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Optimized to provide the smallest-in-class features while meeting USCAR performance requirements, these scoop-proof connectors offer more space and cost savings than unsealed, USCAR Class 2 competing equivalents

From entry-level models to top-end designer cars, increasing electronic sophistication has brought about the need for higher density automotive connectors (H-DAC). These car applications can range from infotainment to navigation, power-seat adjustment to lighting control and more.

Riding on the challenges of stringent USCAR-2 Class II and other manufacturing requirements, Molex has introduced benchmarked features in the H-DAC64 family of single- and dual-row wire-to-wire and wire-to-board connectors—to give car makers the leverage they need to build advanced electronic systems or sub-systems. Molex's array of H-DAC connectors provide significant cost-savings to car builders where space and quality are a premium and nothing less than a high-performance interconnect solution can satisfy.

Features and Benefits

Smallest-in-class connectors meeting USCAR Class 2 requirements	Offer maximum space and cost savings to car makers
Scoop-proof housing	Protects mating contacts from accidental bending and damage
Terminal Position Assurance (TPA) feature	Locks terminals internally for protection during shipment and assembly
Positive lock providing audible click during mating	Confirms secure mated system in lieu of high-vibration operations
3 polarization options based on USCAR color differentiation scheme (black, gray and brown)	Prevents incorrect mating during assembly processes
Optional clip slot (or Xmas-tree slot) feature on male connectors	Aids vehicle routing with orientation clip attachment

H-DAC 64™ Unsealed Connectors, Single and Dual-row

Single-row Inline Connectors, Male and Female

31067 3 circuits

31068 4 circuits

31072 5 circuits

31073 6 circuits

Single-row Headers, 4 circuits

31100 Right Angle

31101 Vertical

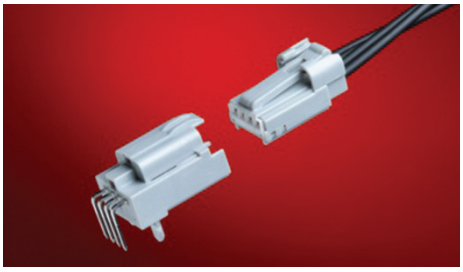
Dual-row Connectors

30700 Female (6, 8, 10, 12, 14, 16, 20 circuits) Hybrid Female (24 circuits)

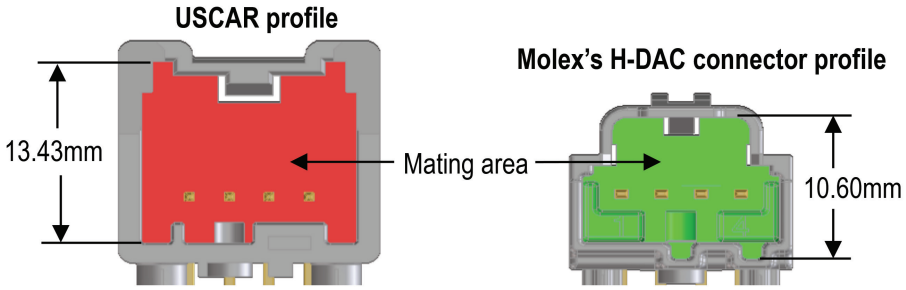
30968 Male Connector (6, 8, 10, 12, 16, 20 circuits) Hybrid Male Connector (24 circuits)

Dual-row Headers

30700 Right Angle (6, 8, 10, 12, 16, 20 circuits) Vertical (6, 8, 10, 12, 16, 20 circuits)



H-DAC™ Wire-to-Wire and Wire-to-Board Connector Solutions



The size of the H-DAC connector has been optimized to provide the smallest-inclass product offering while meeting USCAR performance requirements

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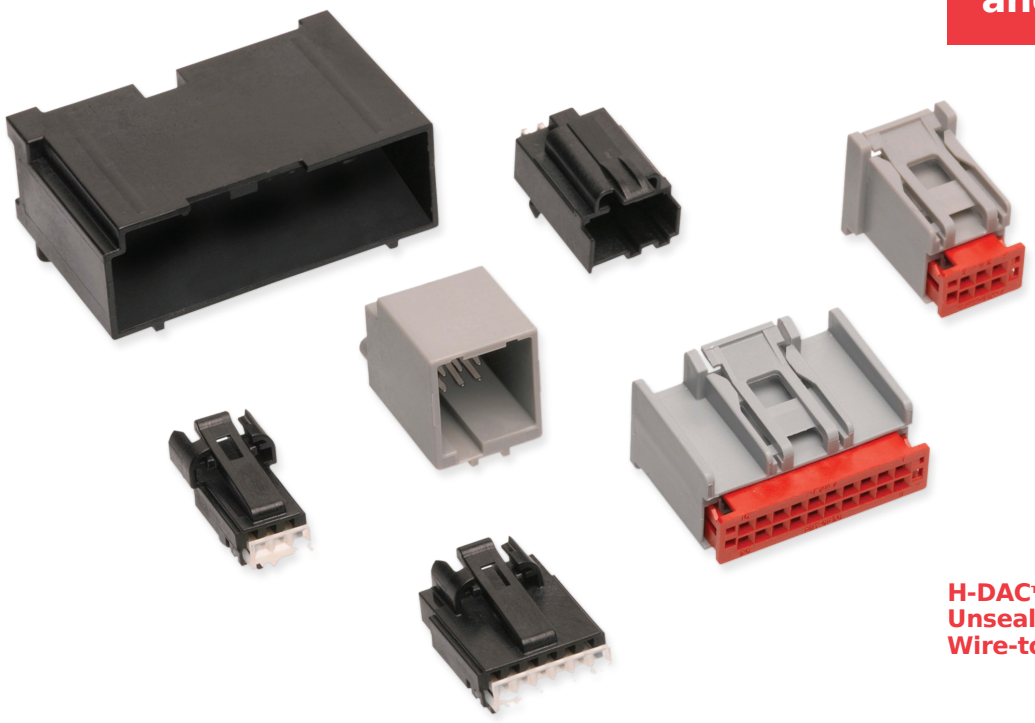
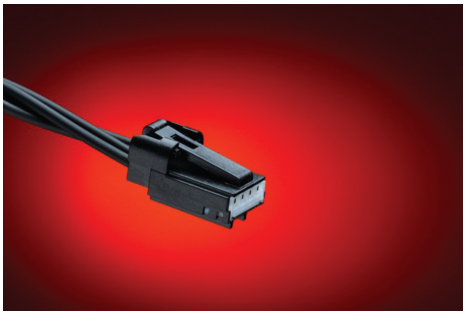
Product Family

H-DAC 64™ Unsealed Connectors, Single and Dual-row



H-DAC™ Single and Dual-row Unsealed Wire-to-Wire and Wire-to-Board Connectors

Mating Configuration – Examples



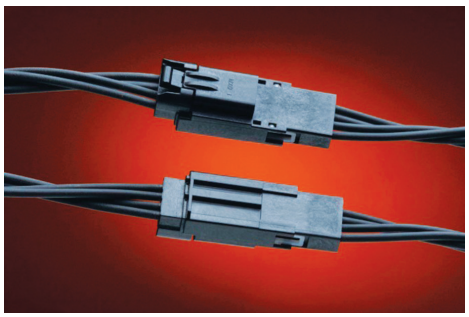
4-circuit, single-row, female connector assembly

4-circuit, single-row, right angle, male wire-to-board header

4-circuit, mated wire-to-board connector assembly

4-circuit, wire-to-wire and wire-to-board connector options

4-circuit, female (left) and male (right) wire-to-wire connector assembly



Top and reverse views of 4-circuit, wire-to-wire connector assemblies

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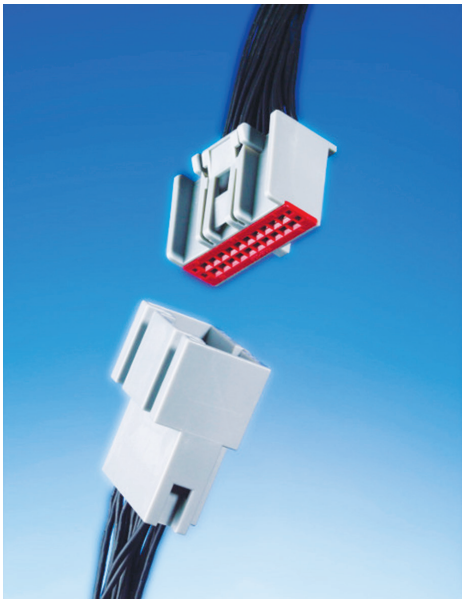
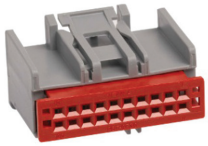
H-DAC 64™ Unsealed Connectors, Single and Dual-row

Mating Configuration – Examples (continued)



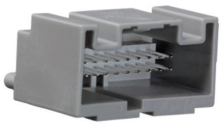
20-circuit, dual-row, female (top) to male (bottom) wire-to-wire assembly

20-circuit, dual-row, female (top) to male (bottom) wire-to-board assembly

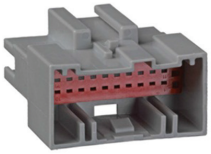


24-circuit, dual-row, female connector

24-circuit, dual-row, hybrid female connector



24-circuit, dual-row, vertical male header



24-circuit, dual-row, hybrid male header

24-circuit, dual-row, hybrid male right angle header

Applications

Automotive and Commercial Vehicles

- Powertrain
- Comfort, Infotainment and Driver Assist
- Body Electronics
- Safety/Chassis
- In-Vehicle Networking

Car interior, radio, mirror and lighting modules

Car interior, radio, mirror and lighting modules

Commercial Vehicles

Power Seat Adjustment Contro l

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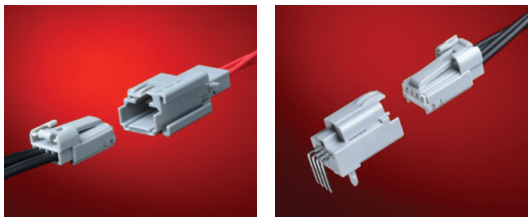
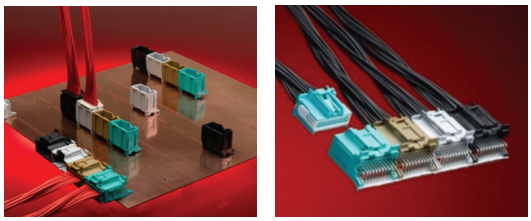
H-DAC 64™ Unsealed Connectors, Single and Dual-row

Unique and Useful Differentiation vs. Similar Molex Product

Attribute	H-DAC 64™ Unsealed Connectors	Stac64™ Unsealed Connectors
Pitch	2.54mm	2.54mm
Wire Gauge	AWG: 18, 20, 22 for TE GET 0.64mm	AWG: 20, 22 for CTX064; AWG: 14 to 22 for MX150; AWG: 10 to 22 for 2.8mm of TE or Yazaki
Current Rating	10.0A	2.80mm contacts – 30.0A 1.50mm contacts – 20.0A 0.64mm contacts – 6.0A
Material	SPS + 30% Glass Filled	Harness Housings: 30% Glass-filled SPS/PA66 (10-circuit version); : 30% Glass-filled PBT (8-, 12-, 14-, 16-, 20-circuit versions); Header Housings: 30% glass-filled SPS
Circuit sizes	Single-row: 3, 4, 5, 6 Dual-row: 6, 8, 10, 12, 16, 20 Hybrid: 24	Signal: 8, 12, 16, 20 Hybrid: 10, 14
Terminal Position Assurance (TPA)	Yes	Yes
Configuration	Mainly wire-to-wire and some wire-to-board connectors	Mainly wire-to-board connectors
Product Image		

Ordering Information – Crimp Terminals

Terminals Used	Description	Ford Part Numbers	Vendor Part Number
0.64mm square Tyco 'GET' terminals	Female (18/20 AWG Tin)	3F2T-14474-RA	1393366-1
	Female (22 AWG Tin)	3F2T-14474-SA	1393367-1
	Male (18/20 AWG Tin)	1L2T-14421-AA	2-1419158-5
	Male (22 AWG Tin)	1L2T-14421-BA	1-1419158-6

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H-DAC 64™ Unsealed Connectors, Single and Dual-row

Specifications – Single-Row Connectors and Headers

Reference Information
Packaging:
Male and female in-line housings –
Bulk pack (bag)
Headers – Tray packaging
Mates With:
- Single-row inline male connectors mate with similar series (31067, 31068, 31072 and 31073) female connectors of the same circuit size.
- Single-row, 4-circuit Headers (series 31100 and 31101) mate with 4-circuit (series 31068) female connectors

Use With:
- Tyco 'GET' male and female terminals

Vendor Part no:
1393366-1 (for AWG 18 to 20)
1393367-1 (for AWG 22)
Tooling: Tyco Electronics
Designed In: Millimeters

Mechanical / Electrical
Mating Force: Less than 45N (10.1 lb.)
Unmating Force: Less than 45N (10.1 lb.)
Connector Retention (Primary latch):
110N (24.7 lb.) min.
Contact Retention to Housing:
30N (6.7 lb.) min.
Contact Insertion Force Into Housing:
30N (6.7 lb.) max.
Connector Audible Feedback:
7dB over ambient
Polarization Feature Effectiveness:
100N min.
Durability (10 Cycles): 20 milliohms max.
Thermal Shock (Class 2, 100 cycles):
20 milliohms max.
Vibration / Mechanical Shock (Class 2):
20 milliohms max.
Temperature / Humidity Cycling (Class 2):
20 milliohms max.
High temperature Exposure (Class 2):
20 milliohms max.

Electrical
Voltage (max.): 500V DC
Current (max.): 10A
Contact Resistance (max.):
20 milliohms
Dielectric Withstanding Voltage:
500VDC
Insulation Resistance (min.):
20 megohms

Physical
(More details in PS-31100-0001)
Housing: SPS + 30% Glass-filled
Contact: Copper Alloy
Plating:
Overplating – Tin (Sn) overall
Underplating – Nickel (Ni) overall
Operating Temperature: -40 to +100°C

Ordering Information – Single-Row Connectors and Headers

Circuits	Order No.	Gender	Order No.	Gender	Order No.	Gender
3	31067-101*	Inline Female Connectors	31067-104*	Inline Male Connector	-	-
			31067-107*	Inline Male Connector with Clip-slot	-	
4	31068-101*		31068-104*	Inline Male Connector	31101-004*	Single-row, Vertical Header
			31068-107*	Inline Male Connector with Clip-slot	31100-004*	Single-row, Right Angle Header
5	31072-101*		31072-104*	Inline Male Connector	-	-
			31072-107*	Inline Male Connector with Clip-slot	-	
6	31073-101*		31073-104*	Inline Male Connector	-	-
			31073-107*	Inline Male Connector with Clip-slot	-	

*Denotes Polarization Options
0 = Option A (Black) 1 = Option B (Grey) 2 = Option C (Brown)

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H-DAC 64™ Unsealed Connectors, Single and Dual-row

Specifications – Dual-Row Connectors and Dual-Row Headers

Reference Information

Packaging:
Male and female In-line Housings—Bulk pack (or Bag)
Headers—Tray
Mates With:
- Dual-row female connectors (series 30700) mate with similar series (30700) dual-row Vertical and Right Angle Headers of the same circuit size (6, 8, 10, 12, 14, 16, 20 circuits)
- Dual-row hybrid female connector (24 circuits, series 30700) mate with dual-row hybrid male connector (24 circuits, series 30968)

Use With:
- Tyco 'GET' male and female terminals (refer table below)
Vendor Part no:
1393366-1 (for AWG 18 to 20)
1393367-1 (for AWG 22)

Tooling: Tyco Electronics
Designed In: Millimeters

Mechanical / Electrical

Mating Force: Less than 45N (10.1 lb.)
Unmating Force: Less than 45N (10.1 lb.)
Connector Retention (Primary latch) (min.): 110N (24.7 lb.)
Contact Retention to Housing (min.): 30N (6.7 lb.)
Contact Insertion Force Into Housing (max.): 30N (6.7 lb.)
Connector Audible Feedback: 7dB over ambient
Polarization Feature Effectiveness (min.): 100N
Durability (10 Cycles): 20 milliohms max.
Thermal Shock (Class 2, 100cycles): 20 milliohms max.
Vibration / Mechanical Shock (Class 2): 20 milliohms max.
Temperature / Humidity Cycling (Class 2): 20 milliohms max.
High temperature Exposure (Class 2): 20 milliohms max.

Electrical

Voltage (max.): 500V DC
Current (max.): 10A
Contact Resistance (max.): 20 milliohms
Dielectric Withstanding Voltage: 500VDC
Insulation Resistance (min.): 20 megohms

Physical

(More details in PS-30700-0001)
Housing: SPS + 30% Glass Filled
Contact: Copper Alloy
Plating:
Overplating—Overall Tin
Underplating—Overall Nickel
Operating Temperature: -40 to +100°C

Ordering Information – Dual-Row Connectors and Dual-Row Headers

Circuits	Order No.	Gender	Order No.	Gender	Order No.	Gender
6	30700-106*	Female Receptacle	30968-106*	Male Connector	30700-406*	Vertical Header
					30700-506*	Right Angle Header
8	30700-108*		30968-108*	Male Connector	30700-408*	Vertical Header
					30700-508*	Right Angle Header
10	30700-110*		30968-110*	Male Connector	30700-410*	Vertical Header
					30700-510*	Right Angle Header
12	30700-112*		30968-112*	Male Connector	30700-412*	Vertical Header
					30700-512*	Right Angle Header
14	30700-114*		-		30700-414*	Vertical Header
					30700-514*	Right Angle Header
16	30700-116*		30968-116*	Male Connector	30700-416*	Vertical Header
					30700-516*	Right Angle Header
18	30700-118*		30968-118*	Male Connector	30700-418*	Vertical Header
					30700-518*	Right Angle Header
20	30700-120*		30968-120*	Male Connector	30700-420*	Vertical Header
					30700-520*	Right Angle Header
24	30700-124*	Hybrid Female Receptacle	30968-124*	Hybrid Male Connector	30700-424*	Vertical Header
					30700-524*	Right Angle Header

*Denotes Polarization Options
0 = Option A (Black) 1 = Option B (Grey) 2 = Option C (Brown)

www.molex.com/ind/hdac64.html