

Amphenol®



APC - Amphenol Plastic Connector

Company Profile



Endicott, NY



Amphenol Technology (Zhuhai) Co., Ltd

Established in 2007, Amphenol Technology (Zhuhai) Co., Ltd. is a manufacturing facility for Amphenol Industrial Operations, which serves a number of industrial markets. Included but not limited to Factory Automation, Transportation, Heavy Equipment, Alternative Energy, Energy Storage, Server/Data Comm and Power Distribution.

Amphenol Industrial Operations

Amphenol Industrial Operations, headquartered in a 30,000 square foot facility in Endicott, N.Y., provides a full range of high reliability power/signal connectors and interconnection systems specifically for the industrial markets including rail/mass transit, process control, automotive manufacturing, heavy equipment, wireless base stations and petrochemical/power generation.

Products include ruggedized-for-industry cylindrical, rectangular, fiber optic, signal and power, RADSOX power and power-to- board solutions, cable and harness assemblies, as well as industrialized versions of Amphenol's SAE AS 50151 cylindrical, MIL-DTL-26482 miniature cylindrical and GT reverse bayonet cylindrical connectors. Amphenol Industrial Operations employs more than 1,400 people globally and is ISO9001, TS96949 and MIL-STD-790 certified.

Amphenol Technology (Zhuhai) Co., Ltd. covers an area of 276,000 ft² and is equipped with CNC, plating, injection molding and assembly workshops. This plant specializes in the design and manufacturing of industrial connectors featuring high power, high density, medium to high voltage electrical properties, and harsh environment applications. With industry leading engineering, design and manufacturing expertise, Amphenol Technology(Zhuhai) Co., Ltd. has earned more than 60 utility patents on its innovative interconnects. Many of the products produced have been certified by independent standards including UL, IEC/TUV, ATEX, IECEx and MA. The facility is also certified to ISO 9001, ISO 14001 and IATF 16949.

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APC Standard Series

APC Standard series has a plastic shell and rugged design, targeted for industrial power and signal applications with advantages of light weight, high environmental resistance, and cost effective.

Features

- Plastic shell, light weight, inherent corrosion resistant
- Power, signal, and hybrid arrangements
- Triple-start ACME thread for fast coupling
- Stamped and formed contacts
- Water proof and self locking mechanism
- Robust design for ruggedized environment
- UL94 V-0 flammability and F1 rated UV resistance
- UL and TÜV certified
- ROHS compliant

Targeted applications

- Industrial machinery
- Factory automation
- Material handling equipment
- Rail/transit vehicles and system
- Medical instrumentation & equipment
- Communication equipment
- HVAC
- Commercial and building equipment
- Lighting and signage
- Agricultural machinery, recreational vehicles

Specifications

Electrical Characteristics						
Rated Current	Contact Size	#16	#12	#10	#20	
	Amperes	13A	23A	30A	7.5A	
Rated Voltage						600V
Insulation Resistance						500M(Min) @500V DC

Material and Mechanical

Components	Material & Plating
Shell	Plastic resin with UL94 V-0
Coupling nut	Plastic resin with UL94 V-0
Contact	Copper alloy with tin, silver or gold plating
Gasket	Silicon rubber
Grommet	Silicon rubber
Sealing O-Ring	Silicon rubber
Mounting insert	Copper alloy with nickel plating
Durability	500 cycles
Contact termination	Crimp

Environmental

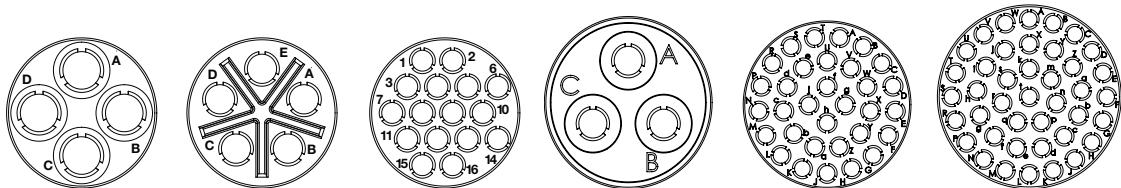
Waterproof Rating	IP67
Operating Temperature	-40°~105°C
Vibration	10-2000 Hz, 4 hours in 3 axis
Mechanical Shock	50G's



Insert Availability and Identification

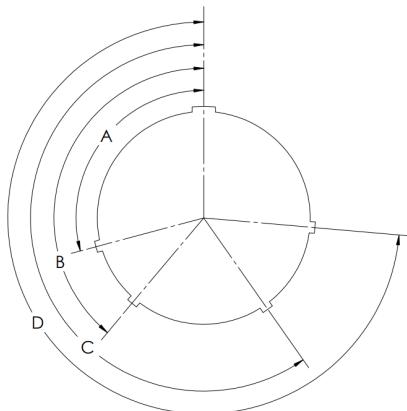
Front face of receptacle inserts illustrated

Illustration



Insert Pattern	18-4	18-11	18-16	20-3	20-32	22-41
Contact Size	10	12	16	12	20	20
Contact Quantity	4	5	16	3	32	41
Voltage Rating	600	600	600	2000	250	250
Dielectric withstanding voltage	2500	2500	2500	5000	1500	1500

Alternate Insert Positioning



Keyways Code	A	B	C	D
Standard (Omit)	105°	140°	215°	265°
W	60°	140°	225°	265°
X	75°	140°	200°	265°
Y	90°	140°	185°	265°
Z	115°	140°	170°	265°

Ordering Information

1	2	4	5	6		7	8	
APC	00	18-	11	P		W	0	
Product Series	Shell Style	Shell Size	Insert Arrangement	Contact Gender		Insert Rotation	Shell Color	
00	00	Front or Rear Panel mount receptacle	18-	4,11,16	P	Pin Contact (receptacles only)	Omit for standard	Omit Black
	03	Rear panel mount receptacle with thread on mounting holes	20-	3, 32	S	Socket Contact (plugs only)	W	O Orange
	01	Inline receptacle with grommet seal	22-	41			X	
	06	Plug with grommet seal					Y	
	07	Jam nut receptacle					Z	

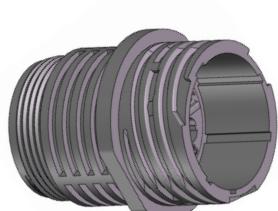
Ordering Note: Contacts ordered separately. All receptacles are pin contact only. All plugs are socket contact only. The only exception is the 20-3 insert arrangement, contact factory for details.



00 Panel front mount receptacle



03 Panel rear mount receptacle



01 Cable Mount Receptacle

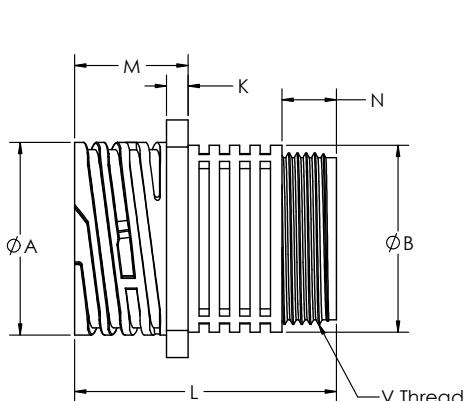
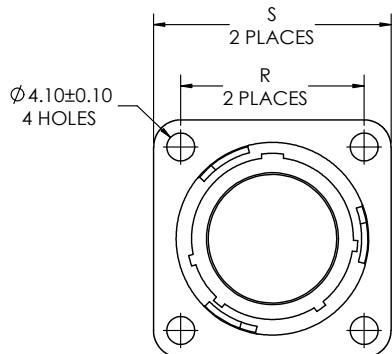


06 Cable Plug



07 Jam nut receptacle

Square Flange Receptacle (APC03)



Panel rear mount 03

Shell Size	A ±0.25	L ± 0.25	R ± 0.25	S ± 0.25	M ± 0.25	N ± 0.25	K	B ± 0.25	V Thread Class 2A
18	28.32	38.46	26.97	34.93	16.66	8	3.2	28.12	1 - 20 UNEF

All dimensions are in mm

Material

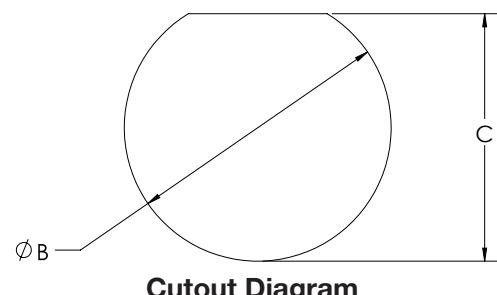
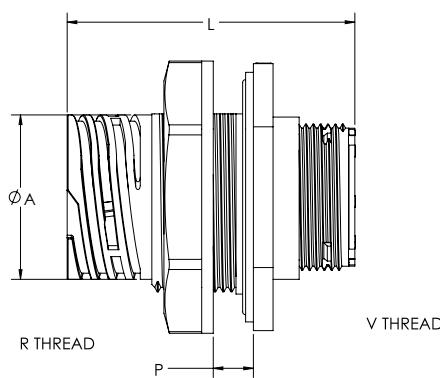
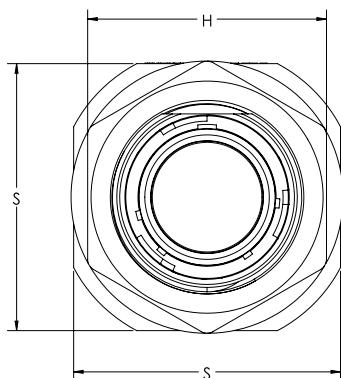
Housing: Nylon, UL94 V-0

Seal O-Ring: SILICON RUBBER, UL94 V-0

Related Product Data

M3 screw torque: 0.4-0.7N.m

Jam Nut Receptacle (APC07)

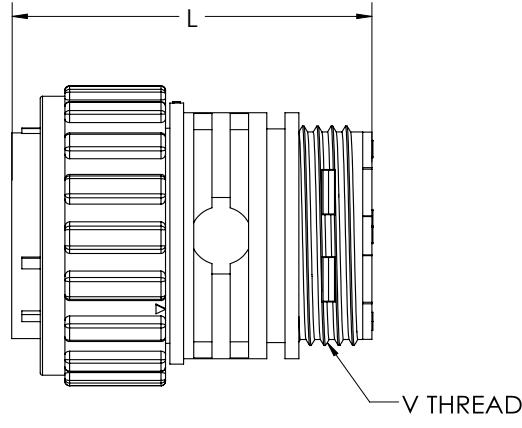
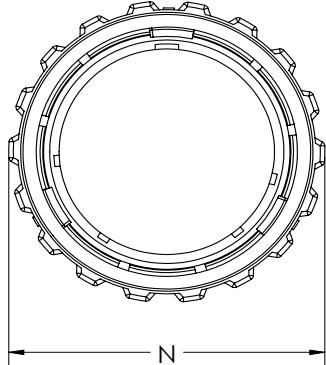


Cutout Diagram

Shell Size	S ±0.25	H ±0.25 Hex Nut	A ±0.25	R Thread Class 2A	L Ref.	P Max Panel Thickness	V Thread CLASS 2A	B ±0.10	C ±0.10
18	46	41.15	28.32	1.3125-18 UNEF	49.56	7	1.0000-20 UNEF	33.6	31.15
20	49.1	44.3	31.82	1.4375-18 UNEF	46.68	7	1.1875-18 UNEF	36.8	34.5
22	50.8	46	34.38	1.5000-18 UNEF	46.68	7	1.3125-18 UNEF	38.35	36.53

All dimensions are in mm

Straight Plug (APC06)



Shell Size	N ±0.25	L ±0.25	V Thread Class 2A
18	34.88	38.5	1 - 20 UNEF
20-3	39.58	42.3	1.1875-18UNEF
20-32	39.58	33.5	1.1875-18UNEF
22-41	42.12	33.5	1.3125-18UNEF

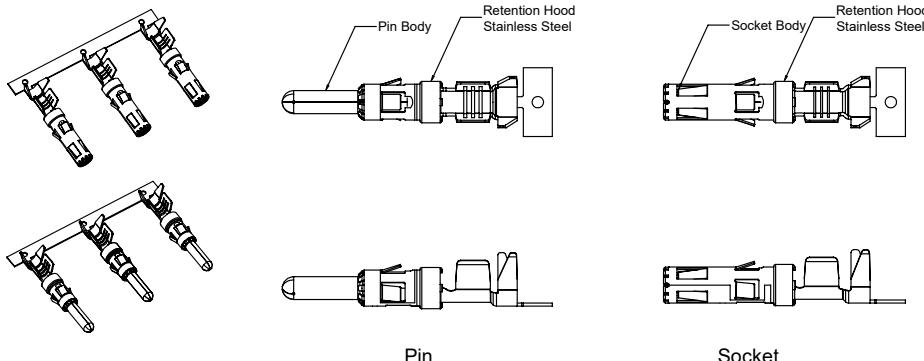
APC Series Contacts - Ordering Information

Material

Contact body: Copper alloy

Retaining spring: Stainless steel

Surface coating: See below table



1	2	3	4	5	6	7	8
APC	-C	-M	-16	-P	-20	-1	-R
Series	Contact Type	Contact Type	Contact Size	Gender	Crimp Range	Plating	Packing
	-C	Omit	Stamp and formed contact	-10	Size 10 AWG	-1	-R
				-P	Pin contact	Tin	Reel
				-10	10-12 AWG		
				-12	12 - 14 AWG	-2	Ni Plating
				-16	16 - 18 AWG	-3	Gold Flash
				-20	20-22 AWG	-6	Silver plating

Ordering Information - continued

Size	Current (A)	Wire Size Range		Ins. Dia. Range	Contact Finish	Part Number		PCS / Reel
		AWG	mm ²			Pin	Socket	
10	30	10-12	3.3-5.2	4.0-4.6	Tin Plating	APC-C-10-P-10-1-R	APC-C-10-S-10-1-R	1500
					100u" Silver Plating	APC-C-10-P-10-6-R	APC-C-10-S-10-6-R	
12	23	12-14	2-3.3	3.2-3.8	Tin Plating	APC-C-12-P-12-1-R	APC-C-12-S-12-1-R	3000
					Ni Plating	APC-C-12-P-12-2-R	APC-C-12-S-12-2-R	
					100u" Silver Plating	APC-C-12-P-12-6-R	APC-C-12-S-12-6-R	
16	13	16-18	0.8-1.3	2.4-2.8	Tin Plating	APC-C-16-P-16-1-R	APC-C-16-S-16-1-R	3000
					Ni Plating	APC-C-16-P-16-2-R	APC-C-16-S-16-2-R	
					Gold Flash	APC-C-16-P-16-3-R	APC-C-16-S-16-3-R	
	7.5	20-22	0.3-0.5	2.2-2.5	Tin Plating	APC-C-16-P-20-1-R	APC-C-16-S-20-1-R	3000
					Ni Plating	APC-C-16-P-20-2-R	APC-C-16-S-20-2-R	
					Gold Flash	APC-C-16-P-20-3-R	APC-C-16-S-20-3-R	

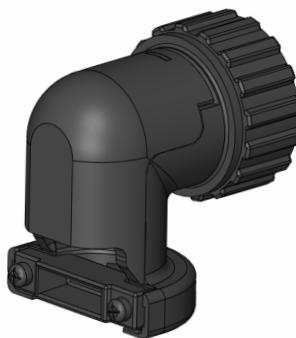
Strain relief 90°

Extraction tool

Shell Size	Order part number
16	TOOL-APC-EX-16
12	TOOL-APC-EX-12
10	TOOL-APC-EX-10



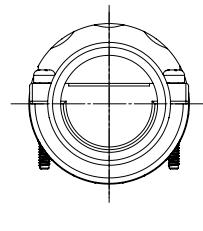
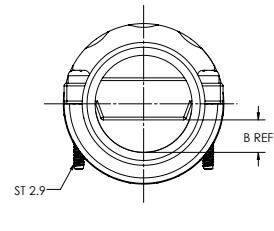
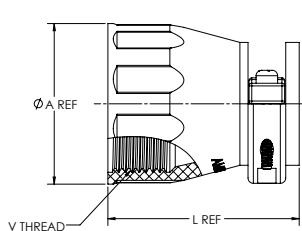
Shell Size	Order part number
18	APC-SR-18-90



Accessories

Strain relief straight

Shell Size	Order part number	A Ref	V Thread Class 2B	L Ref.	B Cable range for reference (unit: mm)	
					Type I	Type II
18	APC-SR-18-180	29.8	1.0000-20 UNEF	35.5	6-13	0.5-14
20	APC-SR-20-180	34.56	1.1875-18 UNEF	38	7-14	0.5-15



APC Mini Series Upgraded

APC Mini series has a plastic shell and rugged design, targeted for industrial signal applications with advantages of light weight high environmental resistance and cost effective.

Features

- Plastic shell, light weight, inherent corrosion resistant
- 2 way bayonet for fast coupling
- Stamped and formed contacts
- Water proof and self locking mechanism
- Robust design for ruggedized environment
- UL94 V-0 flammability and F1 rated UV resistance
- UL and TÜV Certified
- ROHS compliant

Targeted applications

- Industrial machinery
- Factory automation
- Material handling equipment
- Rail/transit vehicles and system
- Medical instrumentation & equipment
- Communication equipment
- HVAC
- Commercial and building equipment
- Lighting and signage
- Agricultural machinery, recreational vehicles

Specifications

Electrical Characteristics		
Rated Current	Contact Size	#20
	Amperes	7.5A
Rated Voltage		250V AC
Dielectric Withstanding Voltage		1500V AC
Insulation Resistance		500M(Min)@500V DC

Material and Mechanical

Components	Material & Plating
Shell	Plastic resin with UL94 V-0
Coupling nut	Plastic resin with UL94 V-0
Contact	Copper alloy with tin, silver or gold plating
Gasket	Silicon rubber
Grommet	Silicon rubber
Sealing O-Ring	Silicon rubber
Mounting insert	Copper alloy with nickel plating
Durability	500 cycles
Contact termination	Crimp

Environmental

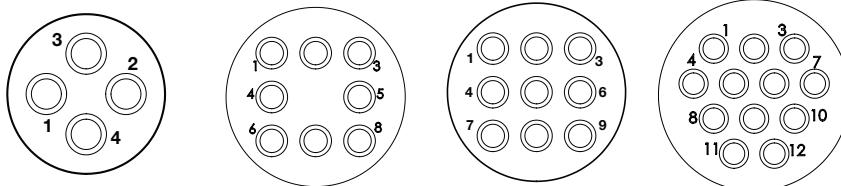
Waterproof Rating	IP67 (mated)
Operating Temperature	-40°~105°C
Vibration	10-2000 Hz, 4 hours in 3 axis
Mechanical Shock	50G's



Insert Availability and Identification

APC Mini Series

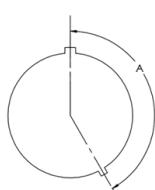
Front face of pin inserts illustrated



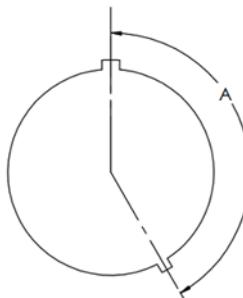
Insert Pattern	8-4	11-8	11-9	12-12
Contact Size	20	20	20	20
Contact Quantity	4	8	9	12
Voltage Rating	250	250	250	250
Dielectric withstanding voltage	1500	1500	1500	1500

Alternate Insert Positioning

Size 8



Sizes 11 & 12



Keyways Code	A
N (Omit)	150°
W	170°

Keyways Code	A
N (Omit)	150°
W	165°
X	180°

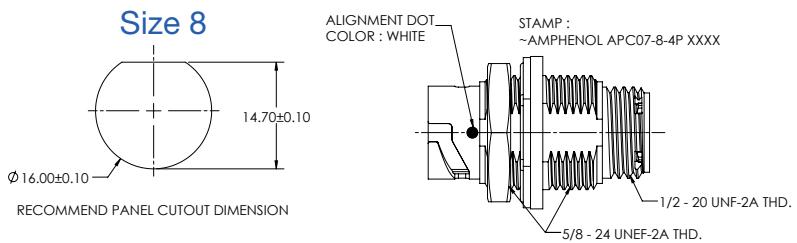
Ordering Information

1	2	3	4	5	6	7
APC	07	8-	4	P	W	0
Product Series	Shell Style	Shell Size	Insert Arrangement	Contact Gender	Insert Rotation	Shell Color
	06	Plug with grommet seal	8-	4	P	Pin Contact (receptacles only)
	07	Jam nut receptacle	11-	8, 9	S	Socket Contact (plugs only)
			12-	12		
					X	Contacts ordered separately

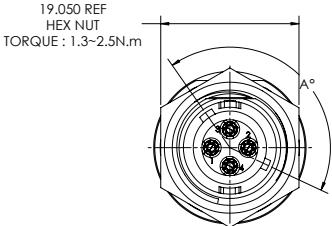
Note: 1. The torque to install the hex nut is 1.0-2.0N.m
 2. Wall thickness is required 2.2-3.15mm

Jam Nut Receptacle (APC07)

Size 8



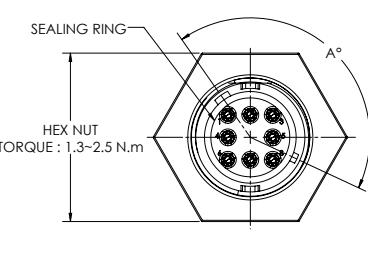
19.050 REF
HEX NUT
TORQUE : 1.3~2.5N.m



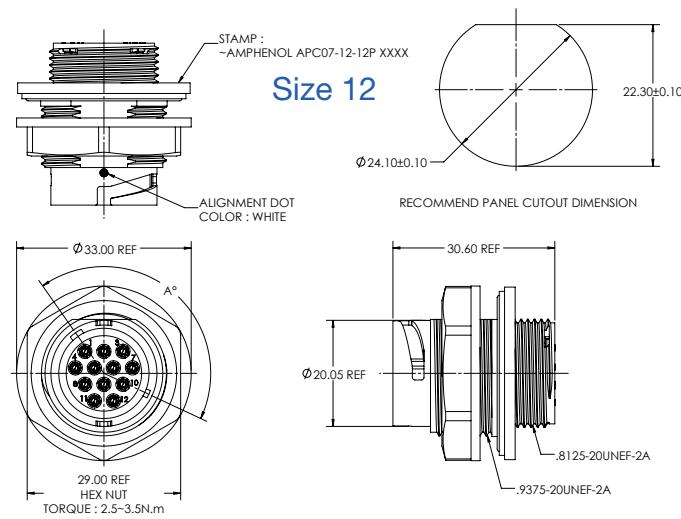
Size 11



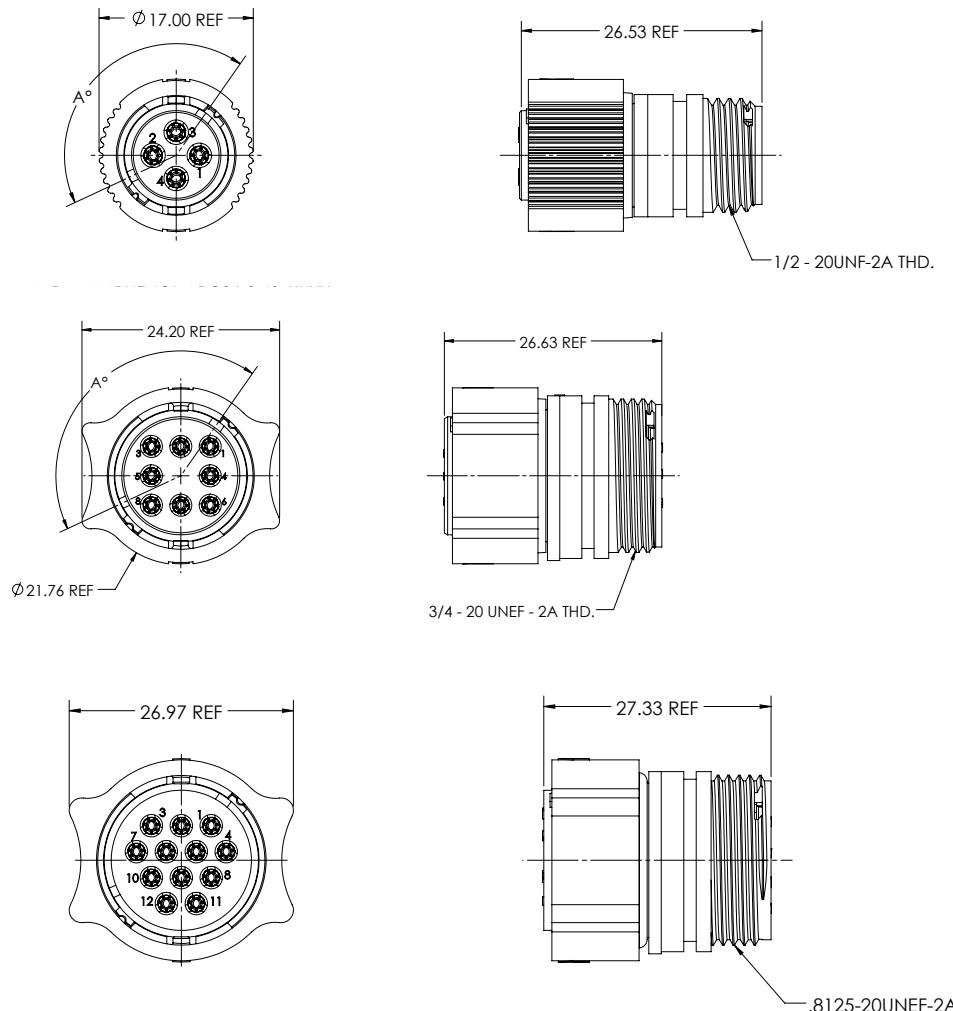
SEALING GASKET
HOUSING
ALIGNMENT DOT
COLOR : WHITE



Size 12



Straight Plug (APC06)



APC Mini Series Contacts - Ordering Information

1	2	3	4	5	6	7
APC	-C	-20	-P	-18	-1	-R
Product Series	Contact Style	Contact size	Contact Gender	Crimp Range	Plating	Packing
	-C	Crimp	-20	Size 20 AWG	-P	Pin Contact
					-18	18-22 AWG
					-1	Tin plating
					-R	Reel
Material						
Contact body: Cooper alloy						
Surface plating: see below table						
			-S	Socket Contact	-20	20-22 AWG
					-2	Gold on functional area, Tin on other area

Ordering Information - continued

Size	Current (A)	Wire Size Range		Ins. Dia. Range	Contact Finish	Part Number		PCS / Reel
		AWG	mm ²			Pin	Socket	
20	7.5	18-22	0.3 - 0.8	1.5 - 2.2	Tin Plating	APC-C-20-P-18-1-R	APC-C-20-S-18-1-R	3000
					Gold on functional area, Tin on other area	APC-C-20-P-18-2-R	APC-C-20-S-18-2-R	
20	7.5	20-22	0.3 - 0.8	1.5 - 2.1	Tin Plating	APC-C-20-P-20-1-R	APC-C-20-S-20-1-R	3000
					Gold on functional area, Tin on other area	APC-C-20-P-20-2-R	APC-C-20-S-20-2-R	

Extraction tool

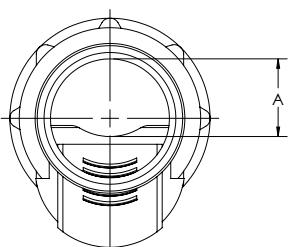
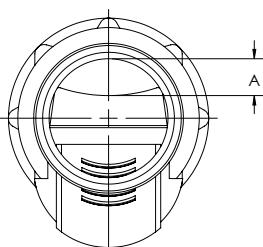
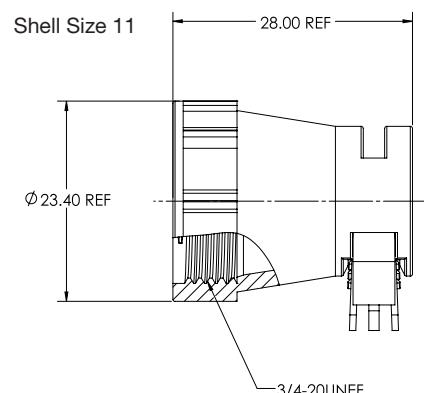
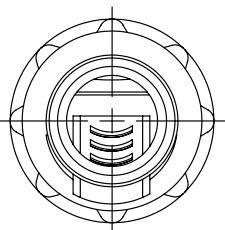
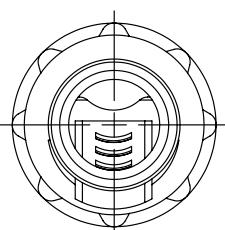
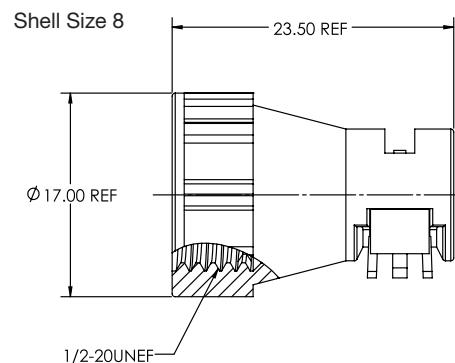
Shell Size	Order part number
20	TOOL-APC-EX-20



Accessories

Strain relief straight

		Cable range for REFERENCE (Unit:mm)	
Shell Size	Order part number	Type I	Type II
8	APC-SR-8-180	2.59-4.9	0.43-2.8
11	APC-SR-11-180	5.75-10.2	0.94-5.4
12	APC-SR-12-180	5.75-10.2	0.94-5.4



APC Power Series

APC Power series has a plastic shell and rugged design, targeted for industrial power and signal applications with advantages of light weight, high environmental resistance, and cost effective.

Features

- Plastic shell, light weight, inherent corrosion resistant
- Power, signal, and hybrid arrangements
- Triple-start ACME thread for fast coupling
- Stamped and formed contacts
- Water proof and self locking mechanism
- Robust design for ruggedized environment
- UL94 V-0 flammability and F1 rated UV resistance
- UL and TÜV certified
- ROHS compliant

Targeted applications

- Industrial machinery
- Factory automation
- Material handling equipment
- Rail/transit vehicles and system
- Medical instrumentation & equipment
- Communication equipment
- HVAC
- Commercial and building equipment
- Lighting and signage
- Agricultural machinery, recreational vehicles

Specifications

Electrical Characteristics			
Rated Current	Contact Size	#8 RADSO®	#4 RADSO®
Amperes		70A	100A
Rated Voltage	1000V		650V
Insulation Resistance	500M(Min) @500V DC		

Material and Mechanical	
Components	Material & Plating
Shell	Plastic resin with UL94 V-0
Coupling nut	Plastic resin with UL94 V-0
Contact	Copper alloy with tin, silver or gold plating
Gasket	Silicon rubber
Grommet	Silicon rubber
Sealing O-Ring	Silicon rubber
Mounting insert	Copper alloy with nickel plating
Durability	500 cycles
Contact termination	Crimp

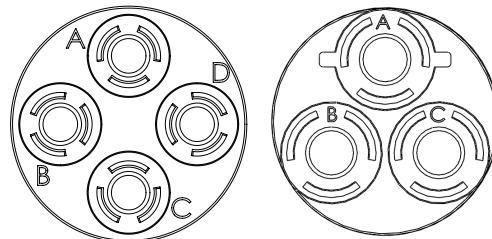
Environmental	
Waterproof Rating	IP67
Operating Temperature	-40°~105°C
Vibration	10-2000 Hz, 4 hours in 3 axis
Mechanical Shock	50G's



Insert Availability and Identification

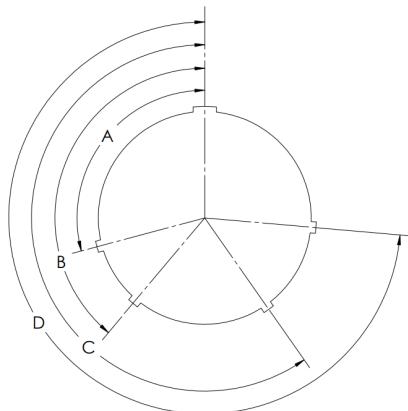
Front face of receptacle insert illustrated

Illustration



Insert Pattern	24-4	24-3
Contact Size	8	4
Contact Quantity	4	3
Voltage Rating	1000	650
Dielectric withstanding voltage	3000	3000

Alternate Insert Positioning

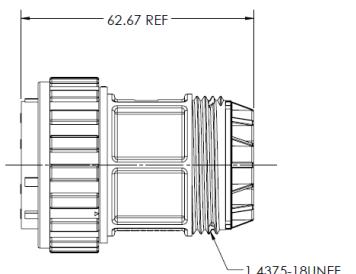
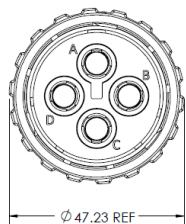


Keyways Code	A	B	C	D
Standard (Omit)	105°	140°	215°	265°
W	60°	140°	225°	265°
X	75°	140°	200°	265°
Y	90°	140°	185°	265°
Z	115°	140°	170°	265°

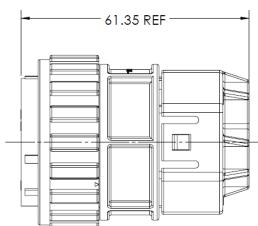
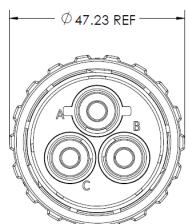
Ordering Information

1	2	3	4	5	6	7
APC	07	8-	4	P	W	0
Product Series	Shell Style	Shell Size	Insert Arrangement	Contact Gender	Insert Rotation	Shell Color
	06 Plug with grommet seal	24-	4	P Pin Contact (receptacles only)	Omit for standard	Omit Black
	07 Jam nut receptacle		3	S Socket Contact (plugs only)	W	O Orange

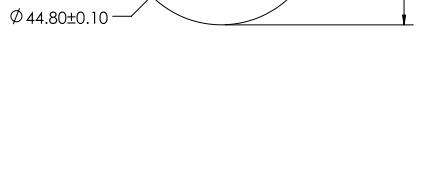
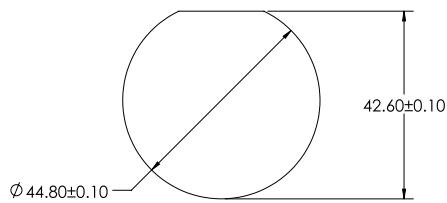
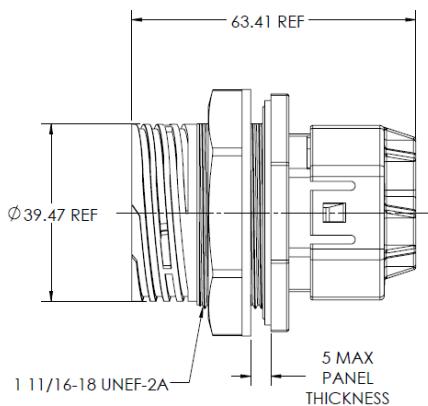
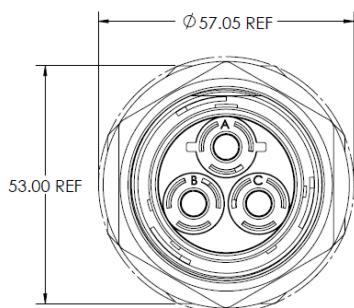
Straight Plug (APC06)



X
Y
Z



Jam Nut Receptacle (APC07)



APC Power Series Contacts - Ordering Information

1	2	3	4	5	6						
PRB		-C		-8		-P		-8		-1	
Contact Series		Contact Type		Contact Size		Contact Gender		Wire size		Plating	
PRB	Crimp	C	Crimp	8	8 AWG	P	Male Pin	8	8mm ²	1	Silver
						S	Female Socket	10	10mm ²	D	Gold 30μ
								16	16mm ²		

Material

Contact body: Cooper alloy

Surface coating: See above table

Extraction tool

Shell Size	Order part number
8	TOOL-APC-EX-8





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