



CMC Hybrid Connectors Standard and Power Versions

Standard Receptacles

2.54mm (.100") Pitch

3.70mm (.146") Pitch

64319 32-Circuit Receptacle
and Wire Cap

64320 48-Circuit Receptacle
and Wire Cap

64325 Plug

Power Receptacles

2.54mm (.100") Pitch

3.70mm (.146") Pitch

7.00mm (.276") Pitch

64318 28-Circuit Receptacle

64320 28-Circuit Wire Cap

64321 53-Circuit Receptacle
and Wire Cap

64325 Plug

CMC CP Terminals

64322 CP 0.635mm (.025")

64323 CP 1.50mm (.059")

64324 CP 2.80mm (.110")

CMC Connectors – sealed, high-density, modular and cost-effective connection system for heavy-duty applications

The CMC connector family from Molex is a sealed, high-density connection system developed for the transportation industry. It is a cost-effective, modular, hybrid system that fits with various headers.

Standard version CMC hybrid connectors hold two different terminal sizes, CP 0.635mm (.025") and CP 1.50mm (.059"). Power version CMC hybrid connectors hold three different terminal sizes, CP 0.635mm (.025") and CP 1.50mm (.059") and CP 2.80mm (.110"). Both connector versions run at operating temperatures between -40 and +125°C.

The CMC modular system offers various color codings associated with mechanical keying for easy mating with the header.

With an audible click, the integrated locking lever locks the connector to the header.

A wire cap guides the wires away from the connector either to the right or to the left. Robust CP terminals are specially designed to perform in high-conductivity applications and in harsh environments. The CMC connection system can be used for various transportation vehicles, such as cars, trucks, busses, agricultural equipment, motorcycles and marine equipment. CMC is used in various power-train applications such as engine-control units, compartment applications, gear boxes, electronic-park breaks and suspension controllers. For more information on CMC products, visit: www.molex.com/product/cmc.html.

Features and Benefits

Standard and Power Connector Features and Benefits

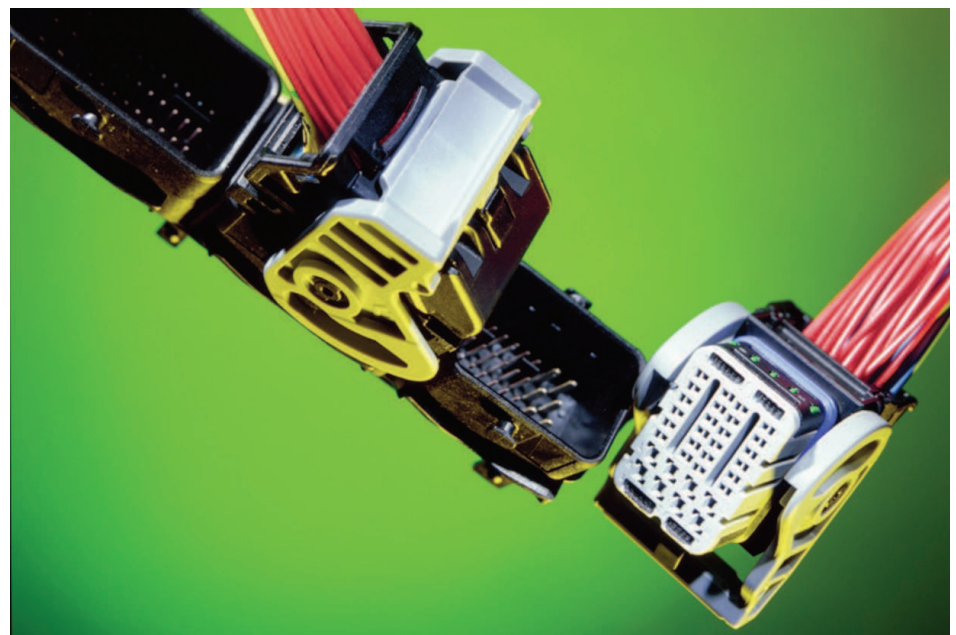
- Color coding provides easy visual installation
- Mechanical polarization avoids mis-mating
- Audible click during locking secures locking with the header
- Tie wrap as additional fixing feature provides added security of the wire output
- Multiple terminal sizes available support low, medium and high-current data requirements
- Various backplate configurations and plug seals offer flexibility and high reliability when cavities are not used

Molex High Performing Sealing Function Features and Benefits Wire Side

- Matte seal technology used for CP 0.635mm (.025") and CP 1.50mm (.059") terminals provide high-performing sealing due to seal cavity design
- Single wire-seal technology used for CP 2.80mm (.110") terminals provide secure and reliable sealing
- Multiple choices of backplate configurations allow customer to reduce the number of circuits used with a closed-cavity backplate configuration
- Blind plugs for unused circuits secure sealing system when flexibility is required for unused cavities with a standard backplate

Molex High Performing Sealing Function Features and Benefits Mating Side

- Perimeter seal secures seal between the connector and mating header



32- and 48-Circuit CMC Connector Harness



CMC Hybrid Connectors Standard and Power Versions

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3.70mm (.146") Pitch

64319 32-Circuit Receptacle
and Wire Cap

64320 48-Circuit Receptacle
and Wire Cap

64325 Plug

Power Receptacles

2.54mm (.100") Pitch

3.70mm (.146") Pitch

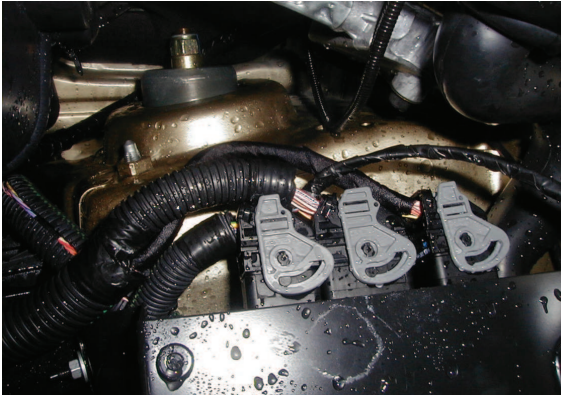
7.00mm (.276") Pitch

64318 28-Circuit Receptacle

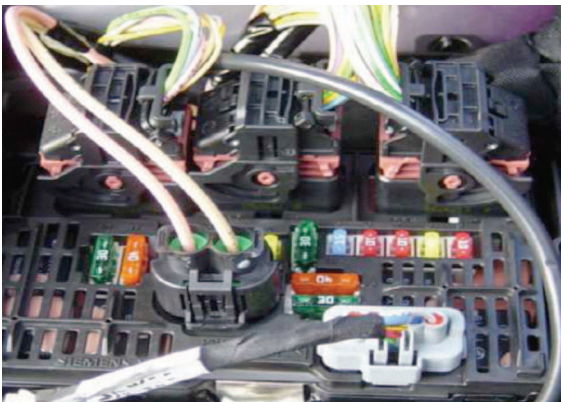
64320 28-Circuit Wire Cap

64321 53-Circuit Receptacle
and Wire Cap

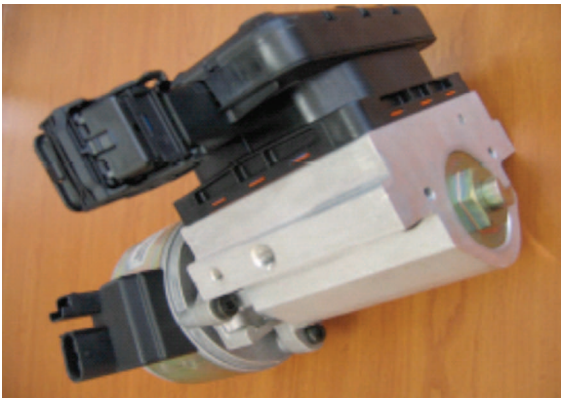
64325 Plug



Engine Control Box



Fuse Box



Hydraulic and Electrical Suspension Controller

■ Markets

- Cars
- Trucks
- Busses
- Agricultural equipment
- Motorcycle
- Marine

■ Applications: Wire-to-Board

Power Train

- Engine control unit
- Gear box
- Suspension controller

Body Electronics

- Junction box
- Lightning control system
- Electrical doors

SPECIFICATIONS



CMC Hybrid Connectors Standard and Power Versions

Standard Receptacles

64319 32-Circuit Receptacle and Wire Cap

64320 48-Circuit Receptacle and Wire Cap

64325 Plug

Reference Information

Packaging: Box with Carton Interleaf

Mates with:

- 32-Way: single 32 circuit CMC header coming soon please contact Product Manager for details
- 48-Way: 48 circuit CMC header series 36638 and 500762-0481

Use with:

Terminals:

- Series 64322 CP 0.635mm (.025")
- Series 64323 CP 1.50mm (.059")

Plugs:

- 64325-1010 for CP 0.635mm (.025") cavity
- 64325-1023 for CP 1.50mm (.059") cavity

Wire Caps:

- 32-Way: 64319-1201
- 48-Way: 64320-1301

Designed in: Millimeters

Electrical

Voltage: 250V AC

Current:

- CP 0.635mm (.025") terminals - max 6.0A (0.75mm² wire)*
- CP 1.50mm (.059") terminals - max 12.0A (2.00mm² wire)*

Contact Resistance:

- 0.635mm (.025") terminals: 8 milliohms max.
- 1.50mm (.059") terminals: 4 milliohms max.

Dielectric Withstanding Voltage: 1000V AC for 1 minute
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Insertion Force:

- 0.635mm (.025") terminal: 12.00N max
- 1.50mm (.059") terminal: 20.00N max

Contact Retention to Housing:

- 0.635mm (.025") terminal: 60.00N min.
- 1.50mm (.059") terminal: 100.00N min

Wire Pull-Out Force: min 100.00N

Mating Force: 70.00N max.

Unmating Force: 70.00N max.

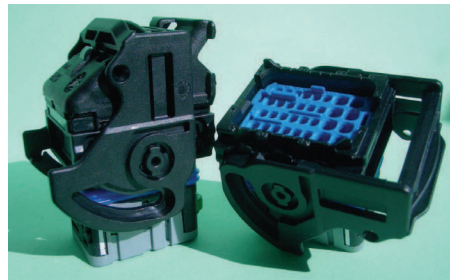
Durability: 20 mating cycles

Physical

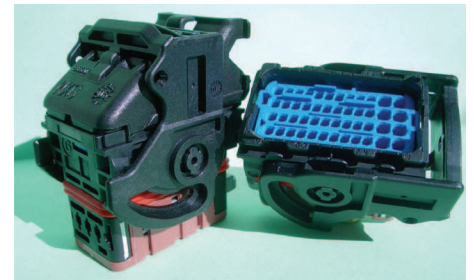
Housing: PBT, Glass-filled

Lead-Free: Yes

Operating Temperature: -40 to +125°C



32-Circuit CMC Receptacle



48-Circuit CMC Receptacle

*Current tested on a 5 terminals loaded connector; current for temperature increase of 40°C

For more details please refer to PS-64319-001 and AS-64319-001

ORDERING INFORMATION

Receptacles

Order No.	Circuits	Coding Key Color	Wire Output
64319-3211	32	Black	Right
64319-3216		Blue	
64319-3218		Grey	
64319-3219		Brown	
64319-1211	32	Black	Left
64319-1216		Blue	
64319-1218		Grey	
64319-1219		Brown	
64320-3311	48	Black	Right
64320-3315		Green	
64320-3318		Grey	
64320-3319		Brown	
64320-1311	48	Black	Left
64320-1315		Green	
64320-1318		Grey	
64320-1319		Brown	

Order No.	Circuits	Coding Key Color	Wire Output
64319-2211	24	Black – Row 1 closed	Left
64319-2218		Grey – Row 4 closed	Left
64319-4211		Black – Row 1 closed	Right
64319-4218		Grey – Row 4 closed	Right
64320-2311	36	Black – Row 1 closed	Left
64320-2319		Brown – Row 1 closed	Left
64320-4311		Black – Row 1 closed	Right
64320-4319		Brown – Row 1 closed	Right

Wire Caps

Order No.	Circuits	Housing Color
64319-1201	32	Black
64320-1301	48	

32- and 48-Circuit Plugs

Order No.	Terminal Path	Housing Color
64325-1010	0.635mm (.025")	White
64325-1023	1.50mm (.059")	Orange

SPECIFICATIONS



CMC Hybrid Connectors Standard and Power Versions

Reference Information

Packaging: Box with Carton Interleaf

Mates with:

- 28-Way: 28 circuit CMC header coming soon please contact Product Manager for details
- 53-Way: 98997-1002 please contact Product Manager for details

Use with:

Terminals:

- Series 64322 CP 0.635mm (.025")
- Series 64323 CP 1.50mm (.059")
- Series 64324 CP 2.80mm (.110")

Plugs:

- 64325-1010 for CP 0.635mm (.025") cavity
- 64325-1023 for CP 1.50mm (.059") cavity
- 64325-1091 Seal Plug for CP 2.80mm (.110") cavity

Wire Caps:

- 28-Way: 64320-1301
- 53-Way: 64321-1101

Designed in: Millimeters

Electrical

Voltage: 250V AC

Current:

- CP 0.635mm (.025") terminals - max 2.5A (0.75mm² wire)*
- CP 1.50mm (.059") terminals - max 12.0A (2.00mm² wire)*
- CP 2.80mm (.110") terminals - max 21.0A (5.00mm² wire)*

Contact Resistance:

- 0.635mm (.025") terminal: 8 milliohms max.
- 1.50mm (.059") terminal: 4 milliohms max.
- 2.80mm (.110") terminal: 3 milliohms max.

Dielectric Withstanding Voltage: 1000V AC for 1 minute

Insulation Resistance: 100 Megohms min.

Mechanical

Contact Insertion Force:

- 0.635mm (.025") terminal: 12.00N max.
- 1.50mm (.059") terminal: 20.00N max.
- 2.80mm (.110") terminal: 25.00N max.

Contact Retention to Housing:

- 0.635mm (.025") terminal: 60.00N min.
- 1.50mm (.059") terminal: 100.00N min.
- 2.80mm (.110") terminal : 100.00N min.

Wire Pull-Out Force: min. 100.00N

28-circuit: 64320

Mating Force: 70.00N max.

Unmating Force : 70.00N max.

53-circuit: 64321

Mating Force: 80.00N max.

Unmating Force: 80.00N max.

Durability: 20 mating cycles

Physical

Housing: PBT Polyester, Glass-filled

Lead-Free: Yes

Operating Temperature: -40 to +125°C

*Current tested on a fully loaded connector; current for temperature increase of 40°C

For more details please refer to PS-64318-001 / AS-64318-001 and PS-64321-001 / AS-64321-001

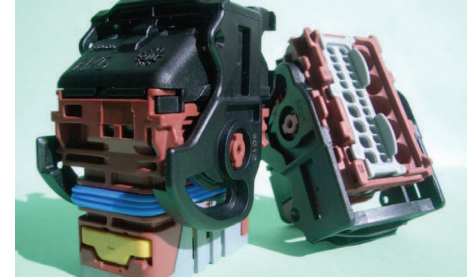
Power Receptacles

64318 28-Circuit Receptacle

64320 28-Circuit Wire Cap

64321 53-Circuit Receptacle
and Wire Cap

64325 Plug



28-Circuit CMC Receptacle



53-Circuit CMC Receptacle

ORDERING INFORMATION

Receptacles

Order No.	Circuits	Coding Key Color	Wire Output
64318-3011	28	Black	Right
64318-3018		Grey	
64318-3019		Brown	
64318-1011		Black	Left
64318-1018		Grey	
64318-1019		Brown	
64321-2011	53	Black	Right
64321-2018		Grey	
64321-2019		Brown	
64321-1011		Black	Left
64321-1018		Grey	
64321-1019		Brown	

Wire Caps

Order No.	Circuits	Housing Color
64320-1301	28	Black
64321-1101	53	

28- and 53-Circuit Plugs

Order No.	Terminal Path	Housing Color
64325-1010	0.635mm (.025")	White
64325-1023	1.50mm (.059")	Orange
64325-1091	2.80mm (.110")	Black

CP terminals are used for the CMC Hybrid Connector system. Three different CP terminal sizes are available: 0.635mm (.025"), 1.50mm (.059"), and 2.80mm (.110"). They support low, medium and high current data requirements.

The robust shape of CP terminals is specially designed to perform in high-conductivity applications and in harsh environments. It is a 2-piece design in which the terminal body is made out of high-conductivity copper alloy and the terminal box is made out of stainless steel.

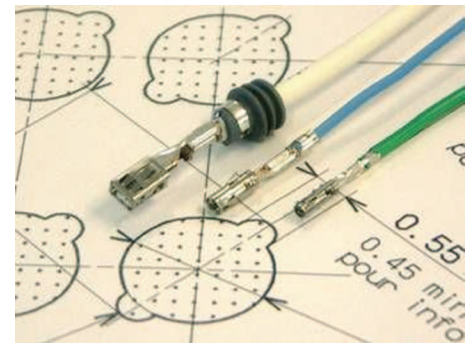
CP terminals are available in tin and gold plating, and allow crimping individual wire sizes as show in the table below.

CP terminal 0.635mm (.025") in the HP version (high performing) is specially designed to perform in high vibration applications and to withstand up to 50 mating cycles. The HP version of CP terminal 0.635mm (.025") is available in gold plating only.

- 64322 0.635mm (.025") Terminal**
- 64323 1.50mm (.059") Terminal**
- 64324 2.80mm (.110") Terminal**

CMC CP Terminals

Order No.	Width	Plating	Wire Size In mm ² *	Wire Insulation Diameter In mm*	Wire Size In AWG*
64322-1019	0.635mm (.025")	Tin (Sn)	0.35	1.25 – 1.40	22, 24
64322-1029			0.75	1.60 – 1.90	N/A
64322-1039			0.5	1.40 – 1.70	N/A
64322-1219		1.27µm Gold (Au)	0.75	1.60 – 1.90	N/A
64322-1229			0.35	1.25 – 1.40	22, 24
64322-1239			0.5	1.40 – 1.70	N/A
64322-1339	0.635mm (.025") HP	1.27µm Gold (Au)	0.75	1.60 – 1.90	N/A
64322-1349			0.35	1.25 – 1.40	22, 24
64322-1359			0.5	1.40 – 1.70	N/A
64323-1029	1.50mm (.059")	Tin (Sn)	0.5 to 1.0	1.40 – 2.15	18, 20
64323-1039		1.27µm Gold (Au)	> 1.0 to 2.0	2.10 – 2.80	14, 16
64323-1319			0.5 to 1.0	1.40 – 2.15	18, 20
64324-1019	2.80mm (.110")	Tin (Sn)	> 3.0 to 5.0	3.40 – 4.00	N/A
64324-1029			> 2.0 to 3.0	2.65 – 3.45	N/A
64324-1039			> 1.0 to 2.0	2.10 – 2.80	N/A
64324-1049			0.5 to 1.0	1.40 – 2.15	N/A
64324-1119		1.27µm Gold (Au)	> 3.0 to 5.0	3.40 – 4.00	N/A
64324-1129			> 2.0 to 3.0	2.65 – 3.45	N/A
64324-1139			> 1.0 to 2.0	2.10 – 2.80	N/A
64322-1149			0.5 to 1.0	1.40 – 2.15	N/A



CMC CP Terminals

*For more details please refer to CS 64322-001/CS64323-001/CS64324-001



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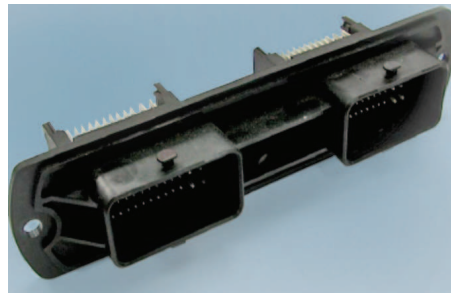
64322 0.635mm
(.025") Terminal

64323 1.50mm
(.059") Terminal

64324 2.80mm
(.110") Terminal



48-Circuit Header Series 36638



96-Circuit Header Series 36638



48-Circuit Header Series 500762



80-Circuit Header Series 502225

Right-Angle, Lead-Free CMC Headers

Order No.	Circuits	Mounting Style	Soldering Process	Mates with Connector Coding
36638-0001 36638-0012	96	Panel mount with optional snap-in PCB pegs	Wave	48-circuit black coding: Left: 64320-1311 receptacle Right: 64320-3311 receptacle OR 48-circuit brown coding: Left: 64320-1319 receptacle Right: 64320-3319 receptacle
36638-0002 up to 36638-0009	48			
500762-0481	48	Clamshell with snap-in PCB pegs	Wave	48-circuit black coding: Left: 64320-1311 receptacle Right: 64320-3311 receptacle
502225-0801	80		Wave	32-circuit black coding: Right: 64319-3211 and 48-circuit brown coding: Left: 64320-1319

www.molex.com/product/cmc.html

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