

# 369 Series Connectors

High-Reliability, Lightweight,  
Compact Connectors Suited to  
Harsh Aerospace Environments



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**Panel-Mount Connectors**

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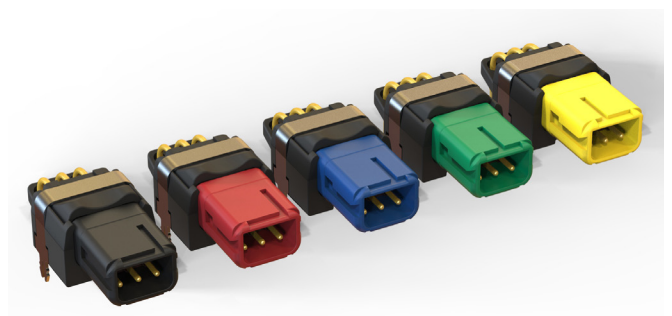
**Standard**



**Harsh**



**Panel-Mount**



**PCB-Mount**

\*See te.com for 3D models of our 369 family of products

**TE Components . . . TE Technology . . . TE Know-how . . .**

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SEACON | Rochester | DEUTSCH

Empower Engineers to Solve Problems, Moving the World Forward.



# Inline Connectors

High-Reliability, Lightweight, Compact Connectors



## Versatile and Compact

369 series connectors from TE Connectivity (TE) have been designed to meet today's tightening industry regulations and Electrical Wiring Interconnect Systems (EWIS) best practices. Based on EN4165/ARINC 809 connectors, the lightweight, compact 369 series connectors, available in 3, 6, and 9 positions standard, are suited for applications where fewer contacts are needed in each connector and shielding is unnecessary.

## Easy to Use

Installation and maintenance of cabling is simple, quick, and reliable with a range of individually color-coded keying options. Each mated half of the connector can be configured with either male or female contacts, doubling the keying configurations available and electrically protecting contacts on the powered-side of a system.

The connectors' rectangular shape permits space-efficient stacking, while cable ties allow versatile mounting without the need for additional lock-out fasteners. The scoop-proof interface is particularly suitable for blind-mating or low visibility conditions. A button-latching mechanism secures the mated connectors.

## Sealed and Safe

The connectors are fully sealed for use in areas with high levels of moisture. High-performance composite materials help meet the low smoke, toxicity and flammability requirements of the aerospace industry.

## Ideal for Cabin Applications

The 369 series connectors are suitable for commercial aerospace cabin applications, such as:

- Cabin lighting
- Oxygen mask systems
- Galley systems
- Seat actuation systems
- Industrial

The connectors also provide a solution for harsh environment applications, such as UAVs and commercial and military helicopter wiring systems.

### RUGGED

- BACC options available
- Low smoke, toxicity and flammability
- Excellent temperature, vibration and fluid resistance
- Triple barrier wire seals
- Cork-in-bottle interface seal

### WEIGHT AND SPACE SAVINGS

- Rectangular shape saves space
- Lightweight composite materials
- No fasteners to mount

### ROBUST DESIGN

- Based on existing ARINC 809/EN4165
- AS39029/EN3155 contacts

### CONVENIENT

- Color-coded keyed shells
- Scoop-proof interface for blindmating

### SECURE

- Cable tie "locks out" the mating button

### FLUIDS

- Fuel
- Mineral hydraulic fluid
- Synthetic hydraulic fluid
- Mineral lubricant
- Synthetic lubricant
- Cleaning products
- De-icing fluid
- Extinguishing fluid
- Cooling fluid



# Inline - Harsh

## MECHANICAL CHARACTERISTICS

- **Operating Temperature:** -55°C to +175°C
- **Fluid Resistance:** EN2591-315
- **IP Rating:** IP67
- **Altitude:** EN2591-314: 12.1kPa (1.75 psi) @ 15 km (50,000 ft)
- **Humidity:** EN2591-321 / EIA-364-31 Method IV
- **Vibration:** EN2591-403, Method B, Level E, 8 hr/axis
- **Shock:** EN2591-402, Method A, severity 100
- **Smoke and Toxicity:** FAR 25.853, Appendix F; ABD0031
- **Flammability:** FAR 25.853 Appendix F; EN2591-317
- **Durability:** 500 mating cycles

## Keying Color Codes



## MATERIALS

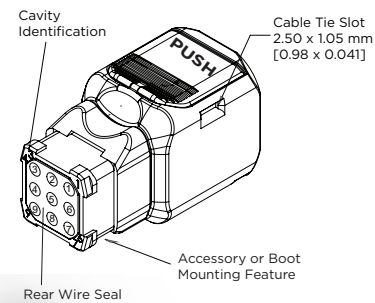
- **Body & Insert:** Thermoplastic
- **Contacts:** Copper alloy, gold plated
- **Seals & Panel Gasket:** Fluorosilicone rubber
- Designed to meet the requirements of RoHS

## ELECTRICAL CHARACTERISTICS

- **Dielectric Withstanding Voltage:** 1500 Vrms mated, <2 mA leakage
- **Operating Current:** 5 A
- **Insulation Resistance:** ≥5000 MΩ initial

## Instruction Documents

Panel: 408-32194  
 PCB Panel: 408-163008  
 PCB In-Line: 408-163009  
 Instruction Sheet: 408-32252





# In-Line Standard

## MECHANICAL CHARACTERISTICS

- **Operating Temperature:** -55°C to +175°C
- **Fluid Resistance:** EN2591-315
- **IP Rating:** IP65
- **Altitude/Humidity:** RTCA DO-160
- **Vibration:** EN2591-403, Method B, Level E, 8 hr/axis
- **Shock:** EN2591-402, Method A, severity 100
- **Smoke and Toxicity:** FAR 25.853, Appendix F; ABD0031
- **Flammability:** FAR 25.853 Appendix F; EN2591-317
- **Durability:** 500 mating cycles

## Keying Color Codes



## MATERIALS

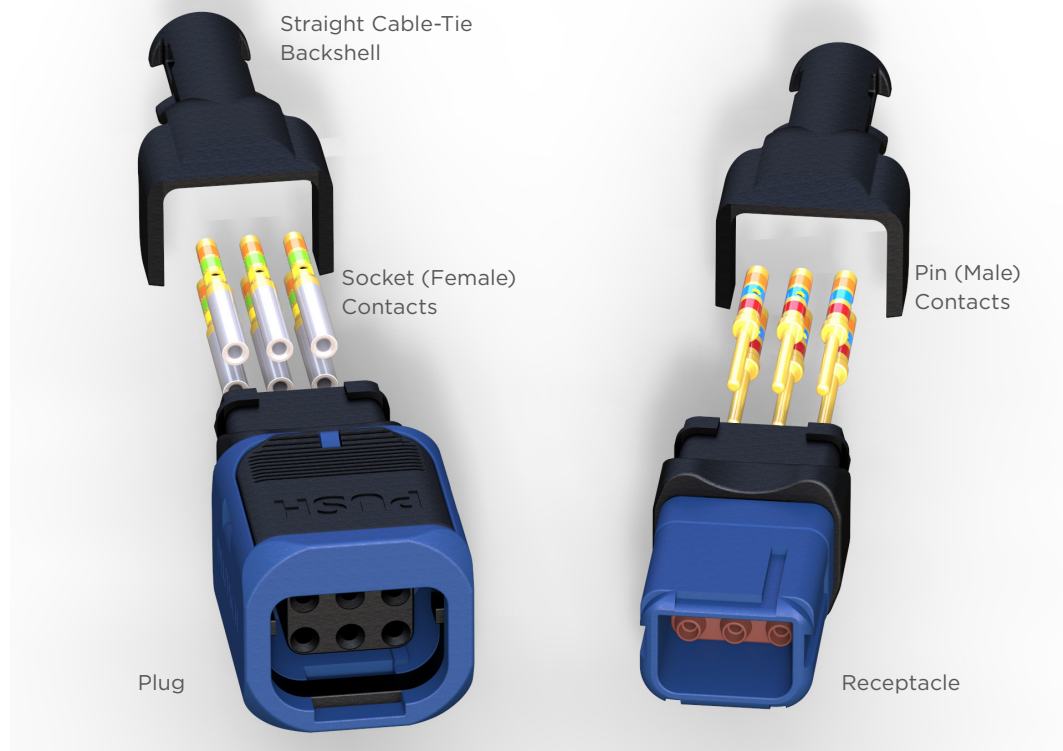
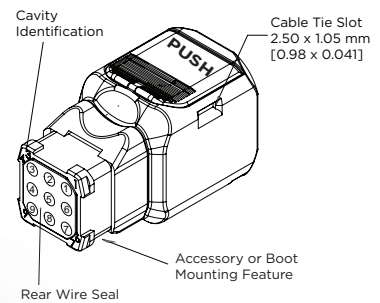
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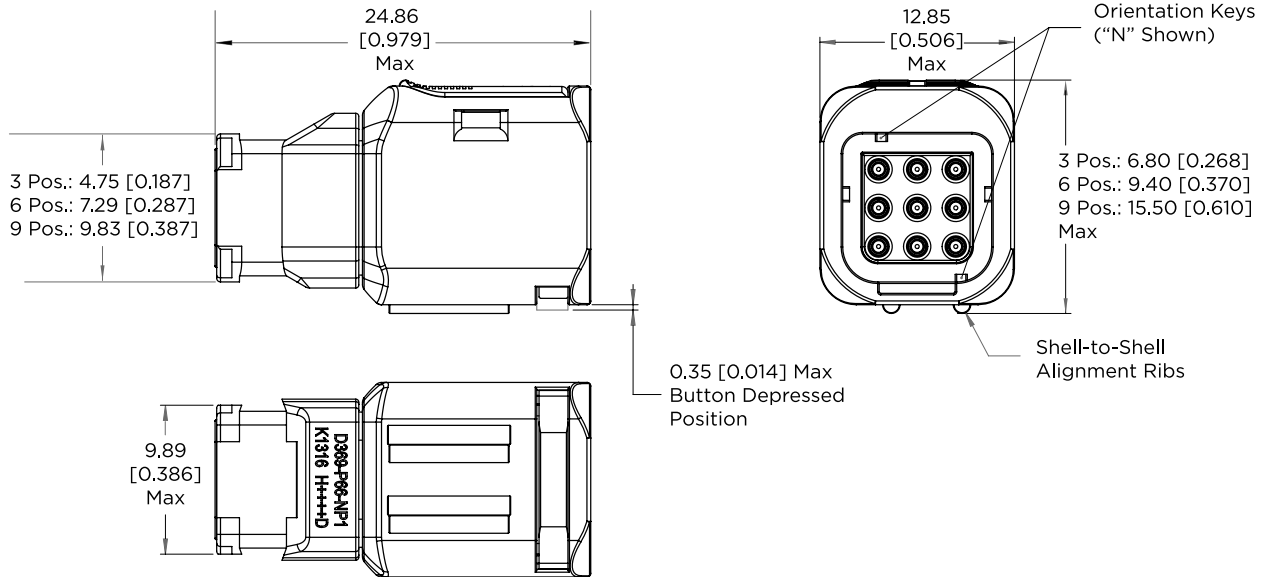
## Instruction Documents

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 PCB In-Line: 408-163009  
 Instruction Sheet: 408-32252





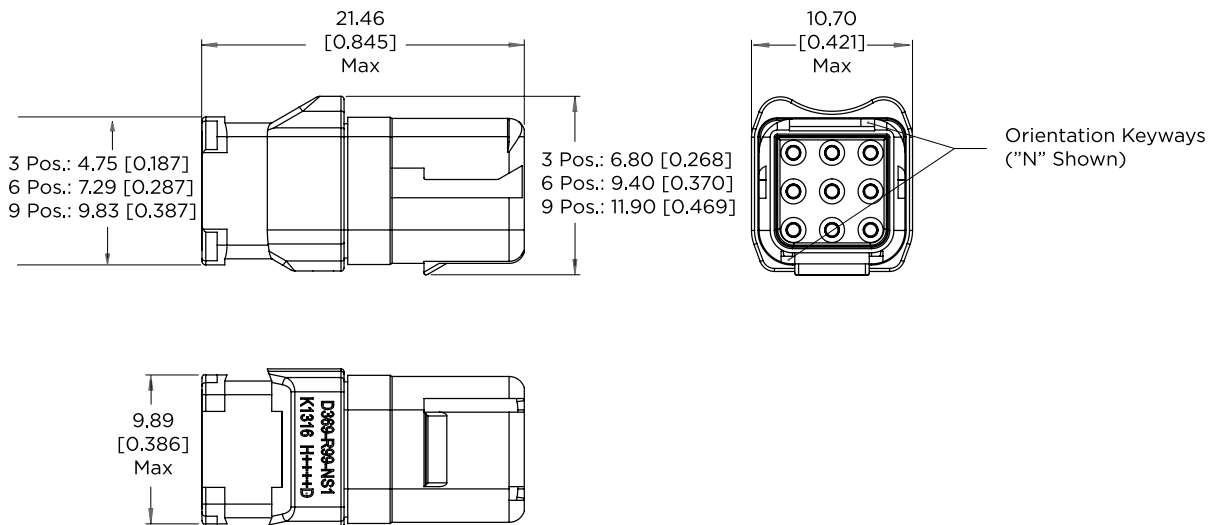
### Plug Connector



Shell Size	Mass*
3	1.90 g [0.067 oz]
6	2.40 g [0.085 oz]
9	3.00 g [0.105 oz]

\*Mass based on plug less male contact configuration  
 Mass for 1 male contact = 0.073 g [0.0026]  
 Recommended cable-tie: 2.5 mm [0.10"]

### Receptacle



Shell Size	Mass*
3	1.00 g [0.035 oz]
6	1.50 g [0.053 oz]
9	2.00 g [0.070 oz]

\*Mass based on receptacle less female contact configuration  
 Mass for 1 female contact = 0.112 g [0.004 oz]



# Panel-Mount Connectors

High-Reliability, Lightweight, Compact Connectors

## EASY TO INSTALL

- Integrated panel latches for mounting
- No fasteners required
- Simple push-in mounting
- One panel hole only

## VERSATILE

- Replaceable gaskets accommodate various panel thicknesses and help prevent rattling
- Easily removed for maintenance

## SPACE SAVING

- Compact design
- Tight mounting pitch of multiple connectors
- No additional space required for fasteners

## WEIGHT SAVING

- Composite shells
- No additional fasteners required

## RUGGED

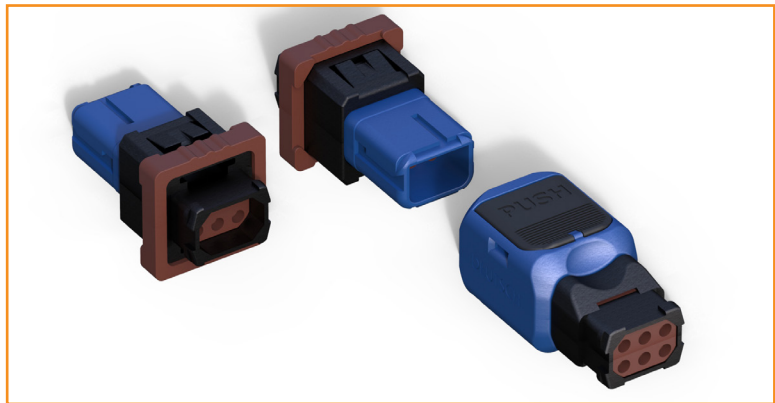
- Low smoke, toxicity and flammability
- Excellent temperature, vibration and fluid resistance
- Triple barrier wire seals
- Cork-in-bottle interface seal

## CONVENIENT

- Compatible with existing 369 series connectors
- Uses standard 369 wire strain-relief backshell
- Uses AS39029 Size 22 contacts

## RELIABLE

- Positive button latching mechanism with audible click
- 100% scoop proof to minimize contact damage and allow blindmating



## Fast, Easy Panel Mounting

369 series panel-mount connectors from TE Connectivity (TE), an extension to the existing 369 series product line, allow easy, fast mounting to an LRU (line-replaceable unit) panel, bracket, chassis, or frame. The integrated panel latches simply clip into a rectangular cut-out and require no additional fasteners or fixings. The latches also allow later removal from the panel. Suitable for multiple panel thicknesses, the connectors feature an anti-rattle panel gasket.

The connectors' rectangular shape permits space-efficient stacking, and remain fully compatible with standard 369 series connectors.

A button-latching mechanism secures the mated connectors.

## Sealed and Safe

The electrical interfaces are fully sealed using cork-in-bottle and triple wire seal technology for use in areas with high levels of moisture. High-performance composite materials help meet the low smoke, toxicity and flammability requirements of the aerospace industry.

## Ideal for Cabin Applications

369 series connectors are particularly suitable for commercial aerospace cabin applications, such as:

- Lighting
- Seat wiring and actuation
- Passenger service units
- IFE (in-flight entertainment)
- Electronic window shutters
- Galley



## Specifications

### MATERIALS

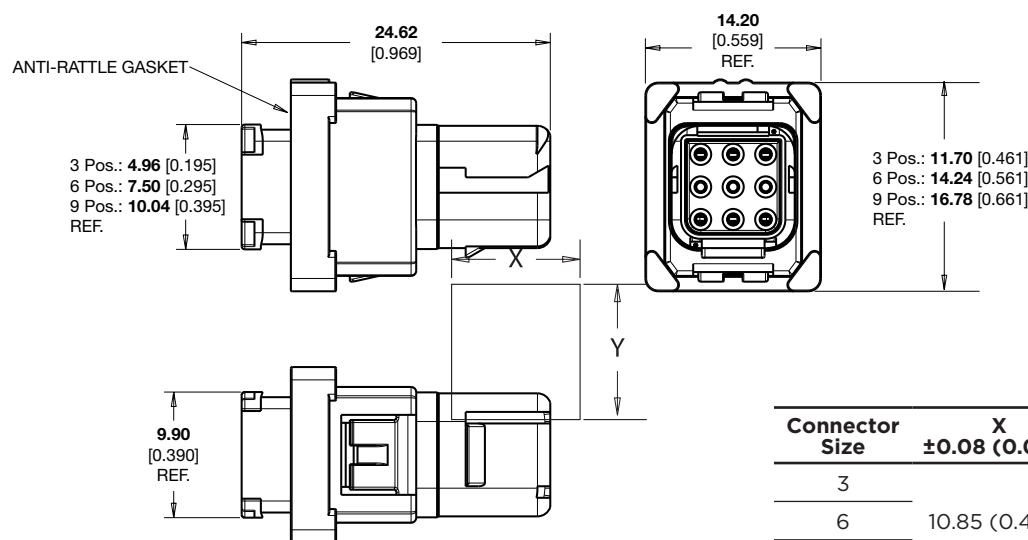
- **Seals and Panel Gasket:** Fluorosilicone
- **Body and Insert:** PEI
- **Contacts:** Copper alloy, gold plated

### ELECTRICAL

- **Insulation Resistance:**  $\geq 5000$  M $\Omega$
- **Dielectric Withstand:** 1500 V<sub>rms</sub>, <2mA leakage
- **Operating Current:** 5 A

### MECHANICAL/ENVIRONMENTAL

- **Temperature Range:** -55°C to +175°C
- **IP Rating:** IP65
- **Altitude/Humidity:** RTCA DO-160
- **Vibration:** EN2591-403, Method B, Level E, 8 hr/axis
- **Shock:** EN2591-402, Method A, Severity 100
- **Durability:** 500 mating cycles min.
- **Fluid Resistance:** EN2591-315
- **Flammability, Smoke, Toxicity:** FAR 25.853 Appendix F



### Keying Color Codes



For information on contacts, please refer to Contacts table on page 6.





# PCB-Mount Connectors

High-Reliability, Lightweight, Compact Connectors

## COMPATIBLE

- Fully compatible with 369 connector family
- Choice of in-line or panel-mount versions

## SPACE SAVING

- Compact, high-density connectors
- Small PCB footprint
- Rectangular design enables close mounting pitch with adjacent connectors
- No fasteners required
- Eliminates flying leads for connectivity to board

## EASY TO INSTALL

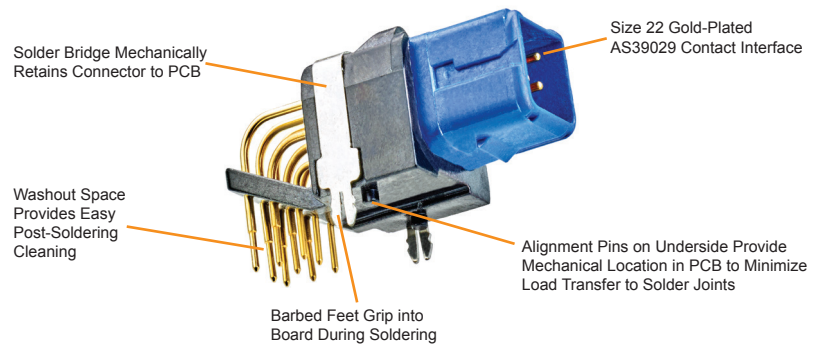
- Mechanically self-retaining during soldering of in-line connectors
- No additional solder fixtures required
- Easy washout for post-soldering cleaning

## RELIABLE

- Mechanical location feature reduces mechanical stress on solder joints

## APPLICATIONS

- Commercial and Business Aircraft
  - Lighting
  - Seat Wiring and Actuation
  - Passenger Service Units
  - On-board Entertainment Systems
  - Electronic Window Shutters
  - Galley
- Helicopter Lighting
- Military Land and Aerospace
- Mass Transit Lighting



369 series connectors from TE Connectivity (TE) have been designed to meet today's tightening industry regulations and Electrical Wiring Interconnect Systems (EWIS) best practices. Based on TE's successful DEUTSCH ARINC 809/EN4165 single module connector, the lightweight, compact 369 series connectors, available in 3, 6, and 9 positions standard, are suited for applications where fewer contacts are needed in each connector and shielding is unnecessary. The 369 series connectors are particularly suited to commercial and business jet aircraft cabin applications. The range now features a variety of options to suit most applications, including in-line and panel-mount versions.

An extension to the popular 369 connector series product line, the 369 PCB connector mounts to a printed-circuit board (PCB). The PCB connectors are available in an in-line version and a panel-mount version.

The PCB connector simply inserts into the board and is then soldered, requiring no additional fasteners or fixings. The end result is an easy and quick-to-mount aerospace-qualified connector with a very compact footprint to help ensure PCB real-estate is maximized.

## Keying Color Codes





## Specifications

### MATERIALS

- **Seals and Panel Gasket:** Fluorosilicone
- **Body and Insert:** PEI
- **Contacts:** Copper alloy, gold plated

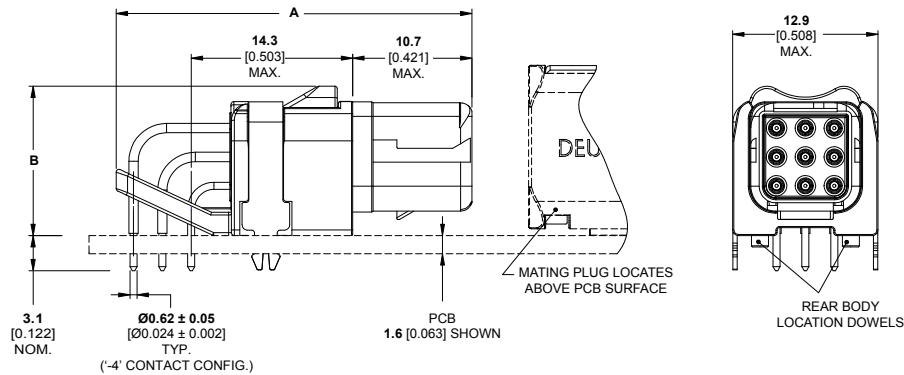
### ELECTRICAL

- **Insulation Resistance:**  $\geq 5000 \text{ M}\Omega$
- **Dielectric Withstand:**  $1500 \text{ V}_{\text{rms}}$ ,  $< 2\text{mA}$  leakage
- **Operating Current:** 5 A

### MECHANICAL/ENVIRONMENTAL

- **Temperature Range:**  $-55^\circ\text{C}$  to  $+175^\circ\text{C}$
- **IP Rating:** IP65
- **Altitude/Humidity:** RTCA DO-160
- **Vibration:** EN2591-403, Method B, Level E, 8 hr/axis
- **Shock:** EN2591-402, Method A, Severity 100
- **Durability:** 500 mating cycles min.
- **Fluid Resistance:** EN2591-315
- **Flammability, Smoke, Toxicity:** FAR 25.853 Appendix F

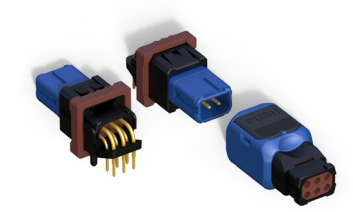
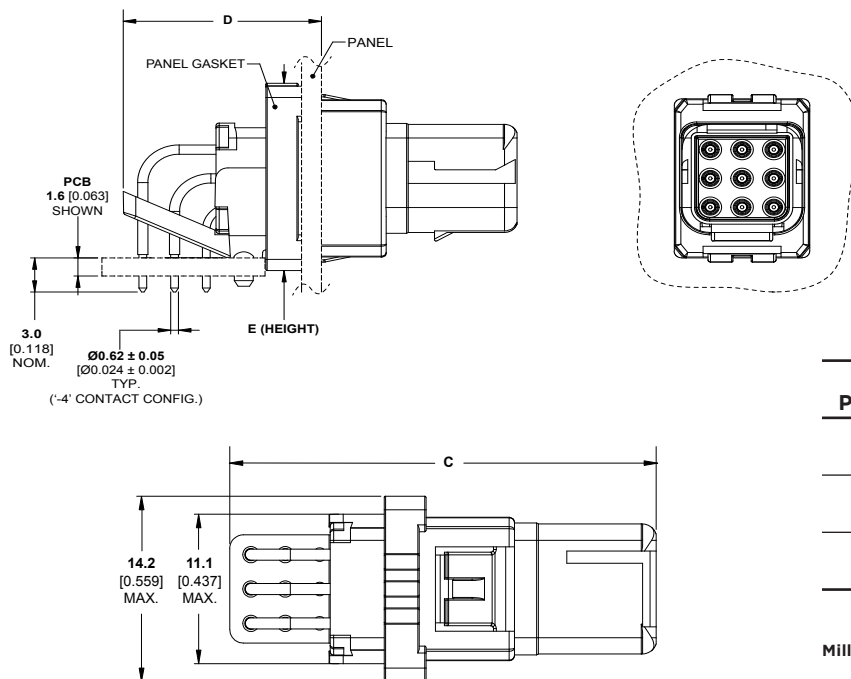
## In-Line PCB Connectors



No. of Positions	A Max.	B Max.
3	26.6	8.4
6	29.1	10.9
9	31.6	13.4

Millimeters Inches

## Panel-Mount PCB Connectors

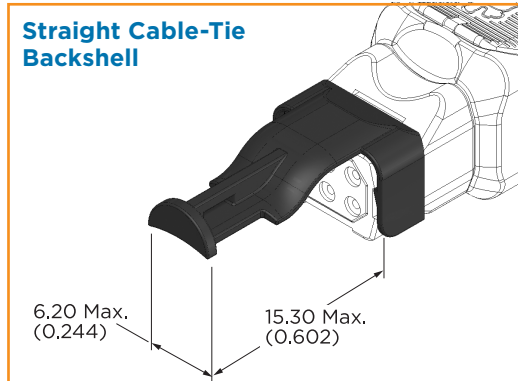


No. of Positions	C Max.	D Max.	E Max.
3	26.8	11.2	11.7
6	29.4	13.7	14.2
9	32.0	16.3	16.8

Millimeters Inches



# Part Numbers



Shell Size	Strain Relief
3	D369-STB-3
6	D369-STB-6
9	D369-STB-9



### Tooling

Connector panel-extraction tool: Part No. 612184-369

## Part Numbering System

**D369 - \* P 3 3 - N P 1 -MOD**

**FAMILY**  
**D369**

**VARIANT**  
**Omit \* in cabin application**

**H** Outside Cabin Application

**TYPE**

- P** Plug
- R** Receptacle
- B** PCB, Panel Thickness for Panel Mount: 1.60mm (0.063")
- G** PCB, In-Line Mount

**SHELL SIZE**  
**3, 6, 9**

**NUMBER OF CONTACTS**  
**3, 6, 9**

**SHELL KEYING**  
**N** Black / **A** Red / **B** Blue / **C** Green / **D** Yellow

**CONTACT TYPE**  
**P** Pin  
**S** Socket

**CONTACT CONFIGURATION**

- 0** Without Contacts
- 1** With Size 22 Contacts
- 3** With Size 20/22 Contacts
- 4** 90° PCB Mount, Gold Plated
- 5** 90° PCB Mount, Tin Dipped

**MODIFICATION NUMBER (OPTIONAL)**  
**-113L** Outgassed

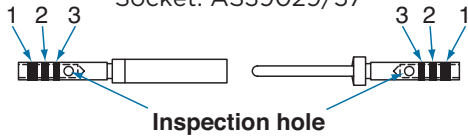


## ELECTRICAL CONTACTS

Color Coding

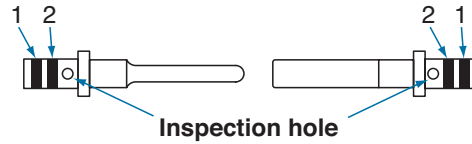
Pin: AS39029/58

Socket: AS39029/57



Color Coding

Pin and Socket: EN3155



## Crimp Contacts



Contact Size	Wire Range		Type	Part No.			
	AWG	mm <sup>2</sup>		TE	EN	MIL	BACC
22	26 - 22 AWG	0.15 - 0.40	Pin	38941-22L	—	M39029/58-360	BACC47GC
			Socket	38946-22L	—	M39029/57-354	—
20/22	24 - 20 AWG	0.25 - 0.60	Pin	182-0860-22	EN3155-070M2220	—	—
			Socket	182-0862-22	EN3155-071F2220	—	—

## Tooling



**Insertion/Extraction Tool**  
M81969/14-01



**Crimp Tool**  
M22520/2-01  
TE Part No. 601966-1



**Crimp Positioners**

**Pin Contact**  
M22520/2-09  
TE Part No. 601966-6

**Socket Contact**  
M22520/2-06  
TE Part No. 601966-4

## Cavity Identification

(Plug or Receptacle. Viewed from Rear of Connector)



Using Pin (Male) Contacts



Using Socket (Female) Contacts



## Part Numbers

No. of Positions	Housing Type	Insert	Part No.		
			With Contacts	Without Contacts	BACC Equivalent
<b>STANDARD (inside cabin)</b>					
3	Plug	Pin	D369-P33-NP1	D369-P33-NP0	—
		Socket	D369-P33-NS1	D369-P33-NS0	—
	Receptacle	Pin	D369-R33-NP1	D369-R33-NP0	—
		Socket	D369-R33-NS1	D369-R33-NS0	—
6	Plug	Pin	D369-P66-NP1	D369-P66-NP0	—
		Socket	D369-P66-NS1	D369-P66-NS0	—
	Receptacle	Pin	D369-R66-NP1	D369-R66-NP0	—
		Socket	D369-R66-NS1	D369-R66-NS0	—
9	Plug	Pin	D369-P99-NP1	D369-P99-NP0	—
		Socket	D369-P99-NS1	D369-P99-NS0	—
	Receptacle	Pin	D369-R99-NP1	D369-R99-NP0	—
		Socket	D369-R99-NS1	D369-R99-NS0	—
<b>HARSH (outside cabin)</b>					
3	Plug	Pin	D369-HP33-NP1	D369-HP33-NP0	BACC65 CP 1PN
		Socket	D369-HP33-NS1	D369-HP33-NS0	BACC65 CP 1SN
	Receptacle	Pin	D369-HR33-NP1	D369-HR33-NP0	BACC65 CR 1PN
		Socket	D369-HR33-NS1	D369-HR33-NS0	BACC65 CR 1SN
6	Plug	Pin	D369-HP66-NP1	D369-HP66-NP0	BACC65 CP 2PN
		Socket	D369-HP66-NS1	D369-HP66-NS0	BACC65 CP 2SN
	Receptacle	Pin	D369-HR66-NP1	D369-HR66-NP0	BACC65 CR 2PN
		Socket	D369-HR66-NS1	D369-HR66-NS0	BACC65 CR 2SN
9	Plug	Pin	D369-HP99-NP1	D369-HP99-NP0	BACC65 CP 3PN
		Socket	D369-HP99-NS1	D369-HP99-NS0	BACC65 CP 3SN
	Receptacle	Pin	D369-HR99-NP1	D369-HR99-NP0	BACC65 CR 3PN
		Socket	D369-HR99-NS1	D369-HR99-NS0	BACC65 CR 3SN
<b>PANEL MOUNT</b>					
3	Receptacle	Pin	D369-B33-NP0	D369-B33-NP1	D369-B33-NP4
		Socket	D369-B33-NS0	D369-B33-NS1	D369-B33-NS4
6	Receptacle	Pin	D369-B66-NP0	D369-B66-NP1	D369-B66-NP4
		Socket	D369-B66-NS0	D369-B66-NS1	D369-B55-NS4
9	Receptacle	Pin	D369-B99-NP0	D369-B99-NP1	D369-B99-NP4
		Socket	D369-B99-NS0	D369-B99-NS1	D369-B99-NS4



**Part Numbers**

No. of Positions	Housing Type	Insert	Part No. 90° PCB Contacts
<b>PCB Inline Mount</b>			
3	Receptacle	Pin	D369-G33-NP4
		Socket	D369-G33-NS4
6	Receptacle	Pin	D369-G66-NP4
		Socket	D369-G66-NS4
9	Receptacle	Pin	D369-G99-NP4
		Socket	D369-G99-NS4

See [www.te.com](http://www.te.com) for additional part numbers and alternative keying options available



369 Connectors Can Be Easily Secured with Cable Ties, Eliminating the Need for Additional Hardware or Cutouts



**NOTES:**

## LET'S CONNECT

We make it easy to connect with our experts and are ready to provide all the support you need. Just call your local support number or visit [www.te.com/industrial](http://www.te.com/industrial) to chat with a Product Information Specialist.

## Technical Support

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

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North America (Toll)	+1 717 986 7777	Japan	+81 044 844 8180
EMEA/South Africa	+800 0440 5100	Australia	+61 2 9554 2695
EMEA (Toll)	+31 73 624 6999	New Zealand	+64 (0) 9 634 4580
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[te.com/369](http://te.com/369)

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Consult TE for the latest dimensions and design specifications.

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