

Product Facts

- Economical environmentally sealed connector designed for industrial applications
- Meets major Industrial Standards
- High strength, impact resistant thermoplastic housing, rated UL 94V-0
- Contains wire entry and peripheral seals
- AMP POWERBAND precision formed power contact (Series 5 and 6)
- Type III+ precision formed signal/low current contacts (Series 1 and Series 6)
- Other configurations in Series 1 can be made available, contact your local Tyco Electronics Sales Engineer or Tyco Electronics, Harrisburg, PA

One-Piece Sealed Circular Plastic Connectors



The new Sealed One-Piece Circular Plastic Connectors are the latest product innovation to the sealed CPC product family. This design allows for easy assembly. The housing and the seal are attached. A newly designed wire entry seal protects the rear of the connector and a peripheral seal protects the connector interface. Simply crimp the contact onto a wire and insert the crimped wire contact through the seal and into the housing cavity. The connector loads the same as if the seal wasn't there. All connector cavities come in a sealed condition. No plugs are required if you do not use a position cavity. We have the

capability to provide this product sealing to you in all the shell sizes. If you don't see your particular size configuration, contact your local Tyco Electronics Sales Engineer or call Tyco Electronics for the latest information.

Industry Standards

One-Piece Sealed CPC products meet –

- IP 67 (Temporary immersion)

Fluid Protection Against – diesel fuel, gear and engine lubricants, gasoline, anti-freeze, hydraulic fluid, water, salt sprays, etc.

Performance Characteristics meets the same performance characteristics as shown on page 6.

Operating Temperature Range—
-50°C to +125°C [-58°F to +257°F]

UL Voltage Rating—

- Series 1 600 V (AC or DC)
- Series 6 250 V (AC or DC)

.125 POWERBAND Power Contact –
45 amps, single contact rating at 30°C T-Rise
Type III+ Contacts –
13 amps, single contact rating at 30°C T-Rise

Flammability Rating—
UL 94V-0 rated

Sealing Capability—
Per IP 67

Housing Material—
High strength, impact resistant thermoplastic

Fluid Resistance—
Diesel fuel, gear and engine lubricants, gasoline, anti-freeze, hydraulic fluid, water

One-Piece Sealed Circular Plastic Connectors, Series 1

Sealed CPC Receptacles, Special Series 1 with Pre-Installed, Bonded Peripheral Seal



Listed part numbers are for connectors only; contacts must be ordered separately.

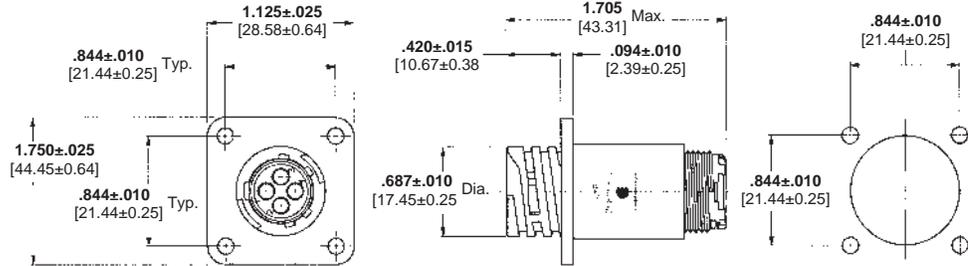
Material and Finish

Housing—Thermoplastic, UL 94V-0 rated, black
Seal—Elastomer, gray

Related Product Data

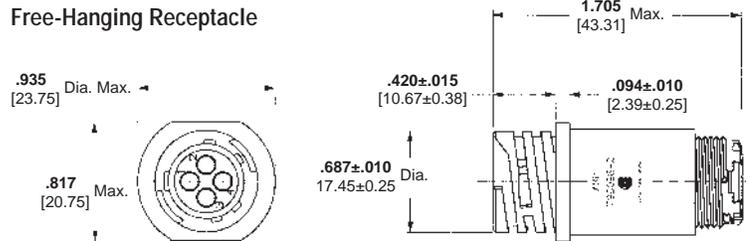
- Contacts**—Pages 16-21
- Contact Arrangement**—Page 23
- Component Dimensions**—Size 11-4 shown; request Customer Drawings for other sizes
- Accessories**—Pages 37-41 and 50-53
- Performance Characteristics**—Page 6
- Application Tooling**—Pages 75-78
- Technical Documents**—Page 79

Square Flange Receptacle (Uses Flange Seal Part No. 81665-□ on page 50)

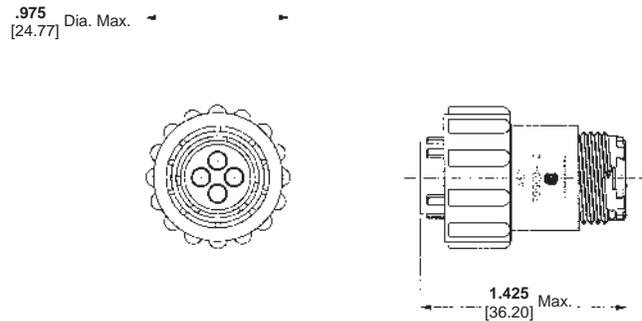


Recommended Panel Cutout

Free-Hanging Receptacle



Plug



Arrangement	Shell No. of Size Positions	Sex	Square Flange Receptacle		Free-Hanging Receptacle	Plug	Insulation Diameter
			With Mounting Holes	With Threaded Inserts ¹			
11-4		Standard	796095-2	—	796096-2	796094-2	.065-.100 [1.65-2.54]
		Reverse	788154-2	—	788155-2	788153-2	.065-.100 [1.65-2.54]
13-9		Standard	788158-2	—	788159-2	788157-2	.065-.100 [1.65-2.54]
17-14		Reverse	796272-1	—	796273-1	796271-1	.065-.100 [1.65-2.54]
17-16		Standard	796275-1	796275-3	796276-1	796274-1	.065-.100 [1.65-2.54]
		Standard	796275-2	—	796276-2	796274-2	.040-.080 [1.01-2.03]
23-24		Standard	796190-1	—	796291-1	796188-1	.065-.120 [1.65-3.04]
23-37		Standard	796286-1	—	796287-1	796288-1	.065-.100 [1.65-2.54]

¹Four 4-40 threaded inserts per receptacle.

Assembly Accessories

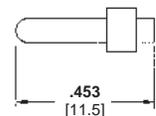
Seal Protectors are recommended to aid contact insertion through the wire entry seal. They are reusable.



Part Number 208337-1 (Insert Pins)
 Part Number 208338-1 (Insert Sockets)

Wire Entry Seal Plug

Part Number 796075-1 (6 per carrier strip)
 Material—Polypropylene, natural



CPC Connectors, Series 5
Sealed – Reverse Sex



Listed part numbers are for connectors only; contacts must be ordered separately.

Material

Housing—Nylon, glass-filled UL rated 94V-0, black

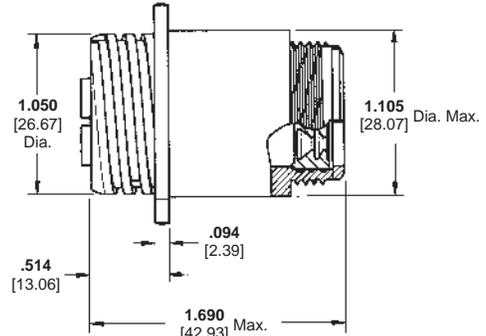
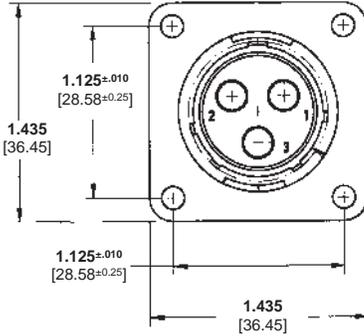
Related Product Data

- Contacts—Page 46
- Accessories—Page 50
- Application Tooling—Pages 75-78
- Technical Documents—Page 79

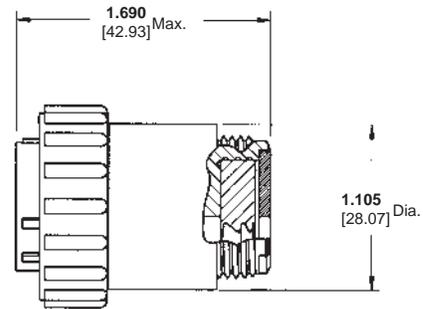
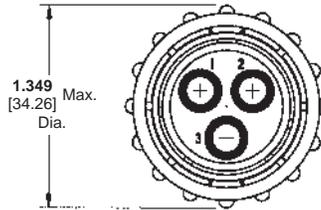
Note: All part numbers are RoHS Compliant.

One-Piece Sealed Circular Plastic Connectors, Series 5

Square Flange Receptacle (Uses Flange Seal Part No. 81665-2 on page 50)



Plug



Arrangement		Insulation Diameter	Square Flange Receptacle	Free-Hanging Receptacle	Plug
Shell Size	No. of Positions				
17-3		.095-.205 [2.41-5.21]	788189-1	796112-1	788188-1
		.150-.265 [3.81-6.73]	788189-2	796112-2	788188-2

One-Piece Sealed CPC Connectors

CPC Connectors, Series 6
Sealed



Listed part numbers are for connectors only; contacts must be ordered separately.

Material

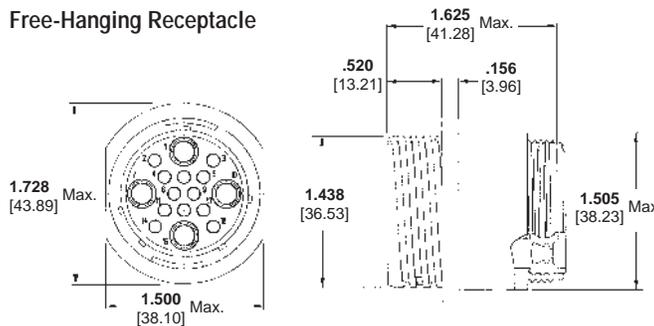
Housing—Nylon, glass-filled UL rated 94V-0, black

Related Product Data

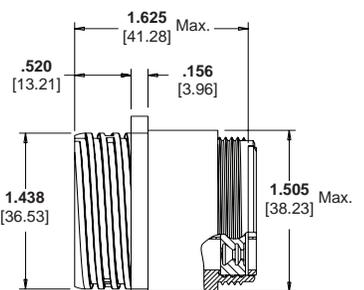
- Contacts—Pages 16-21 and 46
- Application Tooling—Pages 75-78
- Technical Documents—Page 79

One-Piece Sealed Circular Plastic Connectors, Series 6

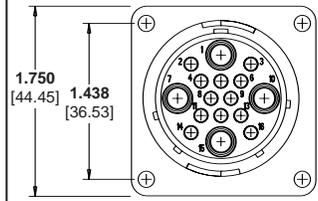
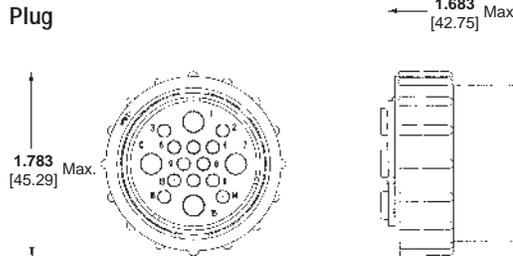
Free-Hanging Receptacle



Square Flange Receptacle



Plug



Arrangement		Insulation Diameter		Sex	Square Flange Receptacle w/Mounting Holes	Free-Hanging Receptacle	Plug
Shell Size	No. of Positions	Power	Signal				
23-16		.095-.205 [2.41-5.21]	.065-.100 [1.65-2.54]	Standard	796466-1	796207-1	796203-1
				Reverse	—	796330-1	796332-1

Product Facts

- Economical environmentally sealed connector designed for industrial applications
- Meets major Industrial Standards
- High strength, impact resistant thermoplastic housing, rated UL 94V-0
- Contains wire entry, peripheral, and full interfacial seals
- AMP POWERBAND precision formed power contact (Series 5 and 6)
- Type III+ precision formed signal/low current contacts (Series 6)
- Other configurations in Series 1 can be made available, contact your local Tyco Electronics Sales Engineer or Tyco Electronics, Harrisburg, PA

Two-Piece Sealed Circular Plastic Connectors



Technical Documents

Instruction Sheet
408-4317 Two-Piece Sealed CPC
Connectors

Product Specification
108-1579 Sealed CPC Connectors
with Removable Contacts

Sealed CPC connectors are the latest additions to the growing family of AMP Circular Plastic Connectors. Sealed CPC connectors were developed as part of the Series 5 and 6 product line, specifically to meet the increasing demand for an economical environmentally sealed connector.

Sealed CPC connectors are designed to meet the requirements of UL, CSA, and VDE for environmentally sealed connectors used in industrial applications.

In addition, sealed CPC connectors are designed to meet the latest SAE and ASAE requirements as outlined in the standards listed here.

Sealed CPC connectors incorporated the latest technology in thermoplastic design and use the new AMP POWERBAND precision formed high current contact.

Illustrated above are the Series 5 (power) and Series 6

(power/signal mix) sealed connector configurations. Other sizes are available in a Series 1 (signal/low current) configuration. Contact your local Tyco Electronics Sales Engineer, or call Tyco Electronics for the latest design information.

Industry Standards

Two-Piece Sealed CPC connectors meet—

- IP65

Performance Characteristics

Operating Temperature Range—
-50°C to +125°C [-58°F to +257°F]

UL Voltage Rating—

Series 5 600 V (AC or DC)
Series 6 250 V (AC or DC)

.125 POWERBAND Power Contact –
45 amps, single contact
rating at 30°C T-Rise

Type III+ Contacts –
13 amps, single contact
rating at 30°C T-Rise

Flammability Rating—
UL 94V-0 rated

Sealing Capability—
Per IP 65

Housing Material—
High strength, impact
resistant thermoplastic

Fluid Resistance—
Diesel fuel, gear and engine lubricants,
gasoline, anti-freeze, hydraulic fluid,
water

Sealed Circular Plastic Connectors

Multimate Size 16 Contacts

Precision formed signal/low current

Pin Diameter—.062 [1.57]

Test Current—13 amps max.

.125 POWERBAND Contacts

Precision formed high current

Pin Diameter—.125 [3.175]

Test Current—50 amps max.

Extraction Tool

Part Number 318813-1

(Instruction Sheet 408-4374)

Material and Finish

Contacts—Copper with beryllium copper spring

Plating Code

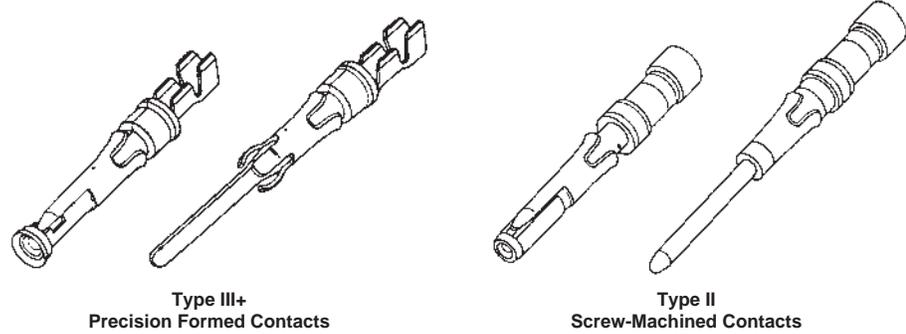
A — Post plated .000200 [0.00508] min. silver in mating area with .000050 [0.00127] min. silver on remainder of contact, all over .000050 [0.00127] min. nickel

B — Post plated .000030 [0.00076] min. gold in mating area with gold flash on remainder of contact, all over .000050 [0.00127] min. nickel

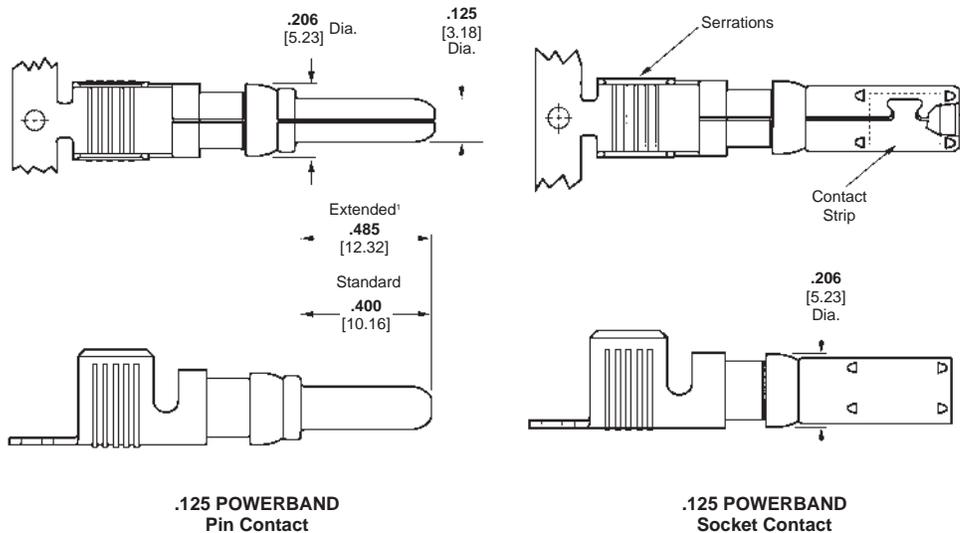
Related Product Data

Application Tooling—Pages 75-78

Technical Documents—Page 79



See pages 16-22 for complete product information and part numbers of Size 16 contacts applicable in Sealed CPC Connectors.



Sealed CPC Connectors

Wire Size AWG/mm ²	Contact Finish	Pin Length	Contact Part No.				Tooling Part No.	
			Strip		Loose Piece		Heavy Duty Miniature (HDM) Applicators (for AMP-O-LECTRIC Model G Machine, Base Part No. 354500)	Die Sets for Hand Tool 69710-1 or 626 Pneumatic Tool System*
			Pin	Socket	Pin	Socket		
14-12 2-3	A	Standard	213845-1	213847-1	213845-3	213847-3	680195-3	356612-1
	B	Standard	213845-2	213847-2	213845-4	213847-4		
	A	Extended [†]	213845-5	—	213845-7	—		
	B	Extended [†]	213845-6	—	213845-8	—		
10-8 5-8	A	Standard	213841-1	213843-1	213841-3	213843-3	680197-3	356611-1 (8 AWG)
	B	Standard	213841-2	213843-2	213841-4	213843-4		
	A	Extended [†]	213841-5	—	213841-7	—		356611-2 (10 AWG)
	B	Extended [†]	213841-6	—	213841-8	—		

[†]For use in One-Piece or Two-Piece Sealed Circular Plastic Connectors (CPC), Series 5 and 6.

‡Single contact, free-air test current; not to be construed as contact rating current. Use only for testing.

Refer to contact current carrying capability information, page 8.

Note: Standard Size 8, High Current Upgrade Size 8, and .125 POWERBAND contacts are **not** interchangeable.

*A typical 626 Pneumatic Tool System requires: a power unit (Part No. 189721-2, hand actuated or 189722-2, foot actuated), an adapter holder (Part No. 356304-1, with ratchet), and "C" Head adapter Part No. 318161-1.

Specifically designed for AMP CPC Connectors, Series 5 and 6, the new .125 POWERBAND contact offers the performance of a

MIL-Spec screw machined Size 8 contact with the economy of a stamped and formed, strip-feed contact. Strip-feed contacts

offer maximum production capabilities using standard AMP bench-mount, semi-automatic termination equipment. For low volume,

prototype or maintenance and repair requirements, the .125 POWERBAND contact is available in loose piece form.

Two-Piece Sealed Circular Plastic Connectors, Series 5

CPC Connectors, Series 5 Sealed – Reverse Sex



Listed part numbers are for connectors only; contacts must be ordered separately.

Material

Housing—Nylon, glass-filled UL rated 94V-0, black

Related Product Data

Contacts—Pages 46

Accessories—Page 50

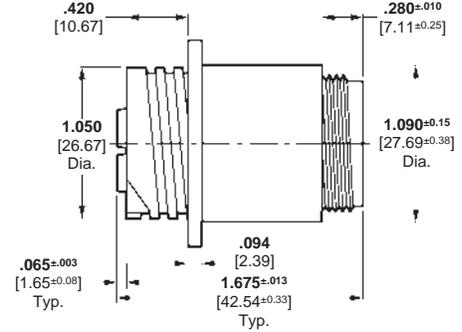
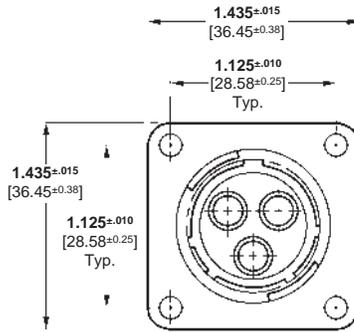
Application Tooling—Pages 75-78

Technical Documents—Page 79

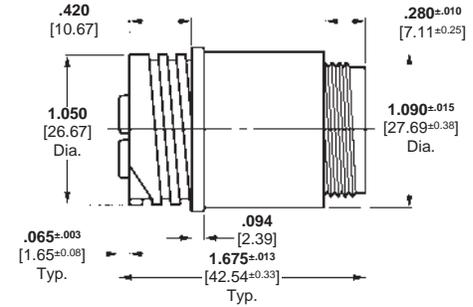
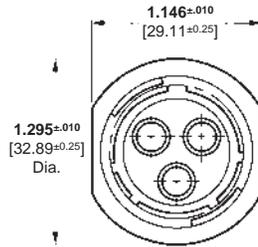
Replacement Coupling Ring

Shell Size	Part No.
17-3	213810-1

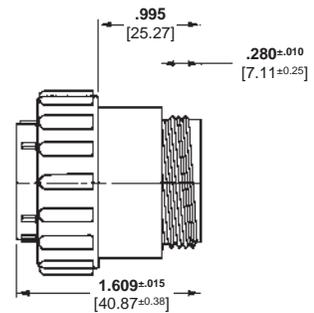
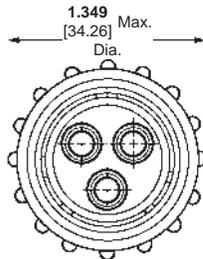
Square Flange Receptacle (Uses Flange Seal Part No. 81665-2 on page 50)



Free-Hanging Receptacle



Plug (With Full Interfacial Seal)



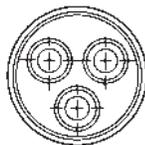
Reverse Sex (Receptacles accept socket contacts, Plugs accept pin contacts)

Arrangement	Square Flange Receptacle	Free-Hanging Receptacle	Plug
17-3 - Connector	213889-2	213890-2	213905-1
17-3 - Wire Entry Seal Kit	213899-1	213899-1	213899-1

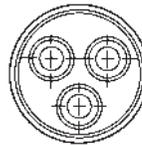
Kit includes (1) Silicon Wire Entry Seal and (1) Pressure Plate.
*Wire entry seals require cable clamp kits.

Wire Entry Seals*

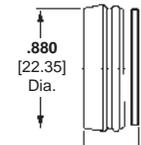
*Cable clamp kit 213902-3 required. (Similar to 206322-9. See page 37 for dimensional detail of cable clamp) or cable clamp kit 213904-3. (Similar to 206070-8. See page 37 for dimensional detail of cable clamp).



Rear View Receptacles



Rear View Plugs



Side View Plugs/Receptacles

Note: Minimum insulation diameter is .156 [3.96]; Maximum insulation diameter is .260 [6.60].

CPC Connectors, Series 6
Sealed – Reverse Sex



Listed part numbers are for connectors only; contacts must be ordered separately.

Material

Housing—Nylon, glass-filled UL rated 94V-0, black

Related Product Data

Contacts—Pages 16-20 and 46

Accessories—Page 50

Application Tooling—Pages 75-78

Technical Documents—Page 79

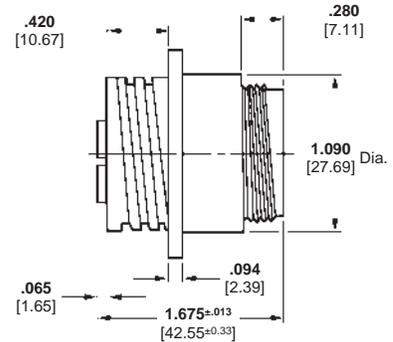
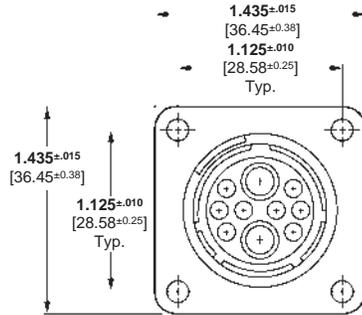
Replacement Coupling Ring

Shell Size	Part No.
17-10	213810-1

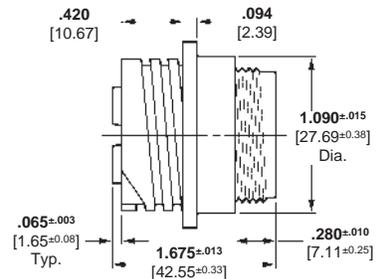
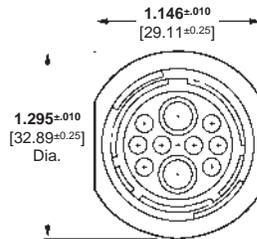
Note: All part numbers are RoHS Compliant.

Two-Piece Sealed Circular Plastic Connectors, Series 6

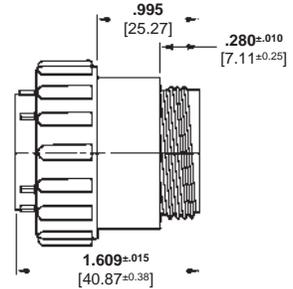
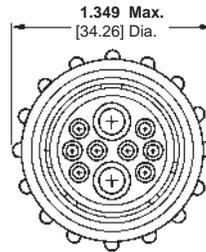
Square Flange Receptacle (Uses Flange Seal Part No. 81665-2 on page 50)



Free-Hanging Receptacle



Plug



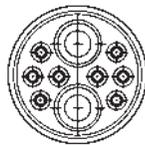
Reverse Sex (Receptacles accept socket contacts, Plugs accept pin contacts)

Arrangement	Square Flange Receptacle	Free-Hanging Receptacle	Plug
17-10 Connector	213893-2	213894-2	213906-1
17-10 Wire Entry Seal Kit	213900-1	213900-1	213900-1

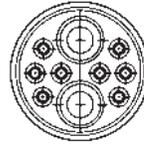
Kit includes (1) Silicon Wire Entry Seal and (1) Pressure Plate.
*Wire entry seals require cable clamp kits.

Wire Entry Seal*

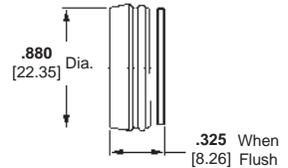
*Cable clamp kit 213902-3 required. (Similar to 206322-9. See page 37 for dimensional detail of cable clamp) or cable clamp kit 213904-3. (Similar to 206070-8. See page 37 for dimensional detail of cable clamp).



Rear View Receptacles



Rear View Plugs



Side View Plugs/Receptacles

Note: Minimum insulation diameter is .156 [3.96]; maximum insulation diameter is .260 [6.60] for power contacts. Minimum insulation diameter is .060 [1.50]; maximum insulation diameter is .130 [3.30] for signal contacts.

Sealed CPC Receptacles, Special Series 1 with Pre-Installed, Bonded Peripheral Seal



Listed part numbers are for connectors only; contacts must be ordered separately.

Material and Finish

Housing—Thermoplastic, UL 94V-0 rated, black

Seal—Elastomer, gray

Related Product Data

Contacts—Pages 16-20

Contact Arrangement—Page 23

Accessories—Pages 37-41 and 50

Performance Characteristics—Page 6

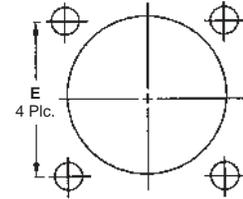
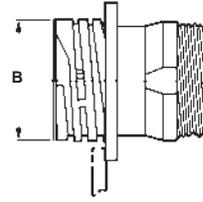
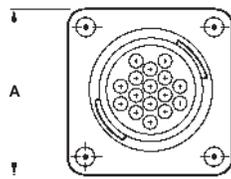
Application Tooling—Pages 75-78

Technical Documents—Page 79

Note: All part numbers are RoHS Compliant.

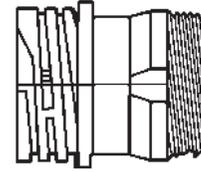
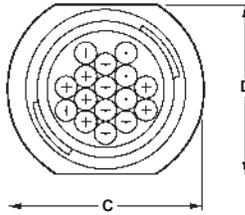
Two-Piece Sealed Circular Plastic Connectors, Special Series 1

Square Flange Receptacle (Uses Flange Seal Part No. 81665-□ on page 50)



Recommended Panel Cutout

Free-Hanging Receptacle



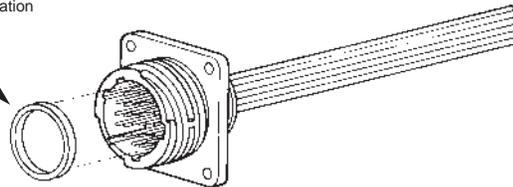
Shell Size	Dimension E
11	.844 21.44
13	.969 24.61
17	1.125 28.58
23	1.438 36.53

Arrangement	Series I Receptacles with Peripheral Seal								Mates with Plug Part No.	
	Dimensions		Sex	Square Flange Part No.		Dimensions		Free-Hanging Part No.		
Shell Size	No. of Positions	A		B	With Mounting Holes	With Threaded Inserts ¹	C		D	
11-4		1.125	.607	Std.	206061-2	—	.935	.817	206153-2	206060-1
		28.58	15.42	Rev.	206430-3	—	23.75	20.75	206430-4	206429-1
13-7		1.281	.812	Std.	211401-3	—	1.072	.874	—	211399-1
		32.54	20.62	Std.	206705-3	208131-2	27.23	22.20	206705-4	206708-1
17-16		1.435	1.050	Std.	206036-4	—	1.310	1.161	206036-5	206037-1
		36.45	26.67	Rev.	206043-4	—	33.27	29.49	206043-5	206044-1
23-24		1.750	1.438	Std.	206838-3	—	1.733	1.505	206838-4	206837-1
		44.45	36.53	Std.	206151-3	—	44.02	38.23	206151-4	206150-1
23-37				Rev.	206306-3	—			206306-4	206305-1

¹Four 4-40 threaded inserts per receptacle.

- Notes: 1. For detailed performance data on peripheral seals, refer to Product Specification No. 108-10024.
2. Receptacles mate with Series 1 plugs found on page 10.

Seal shown outside of connector for illustration purposes only.



Receptacles with pre-installed, bonded peripheral seals are recommended for use in sealing/splash-proof applications, or where connectors will be subjected to vibration.

Wire Entry Seal Kits
for Plug and Receptacle
Housings

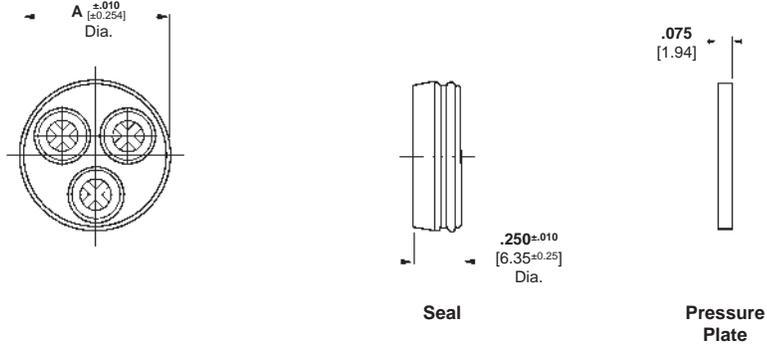
Material and Finish

Seal—Silicon, black
Pressure Plate—Nylon, black

Circular Connectors for
Commercial Signal and Power Applications

Note: All part numbers
are RoHS Compliant.

Two-Piece Circular Plastic Connector Sealing Accessories



Arrangement No.	Insulation Dia. Range	Dimension A	Kit for Pins	Kit for Sockets
13-9	.075-.125 1.91-3.18	.681 17.30	213926-1	213925-1
17-3	.178-.265 4.52-6.73	.790 20.07	213899-1	213899-1
17-10	.178-.265 4.52-6.73	.790 20.07	213900-1	213900-1
	.075-.125 1.91-3.18			
17-14	.075-.125 1.91-3.16	.790 20.07	213919-2	213919-1
17-16	.075-.125 1.91-3.16	.790 20.07	213920-2	213920-1

Notes: 1. Kits include one Gang Seal and one Pressure Plate marked for cavity identification.
2. Arrangement No. 17-10 Insulation Dia. Range **.178-.265** [4.52-6.73] for two holes, **.075-.125** [1.95-3.18] for eight holes.

One-Piece or Two-Piece Sealed CPC Sealing Accessories

Flange Seals

Material Neoprene, black

Related Product Data

Dimensions—Shell Size 17 shown; request Customer Drawings for other sizes

Shell Size	Part No.
11	81665-3
13	81665-4
17 (shown)	81665-2
23	81665-5

