

# SUPERSEAL 1.0 CONNECTORS

FOR INDUSTRIAL & COMMERCIAL TRANSPORTATION

TERMINALS AND CONNECTORS



## SUPERSEAL 1.0 Connectors

for Industrial & Commercial Transportation



### WE GO TO EXTREMES TO MAKE SURE **EVERY CONNECTION COUNTS**

TE Connectivity (TE) Industrial & Commercial Transportation (ICT) is a reliable provider of solutions for harsh environmental conditions. 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



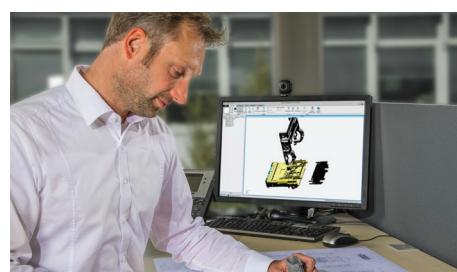
Sensors



Wire-To-Wire Coupling at the Chassis



Infotainment Applications



**2,000+**  
**EMPLOYEES**



**10,000**  
**CUSTOMERS**



**20,000+**  
**DIFFERENT PARTS**

## MARKETS WE SERVE



ON-HIGHWAY



OFF-HIGHWAY



RECREATIONAL  
TRANSPORTATION

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APPLICATIONS • INSIGHTS • LITERATURE • PRODUCTS INDEX

**ELECTRIFYING A MOVEMENT**

Unlike the electrification of passenger cars, the commercial world has very different considerations, including extremely harsh environments in which these vehicles must continue to reliably operate.

SHOP OUR CONNECTORS FOR TRUCK, BUS AND OFF-ROAD VEHICLES

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Videos about Industrial & Commercial Transportation

**VIDEO** **DEUTSCH CONTACT CRIMPING (ENGLISH)**

Learn how to crimp our DEUTSCH contacts. Watch this video for step-by-step instructions on crimping the contacts using hand tools.

**VIDEO** **AMP MCP 9.5 Two Position Connectors Overview & Assembly Instructions (English)**

Learn about our high power AMP MCP 9.5 two position connectors designed for harsh environment wire-to-wire and wire-to-circuit board connections. Watch this video for an overview of the connectors and for step-by-step instructions

TE.COM/ICT



LITERATURE



VIDEOS



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[te.com/support](http://te.com/support)

## SUPERSEAL 1.0 Connectors

for Industrial & Commercial Transportation



## SUPERSEAL 1.0 Connectors

TE Connectivity's (TE) SUPERSEAL 1.0 connectors are designed to meet the increasing need for dependable, high-density, printed circuit board applications in harsh environments. SUPERSEAL 1.0 headers are available with right-angle pins. Various locking latch options including ergonomic lever, flange headers, and keying configurations are also available.

The receptacle connector housings incorporate pre-assembled secondary locks to help ensure correct and complete contact insertion into the housing and help prevent the contacts from backing out during mating. The secondary lock cannot be closed if the contacts are not correctly inserted into the connector housing. Receptacle connector housings with lever and hard silver-plated terminals provide a more ergonomic operation for the installer, making it easier to mate and unmate. They also provide improved performance under high levels of vibration to avoid unnecessary downtime.

Cavity plugs are available for sealing unused connector cavities. The double spring contact design (main spring and auxiliary anti-overstress spring) helps ensure low insertion and high contact forces.

TE's SUPERSEAL 1.0 connector product line provides a general market solution for sealed high-density wire-to-board connections that can withstand harsh environments in engine compartments.



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## SUPERSEAL 1.0 Connectors

for Industrial & Commercial Transportation

### PRODUCT FEATURES & BENEFITS

- Accepts contact size 1.0 mm (up to 15 amps)
- 1.25-0.50 mm<sup>2</sup>
- 26, 34, and 60 cavity arrangements
- PCB mount
- Rectangular, thermoplastic housing
- Integrated latch for mating
- TPA confirms contact alignment and retention
- Compact system minimizes packaging requirements
- Sealing reliability proven under harsh conditions
- Designed for ease of manual harness assembly, engine mounting and under hood environments
- Flange headers provide a simpler way for customers to install the product by sealed and bolted flange
- Plugs with lever and hard silver-plated terminals provide a more ergonomic operation for the installer, making it easier to mate and unmate, as well as improved performance under high vibration levels



### KEY INDUSTRIES

SUPERSEAL 1.0 connectors can be utilized in the truck, bus, construction, agriculture, automotive, 2-wheeler and special vehicles industries.



Truck

Bus

Construction

Agriculture

Special Vehicles

Automotive

2-Wheeler

### APPLICATIONS

SUPERSEAL 1.0 connectors can be utilized in the following applications:

- Wire-to-Board (1.0 mm) and control module applications, under engine hood or any location where sealing is required
- Battery Management Systems
- Instrument Cluster/Speedometer
- Electronic Fuel Injection



Wire-to-Board

Control Modules

Battery Management Systems

Instrument Cluster/Speedometer

Electronic Fuel Injection

**PRODUCT DOCUMENTATION**

	<b>Potting Headers &amp; Plugs</b>	<b>Lever Versions</b>	<b>Crimp Only</b>
<b>Product Specification</b>	108-78140	108-160647	-
<b>Application Specification</b>	114-160220	114-160483	114-78011

**PERFORMANCE SPECIFICATIONS**

<b>Current</b>	Up to 15 amps
<b>Temperature</b>	Operating at temperatures -40°C to +125°C
<b>Durability</b>	After cap housing is connected, the plug housing is mated and then 78.4 N force is applied in a rocking motion. 25 test cycles.
<b>Protection</b>	IP67 for all versions, IP69K with backshell for flange and lever version
<b>Vibration</b>	JIS spec for potting version, ISO16750-3 T7 for flange & ISO16750-3 T6 for lever version
<b>Voltage</b>	250 volts AC, DC
<b>Flammability</b>	UL 94-VO-rated material

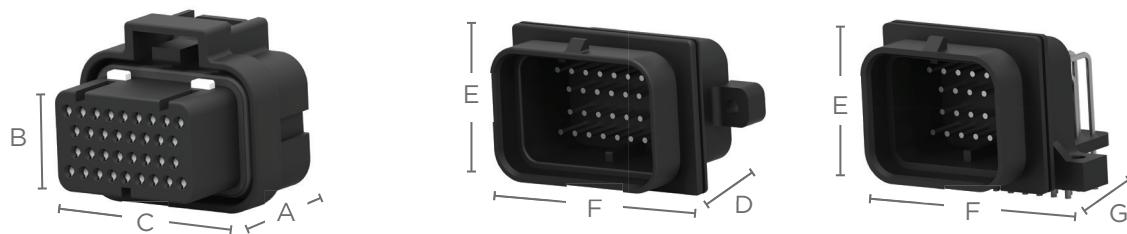
**MATERIAL SPECIFICATIONS**

<b>Receptacle Seals</b>	Silicone rubber
<b>Housing</b>	Glass-Filled PBT
<b>TPA</b>	Glass-Filled PBT

## SUPERSEAL 1.0 Connectors

for Industrial & Commercial Transportation

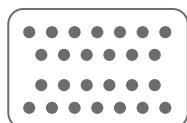
### DIMENSIONS



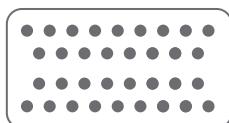
Cavity	SUPERSEAL 1.0 Plug Housing			SUPERSEAL 1.0 Pin Header			
	Overall Length A	Overall Height B	Overall Width C	Overall Length Vertical D	Overall Height E	Overall Width F	Overall Length 90° G
26	1.26 (32.1)	1.36 (34.5)	1.26 (32.1)	1.14 (29.0)	1.23 (31.4)	1.55 (39.5)	1.44 (36.5)
34	1.26 (32.1)	1.49 (38.0)	1.50 (38.2)	1.14 (29.0)	1.23 (31.4)	1.79 (45.5)	1.44 (36.5)
60	-	-	-	-	1.23 (31.4)	3.07 (78.0)	1.44 (36.5)

Dimensions are for reference only

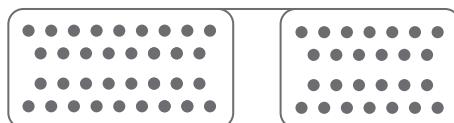
### CONFIGURATIONS



**26 Positions**  
26 size 1.0 mm



**34 Positions**  
34 size 1.0 mm



**60 Positions**  
60 size 1.0 mm



**26 Positions (2-row design)**  
26 size 1.0 mm

### SUPERSEAL 1.0 MM STICK HEADERS

SUPERSEAL 1.0 mm stick headers are low profile pin carriers available for overmolding and integration into modules.

Position	Stick Header
26	2303344-2
34	2303344-1



26 Positions



34 Positions

# SUPERSEAL 1.0 Connectors

for Industrial & Commercial Transportation

## SUPERSEAL 1.0 POTTING HEADERS & PLUGS

Position	Pin Header	Receptacle Housing	Keying Type	Locking
26	9-6437287-8	3-1437290-7	1 (4 row)	Upper
	9-6437287-9	3-1437290-8	2 (4 row)	Upper
	6473423-1	1473416-1	3 (4 row)	Upper
	6473423-2	1473416-2	4 (4 row)	Upper
	5-6447223-0	3-1437290-7	1 (4 row)	Lower
	6437288-4	3-1437290-8	2 (4 row)	Lower
	2-6437285-8	2-1437285-2	1 (4 row)	Double
	2-6437285-9	1-1447232-7	2 (4 row)	Double
	6437288-6	3-1437290-7	1 (4 row, vertical)	Upper
	6473418-1	3-1437290-8	2 (4 row, vertical)	Upper
	6473418-2	1473416-1	3 (4 row, vertical)	Upper
	6473711-1	1473712-1	1 (2 row)	Upper
	6473711-2	1473712-1	1 (2 row)	Lower
34	6437288-1	4-1437290-0	1 (4 row)	Upper
	6437288-2	4-1437290-1	2 (4 row)	Upper
	2-6437285-5	4-1437290-0	1 (4 row)	Lower
	2-6437285-6	4-1437290-1	2 (4 row)	Lower
	3-6437285-0	2-1437285-3	1 (4 row)	Double
	3-6437285-1	3-1437290-9	2 (4 row)	Double
	2-6447232-3	4-1437290-0	1 (4 row, vertical)	Upper
	2-6447232-4	4-1437290-1	2 (4 row, vertical)	Upper
60	6437288-3	3-1437290-7 (26P), 4-1437290-0 (34P)	1 (4 row)	Upper
	6473427-1	1473416-1 (26P), 4-1437290-1 (34P)	2 + 3 (4 row)	Upper
	6437288-5	3-1437290-7 (26P), 4-1437290-0 (34P)	1 (4 row)	Lower
	3-6437285-2	2-1437285-2 (26P), 2-1437285-3 (34P)	1 (4 row)	Double

## SUPERSEAL 1.0 Connectors

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### FLANGE HEADERS & RECEPTACLES WITH BACKSHELL



Position	Pin Header	Receptacle Housing	Pin Type	Keying Type	Locking
34	2384723-1	2389578-3*	Right Angle	1	Double
	2384723-2	2389578-4*	Right Angle	2	Double
	2384723-3	2389578-1	Right Angle	1	Upper
	2384723-4	2389578-2	Right Angle	2	Upper
	2388688-1	2389578-1	Straight	1	Upper
	2388688-2	2389578-2	Straight	2	Upper
	1-2388688-3	2389578-3*	Straight	1	Double
	1-2388688-4	2389578-4*	Straight	2	Double
	--	2468445-1*	--	1	Upper

\*With smaller wire size according to customer requirement, please check the Custom Drawing along with terminals specs for details about product selection.

Note: Backshell part number information can be found on page 12

### FLANGE HEADERS & RECEPTACLES WITH LEVER



Position	Pin Header	Receptacle Housing	Pin Type	Keying Type
34	8-2384723-5	2430273-1	Right Angle	1
	8-2384723-6	2430273-2	Right Angle	2
	8-2388688-5	2430273-1	Straight	1
	8-2388688-6	2430273-2	Straight	2

Note: Headers in this table can only mate with receptacle housings in this table.

## CONTACTS

The SUPERSEAL 1.0 mm connectors commonly use the AMP Superseal double spring, stamped & formed contact system.

## 1.0 MM CONTACT PERFORMANCE SPECIFICATIONS

<b>Durability</b>	25 cycles, per "Kojiri" (rocking motion) durability test.	
<b>Current Rating</b>	Up to 15 amps; consult TE product specification 108-78140.	
<b>Contact Retention (between contact and housing)</b>	1.0 mm $\geq$ 58.8 N	
<b>Crimp Tensile Strength</b>	<b>Contact Size</b>	<b>Tensile Strength</b>
	0.5 mm <sup>2</sup> 0.85 mm <sup>2</sup> 1.25 mm <sup>2</sup>	$\geq$ 88.2 N $\geq$ 127.4 N $\geq$ 176.4 N

## STAMPED & FORMED RECEPTACLE TERMINALS - 1.0 MM



<b>Size</b>	<b>Receptacle Strip Form</b>	<b>Wire Size (mm<sup>2</sup>)</b>	<b>Insulation Diameter (mm)</b>	<b>Finish</b>
1.0 mm	3-1447221-5	0.3	1.4 - 1.7	Finish Copper alloy Gold over nickel (contact part), Tin over Nickel (crimp area)
	3-1447221-4	0.5	1.6 - 1.9	Copper alloy Gold over nickel (contact part), Tin over Nickel (crimp area)
	3-1447221-3	0.75 - 1.25	1.6 - 2.2	
	2461132-2	0.5	1.6 - 1.9	Hard Silver
	2461132-1	0.75 - 1.25	1.6 - 2.2	
	1-2461132-2*	0.5	1.4 - 1.7	Tin
	1-2461132-1*	0.75 - 1.25	1.6 - 2.2	

\*In development. Contact TE for more information.

**SUPERSEAL 1.0 Connectors**  
for Industrial & Commercial Transportation**BACKSHELLS**

Position		Part Number	Exit Angle	Plug Locking Type
34		2389576-1	180°	Single/Double Latch
		2389577-1	90°	Single/Double Latch
		2459350-1	90°	Lever

**SEALING PLUGS**

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



Contact Size	Color	Part Number
1.0 mm	White	4-1437284-3

## TOOLING

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

### HAND TOOLS FOR 1.0 MM CONTACTS



Receptacle P/N	Tool P/N	Description
3-1447221-3	1976144-1	SDE commercial hand tool
3-1447221-4	1976144-2	SDE commercial die

### AUTOMATED TOOLING FOR 1.0 MM CONTACTS



Receptacle P/N	Tool P/N	Description
3-1447221-3	2151705-1	OCEAN end feed applicator with mechanical feed
3-1447221-4	2151705-2	OCEAN end feed applicator with pneumatic feed
2461132-2	2151705-1	OCEAN end feed applicator with mechanical feed
	2151705-2	OCEAN end feed applicator with pneumatic feed
2461132-1	2151241-1	OCEAN 2.0 side feed applicator with mechanical feed
	2151241-2	OCEAN 2.0 side feed applicator with pneumatic feed

Note: Applicators with additional feed styles are available, contact your representative

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## ABOUT TE CONNECTIVITY

TE Connectivity is a global industrial technology leader creating a safer, sustainable, productive, and connected future. Our broad range of connectivity and sensor solutions enable the distribution of power, signal and data to advance next-generation transportation, renewable energy, automated factories, data centers, medical technology and more.

With more than 85,000 employees, including 9,000 engineers, working alongside customers in approximately 130 countries, TE ensures that **EVERY CONNECTION COUNTS**. Learn more at [www.te.com](http://www.te.com) and on LinkedIn, Facebook, WeChat, Instagram and X (formerly Twitter).

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