



Power Connectors

ABPC

F.E.P.D.S. Power Connector Series



A Subsidiary of TT electronics plc



AB Connectors Limited

AB Connectors

Company Profile

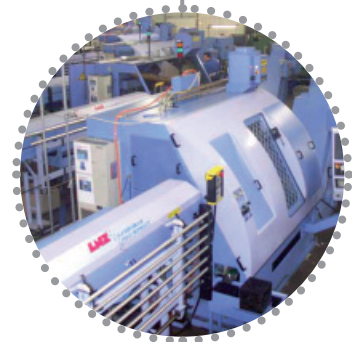
Operating from the principal site in South Wales, U.K., AB Connectors Limited, a subsidiary of TT electronics plc., is one of the recognised market leaders in design, test and manufacture of harsh environment interconnection systems, bespoke harness assemblies and equipment sub-units.

With a satellite assembly facility in North Carolina, USA, and a co-ordinated global sales and distribution network, AB Connectors Ltd. offers an unrivalled service to both engineers and buyers alike.

Through a commitment to a structured new product introduction process, AB Connectors is continuing investment in research and development of new materials and processes, surface treatments and the very latest manufacturing technology and techniques to ensure the products meet the most exacting standards encountered in the modern Military, Mass Transportation and Industrial market places.

Quality system approvals include BS/EN/ISO 9001 along with product approvals to BS9000, IECQ and CECC. As a result of these qualifications, AB Connectors have been awarded several major customer approvals and accreditations.

AB Connectors total commitment to providing customers with high levels of service, cost effectiveness, quality and innovation solutions in interconnection products, make it the ideal first choice supply partner.



Introduction

Approved to European specification CECC 75.201.007, the ABPC range of multi contact, heavy duty power connectors has been designed to operate safely and reliably in the toughest environments.

Barrier and panel seals ensure the connector is suitable for general purpose use as well as meeting all the requirements of electrical power distribution.

All outer components are of high grade thermoplastic, ensuring complete

insulation, while inner shell components are aluminium alloy to effect reliable shell to shell continuity and to facilitate screened cable braid termination.

Coupling is by triple start ACME style threads with coupling nuts featuring coarse ribs for easy handling with gloved hands. Leading earth and 'last make/first break' pilot combined with recessed socket contacts ensure electrical safety at all times.

Conductor termination is non-removable solder contacts.

Technical Specification

Materials

Outer Body:	Thermoplastic
Inner shells:	Aluminium Alloy
Insulators:	Polychloroprene
Grommets:	Polychloroprene
Contacts:	Brass

Temperature Range

Environmental rating:	-55°C + 100°C
------------------------------	---------------

Finishes

Outer Body:	Non conductive Corrosion and Environmental Resistant plastic
Inner Shells:	Conductive, Olive Drab over cadmium plate or conductive, Olive Drab over zinc cobalt
Contacts:	Pilot contacts gold over nickel. All other contacts silver over nickel

Voltage at Sea Level

Working voltage d.c. or a.c. peak 750v
Proof voltage d.c. or a.c. peak 2500v

Environmental Ratings

- a. Shock severity 981 m/s (100gn) for 6 milliseconds
- b. Vibration 5 Hz to 500Hz, 0.75 mm / 10gn, Duration 30 hrs
- c. Acceleration 127 m/s² (13gn)
- d. Humidity 56 days at 40°C & 95% relative humidity
- e. Bump severity 390 m/s² (40gn) 4000 ±10 bumps
- f. Mechanical endurance 1000 matings
- g. High Temperature. Long term 1000 h with electrical load

NB: The establishment of electrical safety factors when the connector is used at other than the working voltage is the responsibility of the user

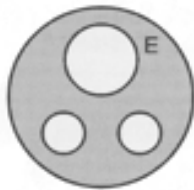
Contact Arrangements

Orientation

To prevent mismatching or cross plugging, shell to shell key and keyway orientations are offered in normal 'N' (single phase) or 'F' (three phase).

Single Phase 'N' Orientation

SHELL SIZE 18

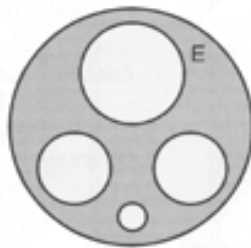


18-03

1 # 8 EARTH
max. current 25 amps

2 # 12
max. current 25 amps

SHELL SIZE 22



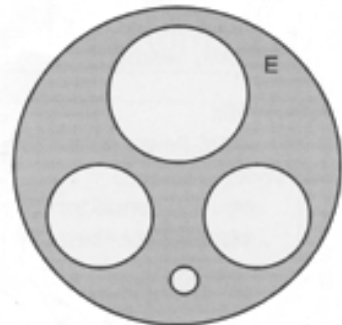
22-04

1 # 4 EARTH
max. current 50 amps

2 # 8
max. current 50 amps

1 # 16 PILOT
max. current 5 amps

SHELL SIZE 28



28-04

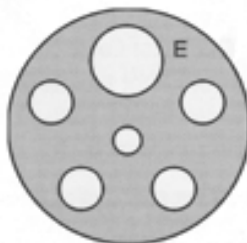
1 # 0 EARTH
max. current 100 amps

2 # 4
max. current 100 amps

1 # 16 PILOT
max. current 5 amps

3 Phase 'F' Orientation

SHELL SIZE 22



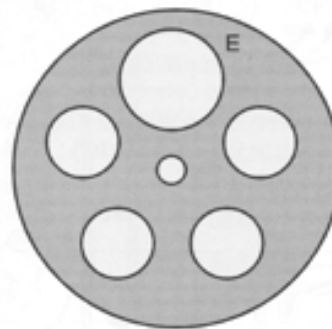
22-06

1 # 8 EARTH max.
current 30 amps

4 # 12
max. current 30 amps

1 # 16 PILOT
max. current 5 amps

SHELL SIZE 28



28-06

1 # 4 EARTH
max. current 50 amps

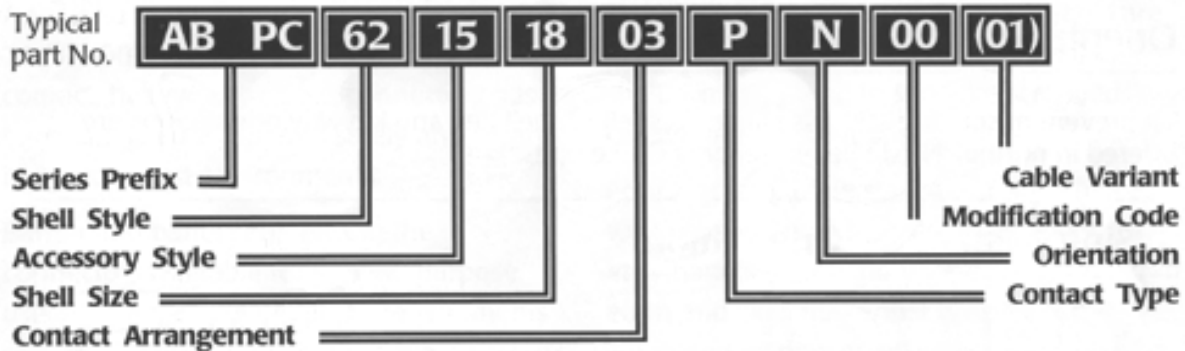
4 # 8
max. current 50 amps

1 # 16 PILOT
max. current 5 amps

AB Part Number Explanation

CONNECTOR

Typical part No.



Explanation

Series Prefix

- **ABPC** Power Connector

Shell Style

- **00** No Connector Supplied.
- **18** Reverse Fixed Connector (Pin contact Only).
- **20** Fixed Connector (Socket Contact Only).
- **59** Reverse Free Connector (Socket Contact Only).
- **62** Free Connector (Pin Contact Only).

Accessory Style

- **00** No Accessory
- **14** Straight Outlet (Without Cable Seal Kit).
- **15** Straight Outlet (With Cable Seal Kit).
- **20** Fixed/Rev-Fixed Connector with Panel Mounting Gasket.
- **25** Connector Supplied with Protective Cap.
- **26** Connector Supplied with Protective Cap. & Straight Outlet.
- **35** Fixed/Rev-Fixed Connector Supplied with Protective Cap & Panel Mounting Gasket.
- **63** Protective Cap for Free Connector.
- **64** Protective Cap for Reverse Fixed Connector.
- **65** Protective Cap for Fixed Connector.
- **74** Protective Cap for Reverse Free Connector.
- **78** Protective Cap Without Cord (Reverse Free & Fixed Connector).
- **79** Protective Cap Without Cord (Free & Reverse Fixed Connector).
- **84** Cable Seal Kit.
- **95** Panel Mounting Gasket.

Shell Size

- **18, 22, 28.**

Contact Arrangement

- See Selection on Page 3.

Contact Type

- **P** = Pin
- **S** = Socket

Orientation

- **Key / Keyway.** 'N' or 'F'. See Contact Arrangement Selection on Page 3.

Mod-Code

- **00** Solder Contacts (Cadmium Plated Shells).
- **01** Solder Contacts (Zinc Cobalt Plated Shells).
- **02** 2.5mm² cable.
- **04** 4mm² cable.
- **06** 6mm² cable.
- **10** 10mm² cable.
- **15** No Contacts (Cadmium Plated Shells).
- **16** No Contacts (Zinc Cobalt Plated Shells).
- **25** 25mm² cable.

Cable /Plating Variant

- **01** For Use With BS 6007 Cable (Cadmium Plated Metalwork).
- **03** For Use With Def. Stan. 61-12 part 27 Cable (Cadmium Plated Metalwork).
- **04** For Use With BS 6007 Cable (Zinc Cobalt Plated Metalwork).
- **06** For Use With Def. Stan. 61-12 part 27 Cable (Zinc Cobalt Plated Metalwork).

NB. Cable variant only applies to items supplied with cable seals e.g.

Free Connector Cable Seal Kit etc.

Not Fixed Connector Protective Caps etc.

Examples

Free connector with straight outlet including cable kit size 22-04 pin orientation. 'N' solder contacts BS.6007 cable: **ABPC 6215 22 04PN 10 01**

Reverse fixed connector no accessory size 28-06 pin orientation 'F' solder contacts: **ABPC 1800 28 06PF 00**

Protective cap for size 18 fixed connector: **ABPC 0065 18 0000 15**

Panel gasket for size 18 fixed connector: **ABPC 0095 18 0000 15**

Fixed connector supplied with protective cap size 28-06 socket orientation 'F' solder contacts:

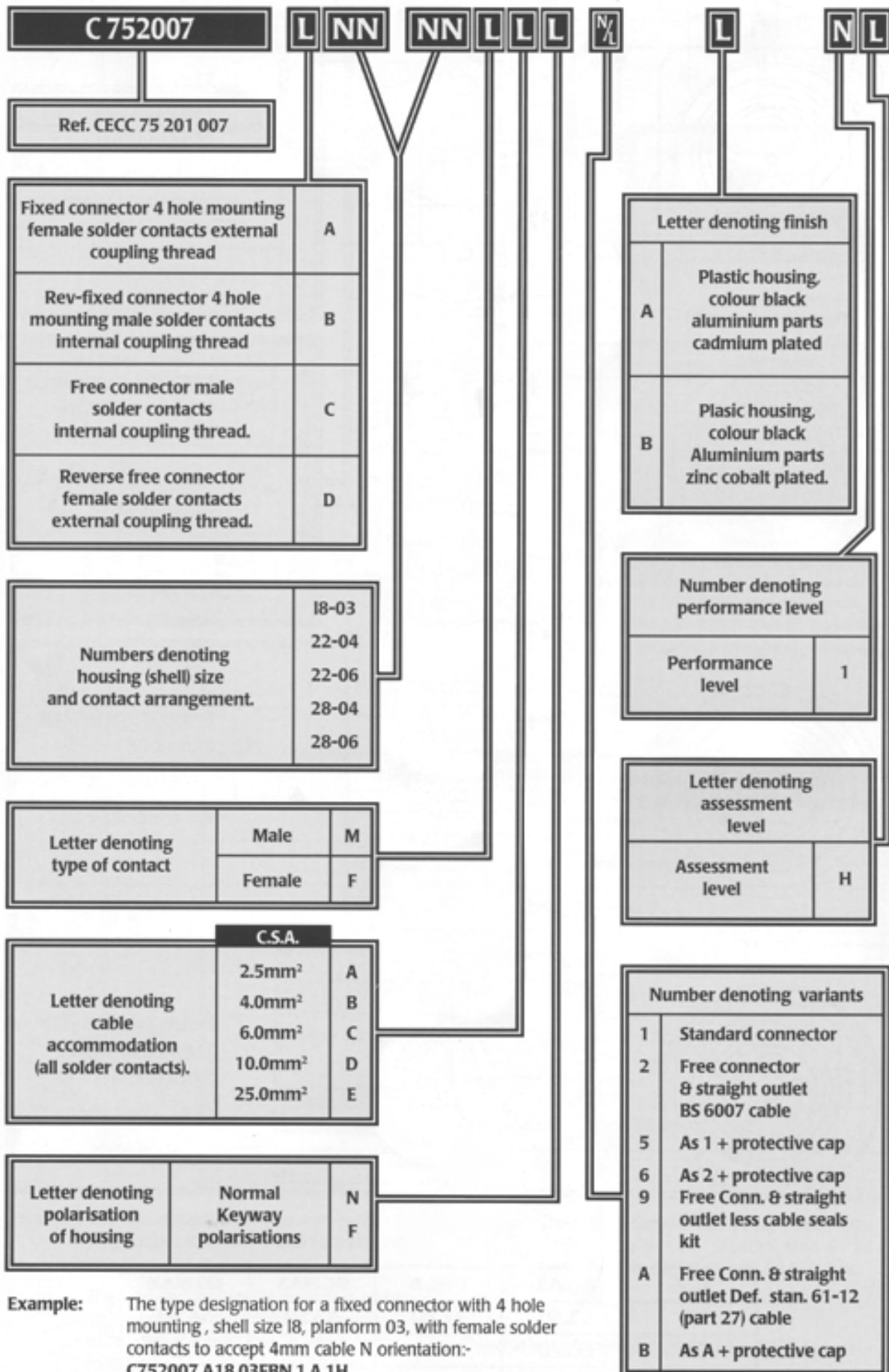
ABPC 2025 28 06SF 00

Reverse free connector with straight outlet including cable kit and protective cap size 22-04 socket 'N' orientation solder contacts Def. Stan. 61-12 cable 3 core 6mm² + pilot: **ABPC 5915 2204 06 03**

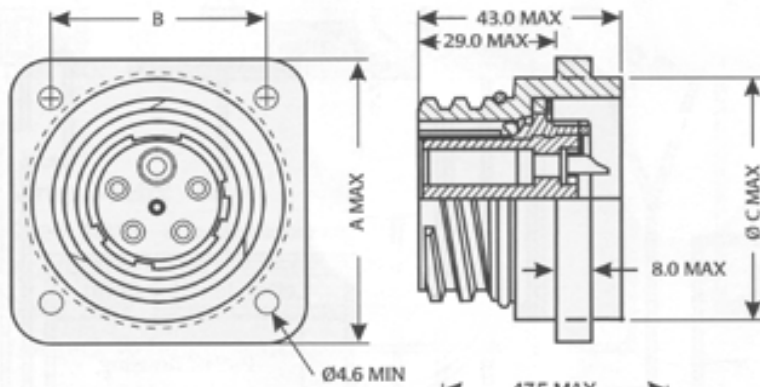
General note - when digit not applicable add '0'

NOTE. For filler plug ordering details see page 9

CECC Part No. Explanation (connector)

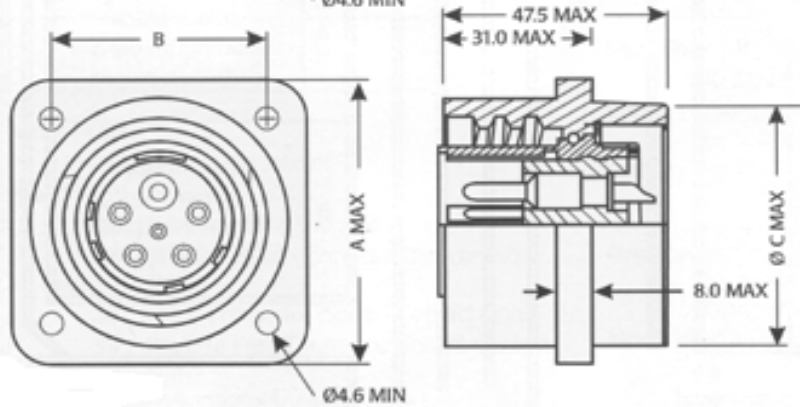


Connector Styles



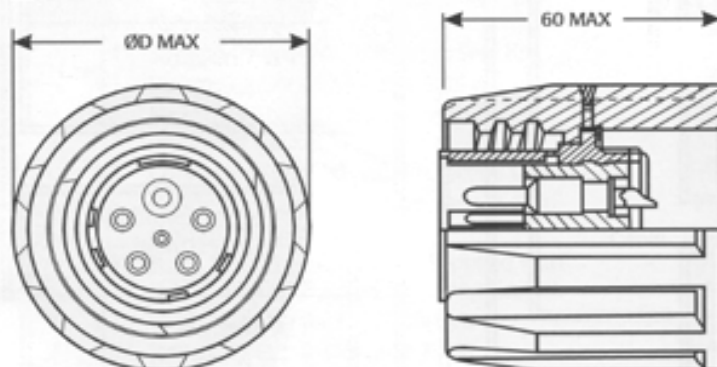
**Fixed connector
(socket only)**

CECC shell style : A
AB shell style : 20



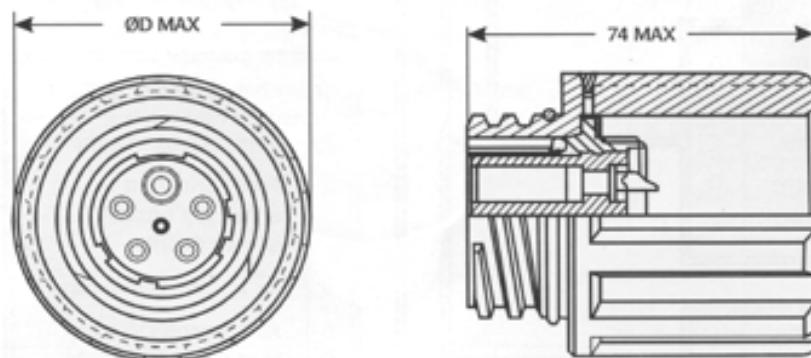
**Fixed connector
Reverse Style
(pin only)**

CECC shell style : B
AB shell style : 18



**Free connector
(pin only)**

CECC shell style : C
AB shell style : 62

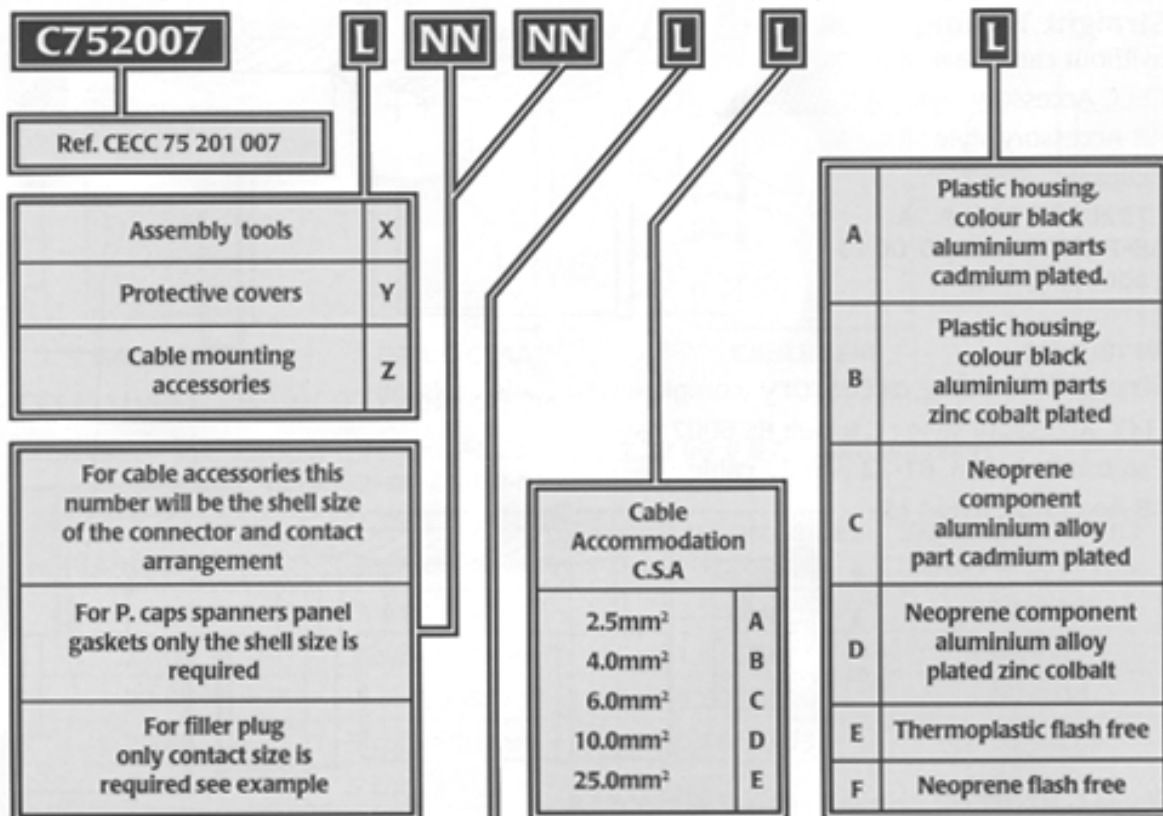


**Free connector
Reverse Style
(socket only)**

CECC shell style : D
AB shell style : 59

SIZE	A MAX	DIM. B	ØC MAX	ØD MAX
18	52.50	37.80	42.50	54.50
22	60.20	44.00	50.50	60.50
28	70.20	54.00	61.50	70.50

CECC Part No Explanation (accessories)



X ASSY TOOLS	A	Spanner	
	Y PROTECTIVE CAP	A	Protective cap fixed connector
		B	Protective cap reverse fixed connector
		C	Protective cap free connector
D		Protective cap reverse free connector	
Z CABLE MOUNTING ACC.	A	Straight Acc. (without cable seals)	
	B	Panel gasket	
	C	Straight Acc. (with cable seals) BS 6007 cable	
	E	Straight Acc. (with cable seals) for Def. Stan. 61-12 part 27 cable	
	F	Cable seals kit BS 6007 cable	
	G	Cable seals kit Def. Stan 61-12 part 27 cable	
	H	Grommet filler plug	

Example: The type designation for grommet filler plug contact size 04 **C752007 Z 04 00 H0E**

Example: The type designation for protective cover with internal thread for fixed connector with external thread size 18, clean and flash free. **C752007 Y 18 00 A0A** (cadmium plate)

Example: The type designation for straight outlet size 28-06 5 core 6mm² + pilot Def. Stan. 61 12 part 27) cable **C752007 Z 28 06 ECB** (zinc cobalt).

General note: Where not applicable add 'O' to part number.

Cable Mounting Accessories CECC Designation - Z

Straight locking accessory

(without cable seals kit)

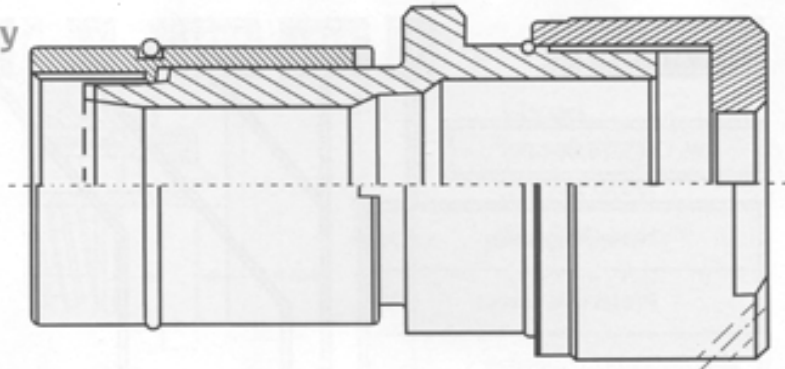
CECC Accessory style : A

AB Accessory style : 14

Example : Size 22

C752007 Z 22 ** A * A

AB-PC-0014-22-00-00 15
(cadmium plate)

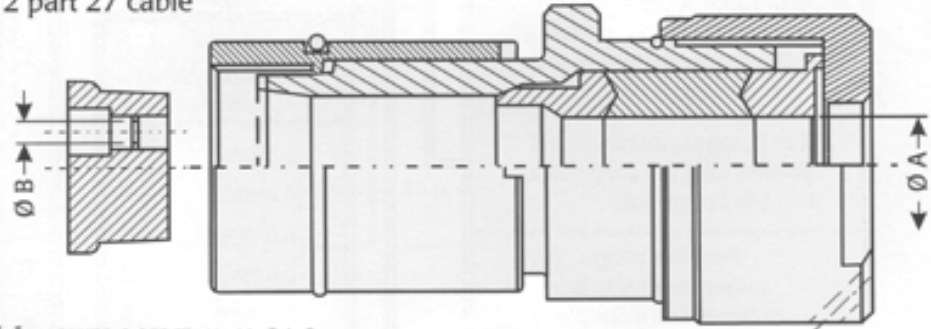


Straight locking accessory (complete with cable seals kit)

CECC Accessory style : C to suit BS 6007 cable

E to suit Def. Stan. 61-12 part 27 cable

AB Accessory style : 15



Style C BS 6007 cable C752007 Z ** ** C * A

Example : Size 22-06 5 core 4mm²

C752007 Z 22 06 C B A

AB-PC-0015-22-06-00-04 01 (cadmium plate)

PLANFORM REF.	CABLE REF. BS 6007	ØA SEALS ON CABLES OF THESE O/DIA.	ØB SEALS ON CABLE CORES OF THIS DIA.
18-03	3 core x 4mm ²	13.74/14.70	4.60/5.08
22-04	3 core x 10mm ²	21.61/22.83	6.95/7.51
22-06	5 core x 4mm ²	16.80/17.95	4.60/5.08
28-04	3 core x 25mm ²	29.20/30.63	10.00/10.68
28-06	5 core x 10mm ²	26.00/27.30	6.95/7.51

Style E Def. Stan. 61 12 (part 27) C752007 Z ** ** E * B

Example : Size 22-04 3 core 4mm²

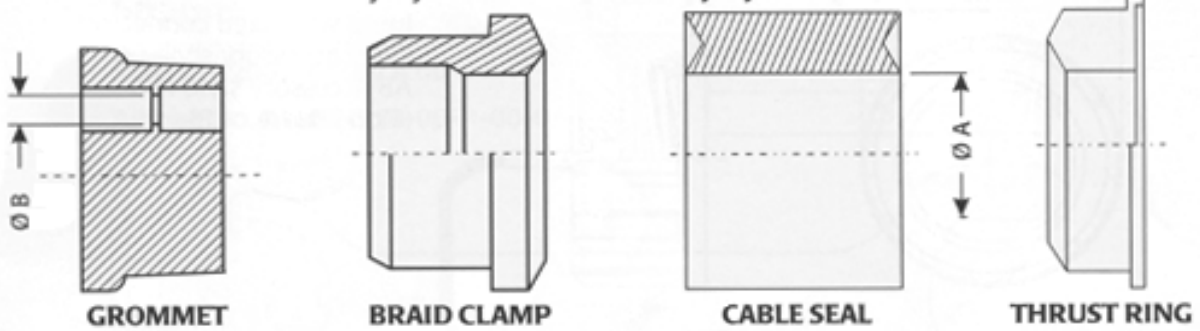
C752007 Z 22 04 E B B

AB-PC-0015-22-04-00-04-06 (Zinc Cobalt)

PLANFORM REF.	CABLE REF. DEF 61-12	ØA SEALS ON CABLES OF THESE O/DIA.	ØB SEALS ON CABLE CORES OF THIS DIA.
18-03	3 core x 2.5mm ²	10.40/12.10	3.80/4.20
22-04	3 core x 4mm ² + pilot	13.50/15.60	4.60/5.10
22-04	3 core x 6mm ² + pilot	14.90/16.70	5.30/5.80
22-06	5 core x 4mm ² + pilot	16.50/18.20	4.60/5.10
28-06	5 core x 4mm ² + pilot	16.50/18.20	4.60/5.10
28-06	5 core x 6mm ² + pilot	18.30/20.00	5.30/5.80
28-06	5 core x 10mm ² + pilot	21.80/23.80	6.60/7.10

Cable mounting accessories CECC designation - Z

Cable seal kit: CECC accessory style : F & G AB accessory style : 84



CECC Style F. BS 6007 cable C752007 Z** **F**

Example: Size 22-06 5 core 4mm² C752007 Z 22 06 F B C (cadmium plate)
AB-PC-0084-22-06-00-04-01

PLANFORM REF.	CABLE REF. BS 6007	ØA SEALS ON CABLES OF THESE O/DIA.	ØB SEALS ON CABLE CORES OF THIS DIA.
18-03	3 core x 4mm ²	13.74/14.70	4.60/5.08
22-04	3 core x 10mm ²	21.61/22.83	6.95/7.51
22-06	5 core x 4mm ²	16.80/17.95	4.60/5.08
28-04	3 core x 25mm ²	29.20/30.63	10.00/10.68
28-06	5 core x 10mm ²	26.00/27.30	6.96/7.51

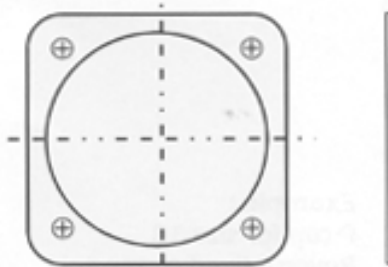
CECC Style G. Def. Stan. 61 12 part 27 cable C752007 Z** **G**

Example: Size 22-04 3 core 4m² C752007 Z 22 04 G B C (cadmium plate)
AB-PC-0084-22-04-00-04-03

PLANFORM REF.	CABLE REF. DEF 61-12	ØA SEALS ON CABLES OF THESE O/DIA.	ØB SEALS ON CABLE CORES OF THIS DIA.
18-03	3 core x 2.5mm ²	10.40/12.10	3.80/4.20
22-04	3 core x 4mm ² + pilot	13.50/15.60	4.60/5.10
22-04	3 core x 6mm ² + pilot	14.90/16.70	5.30/5.80
22-06	5 core x 4mm ² + pilot	16.50/18.20	4.60/5.10
28-06	5 core x 4mm ² + pilot	16.50/18.20	4.60/5.10
28-06	5 core x 6mm ² + pilot	18.30/20.00	5.30/5.80
28-06	5 core x 10mm ² + pilot	21.80/23.80	6.60/7.10

Panel gasket

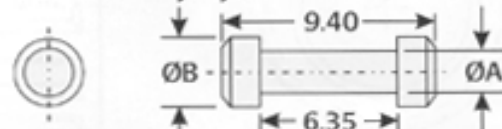
CECC accessory style : B
AB accessory style : 95



eg. Size 22 CECC : C752007 Z 2200 B 0 F
AB:AB-PC-0095-22-00-00-15

Grommet filler plug

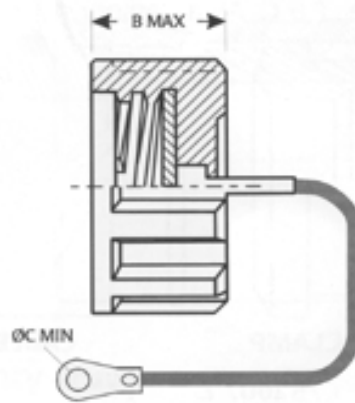
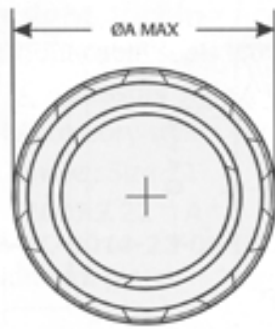
CECC accessory style : H



CONTACT SIZE	DIA. A	DIA. B
04	8.00	11.00
08	5.00	7.60
12	4.00	5.10
16	2.60	3.50

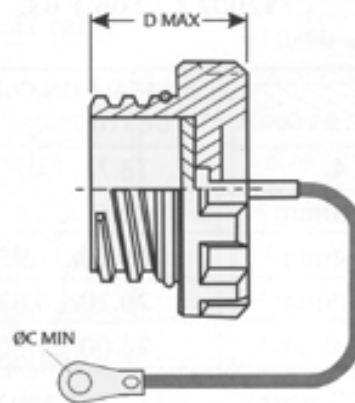
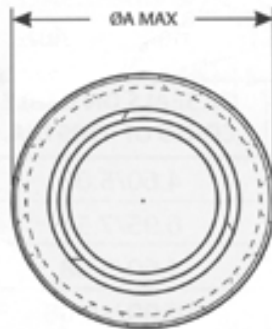
eg. Size 12 CECC : C752007 Z 12 00 H 0 E
AB:AB-PC-12-240-0-00-AC

Protective Cover Styles



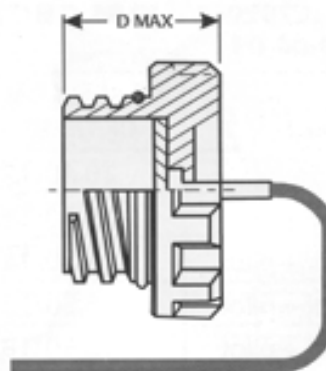
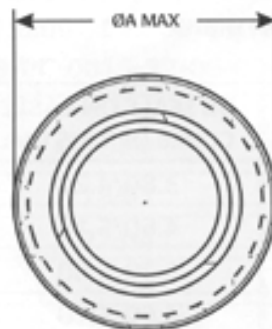
Fixed P-cap

(used with fixed connector)
 CECC accessory style : A
 AB accessory style : 65
 (Mod code A or B)



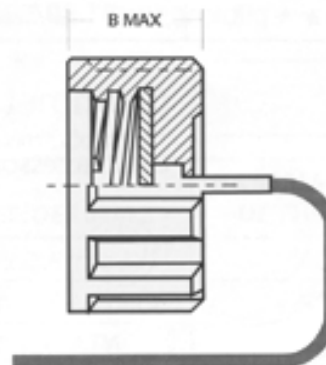
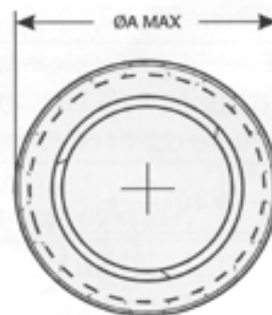
Reverse fixed P-cap

(used with reverse fixed connector)
 CECC accessory style : B
 AB accessory style : 64
 (Mod code A or B)



Free P-cap

(used with free connector)
 CECC accessory style : C
 AB accessory style : 63
 (Mod code E)



Reverse free P-cap

(used with reverse free connector)
 CECC accessory style : D
 AB accessory style : 74
 (Mod code E)

SHELL SIZE	Ø A MAX	B MAX	ØC MIN	D MAX
18	54.50	32.20	4.60	36.50
22	60.50	32.20	4.60	36.50
28	70.50	32.20	4.60	36.50

Example :

P-cap for size 18

Reverse fixed connector

CECC No. : C752007-Y-18-00-B 0 A

AB No. AB-PC-0064-18-0000-15

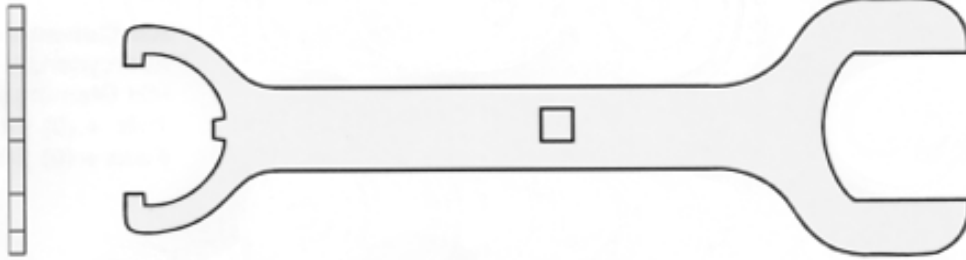
Cable Mounting Accessories CECC Designation - Z

Spanner

Style **C752007 X ** 00 A 00**

AB part No. **AB-PC-313-00-**-00-0**

SIZES
18
22
28



Product Safety

The connectors referred to in this catalogue may be safely used within the special ratings and environment for which they have been designed. However, they comprise a complex build of different materials including metals and plastics which themselves are plated and cleaned with various chemical compounds during the assembly process.

It is important to understand that hazards can occur if connectors are used:-

1. Outside the specified design criteria and/or incorrectly integrated into equipment.
2. When damaged in use, assembly, transit or storage.
3. Incorrectly wired or assembled.
4. Where the quality of installation is below the standard required to maintain and uphold good practice.
5. Where good housekeeping is not observed during use, assembly, transit or storage and allowing contamination from debris and fluids etc.

Safety Rules

1. Ensure all conductors & wires are capable of withstanding the electrical and environmental conditions of the application.
2. Always use the correct tools for cables, contacts and connectors.
3. Make circuit resistance checks before making a circuit live.
4. Always protect line circuits and **never** demate a live connector.
5. Never use a damaged connector.
6. Never burn discarded connectors or cable.
7. **IF IN DOUBT ASK.**

NB: Electrical safety factors are the responsibility of the user.

Note.

This publication is issued to provide outline information only and (unless specifically agreed to the contrary by the company in writing) is not to form part of any order or contract or be regarded as a representation relating to the products or services concerned. The company reserves the right and may change or vary specification without prior written notice.

AB Connectors Limited
Abercynon
Mountain Ash
Mid Glamorgan
CF45 4SF
U.K.

Tel. # 44 (0) 1443 740331
Fax. # 44 (0) 1443 741676

Internet - <http://www.ttabconnectors.com>
E-mail - sales@ttabconnectors.com

A subsidiary of TT electronics plc

AB Connectors Division
Business US 70 East
Smithfield NC 27577
USA

Tel. 919 934 5181
Fax. 919 934 0652

E-mail -
abconnectors@abautomotiveusa.com