

Cannon

CA Bayonet Connectors

In Accordance with VG95234

IP69K Compliant



ITT

ENGINEERED FOR LIFE

CA Bayonet	CA-INDUSTRIAL	CA Triple Thread	CGL	KPT / KPSE	KPTC	PV	KJL	KJ	KJA
									
○	○	○	○	○	○	-	○	○	○
○	-	-	-	○	○	○	○	○	○
VG 95234	-	ISO 16750 VG 95234	DIN/VDE 0627 5.4.3 IEC 512-25-1 DIN/VDE 0100 Part 410	MIL-DTL-26482 Series 1, VG 95328	MIL-DTL-26482 Series 1, VG 95328	MIL-DTL 26482 Series 2	MIL-DTL-38999 Series I	MIL-DTL-38999 Series II	MIL-DTL-38999 Series III
1 to 85	2 to 55	1 to 85	3 to 11	2 to 61	2 to 61	3 to 61	3 to 128	3 to 128	3 to 128
50 V DC	50 V DC	50 V DC	700 V DC	50 V DC	50 V DC	500 V AC	1250 V AC	1250 V AC	1250 V AC
3000 V AC	2000 V AC	3000 V AC	7200 V AC	2300 V AC	2300 V AC	2300 V AC	2300 V AC	2300 V AC	2300 V AC
245 A	30 A	245 A	100 A	22 A	22 A	23 A	23 A	23 A	23 A
○	○	○	○	○	○	○	○	○	○
26 to 0	26 to 12	26 to 0	15 to 3	24 to 16	24 to 16	24 to 12	28 to 12	28 to 12	28 to 12
0,14 - 50 mm ²	0,14 - 4,0 mm ²	0,14 - 50 mm ²	1,5 - 25 mm ²	0,21 - 1,91 mm ²	0,4 - 2,0 mm ²	0,4 - 5,0 mm ²	0,45 - 5,0 mm ²	0,45 - 5,0 mm ²	0,45 - 5,0 mm ²
○	○	○	○	-	-	○	○	○	○
500	200	500	500	500	500	500	500	500	500
Reverse Bayonet	Reverse Bayonet	Triple Thread	Bayonet	Bayonet	Bayonet	Bayonet	Bayonet	Bayonet	Triple Thread
○	○	○	○	○	○	-	-	-	-
IP68 (1 bar / 16h) IP69k	IP68 (1 bar / 16h) IP69k	IP68 (1 bar / 16h) IP69k	IP 67	IP 68 (0,2 bar / 48h)	IP 68 (0,2 bar / 48h)	Environmental resistant acc. to EIA-364-02	Environmental resistant acc. to EIA-364-02	Environmental resistant acc. to EIA-364-02	Environmental resistant acc. to EIA-364-02
-55°C to 125°C -67°F to 257°F	-55°C to 125°C -67°F to 257°F	-55°C to 125°C -67°F to 257°F	-50°C to 140°C -58°F to 284°F	-55°C to 125°C -67°F to 257°F	-55°C to 125°C -67°F to 257°F	-55°C to 200°C -67°F to 392°F	-65°C to 200°C -85°F to 392°F	-65°C to 200°C -85°F to 392°F	-65°C to 200°C -85°F to 392°F
50	50	50	50	50	50	10	300	300	300
200 m/s ² 20 g's	100 m/s ² 10 g's	300 m/s ² 30 g's	300 m/s ² 30 g's	200 m/s ² 20 g's	200 m/s ² 20 g's	200 m/s ² 20 g's	300 m/s ² 30 g's	10Hz - 500Hz Random: 43,7g	600m/s ² 60g'
○	-	-	-	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○	○
Aluminum Alloy	Aluminum Alloy	Aluminum Alloy	Aluminum Alloy	Aluminum Alloy	Aluminum Alloy	Aluminum Alloy	Aluminum Alloy	Aluminum Alloy	Aluminum Alloy
○	○	○	○	○	○	○	○	○	○
○	-	○	-	○	○	○	○	○	○
○	-	○	-	○	○	-	-	-	○
○	-	○	-	○	○	-	-	-	-
○	○	○	○	○	○	-	-	-	-
Silver or Gold	Tin or Gold	Silver or Gold	Silver or Gold	Gold	Gold	Gold	Gold	Gold	Gold
○	-	○	○	○ (KPSE)	○	○	○	○	○
-	○	-	-	-	-	-	-	-	-
○	-	○	○	○ (KPT)	○	-	-	-	○
○	-	○	-	○	○	○	○	○	○
-	-	-	-	○	-	○	○	○	○
-	-	-	-	-	-	○	○	○	○
○	-	○	-	○	○	-	-	-	-

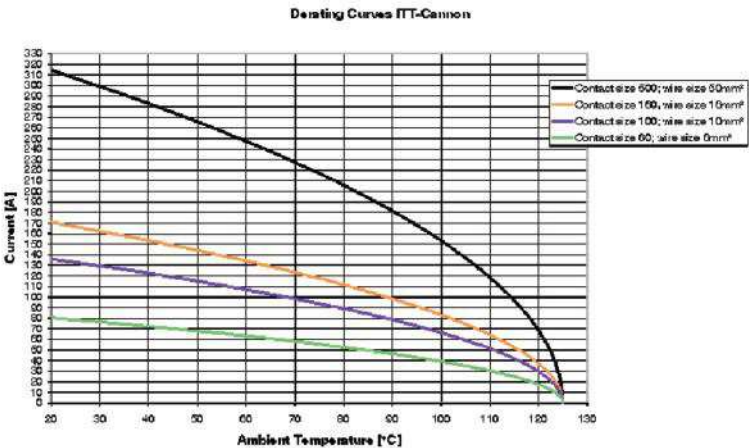
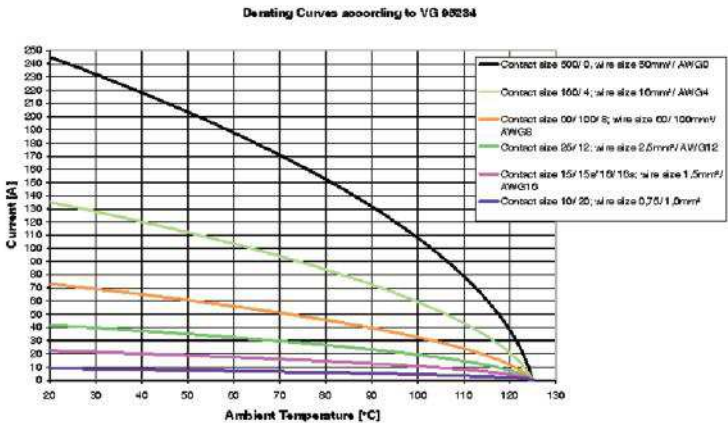
Dimensions shown in mm
Specifications and dimensions subject to change

Technical Data

Contact rating at 68 °F (+20 °C)

Contact size	Max. current A
10	8
16S/15S	22
16/15	22
12/25	41
8/60/100	74
4/160	135
0/500	245

Current rating
Depending on ambient temperature



Dimensions shown in mm
Specifications and dimensions subject to change

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Contact resistance
(Millivolt test)

The contact resistance has to be tested according to VG95234 part 2, test no. 5.10.1 and VG 95210, part 37. The measuring points are indicated in the illustration.

Contact size	Max. contact resistance mΩ
Metric	AWG
10	–
15S/15	16S/16
25	12
60/100	8
160	4
500	0

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 VG 95210, part 31
Test voltage for service rating:

Service rating	Test voltage V _{rms}
Instruments	1050
A	2000
B	4500
D	2500
E	3500

Air and creepage paths (min.)

Voltage class	Instr.	A	D	E
Air and creepage paths mm	0,7	1,1	2,8	4,8

Operating voltage and connector usage

Connectors in equipments must not be separated or mated under load when used per specifications.
As according to specification the connectors are suitable for an operating voltage of 50 V (see Product Safety Information). However, this is only valid, when the connectors are freely accessible during operation and consequently might be touchable. When the connectors will be operated with line voltage, please contact ITT Customer Service for an alternative connector solution.



Cannon VG/CA-Bayonet

Mechanical Features

Ambient temperature
Standard insulator material
-55°/125°C (-67/257°F)

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

Safety provisions**
In mated condition
General (All connectors):
IP67 acc. to . DIN 40050

VG 95234 Connectors:
1 bar for 16h

IP69k Version Connectors:
Plug with Universal Endbell and receptacle with O- Ring
IP68 (1bar for 16h); IP69k (Water jet sealed) acc. to DIN 40050

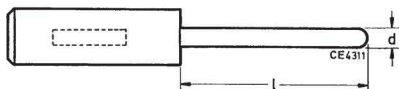
Vibration test
200 m/s² at 10 to 2000 Hz

Mating cycles
500 min.

Withdrawal 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 and DIN EN60512-16-5.

Contact size metric	AWG	Separating force min.	
		N	Gage
10	–	0,3	G 0,99
15S/15	16S/16	1,0	G 1,56
25	12	1,5	G 2,36
60/100	8	3,0	G 3,58
160	4	4,0	G 5,69
500	0	8,5	G 9,04

Gage
(see also VG95234, Part 1)



Gage	Contact diameter d +0,01	L -1
G 0,99	0,99	7
G 1,56	1,56	9
G 2,36	2,36	12
G 3,58	3,58	13
G 5,69	5,69	13
G 9,04	9,04	13

Coupling torque

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

Shell size	Allowable coupling torque closing and opening Nm max.	Opening Nm min.
10SL	1,7	0,15
12S	2,5	0,23
14S	3,6	0,35
16S/16	5,5	0,46
18	8	0,58
20	9	0,7
22	11	0,8
24	14	0,8
28	17	0,92
32	19	1,03
36	23	1,03

Contact retention

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

Contact size	AWG	Test force N
10	–	30
15S/15	16S/16	35
25	12	55
60/100	8	80
160	4	90
500	0	95

Materials

Shell	Aluminum alloy
Standard finish	Olive drab chromate coating over cadmium plating
Alternative finish	Zinc cobalt (see page 12 – 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

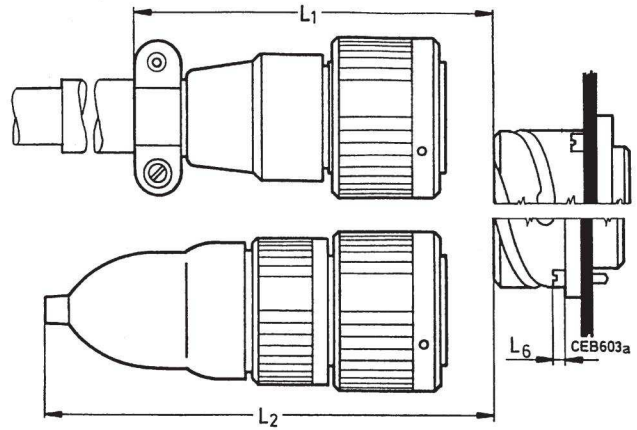
** **Longitudinal sealing:** The connector is not sealed against fluids entering through the cable, as the sealing lips of the single wire sealing are pressing against the jacket of the individual conductors.

Cannon VG/CA-Bayonet

Separating and Mounting Dimensions

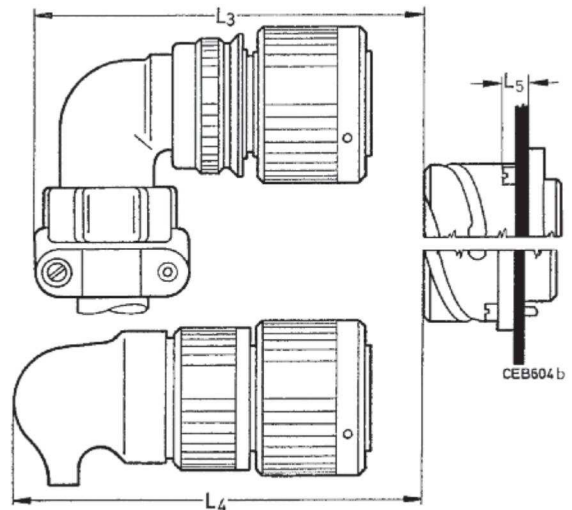
When using connectors according to VG95234 the below mentioned installation dimensions have to be met.

Connector style D
or
CA3106E-B and
CA3106F-B
CA3106F-B-13/-14/-15



Connector style G, M, R1
or
CA3106E-B-02/-03/-06
CA3106E-B-13/-14/-15 and
CA3106E-B-32
with shrink boot, straight,
acc. VG95343

Connector style E, E1 and K
or
CA3108E/F-B and
CA3108F-B-13/-14/-15



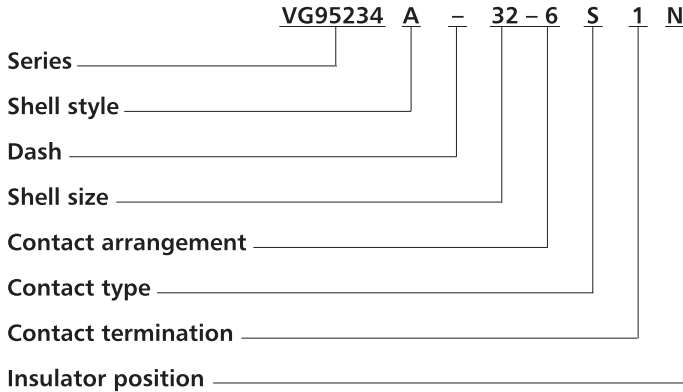
Connector style G, M, R1
or
CA3106E-B-02/-03/-06
CA3106E-B-32
with shrink boot 90°
acc. to VG 95343

Shell Size	L1 (D) min.	L2 (G/M) min.	L3 min.	L4		L5 max.	L6 max.
				(G/M) min.	R1 + 10 mm		
10SL	70	70	70	65	75	8,0	3,5
12S	70	75	75	70	80	8,0	3,5
14S	70	75	75	70	80	8,0	3,5
16S	70	90	80	80	90	8,0	3,5
16	80	100	90	90	100	6,5	3,5
18	90	100	90	90	100	8,0	3,5
20	90	100	95	100	110	8,0	3,5
22	90	100	95	100	110	8,0	3,5
24	110	120	105	110	120	8,0	5,0
28	110	120	105	110	120	9,0	5,0
32	110	180	115	120	130	9,0	6,0
36	110	190	120	130	140	9,0	6,0

Cannon VG/CA-Bayonet

How to order

VG Order reference



Explanation

Series	VG95234
Shell style	J1, J2, N1, N2, S1, U1, U2 – wall mounting receptacle F – cable connection plug A, B1, B2 – box mounting receptacle C1, C2 – bulkhead receptacle D, G, H, L, M, R1, T – straight plug E, E1, K – plug 90°
Shell size	10SL, 14S, 16S, 16, 18, 20, 22, 24, 28, 32 and 36
Contact arrangement	see page 13
Contact type	P – Pin contact S – Socket contact
Contact termination	without identification – contacts for metric wire sizes identification 1* – contact for AWG wire sizes
Insulator position	see page 31

Accessories acc. to VG

Dummy receptacles	VG95234 BOD
Gaskets, front mount	VG95234 DA
Gaskets, rear mount	VG95234 DH
Protecting caps	VG95234 KR
Protecting caps	VG95234 KB
Cabel caps	VG95234 KK
Bushing	VG95234 KT

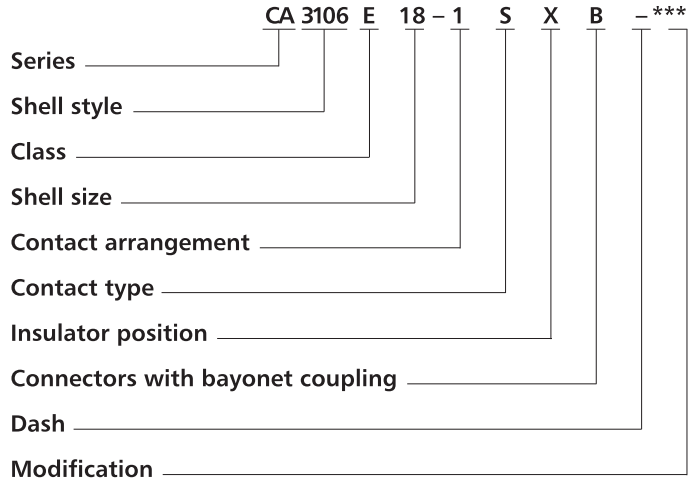
* Only valid for layout within the VG95234.

Layout list permitting identification 1:

Layout	Page Number
22-2	18
24-9	19
24-11	19
24-12	20
28-22	22
32-1	22
32-6	23
36-3	24
36-5	24
36-6	24

How to order

Cannon Order reference



Explanation

Series	CA – Circular connectors with bayonet coupling
Shell style	3100 – Wall mounting receptacle 3101 – Cable connecting plug 3102 – Box mounting receptacle 3105 – Dummy receptacle for front and panel mounting 3106 – Plug, straight 3108 – Plug, 90° TBF – Bulkhead receptacle
Class	E – environmental with resilient insulators and endbell with clamp and bushing F – environmental with resilient insulator and endbell for flex tube R – environmental with resilient insulator and shortened light-weight endbell without cable clamp PG – PG gland adaptor environmental ME – Metric gland adaptor environmental*
Shell size	10SL, 12S, 14S, 16S, 16, 18, 20, 22, 24, 28, 32 and 36
Contact arrangement	see page 13
Contact type	P – Pin S – Socket PS – one side pin, one side socket (only for TBF)
Insulator position	Besides the normal position further insulator positions are possible for Cannon connectors (see page 31) to prevent mismatching. Polarization is achieved by turning the pin contact insulator clockwise towards the shell, the socket insulator, however, in opposite clockwise direction. This information refers to the mating side of the contact insulator. For special insert alternations of standard inserts see page 28.
Modification	see next page

Modification	01	– metric crimp contacts
(only for CA.....-B)	02	– adapter for heat shrink boots AWG crimp contacts
	03	– adapter for heat shrink boots, metric contacts
	04	– rear mount, thread in flange, metric crimp contacts (CA3102 only)
	05	– rear mount, through holes in flange, (CA3100, CA 3102, rear mounting CA 20, TBF)
	06	– shrink boot adapter, solder pot contacts
	08	– angular endbell, through holes in flange (for CA3100 only)
	09	– angular endbell, through holes in flange (for CA3100 only)
	13	– shielded version, solder contacts
	14	– shielded version, metric crimp con- tacts
	15	– shielded version, AWG crimp contacts
	32	– shielded endbell, reduced cable entry diameter
	41	– shielded version, grounding spring on barrel
	109	– F80 contacts, rear mount, thread holes in flange (for CA3102 only)
	111	– rear mount, thread holes (CA3102 only), solder contacts
F80		– AWG crimp contacts
A176		– gold plated contact, see pages 58-59
A232		– Zinc cobalt black plating
A233		– Zinc cobalt green plating
A240		– Zinc Nickel plating, blue iridescent
F42		– less grommet and backshell
F0		– less contacts, contacts to be ordered separately, see pages 58-61

Important!

When connectors are requested according to VG95234 modification, e.g. with another finish, with other contact arrangements and solder contacts, they are to be ordered only with the ITT Cannon order reference.

Connectors acc. to VG95234 are generally available with insert positions X and Y only.

VG order reference with modification is not possible.

With Spring Washer and Friction Ring

These connectors feature a spring washer and a friction ring under the coupling nut.

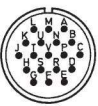
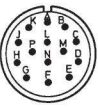
Advantage	Vibrations are being compensated
Ordering example	according performance class insert „W“ after Class E, F or R
CA06EW	– connector with spring washer, endbell with cable and bushing
CA06FW	– connector with spring washer, endbell for flex tube
CA06RW	– connector with spring washer and short endbell
CA08EW/FW	– connector with spring washer and 90° endbell

The connectors acc. to **VG95234** are generally delivered **with spring washer**.

Other Shell Styles

CA3100E-B-02/03/06	– adapter for heat shrink boot
CA3100F-B-08/09	– 90° endbell for flex tube
CA3100E-B-08/09	– 90° endbell, cable clamp and bushing
CA3100F-B-08/09	– 90° endbell flex tube
CA02L-B	– receptacle with pcb solder contacts
CA20L-B	– rear mount receptacle with pcb solder contacts
CA06EH	– H stands for FKM insulator and sealing material. FKM is a high temperature material good for up to 200°C/392°F plus an extraordinary performance against oils of the various nature. (The full range of end bell styles can be utilized).
CA07A-B	– jam nut receptacle
CA00EP-B-TL	– TINEL-LOCK adapter, contact factory
CA06EW-B-TLXX	– TINEL-LOCK adapter, contact factory

Cannon VG/CA-Bayonet

View on Mating face of Pin Insulator	No. of Contacts	Contact arrangement		Service rating	Insulator position						Position	Special polarization	Insulator weight (g) including contacts pin socket	
		Contact size VG	CA		N	V	W	X	Y	Z				
	4	— —	22-10 16	E	—	—	35	110	250	325	—	—	17	31
	5 2 3	22-12 100 15	22-12 8 16	D	0	—	80	110	250	280	—	—	28	42
	19	22-14 15	22-14 16	A	0	—	80	—	—	280	—	—	30	50
	6 5 1	—	22-15 12 16	A (A, B, C, E, F) E (D)	0	—	80	110	250	280	—	—	30	50
	9 3 6	—	22-16 12 16	A	0	—	80	110	250	280	—	—	28	45
	14	—	22-19 16	A	0	—	80	110	250	280	—	—	28	47
	9	—	22-20 16	A	0	—	35	110	250	325	—	—	22	39
	3 2 1	—	22-21 16 0	A	0	—	80	110	250	280	—	—	49	58
	4	22-22 100	22-22 8	A	0	—	—	110	250	—	—	—	42	58
	8	—	22-23 12	D (H) A (all others)	0	—	35	—	250	—	—	—	34	54
	9 1 8	22-27 60 15	22-27 8 16	A (A to H) D (J)	0	—	80	—	250	280	—	—	21	34

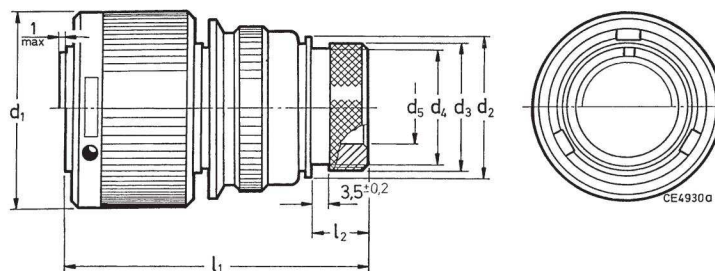
♦ Attention: for all alternate positions of these contact arrangements a tendency to overmate can be stated. It is within the customer's responsibility to use these insert positions.

Straight Plug

VG95234 – Style G

CA3106E-B, -02, -03 or -06 designates a straight plug with adapter for heat shrinkable boots

CA3106E-B and Modifications, see page 12



VG95234 Part no.	Cannon Part no.	d ₁ max.	d ₂ ±0,2	d ₃ ±0,2	d ₄ max.	d ₅ min.	l ₁ max.	l ₂ ±0,5	Weight ¹⁾ g max.
VG95234G-10SL-*	CA3106E10SL-**-***	22,8	17,0	15,5	13,3	7,7	50	11,7	24
–	CA3106E12S-**-***	26,0	17,8	15,5	13,3	7,9	50	11,7	35
VG95234G-14S-*	CA3106E14S-**-***	29,2	20,1	19,1	17,0	10,6	50	11,7	41
VG95234G-16S-*	CA3106E16S-**-***	32,0	23,5	23,9	21,9	13,5	50	11,7	51
VG95234G-16-*	CA3106E16-**-***	32,0	23,5	23,9	21,9	13,5	60	11,7	58
VG95234G-18-*	CA3106E18-**-***	36,5	26,5	23,9	21,9	14,6	60	11,7	65
VG95234G-20-*	CA3106E20-**-***	39,9	30,2	29,6	26,2	18,7	65	12,7	75
VG95234G-22-*	CA3106E22-**-***	43,1	33,6	29,6	26,2	20,8	65	12,7	80
VG95234G-24-*	CA3106E24-**-***	46,6	38,1	37,8	34,5	24,6	65	12,7	95
VG95234G-28-*	CA3106E28-**-***	53,4	41,4	37,8	34,5	27,0	65	12,7	120
VG95234G-32-*	CA3106E32-**-***	60,1	48,6	47,8	43,6	33,3	70	15,2	165
VG95234G-36-*	CA3106E36-**-***	66,3	54,8	47,8	43,6	38,5	80	15,2	180

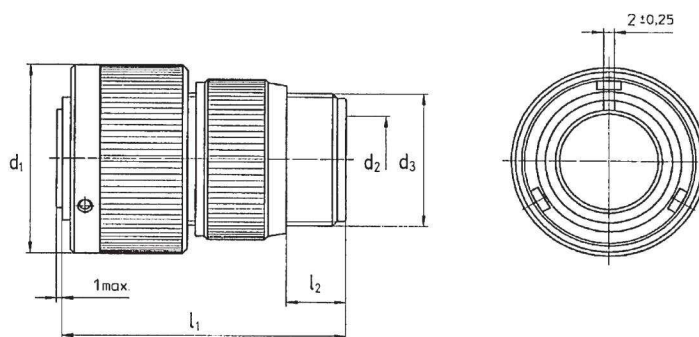
¹⁾ Weight without insulator, grommets and contacts.

Straight Plug

VG95234 Style H

CA3106-F-B designates a straight plug for flex tube

CA3106-B and Modifications, see page 12



VG95234 Part no.	Cannon Part no.	d ₃ -Thread	d ₁ max.	d _{2a} ²⁾	l ₁ max.	l ₂ min.	Weight ¹⁾ g max.
VG95234H-10SL-*	CA3106F10SL-**-***	5/8-24NEF-2A	22,8	8,2	50	9,5	21
–	CA3106F12S-**-***	5/8-24NEF-2A	26,0	8,2	50	9,5	29
VG95234H-14S-*	CA3106F14S-**-***	3/4-20UNEF-2A	29,2	11,1	50	9,5	33
VG95234H-16S-*	CA3106F16S-**-***	7/8-20UNEF-2A	32,0	14,3	50	9,5	42
VG95234H-16-*	CA3106F16-**-***	7/8-20UNEF-2A	32,0	14,3	60	9,5	51
VG95234H-18-*	CA3106F18-**-***	1-20UNEF-2A	36,5	16,7	60	9,5	59
VG95234H-20-*	CA3106F20-**-***	1 3/16-18UNEF-2A	39,9	19,8	60	9,5	59
VG96234H-22-*	CA3106F22-**-***	1 3/16-18UNEF-2A	43,1	19,8	60	9,5	62
VG95234H-24-*	CA3106F24-**-***	1 7/16-18UNEF-2A	46,6	25,4	65	9,5	84
VG95234H-28-*	CA3106F28-**-***	1 7/16-18UNEF-2A	53,4	27,0	65	9,5	100
VG95234H-32-*	CA3106F32-**-***	1 3/4-18UNS-2A	60,1	32,5	65	11,0	116
VG95234H-36-*	CA3106F36-**-***	2-18UNS-2A	66,3	35,7	80	11,8	142

¹⁾ Weight without insulator, grommets and contacts.

²⁾ For max. cable entry.