

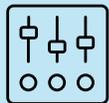
Solutions for Restaurant Delivery Robots

Autonomous restaurant delivery robots encounter a wide range of unpredictable obstacles with each table served, requiring electronic systems that operate reliably under constant motion. Designing compact, cost-efficient systems that deliver consistent performance is a crucial challenge for engineers.

In response, Molex offers durable, high-quality and cost-effective connector solutions designed to withstand shock and vibration. Wire-to-board and board-to-board connectors with locking features ensure secure power and signal transmission within space-saving, high-density designs. Molex-engineered solutions also simplify assembly and reduce production errors, helping manufacturers speed up time-to-market.



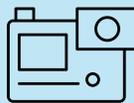
Restaurant Delivery Robot



Main Controller



Bumper/Pressure Sensors



Camera Modules



Motor Driver



Touchscreen



LiDAR

MOLEX SOLUTIONS FOR RESTAURANT DELIVERY ROBOTS

Signal and Low-Power Cables	Wire-to-Board Connectors	Board-to-Board Connectors	FFC/FPC Connectors
Key Features			
Discrete wiring options	Color-coded options	Low profile	Low profile
Durable overmold design	Positive-locking mechanism	Superior mating guidance	Secure locking
Pre-crimped leads	Enhanced contact protection	Dual-contact design	Nickel barrier
Customizable cable solutions	Resin enhancements	High mating retention	Design flexibility

Restaurant Delivery Robot

Camera Sensors

Board-to-board connectors ([SlimStack](#))
 I/O connectors ([USB Type-C](#), [Micro USB](#))
 Cable assemblies ([Signal/low-power cables](#), [FFC/FPC connectors](#), [Premo-Flex](#))
 Wire-to-board connectors ([PicoBlade](#))

Touchscreen/Display

I/O connectors ([USB Type-C](#), [HDMI](#))
 Cable assemblies ([FFC/FPC connectors](#), [Premo-Flex](#))
 Wire-to-board connectors ([PicoBlade](#))

Main Controller

Cable assemblies ([Signal/low-power cables](#))
 Wire-to-board connectors ([Micro-Fit](#), [Mini-Fit](#), [Mini-Lock](#), [PicoBlade](#))



LiDAR

Board-to-board connectors ([SlimStack](#), [Quad-Row](#))
 Cable assemblies ([FFC/FPC connectors](#), [Premo-Flex](#))
 Wire-to-board connectors ([PicoBlade](#))

Pressure Sensors

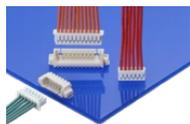
Cable assemblies ([Signal/low-power cables](#))
 Wire-to-board connectors ([PicoBlade](#), [Mini-Fit](#))

Communication Module

I/O connectors ([USB Type-A](#), [USB Type-C](#), [Micro USB](#))
[Terminal Blocks](#)
[RJ45](#)

Motor Driver

Cable assemblies ([Signal/low-power cables](#))
 Wire-to-board connectors ([Mini-Fit](#))



PicoBlade Connectors



SlimStack Connectors



Mini-Lock Connectors



Quad-Row Connectors



Micro-Fit Connectors

References

[Wire-to-Board Connectors](#)

[UL-approved](#)
[Signal options](#)
[Glow Wire offerings](#)
[Fit families](#)

[Board-to-Board Connectors](#)

[UL-approved](#)
[Micro product reference guide](#)

[FFC/FPC Connectors](#)

[Digital product board](#)
[Core products](#)
[Easy-On/FD19 series](#)
[Premo-Flex and Easy-On FPC solutions](#)

[Sealed Connectors](#)

[Ingress protection ratings](#)
[Automotive and sealed connectors](#)

[Cables](#)

[Power and signal](#)
[Pre-crimped leads](#)
[Custom cable creator](#)

[I/O Connectors](#)

[Digital product board](#)
[USB](#)

SUBASSEMBLY BREAKDOWN

LiDAR – Accurately maps surroundings for reliable navigation

Touchscreen/Display – Enables user interaction and control

Camera Sensors – Detect obstacles for safe navigation

Pressure Sensors – Monitor tray pressure to verify item transfer

Main Controller – Processes data and manages overall operations

Motor Driver – Controls motor speed and torque for precise movement

Communication Module – Provides wireless connectivity through Wi-Fi and Bluetooth

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