

PIR Motion Sensor

Datasheet

Stock#	Description
PIRS-MOSN-TP-AS	PIR Motion Sensor

Description

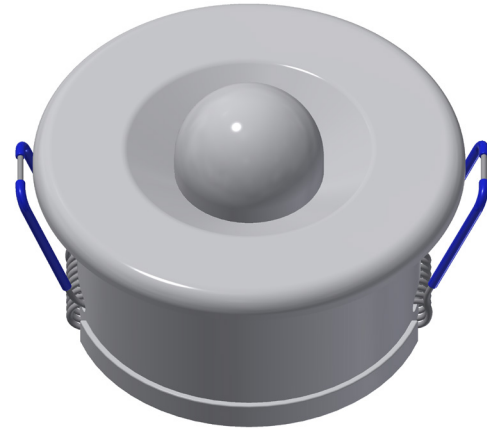
The Passive Infrared (PIR) sensor is part of a versatile EIP (Environmental Interface Peripherals) family, and it detects motion by sensing changes in the infrared levels emitted by surrounding objects. One of the most impressive features of PIR sensors is their integration with lighting systems, which automatically light up when people enter and switch off when they leave, providing convenience and comfort.

PIR sensor offers more than just motion detection. It can trigger alerts or activate security measures when unexpected motion is detected in designated areas.

The PIR sensor can be easily connected to the SPICEbox™ IP Address, which enables seamless control of NuSPICE™ loads. With the NuPAC software, programming EIPs becomes effortless, allowing for optimization of lighting options by programming occupancy and vacancy events into the Management Software, along with scenes and fade times.

With NuLEDs™ PoE integration, businesses and homeowners can control lighting and adjust based on usage patterns for energy efficiency. They can also save on electricity bills by reducing unnecessary energy consumption. PIR sensors minimize the runtime of lights in unoccupied areas, leading to energy savings.

The best part is that all of this can be achieved with fast and easy installation using a CAT5 cable.



Features

- **Optimized Energy Efficiency:** Significant energy savings with automated lighting adjustments based on occupancy
- **Enhanced Security:** Integrated security systems to detect motion
- **Easy to Install and Manage:** Effortless powering the system through Cat5 cables
- **Customizable and Scalable:** Customized zoning to manage larger spaces.

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Datasheet Specifications


Equipment Kit	
PIR Motion Sensor, Installation Guide	
Hardware	
Standby Power	0.5 Watts
Power Supply	SPICEbox™ PoE
Input Power	NuLINK™ Bus
Input Voltage	5VDC
RJ45 Ports	2 X RJ45 ports connecting to SPICEbox™ (Only need to plug-in one)
Protocols	NuSPICE™, CoAP
Control Interface	NuLEDs™ NuPAC
Wiring	CAT5e or CAT6 Ethernet Cable (328 ft. (100 m.))
Maximum Wiring Length	50 ft. low baud rate and no terminations
Mechanical	
Dimensions (L X W X D)	1.305 in. (33.15 mm) x 2.0 in. (50.80 mm) x 2.60 in. (66.04 mm)
Weight	27 gm.
Mounting	Wall or ceiling mounted. Cut-in 2.25" Hole with torsion springs.
Dimming	Programmable with NuSPICE™
Environmental	
Operating Temperature	32° to 104°F (0° to 40°C) ambient
Humidity	10-80% Non-Condensing
Agency Listings and Compliance	
UL Listed UL60950-1 (As SPICEbox™ accessory), FCC Class A Compliant, CE Compliant, RoHS	

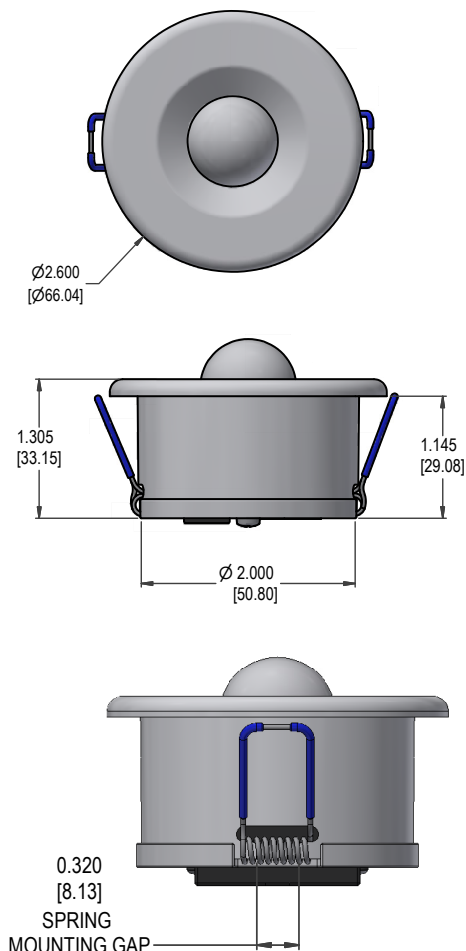
Warning

- **Caution** - Observe precautions for handling electrostatic sensitive devices.
- Case to the SPICEbox™ should not be earth grounded.
- Do not use outdoors.
- **Warning** - Risk of Electric Shock. Do not handle energized module with wet hands or when standing on wet or damp surfaces.
- Use only with Class 2 Power Unit - 60VDC maximum.
- Conforms to CE, FCC standards
- **Warranty** - Voided if device has been modified from its original configuration.

Mounting and Dimensions

1. Cut-in 2.25" Hole with torsion springs.
2. Mount it on a wall or flat-surface.

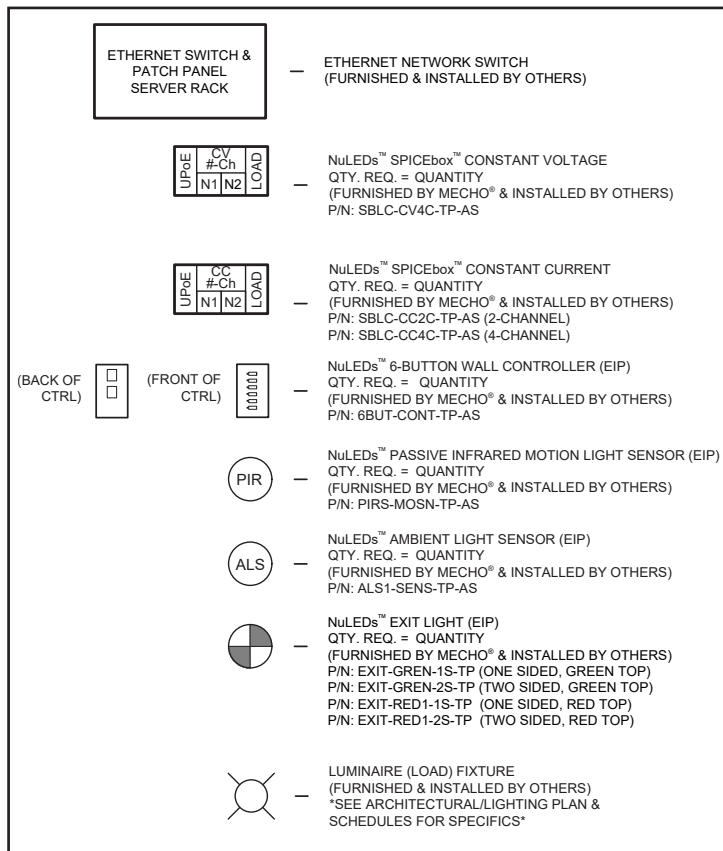
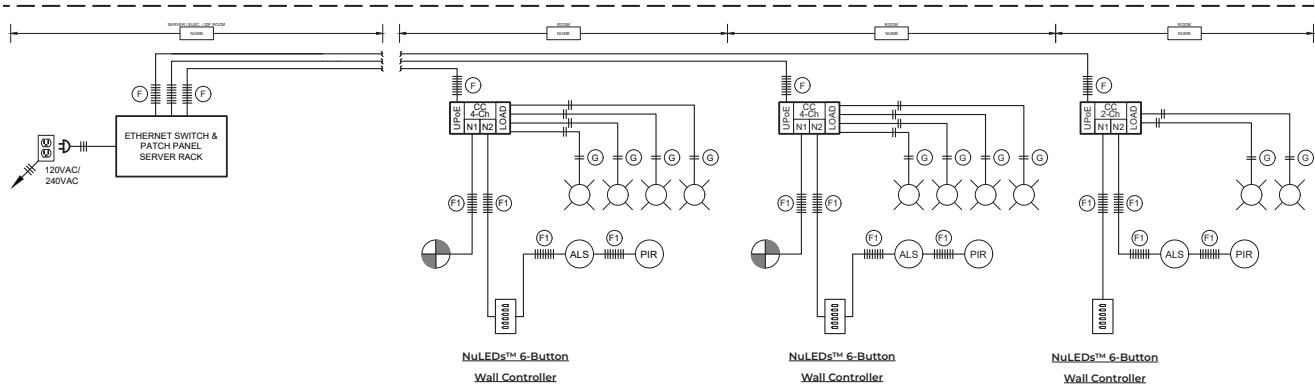
 **Caution:** Please be aware that when mounting SPICEbox™ to metal surfaces or pockets, the gateway must be isolated from possible earth or building electrical grounding and other gateways.



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NuLINK™ Network Wiring Diagram - Constant Current



NOTE: Refer to page 9 for the Low Voltage Cable Legend and Crimping Instructions.

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NuLINK™ Network Wiring Diagram - Constant Voltage

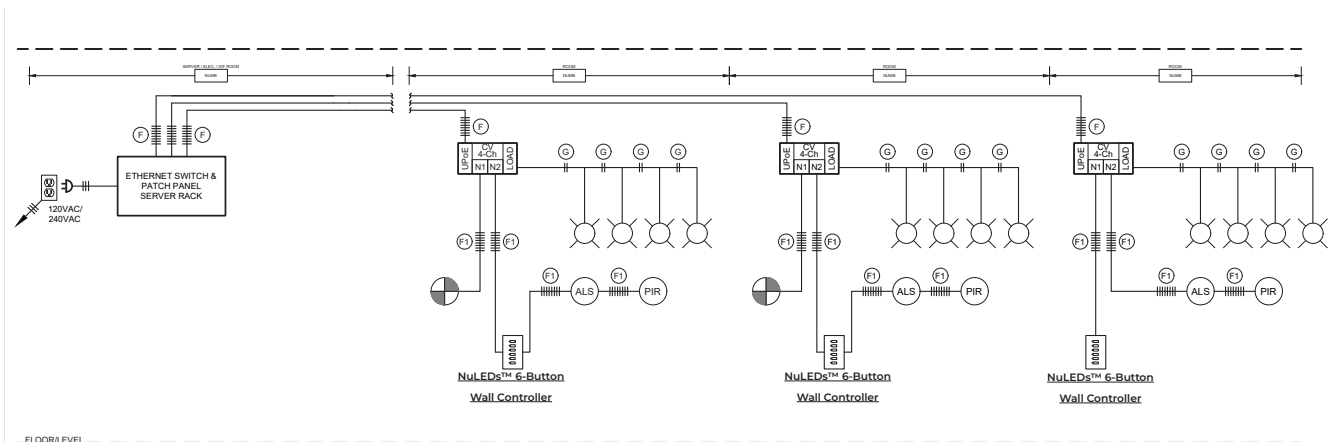
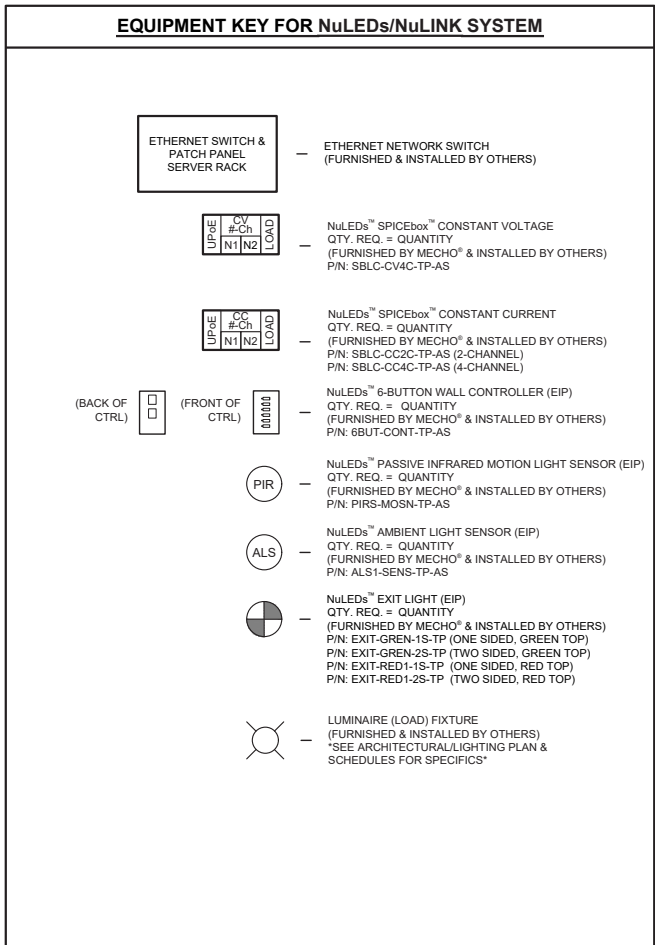


FIGURE 1



NOTE: Refer to page 9 for the Low Voltage Cable Legend and Crimping Instructions.



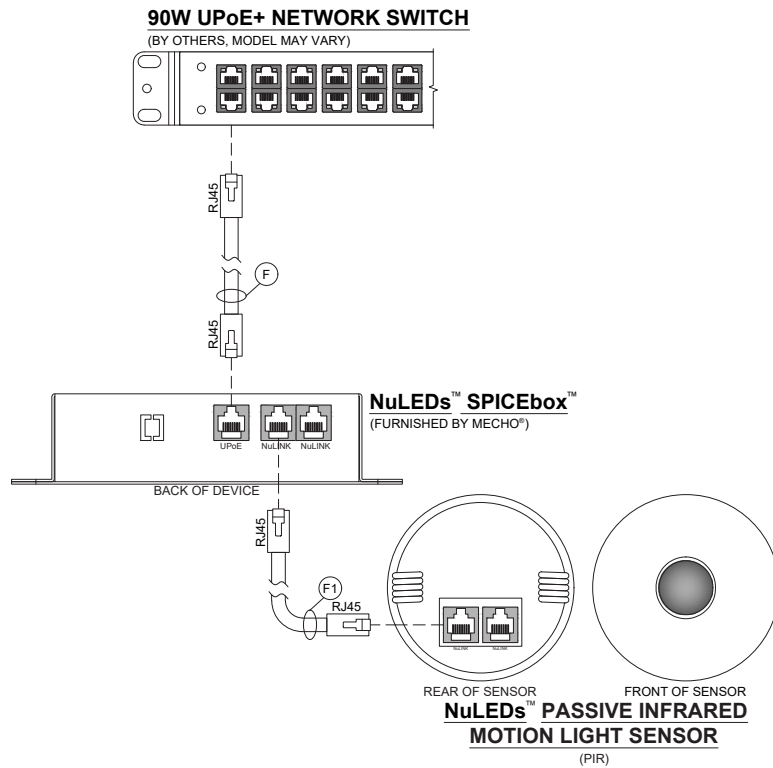
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Point-to-Point Diagram - PIR PoE Integration & NuLINK™ Network

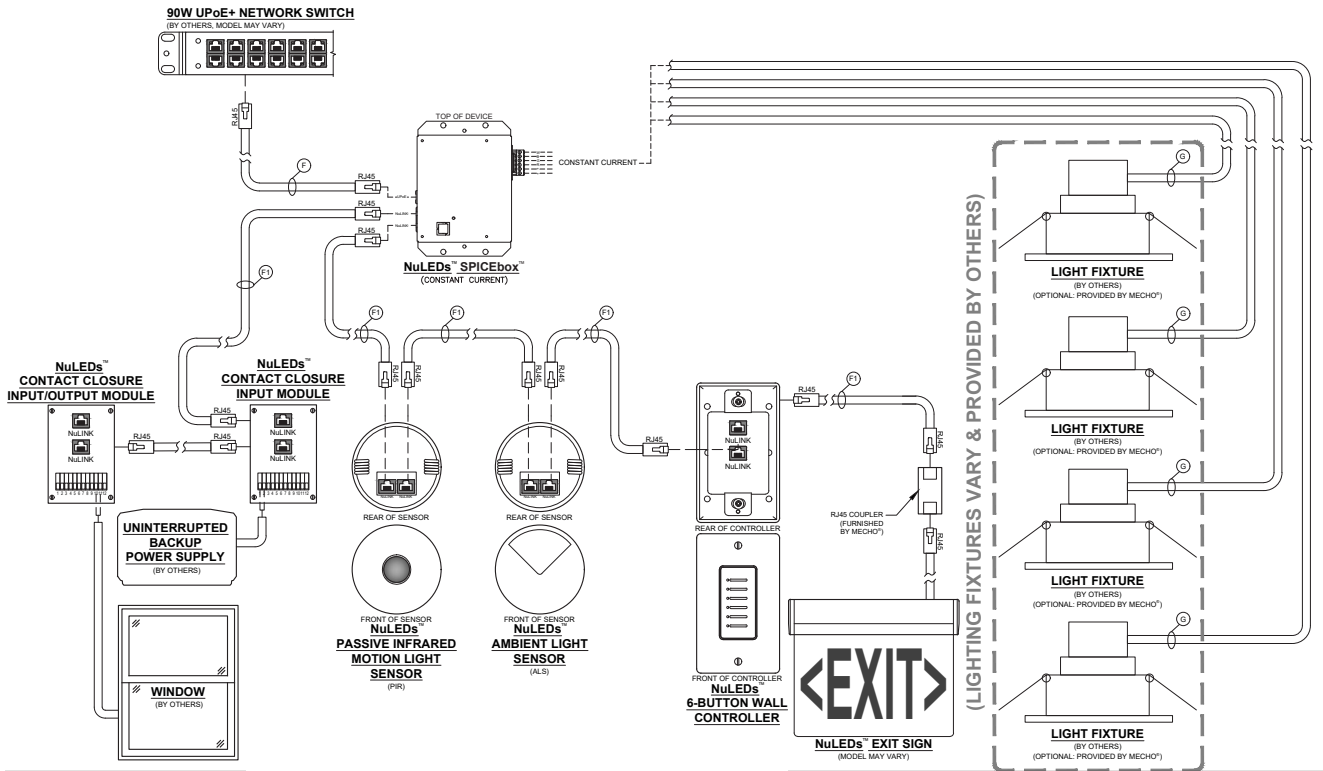
NOTE: If two PIR motion sensors are connected to one SPICEbox™, one of them will need a serial address change.



NOTE: Refer to page 9 for the Low Voltage Cable Legend and Crimping Instructions.

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Point-to-Point Diagram



NOTE: Refer to page 9 for the Low Voltage Cable Legend and Crimping Instructions.

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Cable Reference Drawing

CABLE G REFERENCE DRAWING

Riser

Solid OR Stranded Annealed Copper Conductor

Rip Cord

PVC Insulation

Flame Retardant PVC Jacket

Drawing not to scale

Plenum

Solid OR Stranded Annealed Copper Conductor

Rip Cord

Low Smoke PVC Insulation

Flame Retardant PVC Jacket

Drawing not to scale

SPECIFICATIONS:

<p>CONDUCTOR COUNT: 2 THRU 12 CONDUCTORS</p> <p>CONDUCTOR: FULLY ANNEALED, SOLID OR STRANGED BARE COPPER</p> <p>AWG (mm): 18 (1.16)</p> <p>INSULATION: LOW SMOKE PVC</p> <p>INSULATION COLORS: CONDUCTOR 1: BLACK CONDUCTOR 2: RED CONDUCTOR 3: WHITE CONDUCTOR 4: GREEN CONDUCTOR 5: BROWN CONDUCTOR 6: BLUE CONDUCTOR 7: ORANGE CONDUCTOR 8: YELLOW CONDUCTOR 9: VIOLET CONDUCTOR 10: GRAY CONDUCTOR 11: PINK CONDUCTOR 12: TAN</p> <p>JACKET: RISER: GRAY, FLAME RETARDANT (FR) PVC PLENUM: WHITE, LOW SMOKE PVC</p> <p>PACKAGE: BLACK, RIBBED, PLASTIC RECYCLABLE SPOOL, REEL-IN-A-BOX OR WOOD REEL</p>	<p>PERFORMANCE COMPLIANCE: NEC ARTICLE 725 NEC ARTICLE 800 NEC ARTICLE 760 UL®13 CL3R/CL3P UL 444 CMR/CMP* UL 1424 FPLR/FPLP UL 1666 NFPA 262 CALIFORNIA STATE FIRE MARSHALL RoHS-COMPLIANT/RoHS 2-COMPLIANT</p> <p>NRTL PROGRAMS: UL LISTED CL3R, CMR, FPLR UL LISTEN CL3P, CMP, FPLP</p>
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Part Numbers and Physical Characteristics:

Listing	Part Number ¹	Conductor Count	AWG (mm)	Conductor Type	Jacket Color ²	Nominal Diameter in (mm)	Approx. Weight lbs/kft (kg/km)
CL3R/CMR/FPLR	2F-C1x-31	2	18 (1.16)	7 x 26 AWG	GRAY	0.16 (4.1)	17 (25)
CL3R/CMR/FPLR	2F-C2x-31	3	18 (1.16)	7 x 26 AWG	GRAY	0.17 (4.3)	22 (9)
CL3R/CMR/FPLR	2F-C3x-31	4	18 (1.16)	7 x 26 AWG	GRAY	0.19 (4.8)	30 (45)
CL3R/CMR/FPLR	2F-C4x-31	6	18 (1.16)	7 x 26 AWG	GRAY	0.23 (5.8)	43 (64)
CL3R/CMR/FPLR	2F-C5x-31	8	18 (1.16)	7 x 26 AWG	GRAY	0.25 (6.4)	56 (83)
CL3R/CMR/FPLR	2F-C7x-31	12	18 (1.16)	7 x 26 AWG	GRAY	0.30 (7.6)	83 (124)
CL3P/CMP/FPLP	2F-C1x-43	2	18 (1.16)	7 x 26 AWG	WHITE	0.16 (4.1)	17 (25)
CL3P/CMP/FPLP	2F-C2x-43	3	18 (1.16)	7 x 26 AWG	WHITE	0.17 (4.3)	22 (9)
CL3P/CMP/FPLP	2F-C3x-43	4	18 (1.16)	7 x 26 AWG	WHITE	0.19 (4.8)	30 (45)
CL3P/CMP/FPLP	2F-C4x-43	6	18 (1.16)	7 x 26 AWG	WHITE	0.23 (5.8)	44 (65)
CL3P/CMP/FPLP	2F-C5x-43	8	18 (1.16)	7 x 26 AWG	WHITE	0.25 (6.4)	57 (85)
CL3P/CMP/FPLP	2F-C7x-43	12	18 (1.16)	7 x 26 AWG	WHITE	0.30 (7.6)	85 (126)

Packaging Options:

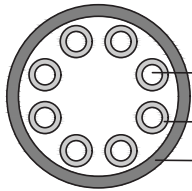
	Plastic Spool		Reel-in-a-Box		Wood Reel	Shrink Wrap	
	1,000'	500'	1,000'	500'	1,000'	250'	500'
*Replace "x" with:	2	3	4	5	6	7	8

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Cable Reference Drawing

CABLE F REFERENCE DRAWING



Solid Annealed
Copper Conductor

Thermoplastic Insulation

Flame Retardant PVC Jacket

Drawing not to scale

SUPERIOR ESSEX (www.superioressex.com)

PART No. PW52-H46-X5 (NON-PLENUM) & PW52-H46-X8 (PLENUM)

SPECIFICATIONS (SOLID): CATEGORY 5E+

PAIR COUNT: 4

CONDUCTOR: SOLID ANNEALED COPPER

AWG (mm): 22 (0.51)

INSULATION: CMR: POLYOLEFIN
CMP: FEP

INSULATION COLORS: PAIR 1: COLORTIP LIGHT BLUE, BLUE
PAIR 2: COLORTIP LIGHT ORANGE, ORANGE
PAIR 3: COLORTIP LIGHT GREEN, GREEN
PAIR 4: COLORTIP LIGHT BROWN, BROWN

JACKET: CMR: FLAME RETARDANT (FR) PVC
CMP: FR, LOW SMOKE PVC

CHARACTERISTIC IMPEDANCE Ohms: 100 ± 15

NOMINAL VELOCITY OF PROPAGATION %: CMR: 71
CMP: 74

PERFORMANCE COMPLIANCE: UL 444
CSA C22.2 No. 214-08
UL 1666
NFPA 262
ANSI/TIA-568-C.2
ANSI/ICEA S-90-661-2012
Article 800, NEC (NFPA 70)
HDBaseT Class A and B

NRTL PROGRAMS: UL Verified CAT 5e
UL, c(UL) Listed CMR
UL, c(UL) Listed CMP
HDBaseT Certified
UL Certified EPD
HPD
USGBC® Member
RoHS-compliant/RoHS 2-compliant
REACH-compliant

SUSTAINABILITY: Temperature cable rating: 75°C
for CMR and 90°C for CMP

PART NUMBERS AND PHYSICAL CHARACTERISTICS

Listing	Part Number ¹	Nominal Diameter in (mm)	Approx. Weight lbs/kft (kg/km)	Package	Packages per Pallet
CMR	PW52-H46-x5	0.23 (4.6)	28 (25)	1,000 ft BrakeBox®	12
CMR	PW52-H72-x5	0.23 (4.6)	28 (25)	1,000 ft Plywood Reel	16
CMP	PW52-H46-x8	0.23 (4.8)	37 (28)	1,000 ft BrakeBox	12
CMP	PW52-H72-x8	0.23 (4.8)	37 (28)	1,000 ft Plywood Reel	16

JACKET COLORS

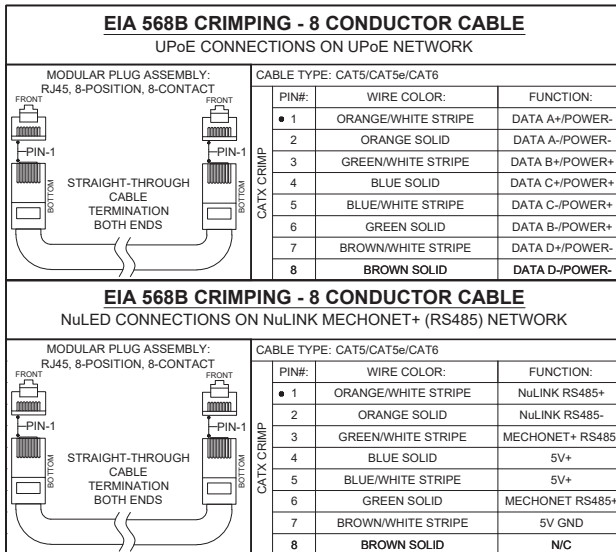
'Replace "x" with:	Blue = 2	Gray = 3	White = 4	Green = 5
Yellow = 6	Purple = 7	Red = 9	Black = E	

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Low Voltage Cable Legend and Crimping Instructions

LOW VOLTAGE CABLE LEGEND - EIA568B	
<p>NOTES:</p> <ol style="list-style-type: none"> 1. PARALLEL WIRING TO NEXT DEVICE PER BRANCH CIRCUIT CAPACITY. ALL CONNECTION MUST MEET NATIONAL AND LOCAL CODES AND REGULATIONS. 2. ADDRESS SCHEDULES REQUIRED. 3. MAXIMUM VOLTAGE FOR ALL UNMARKED CABLE IS 43.5 VDC. 4. LOW VOLTAGE CABLES SHOULD NOT BE ROUTED NEAR POWER LINES OR ELECTRICAL DEVICES SUCH AS LIGHTING BALLASTS, DIMMERS AND LED DRIVERS THAT MAY EXPOSE THE SYSTEM TO EXCESSIVE ELECTRICAL NOISE. 	
(F)	<p>CAT5E+ - CABLE FOR UPOE NETWORK WIRING CONNECTIONS:</p> <p>SPECIFICATION: 22AWG 4UTP (8-CONDUCTOR SOLID UNSHIELDED TWISTED PAIR) TERMINATION: RJ-45 MODULAR PLUG CRIMPED (EIA568B) ON BOTH ENDS RECOMMENDED: SUPERIOR ESSEX (WWW.SUPERIORESSEX.COM) PART NO. PW52-H46-X5 (NON-PLENUM) & PW52-H46-X8 (PLENUM) OR COMPATIBLE CABLE</p> <p>DISTANCE LIMITATION: 328'. MAX. NODES: 1 SEE "CABLE F" REFERENCE DRAWING FOR DETAILED SPECIFICATION. (FURNISHED & INSTALLED BY OTHERS)</p>
(F1)	<p>CAT5E+ - CABLE FOR NULINK NETWORK WIRING CONNECTIONS:</p> <p>SPECIFICATION: 22AWG 4UTP (8-CONDUCTOR SOLID UNSHIELDED TWISTED PAIR) TERMINATION: RJ-45 MODULAR PLUG CRIMPED (EIA568B) ON BOTH ENDS RECOMMENDED: SUPERIOR ESSEX (WWW.SUPERIORESSEX.COM) PART NO. PW52-H46-X5 (NON-PLENUM) & PW52-H46-X8 (PLENUM) OR COMPATIBLE CABLE</p> <p>DISTANCE LIMITATION: 50'. MAX. EIPS: 15 SEE CABLE "F" REFERENCE DRAWING FOR DETAILED SPECIFICATION. (FURNISHED & INSTALLED BY OTHERS)</p>
(G)	<p>CABLE FOR SPICEBOX TO LIGHT (LOAD) FIXTURE WIRING CONNECTIONS:</p> <p>SPECIFICATION: 2 TO 12-CONDUCTOR, (18AWG UNSHIELDED) RECOMMENDED: SUPERIOR ESSEX (WWW.SUPERIORESSEX.COM 1-800-551-8948) LISTING NO. CL3R/CMR/FPLR (NON-PLENUM), & CL3P/CMF/FPLP (PLENUM)</p> <p>DISTANCE LIMITATION: VARIES PER LOAD. MAX. LOADS: VARIES BY WATTS SEE CABLE "G" REFERENCE DRAWING FOR DETAILED SPECIFICATION. (FURNISHED & INSTALLED BY OTHERS)</p>



Warranty

Mecho's warranty ensures its products against defects in materials and workmanship for up to 25 years. The warranty timeline shall vary for different products. For complete warranty information, please visit <https://www.mechoshade.com/warranty> or contact your Mecho® Representative.

Technical support

Mecho
T: +1 (800) 327-9798 (Follow prompts for Mecho® & Tech Support)
E: techsupport@mechoshade.com
W: www.mechoshade.com

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