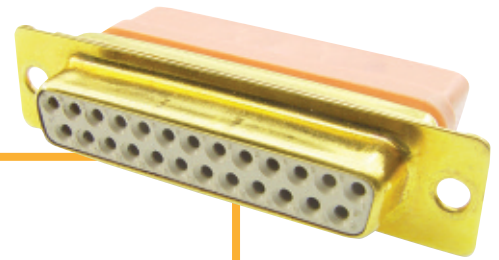




ITT

Interconnect Solutions

Cannon D Subminiature Product Overview



Engineered for life

Cannon Combo D European Versions

European Part Number Configurator

Typical Part Number:

DBM E – 9C4 P – P00 – 1A5N – A191 – K87 – 146

Product Family Designator

D*M = Combo D
= shell size E, A, B, C and D

Hardware Modifier

= 3,05mm" (.120 in.) Through Hole
E = 4-40 Clinchnut, solder cup, solder pin straight and 1A0N
N = 7.66 mm (.300 in.) with 4-40 post and pushfit, only OL4
Q = 7.66 mm (.300 in.) M3 with pushfit, only OL4
T = 7.66 mm (.300 in.) M3 standoff, only OL4
U = 7.66 mm (.300 in.) M3 post and pushfit, only OL4
V = 7.66 mm (.300 in.) 4-40 with pushfit, only OL4
X = M-3 Clinchnut, solder cup, solder pin straight and 1A0N
Y = Dual Float Mount, only solder cup
Z = 7.66 mm (.300 in.) 4-40 with pushfit, only OL4

Layout (Total # of contacts + # of Size 8 Cavities)

W = Empty size 8 Cavities
C = 75 Ohm Coax installed (straight or 90°)
X = 50 Ohm Coax installed (straight or 90°)
H = High power installed (straight)
P = High power installed (Euro, 90° only)
V = High voltage installed (available in straight PC only)
G = Guide pin or guide socket installed

Gender

P = Male (plug, pin)
S = Female (receptacle, socket)

Code only applicable for Pressfit High power #8 contacts

P00 = Pressfit High power PCB dia 2,9 mm
P01 = Pressfit High power PCB dia 3,1 mm
P02 = Pressfit High power PCB dia 3,5 mm

PCB Mounting Method

146 = Pushfit for PCB hold diameter 3.0
161 = Pushfit for PCB hold diameter 3.2, straight version only
162 = Pushfit for PCB hold diameter 3.2, 90° version only

Plating Modification

= Tellow chromate over zinc on shells
A197 = Tin on shells
K87 = Tin with dimples on shells (pin only)

Contact Finishes

without code = performance class 3 (50 mating cycles)
A191 = performance class 2 (200 mating cycles) Euro standard
A190 = performance class 1 (500 mating cycles)

Tail Modifier

[OL2] = No standard, please call factory
= Solder cup (size 8 contacts not loaded on these versions)
OL4 = Solder pin straight
1A0N = without mouting bracket, hole dia. 3.05 mm
1A5N = plastic bracket with bushing dia. 3.05 mm
1A6N = plastic bracket with post 4-40
1A7N = metal bracket and captive nut 4-40
1A8N = metal bracket with post 4-40
1A9N = metal bracket and captive nut M3
1ADN = plastic bracket with grounding bracket and bushing dia. 3.05 mm
1AFN = metal bracket with bushing dia. 3.05 mm
1AGN = plastic bracket with grounding bracket and post M3
1AHN = metal bracket with post M3
1AJN = plastic bracket with grounding bracket and post 4-40
1APN = plastic bracket with post M3
1ATN = plastic bracket and captive nut M3
1AUN = plastic bracket and captive nut 4-40
1AVN = plastic bracket with grounding bracket and captive nut M3
1AWN = plastic bracket with grounding bracket and captive nut 4-40
1AEN = 90° low profile metal bracket captive nut M3
1AAN = 90° low profile metal bracket captive nut 4-40
1ABN = 90° low profile metal bracket post M3
1ACN = low profile metal bracket post 4-40
1ALN = low profile metal bracket with buhing dia. 3.05 mm

Cannon Combo D Americas Versions

Americas Part Number Configurator

Typical Part Number:

DBM - C - 13C3 - S - J - A197

Product Family Designator

- D*M = Solder Cup Industrial & Space/Non-Magnetic Version
- D*MM = Military/Hi-Rel Solder Cup version (50 micro-inch gold contact plating)
- D*A = Crimp Version

**Hardware Modifier

- = 0.120" (3,05mm) Through Hole
- C = 90° Metal Bracket, 4-40 Fastener, & Boardlock
- D = 90° Metal Bracket, 4-40 Fastener and 4-40 Screwlock
- E = 4-40 Clinchnut
- G = 90° Metal Bracket, 4-40 Fastener, 4-40 Screwlock, Boardlock
- H = .300" (7.6mm) Standoff, 4-40 Screwlock
- J = 90° Metal Bracket, Fastener, M-3 Fastener, Boardlock
- K = 0.162" (4,11mm) Through Hole
- L = 90° Metal Bracket, M-3 Fastener, Boardlock
- N = .300" (7.6mm) Standoff, 4-40 Screwlock, Boardlock
- O = 90° Metal Bracket, Fastener, M-3 Screwlock
- P = 90° Metal Bracket, 4-40 Fastener
- Q = .300" (7.6mm) M-3 Standoff
- S = 90° Metal Bracket, M-3 Fastener
- T = .300" (7.6mm) M-3 Standoff
- U = .300" (7.6mm) Standoff, M-3 Screwlock, Boardlock
- V = .300" (7.6mm) 4-40 Standoff
- W = .300" (7.6mm) Standoff, M-3 Screwlock
- X = M-3 Clinchnut
- Y = Dual Float Mount
- Z = .300" (7.6mm) 4-40 Standoff, Boardlock

* = Shell Sizes are E, A, B, C, D

** = Hardware Modifier not allowed with Non-Magnetic, Low Outgassing Combo-D

Shell Modifier (Standard)

- = Carbon steel, yellow chromate over zinc
- A197 = Carbon steel, tin-nickel plating (receptacles only) (RoHS w/D*MM)
- K87 = Carbon steel, tin-nickel plating (plugs only) (RoHS)(US only)
- F225 = Stainless steel shells
- NMBK52 = Space/Non-Magnetic version, gold plated
- A101 = Carbon Steel, Cadmium plating

PC Tall Modifier (Standard)

- = Solder cup (D*M/D*MM; Crimp, D*A)
- J = 90° Std. PCB signal contact (.170" lg by .030" ø)
- N = Straight Std. PCB signal contact (.178 lg by .030" ø)
- V = 90° Euro PCB signal contact (.157" lg by .024" ø)
- Y = Straight Euro PCB signal contact (.178" lb by .024" ø)

Gender

- P = Male Plug, Pin
- S = Female Receptacle, Socket

Layouts Combo-D

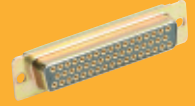
- Shell Size E - 5W1, 2W2, 2WK2
- Shell Size A - 3W3, 3WK3, 7W2, 11W1
- Shell Size B - 5W5, 9W4, 13W3, 17W2, 21W1
- Shell Size C - 8W8, 13W6, 17W5, 21WA4, 25W3, 27W2
- Shell Size D - 24W7, 36W4, 43W2, 47W1

Combo-D Size 8 Contact Designators:

- W** = w/o Contacts (letters below denote with contacts)
- C = 75 Ohm Coax Contacts Installed
- X = 50 Ohm Coax Contacts Installed
- H = High Power Installed (US Standard)
- P = High Power Installed (European)
- V = High Voltage Installed (Cable and PCB only)
- R = Mini Hi Power 90° installed

** All cable side connectors use the "W" designation (without contacts) for ordering and have size and contacts ordered separately

D Subminiature Connectors



D*M, D*MM, D*MA with NM, NMB option connectors are used when non magnetic characteristics are required.

Hermetic military D connectors are designed to meet environmental conditions of extreme pressure differential.

These high reliability D Sub connectors are the finest quality connectors and are qualified to MIL-C-24308.

Market and Product Matrix

Space (High Rel)

Space D Sub products are specifically qualified by NASA according to the GSFC.

Military / Aerospace

ICS Military grade products may be identified in the chart to the right.

Medical / Food Processing

Our non-magnetic connectors and stainless steel products are specifically designed for medical applications.

Mass Transit

ICS products designed for our Mass Transit applications may be identified in the chart to the right.

Industrial

ICS offers a broad range of high quality and high reliability connectors specifically suited for Industrial specifications.

Telecom

The ICS telecom products specifically offer high quality at an affordable price, tailored to telecom applications.

Select your appropriate product using the following features

1) Wire Gauge Range AWG

This variable indicates the required connector size.

2) Mating Cycles

Three different values (thickness of gold plating) define the connector's mating cycles.

3) RoHS

RoHS is typically referred to as the European Community directive 2002/95/EC on the prohibition of certain substances in the production and processing of electrical and electronic equipment and components.

4) Layout

This variable provides a complete overview of the available connector layouts.

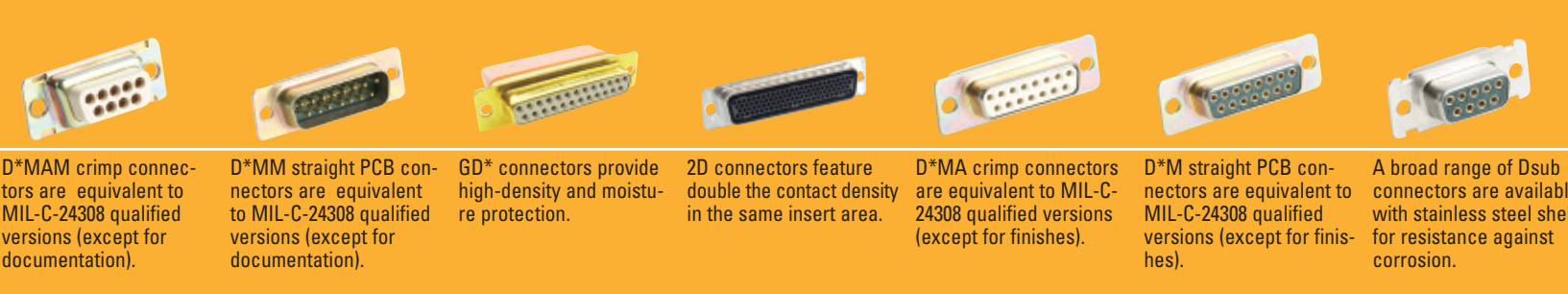
The features referenced above, coupled with the chart to the right, will aid you in identifying the appropriate D Sub product series from our full D Sub product portfolio. Specific part numbers may be identified by referencing our D Sub product catalogs and then using the part number configurators for the selected product series. Examples of our Combo D part number configurators may be found on the reverse side of this brochure.

Or visit our web site: www.ittcannon.com

Accessories

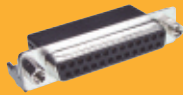
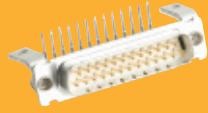
A wide range of accessories are available for all product lines.

	D*NM Series	D*H	MIL-C-24308
Space	x	x	
Military/Aerospace	x	x	x
Medical/Food processing	x	x	
Mass Transit	x		
Industrial	x	x	
Telecom			
Wire Gauge Range AWG	AWG 18 - 28	up to AWG 20	AWG 18 - 30
Mating Cycles	500	500	500
RoHS confirm	available	no	no
Layout	9, 15, 25, 37, 50, 15, 26, 44, 62, 78, 104 (high density) and Combo D	9, 15, 25, 37, 50	9, 15, 25, 37, 50, 15, 26, 44, 62, 78, 104 (high density)
Operating Voltage	1000 VAC*	750 VAC*	1700 VAC*
Current Rating (Amps)	7,5 A max.	7,5 A max.	7,5 A max.
Contact Resistance	10 milli Ohm max.	15 milli Ohm max.	10 milli Ohm max. (Signal Contacts)
Operating Temperature	-55°C/125°C	-54°C/125°C	-50°C/150°C
Mil Salt Spray Test Resistance in hours	48 hrs	48 hrs	48 hrs
Shell			
Material	copper alloy	low carbon steel	steel
Finish	gold over copper	electro-deposited tin over cadmium over copper flash	yellow chromate over cadmium or zinc
Insulator	Thermoplastic, UL 94V-0	compression glass	Thermoplastic, type PCT UL 94V-0
Color	white	n/a	black
Contact	turned	turned	turned
Material	copper alloy	steel	copper alloy
Finish	gold over copper	electro-deposited tin over cadmium over copper flash	1,27µm gold
Contact Termination/Styles			
Crimp	x		x
Solder pot	x	x	x
Straight Solder	x		x
Right angled solder	x		x
IDC (insulation displacement connection)			
Wire wrap			x
Coax	x		
Fiber Optic	x		
High Power	x		
High Voltage	x		
Press fit			
Eyelet		x	



D*MAM crimp connectors are equivalent to MIL-C-24308 qualified versions (except for documentation).
 D*MM straight PCB connectors are equivalent to MIL-C-24308 qualified versions (except for documentation).
 GD* connectors provide high-density and moisture protection.
 2D connectors feature double the contact density in the same insert area.
 D*MA crimp connectors are equivalent to MIL-C-24308 qualified versions (except for finishes).
 D*M straight PCB connectors are equivalent to MIL-C-24308 qualified versions (except for finishes).
 A broad range of Dsub connectors are available with stainless steel shells for resistance against corrosion.

D*MAM	D*MM	GD*	2D	D*MA	D*M	Stainless Steel
x	x	x	x	x	x	x
x	x	x	x	x	x	x
AWG 18 - 30	AWG 20 - 28	AWG 20	AWG 22-26	AWG 20 - 28	AWG 20 - 28	AWG 18 - 30
500	500	500	500	200, 500	200, 500	50, 200, 500
no	no	no	available	available	available	yes
9, 15, 25, 37, 50, 15, 26, 44, 62, 78, 104 (high density)	9, 15, 25, 37, 50	9, 15, 25, 37, 50, 15, 26, 44, 62, 78, 104 (high density)	19, 31, 52, 79, 100	9, 15, 25, 37, 50, 15, 26, 44, 62, 78, 104 (high density)	9, 15, 25, 37, 50	9, 15, 25, 37, 50, 15, 26, 44, 62, 78, 104 (high density) and Combo D
1700 VAC*	1700 VAC*	1000 VAC*	1000 VAC*	1000 VAC*	1000 VAC*	1700 VAC*
7,5 A max.	7,5 A max.	7,5 A max. (Standard Density)	5 A max. 2A max. (BR Series)	7,5 A max.	7.5 A max.	7.5 A max.
10 milli Ohm max. (Signal Contacts)	10 milli Ohm max. (Signal Contacts)	10 milli Ohm max.	9 milli Ohm max.	10 milli Ohm max.	7.5 milli Ohm max.	10 milli Ohm max.
-50°C/150°C	-50°C/150°C	-65°C/150°C	-55°C/125°C	-55°C/125°C	-55°C/125°C	-55°C/125°C
48 hrs	48 hrs	48 hrs	48 hrs	48 hrs	48 hrs	48 hrs
steel	steel	low carbon steel	low carbon steel/brass	steel	steel	stainless steel
RoHS - Tin/Nickel yellow chromate over cadmium or zinc	RoHS - Tin/Nickel yellow chromate over cadmium or zinc	yellow chromate over cadmium or zinc	yellow chromate over cadmium	RoHS - Tin/Nickel yellow chromate over cadmium or zinc	RoHS - Tin/Nickel yellow chromate over cadmium or zinc	passivated
Thermoplastic, type PCT UL 94V-0	Thermoplastic, type PCT UL 94V-0	Thermoplastic, type PCT UL 94V-0	glass filled nylon	Thermoplastic, type PCT UL 94V-0	Thermoplastic, type PCT UL 94V-0	Thermoplastic, type PCT UL 94V-0
black turned	black turned	white turned	black Twist Pin	white turned	black turned	black or white turned
copper alloy	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy
1,27µm gold	1,27µm gold	gold over nickel	gold plate	gold over nickel	gold over nickel	gold over nickel
x	x	x	x	x	x	x
x	x	x	x	x	x	x
x	x	x	x	x	x	x
	x				x	x
						x
						x
						x
						x



availability
IN

MDSM is the commercial industry's smallest D-type connector for shielded I/O wire-to-board applications.

Filter connector series D*JK are designed for commercial applications providing EMI/RFI protection.

ZD* connectors are available for applications where price is the primary driver.

ZD*A high density connectors are available for applications where price is the primary driver.

D*A crimp connectors are available for applications where price is the primary driver.

Combo D connectors offer an industry standard shield I/O interconnect, with the flexibility of a customized special.

	MDSM	D*JK	ZD*	ZD*A	D*A	Combo D
						x
	x					x
	x	x	x	x	x	x
	x	x	x	x	x	
	AWG 26 - 28	AWG 20 - 28	AWG 20 - 28	AWG 24 - 26	AWG 20 - 28	AWG 8 - 26
	500	200, 500	50, 200	50, 200	50, 200	50, 200, 500
	yes	5	yes	yes	yes	yes (Mil: no)
	9, 15, 25, 18, 30 (stacked)	9, 15, 25, 37, 50	9, 15, 25, 37, 50	15, 26, 44, 62, 78	9, 15, 25, 37, 50	E: 2W2; 2WK2; 5W1 A: 3W3; 3WK3; 7W2; 11W1 B: 5W5; 9W4; 13W3; 17W2; 21W1 C: 8W8; 13W6; 17W5; 21WA4; 25W3; 27W2 D: 24W7; 36W4; 43W2; 47W1
	500 VAC*	250 VAC*	1000 VAC*	500 VAC*	500 VAC*	500 VAC*
	2.5 A max.	5 A max.	5 A max.	2 A max.	5 A max.	7,5 A max. (Signal contacts) 5 A max. (Coaxial contacts) 40 A max. (High power contacts) 5 A max. (HV Contacts)
	20 milli Ohm max. (crimp version) 35 milli Ohm max. (PCB version)	10 milli Ohm max. (Signal contacts)	20 milli Ohm max.	15 milli Ohm max.	15 milli Ohm max.	10 milli Ohm max. (Signal contacts)
	-55°C/125°C	-55°C/125°C	-55°C/105°C	-55°C/105°C	-55°C/105°C	-55°C/125°C (Mil: 150°C)
	20 hrs	20 hrs	12 hrs	12 hrs	12 hrs	20 hrs (Mil: 48 hrs)
	steel	steel	steel	steel	steel	steel
	tin	tin	tin	tin	tin	tin
	Thermoplastic, type PCT UL 94V-0	Thermoplastic, type PCT UL 94V-0	glass filled Thermoplastic, type PCT UL 94V-0	Thermoplastic, type PCT UL 94V-0	Thermoplastic, type PCT UL 94V-0	Thermoplastic, type PCT UL 94V-0
	black	white	black	black	black	black
	twist pin	turned	stamped	stamped	stamped	turned
	copper alloy	copper alloy	brass (male) phosphore bronze (female)	copper alloy	copper alloy	copper alloy
	gold over PdNi in contact area, balance tin	gold over nickel	gold over nickel in contact area, balance tin	gold over nickel	gold over nickel	gold over nickel
	x			x	x	x
		x	x	x		x
	x	x	x	x		x
	x	x	x	x		x
						x
						x
						x
						x
						x

* at sea level



ITT

Customer Support Locations

CHINA

Tuopandun Industrial Area, Jinda Cheng,
Xiner Village, Shajing Town,
Baoan District, Shenzhen City,
Guangdong, China 518125
Phone: +86.755.2726.7238
Fax: +86.755.2726.7515

GERMANY

Cannonstrasse 1
Weinstadt, 71384
phone: +49.7151.699.0
fax: +49.7151.699.217

FRANCE

15, Boulevard Robert Thiboust
Serris, France 77700
phone: +33.1.60.04.93.93
fax: +33.1.60.04.93.90

HONG KONG

Units 2405-6, 24/F, ING Tower
308 Des Voeux Road
Central
Hong Kong
phone: +852.2732.2720
fax: +852.2732.2919

ITALY

Corso Europa 41/43
Lainate (MI),
Italy 20020
phone: +39.02938721
fax: +39.0293872300

JAPAN

11-3, 5 Chome, Hibarigaoka, Zama-shi
Kanagawa, Japan 228-0003
phone: +52.631.311.0050
fax: +52.631.314.0060

UK

Jays Close, Viabes Estate
Basingstoke, RG22 4BA
phone: +44.1256.311200
fax: +44.1256.323356

USA

666 East Dyer Road
Santa Ana, CA 92705
toll free: 1.800.854.3028
phone: 1.714.557.4700
fax: 1.714.628.2142

www.ittcannon.com