreements Act procurement compliance.

Warranty

5-year limited warranty against defects in materials and workmanship under normal use.

Certifications



ARC121

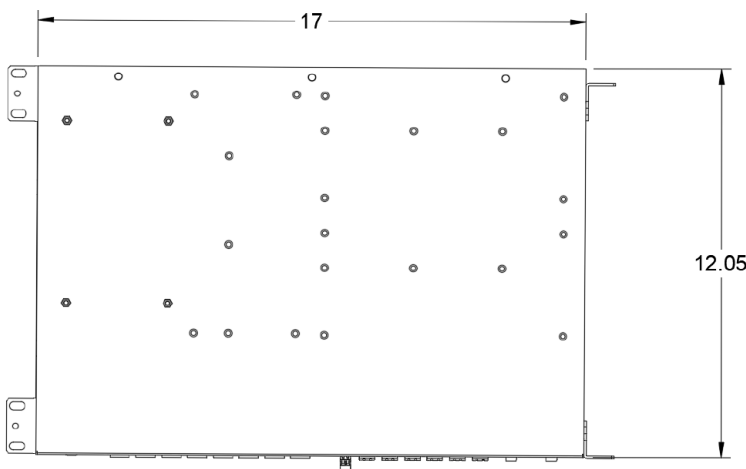
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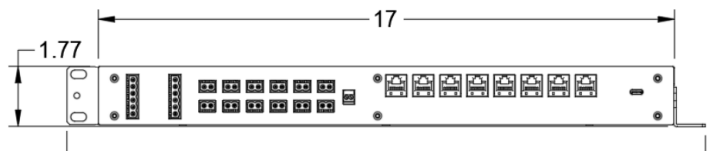
Mechanical Layout

Measurements are in inches.

TOP VIEW:



FRONT VIEW:



WIDTH	DEPTH	HEIGHT	WEIGHT
17"	12.05"	1.77"	9 lb

Additional Electrical / Environmental Specifications

Control Protocol	SmartDC; consult factory for additional protocols
Control Channels	12 independently configurable as CV or CC, with levels
Protection	Automatic-reset overload and short-circuit protection on Class 2 output
Standby Power	<4W
LED Output Current Tolerance	+/-1%
Sensor / SDCnet / Relay Ports	24VDC, 250mA maximum combined
Operating Temperature	32°F to 113°F (0°C to 45°C)
Relative Humidity	0-95%, non-condensing
Location / Rating	Dry location only; not plenum rated

ARC121

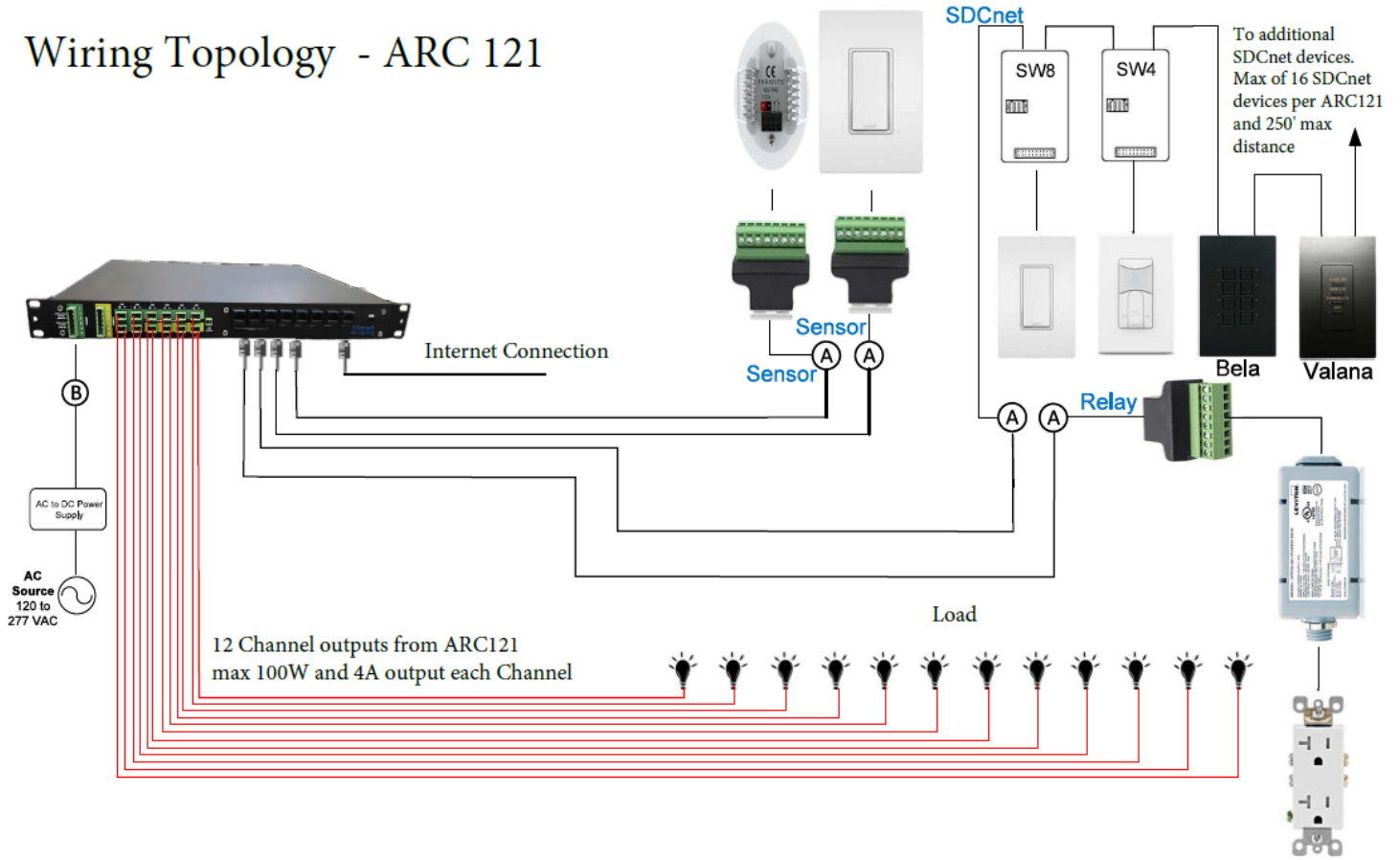
Networked Lighting Control & Remote LED Driver

AREA CONTROLLER

Typical Smart DC Lighting Architecture

ARC121 provides 12 lighting channels (8 regular channels, 4 EM Channels) while SDCnet connects sensors, wall controls and relay interfaces.

Wiring Topology - ARC 121



LIGHTING OUTPUT	SDCnet	POWER INPUT
Low Voltage wire, Class 2 12 channels 100W max each	CAT 5-E, Class 2 Up to 16 devices per ARC121 250 ft stated maximum distance	24-57VDC, 18AWG 1PWR/1GND minimum

System Integration

Multiple ARC controllers can connect and scale through the 10/100 Ethernet network port. The integrated RESTful API supports third-party system integration, while SDCnet provides connectivity for SmartDC sensors, wall stations and relay devices.

12 CHANNELS • 1200W MAX • CC / CV PROGRAMMABLE • 16-BIT DIMMING • SDCnet • ETHERNET • REST API

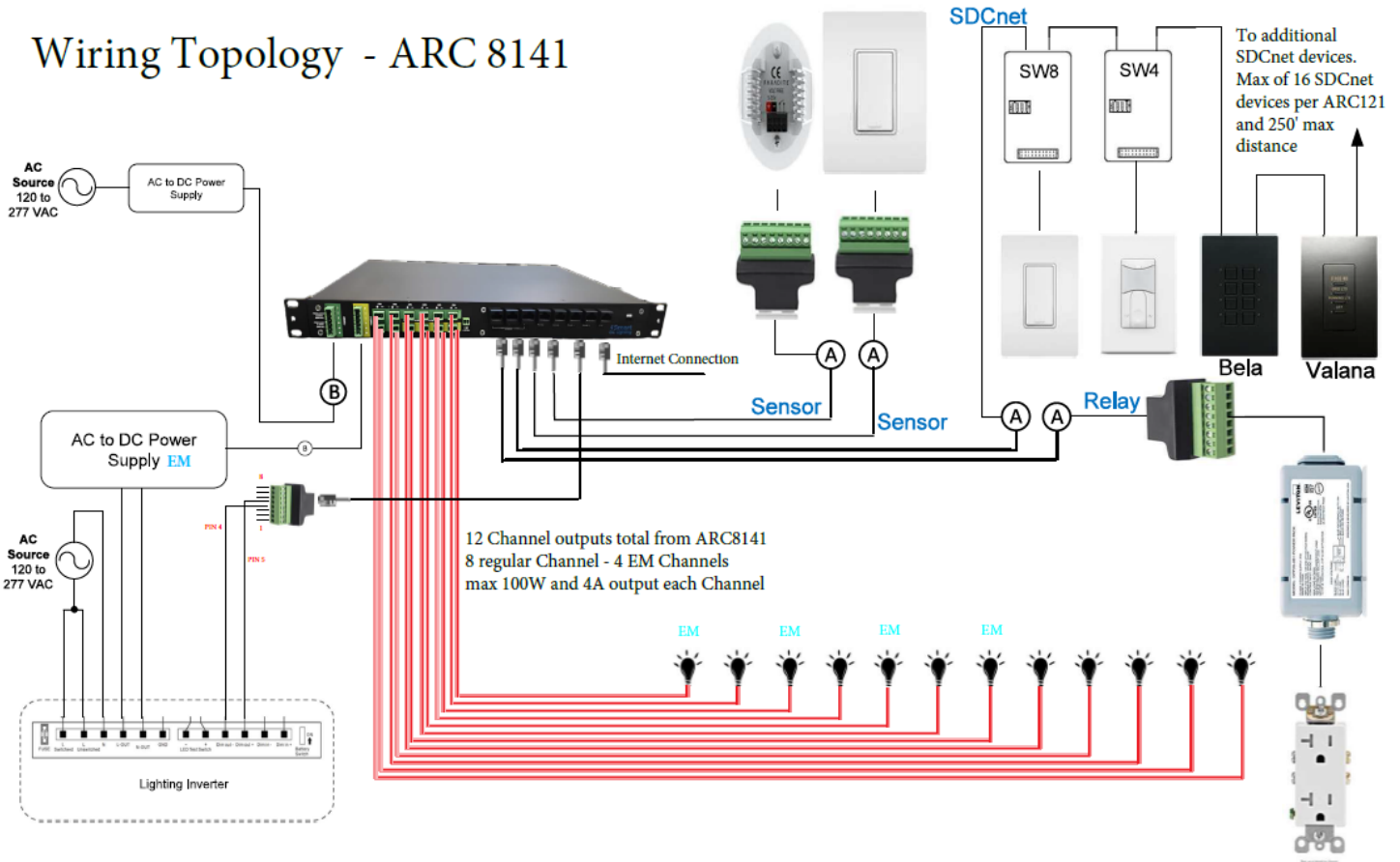
ARC8141 Networked Lighting Control & Remote LED Driver - EM

AREA CONTROLLER WITH EM CHANNELS

Typical Smart DC Lighting Architecture - With EM

ARC8141 provides 12 lighting channels (8 regular channels, 4 EM Channels) while SDCnet connects sensors, wall controls and relay interfaces.

Wiring Topology - ARC 8141



LIGHTING OUTPUT	SDCnet	POWER INPUT
Low Voltage wire, Class 2 12 channels 100W max each	CAT 5-E, Class 2 Up to 16 devices per ARC8141 250 ft stated maximum distance	24-57VDC, 18AWG 1PWR/1GND minimum

System Integration

Multiple ARC controllers can connect and scale through the 10/100 Ethernet network port. The integrated RESTful API supports third-party system integration, while SDCnet provides connectivity for SmartDC sensors, wall stations and relay devices.

Ordering Information



CATALOG #	DESCRIPTION
ARC121	12 CH; 1200W; 24-57VDC IN; 12-55VDC OUT; Area Controller
ARC8141	8 CH @ 1 DC Input, 800W; 4 CH @ EM DC Power 1 Input; 400W; 24-57VDC IN; 12-55VDC OUT; Area Controller

12 CHANNELS • 1200W MAX • CC / CV PROGRAMMABLE • 16-BIT DIMMING • SDCnet • ETHERNET • REST API