

# LEAVYSEAL CONNECTORS

FOR INDUSTRIAL & COMMERCIAL TRANSPORTATION

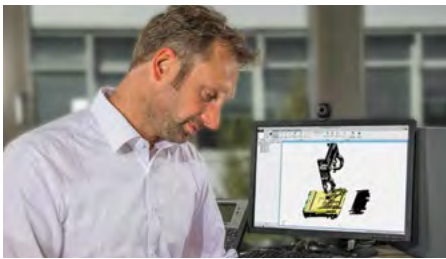
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TERMINALS AND CONNECTORS





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



**2,000+  
Employees**



**10,000+  
Customers**



**20,000+  
Different Parts**

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 these 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 harsh 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



## MARKETS WE SERVE



**ON-HIGHWAY**



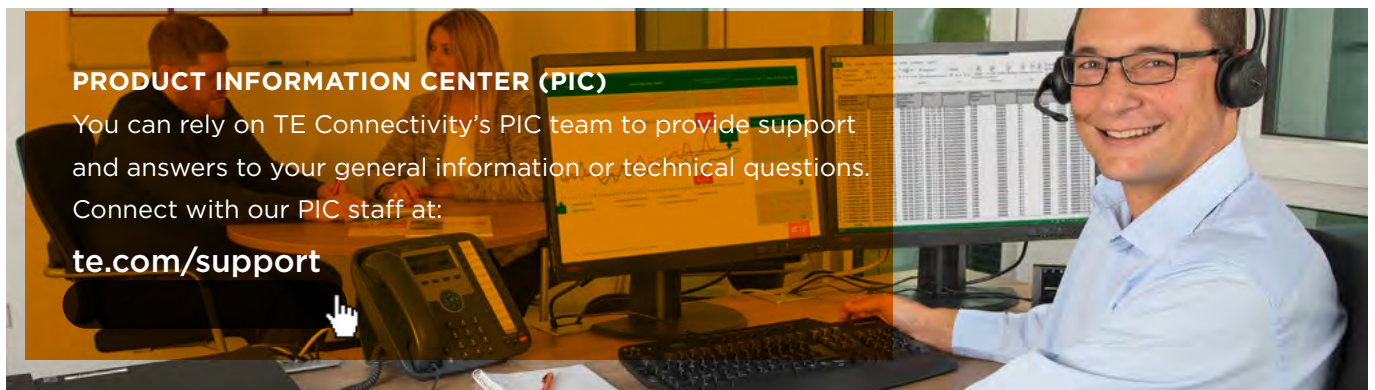
**OFF-HIGHWAY**



**RECREATIONAL  
TRANSPORTATION**

## ONLINE RESOURCES

To learn more about TE Connectivity Industrial & Commercial Transportation, its products, and to view their corresponding documents and videos, please check out the following pages on TE.com:



### PRODUCT INFORMATION CENTER (PIC)

You can rely on TE Connectivity's PIC team to provide support and answers to your general information or technical questions. Connect with our PIC staff at:

**[te.com/support](https://te.com/support)**

# LEAVYSEAL CONNECTORS



Our LEAVYSEAL connectors are a sealed high pin count solution, offering flexible usage for a wide range of applications. With in-line/flange or PCB mount options, arrangements from 15 to 120 positions and mixed terminal sizes in one housing, LEAVYSEAL connectors provide a large portfolio including a wide range of accessories.

Variants made of flame-retardant UL 94 V-0 material, the high temperature range of -40 to +140°C and a high level of IP protection (IP67, IP69K with cover) - make LEAVYSEAL connectors a secure solution for harsh environment applications.

Latest modifications include reversed exit housings, offering more flexibility for design-in and smooth exit housings for jacket wire usage.

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# LEAVYSEAL CONNECTOR SERIES

## BENEFITS

- Design flexibly with seven housing sizes, in-line/flange or PCB mounting options and mixed terminal sizes in one housing
- Facilitate easy assembly with lever design
- Minimize mismating and misidentification with seven connector colors and mechanical polarized keyings
- Connect securely with an integrated secondary locking device
- Protect against harsh environments with IP67 and IP69K (when used with a backshell) ratings

## KEY INDUSTRIES

LEAVYSEAL products can be utilized in the truck, bus, construction, agriculture, and special vehicles industries.



Truck



Bus



Construction



Agriculture



Special Vehicles



Mining

## APPLICATIONS

LEAVYSEAL products can be used in the following applications:



Motors and Gearboxes



ABS/EBS Brake Units



Actuators



Bulkhead



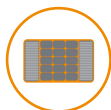
Fuse and Relay Boxes



E-Motor



Chassis



EV Battery



Lighting



Wire-To-Wire



Wire-To-Board



## PRODUCT DOCUMENTATION

Additional documentation is available for LEAVYSEAL products. The following TE Connectivity document numbers may be helpful:

[2293396 \(Product Group Drawing\)](#)

For product and application specifications, check information in product group drawing.

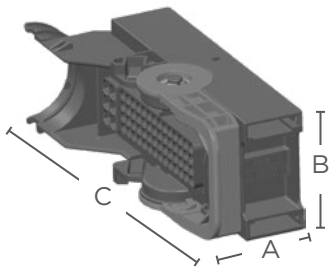
## PERFORMANCE SPECIFICATIONS

<b>Current</b>	Up to 40 amps
<b>Temperature</b>	Operating at temperatures ranges -40°C to +140°C; see individual product specifications for specific range.
<b>Durability</b>	Up to 20 cycles (tin), up to 50 cycles (silver), up to 100 cycles (gold); see individual product specifications for additional details.
<b>Insulation Resistance</b>	500 volts DC, see individual product specifications for testing conditions.
<b>Immersion</b>	IP67 rating, IP69K with cover.
<b>Voltage</b>	42 volts AC/DC
<b>Dielectric Withstanding Voltage</b>	No flash over or breakdown between adjacent contacts and outer contour of the housing permitted at 500 volts AC and 50 or 60 Hz for 60 seconds.
<b>Flammability</b>	Product with a UL 94 V-0 rate material is available.

## MATERIAL SPECIFICATIONS

<b>Flange Seal</b>	Silicone rubber
<b>Housing</b>	Glass-filled PBT
<b>Secondary Locking</b>	Glass-filled PBT

# LEAVYSEAL RECEPTACLE HOUSING & TAB HOUSING

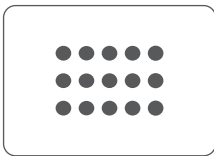


## DIMENSIONS

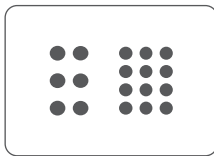
Group	Overall Length A	Overall Height B	Overall Width C	Overall Length D	Overall Height E	Overall Width F
1	1.46 (37.0)	1.57 (40.0)	2.33 (57.9)	1.48 (37.6)	1.93 (49.0)	1.91 (48.4)
2	1.49 (37.9)	1.72 (43.7)	2.73 (69.4)	1.81 (46.1)	2.03 (51.5)	2.62 (66.6)
3	1.73 (44.0)	1.64 (41.7)	3.64 (92.5)	2.19 (55.5)	2.47 (62.7)	3.62 (92.0)
4	1.43 (36.4)	1.71 (43.5)	4.09 (104.0)	-	-	-
5	1.73 (44.0)	1.81 (46.0)	4.04 (102.5)	1.80 (45.8)	2.78 (70.7)	4.46 (113.3)
6	1.83 (46.6)	1.79 (45.5)	5.26 (133.5)	-	-	-

Dimensions are for reference only

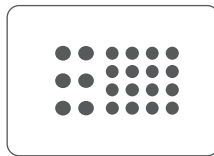
## GROUP 1 CONFIGURATIONS



**15 Positions**  
15 size 2.8

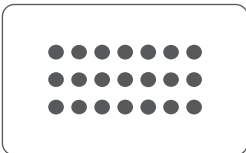


**18 Positions**  
12 size 1.5K  
6 size 2.8

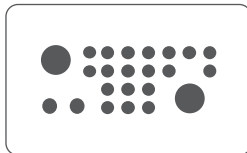


**22 Positions**  
16 size 1.5K  
6 size 2.8

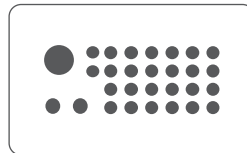
## GROUP 2 CONFIGURATIONS



**21 Positions**  
21 size 2.8

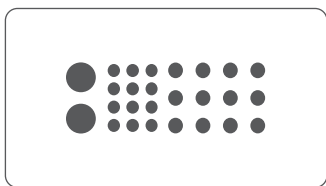


**25 Positions**  
23 size 1.5K  
2 size 6.3/4.8K

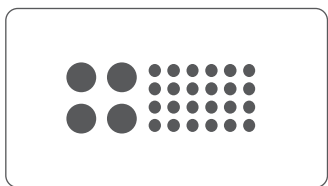


**29 Positions**  
26 size 1.5K  
2 size 2.8  
1 size 6.3

**GROUP 3 CONFIGURATIONS**

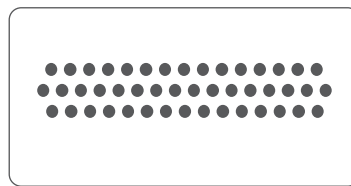


**26 Positions**  
12 size 1.5K  
12 size 2.8  
2 size 6.3/4.8K



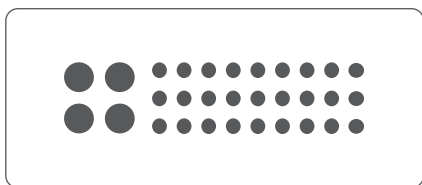
**28 Positions**  
24 size 1.5K  
4 size 6.3/4.8K

**GROUP 4 CONFIGURATIONS**

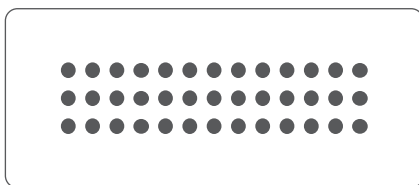


**46 Positions**  
46 size 1.5K

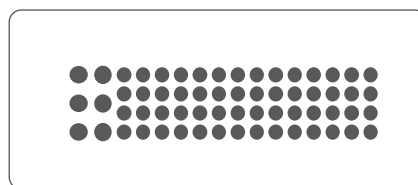
**GROUP 5 CONFIGURATIONS**



**31 Positions**  
27 size 2.8  
4 size 6.3/4.8K

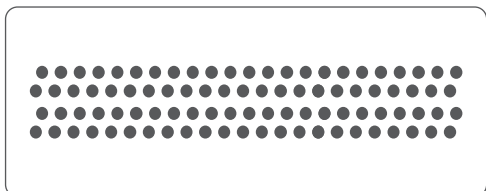


**39 Positions**  
39 size 2.8



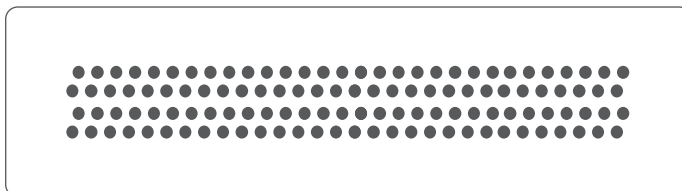
**62 Positions**  
56 size 1.5K  
6 size 2.8

**GROUP 6 CONFIGURATIONS**



**92 Positions**  
92 size 1.5K

**GROUP 7 CONFIGURATIONS**



**120 Positions**  
120 size 1.5K



## ORDERING INFORMATION - RECEPTACLE HOUSING & TAB HOUSING

### GROUP 1 HOUSING

Position	Material	Contact Size	Keying	Housing Color	Receptacle Housing	Tab Housing	
						In-line	Flange
15		2.8	A	Black	1-1534126-1	1703799-1	-
			B	Natural	2-1534126-1	-	-
			C	Blue	3-1534126-1	-	-
18	V-0	(12) 1.5K (6) 2.8	A	Black	1823440-2	-	1-1823448-2
22	V-0	(16) 1.5K (6) 2.8	A	Black	1-1823440-3	1-1823449-1	-
			B	Gray	2-1823440-3	2-1823449-1	-
			C	Blue	3-1823440-3	3-1823449-1	-
			D	Green	4-1823440-3	-	-
22	V-0	(16) 1.5K (6) 2.8	A	Black	1-1823440-1 (gray lever)	-	-

### GROUP 2 HOUSING

Position	Material	Contact Size	Keying	Housing Color	Receptacle Housing	Reversed Exit	Tab Housing	
							In-line	Flange
21		2.8	A	Black	1-1534127-1	1-2333508-1	-	1-2112162-1
			B	Natural	2-1534127-1	-	-	2-2112162-1
			C	Blue	3-1534127-1	-	-	3-2112162-1
			D	Violet	4-1534127-1	-	-	4-2112162-1
21	V-0	2.8	A	Black	1-2208686-1	-	-	
25	V-0	(23) 1.5K (2) 6.3	A	Black	1-2328352-2	-	-	
29	V-0	(26) 1.5K (2) 2.8 (1) 6.3	A	Black	1-1823402-1	-	-	-
			B	Gray	2-1823402-1	-	-	-
			C	Blue	3-1823402-1	-	-	-

### GROUP 3 HOUSING

Position	Material	Contact Size	Keying	Housing Color	Receptacle Housing	Tab Housing	
						In-line	Flange
26	V-0	(12) 1.5K (12) 2.8 (2) 6.3	A	Black	1-2112035-1	-	1-2112041-1 (outlet left)
						-	1-2112041-2 (outlet right)

### GROUP 4 HOUSING

Position	Material	Contact Size	Keying	Housing Color	Receptacle Housing	Tab Housing	
						In-line	Flange
46		1.5K	A	Black	1-2112231-1	-	-
46	V-0	1.5K	A	Black	3-2112231-1	-	-
			B	Gray	3-2112231-2	-	-
			C	Blue	3-2112231-3	-	-

### GROUP 5 HOUSING

Position	Material	Contact Size	Keying	Housing Color	Receptacle Housing	Reversed Exit	Tab Housing	
							In-line	Flange
31		(27) 2.8 (4) 6.3	A	Bordeaux	1-1564297-6	1-2368394-6	-	-
31	V-0	(27) 2.8 (4) 6.3	A	Bordeaux	1-2208685-6	1-2368394-8 (smooth exit)	-	-
31		(27) 2.8 (4) 6.3					-	-

**ORDERING INFORMATION - RECEPTACLE HOUSING & TAB HOUSING**

**GROUP 5 HOUSING, CONTINUED**

Position	Material	Contact Size	Keying	Housing Color	Receptacle Housing	Reversed Exit	Tab Housing	
							In-line	Flange
39		2.8	E	Emerald Green	5-1718321-3	5-2368393-3 / 5-2368393-7 (smooth exit)	-	5-1718323-1
			F	Fawn Brown	6-1718321-3	6-2368393-3 / 6-2368393-7 (smooth exit)	-	6-1718323-1
39	V-0	2.8	E	Emerald Green	5-2208684-3	5-2368393-7	-	-
			F	Fawn Brown	6-2208684-3		-	-
62		(56) 1.5K (6) 2.8	A	Black	1-1418883-1	1-2366619-2	-	1-1718324-1
			B	Gray	2-1418883-1	2-2366619-2	-	2-1718324-1
			C	Blue	3-1418883-1	3-2366619-2	-	3-1718324-1
			D	Green	4-1418883-1		-	-
62		(56) 1.5K (6) 2.8	A	Black	1-2293551-1 (smooth exit)	1-2366619-3	-	1-1718324-1
			B	Gray	2-2293551-1 (smooth exit)	2-2366619-3	-	2-1718324-1
			C	Blue	3-2293551-1 (smooth exit)	3-2366619-3	-	3-1718324-1
62	V-0	(56) 1.5K (6) 2.8	A	Black	1-1823498-1		-	-
			B	Gray	2-1823498-1		-	-
			C	Blue	3-1823498-1		-	-
			D	Green	4-1823498-1		-	-

**GROUP 6 HOUSING**

Position	Material	Contact Size	Keying	Housing Color	Receptacle Housing	Tab Housing	
						In-line	Flange
92		1.5K	A	Black	1703998-1 (NW 26 wire exit)	-	-
					3-1703998-1 (NW 29 wire exit)	-	-
			B	Black	4-1703998-1 (NW 29 wire exit)	-	-
			C	Black	5-1703998-1 (NW 29 wire exit)	-	-

**REVERSED EXIT MODIFICATION**

Reversed exit housing offers an opposite cable exit compared with the standard housing versions. This allows for more design-in flexibility regarding the positioning of the connector.

**SMOOTH EXIT MODIFICATION**

As standard housings and 90° backshells come with ribs to accommodate corrugated tubing, there are also smooth exit modifications available to prevent damaging the cable jackets when used with jacket wires.

**WIRE EXIT SIZE MODIFICATION**

To allow for different corrugated tube sizes, the 92P Group 6 housing and backshell are available with NW 26 and NW 29 wire exit options.

**ORDERING INFORMATION - PCB HEADER**

Group	Position	Contact Size	Keying	Housing Color	PCB Header	
					90°	180°
2	21	2.8	A	Black		1534238-1
			A	Black		1-2331098-1
4	46	1.5K	A	Black		1-2331102-1
			B	Gray		2-2331102-1
			C	Blue		3-2331102-1
5	39	2.8	E	Emerald Green	5-1418363-3	5-1418363-1
5	62	(56) 1.5K (6) 2.8	A	Black	1-1418362-3	1-1418362-1
			B	Gray	2-1418362-3	2-1418362-1
6	92	1.5K	A	Black		1-1452228-9

# LEAVYSEAL ACCESSORIES

## ACCESSORIES

Backshells, adapters, locking slides, and protective covers are accessory items available for use with LEAVYSEAL connectors. These accessories help you to meet and exceed design requirements by assisting with mounting, providing additional protection, and offering improved aesthetics.

## BACKSHELLS/COVERS

To achieve an IP69K rating, backshells must be used with the LEAVYSEAL connectors. The 90° backshells are available with ribs to accommodate corrugated tubing and smooth exit for jacket wire usage.



Group	Positions	Housing	Part Number	Tubing
1	15	Receptacle	9-1394049-1	NW 13
		Tab	9-1394049	NW 13
1	22	Receptacle	2112452-1	NW 17
1	22 (smooth exit)	Receptacle	2112452-2	-
2	21	Receptacle	9-1394050-1	NW 17
		Tab	2112167-1	NW 17
2	25 & 29	Receptacle	2327810-1	NW 22
3	26	Receptacle or Tab	2112046-1	NW 22
3	26 (smooth exit)	Receptacle or Tab	2112046-2	-
4	46	Receptacle	2112233-1	NW 26
5	39 & 62	Receptacle or Tab	1418882-1	NW 26
5	39 & 62	Receptacle or Tab (V-0)	1823500-1	NW 26
6	92	Receptacle (NW 26 wire exit)	1703997-1	NW 26
		Receptacle (NW 29 wire exit)	2141345-1	NW 29

## LEAVYSEAL ACCESSORIES

### ADAPTERS

Adapters are available to aid in mounting LEAVYSEAL connectors. The adapters are available in multiple sizes and can mount up to four LEAVYSEAL connectors.



Group	Positions	Part Number	Description
1	15 & 22	1703806-1	1 bay, sealed
1	22	1823444-1	1 bay, unsealed
1	22	1823444-2	1 bay, unsealed
5	39 & 62	2236721-1	1 bay, sealed
5	39 & 62	1718329-1	1 bay, unsealed
5	39 & 62	1813123-1	2 bays, sealed
5	39 & 62	1813123-2	2 bays, 1 bay closed, sealed
5	39 & 62	2098891-2	4 bays, sealed

### LOCKING SLIDES

Locking slides are used to help secure LEAVYSEAL connectors while mounting them. The locking slides may be used with adapters or panels with a thickness of 2.5 mm, 3.0 mm or 3.5 mm.



Group	Positions	Part Number	Color	Description
1	15 & 22	1703804-1	Red	For use with adapter
2	21	2112166-1	Red	For use with 2.5 mm panel thickness
		2112166-2	Yellow	For use with 3 mm panel thickness
		2112166-3	Gray	For use with 3.5 mm panel thickness
3	26	2112045-1	Red	For use with 2.5 mm panel thickness
		2112045-2	Yellow	For use with 3 mm panel thickness
5	39 & 62	1718328-1	Red	For use with adapter

### INTERFACE PROTECTION COVER

The LEAVYSEAL protection cover provides an environmental seal and is used to protect the connector interface when the two halves are not mated.

Group	Positions	Part Number	Color
2	21	1-1394052-1	Black
5	62	1718295	Black

# LEAVYSEAL CONTACTS

LEAVYSEAL connectors utilize the common AMP MCP stamped and formed contact system.



## 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 40 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
<b>1.5K</b>	
.22mm <sup>2</sup>	≥ 32 N
.35mm <sup>2</sup>	≥ 50 N
.50mm <sup>2</sup>	≥ 60 N
.75mm <sup>2</sup>	≥ 85 N
1.0mm <sup>2</sup>	≥ 108 N
1.25mm <sup>2</sup>	≥ 135 N (16 AWG)
1.5mm <sup>2</sup>	≥ 135 N
<b>2.8</b>	
.22mm <sup>2</sup>	≥ 28 N
.35mm <sup>2</sup>	≥ 50 N
.50mm <sup>2</sup>	≥ 60 N
.75mm <sup>2</sup>	≥ 85 N
1.0mm <sup>2</sup>	≥ 108 N
1.5mm <sup>2</sup>	≥ 150 N
2.5mm <sup>2</sup>	≥ 200 N
<b>6.3/4.8K</b>	
.35mm <sup>2</sup>	≥ 50 N
.50mm <sup>2</sup>	≥ 60 N
.75mm <sup>2</sup>	≥ 85 N
1.0mm <sup>2</sup>	≥ 108 N
1.5mm <sup>2</sup>	≥ 150 N
2.5mm <sup>2</sup>	≥ 200 N
4.0mm <sup>2</sup>	≥ 310 N
6.0mm <sup>2</sup>	≥ 450 N



# LEAVYSEAL CONTACTS



## AMP MCP 1.5K CONTACTS

Stamped and formed tabs and receptacles with single wire sealing system.

1.5K	Wire Size (mm <sup>2</sup> )	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
			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 available only 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.

# LEAVYSEAL 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	
Green		963530-1	
Yellow		964972-1 <sup>†</sup>	
Green		2287497-1 <sup>†</sup>	
1.2-1.6			
1.4-1.9			
1.9-2.4			
2.2-2.4			

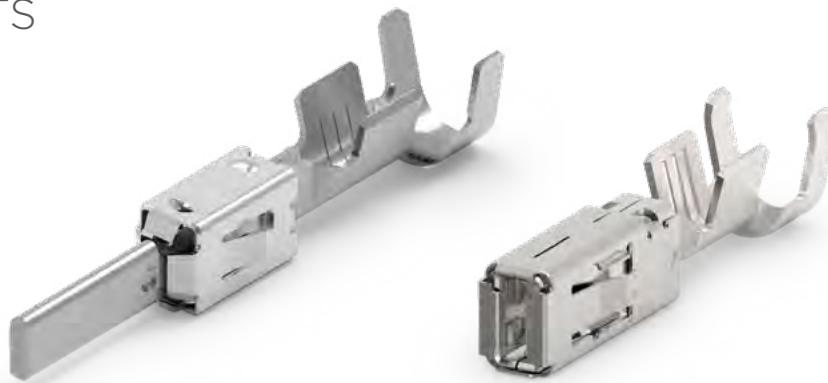
<sup>†</sup> 2287497-1 with reduced 120°C temperature limit but improved insertion performance.  
964972-1 has 140°C temperature limit but increased insertion force into housing cavity.

## 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

# LEAVYSEAL CONTACTS



## AMP MCP 2.8 CONTACTS

Stamped and formed tabs and receptacles with single wire sealing system.

2.8	Wire Size (mm <sup>2</sup> )	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
	4.0	3.4-3.7	968859	968877	1-x-1; 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 available only 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.

# LEAVYSEAL 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

# LEAVYSEAL CONTACTS



## AMP MCP 6.3/4.8K CONTACTS

Stamped and formed tabs and receptacles with single wire sealing system

6.3/4.8K	Wire Size (mm <sup>2</sup> )	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 available only 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.



# LEAVYSEAL 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

# LEAVYSEAL CONNECTORS

## 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.



## 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
		968859	968877		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.

# LEAVYSEAL CONNECTORS

## 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
		1241380		Pneumatic	2151469-2
				Mechanical	2151064-1
		1418884		Pneumatic	2151064-2
				Mechanical	2151424-1
		Pneumatic		2151424-2	
	Tab	969028		Mechanical	2151056-1
		963902		Pneumatic	2151056-2
				Mechanical	2151167-1
		2141884		Pneumatic	2151167-2
				Mechanical	2151056-1
		963904		Pneumatic	2151056-2
				Mechanical	2151170-1
		964269		Pneumatic	2151170-2
				Mechanical	2151057-1
		1703278		Pneumatic	2151057-2
2.8	Receptacle	2141859	Side	-	-
		968855		Mechanical	2151227-1
				Pneumatic	2151227-2
		968857		Mechanical	2151346-1
		968859		Pneumatic	2151346-2
				Mechanical	2151173-1
	1719506	Pneumatic		2151173-2	
	Tab	965982		Mechanical	2836789-1
		962915		Pneumatic	2836789-2
				Mechanical	2151840-1
		962916		Pneumatic	2151840-2
				Mechanical	2151181-1
		968947		Pneumatic	2151181-2
				Mechanical	2151260-1
		1719504		Pneumatic	2151260-2
				Mechanical	2151173-1
Pneumatic		2151173-2			
Mechanical	2836092-1				
Pneumatic	2836092-2				

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

# LEAVYSEAL CONNECTORS

## AUTOMATED FOR AMP MCP 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



# LEAVYSEAL CONNECTORS

## HOW-TO INSTRUCTIONS

### CONTACT INSERTION



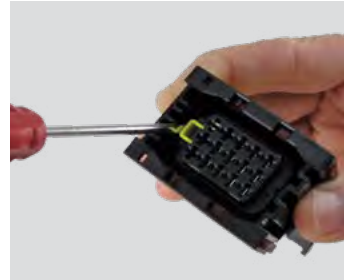
**Step 1:**

Grasp crimped contact approximately one inch behind the contact barrel.



**Step 2:**

Verify the integrated secondary lock is in the unlocked position. Make sure the contact is in the correct orientation. Push contact straight into connector until a click is felt. A slight tug will confirm that it is properly locked in place.



**Step 3:**

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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