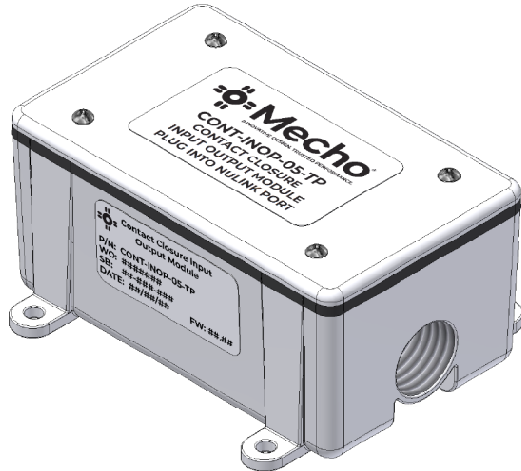


# Contact Closure Input Output Module

## Datasheet



## Description

The NuLEDs Input Output Module is a versatile and scalable solution designed to enhance system integration and control. Featuring 3 dry contact closure inputs and 2 configurable output relays (NO or NC), this board provides both input signal processing and output control. Its robust design enables seamless communication between the NuLEDs PoE lighting system and other devices, making it ideal for centralized management, automation, and tailored system configurations.

The Input Output Module delivers exceptional flexibility, reliability, and scalability, making it an essential component for orchestrating and managing interconnected systems within any space effectively.

Stock#	Description
CONT-INOP-05-TP	Contact Closure Input Output Module

## Features

### 1. Dual Functionality

- Combines input and output capabilities for streamlined system integration.
- Receives input signals via 3 dry contact closures and controls external devices through 2 output relays.

### 2. Input Signal Processing

- Accepts signals from sensors, switches, and external devices.
- Inputs can trigger specific actions within the NuLEDs PoE lighting system or other integrated systems.

### 3. Output Relay Flexibility

- Includes 2 relays configurable as Normally Open (NO) or Normally Closed (NC).
- Supports diverse equipment control by activating or deactivating connected devices.

### 4. Seamless Integration

- Automates responses based on external triggers, such as occupancy sensors or manual switches.
- Enables automatic lighting adjustments and custom scene activations.

### 5. Automation and Centralized Control

- Enables automatic responses based on input signals, such as occupancy detection or manual switches.
- Centralizes management for enhanced system coordination.

### 6. Customization and Configuration

- Configurable inputs and outputs allow for tailored system responses.
- Adapts to unique requirements for specific scenarios and environments.

### 7. Scalability and Adaptability

- Modular design supports expansion and integration of additional devices as needed.
- Ensures compatibility with evolving technologies and system upgrades.

### 8. Plug-and-Play Installation

- Uses CAT cables for quick and easy setup
- Designed for fast integration into NuLEDs PoE systems for efficient operation.

# Contact Closure Input Output Module

## Datasheet

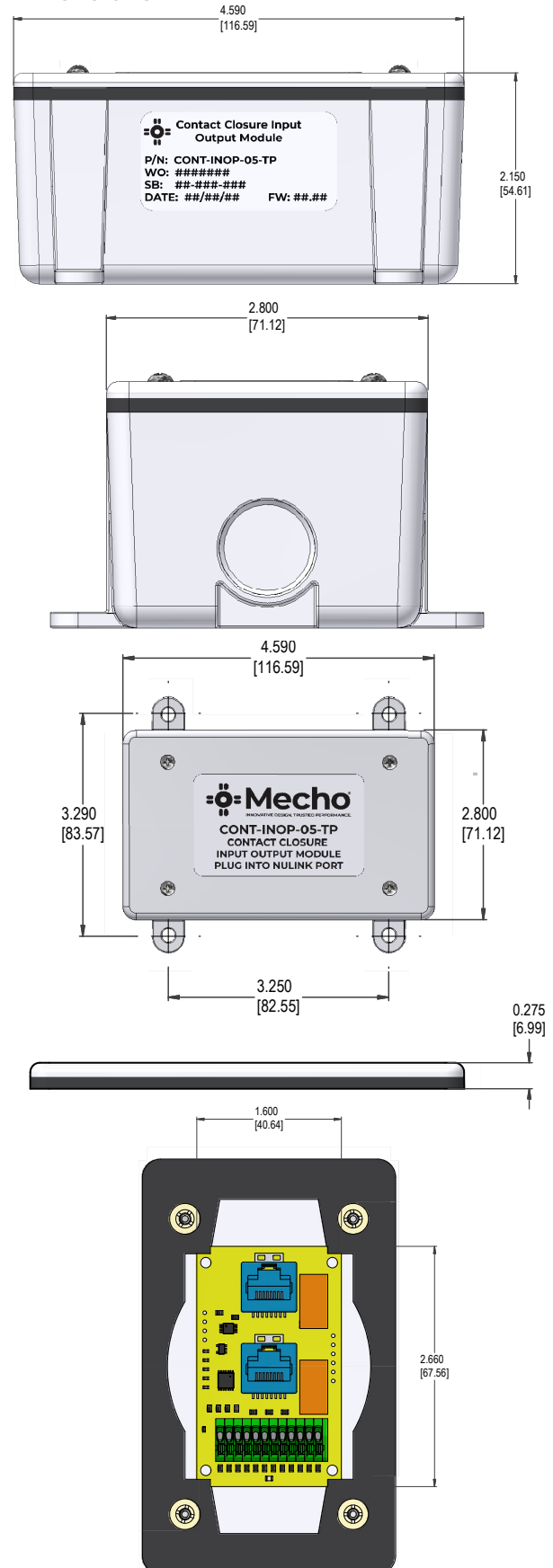
### Specifications

Equipment Kit	
Contact Closure Input Output Module, Installation Guide	
Hardware	
Standby Power	<1 Watt
Power Supply	SPICEbox™ NuLINK™ Bus
RJ45 Ports	2 Ports
Protocols	NuSPICE™
Wiring	Category 5e/6 Ethernet cable to EIP SPICEBox
Maximum Wiring Length	50 ft. from SPICEbox
Mechanical	
Dimensions (L X W X H)	6.4 in. x 5.08 in. x 1.48 in. (162.56 mm x 129.03 mm x 37.59 mm)
Weight	0.49 lbs. (0.22 kg)
Mounting	Wall mount 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	
FCC Class A Compliant, CE Compliant, RoHS	

### Warning

- **Caution** - Observe precautions for handling electrostatic sensitive devices.
- 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.
- Conforms to CE, FCC standards
- **Warranty** - Voided if device has been modified from its original configuration.

### Dimensions



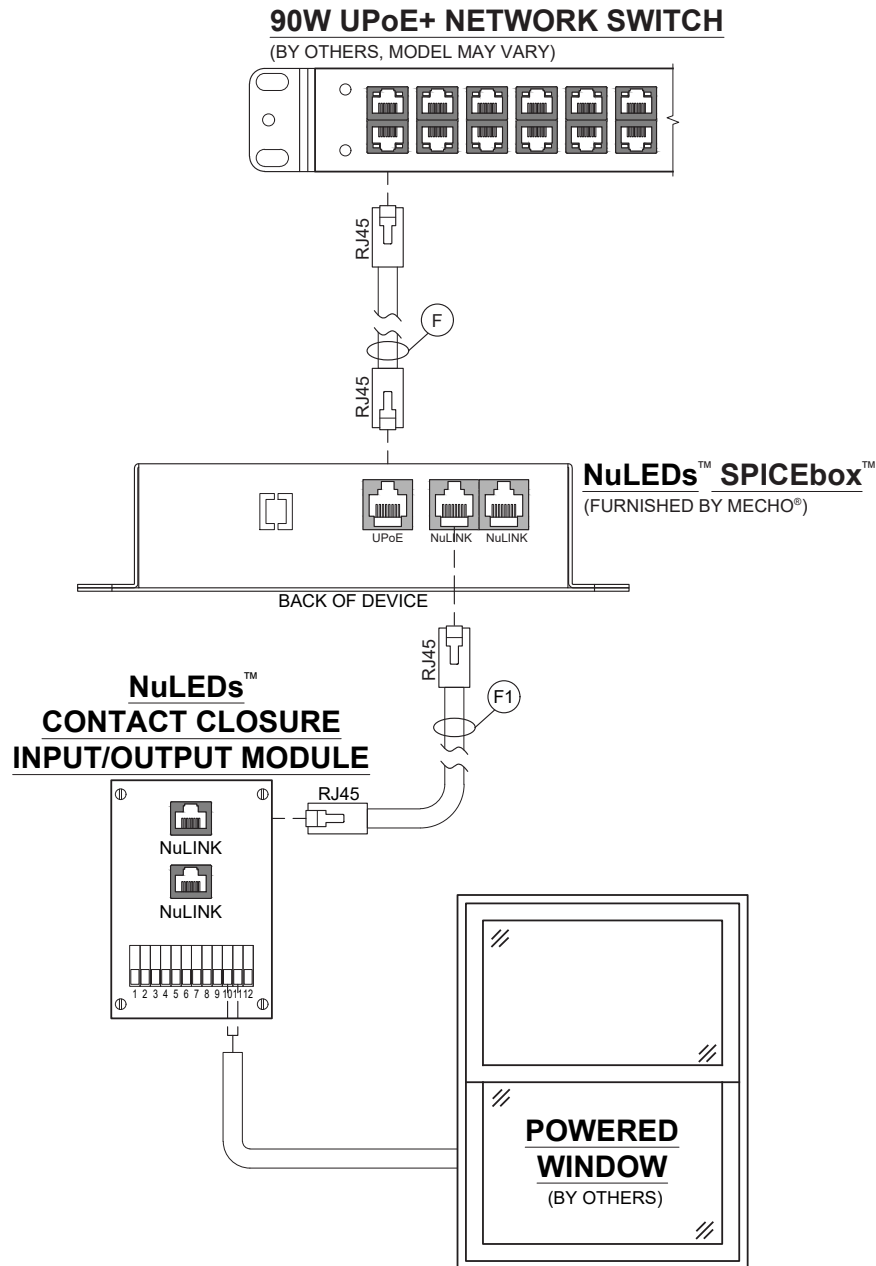
(800) 327-9798  
mechoshade.com

# Contact Closure Input Output Module

## Datasheet

### Contact Closure Input Module on UPoE & NuLink™ Network

**NOTE:** Only one Contact Closure Input Output Module can be connected per SPICEbox™.

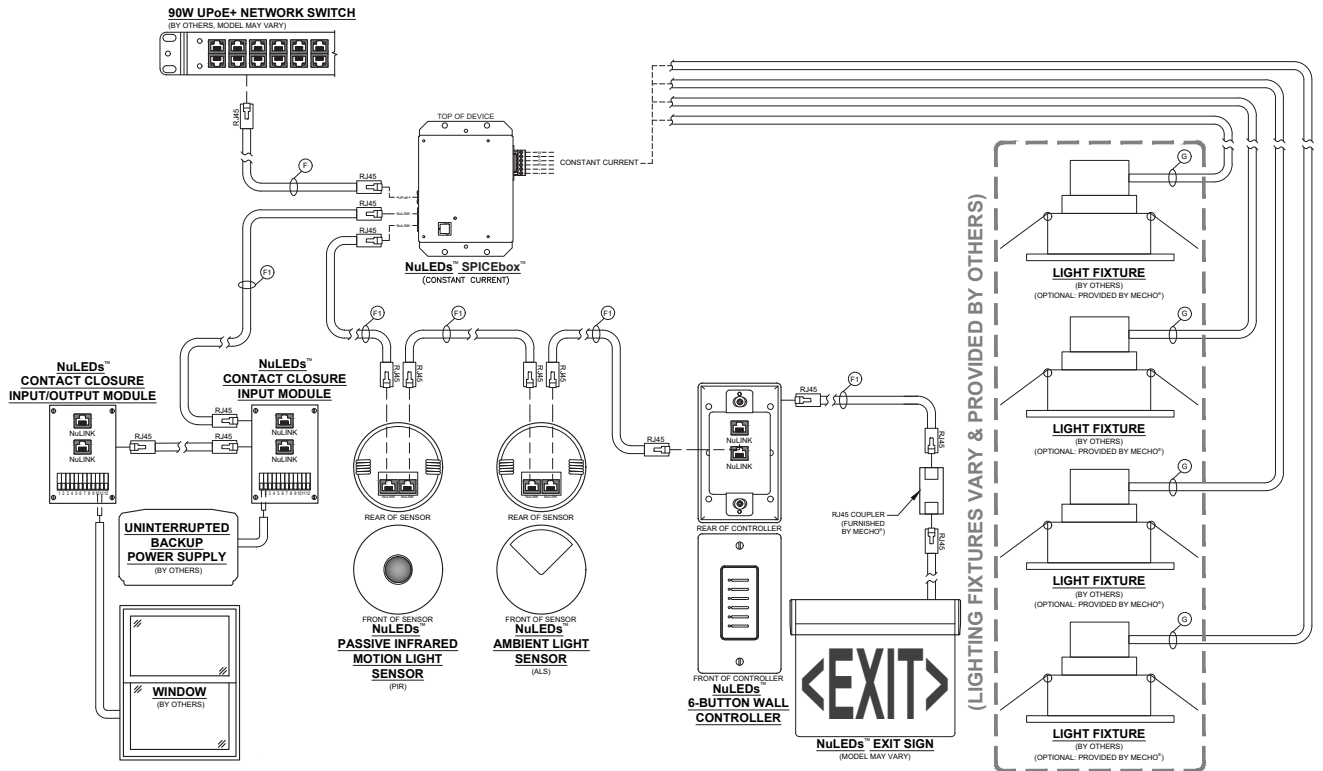


**NOTE:** Refer to page 7 for the Low Voltage Cable Legend and Crimping Instructions.

# Contact Closure Input Output Module

## Datasheet

### Point-to-Point Diagram



**NOTE:** Refer to page 7 for the Low Voltage Cable Legend and Crimping Instructions.

# Contact Closure Input Output Module

## 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:**

<p><b>CONDUCTOR COUNT:</b> 2 THRU 12 CONDUCTORS</p> <p><b>CONDUCTOR:</b> FULLY ANNEALED, SOLID OR STRANGED BARE COPPER</p> <p><b>AWG (mm):</b> 18 (1.16)</p> <p><b>INSULATION:</b> LOW SMOKE PVC</p> <p><b>INSULATION COLORS:</b> 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><b>JACKET:</b> RISER: GRAY, FLAME RETARDANT (FR) PVC PLENUM: WHITE, LOW SMOKE PVC</p> <p><b>PACKAGE:</b> BLACK, RIBBED, PLASTIC RECYCLABLE SPOOL, REEL-IN-A-BOX OR WOOD REEL</p>	<p><b>PERFORMANCE COMPLIANCE:</b> NEC ARTICLE 725 NEC ARTICLE 800 NEC ARTICLE 760 UL<sup>®</sup>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><b>NRTL PROGRAMS:</b> UL LISTED CL3R, CMR, FPLR UL LISTEN CL3P, CMP, FPLP</p>
--	---

**Part Numbers and Physical Characteristics:**

Listing	Part Number <sup>1</sup>	Conductor Count	AWG (mm)	Conductor Type	Jacket Color <sup>2</sup>	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:**

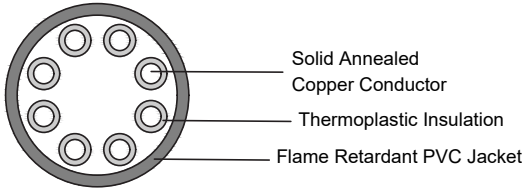
	Plastic Spool		Reel-in-a-Box		Wood Reel	Shrink Wrap	
	1,000'	500'	1,000'	500'	1,000'	250'	500'
<sup>1</sup> Replace "x" with:	2	3	4	5	6	7	8

# Contact Closure Input Output Module

## 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](http://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

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

**PART NUMBERS AND PHYSICAL CHARACTERISTICS**

Listing	Part Number <sup>1</sup>	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**

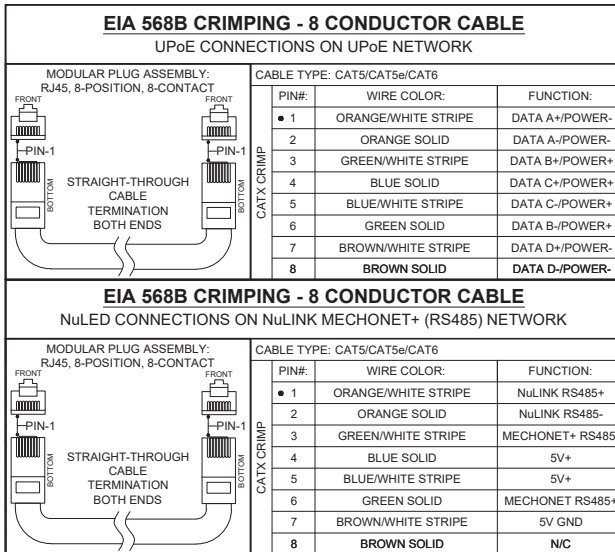
<sup>1</sup> Replace "x" with:	Blue = 2	Gray = 3	White = 4	Green = 5
Yellow = 6	Purple = 7	Red = 9	Black = E	

# Contact Closure Input Output Module

## Datasheet

### Low Voltage Cable Legend and Crimping Instructions

LOW VOLTAGE CABLE LEGEND - EIA568B	
<p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>1. PARALLEL WIRING TO NEXT DEVICE PER BRANCH CIRCUIT CAPACITY. ALL CONNECTION MUST MEET NATIONAL AND LOCAL CODES AND REGULATIONS.</li> <li>2. ADDRESS SCHEDULES REQUIRED.</li> <li>3. MAXIMUM VOLTAGE FOR ALL UNMARKED CABLE IS 43.5 VDC.</li> <li>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.</li> </ol>	
(F)	<p><b>CAT5E+ - CABLE FOR UPOE NETWORK WIRING CONNECTIONS:</b></p> <p><b>SPECIFICATION:</b> 22AWG 4UTP (8-CONDUCTOR SOLID UNSHIELDED TWISTED PAIR)  <b>TERMINATION:</b> RJ-45 MODULAR PLUG CRIMPED (EIA568B) ON BOTH ENDS  <b>RECOMMENDED:</b> SUPERIOR ESSEX (WWW.SUPERIORESSEX.COM)                      PART NO. PW52-H46-X5 (NON-PLENUM) &amp; PW52-H46-X8 (PLENUM) OR COMPATIBLE CABLE</p> <p><b>DISTANCE LIMITATION: 328'. MAX. NODES: 1</b>                      SEE "CABLE F REFERENCE DRAWING" FOR DETAILED SPECIFICATION.                      (FURNISHED &amp; INSTALLED BY OTHERS)</p>
(F1)	<p><b>CAT5E+ - CABLE FOR NULINK NETWORK WIRING CONNECTIONS:</b></p> <p><b>SPECIFICATION:</b> 22AWG 4UTP (8-CONDUCTOR SOLID UNSHIELDED TWISTED PAIR)  <b>TERMINATION:</b> RJ-45 MODULAR PLUG CRIMPED (EIA568B) ON BOTH ENDS  <b>RECOMMENDED:</b> SUPERIOR ESSEX (WWW.SUPERIORESSEX.COM)                      PART NO. PW52-H46-X5 (NON-PLENUM) &amp; PW52-H46-X8 (PLENUM) OR COMPATIBLE CABLE</p> <p><b>DISTANCE LIMITATION: 50'. MAX. EIPS: 15</b>                      SEE CABLE "F" REFERENCE DRAWING FOR DETAILED SPECIFICATION.                      (FURNISHED &amp; INSTALLED BY OTHERS)</p>
(G)	<p><b>CABLE FOR SPICEBOX TO LIGHT (LOAD) FIXTURE WIRING CONNECTIONS:</b></p> <p><b>SPECIFICATION:</b> 2 TO 12-CONDUCTOR, (18AWG UNSHIELDED)  <b>RECOMMENDED:</b> SUPERIOR ESSEX (WWW.SUPERIORESSEX.COM 1-800-551-8948)                      LISTING NO. CL3R/CMR/FPLR (NON-PLENUM), &amp; CL3P/CMF/FPLP (PLENUM)</p> <p><b>DISTANCE LIMITATION: VARIES PER LOAD. MAX. LOADS: VARIES BY WATTS</b>                      SEE CABLE "G" REFERENCE DRAWING FOR DETAILED SPECIFICATION.                      (FURNISHED &amp; 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

Mecho® reserves the right to make improvements or changes to its products without prior notice. Every attempt is made to ensure the information herein is accurate and up to date. Verify with the Mecho® staff to confirm the product's availability, latest specifications, and suitability for your application.



(800) 327-9798  
 mechoshade.com