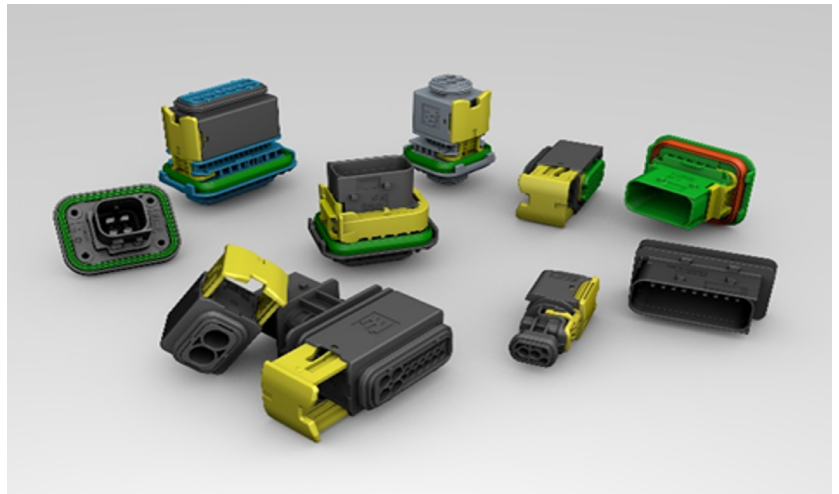


HEAVY DUTY SEALED CONNECTOR SERIES

FOR INDUSTRIAL & COMMERCIAL TRANSPORTATION

TERMINALS AND CONNECTORS



WE GO TO EXTREMES TO MAKE SURE EVERY CONNECTION COUNTS



TE Connectivity (TE) Industrial & Commercial Transportation (ICT) is a reliable provider of solutions for even the harshest environment. With a focus on employee expertise and durable products, we deliver the solutions and support our customers can count on.

Years ago, tractors, construction equipment, trucks, and boats had simple electrical systems that might have included electrical starting and a basic lighting package. Today, ECUs, joysticks, fuel-efficient engines, LED lights, and CAN systems are standard equipment. The need to protect sensitive electrical systems from vibration, moisture, dust, dirt, salt, and airborne particles has never been greater. TE Industrial & Commercial Transportation is a leader in supporting today's increasingly complex and sophisticated equipment and applications.

Our comprehensive line of products includes an unparalleled portfolio of rugged sensors, terminals, connectors, relays, and hybrid electric mobility solutions. These solutions are designed to withstand the harshest environmental conditions and to help vehicles operate safer, cleaner, and smarter.

Our solutions adapt to virtually any **harsh environment application**, including:



Motors and Gearboxes



ABS/EBS Brake Units



Telematics Units



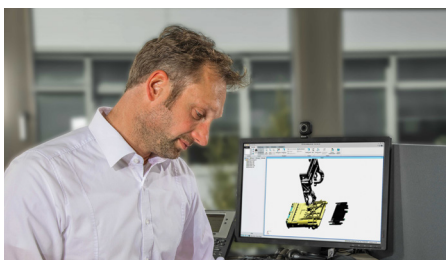
Sensors



Wire-To-Wire Coupling at the Chassis



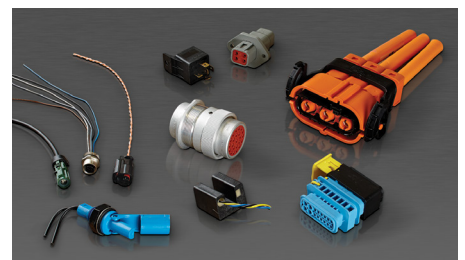
Infotainment Applications



2,000+ Employees



10,000+ Customers



20,000+ Different Parts



Heavy Duty Sealed Connector Series

Our heavy duty sealed connectors are designed to meet the rigorous demands of the commercial vehicle industry and off-road applications that require the highest standards of performance. Made from a rugged UL94 V-0-rated thermoplastic, heavy duty sealed connectors have an integrated secondary lock with a poka-yoke feature that can be used for inline, flange-mounted or PCB applications in a wire-to-wire, wire-to-device or wire-to-board configuration.

Rated to IP67 and IP6K9K (when used with a backshell), this series is available in six housing sizes with up to six keying options. They are offered in arrangements ranging from 2 to 18 positions. Solutions for CAN bus architecture are also available.

Accessories include backshells, protection caps, cavity plugs, and fixing slides.

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Heavy Duty Sealed Connector Series

BENEFITS

- Optimize applied costs with AMP MCP 1.5K, 2.8, 6.3/4.8K and MCON 1.2 contacts. The shared family supports a broad range of heavy-duty applications with high current capacity.
- Protect from dust, water, and overspray with up to IP69K rugged sealing capabilities.
- Easily insert and extract contacts and enjoy trouble-free maintenance with individual wire seals designed to crimp at the base of the terminal.
- Quickly verify terminal position with the integrated secondary locking device and poka-yoke system, using a reliable assembly process.

KEY INDUSTRIES

The heavy duty sealed connector series can be utilized in the truck, bus, construction, agriculture, and special vehicles industries.



Truck



Bus



Construction



Agriculture



Special Vehicles



Automotive

APPLICATIONS

The heavy duty sealed connector series can be utilized in the following applications:



Motors and Gearboxes



ABS/EBS Brake Units



Hydraulic Pumps



Fuel Level Sensors



Wire-to-Wire Coupling at the Chassis



Actuators



Switches



EV Battery



E-Motor



CAN BUS Systems



PCB Mounting



Potential Distribution



Grounding Application

Heavy Duty Sealed Connector Series

for Industrial & Commercial Transportation

PRODUCT DOCUMENTATION

Additional product documentation is available for assistance with heavy duty sealed connector series products.

The following documentation may be helpful:

[108-94020 \(Product Specification, Heavy Duty Sealed Connector Series\)](#)

[114-18756 \(Application Specification, Heavy Duty Sealed Connector Series\)](#)

[1563709 \(Product Group Drawing\)](#)

[108-94808 \(Product Specification, Heavy Duty Sealed Connector Series Headers\)](#)

[114-94684 \(Application Specification, Heavy Duty Sealed Connector Series Headers\)](#)



PERFORMANCE SPECIFICATIONS

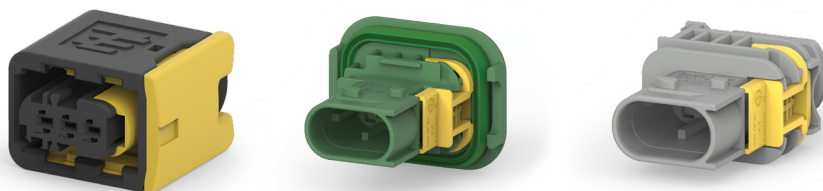
Temperature:	Operating at temperatures -40°C to +140°C
Mating Durability:	Contacts: up to 10 cycles (tin), up to 50 cycles (silver), up to 100 cycles (gold); see individual product specifications for additional details.
Insulation Resistance:	500 V DC, test per ISO 16750-2 (4.12)
Immersion:	1P67 rating, IP69K (with cover), for flanged tab housings, only by observing mounting instructions.
Random Vibration:	Tested at 177 m/s ² , 94 hours per axis. See product spec 108-94020 for full specifications.
Voltage:	Up to 60 V DC
Flammability:	UL 94-VO-rated material

MATERIAL SPECIFICATIONS

Flange Seal:	Silicone rubber
Seal for Secondary Locking:	Silicone rubber
Housing:	Glass-filled PBT
Secondary Lock:	Glass-filled PBT
Slide Lock:	Glass-filled PBT

Heavy Duty Sealed Connector Series Housings (Group A)

GROUP A HOUSINGS



GROUP A SIZE CONFIGURATIONS



2 Positions
2 size 2.8



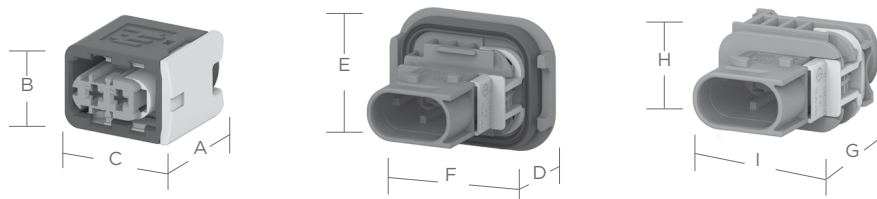
2 Positions
2 size 1.5K



3 Positions
3 size 1.5K



4 Positions
4 size
MCON 1.2



DIMENSIONS

Receptacle Housing			Flanged Tab Housing			Flangeless Tab Housing		
Overall Length A	Overall Height B	Overall Width C	Overall Length D	Overall Height E	Overall Width F	Overall Length G	Overall Height H	Overall Width I
30.75-31.25 mm (1.211-1.231")	18.5 mm (0.728")	26.0 mm (1.02")	47.05-48.1 mm (1.852-1.89")	29.8 mm (1.17")	37.5 mm (1.48")	47.05-48.1 mm (1.852-1.89")	19.0 mm (0.748")	27.6 mm (1.09")

DIMENSIONS 2POS MINI

Receptacle Housing			Flangeless Tab Housing		
Overall Length A	Overall Height B	Overall Width C	Overall Length G	Overall Height H	Overall Width I
33.3 mm (1.311")	30.45-31.05 mm (1.199-1.222")	18.2-18.8 mm (0.716-0.740")	14.5 mm (0.571")	46.65-47.45 mm (1.836-1.868")	9.8 mm (0.385")

DIMENSIONS 4POS MCON1.2

Receptacle Housing			Flanged Tab Housing (Header)		
Overall Length A	Overall Height B	Overall Width C	Overall Length D	Overall Height E	Overall Width F
42.5 mm (1.673")	30.45-31.05mm (1.199-1.222")	18.2-18.8 mm (0.716-0.740")	48.4-49 mm (1.905 1.929")	48.4-49 mm (1.905-1.929")	38.7-39.3 mm (1.523-1.547")

Heavy Duty Sealed Connector Series
for Industrial & Commercial Transportation

ORDERING INFORMATION

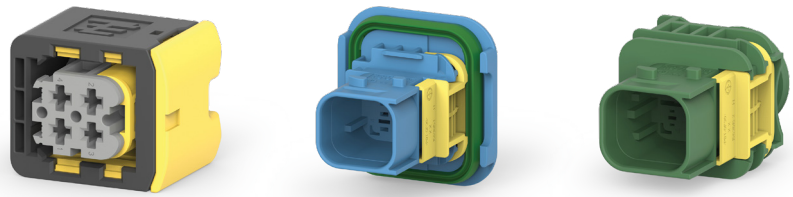
Positions	Contacts	Keying Color	Receptacle Housing	Tab Housing	
				With Flange	Without Flange
2	(2x) 2.8	Black	1-1418483-1	1-1703841-1	1-1703839-1
		Gray	2-1418483-1	2-1703841-1	2-1703839-1
		Green	3-1418483-1	3-1703841-1	3-1703839-1
		Blue	4-1418483-1	4-1703841-1	4-1703839-1
(3) 2	(2x) 1.5K (1x) blank	Black	1-1418448-2	1-1703843-2	1-1670730-2
		Gray	2-1418448-2	2-1703843-2	2-1670730-2
		Green	3-1418448-2	3-1703843-2	3-1670730-2
		Blue	4-1418448-2	4-1703843-2	4-1670730-2
3	(3x) 1.5K	Black	1-1418448-1	1-1703843-1	1-1670730-1
		Gray	2-1418448-1	2-1703843-1	2-1670730-1
		Green	3-1418448-1	3-1703843-1	3-1670730-1
		Blue	4-1418448-1	4-1703843-1	4-1670730-1
		Violet	5-1418448-1	5-1703843-1	*
		Red	6-1418448-1	6-1703843-1	*
4	(4x) MCON 1.2	Black	1-2366768-1	*	*
		Gray	2-2366768-1	*	*
2	2 Mini (2x) 1.5K	Black	1-2382278-1	*	1-2382274-1
		Gray	2-2382278-1	*	2-2382274-1

*Other configurations available upon request. Please contact TE for additional information.
New PN appear in bold.

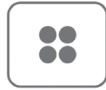
Heavy Duty Sealed Connector Series
for Industrial & Commercial Transportation

Heavy Duty Sealed Connector Series Housings
(Group B)

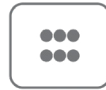
GROUP B
HOUSINGS



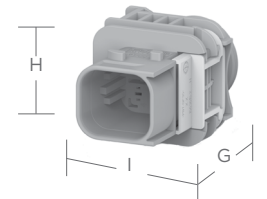
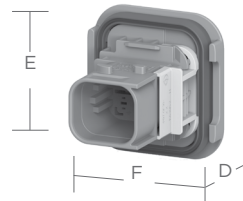
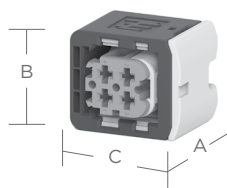
GROUP B
SIZE CONFIGURATIONS



4 Positions
4 size 2.8



6 Positions
6 size 1.5K



DIMENSIONS

Receptacle Housing			Flanged Tab Housing			Flangeless Tab Housing		
Overall Length A	Overall Height B	Overall Width C	Overall Length D	Overall Height E	Overall Width F	Overall Length G	Overall Height H	Overall Width I
31.3 mm (1.23")	25.7 mm (1.01")	30.2 mm (1.19")	47.05-48.1 mm (1.852-1.89")	39.8 mm (1.57")	37.5 mm (1.48")	47.05-48.1 mm (1.852-1.89")	27.0 mm (1.06")	27.6 mm (1.09")

ORDERING INFORMATION

Positions	Contacts	Keying Color	Header 180°	Tab Housing		
				Receptacle	With Flange	Without Flange
4	(4x) 2.8	Black	1-2377473-1	1-1418390-1	1-1703808-1	1-1703818-1
		Gray	2-2377473-1	2-1418390-1	2-1703808-1	2-1703818-1
		Green	*	3-1418390-1	3-1703808-1	3-1703818-1
		Blue	*	4-1418390-1	4-1703808-1	4-1703818-1
		Violet	*	5-1418390-1	*	*
		Red	*	6-1418390-1	*	*
6	(6x) 1.5K	Black	1-2377477-1	1-1418469-1	1-1703820-1	1-1703773-1
		Gray	2-2377477-1	2-1418469-1	2-1703820-1	2-1703773-1
		Green	*	3-1418469-1	3-1703820-1	3-1703773-1
		Blue	*	4-1418469-1	4-1703820-1	4-1703773-1

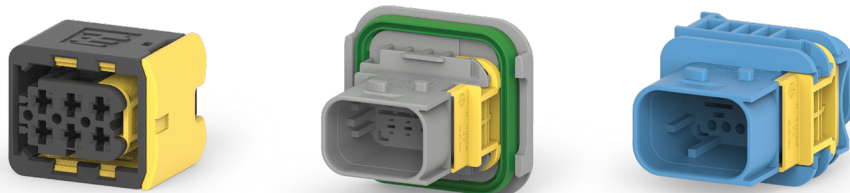
*Other configurations available upon request. Please contact TE for additional information.
New PN appear in bold.

Heavy Duty Sealed Connector Series

for Industrial & Commercial Transportation

Heavy Duty Sealed Connector Series Housings (Group C)

GROUP C HOUSINGS



GROUP C SIZE CONFIGURATIONS



2 Positions
2 size 6.3/4.8K



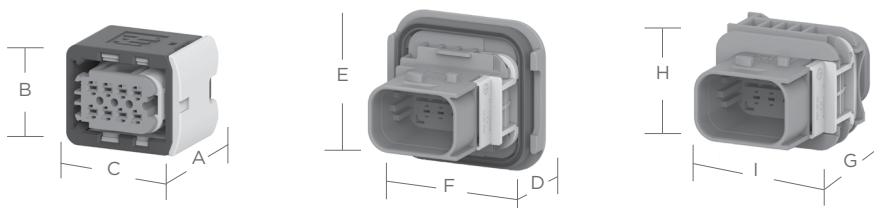
6 Positions
6 size 2.8



7 Positions
4 size 1.5K
3 size 2.8



8 Positions
8 size 1.5K



DIMENSIONS

Receptacle Housing			Flanged Tab Housing			Flangeless Tab Housing		
Overall Length A	Overall Height B	Overall Width C	Overall Length D	Overall Height E	Overall Width F	Overall Length G	Overall Height H	Overall Width I
31.3 mm (1.23")	25.7 mm (1.01")	31.2 mm (1.23")	47.05-50.6 mm (1.852-1.99")	39.8 mm (1.57")	42.5 mm (1.67")	47.05-50.6 mm (1.852-1.99")	27.0 mm (1.06")	32.6 mm (1.28")

ORDERING INFORMATION

Positions	Contacts	Keying Color	Header 180°	Tab Housing		
				Receptacle	With Flange	Without Flange
2	(2x) 6.3/4.8K	Black	*	1-1564542-1	1-1564546-1	1-1564544-1
		Gray	*	2-1564542-1	2-1564546-1	2-1564544-1
		Green	*	3-1564542-1	3-1564546-1	3-1564544-1
		Blue	*	4-1564542-1	4-1564546-1	4-1564544-1
6	(6x) 2.8	Black	*	1-1418437-1	*	*
		Gray	*	2-1418437-1	*	*
		Green	*	3-1418437-1	*	*
		Blue	*	4-1418437-1	*	*
7	(4x) 1.5K (3x) 2.8	Black	1-2378180-1	1-1418480-1	1-1670214-1	1-1703648-1
		Gray	2-2378180-1	2-1418480-1	2-1670214-1	2-1703648-1
		Green	*	3-1418480-1	3-1670214-1	3-1703648-1
		Blue	*	4-1418480-1	4-1670214-1	4-1703648-1
8	(8x) 1.5K	Black	1-2378182-1	1-1418479-1	1-1564416-1	1-1564512-1
		Gray	2-2378182-1	2-1418479-1	2-1564416-1	2-1564512-1
		Green	*	3-1418479-1	3-1564416-1	3-1564512-1
		Blue	*	4-1418479-1	4-1564416-1	4-1564512-1

*Other configurations available upon request. Please contact TE for additional information. New PN appear in bold.

Heavy Duty Sealed Connector Series

for Industrial & Commercial Transportation

Heavy Duty Sealed Connector Series Housings (Group D)

GROUP D HOUSINGS



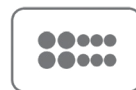
GROUP D SIZE CONFIGURATIONS



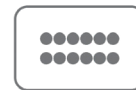
4 Positions
2 size 1.5K
2 size 6.3/4.8K



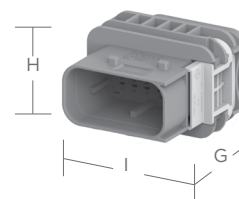
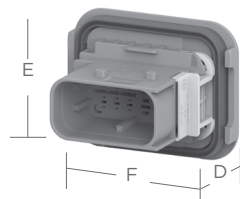
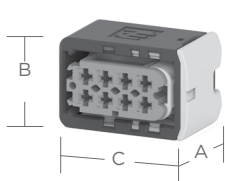
8 Positions
8 size 2.8



10 Positions
6 size 1.5K
4 size 2.8



12 Positions
12 size 1.5K



DIMENSIONS

Receptacle Housing			Flanged Tab Housing			Flangeless Tab Housing		
Overall Length A	Overall Height B	Overall Width C	Overall Length D	Overall Height E	Overall Width F	Overall Length G	Overall Height H	Overall Width I
31.3 mm (1.23")	25.7 mm (1.01")	39.2 mm (1.54")	47.05-48.1 mm (1.852-1.89")	39.8 mm (1.57")	50.5 mm (1.99")	47.05-48.1 mm (1.852-1.89")	27.0 mm (1.06")	40.6 mm (1.60")

ORDERING INFORMATION

Positions	Contacts	Keying Color	Header 180°	Tab Housing		
				Receptacle	With Flange	Without Flange
4	(2x) 1.5K (2x) 6.3/4.8K	Black	*	*	*	*
		Gray	*	2-2208157-1	*	*
		Green	*	3-2208157-1	*	*
		Blue	*	4-2208157-1	*	*
8	(8x) 2.8	Black	*	1-1670894-1	*	1-1564522-1
		Gray	*	2-1670894-1	*	2-1564522-1
		Green	*	3-1670894-1	*	3-1564522-1
		Blue	*	4-1670894-1	*	4-1564522-1
10	(6x) 1.5K (4x) 2.8	Black	1-2378187-1	1-1564514-1	1-1564518-1	1-1564516-1
		Gray	2-2378187-1	2-1564514-1	2-1564518-1	2-1564516-1
		Green	*	3-1564514-1	3-1564518-1	3-1564516-1
		Blue	*	4-1564514-1	4-1564518-1	4-1564516-1
12	(12x) 1.5K	Black	*	1-1703639-1	1-1564520-1	1-1564414-1
		Gray	*	2-1703639-1	2-1564520-1	2-1564414-1
		Green	*	3-1703639-1	3-1564520-1	3-1564414-1
		Blue	*	4-1703639-1	4-1564520-1	4-1564414-1

*Other configurations available upon request. Please contact TE for additional information. New PN appear in bold.

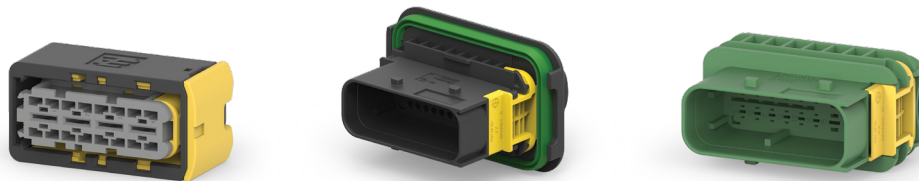
Heavy Duty Sealed Connector Series

for Industrial & Commercial Transportation

Heavy Duty Sealed Connector Series Housings

(Group E)

GROUP E HOUSINGS



GROUP E SIZE CONFIGURATIONS



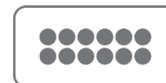
4 Positions
4 size 6.3/4.8K



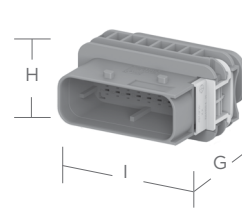
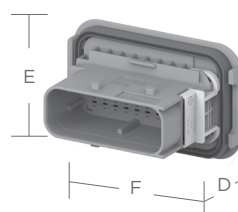
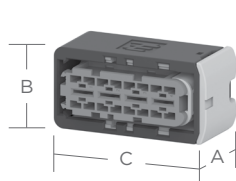
6 Positions
4 size 2.8
2 size 6.3/4.8K



8 Positions
6 size 2.8
2 size 6.3/4.8K



12 Positions
12 size 2.8



DIMENSIONS

Receptacle Housing			Flanged Tab Housing			Flangeless Tab Housing		
Overall Length A	Overall Height B	Overall Width C	Overall Length D	Overall Height E	Overall Width F	Overall Length G	Overall Height H	Overall Width I
31.3 mm (1.23")	25.7 mm (1.01")	51.2 mm (2.02")	50.6 mm (1.99")	39.8 mm (1.57")	62.5 mm (1.46")	47.1 mm (1.85")	27.0 mm (1.06")	52.6 mm (2.07")

ORDERING INFORMATION

Positions	Contacts	Keying Color	Headers 180°	Tab Housing		
				Receptacle	With Flange	Without Flange
4	(4x) 6.3/4.8K	Black	*	1-1564330-1	1-1564536-1	1-1564534-1
		Gray	*	2-1564330-1	2-1564536-1	2-1564534-1
		Green	*	3-1564330-1	*	3-1564534-1
		Blue	*	4-1564330-1	*	4-1564534-1
(8) 6	(4x) 2.8 (2x) 6.3/4.8K (2x) blank	Black	*	1-2299782-2	*	*
		Gray	*	2-2299782-2	*	*
		Green	*	3-2299782-2	*	*
		Blue	*	4-2299782-2	*	*
8	(6x) 2.8 (2x) 6.3/4.8K	Black	*	1-2299782-1	1-2383510-1	1-2383519-1
		Gray	*	2-2299782-1	1-2383510-1	2-2383519-1
		Green	*	3-2299782-1	3-2383510-1	3-2383519-1
		Blue	*	4-2299782-1	4-2383510-1	4-2383519-1
12	(12x) 2.8	Black	*	1-1670901-1	*	*
		Gray	*	2-1670901-1	*	*
		Green	*	3-1670901-1	*	*
		Blue	*	4-1670901-1	*	*

*Other configurations available upon request. Please contact TE for additional information. New PN appear in bold.

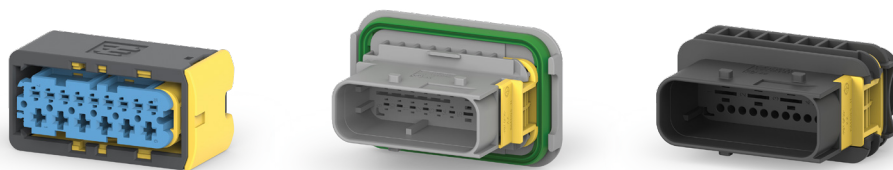
Heavy Duty Sealed Connector Series

for Industrial & Commercial Transportation

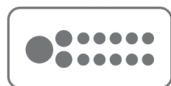
Heavy Duty Sealed Connector Series Housings

(Group E)

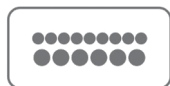
GROUP E HOUSINGS



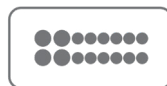
GROUP E SIZE CONFIGURATIONS



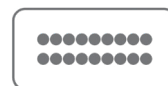
13 Positions
10 size 1.5K
2 size 2.8
1 size 6.3/4.8K



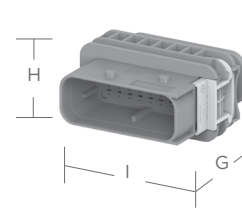
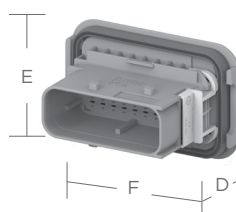
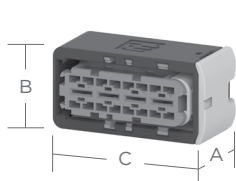
15 Positions
9 size 1.5K
6 size 2.8



16 Positions
12 size 1.5K
4 size 2.8



18 Positions
18 size 1.5K



DIMENSIONS

Receptacle Housing			Flanged Tab Housing			Flangeless Tab Housing		
Overall Length A	Overall Height B	Overall Width C	Overall Length D	Overall Height E	Overall Width F	Overall Length G	Overall Height H	Overall Width I
31.3 mm (1.23")	25.7 mm (1.01")	51.2 mm (2.02")	47.1-48.1 mm (1.85-1.89")	39.8 mm (1.57")	62.5 mm (1.46")	47.1-48.1 mm (1.85-1.89")	27.0 mm (1.06")	52.6 mm (2.07")

ORDERING INFORMATION

Positions	Contacts	Keying Color	Headers 180°	Potential	Tab Housing		
					Receptacle	With Flange	Without Flange
13	(12x) 2.8	Black	*	*	1-2358263-1	*	*
		Gray	*	*	2-2358263-1	*	*
		Green	*	*	3-2358263-1	*	*
		Blue	*	*	4-2358263-1	*	*
15	(9x) 1.5K (6x) 2.8	Black	1-2378191-1	*	1-1563878-1	1-1564532-1	1-1564530-1
		Gray	2-2378191-1	*	2-1563878-1	2-1564532-1	2-1564530-1
		Green	*	*	3-1563878-1	3-1564532-1	3-1564530-1
		Blue	*	*	4-1563878-1	4-1564532-1	4-1564530-1
16	(12x) 1.5K (4x) 2.8	Black	*	*	1-1564337-1	1-1564407-1	1-1564528-1
		Gray	*	*	2-1564337-1	2-1564407-1	2-1564528-1
		Green	*	*	3-1564337-1	3-1564407-1	3-1564528-1
		Blue	*	*	4-1564337-1	4-1564407-1	4-1564528-1
18	(18x) 1.5K	Black	1-2377481-1	1-2369516-1	1-1563759-1	1-1564526-1	1-1564412-1
		Gray	2-2377481-1	2-2369516-1	2-1563759-1	2-1564526-1	2-1564412-1
		Green	*	3-2369516-1	3-1563759-1	3-1564526-1	3-1564412-1
		Blue	*	*	4-1563759-1	4-1564526-1	4-1564412-1

*Other configurations available upon request. Please contact TE for additional information. New PN appear in bold.

Heavy Duty Sealed Connector Series

for Industrial & Commercial Transportation

ORDERING INFORMATION

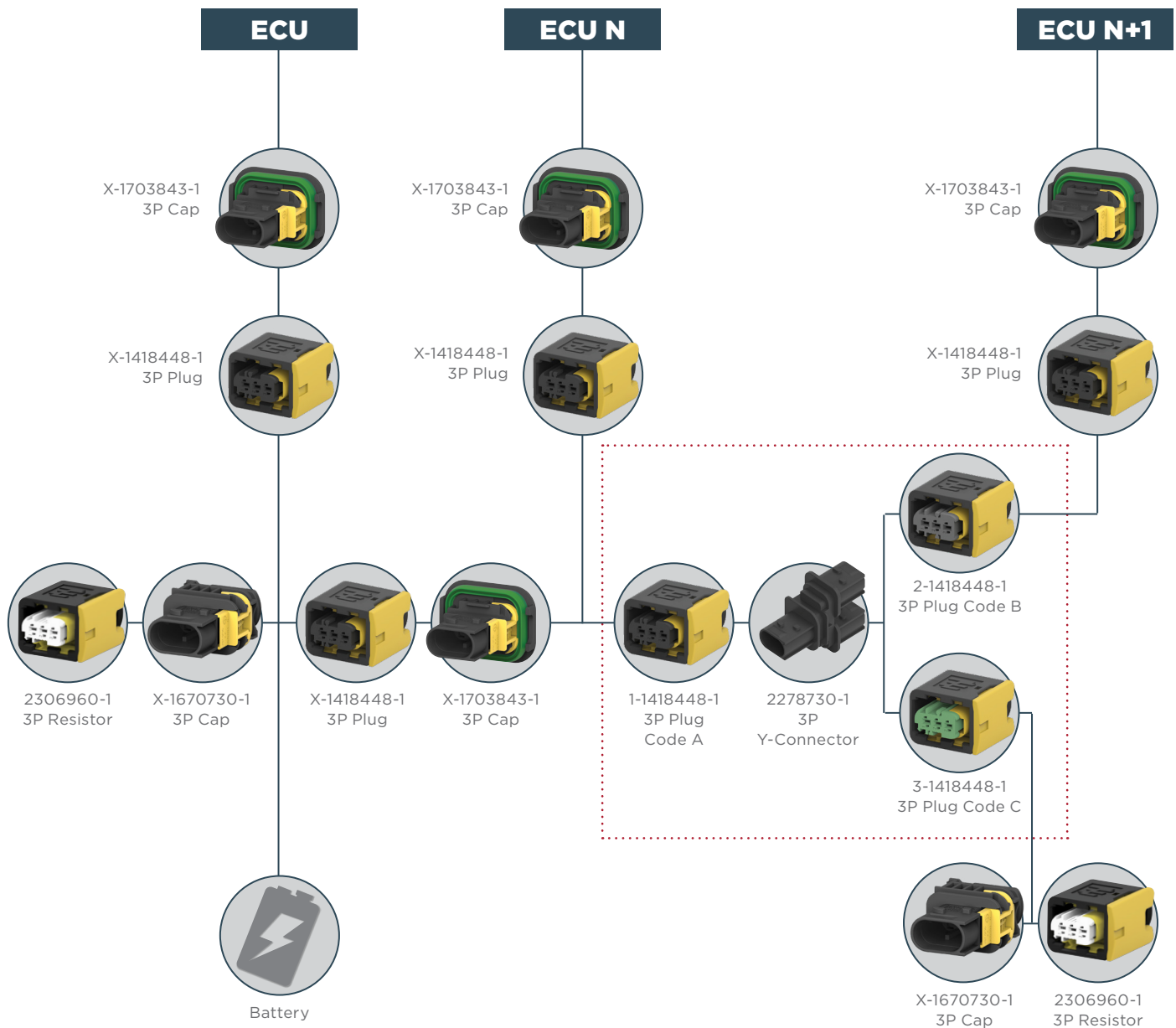
Current Splitter 2pos x 16pos			Mating Part 2pos Gr. C	Mating Part 16pos Gr E
Sales Part Number	Code	Color	Sales Part Number	Sales Part Number
2365741-1	A	Black	1-1564542-1	1-1564337-1

*Other configurations available upon request. Please contact TE for additional information.

Heavy Duty Sealed Connector Series Housings
CAN Bus Housings

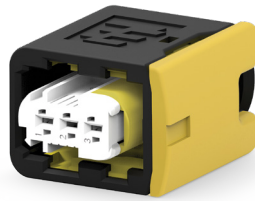
Heavy duty sealed connector series CAN bus Y-Connector and 120(ohm) Resistor connectors are key for CAN signal communication systems in vehicles or machinery on the farm, construction sites, and on-/off-road applications. They meet CAN bus protocol specifications according to SAE J1939 standard and are fully compatible with our heavy duty sealed connector series accessories and parts, including the heavy duty sealed connector series 3-position plug and backshell/dust cap.

SAE J1939 CAN-BUS NETWORK ARCHITECTURE



Heavy Duty Sealed Connector Series
CAN Bus

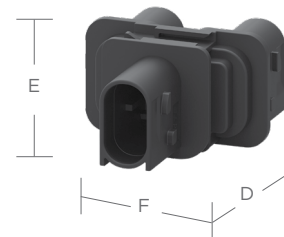
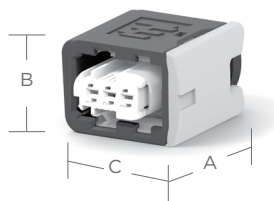
CAN BUS
HOUSINGS



CAN BUS
SIZE CONFIGURATIONS



3 Positions
3 size 1.5K



DIMENSIONS

120Ω Resistor Receptacle Housing			Y-Connector Tab Housing		
Overall Length A	Overall Height B	Overall Width C	Overall Length D	Overall Height E	Overall Width F
30.75 mm (1.211")	18.5 mm (0.728")	26.0 mm (1.02")	53.1 mm (2.09")	25.9 mm (1.02")	42.4 mm (1.67")

ORDERING INFORMATION

Positions	Contacts	Keying Type	Color	Part Number
3	(2x) 1.5K (1x) 120Ω Resistor	X	White	2306960-1
3 / 3 / 3	(3x) 1.5K (3x) 1.5K (3x) 1.5K	A / B / C	Black	2278730-1
		A / A / A	Black	2278730-2

Heavy Duty Sealed Connector Series

Accessories

Several accessory items are available to complement the heavy duty sealed connector series, including backshells, fixing slides, and protection caps. Accessory items cover a wide array of design requirements such as assisting with mounting, providing additional protection, and offering enhanced aesthetics.

BACKSHELLS

Backshells attach to the back of a connector to provide additional protection against environmental conditions as well as provide additional strain relief to the wire bundle.



Group	Description	Part Number
A	Vertical adapter for NW 8.5 mm corrugated tubing	1670365-1
	Right-angle adapter for NW 8.5 mm corrugated tubing	1670150-1
	Adapter, Mini 2POS, right-angle backshell	2409554-1
	Adapter, Mini 2POS, vertical backshell	2409553-1
B	Right-angle adapter with universal clamp	965576-1
	Vertical adapter with universal clamp	965784-1
	Right-angle adapter for NW 7.5 mm corrugated tubing	185793-1
	Right-angle adapter for NW 8.5 mm corrugated tubing	965577-1
	Right-angle adapter for NW 10 mm corrugated tubing	965783-1
	Vertical adapter for NW 7.5 mm corrugated tubing	185792-1
	Vertical adapter for NW 8.5 mm corrugated tubing	965785-1
	Vertical adapter for NW 10 mm corrugated tubing	965786-1
	Right-angle adapter 4/7 position for hose	1534789-1
	Vertical adapter 4/7 position for hose	1534791-1
	Vertical adapter 4/7 position for jacketed cable 5.2-6.5 mm	1418916-1
	Vertical adapter 4/7 position for jacketed cable 6.0-9.5 mm	1418917-1
	Right-angle adapter 4/7 position for jacketed cable 5.2-6.5 mm	1418918-1
	Right-angle adapter 4/7 position for jacketed cable 6.0-9.5 mm	1418919-1
C	Vertical adapter for NW 13 mm corrugated tubing	1670364-1
	Right-angle adapter for NW 13 mm corrugated tubing	1670057-1
D	Vertical adapter for NW 13 mm corrugated tubing	1563111-1
	Right-angle adapter for NW 13 mm corrugated tubing	1563110-1
E	Vertical adapter for NW 17 mm corrugated tubing and hose	1670866-1
	Right-angle adapter for NW 17 mm corrugated tubing and hose	1670865-1

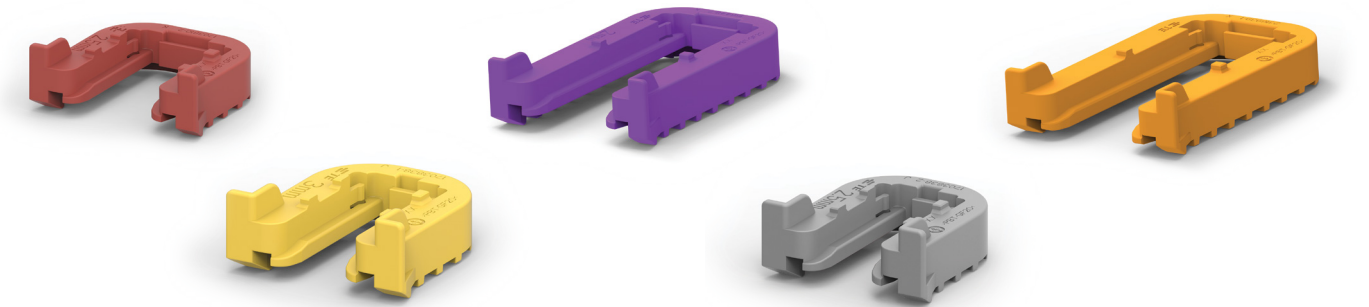
New PN appear in bold

Heavy Duty Sealed Connector Series

for Industrial & Commercial Transportation

FIXING SLIDES

Fixing slides are used to help secure heavy duty sealed connectors while mounting them. The fixing slides can accommodate panel thicknesses from 1.0-3.5 mm.



Group	Color	Panel Thickness (mm)	Part Number
A	Red	2.50	1703838-2
	Yellow	3.00	1703838-1
	Gray	3.50	1703838-6
B	Red	2.50	1703810-2
	Yellow	3.00	1703810-1
	Gray	3.50	1703810-6
C	Gray	1.50	1670720-5
	Green	1.60	1670720-8
	Red	2.50	1670720-2
	Yellow	3.00	1670720-1
	Gray	3.50	1670720-6
D	Natural	1.00	1564562-4
	Orange	1.20	2317070-1
	Gray	1.50	1564562-5
	Red	2.50	1564562-2
	Yellow	3.00	1564562-1
	Gray	3.50	1564562-6
E	Orange	1.20	2316939-1
	Gray	1.50	1564411-5
	Green	1.60	1564411-8
	Violett	2.00	1564411-7
	Red	2.50	1564411-2
	Yellow	3.00	1564411-1
	Gray	3.50	1564411-6

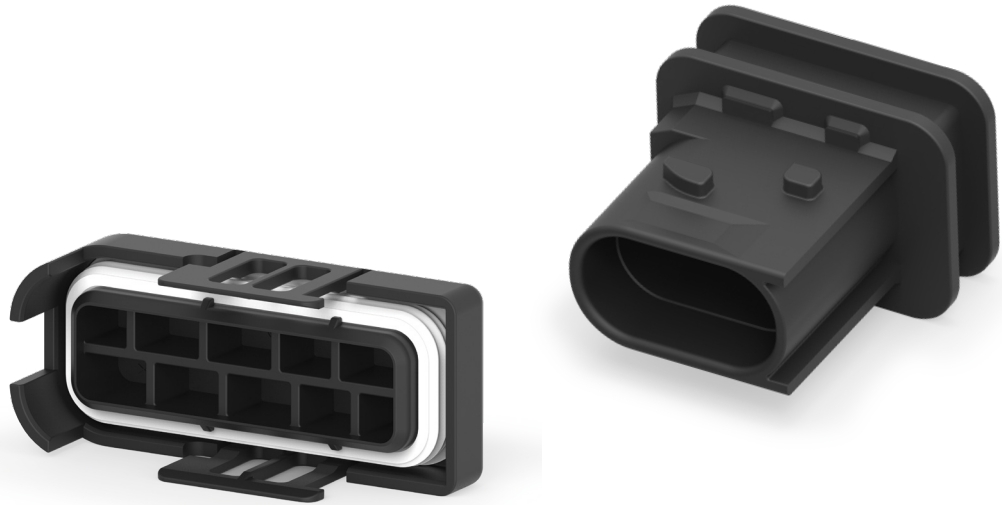
*Other configurations available upon request. Please contact TE for additional information.

Heavy Duty Sealed Connector Series

for Industrial & Commercial Transportation

PROTECTION CAPS

Heavy duty sealed connector series protection caps provide an environmental seal and are used to help protect the connector interface when the two halves are not mated.



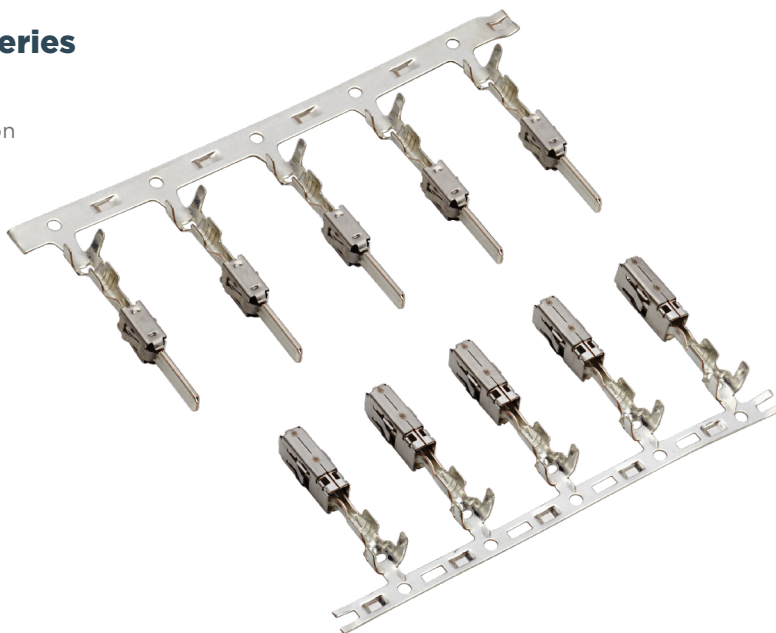
Group	Housing	Part Number
A	Receptacle	2112299-1
	Tab	2112289-1
B	Receptacle	2112300-1
	Tab	2112291-1
C	Receptacle	2112301-1
	Tab	2112293-1
D	Receptacle	2112302-1
	Tab	2112295-1
E	Receptacle	2112303-1
	Tab	2112297-1

Heavy Duty Sealed Connector Series Contacts

Heavy duty sealed connectors utilize the common AMP MCP stamped & formed contact system.

Product Specification: 108-18716

Application Specification: 114-18386



AMP MCP CONTACT PERFORMANCE SPECIFICATIONS

Durability
10 cycles (tin)
50 cycles (silver)
100 cycles (gold)

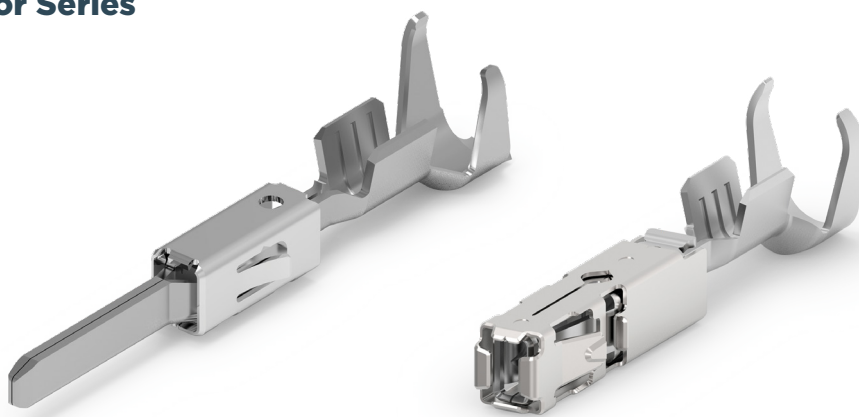
Current Rating	
Contact Size	Max Current
1.5K	Up to 20 A
2.8	Up to 30 A
6.3/4.8K	Up to 40 A

Contact Retention	
Contact Size	Min. Load
1.5K	40/60 N
2.8	80 N
6.3/4.8K	80 N

Crimp Tensile Strength	
Contact Size	Tensile Strength
1.5K	
.22 mm ²	≥ 32 N
.35 mm ²	≥ 50 N
.50 mm ²	≥ 60 N
.75 mm ²	≥ 85 N
1.0 mm ²	≥ 108 N
1.25 mm ²	≥ 135 N (16 AWG)
1.5 mm ²	≥ 135 N
2.8	
.22 mm ²	≥ 28 N
.35 mm ²	≥ 50 N
.50 mm ²	≥ 60 N
.75 mm ²	≥ 85 N
1.0 mm ²	≥ 108 N
1.5 mm ²	≥ 150 N
2.5 mm ²	≥ 200 N
6.3/4.8K	
.35 mm ²	≥ 50 N
.50 mm ²	≥ 60 N
.75 mm ²	≥ 85 N
1.0 mm ²	≥ 108 N
1.5 mm ²	≥ 150 N
2.5 mm ²	≥ 200 N
4.0 mm ²	≥ 310 N
6.0 mm ²	≥ 450 N

Heavy Duty Sealed Connector Series

Contacts



AMP MCP 1.5K CONTACTS

Stamped & Formed Tabs and Receptacles with Single Wire Sealing System

1.5K	Wire Size (mm ²)	Insulation Diameter FLR (mm)	Strip Form Part Number	Loose Piece Part Number	Finish Code
Receptacle Contacts	0.2-0.35	1.1-1.4	1564324	1564325	-1; -2; -3
	0.5-1.0	1.4-2.1	1241380*	1241381	-1; -2; -3; 1-x-2*
	>1.0-1.5	1.9-2.4	1418884	1418885	-1; -3
Tab Contacts	0.2-0.5	1.15-1.6	969028	969029	-2; -3; -5
			963902	963903	-1; -2; -3
	0.35		2141884*	2141885	-2; -3; -5; 2-x-2*
	0.5-1.0	1.4-2.1	963904	963905	-1; -2; -3
			964269*	964270	-2; -3; -5; 2-x-2*
	1.5	1.95-2.4	1703278	1703279	-2; -5

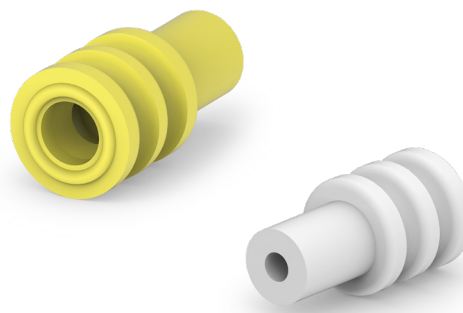
Material and Finish Codes with "*" are only available on their corresponding strip form or loose piece part number.

AMP MCP 1.5K TERMINAL MATERIAL AND FINISH CODES

	Finish Code	-1	-2	-3	-5	1-x-2	2-x-2
Receptacle Contacts	Material	CuNiSi	CuNiSi	CuNiSi	*	CuNiSi	*
	Plating	Pre-Tin	Select Gold	Select Silver	*	1.27um Select Gold	*
Tab Contacts	Finish Code	-2	-3	-5	1-x-1	1-x-2	1-x-3
	Material	CuSn4	CuFe2	CuSn4	CuSn4	CuFe2	CuFe2
	Plating	Pre-Tin	Pre-Tin	Select Gold	Select Silver	Select Silver	Select Silver

*Other configurations available upon request. Please contact TE for additional information.

Heavy Duty Sealed Connector Series
Wire Seals & Sealing Plugs



AMP MCP 1.5K WIRE SEALS

Wire Seals are required for connectors without an integrated rear seal to maintain an environmental seal.

Insulation Diameter (mm)	Cavity Size (mm)	Color	Part Number
0.9-1.2	3.6	Green	1718705-1
		Red	1718705-2
Red		964971-1	
Blue		1394133-1	
1.2-1.6		Green	963530-1
1.4-1.9		Yellow	964972-1
1.9-2.4		Orange	2112323-1 [†]
2.2-2.4		Green	2287497-1 [†]
		Brown	2287497-2[†]

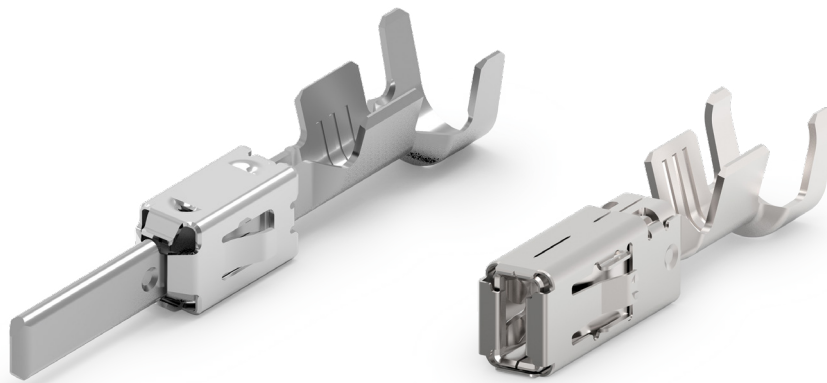
[†] For cable with insulation diameter between 2.2 - 2.4mm, wire seal 2287497-1 is preferred, with improved insertion performance into housing. Reduced 120°C temperature limit. 2112323-1 has 140°C temperature limit but increased insertion forces into housing. 2287497-2 has improved insertion performance & 140°C temp limit. New part number appear in bold.

AMP MCP 1.5K SEALING PLUGS

Open cavities provide pathways for contaminants to enter the connectors. To maintain seal integrity, any unused cavity must be filled with the appropriate size sealing plug.

Cavity Size (mm)	Color	Part Number
3.6	White	963531-1
	Natural	1394132-1

Heavy Duty Sealed Connector Series
Contacts



AMP MCP 2.8 CONTACTS

Stamped & Formed Tabs and Receptacles with Single Wire Sealing System

2.8	Wire Size (mm ²)	Insulation Diameter FLR (mm)	Strip Form Part Number	Loose Piece Part Number	Material/Finish Codes
Receptacle Contacts	0.2-0.5	1.2-1.4	2141859	-	1-x-1; 1-x-2; 1-x-3
	0.5-1.0	1.4-2.1	968855	968875	1-x-1; 1-x-2; 1-x-3
	1.5-2.5	2.2-3.0	968857*	968876	1-x-1; 1-x-2*; 1-x-3; 2-x-3
	12 AWG	3.0-3.8	1719506	-	1-x-1; 1-x-3
Tab Contacts	0.2-0.5	max 2.1	965982	965983	1-x-1; 1-x-3
	0.5-1.0	max 2.1	962915*	963748	1-x-1; 1-x-2; 1-x-3; 2-x-1; 2-x-2; 2-x-3; 6-x-6*
	>1.0-2.5	max 3.0	962916	963749	1-x-1; 1-x-2; 1-x-3; 2-x-1; 2-x-2; 2-x-3
	>2.5-4.0	max 3.7	968947	968966	1-x-1; 1-x-2; 2-x-1; 2-x-2; 3-x-1
	12 AWG	max 3.0	1719504	1719503	1-x-1; 1-x-2

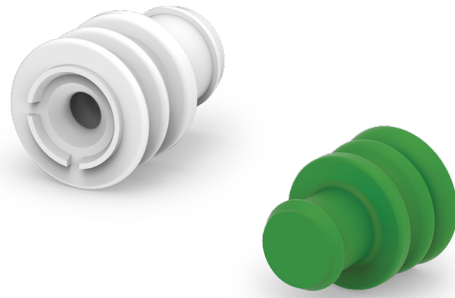
Material and Finish Codes with "*" are only available on their corresponding strip form or loose piece part number.

AMP MCP 2.8 TERMINAL MATERIAL AND FINISH CODES

	Finish Code	1-x-1	1-x-2	1-x-3	2-x-1	2-x-2	2-x-3	3-x-1	6-x-6
Receptacle Contacts	Material	CuNiSi	CuNiSi	CuNiSi	*	*	CuNiSi	*	*
	Plating	Pre-Tin	Select Gold	Select Silver	*	*	Select Silver	*	*
Tab Contacts	Material	CuSn4	CuSn4	CuSn4	CuFe	CuFe	CuFe	CuSn 0.20	CuSn4
	Plating	Pre-Tin	Select Silver	Select Gold	Pre-Tin	Select Silver	Select Gold	Pre-Tin	Select Gold

*Other configurations available upon request. Please contact TE for additional information.

Heavy Duty Sealed Connector Series
Wire Seals & Sealing Plugs



AMP MCP 2.8 WIRE SEALS

Wire Seals are required for connectors without an integrated rear seal to maintain an environmental seal.

Insulation Diameter (mm)	Cavity Size (mm)	Color	Part Number
1.2-2.1	5.6	Light Blue	828904-1
			828904-2
			828904-3
2.2-3.0		White	828905-1

AMP MCP 2.8 SEALING PLUGS

Open cavities provide pathways for contaminants to enter the connectors. To maintain seal integrity, any unused cavity must be filled with the appropriate size sealing plug.

Cavity Size (mm)	Color	Part Number
5.4	Natural	828922-1
	Green	828922-2

Heavy Duty Sealed Connector Series
Contacts



AMP MCP 6.3/4.8K CONTACTS

Stamped & Formed Tabs and Receptacles with Single Wire Sealing System

6.3/4.8K	Wire Size (mm ²)	Insulation Diameter FLR (mm)	Strip Form Part Number	Loose Piece Part Number	Material/Finish Codes
Receptacle Contacts	0.35-0.5	1.2-2.3	1241410*	1241411	-1; -3*; 5-x-1*; 5-x-3*
	0.5-1.0	1.4-2.7	1241412	1241413	-1; -3
	>1.0-2.5	2.2-3.7	1241414	1241415	-1; -3
	>2.5-4.0	3.4-4.5	1241416	1241417	-1; -3
	4.0-6.0	3.4-4.3	1241418*	1241419	-4; 1-x-3; 2-x-3*
Tab Contacts	0.5-1.0	1.4-2.1	962917	963742	1-x-1; 1-x-2; 2-x-1
	>1.0-2.5	2.2-3.0	962918	963743	1-x-1; 1-x-2; 2-x-1; 2-x-2
	4.0	2.7-3.7	962919	963744	1-x-1; 1-x-2; 2-x-2
	6.0, 10 AWG	4.0-4.3	2112966	2112965	2-x-2

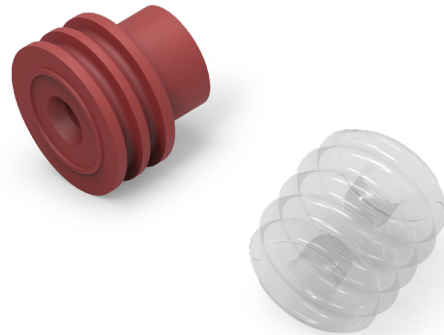
Material and Finish Codes with "*" are only available on their corresponding strip form or loose piece part number.

AMP MCP 6.3/4.8K TERMINAL MATERIAL AND FINISH CODES

	Finish Code	-1	-3	-4	1-x-1	1-x-2	1-x-3	2-x-1	2-x-2	2-x-3	5-x-1	5-x-3
Receptacle Contacts	Material	CuNiSi			*	*	CuNiSi	*	*	CuNiSi		
	Plating	Pre-Tin	Select Silver	Pre-Tin	*	*	Select Silver	*	*	Select Silver	Pre-Tin	Select Silver
Tab Contacts	Material	*	*	*	CuSn4		*	CuFe2		*	*	*
	Plating	*	*	*	Pre-Tin	Select Silver	*	Pre-Tin	Select Silver	*	*	*

*Other configurations available upon request. Please contact TE for additional information.

Heavy Duty Sealed Connector Series
Wire Seals & Sealing Plugs



AMP MCP 6.3/4.8K WIRE SEALS

Wire Seals are required for connectors without an integrated rear seal to maintain an environmental seal.

Insulation Diameter (mm)	Cavity Size (mm)	Color	Part Number
1.4-2.0	8.5	Yellow	2177018-1
2.0-2.7		White	1394511-1
2.7-3.0		Red-Brown	1823111-1
3.4-3.7		Blue	1394512-1
4.0-4.5		Green	1719043-1

AMP MCP 6.3/4.8K SEALING PLUGS

Open cavities provide pathways for contaminants to enter the connectors. To maintain seal integrity, any unused cavity must be filled with the appropriate size sealing plug.

Cavity Size (mm)	Color	Part Number
8.5	Transparent	967652-1

Heavy Duty Sealed Connector Series

for Industrial & Commercial Transportation

Heavy Duty Sealed Connector Series Tooling

Tools are specific to each contact style. To create a proper crimp and achieve the highest performance specifications, contacts must be crimped with the recommended tooling.



HAND TOOL FOR AMP MCP CONTACTS

Contact Size	Contact Type	Strip Form Part Number	Loose Piece Part Number	Hand Tool Part Number	Die Set Part Number	
1.5K	Receptacle	1564324	1564325	539635-1	4-1579016-0	
		1241380	1241381		539950-2	
		1418884	1418885		5-1579001-3	
	Tab	969028	969029		539663-2	
		963902	963903		539651-2	
		2141884	2141885		539663-2	
		963904	963905		539651-2	
		964269	964270		539663-2	
		1703278	1703279		*	*
	2.8	Receptacle	2141859		*	*
968855			968875	539635-1	539726-2	
968857			968876		539727-2	
1719506			*	*	*	
Tab		965982	965983	539635-1	539737-2	
		962915	963748		539758-2	
		962916	963749		539758-2	
		968947	968966		539727-2	
		1719504	1719503		*	*
6.3 / 4.8K		Receptacle	1241410	1241411	539635-1	539955-2
	1241412		1241413	539955-2		
	1241414		1241415	539956-2		
	1241416		1241417	539956-2		
	1241418		1241419	3-1579021-7		
	Tab	962917	963742	539757-2		
		962918	963743	539757-2		
		962919	963744	539757-2		
		2112966	2112965	*		*

*Other tooling configurations available upon request. Please contact TE for additional information.

Heavy Duty Sealed Connector Series
Automated for AMP MCP Contacts



OCEAN 2.0 Applicator

Contact Size	Contact Type	Strip Form Part Number	Feed	Type	Applicator Part Number
1.5K	Receptacle	1564324	Side	Mechanical	2151469-1
				Pneumatic	2151469-2
		1241380		Mechanical	2151064-1
				Pneumatic	2151064-2
		1418884		Mechanical	2151424-1
				Pneumatic	2151424-2
	Tab	969028		Mechanical	2151056-1
				Pneumatic	2151056-2
		963902		Mechanical	2151167-1
				Pneumatic	2151167-2
		2141884		Mechanical	2151056-1
				Pneumatic	2151056-2
		963904		Mechanical	2151170-1
				Pneumatic	2151170-2
		964269		Mechanical	2151057-1
				Pneumatic	2151057-2
		1703278		Mechanical	2151701-1
				Pneumatic	2151701-2
2.8	Receptacle	2141859	Side	*	*
		968855		Mechanical	2151227-1
				Pneumatic	2151227-2
		968857		Mechanical	2151346-1
				Pneumatic	2151346-2
		1719506		Mechanical	2836789-1
		Pneumatic		2836789-2	
	Tab	965982		Mechanical	2151840-1
				Pneumatic	2151840-2
		962915		Mechanical	2151181-1
				Pneumatic	2151181-2
		962916		Mechanical	2151260-1
				Pneumatic	2151260-2
		968947		Mechanical	2151173-1
				Pneumatic	2151173-2
		1719504		Mechanical	2836092-1
				Pneumatic	2836092-2

*Other configuration available upon request. Please contact TE for additional information.

Heavy Duty Sealed Connector Series
Automated for MCON 1.2 Contacts (continued)



OCEAN 2.0 Applicator

Contact Size	Contact Type	Strip Form Part Number	Feed	Type	Applicator Part Number
6.3 / 4.8K	Receptacle	1241410	Side	Pneumatic	2151695-2
		1241412		Pneumatic	2151234-2
		1241414		Pneumatic	2151177-2
		1241416		Pneumatic	2151151-2
		1241418		Mechanical	2151466-1
	Tab	962917		Pneumatic	2151466-2
		962918		Pneumatic	2266535-2
		962919		Pneumatic	2151783-2
		2112966		Pneumatic	2151782-2
				Pneumatic	2151841-2

Other tooling configurations available upon request. Please contact TE for additional information.

EXTRACTION AND INSERTION TOOLS FOR AMP MCP CONTACTS

Contact Size	Contact Type	Tool Type	Part Number
1.5K	Receptacle	Insertion	5-1579018-6
		Extraction	1-1579007-1
	Tab	Extraction	539960-1
2.8	Receptacle	Insertion	519609-1
		Extraction	1579007-1
	Tab	Extraction	1-1579007-6
6.3 / 4.8K	Receptacle	Insertion	6-1579018-3
		Extraction	1-1579007-3
	Tab	Extraction	1-1579007-6



Heavy Duty Sealed Connector Series

Automated for MCON 1.2 Contacts

Tools are specific to each contact style. To create a proper crimp and achieve the highest performance specifications, contacts must be crimped with the recommended tooling.



MCON 1.2 CONTACT PERFORMANCE SPECIFICATIONS

Durability
20 cycles (tin)
20 cycles (silver)
100 cycles (gold)

Current Rating	
Contact Size	Max Current
1.2	Up to 17 A

Contact Retention	
Contact Size	Min. Load
1.2	40 N

Crimp Tensile Strength	
Contact Size: 1.2	Tensile Strength
0.13-0.22 mm ²	≥ 50N
0.35 mm ²	≥ 50N
0.5 mm ²	≥ 60N
0.75 mm ²	≥ 85N
1.0 mm ²	≥ 108N
1.5 mm ²	≥ 150N

MCON 1.2 Contacts

Stamped and formed tabs and receptacles

MCON 1.2	Wire Size (mm ²)	Insulation Diameter FLR (mm)	Strip Form Part Number	Loose Piece Part Number	Material/Finish Codes
Receptacle Contacts	0.25-0.35	1.1 - 1.75	1534594	1534595	-1; -2; -3
	0.5-0.75	1.4 - 1.9	1670144	1670145	-1; -2; -3
	1.0-1.5	1.9 - 2.4	1452503	1452504	-1; -2; -3
Tab Contacts	0.25-0.35	1.1 - 1.75	1718348	1703698	-1; -2; -3
	0.5-0.75	1.4 - 1.9	1718350	1718390	-1; -2; -3
	1.0-1.5	1.9 - 2.4	1718352	*	-1; -2; -3

*Other configurations available upon request. Please contact TE for additional information.
New part number appear in bold

Contact Size: 1.2	Tensile Strength
0.13-0.22 mm ²	≥ 50N

Heavy Duty Sealed Connector Series

for Industrial & Commercial Transportation

MCON 1.2 Terminal Material and Finish Codes

	Finish Code	-1	-2	-3
Receptacle Contacts	Material	CuNiSi		
	Plating	Pre-Tin	Gold	Silver
Tab Contacts	Material	CuNiSi		
	Plating	Pre-Tin	Gold	Silver

MCON 1.2 contact system

CONTACT SIZE	Strip	Loose	Die set no. (for Handtool 539635-1)
Receptacle	1534594	1534595	0-1579001-6
	1670144	1670145	5-1579021-6
	1452503	1452504	1-1579001-3
Tab	1718348	1703698	2363758-1
	1718350	1718390	2-1579016-1
	1718352	*	1-1579001-3

*Other configurations available upon request. Please contact TE for additional information.

New part number appear in bold

Heavy Duty Sealed Connector Series SEALING PLUGS

MCON 1.2 Sealing Plugs

Open cavities provide pathways for contaminants to enter the connectors. To maintain seal integrity, any unused cavity must be filled with the appropriate size sealing plug.



Cavity Size (mm)	Color	Part Number
1.4-1.9	Brown	1-1452424-1
	Natural	1-1452424-3
1.9-2.4	Blue	1-1452424-2

Heavy Duty Sealed Connector Series

Tooling

Tools are specific to each contact style. To create a proper crimp and achieve high performance specifications, contacts must be crimped with the recommended tooling.

Heavy Duty Sealed Connector Series

for Industrial & Commercial Transportation

Automated for MCON 1.2 contacts

Contact Size	Contact Type	Strip Form Part Number	Feed	Type	Applicator Part number
1.2	Receptacle	1534594	Side	Mechanical	2151041-1
				Pneumatic	2151041-2
		1670144		Mechanical	2151037-1
				Pneumatic	2151037-2
		1452503		Mechanical	2151468-1
				Pneumatic	2151468-2
	Tab	1718348	Side	Mechanical	2151042-1
				Pneumatic	2151042-2
		1718350		Mechanical	2151037-1
				Pneumatic	2151037-2
		1718352		Mechanical	2151468-1
				Pneumatic	2151468-2

Extraction Tools for MCON 1.2 Contacts

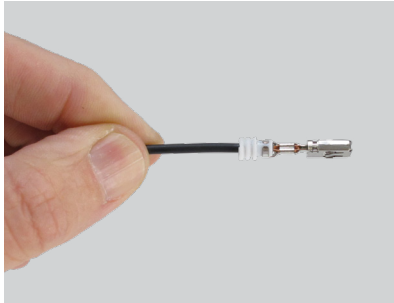
Contact Size	Contact Type	Tool Type	Part Number
12	Receptacle	Extraction	1452426-1
	Tab	Extraction	1452426-1



Heavy Duty Sealed Connector Series

How-To Instructions

CONTACT INSERTION



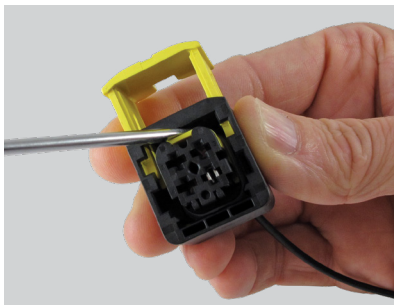
Step 1:
Grasp crimped contact approximately one inch behind the contact barrel.



Step 2:
Make sure the contact is in the correct orientation. Verify the integrated secondary lock is in the unlocked position.

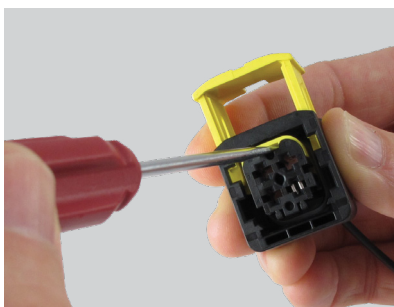


Step 3:
Push contact straight into connector grommet until a click is felt. A slight tug will confirm that it is properly locked in place.

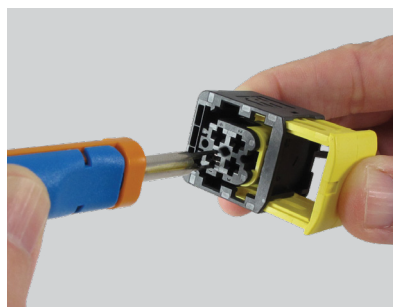


Step 4:
Push the integrated secondary lock into the locked position with a DT-RT1 or a screwdriver.

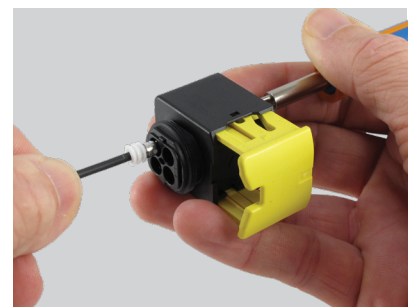
CONTACT REMOVAL



Step 1:
Using a DT-RT1 or a screwdriver, unlock the integrated secondary lock.



Step 2:
Using the appropriate extraction tool, insert the blades into the contact cavity until they stop.



Step 3:
Pull contact wire assembly out of connector.

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