

## Plug-in Screw Connector System for Printed Circuit Boards

110-M-121 /-221 | 3.50 mm (0.138 in) Spacing - 2-24 poles

### PICTURES



110-M-121



110-M-221



110-M-221 & 110-A-111

### TECHNICAL INFORMATION

#### Description

Header

110-M-221 is equipped with a poka-yoke feature on each end sidewall. This prevents incorrect misaligned plugging when utilized with 110-A series plugs.

110-M-121 have a small foot print that allows a u201cdropinu201d fit when replacing competitive product. This is especially useful on PCB that are typically completely covered in components. It can be said that misalignment would in principle be prevented by the close components in close proximity.

Internal features prevent backwards insertion.

Installable on PCB assembled as per the wave solder technology specification

Coding keys 120-K are available to prevent the insertion of the wrong plug into a header. These are usually field inserted but can be factory installed if required. These coding keys are visible from the exterior, through slots in the header. Correct keying requires the removal of corresponding keying nibs from the 110-A plugs.

#### Technical Data

**Center to Center Spacing:** 3.500 mm (0.138 in)

**Recommended Hole Diameter in PC Board:** 1.200 mm (0.047 in)

#### Bill of Materials

**Molding :** Polyamide, Self extinguishing UL 94, V-0

**Color :** Grey

**Temperature limits :**

**Short Time :** 140°C (284°F)

**Continuous :** 105°C (221°F)

**Low Limit :** -40°C (-40°F)



**Comparative Tracking Index :** CTI ? 600 V

**Oxygen Index Rating :** 33 %

**Solder Pin:** Tin plated copper alloy 0.8 x 0.8 mm (0.03 x 0.03 in.)

## APPROVAL INFORMATION

UL File No. E69841 | CSA File No. LR24322

Type	Current (A)	Voltage (V)	Application Group	AWG	Screw Tightening Torque
 110-M-121 /-221 3.5 mm	8	300	B, D		
 110-M-121 /-221 3.5 mm	8	300	B		

### International Approval Information



Rated Impulse Withstand Voltage : 2500 V

## PLUGGING PARTS

### Plug-In Direction and Wire Entrance Perpendicular to PCB

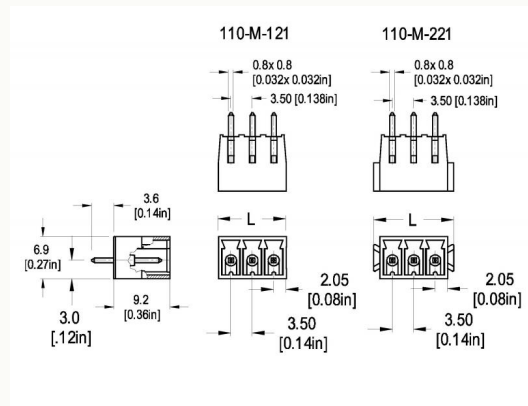


**TYPE 110-A-111**  
3.50 mm spacing - 2- 24 poles



**TYPE 110-FP3-211**  
3.50 mm spacing - 2-12 poles

## TECHNICAL DRAWING



### Description :

Length of Connector (L)

110-M-121:  $L = (\text{No. of Poles} \times \text{Center to Center Spacing}) + 0.6 \text{ mm}$

110-M-221:  $L = (\text{No. of Poles} \times \text{Center to Center Spacing}) + 2.6 \text{ mm}$

(A) Poka-Yoke feature

## ILLUSTRATIONS



### Description :

**SECTION A - SERIES 11****Terminal Blocks for Printed Circuit Boards**

Series 11 brings versatility and reliability to making connections between printed circuit boards and electronic or electrical components. The elevator-style clamping mechanism has excellent contact qualities and resistance to vibration to ensure that connections are secure and reliable for the life of the component the design allows an extremely large number of connect/disconnect cycles without harming the connecting wires. The special design of the contact springs provides for efficient long-lasting current transmission.

A variety of headers allow plug insertion parallel, perpendicular or 45-degree to the printed circuit board providing flexible solutions to meet the needs of the designer. Headers are provided with sidewalls for a greater degree of security contact pins are shrouded on five sides and prevent contact pin misalignment with the plug's contact springs. The design of series 11 eliminates misaligned insertion of the plug in the header.

The plug uses the well-proven elevator-style clamping system. The captive screw design ensures multiple wire insertion cycles and effective vibration resistance. The captive screws will not work loose and be lost during transport, assembly or handling. Headers are also available with locking flanges that interlock the plug and header after installation. The captive screws will not work loose and be lost during transport, assembly or handling.

All single level headers with standard spacing provide 2 to 24 positions. For those applications requiring very high wiring densities, our double level headers provide 4 to 48 poles.

If a printed circuit board design presents a difficult and crowded situation, raised headers are available these allow the plug to connect to the high profile header outside the enclosure if needed. Common applications requiring the use of high profile headers are those where the printed circuit board is shielded in a cabinet or enclosure because of EMI interference, temperature or atmospheric requirements, etc.

The friction-fit design of the plug and header includes a locking mechanism to prevent accidental separation due to the effect of vibration while allowing easy disconnection when required.

Each product has a "How To Order" area as well as a complete listing of UL and CSA approval specifications, available options and accessories.