WAC LIGHTING

KONSTRUKT
Remote CPU

ORDER NUMBER

Model	Power		Control Protocol		Finish	
S2CPU-R	**096**	*96W Hardwired*	**S**	*(1) 0-10V or (1) ELV or (1) TRIAC*	**BK**	*Black*
	150	*150W Hardwired*	**X**	*DMX or (1) 0-10V or (1) ELV or (1) TRIAC*		
	320	*320W Hardwired*	**Z**	*(4) 0-10V or (1) ELV or (1) TRIAC*		
	600	*600W Hardwired*				

Example: **S2CPU-R096-S-BK**

PRODUCT DESCRIPTION

The only lighting, power, and control system complete with lighting elements designed for discriminating performance. Configure KONSTRUKT for your retail, restaurant, commercial office, or residential lighting plan without custom lead times - get exactly what you want, when you want it.

FEATURES

- Accepts input ranges of 120-277V AC, and converts to a stable 48V DC output.
- 4 conductor wire feed to channel required.
- Maximum feed and channel length (12 AWG power and 16 AWG data wires): 96W, 150W, 320W: 200FT; 600W: 100FT
- On/Off Switch, TRIAC, ELV Dimmer Input: 120VAC
- No minimum load requirement for system operation. However, to meet EMC requirements, it is recommended for 150W, 320W, 600W CPU's that the total system power should be between 50%-95% of the CPU's capacity.
- Compatible with WAC App via 2.4 GHz WiFi or wired RJ45 Ethernet.
- Group and control commissioning via WAC App required.
- 5 year warranty

FINISHES

Black

SPECIFICATIONS

Construction: Steel housing with injected molded polycarbonate cover

Input: 120-277 VAC, 50/60Hz

Dimming: TRIAC, ELV, 0-10V, DMX: 100-0.1%

Mounting: Secures on wall or on ceiling for remote powering of KONSTRUKT, can be mounted on ceiling or wall vertically or horizontally

Finish: Injection Molded Polycarbonate Black

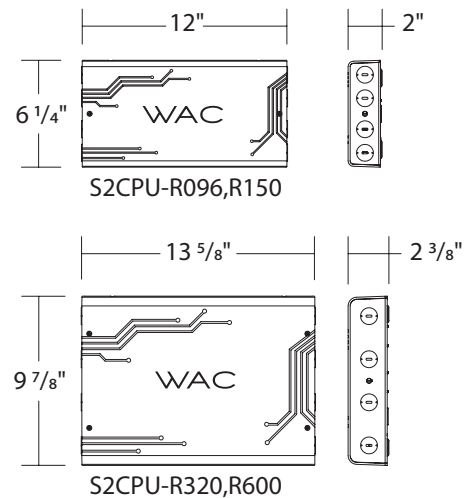**Operating Temp:** -4°F to 122°F (-20°C to 50°C)

Standards: UL, cUL, Non IC

LINE DRAWING

12" | 2"
6 ¹/₄"
S2CPU-R096,R150

13 ⁵/₈" | 2 ³/₈"
9 ⁷/₈"
S2CPU-R320,R600

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Connected Power Unit (CPU) Range

TOTAL FEED AND CHANNEL LENGTH

| CPU | FEED | KONSTRUKT CHANNEL |

CONNECTED POWER UNIT RANGE				
POWER SUPPLY	96W	150W	320W	600W
TOTAL FEED AND CHANNEL LENGTH	200 ft	200 ft	200 ft	100 ft

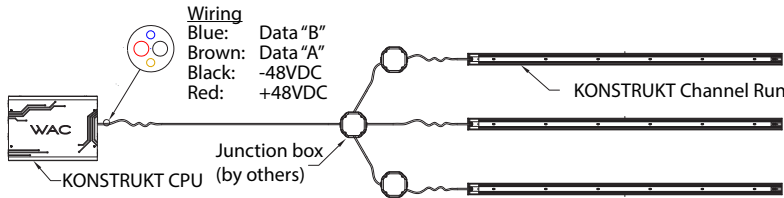**Note:** Above calculations based on 12 AWG power wires and 16 AWG data wires.

KONSTRUKT CPU to Channel Capability: Series Connection

For maximum power and data integrity, 1 CPU per 1 KONSTRUKT channel run is recommended. However it is possible to connect 1 CPU to up to 3 KONSTRUKT channels; provided the specifications of the system length and wire gauge as well as reliable electrical and mechanical connections are implemented.
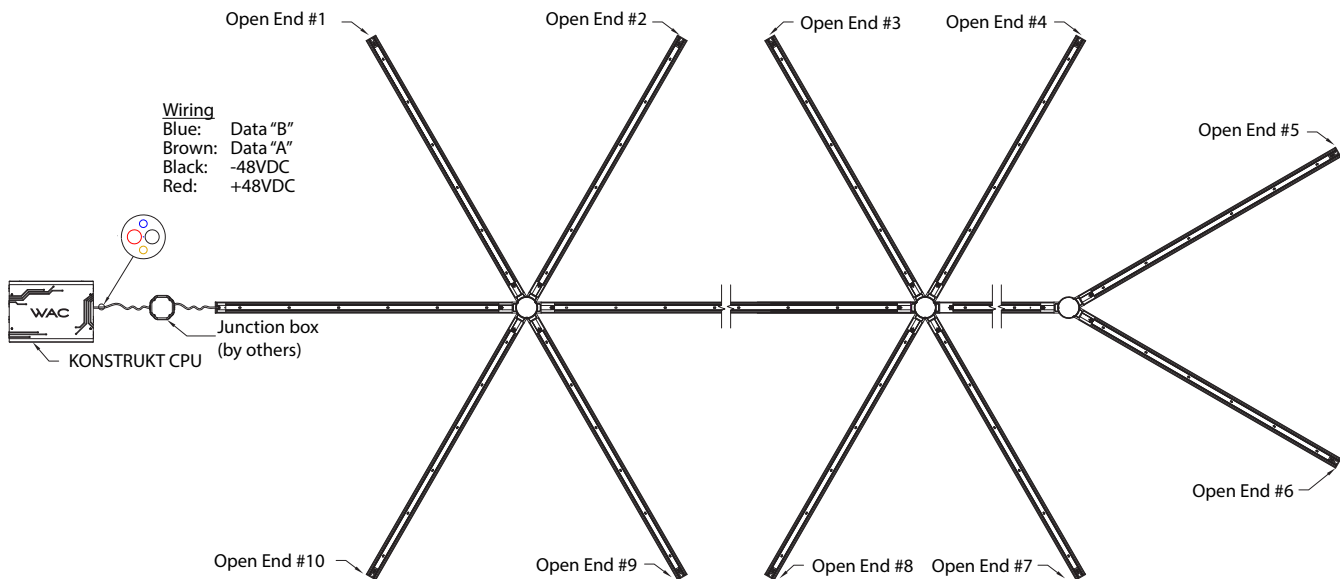
<u>Wiring</u>
Blue: Data "B"
Brown: Data "A"
Black: -48VDC
Red: +48VDC

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KONSTRUKT CPU
Junction box (by others)
KONSTRUKT Channel Run
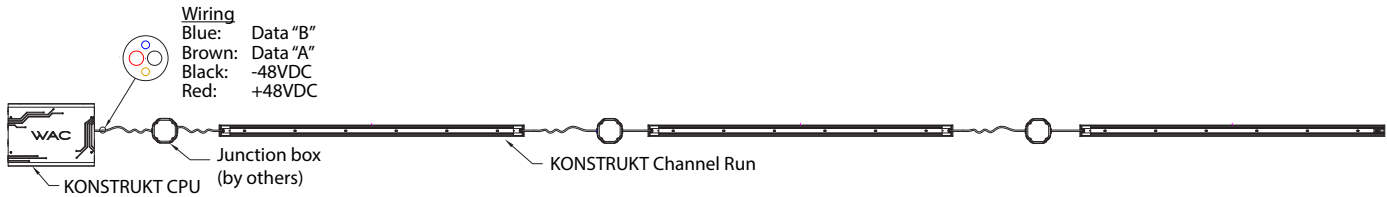
KONSTRUKT CPU to Channel Capability: Branch Connection

For maximum power and data integrity, 1 CPU per 1 KONSTRUKT channel run is recommended. However it is possible to connect 1 CPU to up to 3 KONSTRUKT channels; provided the specifications of the system length and wire gauge as well as reliable electrical and mechanical connections are implemented.

<u>Wiring</u>
Blue: Data "B"
Brown: Data "A"
Black: -48VDC
Red: +48VDC

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KONSTRUKT CPU
Junction box (by others)
KONSTRUKT Channel Run

KONSTRUKT CPU to Channel Capability: "Open Ends"

In order to maintain data and control integrity, keep the number of system "open ends" (data reflection points) to less than 10 per CPU. Reference below for an example of system with multiple open ends.

Open End #1
Open End #2
Open End #3
Open End #4
Open End #5
Open End #6
Open End #7
Open End #8
Open End #9
Open End #10

<u>Wiring</u>
Blue: Data "B"
Brown: Data "A"
Black: -48VDC
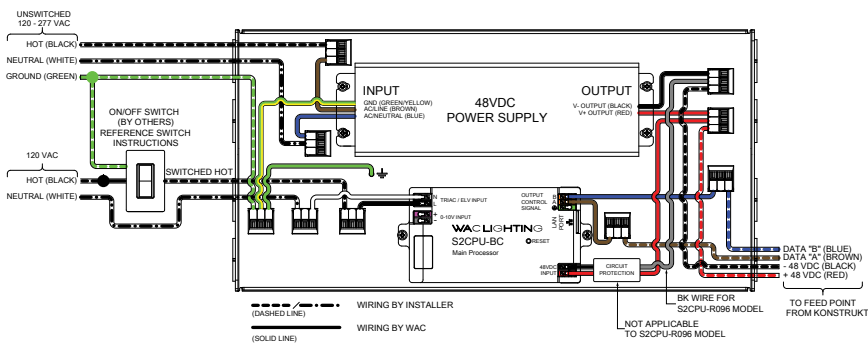Red: +48VDC

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KONSTRUKT CPU
Junction box (by others)

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Wiring Diagrams

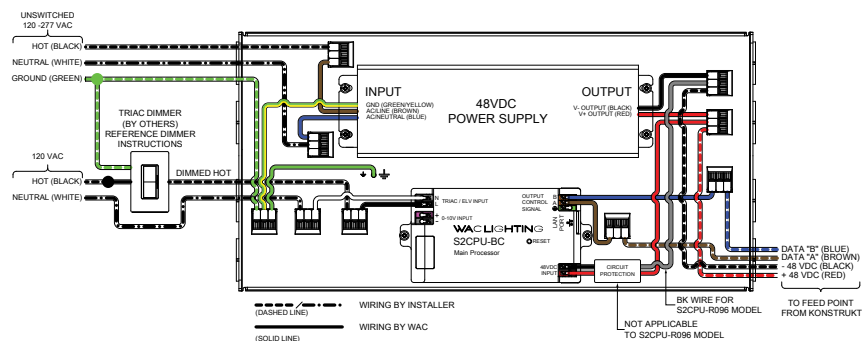### Figure 1 Remote CPU with On/Off Switch Wiring Diagram

To utilize on/off switch, connect SWITCHED HOT and NEUTRAL in accordance to switch specifications to the wire connectors leading to the "L" and "N" inputs of the S2CPU-BC processor. Ensure appropriate ground connection is made to the on/off switch.

### Figure 2 Remote CPU with ELV Dimmer Wiring Diagram
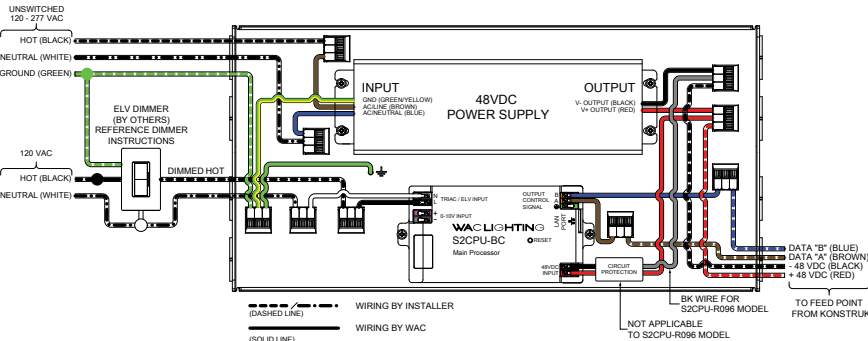
To utilize an ELV dimmer, connect DIMMED HOT and NEUTRAL in accordance to dimmer specifications to the wire connectors leading to the "L" and "N" inputs of the S2CPU-BC processor. Ensure appropriate ground connection is made to the ELV dimmer.

Figure 3 Remote CPU with TRIAC Dimmer Wiring Diagram

To utilize a TRIAC dimmer, connect DIMMED HOT and building NEUTRAL in accordance to dimmer specifications to the wire connectors leading to the "L" and "N" inputs of the S2CPU-BC processor. Ensure appropriate ground connection is made to the TRIAC dimmer.

Figure 4 Remote CPU with Single Input 0-10V Dimmer Wiring Diagram
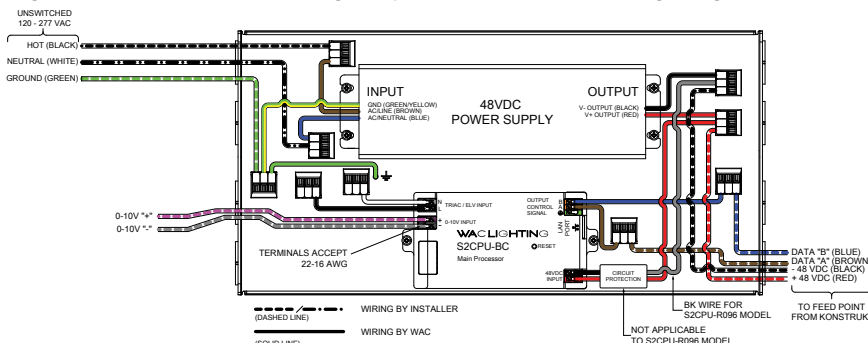
To utilize a single channel 0-10V dimmer, connect 0-10V "+" and 0-10V "-" wires in accordance to dimmer specifications directly to the "+" and "-" input terminals of the S2CPU-BC processor.
Note: Use either 0-10V or ELV/TRIAC control input. Do NOT use multiple control input types concurrently.
With this wiring setup, the line voltage power is constantly supplied to the KONSTRUKT CPU and the toggle on/off mechanism of the controls (by others) is to bring the 0–10 V signal to 0 V when in the off position.
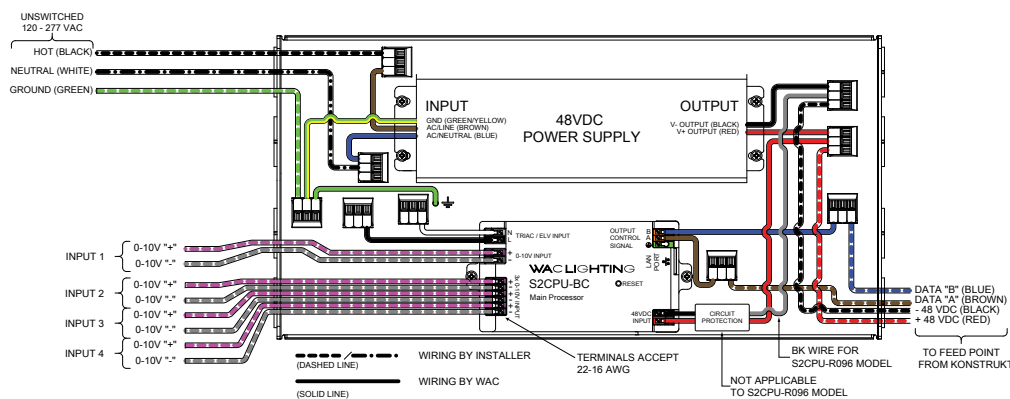
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Wiring Diagrams (continued)

Figure 5 Remote CPU with RJ45 Ethernet Wiring Diagram
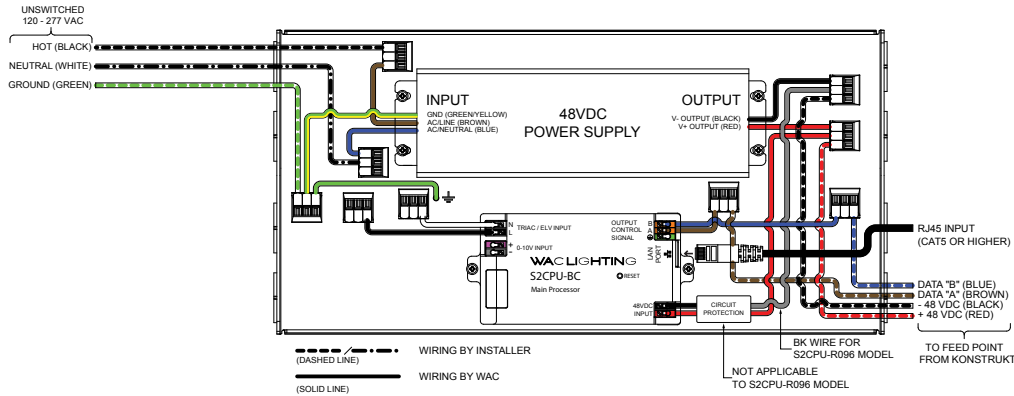
To utilize a RJ45 wired ethernet input, connect the RJ45 cable to the LAN PORT of the S2CPU-BC processor. WAC recommends a minimum cable type of CAT5.

### Figure 6 Remote CPU with 4x 0-10V Input Wiring Diagram ("Z" Model CPU only)

To utilize up to 4x 0-10V dimmers, connect 0-10V "+" and 0-10V "-" wires in accordance to dimmer specifications directly to the appropriate "+" and "-" input terminals of the S2CPU-BC processor.

With this wiring setup, the line voltage power is constantly supplied to the KONSTRUKT CPU and the toggle on /off mechanism of the controls (by others) is to bring the 0–10 V signal to 0 V when in the off position.

Note: Use either 0-10V or ELV/TRIAC control input. Do NOT use multiple control input types concurrently.

Figure 7 Remote CPU with NCC DMX 512-A Input Wiring Diagram ("X" Model CPU only)
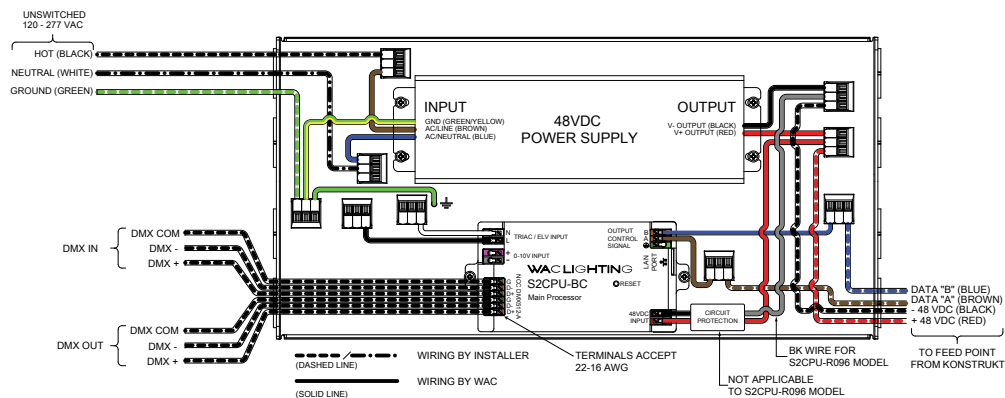
This CPU type features alternative connector (NCC) terminals for DMX-512A input. There are two sets of terminals to accommodate DMX daisy chain wiring between the KONSTRUKT CPUs and other DMX devices. To utilize DMX 512-A, connect the appropriate DMX control wires directly to either set of "D+", "D-", and "G" input terminals of the S2CPU-BC processor.

Note: Use either DMX-512A, 0-10V, or ELV/TRIAC control input. Do NOT use multiple control input types concurrently.

WAC Lighting retains the right to modify the design of our products at any time as part of the company's continuous improvement program. MAR 2024