

# Compactus Sealed Hybrid Connector System >

Compactus Sealed Hybrid Connectors are robust, high-density, automotive-grade connectors that permit manufacturers to fit more power and signal transmission ability into a small space.

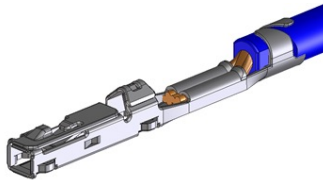
## FEATURES AND ADVANTAGES



Number of Circuits	128, 146, 186 (header); 48, 66, 72, 80, 114 (receptacle)
Terminal Size	0.50, 1.00, 2.80mm
Wire Size	0.30 to 2.50mm <sup>2</sup>
Sealing	IP69K-rated grommet seal
Locking	Pre-lock Independent Secondary Lock (ISL)
Operating Temperature	-40 to +120°C

### Heat resistance, sealing property and vibration resistance

Achieves high performance within the harsh engine environment



### Left and right flexible cable outlet directions

Provide designed-in flexibility for mounting into the very dense engine space



### Three terminal sizes available in one connector (0.50, 1.00 and 2.80mm)

Enables more efficient transmission of low, medium and high current

### Short and long wire dress cover options

Permit closer clearances and improved real estate optimization in space-constrained applications

### Three header sizes (128, 146 and 186 circuits) and five receptacle sizes (48, 66, 72, 80 and 114 circuits) available

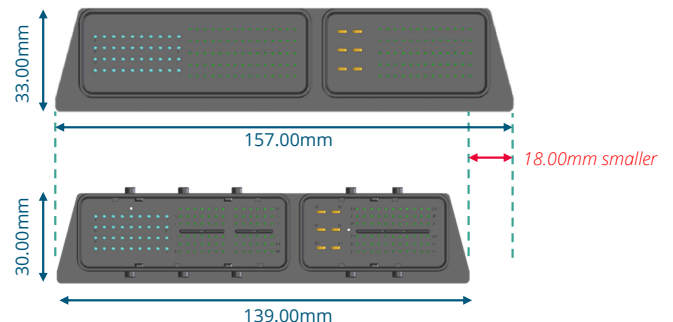
Offers various combinations in modularity and design flexibility

### 0.50mm terminal system

Can reduce the interface area by 20% compared with conventional 0.64mm products

### Header connector size comparison: 0.50 vs. 0.64mm

186 circuits with 0.64 and 2.80mm terminals (wire end seal)



186 circuits with 0.50 and 2.80mm terminals (grommet seal)

### Designed for thin wires

Aids weight reduction, which, in turn, can help lower emissions

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## MARKETS AND APPLICATIONS

### Automotive

Engine control unit (ECU) modules  
 Motor control unit (MCU) modules  
 Chassis control unit modules  
 Zonal control units  
 Battery packs  
 Transmission controllers  
 Suspension controllers  
 Electronically controlled parking brakes  
 Hybrid electric vehicle (HEV) and electric vehicle (EV) inverters  
 Body electronics  
 Illumination control systems  
 Junction/fuse boxes  
 Automatic doors

### Commercial Vehicle

Vehicle control unit (VCU) modules  
 Door control unit (DCU) modules  
 Construction/agriculture machinery  
 Motorcycles



## SPECIFICATIONS

### Reference Information

Packaging: Tray  
 Header: Waterproof wire-to-board connector  
 128, 146 or 186 circuits (two blocks)  
 Female Connector:  
 Housing – 48, 66, 72, 80 or 114 circuits  
 Terminal – 0.50mm (signal), 1.00mm  
 (medium power) or 2.80mm (power)  
 Seal plug  
 Dress cover (short or long)  
 Wire Size:  
 0.50mm – 0.30 to 0.50mm<sup>2</sup>  
 1.00mm – 0.50 to 1.25mm<sup>2</sup>  
 2.80mm – 2.00 to 2.50mm<sup>2</sup>  
 Mating Requirement: Keyed pair  
 Designed in: Millimeters  
 RoHS: Yes

### Mechanical

Terminal Retention Force with Independent  
 Secondary Lock (ISL):  
 Signal (0.50mm) – 100N (min.)  
 Power (1.00 and 2.80mm) – 100N (min.)  
 Mating Force (max.): 70N (lever operation)  
 Unmating Force (max.): 70N (lever operation)

### Electrical

Voltage (max.): 250V  
 Current (max.): Refer to derating curve  
 Insulation Resistance: 100 Megohms (min.)

### Physical

Housing: Polybutylene terephthalate (PBT)  
 Housing Color: Black  
 Contact: Tin  
 Operating Temperature: -40 to +120°C  
 Vibration Environment:  
 Acceleration Rate – 9G (88m/sec<sup>2</sup>)  
 Frequency – 20 to 200 Hz  
 Sealing Performance:  
 Initial – 50kPa (min.)  
 After Endurance Test – 30kPa (min.)  
 High-Pressure Washing Test – IP69K

[www.molex.com/link/compactus.html](http://www.molex.com/link/compactus.html)