

## CGE High Power Connectors



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Introduction

The Cannon CGE connectors are designed to transmit very high current at low voltage, as for example in the electrical equipment of military land- and sea-borne vehicles and in industrial applications. The connectors meet the mating dimensions, mechanical features and rear panel installation requirements of VG 95234. Ultraflexible shielded welding cables acc to MTV 6145-005 are terminated to the connectors.

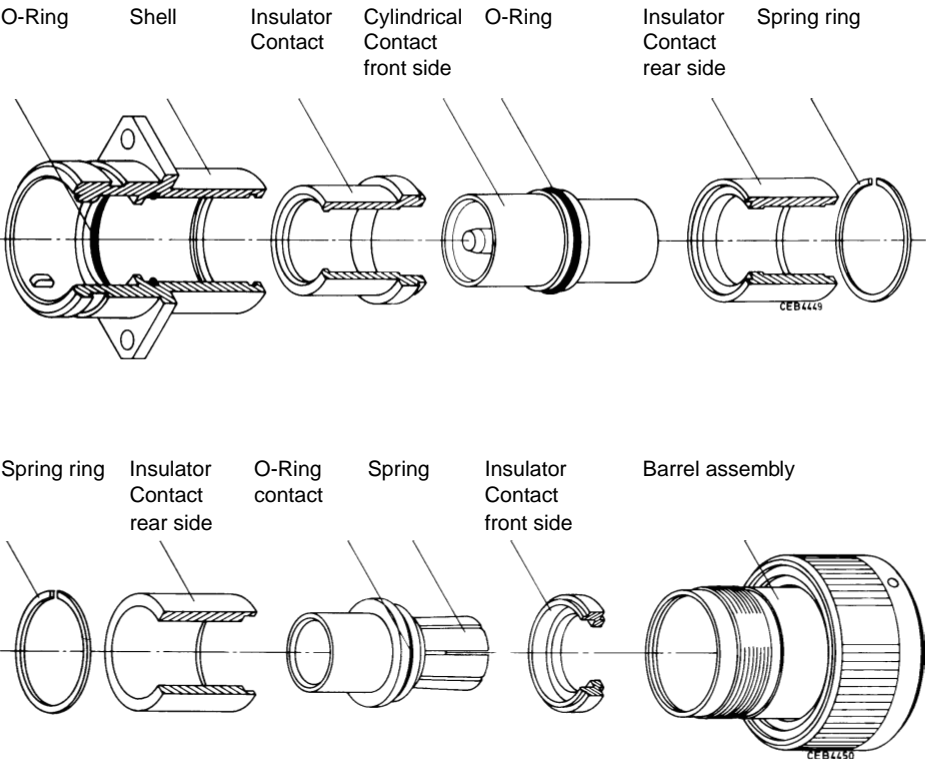
The contacts made of copper or a copper alloy with hard silver finish are designed for crimping or termination to solid copper conductors with threaded bolts. The mechanical durability is a minimum of 500 mating cycles. The crimp contacts accept wires according to DIN 46438 (25 – 240 mm²). Contact retention is achieved by the two-piece insulator which is fixed to the shell with a snap-in ring. This allows unlimited exchange of the crimp contacts.

The bayonet coupling assures fast and reliable mating and unmating. Audible snap-in and colour-coded snap-in points indicate positive mating. Plugs and receptacles are waterproof in mated condition up to 1 bar (35 feet of water).

Connector Design

The high power connectors CGE feature one contact in a two-piece rigid insulator. The aluminum shell has a chromate finish over cadmium. The operating temperature ranges from –55 to 125°C.

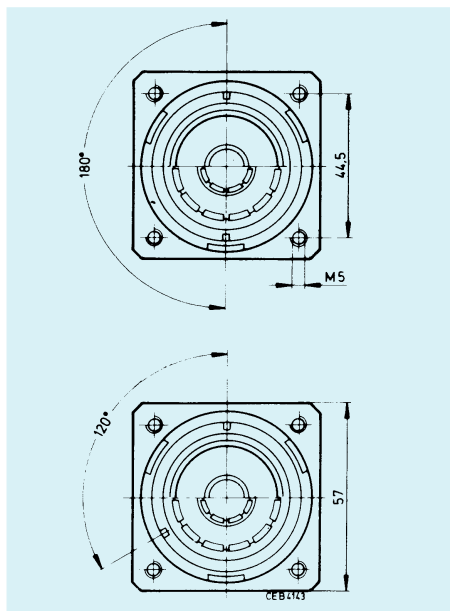
Connector Design



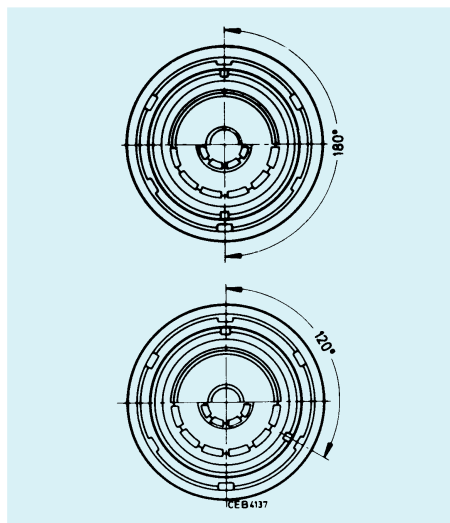
## Polarization

To avoid mismatching of identic connectors the keyways of CGE connectors are available in two different positions:

Standard position = 180°  
Position W = 120°



Keyway positions of receptacles and cable connecting plugs



Keyway positions of straight and 90° plugs

## How to order

CGE 6 E 32 H 24 F W B \*

Series \_\_\_\_\_  
Canon Designation

Shell style \_\_\_\_\_  
0 - wall mounting receptacle with flange  
1 - cable connecting plug  
2 - box mounting receptacle with flange  
6 - straight plug  
8 - plug 90°  
9 - bulkhead

Class \_\_\_\_\_  
E - environmental, JP07 acc to DIN 40050

Shell size \_\_\_\_\_  
16 - 18 - 22 - 28 - 32

Contact arrangement \_\_\_\_\_  
16H2 - shell size 16, 1 contact H2  
18H5 - shell size 18, 1 contact H5  
22H9 - shell size 22, 1 contact H9  
28H15 - shell size 28, 1 contact H15  
32H24 - shell size 32, 1 contact H24

Contact size \_\_\_\_\_  
H2 - 25 mm<sup>2</sup>  
H5 - 50 mm<sup>2</sup>  
H15 - 150 mm<sup>2</sup>  
H24 - 240 mm<sup>2</sup>

Contact type \_\_\_\_\_  
F - spring contact  
Z - cylindrical contact

Keyway polarization \_\_\_\_\_  
W - 120°

Bayonet coupling \_\_\_\_\_

Modification \_\_\_\_\_  
05 - through-holes in flange  
03 - adapter for heat shrink boots, metric crimp contact  
04 - rear panel mounting, threaded holes, metric crimp contact  
04-05 - same as -04, however, with through-holes  
14 - shielded version, metric crimp contact  
16 - thread bolt termination, front panel mounting, O ring for sealing between wall and receptacle (for CGE2EB only)

## Mateability

|  |   |                       |
|--|---|-----------------------|
| Receptacles and cable connecting plugs mate with | → | Plugs, straight / 90° |
| CGE2E-B04, CGE-B-04-05                           |   | CGE6E-B-03            |
| CGE2E-B-16                                       |   | CGE6E-B-14            |
| CGE0E-B-03, CGE-B-05-05                          |   | CGE8E-B-03            |
| CGE1E-B-03                                       |   | CGE8E-B-14            |

## Technical Data

**Admissible ambient temperature**  
-55/125°C

**Class**  
JP07 acc to DIN 40050

**Test pressure**  
1 bar overpressure

**Test duration**  
12 h

**Vibration**  
200 m/s<sup>2</sup> for 10 – 2000 Hz

**Mechanical durability**  
500 mating cycles

**Coupling torque**  
in wired condition acc to VG95319, Part 2, Test No 5.8.2.

| Shell size | max closing /<br>opening Nm | max opening<br>Nm |
|------------|-----------------------------|-------------------|
| 16         | 5,5                         | 0,5               |
| 18         | 8,0                         | 0,6               |
| 22         | 11,0                        | 0,8               |
| 28         | 17,0                        | 0,9               |
| 32         | 19,0                        | 1,0               |

**Contact retention**  
acc to VG 95319, Part 2, Test No 5.4.

| Contact size | Test force N min |
|--------------|------------------|
| H2           | 100              |
| H5           | 120              |
| H9           | 140              |
| H15          | 160              |
| H24          | 200              |

## Materials

|           |                             |
|-----------|-----------------------------|
| Shell     | Aluminum alloy              |
| – Finish  | Olive chromate over cadmium |
| Insulator | PTFE                        |
| Contact   | Copper or copper alloy      |
| – Finish  | Hard silver                 |
| O ring    | FKM                         |

## Electrical Data

**Current rating**  
(A) at 125°C ambient temperature

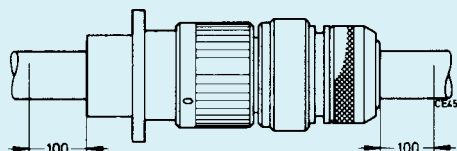
| Shell size                                   | 16  | 18   | 22   | 28   | 32   |
|--|-----|------|------|------|------|
| Contact size                                 | H2  | H5   | H9   | H15  | H24  |
| Max Current rating (A)                       | 225 | 350  | 570  | 750  | 950  |
| Max Short-time load,<br>appr 0,5 – 1 sec (A) | 750 | 1000 | 2000 | 3000 | 5000 |

## Air and creepage paths

Air path 3 mm min  
Creepage path 5 mm min

**Insulator resistance**  
min 5000 MOhm

**Contact resistance**  
(mOhm max)



| Contact size       | H2  | H5  | H9   | H15 | H24  |
|--------------------|-----|-----|------|-----|------|
| Contact resistance | 0,6 | 0,3 | 0,15 | 0,1 | 0,07 |

## Cables

The connectors are designed for ultraflexible welding cable acc to MTV 6145-005.

| Shell size | Wire size | MTV 6145-005 designation |                   |
|------------|-----------|--------------------------|-------------------|
|            |           | shielded                 | unshielded        |
| 16         | 25        | MTV 6145-005 H001        | MTV 6145-005 G001 |
| 18         | 50        | MTV 6145-005 H002        | MTV 6145-005 G002 |
| 22         | 95        | MTV 6145-005 H003        | MTV 6145-005 G003 |
| 28         | 150       | MTV 6145-005 H004        | MTV 6145-005 G004 |
| 32         | 240       | MTV 6145-005 H005        | MTV 6145-005 G005 |

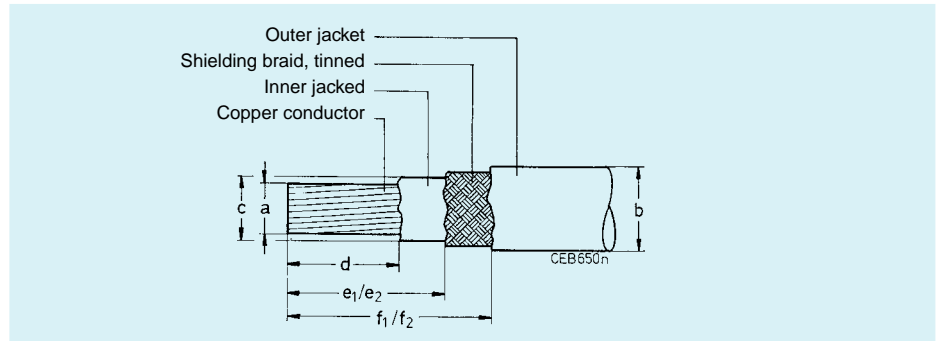
When selecting a cable type please consider self-heating of cable at the maximum operating voltage and the maximum ambient temperature (see page 5).

## Cable Data

### Approx. values for cable self-heating

| Wire size<br>mm <sup>2</sup> | Max admissible<br>operating voltage | Approx over-temperature due to current load: $\Delta T$ in °C |  |                                     |
|------------------------------|-------------------------------------|---|--|-------------------------------------|
|                              |                                     | 1/3 of max admissible<br>operating voltage                    | 2/2 of max admissible<br>operating voltage | max admissible<br>operating voltage |
| 25                           | 250                                 | 35  | 52   | 95                                  |
| 50                           | 300                                 | 15  | 25   | 55                                  |
| 95                           | 500                                 | 10  | 33   | 70                                  |
| 150                          | 600                                 | 5   | 23   | 60                                  |
| 240                          | 1000                                | 8   | 30   | 75                                  |

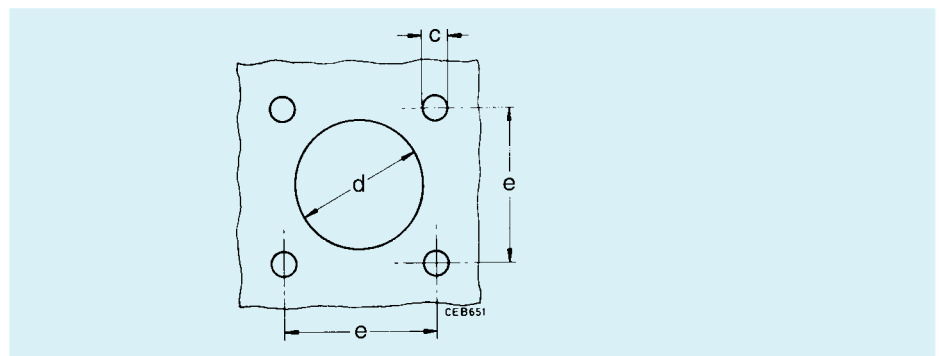
### Cable Dimensions



| Cable designation | Shell<br>size | Wire size<br>mm <sup>2</sup> |                |       |       |              |              |              | Straight plug |              | Plug 90°     |              |
|-------------------|---------------|------------------------------|----------------|-------|-------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|
|                   |               |                              | a              | b max | c max | d $\pm 10,5$ | e1 $\pm 1,0$ | f1 $\pm 1,0$ | e2 $\pm 1,0$  | f2 $\pm 1,0$ | e2 $\pm 1,0$ | f2 $\pm 1,0$ |
| MTV6145-005+001   | 16            | 25                           | 7,5 $\pm 0,5$  | 13,5  | 10,2  | 14,0         | 31,0         | 46,0         | -             | -            | -            | -            |
| MTV6145-005+001   | 18            | 50                           | 11,0 $\pm 0,5$ | 18,0  | 14,3  | 15,0         | 31,0         | 46,0         | -             | -            | -            | -            |
| MTV6145-005+001   | 22            | 95                           | 16,0 $\pm 0,5$ | 23,5  | 19,7  | 20,5         | 42,0         | 57,0         | 20,0          | 35,0         | 20,0         | 35,0         |
| MTV6145-005+001   | 28            | 150                          | 20,5 $\pm 0,5$ | 30,0  | 25,4  | 30,0         | -            | -            | 25,0          | 40,0         | 25,0         | 40,0         |
| MTV6145-005+001   | 32            | 240                          | 26,5 $\pm 0,5$ | 36,0  | 32,5  | 30,0         | 54,0         | 69,0         | 25,0          | 40,0         | 25,0         | 40,0         |

## Panel Cut-Outs

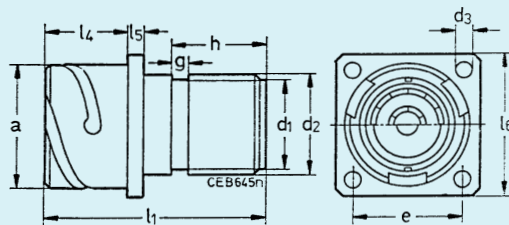
Panel cut-outs for rear and front panel mounting of receptacles



| Shell size | Receptacles, rear panel mounting<br>CGE0E-B-03/14<br>CGE2E-B-04 |                     |              | Receptacles, front panel mounting<br>CGE2E-B-16 |               |      |              |
|------------|---|---------------------|--------------|---|---------------|------|--------------|
|            | H13<br>c $\pm 0,15$   | H12<br>d $\pm 0,15$ | d $\pm 0,15$ | H13<br>c  | H12<br>thread | d    | c $\pm 0,15$ |
| 16         | 4,5   | 27,7                | 24,6         | 4,5   | M4            | 22,5 | 24,6         |
| 18         | 4,5   | 31,1                | 27,0         | 4,5   | M4            | 27,4 | 27,0         |
| 22         | 4,5   | 37,8                | 31,8         | 4,5   | M4            | 33,7 | 31,8         |
| 28         | 5,5   | 47,1                | 39,7         | 4,5   | M4            | 43,5 | 39,7         |
| 32         | 5,5   | 53,8                | 44,5         | 4,5   | M4            | 49,7 | 44,5         |

### CGE0E...B-03

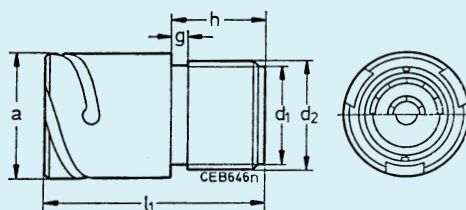
Wall mounting receptacle,  
acc to VG 96929B1,  
rear panel mounting,  
four threaded holes in flange,  
adapter for heat shrink boot,  
metric crimp contacts



| Shell size | a      | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | e     | g     | h     | l <sub>1</sub> | l <sub>4</sub> | l <sub>5</sub> | l <sub>6</sub> |
|------------|--------|----------------|----------------|----------------|-------|-------|-------|----------------|----------------|----------------|----------------|
|            | - 0,15 | ± 0,15         | ± 0,3          |                | ± 0,1 | ± 0,1 | ± 0,2 | ± 0,3          | ± 0,3          | ± 0,15         | ± 0,3          |
| 16         | 27,4   | 20,0           | 22,1           | M4             | 24,6  | 3,2   | 12,0  | 41,0           | 20,0           | 3,2            | 32,5           |
| 22         | 37,4   | 45,8           | 49,2           | M4             | 31,8  | 3,2   | 20,8  | 55,0           | 23,15          | 4,0            | 41,0           |
| 32         | 53,4   | 45,8           | 49,2           | M5             | 44,5  | 3,5   | 28,0  | 66,8           | 29,0           | 4,0            | 57,0           |

### CGE1E...B-03

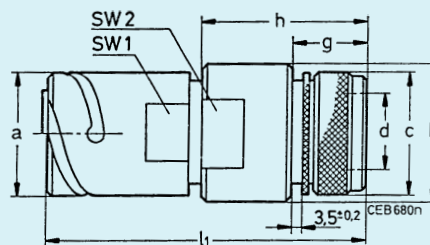
Cable connecting plug, straight,  
adapter for heat shrink boots,  
metric crimp contacts



| Shell size | a      | d <sub>1</sub> | d <sub>2</sub> | g     | h      | l <sub>1</sub> |
|------------|--------|----------------|----------------|-------|--------|----------------|
|            | - 0,15 | ± 0,15         | ± 0,15         | ± 0,1 | ± 0,15 | ± 0,3          |
| 18         | 30,8   | 25,0           | 27,0           | 3,2   | 20,0   | 50,0           |
| 22         | 37,4   | 31,5           | 34,9           | 3,2   | 20,5   | 54,0           |
| 28         | 53,4   | 45,8           | 50,0           | 3,5   | 28,0   | 66,8           |
| 32         | 46,7   | 41,0           | 44,4           | 3,5   | 25,0   | 65,8           |

### CGE1E...B-14

Cable connecting plug,  
shielded version,  
metric crimp contacts

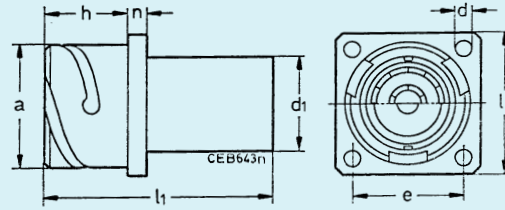


| Shell size | a      | b    | c    | d     | g     | h    | l <sub>1</sub> | SW1 | SW2 |
|------------|--------|------|------|-------|-------|------|----------------|-----|-----|
|            | ± 0,15 |      |      | ± 0,3 | ± 0,2 | max  | max            |     |     |
| 18         | 37,4   | 42,0 | 37,0 | 25,5  | 22,5  | 48,5 | 95,5           | 34  | 38  |

## CGE2E...B-04

### CGE2E...B-04-05

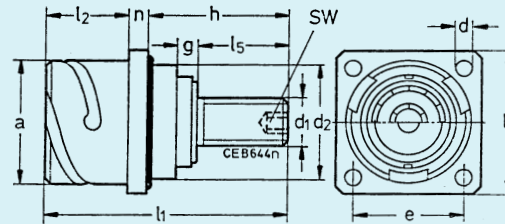
Box mounting receptacle,  
rear panel mounting,  
-04 – four threaded holes in flange,  
-04-05 – four through holes in flange



| Shell size | a<br>- 0,15 | d <sub>1</sub><br>± 0,15 | d<br>Mod 04 | Mod 05 | e<br>± 0,1 | h<br>± 0,2 | l <sub>1</sub><br>± 0,3 | l <sub>2</sub><br>± 0,3 | n<br>± 0,1 |
|------------|-------------|--------------------------|-------------|--------|------------|------------|-------------------------|-------------------------|------------|
| 16         | 27,4        | 22,1                     | M4          | 4,3    | 24,6       | 20,0       | 41,0                    | 32,5                    | 3,2        |
| 18         | 30,8        | 27,0                     | M4          | 4,3    | 27,0       | 23,15      | 50,0                    | 35,0                    | 4,0        |
| 22         | 37,4        | 34,9                     | M4          | 4,3    | 31,8       | 23,15      | 54,0                    | 41,0                    | 4,0        |
| 28         | 46,6        | 42,7                     | M4          | 4,3    | 39,7       | -          | 65,3                    | 50,8                    | 4,0        |
| 32         | 53,4        | 49,2                     | M5          | 5,3    | 44,5       | 29,0       | 66,8                    | 57,0                    | 4,0        |

## CGE2E...B-16

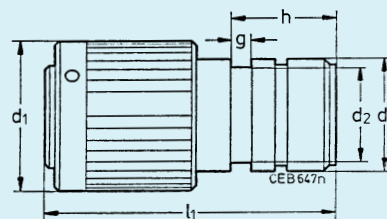
Box mounting receptacle,  
front panel mounting,  
four through holes in flange,  
threaded bolt termination for  
solid copper rail



| Shell size | a<br>- 0,15 | d <sub>1</sub> | d <sub>2</sub><br>- 0,15 | d<br>+ 0,2 | e<br>± 0,1 | g<br>± 0,3 | h    | l <sub>1</sub><br>max | l <sub>2</sub><br>± 0,3 | l <sub>5</sub><br>± 0,5 | l <sub>7</sub><br>+ 0,3 | n<br>± 0,15 | SW |
|------------|-------------|----------------|--------------------------|------------|------------|------------|------|-----------------------|-------------------------|-------------------------|-------------------------|-------------|----|
| 18         | 30,8        | M8             | 26,9                     | 4,3        | 27,0       | 4,0        | 27,5 | 55,0                  | 23,15                   | 15,0                    | 35,0                    | 4,0         | 3  |
| 22         | 37,4        | M12            | 33,2                     | 4,3        | 31,8       | 4,4        | 38,0 | 65,5                  | 23,15                   | 25,3                    | 41,0                    | 4,0         | 6  |
| 28         | 46,6        | M12            | 42,8                     | 4,3        | 39,7       | 4,0        | 32,0 | 61,0                  | 24,15                   | 20,0                    | 50,8                    | 4,0         | 6  |
| 32         | 53,4        | M16            | 49,2                     | 4,3        | 44,5       | 6,0        | 44,5 | 73,0                  | 29,0                    | 22,0                    | 57,0                    | 4,0         | 8  |

## CGE6E...B-03

Straight plug  
acc to VG 96929A2,  
adapter for heat shrink boots,  
metric crimp contacts



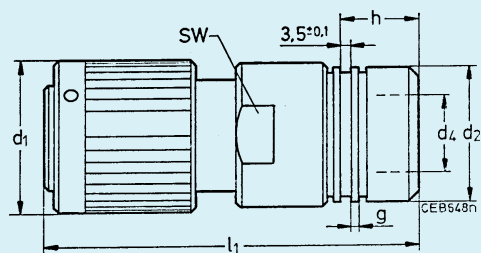
| Shell size | d <sub>1</sub><br>max | d <sub>2</sub><br>- 0,1 | d <sub>3</sub><br>max | g   | h<br>± 0,2 | l <sub>1</sub><br>max |
|------------|-----------------------|-------------------------|-----------------------|-----|------------|-----------------------|
| 16         | 32,0                  | 20,2                    | 22,3                  | 4,3 | 27,0       | 44,0                  |
| 18         | 36,5                  | 25,8                    | 28,0                  | 4,3 | 31,8       | 53,0                  |
| 22         | 43,1                  | 31,5                    | 35,0                  | 4,3 | 39,7       | 57,0                  |
| 32         | 60,1                  | 45,4                    | 49,2                  | 4,3 | 44,5       | 65,0                  |

## CGE6E...B-14

### Straight plug

acc to VG 96929F,

360° HF shielding by grounding fingers,  
endbells for clamp connection of shielding  
braid and for heat shrink boots,  
metric crimp contacts



| Shell size | c<br>± 0,3 | d <sub>1</sub><br>max | d <sub>2</sub><br>± 0,15 | d <sub>4</sub><br>± 0,1 | g<br>± 0,1 | h<br>± 0,4 | l <sub>1</sub><br>max | SW |
|------------|------------|-----------------------|--------------------------|-------------------------|------------|------------|-----------------------|----|
| 16         | 26,0       | 32,0                  | 24,0                     | 15,5                    | 1,0        | 25,5       | 68,0                  | 26 |
| 18         | 32,0       | 36,5                  | 28,7                     | 20,0                    | 1,0        | 26,0       | 73,5                  | 32 |
| 22         | 37,0       | 43,1                  | 33,7                     | 25,5                    | 1,0        | 26,0       | 84,0                  | 38 |
| 28         | 44,0       | 53,0                  | 40,0                     | 32,0                    | 1,0        | 26,0       | 98,0                  | 50 |
| 32         | 51,0       | 60,1                  | 47,2                     | 38,0                    | 1,0        | 28,0       | 95,5                  | 54 |

## CGE8E...B-03

### 90° plug

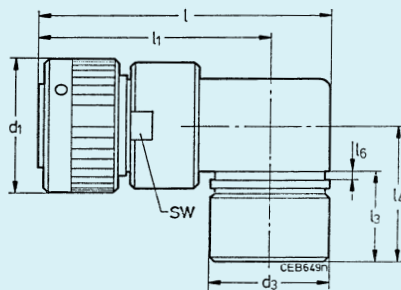
with adapter for heat shrink boots,  
metric crimp contacts

## CGE8E...B-14

### 90° plug

acc to VG 96929E,

with grounding fingers, adapter for  
shielding braid and for use with heat  
shrink boots, metric crimp contacts



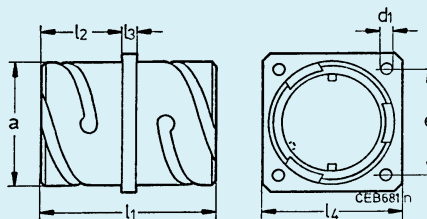
| Shell size | d <sub>1</sub><br>max | d <sub>3</sub><br>max | l <sub>1</sub><br>± 1,0 | l <sub>3</sub><br>max | l <sub>4</sub><br>max | l <sub>6</sub><br>± 0,2 | l<br>max | SW |
|------------|-----------------------|-----------------------|-------------------------|-----------------------|-----------------------|-------------------------|----------|----|
| 22         | 43,1                  | 42,0                  | 80,0                    | 41                    | 56                    | 3,2                     | 101,0    | 38 |
| 28         | 53,0                  | 48,0                  | 78,0                    | 41                    | 56                    | 3,2                     | 102,0    | 50 |
| 32         | 60,1                  | 52,5                  | 84,0                    | 41                    | 56                    | 3,2                     | 112,0    | 52 |

## CGE9E...X-B-04

### Bulkhead

acc to VG 96929C2,

with through holes in flange

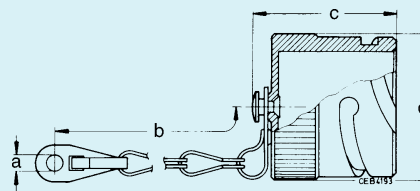


| Shell size | a<br>- 0,15 | d <sub>1</sub> | e<br>± 0,1 | l <sub>1</sub><br>max | l <sub>2</sub><br>± 0,3 | l <sub>3</sub><br>± 0,1 | l <sub>4</sub><br>± 0,3 |
|------------|-------------|----------------|------------|-----------------------|-------------------------|-------------------------|-------------------------|
| 22         | 46,7        | 5,3            | 39,7       | 51,5                  | 20,6                    | 4,0                     | 50,8                    |



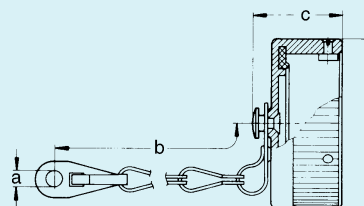
## Accessories

### Dust cap 121004 for plugs



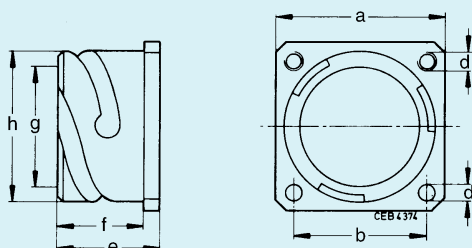
| Order reference | Size | a<br>+ 0,5 | b<br>± 10,0 | c<br>max | d<br>max |
|-----------------|------|------------|-------------|----------|----------|
| CA121004-4      | 16S  | 4,3        | 113         | 29,0     | 29,9     |
| CA121004-6      | 18   | 4,3        | 127         | 30,0     | 33,3     |
| CA121004-8      | 22   | 4,3        | 140         | 30,0     | 39,9     |
| CA121004-10     | 28   | 4,3        | 197         | 30,0     | 49,2     |
| CA121004-11     | 32   | 5,5        | 197         | 30,0     | 55,9     |

### Dust cap 121003 for receptacles



| Order reference | Size | a<br>+ 0,5 | b<br>± 10,0 | c<br>max | d<br>max |
|-----------------|------|------------|-------------|----------|----------|
| CA121003-4      | 16S  | 4,3        | 100         | 19,5     | 32,6     |
| CA12100436      | 18   | 4,3        | 113         | 25,4     | 36,7     |
| CA121003-8      | 22   | 4,3        | 127         | 25,4     | 43,3     |
| CA121003-10     | 28   | 5,5        | 169         | 25,4     | 52,6     |
| CA121004311     | 32   | 5,5        | 169         | 25,4     | 59,3     |

### Dummy receptacle



| Order ref.   | Size | a<br>± 0,3 | b<br>± 0,15 | d<br>+ 0,2 | d <sub>1</sub> | e<br>± 0,2 | f<br>+0,3 / - 0,1 | g<br>+ 0,1 | h<br>+ 0,15 |
|--------------|------|------------|-------------|------------|----------------|------------|-------------------|------------|-------------|
| 248-8504-000 | 16S  | 32,5       | 24,6        | 3,2        | M4             | 21,5       | 18,3              | 29,6       | 27,4        |
| 248-8506-000 | 18   | 35,0       | 27,0        | 3,2        | M4             | 27,2       | 23,15             | 23,8       | 30,8        |
| 248-8508-000 | 22   | 41,0       | 31,8        | 3,2        | M4             | 27,2       | 23,15             | 30,0       | 37,4        |
| 248-8510-000 | 28   | 50,8       | 39,7        | 3,7        | M5             | 28,2       | 24,15             | 38,8       | 46,7        |
| 248-8511-000 | 32   | 57,0       | 44,5        | 4,4        | M5             | 28,2       | 24,15             | 45,2       | 53,4        |

## Accessories

### Sealing gaskets

for rear panel mounting only

| Shell size | Order references Polychloroprene | Order references Alu-Flex (shielded version) |
|------------|----------------------------------|--|
| 16         | 075-8504-000                     | 075-8504-001                                 |
| 18         | 075-8505-000                     | 075-8505-001                                 |
| 22         | 075-8507-000                     | 075-8507-001                                 |
| 28         | 075-8509-000                     | 075-8509-001                                 |
| 32         | 075-8510-000                     | 075-8510-001                                 |

### O Rings

for sealing of front mounting receptacles are included in shipment

## Contacts

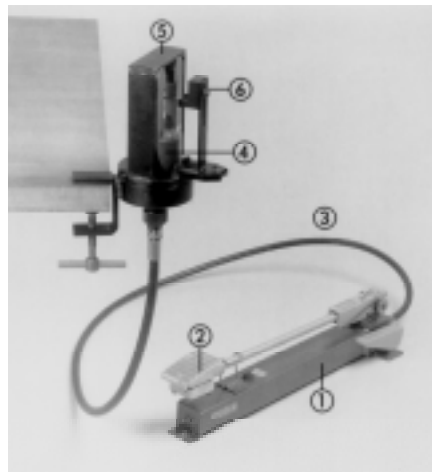
Order references for single contacts

| Shell size | Spring contact | Cylindrical contact | Contact type                                  | Crimp sleeve |
|------------|----------------|---------------------|---|--------------|
| H24        | 031-8564-000   | 330-8697-000        | Crimp with threaded bolt for 90° plug         | 252-8583-000 |
|            | 031-8567-000   | 330-8696-000        |   |              |
|            | 031-8658-000   | 031-8701-002        |   |              |
| H15        | 031-8663-000   | 330-8719-000        | with threaded bolt for 90° plug               | 252-8583-000 |
|            | 031-8669-000   | 031-8701-000        |   |              |
|            | 031-8701-004   | 430-8561-009        |   |              |
| H9         | 031-8649-000   | 330-8698-000        | Crimp version with threaded bolt for 90° plug | 252-8583-000 |
|            | 031-8660-000   | 330-8695-000        |   |              |
|            | 031-8659-000   | 031-8701-000        |   |              |
| H5         | 031-8655-000   | 330-8710-000        | crimp with threaded bolt                      |              |
|            | 031-8656-000   | 330-8712-000        |   |              |
| H2         | 031-8616-000   | 330-8623-000        | crimp version                                 |              |
| H9         | –              | 031-8705-000        | for bulkhead                                  |              |

Note: When choosing the contacts please make sure that the voltage carrying side of the connection is quipped with the cylindrical contact.

## Crimp Tools

| Description                                     | Designation    | Order reference |
|---|----------------|-----------------|
| 1 Hand pump                                     | 4601.00000.330 | 121586-0027     |
| 2 Foot operation for hand pump                  | 4601.51000.330 | 121586-0008     |
| 3 High pressure hose, length 2 m                | 4604.00000.020 | 121586-0023     |
| 4 Crimp head                                    | 4632.00000.601 | 121586-0031     |
| 5 Safety device incl. bench mounting            | CT121086-3079  | 121086-3079     |
| 6 Positioner (to be used with 121086-3079 only) | CT121086-3080  | 121086-3080     |



*Right hand photograph:*  
Electro-hydraulic crimp tool HK12EL.  
Available upon request – please consult factory

## Crimp dies

| Contact size | Order reference  |                  |
|--------------|------------------|------------------|
|              | upper crimp dies | lower crimp dies |
| H2           | 317-8578-006     | 317-8578-007     |
| H5           | 317-8578-008     | 317-8578-009     |
| H9           | 317-8578-004     | 317-8578-005     |
| H15          | 317-8578-002     | 317-8578-003     |
| H24          | 317-8578-000     | 317-8578-001     |

## Special Allen Wrenches

for endbell assembly

| Shell size | Order reference |
|------------|-----------------|
| 16         | CGE-SW26        |
| 18         | CGE-SW26        |
| 22         | CGE-SW26        |
| 28         | CGE-SW26        |

## Product safety Information

**THIS NOTE SHOULD BE READ IN CONJUNCTION WITH THE PRODUCT DATA SHEET/CATALOGUE. FAILURE TO OBSERVE THE ADVICE IN THIS INFORMATION SHEET AND THE OPERATING CONDITIONS SPECIFIED IN THE PRODUCT DATA SHEET/CATALOGUE COULD RESULT IN HAZARDOUS SITUATIONS.**

### 1. MATERIAL CONTENT AND PHYSICAL FORM

Electrical connectors do not usually contain hazardous materials. They contain conducting and non-conducting materials and can be divided into two groups.

a) Printed circuit types and low cost audio types which employ all plastic insulators and casings.

b) Rugged, Fire Barrier and High Reliability types with metal casings and either natural rubber, synthetic rubber, plastic or glass insulating materials.

Contact materials vary with type of connector and also application and are usually manufactured from either copper, copper alloys, nickel, alumel, chromel or steel. In special applications, other alloys may be specified.

### 2. FIRE CHARACTERISTICS AND ELECTRIC SHOCK HAZARD

**There is no fire hazard when the connector is correctly wired and used within the specified parameters. Incorrect wiring or assembly of the connector or careless use of metal tools or conductive fluids, or transit damage to any of the component parts may cause electric shock or burns. Live circuits must not be broken by separating mated connectors as this may cause arcing, ionisation and burning.**

Heat dissipation is greater at maximum resistance in a circuit. Hot spots may occur when resistance is raised locally by damage, e.g. cracked or deformed contacts, broken strands of wire. Local overheating may also result from the use of the incorrect application tools or from poor quality soldering or slack screw terminals. Overheating may occur if the ratings in the Product Data Sheet/Catalogue are exceeded and can cause breakdown of insulation and hence electric shock.

If heating is allowed to continue it intensifies by further increasing the local resistance through loss of temper of spring contacts, formation of oxide film on contacts and wires, and leakage currents through carbonisation of insulation and tracking paths. Fire can then result in the presence of combustible materials and this may release noxious fumes. Overheating may not be visually apparent. Burns may result from touching overheated components.

### 3. HANDLING

Care must be taken to avoid damage to any component parts of electrical connectors during installation and use. Although there are normally no sharp edges, care must be taken when handling certain components to avoid injury to fingers.

Electrical connectors may be damaged in transit to the customers, and damage may result in creation of hazards. Products should therefore be examined prior to installation/use and rejected if found to be damaged.

### 4. DISPOSAL

Incineration of certain materials may release noxious or even toxic fumes.

### 5. APPLICATION

Connectors with exposed contacts should not be selected for use on the current supply side of an electrical circuit, because an electric shock could result from touching exposed contacts on an unmated connector. Voltages in excess of 30 V ac or 42.5 V dc are potentially hazardous and care should be taken to ensure that such voltages can not be transmitted in any way to exposed metal parts of the connector body. The connector and wiring should be checked, before making live, to have no damage to metal parts or insulators, no solder blobs, loose strands, conducting lubricants, swarf, or any other undesired conducting particles. Insulation resistance should be checked to make certain that no low resistance joints or spurious conducting path are existing between contacts and exposed metal parts of the connector body. Further the contact resistance of the connectors should be measured within the electrical circuit in order to identify high resistances which result in excessive connector heating.

Always use the correct application tools as specified in the Data Sheet/Catalogue.

Do not permit untrained personnel to wire, assemble or trumper with connectors.

For operation voltage please see appropriate national regulations.

### IMPORTANT GENERAL INFORMATION.

#### 1. Air and creepage paths/Operating voltage

The admissible operating voltages depend on the individual applications and the valid national and other applicable safety regulations.

For this reason the air and creepage path data are only reference values. Observe reduction of air and creepage paths due to PC board and/or harnessing.

#### 2. Temperature

All information given are temperature limits. The operation temperature depends on the individual application.

#### 3. Other important information

Cannon continuously endeavours to improve their products. Therefore, Cannon products may deviate from the description, technical data and shape as shown in this catalogue and data sheets.

#### 4. Harnessing and Assembly Instructions

If applicable, our special harnessing and/or assembly instruction has to be adhered to. This is provided at request.

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