



RAPTOR

E-FLIGHT POWER CONNECTOR

THE RAPTOR PRODUCT SERIES IS A RANGE OF HIGH-POWER, HIGH VOLTAGE CONNECTORS FOR E-FLIGHT APPLICATION.

Raptor is Amphenol Ltd's new range of connectors engineered for High Voltage and High Current systems in E-Flight, E-VTOL and hybrid applications.

Raptor is designed to provide partial discharge free performance at an operating voltage of 2.0KV AC(rms) at 35,000 ft, making it ideal for applications such as batteries, generators, motors & power distribution units.

It is ideal for termination of screened HV power cables in Aerospace applications.

Raptor is based on existing proven Amphenol Ltd Rhino series for ground power applications, re-engineered for Aerospace and using the new TALON contacts with a higher temperature capability up to 200°C.

With IP68 sealing, an anti-decoupling ratchet mechanism on both coupling ring and backshell, ensuring a reliable connection even under high vibration. With superior EMC performance, Electroless Nickel plating and high voltage insulation system the Raptor connector series ensures a reliable connection for high power e-flight systems.

KEY FEATURES

- TALON high temperature contacts
- Shell Sizes 15 to 25
- Silver Plated Copper Contact
- Nickel Plated Aluminium Connector housings
- Insulator material for High Voltage
- Increased creepage & clearance distances
- Improved insulation geometry for HV electric fields
- Designed for increased operating voltages at aircraft altitudes



PART NUMBERING

Example: RAP - 06 RF 15 - 1 P 1 N B

Plug, electroless nickel plate, size 15 shell, crimp contact termination, pin contact, copper, normal keyway, straight EMC backshell.

SERIES	SHELLS STYLE	FINISH	SHELL SIZE	CONTACT TERMINATION*1	CONTACT	CONTACT MATERIAL	KEYWAY	ACCESSORY
RAP-	06	XX	XX-	X	X	X	X	X
RAP-	Plug	SS- Stainless Steel	15	1- Crimp	S-Socket	2 - Aluminium	N	B - Straight EMC Backshell
		RF - Electroless Nickel Plated Aluminium	17				A	Crimp Contact Only
		RW - Olive Drab Cadmium over Nickel Plated Aluminium	19				B	C - 90DEGB
		RB - Nickel Aluminium Bronze	21				C	Crimp Contact Only
		ZN - Black Zinc Nickel Plated Aluminium	23				D	
25								
RAP-	00	XX	XX-	X	X	X	X	X
RAP-	Receptacle	SS- Stainless Steel	15	2 - Threaded Post	S-Socket	2 - Aluminium	N	B - Straight EMC Backshell
		RF - Electroless Nickel Plated Aluminium	17	3 - Flat Tail			A	0 - No Backshell
		RW - Olive Drab Cadmium over Nickel Plated Aluminium	19	5 - Tapped Hole			B	
		RB - Nickel Aluminium Bronze	21				C	
		ZN - Black Zinc Nickel Plated Aluminium	23				D	
25								

PERFORMANCE DATA

PARAMETER	DETAILS*2
DC DWV @ sea level	8.5 KV
AC (rms) DWV @ sea level	8.5 KV
DC Operating Voltage @ 12,000 ft	2.5 KV
AC (rms) Operating Voltage @ 12,000 ft	2.5 KV
AC (rms) Operating Voltage @ 35,000 ft	2.0 KV
Partial Discharge IV @ 12,000 ft, 21°C	2.5KV AC (rms)
Partial Discharge IV @ 35,000 ft, 21°C	2.0KV AC (rms)
Maximum Temperature	200°C (ambient plus electrical heating)
Material & Finish	RoHS Aluminium Electroless Nickel Plated, Stainless Steel or Titanium
Contact	TALON High Performance Contacts

SHELL SIZE	CABLE GAUGE	NOMINAL CURRENT RATING*3
15	4 AWG	275
17	2 AWG	375
19	0 AWG	500
21	2/0 AWG	575
23	3/0 AWG	675
25	4/0 AWG	800

*1 Crimps are designed for AWG cable, consult factory with specific requirements.

*2 To be confirmed in validation testing.

*3 Higher Ambient Temperature and/or High Frequency/PWM will require reduced current.