



## MOX 64 Circuit Wire-to-Board System with Crimp Terminal

*The 64 Circuit Wire-to-Board Connection System and Female Crimp Terminal complement the MOX family of housings and connectors and offer a robust, reliable and competitively priced solution for electronic devices primarily in the Transportation Market*

The MOX (Micro Omega Molex) connector family ranges from 2 to 64 circuits and is designed for use in harsh automotive applications. The 64 circuit MOX system is a 2-row, 0.635mm (.025") wire-to-board connection comprising of MOX 98615 series housing and mating header, series 98599. The header is positioned on the PCB in a right-angle orientation with two PCB location pegs and is currently available in three different pin-out configurations. The connector system is designed with a mate-assist slider that assures a positive-lock between the housing and header. Used with 0.64mm MOX crimp terminals the 64 circuit system offers a proven and cost effective solution for airbag controllers, body electronics and comfort-and-convenience applications in the Transportation market

The MOX Terminal is a universal contact system in automotive electronics. MOX 0.64mm (.025") crimp terminals from Molex are being used by leading car manufacturers in Europe today. As a widely accepted standard and volume product, the terminals offer a competitively priced solution for both manufacturer and supplier for a wide range of electronic devices in automotive applications.

Typical features of the crimp terminal include a high-density packaging of 2.54 by 2.54mm (.100 by .100") centerline, a robust, reliable design, limited

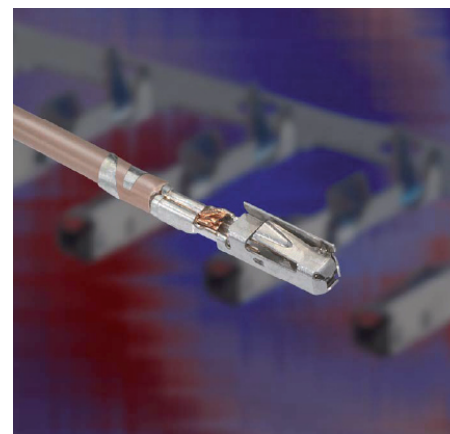
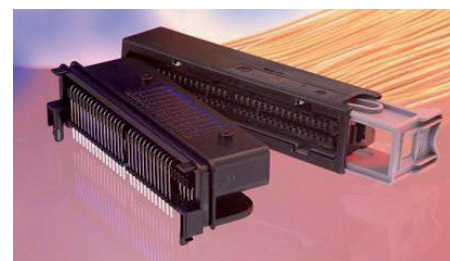
dimensions and rational application tooling. A full range of application tooling is available from Molex. The MOX terminal is suitable for wire thickness from 18 to 24 AWG.

The MOX crimp terminal is a two-piece, laser-welded design. Assembly of this standard 0.64mm (.025") terminal is achieved by crimping the steel sleeve over the body. The terminal contact body is made from highly conductive 0.20mm (.079") thick Copper alloy strip.

The sleeve features a steel cantilever spring which provides the function of primary locking and is the first contact retention of the terminal. In addition, this external steel spring secures the internal sleeve-contact spring against overstressing and mechanical damage. Separation of the mechanical stress and electrical strain ensures the contact system achieves the highest performance levels required by customers.

Molex offers a proven and cost effective terminal design for use with all 0.635mm MOX housings; Series 98615, 98298, 98193, 98696, 98786, 98982.

**98599 64 Circuit Header**  
**98615 64 Circuit Housing**  
**98658 Female Crimp Terminal 2.54mm (.100") Pitch**

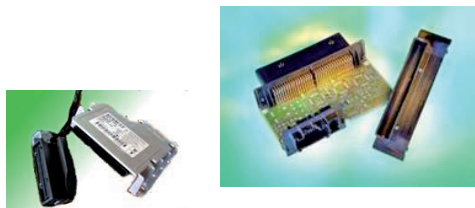


## MARKETS AND APPLICATIONS

### ■ 64 Circuit Wire-to-Board System

Automotive applications:

- Airbag controller
- Body electronics
- Comfort-and-convenience



### ■ Commercial vehicles

- Cars
- Trucks
- Buses
- Agricultural equipment
- Motorcycle
- Marine

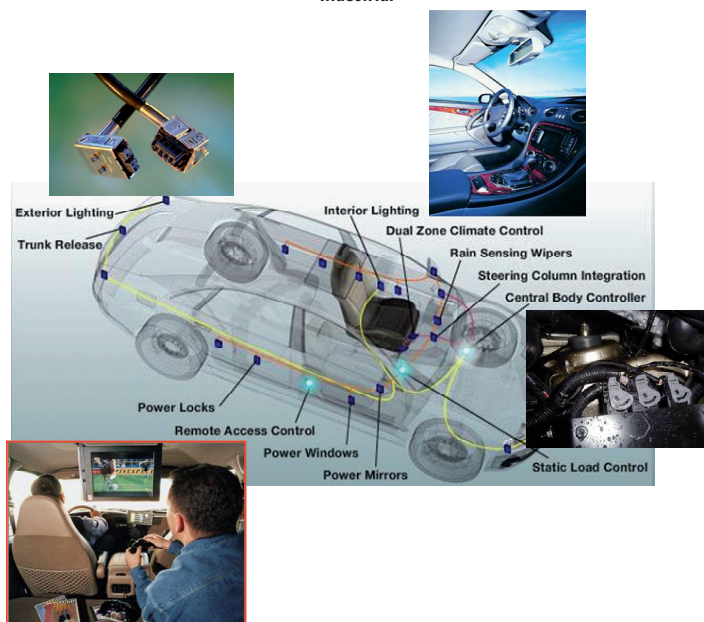
### ■ Other Markets for Crimp Terminal when used with MOX family of connectors/MQS compatible connectors

- Consumer
- HVAC
- Industrial

### ■ Crimp Terminal

Automotive: Everywhere there is a signal to carry in sealed or unsealed wire-to-board or wire-to-wire applications

- Power-train
- Airbag controller
- Body electronics
- Comfort and convenience



## FEATURES AND BENEFITS FOR 64 CIRCUIT CONNECTION SYSTEM



## MOX 64 Circuit Wire-to-Board System with Crimp Terminal

- Mechanical coding (internal housing shape, rows spacing, PCB pegs localization) for secure, easy and error-free assembly
- Mate-assist slider on 64 circuit housing assures safe mating operation and a positive-lock between the header and housing

**98599 64 Circuit Header**  
**98615 64 Circuit Housing**  
**98658 Female Crimp Terminal 2.54mm (.100") Pitch**

## FEATURES AND BENEFITS FOR MOX CRIMP TERMINAL

- Robust, two-piece, laser-welded terminal for harsh automotive applications
- Reliable and cost-effective interconnect solution, designed for crimp wire termination
- Steel sleeve to provide the function of primary locking and protect the mating contact area against overstressing and mechanical damage
- Polarization rib for terminal orientation ensures secure, easy and error-free assembly
- Widely accepted standard and volume based product
- RoHS compliant
- Compatible with the MicroQuadlok System (MQS) Terminal from Tyco

## SPECIFICATIONS FOR 64 CIRCUIT CONNECTION SYSTEM

### Reference Information

Packaging: Trays  
Mates with: 0.64mm (.25") crimp terminal  
Use with: PCB  
Designed In: Millimeters  
RoHS: Yes  
Halogen Free: Yes

### Electrical

Voltage (max.): 14V DC  
Current (max.): 7.5A at 85°C  
Contact Resistance: 8mOhms max.  
Dielectric Withstanding Voltage: 1000V AC  
Insulation Resistance: 100mOhms min.

### Mechanical

Contact Insertion Force: 5.0N (1,12 lb) max.  
Contact Retention to Housing: 40.0N (8,99 lb) min.  
Wire Pull-Out Force: 50.0N (11,24 lb) min.  
on 0,22mm<sup>2</sup> wire  
Mating Force: 80.0N (18,0 lb) max.  
Unmating Force: 80.0N (18,0 lb) max.  
Durability (min.): 20 cycles

### Physical

Contact: C 51900  
Plating:  
Contact Area: Solder tail area 3-5µm Tin (Sn)  
0,3µm min for contact area  
Underplating: Nickel (Ni) for Gold (Au) plated version only  
Operating temperature: -40 up to +85°C

## SPECIFICATIONS FOR CRIMP TERMINALS

### Reference Information

Packaging: Reel  
Mates with: 0.64mm (.25") pin  
Designed In: Millimeters

### Electrical

Voltage (max.): 14V DC  
Current (max.): 7.5A at 85°C  
Contact Resistance: 7mOhms max.  
Dielectric Withstanding Voltage: 1000V AC  
Insulation Resistance: 100mOhms min.

### Mechanical

Contact Insertion Force: 3.0N (0,674 lb) max.  
Contact Retention to Housing: 40.0N (8,99 lb) min.  
Wire Pull-Out Force: 50.0N (11,24 lb) min.  
on 0,22mm<sup>2</sup> wire  
Insertion Force to Housing:  
Unsealed Connector: 5.0N (1,124 lb) max.  
Sealed Connector: 8.0N (1,80 lb) max.  
Durability (min.): 20 cycles

### Physical

Contact: High Copper (Cu) Alloy  
Plating:  
Contact Area  
Tin (Sn): 1 to 3µm  
Gold (Au): 0,4µm  
Underplating  
Nickel (Ni) for Gold (Au) plated version only  
Operating temperature:  
Tin (Sn): -40 up to +125°C  
Gold (Au): -40 up to +150°C

# ORDERING INFORMATION FOR 64 CIRCUIT CONNECTION SYSTEM



## MOX 64 Circuit Wire-to-Board System with Crimp Terminal

**98599** 64 Circuit Header  
**98615** 64 Circuit Housing  
**98658** Female Crimp  
Terminal 2.54mm  
(.100") Pitch

| Header Order No. | Housing Order No. | *Crimp Terminal Order No. | Configuration | Sample Plant |
|------------------|-------------------|---------------------------|---------------|--------------|
| 98599-1002       | 98615-1002        | 98658-XXXX                | 60 circuits   | 5102         |
| 98599-1003       | 98615-1002        | 98658-XXXX                | 44 circuits   | 5102         |
| 98599-1004       | 98615-1002        | 98658-XXXX                | 64 circuits   | 5102         |

\*XXXX refers to required crimp terminal specifications > see Ordering Information for Crimp Terminal

# ORDERING INFORMATION FOR CRIMP TERMINAL

| Crimp Terminal Order No. | Mating/Crimp Plating Gold (Au), Tin (Sn) | Wire size (AWG) | Wire size (mm <sup>2</sup> ) | Wire Strip Length | *Samples available from Plant? | **Application Tooling |
|--------------------------|--|-----------------|------------------------------|-------------------|--------------------------------|-----------------------|
| 98658-1213               | Tin/Tin                                  | 20 to 24        | 0.50 to 0.22                 | 3.00mm            | 5102/3109                      | 638666100             |
| 98658-1211               | Tin/Tin                                  | 20 to 24        | 0.60 to 0.22                 | 3.00mm            | 5102/3109                      | 638666000             |
| 98658-1212               | Tin/Tin                                  | 18 to 22        | 0.75 to 0.50                 | 3.50mm            | 5102/3109                      | 638667000             |
| 98658-1223               | Gold/Tin                                 | 20 to 24        | 0.50 to 0.22                 | 3.00mm            | 5102/3109                      | 638666100             |
| 98658-1221               | Gold/Tin                                 | 20 to 24        | 0.60 to 0.22                 | 3.00mm            | 5102/3109                      | 638666000             |
| 98658-1222               | Gold/Tin                                 | 18 to 22        | 0.75 to 0.50                 | 3.50mm            | 5102/3109                      | 638667000             |
| 98658-1233               | Gold/Gold                                | 20 to 24        | 0.50 to 0.22                 | 3.00mm            | 5102/3109                      | 638666100             |
| 98658-1231               | Gold/Gold                                | 20 to 24        | 0.60 to 0.22                 | 3.00mm            | 5102/3109                      | 638666000             |
| 98658-1232               | Gold/Gold                                | 18 to 22        | 0.75 to 0.50                 | 3.50mm            | 5102/3109                      | 638667000             |

\*Please use Plant 5102 for Europe and 3109 for Americas

\*\*Automated tooling. For hand tool please use Order No. 638119300

[www.molex.com/product/MOX.html](http://www.molex.com/product/MOX.html)

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