

6-Button Wall Controller

Datasheet

Stock#	Description
1-ESWX-WCO6-NUL	6-Button Wall Controller

Description

The 6-button Wall Controller is a top-quality Environmental Interface Peripheral (EIP) closely associated with its host's IP address, the SPICEBox. Its button functions can be programmed through management software to control any NuSPICE load (fixture) with scenes and fade times, ensuring optimal lighting experiences for all users. To make programming EIPs easy, NuPAC (NuLEDs Provisional and Configuration Software) is used.

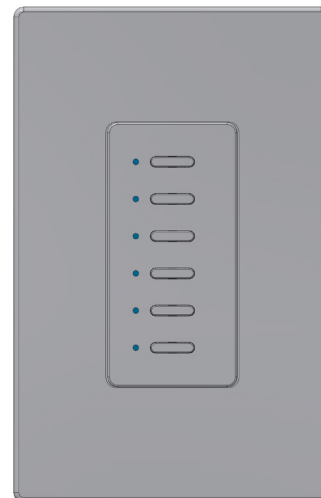
When integrated into the NuLEDs PoE lighting system, the 6-button wall controller provides several benefits, such as smooth dimming to less than 1% and scene creation capabilities. Users can customize lighting scenes in different spaces based on individual preferences or specific needs, resulting in a more tailored and comfortable environment.

The dedicated buttons make it easy to adjust lighting levels or activate pre-set scenes, ensuring a user-friendly experience that encourages engagement and utilization of the lighting system.

The 6-button controller also helps optimize energy usage with its precise dimming capabilities. It allows users to set lighting levels at the most appropriate intensity for the task or ambiance, reducing unnecessary energy consumption.

Integration with the NuLEDs PoE lighting system ensures seamless communication and operation, allowing for the integration of various sensors, including ALS and PIR sensors. These wall controllers use CAT5 cable for fast plug-and-play installation to save time and ensure you get the most out of your NuLEDs PoE lighting system.

Overall, the 6-button wall controller, integrated with NuLEDs PoE lighting systems, featuring smooth dimming and customized scenes, delivers precise control, enhances user experience, supports customization, promotes energy efficiency, facilitates seamless integration, and offers scalability, making it a versatile and valuable component in managing lighting environments.



Features

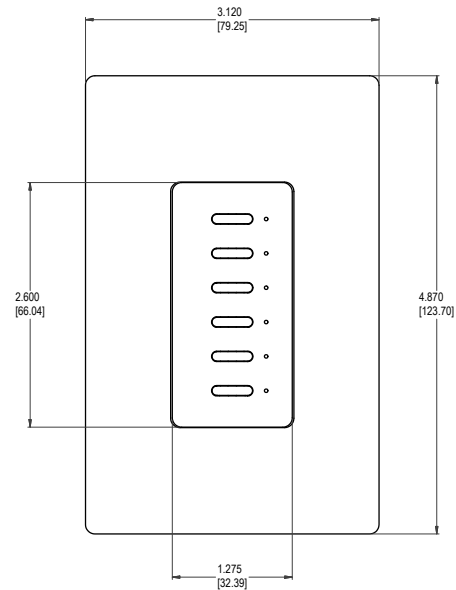
- **Optimized Energy Efficiency:** The controller's precise dimming capabilities optimize energy usage by allowing users to set appropriate lighting levels, reducing consumption.
- **Easy to Install and Manage:** Effortless powering the system through Cat5 cables
- **Seamless Integration:** Integration with NuLEDs PoE lighting ensures seamless communication and can include sensors like ALS and PIR.
- **Customization and Personalization:** Allow personalized lighting scenes, contributing to a comfortable environment.

6-Button Wall Controller

Datasheet Specifications

Equipment Kit	
Includes	6-Button Wall Controller, Installation Guide
Hardware	
Standby Power	<1 Watt
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
Continuous Load	22AWG Conductor Cable
Maximum Wiring Length	50 ft. low baud rate and no terminations
Mechanical	
Dimensions (L X W)	4.87 in. (123.7 mm) x 3.12 in. (79.25 mm)
Weight	27 gm.
Mounting	NOTE: Mounting hardware not supplied. Wall mounted with screws and wall anchors or industry standard low voltage ring or mud ring.
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	

Dimensions



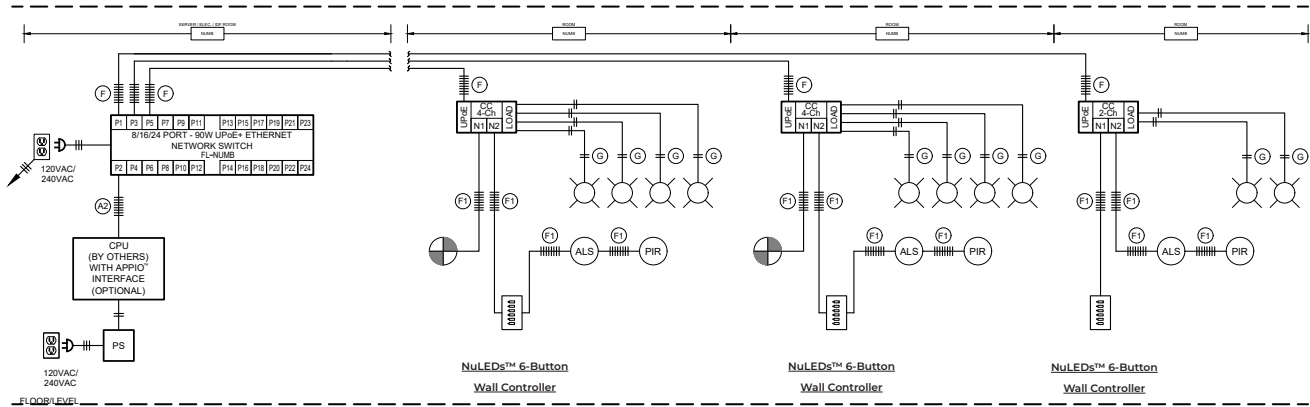
Warning

- **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.

6-Button Wall Controller

Datasheet

NuLINK™ Network Wiring Diagram - Constant Current



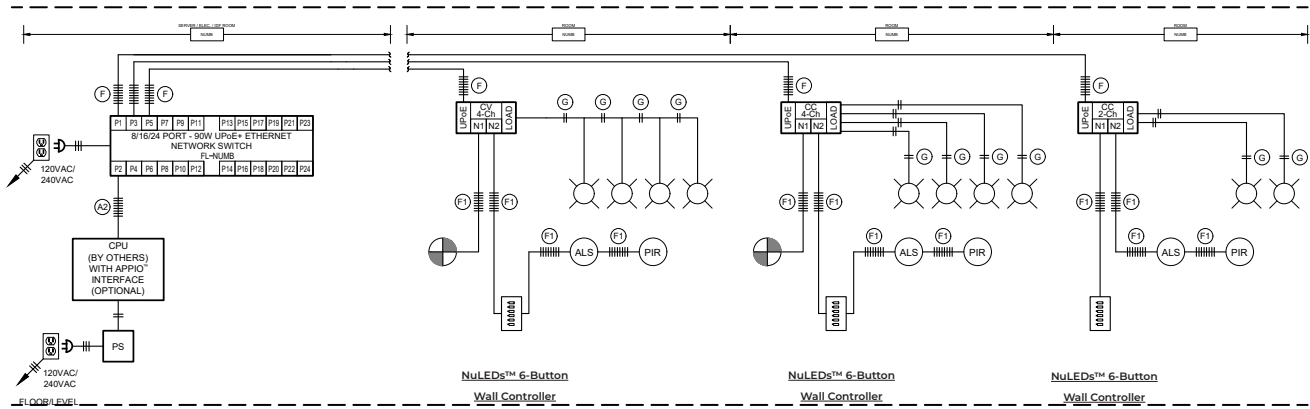
EQUIPMENT KEY FOR NuLEDs/NuLINK SYSTEM																							
<table border="1"> <tr> <td>P1</td><td>P2</td><td>P3</td><td>P4</td><td>P5</td><td>P6</td><td>P7</td><td>P8</td><td>P9</td><td>P10</td><td>P11</td> <td>P12</td><td>P13</td><td>P14</td><td>P15</td><td>P16</td><td>P17</td><td>P18</td><td>P19</td><td>P20</td><td>P21</td><td>P22</td> </tr> </table> 8/16/24 PORT - 90W UPoE+ ETHERNET NETWORK SWITCH QTY. REQ. = QUANTITY (FURNISHED & INSTALLED BY OTHERS)	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22		
<table border="1"> <tr> <td>CV</td><td>4-Ch</td><td>2-Ch</td><td>2-Ch</td><td>2-Ch</td> </tr> <tr> <td>UPoE</td><td>N1</td><td>N2</td><td>N3</td><td>N4</td> </tr> </table> NuLEDs™ SPICEbox™ CONSTANT VOLTAGE QTY. REQ. = QUANTITY (FURNISHED BY MECHO® & INSTALLED BY OTHERS) P/N: NLC-UPoE-CV-V-VOLTAGE	CV	4-Ch	2-Ch	2-Ch	2-Ch	UPoE	N1	N2	N3	N4													
CV	4-Ch	2-Ch	2-Ch	2-Ch																			
UPoE	N1	N2	N3	N4																			
<table border="1"> <tr> <td>CC</td><td>4-Ch</td><td>2-Ch</td><td>2-Ch</td><td>2-Ch</td> </tr> <tr> <td>UPoE</td><td>N1</td><td>N2</td><td>N3</td><td>N4</td> </tr> </table> NuLEDs™ SPICEbox™ CONSTANT CURRENT QTY. REQ. = QUANTITY (FURNISHED BY MECHO® & INSTALLED BY OTHERS) P/N: 1-CCLT-0028-NUL (2-CHANNEL) P/N: 1-CCLT-0028-4CH (4-CHANNEL)	CC	4-Ch	2-Ch	2-Ch	2-Ch	UPoE	N1	N2	N3	N4													
CC	4-Ch	2-Ch	2-Ch	2-Ch																			
UPoE	N1	N2	N3	N4																			
(BACK OF CTRL) (FRONT OF CTRL) NuLEDs™ 6-BUTTON WALL CONTROLLER (EIP) QTY. REQ. = QUANTITY (FURNISHED BY MECHO® & INSTALLED BY OTHERS) P/N: Nu-6B-WC-SB																							
 NuLEDs™ PASSIVE INFRARED MOTION LIGHT SENSOR (EIP) QTY. REQ. = QUANTITY (FURNISHED BY MECHO® & INSTALLED BY OTHERS) P/N: Nu-PIR																							
 NuLEDs™ AMBIENT LIGHT SENSOR (EIP) QTY. REQ. = QUANTITY (FURNISHED BY MECHO® & INSTALLED BY OTHERS) P/N: Nu-ALS																							
 NuLEDs™ EXIT LIGHT (EIP) QTY. REQ. = QUANTITY (FURNISHED BY MECHO® & INSTALLED BY OTHERS) P/N: 1-EXIT-LGHT-NUL																							
 LUMINAIRE (LOAD) FIXTURE (FURNISHED & INSTALLED BY OTHERS) *SEE ARCHITECTURAL LIGHTING PLAN & SCHEDULES FOR SPECIFICS*																							

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

6-Button Wall Controller

Datasheet

NuLINK™ Network Wiring Diagram - Constant Voltage and Current



EQUIPMENT KEY FOR NuLEDs/NULINK SYSTEM	
	8/16/24 PORT - 90W UPOE+ ETHERNET NETWORK SWITCH QTY. REQ. = QUANTITY (FURNISHED & INSTALLED BY OTHERS)
	NuLEDs™ SPICEbox™ CONSTANT VOLTAGE QTY. REQ. = QUANTITY (FURNISHED BY MECO® & INSTALLED BY OTHERS) P/N: NLC-UPOE-CV-VOLTAGE
	NuLEDs™ SPICEbox™ CONSTANT CURRENT QTY. REQ. = QUANTITY (FURNISHED BY MECO® & INSTALLED BY OTHERS) P/N: 1-CCLT-0028-NUL (2-CHANNEL) P/N: 1-CCLT-0028-4CH (4-CHANNEL)
	NuLEDs™ 6-BUTTON WALL CONTROLLER (EIP) QTY. REQ. = QUANTITY (FURNISHED BY MECO® & INSTALLED BY OTHERS) P/N: Nu-6B-WC-SB
	NuLEDs™ PASSIVE INFRARED MOTION LIGHT SENSOR (EIP) QTY. REQ. = QUANTITY (FURNISHED BY MECO® & INSTALLED BY OTHERS) P/N: Nu-PIR
	NuLEDs™ AMBIENT LIGHT SENSOR (EIP) QTY. REQ. = QUANTITY (FURNISHED BY MECO® & INSTALLED BY OTHERS) P/N: Nu-ALS
	NuLEDs™ EXIT LIGHT (EIP) QTY. REQ. = QUANTITY (FURNISHED BY MECO® & INSTALLED BY OTHERS) P/N: 1-EXIT-LIGHT-NUL
	LUMINAIRE (LOAD) FIXTURE (FURNISHED & INSTALLED BY OTHERS) *SEE ARCHITECTURAL LIGHTING PLAN & SCHEDULES FOR SPECIFICS*

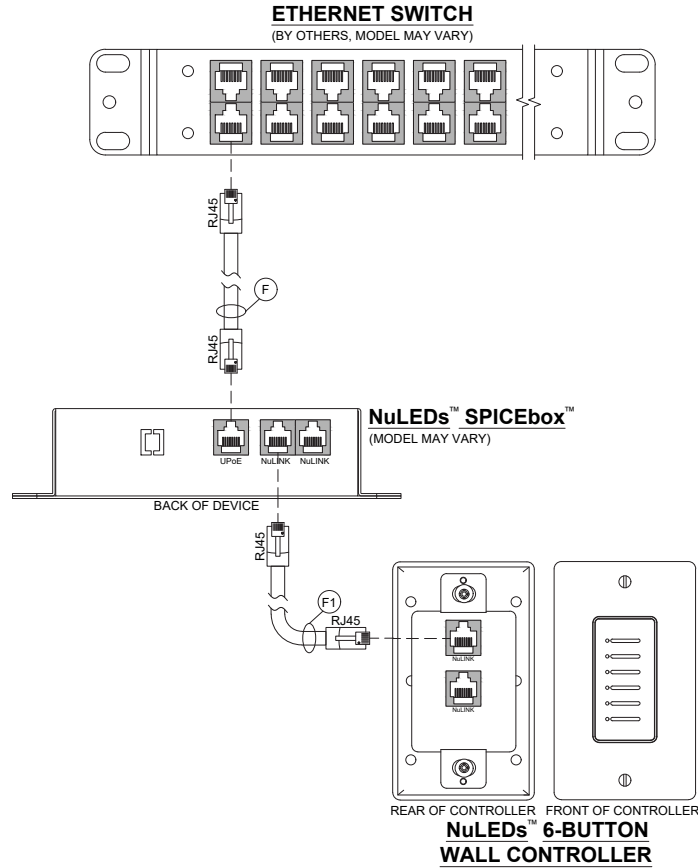
NOTE: Refer to page 9 for the Low Voltage Cable Legend and Crimping Instructions.

6-Button Wall Controller

Datasheet

Point-to-Point Diagram - 6-Button Wall Controller UPoE Integration & NuLINK™ Network

NOTE: Only one 6-Button Wall Controller can be connected per SPICEbox™.

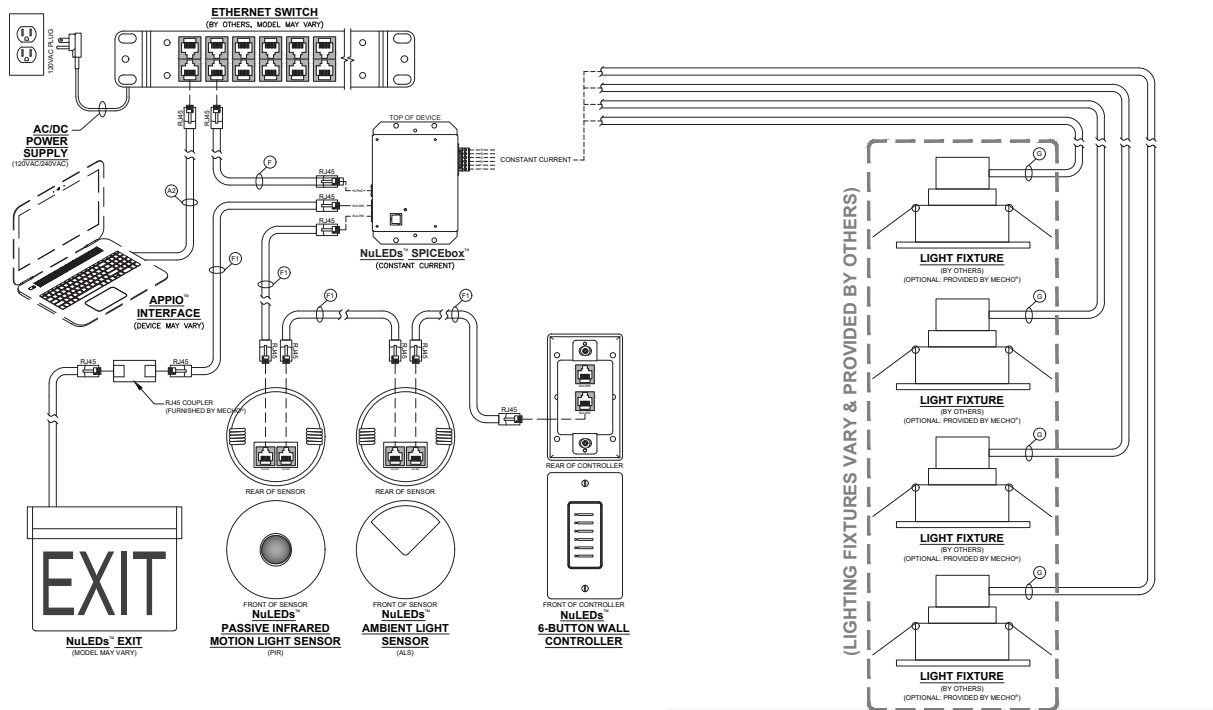


NOTE: Refer to page 9 for the Low Voltage Cable Legend and Crimping Instructions.

6-Button Wall Controller

Datasheet

Point-to-Point Diagram



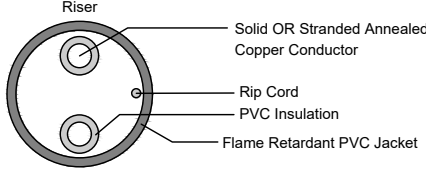
NOTE: Refer to page 9 for the Low Voltage Cable Legend and Crimping Instructions.

6-Button Wall Controller

Datasheet

Cable Reference Drawing

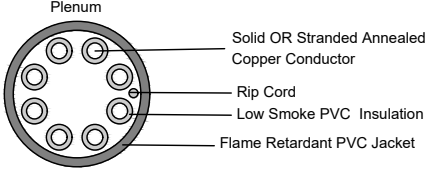
CABLE G REFERENCE DRAWING



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:

CONDUCTOR COUNT:	2 THRU 12 CONDUCTORS	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
CONDUCTOR:	FULLY ANNEALED, SOLID OR STRANGED BARE COPPER		
AWG (mm):	18 (1.16)		
INSULATION:	LOW SMOKE PVC		
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	NRTL PROGRAMS:	UL LISTED CL3R, CMR, FPLR UL LISTEN CL3P, CMP, FPLP
JACKET:	RISER: GRAY, FLAME RETARDANT (FR) PVC PLENUM: WHITE, LOW SMOKE PVC		
PACKAGE:	BLACK, RIBBED, PLASTIC RECYCLABLE SPOOL, REEL-IN-A-BOX OR WOOD REEL		

Part Numbers and Physical Characteristics:

Listing	Part Number*	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:

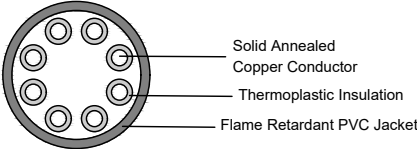
	Plastic Spool		Reel-in-a-Box		Wood Reel	Shrink Wrap	
	1,000'	500'	1,000'	500'	1,000'	250'	500'
*Replace "x" with:	2	3	4	5	6	7	8

6-Button Wall Controller

Datasheet

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	CHARACTERISTIC IMPEDANCE Ohms:	100 ± 15
CONDUCTOR:	SOLID ANNEALED COPPER	NOMINAL VELOCITY OF PROPAGATION %:	CMR: 71 CMP: 74
AWG (mm):	22 (0.51)	PERFORMANCE COMPLIANCE:	UL 444 CSA C22.2 No. 214-08 UL 1666 NFPA 262 ANSI/TIA-568-C.2 ANSI/CEA S-90-661-2012 Article 800, NEC (NFPA 70) HDBaseT Class A and B
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	NRTL PROGRAMS:	UL Verified CAT 5e UL, c(UL) Listed CMR UL, c(UL) Listed CMP HDBaseT Certified

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	

SUSTAINABILITY: UL Certified EPD
HPD
USGBC® Member
RoHS-compliant/RoHS 2-compliant
REACH-compliant
Temperature cable rating: 75°C for CMR and 90°C for CMP

6-Button Wall Controller

Datasheet

Low Voltage Cable Legend and Crimping Instructions

A2	<p>CAT5E/6 - CABLE FOR ETHERNET WIRING CONNECTIONS: 24AWG 4UTP (8-CONDUCTOR STRANDED UNSHIELDED TWISTED PAIR) TERMINATION: RJ-45 MODULAR PLUG CRIMPED (EIA568B) ON BOTH ENDS RECOMMENDED: OLYMPIC WIRE AND CABLE (WWW.OLYMPICWIRE.COM 1-800-526-2269) PART NO. 3078MSF-8 (NON-PLENUM) OR COMPATIBLE CABLE.</p> <p style="text-align: center;">-----OR-----</p> <p>24AWG 4UTP (8-CONDUCTOR SOLID UNSHIELDED TWISTED PAIR) TERMINATION: RJ-45 MODULAR PLUG CRIMPED (EIA568B) ON BOTH ENDS RECOMMENDED: OLYMPIC WIRE AND CABLE (WWW.OLYMPICWIRE.COM 1-800-526-2269) PART NO. 3604MSUC-9 (PLENUM) OR COMPATIBLE CABLE.</p> <p>DISTANCE LIMITATION: 325'. MAX. NODES: 2. SEE "CABLE A REFERENCE DRAWING" FOR DETAILED SPECIFICATION. (FURNISHED & INSTALLED BY OTHERS)</p>
F	<p>CAT5E+ 4PPOE - CABLE FOR UPOE NETWORK WIRING CONNECTIONS: 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: 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: 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>

EIA 568B CRIMPING - 8 CONDUCTOR CABLE
 UPOe CONNECTIONS ON UPOe NETWORK

MODULAR PLUG ASSEMBLY:
 RJ45, 8-POSITION, 8-CONTACT

STRAIGHT-THROUGH
CABLE
TERMINATION
BOTH ENDS

CABLE TYPE: CAT5/CAT5e/CAT6

PIN#:	WIRE COLOR:	FUNCTION:
1	ORANGE/WHITE STRIPE	DATA A+/POWER-
2	ORANGE SOLID	DATA A-/POWER-
3	GREEN/WHITE STRIPE	DATA B+/POWER+
4	BLUE SOLID	DATA C+/POWER+
5	BLUE/WHITE STRIPE	DATA C-/POWER+
6	GREEN SOLID	DATA B-/POWER+
7	BROWN/WHITE STRIPE	DATA D+/POWER-
8	BROWN SOLID	DATA D-/POWER-

EIA 568B CRIMPING - 8 CONDUCTOR CABLE
 NuLED CONNECTIONS ON NuLINK MECHONET+ (RS485) NETWORK

MODULAR PLUG ASSEMBLY:
 RJ45, 8-POSITION, 8-CONTACT

STRAIGHT-THROUGH
CABLE
TERMINATION
BOTH ENDS

CABLE TYPE: CAT5/CAT5e/CAT6

PIN#:	WIRE COLOR:	FUNCTION:
1	ORANGE/WHITE STRIPE	NuLINK RS485+
2	ORANGE SOLID	NuLINK RS485-
3	GREEN/WHITE STRIPE	MECHONET+ RS485-
4	BLUE SOLID	5V+
5	BLUE/WHITE STRIPE	5V+
6	GREEN SOLID	MECHONET RS485+
7	BROWN/WHITE STRIPE	5V GND
8	BROWN SOLID	NC

EIA 568B CRIMPING - 8 CONDUCTOR CABLE
 ETHERNET NETWORK CONNECTIONS

MODULAR PLUG ASSEMBLY:
 RJ45, 8-POSITION, 8-CONTACT

STRAIGHT-THROUGH
CABLE
TERMINATION
BOTH ENDS

CABLE TYPE: CAT5/CAT5e/CAT6

PIN#:	WIRE COLOR:	FUNCTION:
1	ORANGE/WHITE STRIPE	TX+
2	ORANGE SOLID	TX-
3	GREEN/WHITE STRIPE	RX+
4	BLUE SOLID	NC
5	BLUE/WHITE STRIPE	NC
6	GREEN SOLID	RX-
7	BROWN/WHITE STRIPE	NC
8	BROWN SOLID	NC

Warranty

Mecho's warranty ensures its products against defects in materiPIR 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 (718) 729-2020, x2006 OR Prompt 4
E: techsupport@mechoshade.com
W: www.mechoshade.com

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