Introduction

The CA-Bayonet series was designed in accordance with the VG95234 specification. This versatile and highly reliable connector series is an improvement on the well established MIL-C-5015 series. CA-Bayonet has a proven bayonet coupling design that offers exceptional vibration protected sealing against fluids, and easy connection/ disconnection.

Initially designed for aircraft and airborne applications, these rugged connectors are used in the electrical equipment of trucks, off-road vehicles, ships, earth-moving equipment, telecommunications and others.

Connectors in accordance with VG95234 are interchangeable with the corresponding MIL-C-5015 connectors. Both connector lines feature the same shell dimensions and contact layouts. However, due to the different coupling systems (MIL-C-5015 threaded coupling, VG95234 bayonet coupling) they are not intermateable.

Advantages
— rugged shell design
— environmental
— bayonet coupling for easy mating and unmating
— vibration proof
— waterproof up to 1 bar (35 feet of water)

ITT Cannon has the complete VG95234 program available and, in addition, many other types which exceed the requirements of VG95234 and MIL-C-5015.

Connector Design
Due to the rugged shell made of an aluminium alloy, these connectors withstand most severe conditions. Olive drab chromate coating over cadmium plating protects the surface of the shell.

ITT Cannon offers zinc cobalt plating as an alternative to customers who refuse cadmium plating and also as a general improvement of the zinc plating.

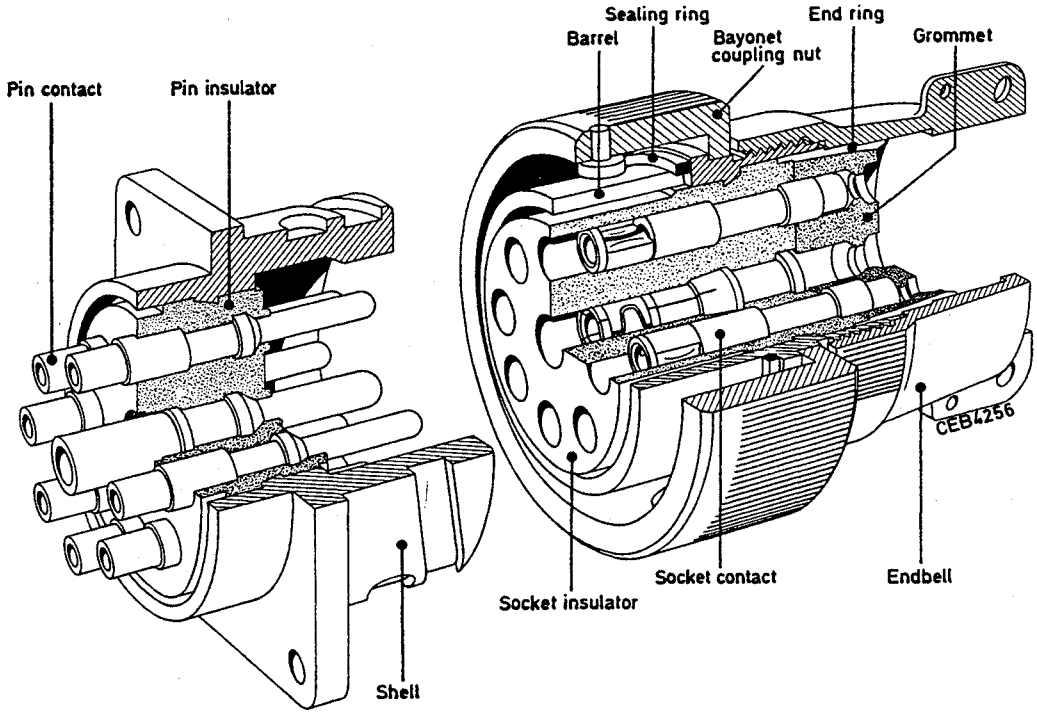
The insulators are made of high quality polychloroprene and withstand temperatures from −67°/+257°F (−55/125°C). This material is self-extinguishing, resistant against hydraulic fluids, jet fuel, diesel fuel, gasolines, lubricants, brake and fire extinguisher fluids.

The contacts, made of copper alloy plated with a hard silver finish guarantee at least 500 mating cycles.

All solder contacts are pretinned and enable fast and high quality soldering. The crimp contacts allow highly reliable crimping with wires according to TL 6145-009, TL 6145-011 and MIL-W-5086 when using the recommended tools according to VG95234. Crimp contacts can be exchanged at least five times due to the contact retention.

The bayonet design allows fast and easy coupling and uncoupling. An audible control by metallic sound and visual control by colour-marked snap-in position offer additional coupling security.

VG connectors are basically designed for single wire harnessing. For full environmental sealing each conductor is sealed completely within the grommet. Under certain conditions, jacketed cables can be used for the shell styles E, G, M and N.



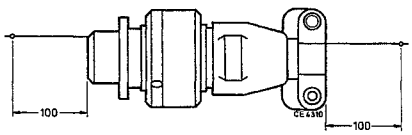
Electrical Data

Contact Rating at 68°F (+20°C)

Contact Size Metric	AWG	Max. Current A
10	—	8
15/15S	16/16S	22
25	12	41
60/100	8	74
160	4	135
500	0	245

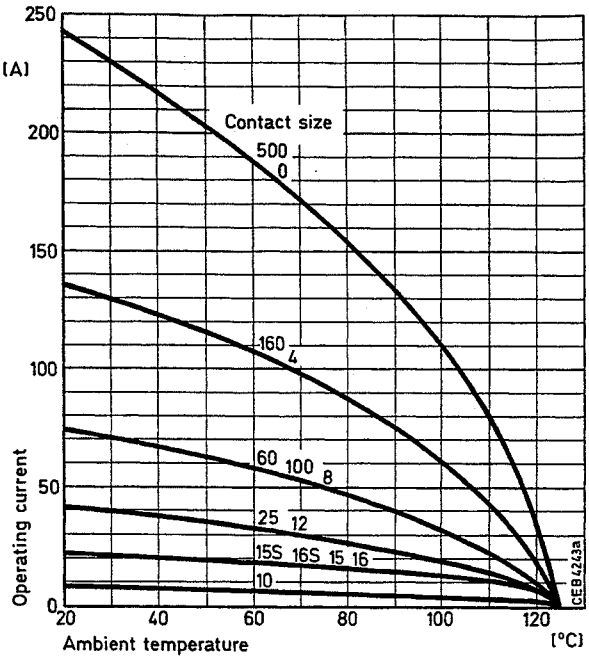
Contact Resistance
(Millivolt Test)

The contact resistance has to be tested according to VG95234 Part 2, test no. 5.10.1 and VG95210, part 37. The measuring points are indicated in the illustration.



Contact Size Metric	AWG	Max. Contact Resistance mΩ
10	—	12
15S/15	16S/16	6
25	12	3
60/100	8	1
160	4	0,5
500	0	0,2

Current Rating
depending on ambient temperature



Operating Voltage and Connectors Usage
When the connectors in this catalogue are used for voltages greater than 50 Volts and have touchable conductive shell parts they must be used in accordance with the safety regulations DIN VDE Part 410; IEC 60364-4-41. This regulation basically dictates that the power source should be turned off before any mating and unmating of the connector. This regulation does not provide for protection against electrical shock when mating and unmating the connectors in the live condition.

Insulation Resistance
Acc. to VG95319, part 2, test no. 5.12 and VG95210, part 32, test condition B
Standard insulator material > 1000 MΩ
FKM insulator material (upon request) > 5000 MΩ

Test Voltage
Acc. to VG95319, part 2, test no. 5.13 and VG95210, part 31
Test voltage for service rating:

Service Rating	Test Voltage Vrms
Instruments	1050
A	1600
B	4000
D	2500
E	3000

Air and Creepage Paths (Min.)

Voltage Class	Instr.	A	D	E
Air and creepage paths mm	0,70	1,10	2,80	4,80
Air and creepage paths inches	(.028)	(.043)	(.110)	(.189)

Dimensions are shown in mm (inch)
Dimensions subject to change

Mechanical Features

Ambient Temperature
Standard insulator material
−55°/125°C (−67/257°F)

FKM insulator material*
−30°/200°C (−22/392°F)

Safety Provisions**
IP 67 acc. to DIN 40 050
(1 bar pressure after 12 hrs.)

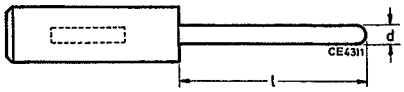
Vibration Test
200 m/s² at 10 to 2000 Hz

Mating Cycles
500 min.

Separating Force per contact.
The corresponding separating force has to be measured according to VG95319, part 2, test no. 5.7. using the required test gage.

Contact Size Metric	AWG	Separating Force min. N	Gage
10	—	0,30	G 0,99
15S/15	16S/16	1,00	G 1,56
25	12	1,50	G 2,36
60/100	8	3,00	G 3,58
160	4	4,00	G 5,69
500	0	8,50	G 9,04

Gage
(see also VG95234, Part 1)



Gage	Contact Diameter d +0,01 (.0004)	L −1,00 (.039)
G 0,99	0,99 (.039)	7,00 (.276)
G 1,56	1,56 (.061)	9,00 (.354)
G 2,36	2,36 (.093)	12,00 (.472)
G 3,58	3,58 (.141)	13,00 (.512)
G 5,69	5,69 (.224)	13,00 (.512)
G 9,04	9,04 (.356)	13,00 (.512)

Contact Retention
The contact retention has to be tested acc. to VG95319, part 2, test no. 5.4. Test force direction = Mating direction.

Contact Size Metric	AWG	Test Force N
10	—	30
15S/15	16S/16	35
25	12	55
60/100	8	80
160	4	90
500	0	95

Coupling Torque
The allowable coupling torques have to be tested under full bundle conditions of the connnectors to VG95319, part 2, test no. 5.8.2.

Shell Size	Allowable Coupling Torque Closing and Opening Nm max.	Opening Nm min.
10SL	1,70	0,15
12S	2,50	0,23
14S	3,60	0,35
16S/16	5,50	0,46
18	8,00	0,58
20	9,00	0,70
22	11,00	0,80
24	14,00	0,80
28	17,00	0,92
32	19,00	1,03
36	23,00	1,03

Materials

Shell	Aluminum alloy
Standard Finish	Olive drab chromate coating over cadmium plating
Alternative Finish	Zinc cobalt (see page 10 – Modification)
Insulator and Grommets	Polychloroprene (Standard) FKM (High temperature)*
Contacts	Copper alloy
Standard Finish	Hard silver
Special Finish	A176 nickel and hard gold plating

* upon request

** **Longitudinal sealing:** The connector is not sealing against fluids entering through the cable as the sealing lips of the single wire sealing are pressing against the jacket of the individual cables.