



# Product Range Overview

## Company Profile



Operating from the principle site in South Wales, U.K., AB Connectors, 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 Limited offers an un-rivalled 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. Recognising the future needs of environment management, a programme has

been initiated to take the company forward to full ISO 14001 by the end of year 2004.

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



Connector Type	Series	Applicable Specification	Page
<b>Mil-C-5015 Types</b>			
Modular Bayonet Lock Connector, Plastic Insulator.	ABCIRP	*Mil-C-5015, *NFF 61 030	2
Halogen Free Bayonet Lock Connector	ABCIRH	*Mil-C-5015, *VG95234	2/3
3-Start Coarse Screw Coupling Connector	AB3S	*Mil-C-5015	3
Bayonet Lock Connector	ABBMS/HTABBMS	*Mil-C-5015, *BS9522 F0032, *VG95234	4
Fine Screw Coupling Connector	SBMS/HTSBMS	*Mil-C-5015, *BS9522 F0030	5
Fine Screw Coupling Connector	UKAN	*Mil-C-5015, *DEF5321, *EL 1987	5
<b>Mil-C-26482 Series 1 Types</b>			
Miniature Bayonet Lock Connector	AB05	*Mil-C-26482 Series 1, *BS9522 F0017 *CECC 75 201 003	6
Audio Miniature Bayonet Lock Connector	AB06	*Mil-C-26482 Series 1, *BS9522 F0017	6
<b>Power Connectors</b>			
Single Contact 700 Amp Power Connector	AB700	Proprietary	4
Inter-vehicle, Slave Start Connector	SB-ORD	To RARDE (CH) Drawings	7
Plastic Body Power Distribution Connector	ABPC	*CECC 75 201 007	8
<b>Marine Connectors</b>			
High Density Screw Coupling Connector	Mk35	*Mil-C-38999 Series III, CECC 75 201 002	8
2-Start, Coarse Screw Coupling Connector	Mk18	*BS9522 F0020 (Pattern 608)	9
3-Start, High Density Screw Coupling Connector	Mk38	*Mil-C-38999 Series I, *BS9522 F0034	9
Fine Screw Coupling, Medium Density Connector	AB22	VG96930	10
Stainless Steel Bayonet Lock Connector	ABSB	*VG95234	10
<b>Professional Lighting &amp; Audio Connectors</b>			
Bayonet Lock Lighting & Audio Connectors	ABLS	*Mil-C-5015, UL50 (Pending)	11
19 Pin Screw Coupling Lighting Connector	ABLCL	Proprietary	11
<b>Industrial Connectors</b>			
Miniature Push-Pull Coupling Connector	ABXS	Proprietary	12
Mining Connectors	Various	Proprietary	12
<b>Special Purpose Connectors</b>			
Heavy Duty Trailer Connector	SB-ORD	To RARDE (CH) Drawings	7
EMI/RFI Filtered Connectors	Various	Proprietary	13
Data Bus Assemblies	Various	*Mil-Std-1553B	13
<b>Harness/Sub-assembly</b>			
Tailored Connector/Cable Assemblies	Various	Proprietary	14/15
Backshells & Accessories	Various	Proprietary	15

**Note.**

Where applicable, all connector series are approved to the appropriate specification. Those marked \* do not have full product approval but are designed to comply with the electrical, mechanical and environmental criteria of the relevant specification.

Mil-C-5015 Types

## ABCIRP

Modular Bayonet Lock Connector, Plastic Insulator.



Mil-C-5015 Types

## ABCIRH

Halogen Free Bayonet Lock Connector



**ABCIRP** connector series is derived from the American Mil-C-5015 & VG95234 specifications. The connectors are intermateable and interchangeable with corresponding types, but feature a low fire hazard thermoplastic insulator which is removable for repositioning at an alternative orientation. Contacts are industry standard 'F80' type and are retained in the insulator by means of a unique beryllium copper spring clip. Connector sealing features a stepped wire seal grommet which can remove the need to populate unused cavities with filler plugs. Crimp tooling is industry standard and contacts are inserted and removed using simple hand tools.

ABCIRP connectors are approved to French Rail specification N.F.F. 61030

**ABCIRH Series.** The AB Connectors Industrial Range is a development based on the ABB MS Series.

To minimise wear caused by vibration and frequent coupling, the bayonet lock coupling method features stainless steel pins at the critical wear points on the cam track of the fixed connector. The connectors are supplied with low fire hazard halogen free insulators as standard. This material has been independently tested and conforms to the most stringent requirements.

ABCIRH connectors meet all the electrical, mechanical and environmental requirement of BS9522-F0032 and VG 95234.

A range of accessories is available which meet the requirements of industrial applications including those of the Mass Transportation market.

### Specification

#### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Aluminium alloy, cadmium free plated, black passivation
<b>Insulators:</b>	Low fire hazard thermoplastic
<b>Contacts:</b>	Copper alloy, gold plated

#### MECHANICAL FEATURES -

<b>Coupling:</b>	Three pin bayonet
<b>Polarisation:</b>	Shell key, keyway in removable insulator
<b>Contact type:</b>	Crimp, rear insertion, front release, rear removable, p.c.tail.

**Contact Arrangements:** 7 to 60 contacts

#### ELECTRICAL DATA -

<b>Maximum contact Current Rating:</b>	10 Amps to 42 Amps
<b>Voltage Rating:</b>	Working 700V to 1250V DC/AC Peak
<b>Contact Resistance:</b>	5 m ohms max
<b>Temperature Rating:</b>	-55°C to +125°C

### Specification

#### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Aluminium alloy with cadmium free plating and choice of passivation colour.
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<b>Insulator:</b>	Low Fire Hazard.
<b>Grommet:</b>	Low Fire Hazard.
<b>Contacts:</b>	Copper alloy, silver or gold plated.

#### MECHANICAL FEATURES -

<b>Coupling:</b>	3 Pin Bayonet.
<b>Polarisation:</b>	Insert orientation. Colour identification
<b>Contact Type:</b>	Crimp or p.c.tail
<b>Contact Arrangements:</b>	1 to 85 contacts.

#### ELECTRICAL DATA -

<b>Maximum Contact Current Ratings:</b>	7.5 to 500 amps.
<b>Voltage Ratings:</b>	Between 350V and 1750V AC or DC working.
<b>Contact Resistance:</b>	5 milliohms max.
<b>Temperature Rating:</b>	-55°C to +125°C

Mil-C-5015 Types

## ABCIRH

Halogen Free Bayonet Lock Connector



**ABCIRH Size 49.** Shell size 49 connectors are used principally in Rail Transportation for the inter-car and inter-unit jumper cable assemblies. The connectors have all the high performance features of the standard ABCIRH range. Polarisation is achieved by 5 key / keyway system and the free plug is supplied with a rubber covered coupling nut designed to withstand flying ballast and possible damage caused by being accidentally dropped onto a hard surface.

Insulators arrangements accept signal, power and databus contacts and are supplied in \*low fire hazard halogen free material.

### Specification

#### STANDARD MATERIALS & FINISH -

<b>Shell:</b>	Aluminium alloy with cadmium free plating and a choice of passivation colour.
<b>Insulator:</b>	Low Fire Hazard rubber.
<b>Grommet:</b>	Low Fire Hazard rubber.
<b>Coupling Nut Cover:</b>	Low Fire Hazard rubber.
<b>Contacts:</b>	Copper alloy, silver or gold over nickel plated.

#### MECHANICAL FEATURES -

<b>Coupling:</b>	3 Pin Bayonet.
<b>Polarisation:</b>	5 Key / Keyway.
<b>Contact Type:</b>	Crimp.
<b>Contact Arrangements:</b>	4 to 49 contacts.

#### ELECTRICAL DATA -

<b>Maximum Contact Current Ratings:</b>	7.5 to 245 amps
<b>Voltage Ratings:</b>	1250 volts AC or DC Working
<b>Temperature Rating:</b>	- 55°C to + 125°C.

Mil-C-5015 Types

## AB3S

3-Start Coarse Screw Coupling Connector



**AB3S Series** Triple start ACME style thread for rapid coupling  
 Extended length coupling nut with anti-rotation device  
 Dimensions generally conform to Mil-C-5015  
 Contact planforms, backshells & accessories common with ABCIRH range  
 Optional rubber covered coupling nut  
 Five key orientation with positive location feature

### Specification

#### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Aluminium alloy, cadmium free plated
<b>Insulators:</b>	Low fire hazard rubber or thermoplastic
<b>Contacts:</b>	Copper alloy, gold plated

#### MECHANICAL FEATURES -

<b>Coupling:</b>	Triple start coarse thread
<b>Polarisation:</b>	5 key/keyway with positive location device
<b>Contact type:</b>	Crimp, removable
<b>Contact Arrangements:</b>	Consult factory

#### ELECTRICAL DATA -

<b>Maximum contact current rating:</b>	{
<b>Voltage rating:</b>	{ Consult factory
<b>Contact Resistance:</b>	{
<b>Temperature Rating:</b>	-55°C to +125°C

\* Note. The Low Fire Hazard rubber meets the requirements of: BS 6853 Appendix A. Clause A9 and Appendix B. Clause B.5.1 French Specification NFF-16-101, Classification I2, F1.

Power Connectors

# AB700

Single Contact 700 Amp Power Connector



Mil-C-5015 Types

# ABBMS/HTABBMS

BS Approved Bayonet Lock Connector



**AB700 Series** Single contact 700 amp rating  
 2-part moulding contact retention  
 Fully shrouded pin contact  
 Separate cable screen drain wire  
 Rapid 3 pin bayonet coupling  
 Conforms to Mil-C-5015 mounting dimensions  
 Full environmental sealing  
 Rubber covered coupling nut

**ABBMS Series.** ABBMS Bayonet connectors are based on Mil-C-5015 and conform to BS9522-F0032, and to VG 95234 (Germany).

ABB Connectors feature bayonet lock coupling, crimp or solder contacts, protection against water ingress and excellent shielding and continuity characteristics between mated connectors.

The connectors are available with standard polychloroprene insulators which remains flexible at temperatures up to 125°C during a 1000 hour test programme.

A limited number of contact arrangements are available with high temperature insulators which operate between - 40°C to + 190°C. (HTABBMS)

## Specification

### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Aluminium alloy, cadmium free plated
<b>Insulators:</b>	Low fire hazard thermoplastic
<b>Contacts:</b>	Copper alloy, silver plated

### MECHANICAL FEATURES -

<b>Coupling:</b>	Three pin bayonet
<b>Polarisation:</b>	3 key/keyway
<b>Contact type:</b>	Crimp, removable
<b>Contact Arrangements:</b>	Max. 2 contacts (power+drain)

### ELECTRICAL DATA-POWER CONNECTOR

<b>Maximum contact Current Rating:</b>	700 amps
<b>Voltage Rating:</b>	1250V
<b>Temperature Rating:</b>	-55°C to +125°C

## Specification

### STANDARD MATERIALS & FINISH -

<b>Shell:</b>	Aluminium alloy cadmium free plated with olive drab passivation.
<b>Insulator:</b>	Polychloroprene or Fluoro-carbon (high temp).
<b>Grommet:</b>	Polychloroprene or Fluoro-carbon (high temp).
<b>Contacts:</b>	Copper alloy, silver or gold plated.

### MECHANICAL FEATURES

<b>Coupling:</b>	3 Pin Bayonet.
<b>Polarisation:</b>	Insert orientation. Colour identification.
<b>Contact type:</b>	Crimp, solder or p.c.tail.
<b>Contact Arrangements:</b>	1 to 61 contacts.

### ELECTRICAL DATA -

<b>Maximum Contact Current Ratings:</b>	7.5 to 500 amps.
<b>Voltage Ratings:</b>	Between 350V and 1750V AC or DC working.
<b>Contact Resistance:</b>	5 milliohms max.
<b>Temperature Rating</b>	- 55°C to + 125°C, - 40°C to + 190°C (high temp).

Mil-C-5015 Types

## SBMS/HTSBMS

BS Approved Fine Screw Coupling Connector



Mil-C-5015 Types

## UKAN

Fine Screw Coupling Connector



**SBMS Series.** SBMS (MS-E/5MS) connectors conform to the environmental requirements of US Specification MIL-C-5015 and BS9522-F0030.

SBMS connectors are approved to the requirements of the RARDE (CH) 5MS specifications.

SBMS connectors reduced overall size and improved sealing characteristics of contemporary MIL-C-5015 connectors, whilst still providing intermateability and interchangeability features.

SBMS connectors are shock and vibration proof, and are environmental and pressure sealed.

Insulators are polychloroprene.

A limited number of contact arrangements are available with high temperature insulators which operate between -40°C to +190°C. (HTABBMS)

### Specification

#### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Aluminium alloy cadmium plated with olive drab passivation. Alternative finishes and colours available on request.
<b>Insulator:</b>	Polychloroprene or Fluorocarbon (high temp)
<b>Contacts:</b>	Copper alloy, silver plated, gold optional.

#### MECHANICAL FEATURES -

<b>Coupling:</b>	Fine thread.
<b>Polarisation:</b>	Insert orientation.
<b>Contact Type:</b>	Solder non-removable.
<b>Contact Arrangements:</b>	2 to 37 contacts.

#### ELECTRICAL DATA -

<b>Maximum Contact Current Ratings:</b>	4.5 to 92 amps.
<b>Voltage Ratings:</b>	Between 350V and 750V AC or DC working.
<b>Contact Resistance:</b>	5 milliohms max.
<b>Temperature Rating:</b>	-55°C to + 100°C, or -40°C to +190°C (high temp)

**UKAN.** UKAN connectors are designed in accordance with EL 1987, DEF 5321 and MIL-C-5015. High grade one piece resilient insulators feature an integral rubber retention system to accommodate rear insertion, front release crimp contacts. The connector is available with special inserts which are kerosene resistant and immune to the disintegrating effects of ozone and U.V. light. The standard range features aluminium alloy shells, but a fireproof range with steel shells is available and is capable of withstanding flame temperatures of 1100°C for 20 minutes.

Contact arrangements cover from 1 to 48 contacts in 11 shell sizes. A comprehensive range of outlet fittings is available.

### Specification

#### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Standard range - aluminium alloy, Alclon 1200. Fireproof range -mild steel - cadmium plated, olive drab passivated.
<b>Insulators:</b>	Silicone rubber.
<b>Contacts:</b>	Copper alloy, silver or gold plated.

#### MECHANICAL FEATURES -

<b>Coupling:</b>	Fine Thread.
<b>Polarisation:</b>	Insert orientation.
<b>Contact Type:</b>	Solder or crimp removable.

<b>Contact Arrangements:</b>	1 to 48 contacts.
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#### ELECTRICAL DATA -

<b>Maximum Contact Current Ratings:</b>	12 to 100 amps.
<b>Voltage Ratings:</b>	Working AC or DC peak 2KV AC RMS.
<b>Contact Resistance:</b>	10 milliohms max.
<b>Temperature Rating:</b>	-55°C to +190°C, + 1100°C for 20 mins (fireproof range).

Mil-C-26482 Series 1 Types

## AB05

Miniature Bayonet Lock Connector



**AB05 Series.** AB05 connectors conform to the stringent requirements of BS9522 F0017, and US specification Mil-C-26482, series 1 solder and CECC 75 201 003.

These connectors feature 3 pin bayonet coupling or an alternative 'push-pull' version in shell sizes 10 and 12 for quick release applications.

AB05 connectors offer economical lightweight solutions for interconnection needs in commercial and industrial applications.

Insulators are polychloroprene and provide excellent solvent and insulation resistance and environmental sealing.

Accessories include straight outlets, cable clamps, grommet sealing nuts, general duty adaptors and protective caps.

### Specification

#### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Aluminium alloy cadmium free plated with olive drab passivation. Alternative finishes and colours available on request.
<b>Insulator:</b>	Polychloroprene.
<b>Contacts:</b>	Copper alloy, gold plated.

#### MECHANICAL FEATURES -

<b>Coupling:</b>	3 Pin Bayonet 'push-pull' available in shell sizes 10 and 12.
<b>Polarisation:</b>	5 Key/Keyway or insert orientation.
<b>Contact type:</b>	Solder, crimp or p.c.tails.

<b>Contact Arrangements:</b>	2 to 61 contacts.
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#### ELECTRICAL DATA -

<b>Maximum Contact Current Ratings:</b>	7.5 to 13 amps.
<b>Voltage Ratings:</b>	Working AC or DC peak. Size 20 contacts 700V. Size 16 contacts 1200V.

<b>Temperature Rating:</b>	-55°C to + 125°C.
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Mil-C-26482 Series 1 Types

## AB06

Audio Miniature Bayonet Lock Connector



**AB06 Series.** AB06 connectors are a development of the established AB05 range and are particularly suitable for tinsel cordage applications in audio equipment.

Designed to the requirements of the Royal Signals and Radar Establishments, AB06 connectors are available in shell sizes 8, 10 and 12, and offer all the performance characteristics and design features of AB05 (Pattern 105) connectors. An alternative 'snatch' type coupling nut for quick release applications is available in shell size 10.

Accessories include straight polychloroprene sleeves for tinsel cordage, 90° outlets, and protective caps.

The Bowman 10-76 connector range is now available

### Specification

#### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Aluminium alloy cadmium free plated with olive drab passivation. Alternative finishes and colours available on request.
<b>Insulator:</b>	Polychloroprene
<b>Contacts:</b>	Copper alloy, gold plated.

#### MECHANICAL FEATURES -

<b>Coupling:</b>	Bayonet ('snatch' available in shell size 10).
<b>Polarisation:</b>	5 Key/Keyway.
<b>Contact Type:</b>	Solder, crimp or p.c.tails.
<b>Contact Arrangements:</b>	2 to 10 contacts.

#### ELECTRICAL DATA -

<b>Maximum Contact Current Ratings:</b>	7.5 to 13 amps.
<b>Voltage Ratings:</b>	Working AC or DC peak. Size 20 contacts 700V. Size 16 contacts 1200V

<b>Temperature Rating:</b>	-55°C to +125°C.
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## Power Connectors

# SB-ORD

Inter-vehicle, Slave Start Connector



## Special Purpose Connectors

# SB-ORD

Heavy Duty Trailer Connector



**Intervehicle Connectors.** SB-ORD. Interverhicle connectors fully conform to NATO approved standards and provide a quick, foolproof method of restarting electrically disabled military vehicles in the field through a vehicle-to-vehicle battery jumper system where a 1000 amp maximum current rating is required.

Interverhicle connectors are capable of withstanding severe battle environments and are of single piece, rubber moulded construction impervious to engine fuel and lubricants, shock proof and dirt proof through the use of tight seal protective caps.

An SB-ORD. Interverhicle adaptor is available for interfacing between the previously accepted system of parallelling two lengths of cable with two connectors each and NATO single twin cable and coaxial contact system.

A fully harnessed system is also available, see page 14.

## Specification

### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Single piece polychloroprene moulding.
<b>Insulator:</b>	Neoprene.
<b>Contacts:</b>	Copper alloy coaxial, tin plated.

### MECHANICAL FEATURES -

<b>Coupling:</b>	'Push-pull' friction.
<b>Contact Type:</b>	Solder or crimp with straight bolt on lugs for size 0000 AWG to 4 AWG cable.
<b>Contact Arrangements:</b>	Single pole coaxial construction.

### ELECTRICAL DATA -

<b>Maximum Contact Current Ratings:</b>	1000 amps for 6 minutes.
<b>Voltage Rating:</b>	110V DC.
<b>Contact Resistance:</b>	0.5 milliohms max.
<b>Temperature Rating:</b>	-55°C to +100°C.

**SB-ORD.** Trailer connectors were designed for electrical coupling applications between military vehicles and towed trailers where rough handling, environmental sealing and ease of coupling is required.

Trailer connectors feature a heavy rubber moulded body with a brass inner shell, and offer 7 contact arrangements in shell size 28.

Accessories include protective caps, grommets, grommet nuts, and sealing gaskets.

A fully harnessed system as above is also available, see page 14.

## Specification

### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Brass, cadmium plated with olive drab passivation, black rubber covered plug.
<b>Insulator:</b>	Polychloroprene.
<b>Contacts:</b>	Copper alloy, silver or gold plated.

### MECHANICAL FEATURES -

<b>Coupling:</b>	'Push-pull' friction.
<b>Polarisation:</b>	Insert Orientation.
<b>Contact type:</b>	Solder non-removable.
<b>Contact Arrangements:</b>	In shell size 28 only 7 platforms from 5-37 contacts.

### ELECTRICAL DATA -

<b>Maximum Contact Current Ratings:</b>	5 to 92 amps.
<b>Voltage Ratings:</b>	Between 350V and 750V AC or DC working.
<b>Contact Resistance:</b>	5 milliohms max.
<b>Temperature Rating:</b>	-55°C to +100°C.

## Power Connectors

# ABPC

Plastic Body Power Distribution Connector



## Marine Connectors

# Mk35

High Density Screw Coupling Connector



**ABPC Series.** The AB Power Connector range of heavy duty electrical connectors is designed for general purpose use and to meet the requirements of power distribution in harsh environments.

The outer shell components are manufactured from a tough thermo-plastic to ensure full insulation and high corrosion resistance. Inner shell components are plated aluminium for strength and provide electrical continuity for screening purposes.

The connectors feature bonded leading earth contacts and pilot pins for 'earth loop monitoring'.

The AB Power Connectors have contact arrangements suitable for both single or three phase power supplies.

The connectors conform to specification **CECC 75-201-007**.

**Please contact factory for detail of additional versions with signal contacts.**

## Specification

### STANDARD MATERIALS & FINISHES -

<b>Outer Body:</b>	Thermoplastic (Black).
<b>Inner Shells:</b>	Aluminium alloy. Cadmium free plated with olive drab passivation. (Alternative finishes available).
<b>Insulator:</b>	Polychloroprene.
<b>Grommet:</b>	Polychloroprene.
<b>Contacts:</b>	Copper alloy, silver plated. Pilot contact, gold plated.

### MECHANICAL FEATURES -

<b>Coupling:</b>	3 start coarse thread with anti-vibration device.
<b>Polarisation:</b>	Key/Keyway.
<b>Contact Type:</b>	Solder.
<b>Contact Arrangements:</b>	3 shell sizes, 3 to 6 contacts

### ELECTRICAL DATA-POWER CONNECTOR

<b>Maximum Contact Current Ratings:</b>	Up to 100 amps.
<b>Voltage Ratings:</b>	750V AC or DC peak.
<b>Contact Resistance:</b>	5 Milliohms max.
<b>Temperature Rating:</b>	-55°C to + 100°C

**Mk35 Series.** The AB Connectors Mk35 Connector series is derived from the American Mil-C-38999 Series III specification. The connectors intermate and can be interchanged with the standard Series III connector, but to ensure optimum performance in the most severe environments, Mk35 connectors feature nickel aluminium bronze as the material for shells, coupling nuts and other major components.

Mk35 connectors feature 100% 'scoop proof' design and coupling is achieved by a triple start course thread. The connectors also feature a self locking anti-vibration mechanism for secure mating in high vibration environments.

Contacts which conform to Mil-C-39029 are crimp rear insertion, rear extraction and the socket is protected from probe damage by using a restricted entry design.

Sealing between mating connectors is by compression of a interfacial seal and around each individual contact.

A comprehensive range environment/plain backshells and accessories is available.

AB Mk35 connectors conform to the requirements of CECC 75 201 002 Specification.

## Specification

### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Marine bronze, self finish
<b>Insulator:</b>	Assembly of rigid plastic/silicone rubber
<b>Contacts:</b>	Copper alloy, gold plated

### MECHANICAL FEATURES -

<b>Coupling:</b>	Triple start course thread
<b>Polarisation</b>	5 key/keyway
<b>Contact Type:</b>	Crimp, rear insertion, rear release, rear removable

### Contact

<b>Arrangements:</b>	1 to 128 contacts
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### ELECTRICAL DATA -

<b>Maximum Contact Current Ratings:</b>	5 amps to 46 amps
<b>Voltage Rating:</b>	Working 550V to 1250V DC/AC Peak
<b>Contact Resistance:</b>	5 m ohms max
<b>Temperature Rating:</b>	-65°C to +175°C

Marine Connectors

# Mk18

2-Start, Coarse Screw Coupling Connector



**Mk18 (Pattern 608).** A complete system of medium density connectors and accessories designed to withstand extreme environmental conditions. Meeting the requirements of BS9522-F0020, Mk18 connectors are particularly suitable for exposed areas in marine and land based equipments. The nickel aluminium bronze shells provide excellent corrosion resistance coupled with high strength.

The quick start threaded coupling nut with anti-vibration device gives positive controlled compression of the interface seal in a metal to metal condition, resulting in a screening performance of 75dB at 100MHz typical and 55dB at 1000MHz.

Mk 18 connectors are available in 9 shell sizes with planforms, based on Mil-C-26482 accommodating from 2 to 61 contacts.

Sealed outlets accommodate jacketed screened multicore cables and provide a cable entry which is watertight to a depth of 12 feet.

## Specification

### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Nickel aluminium bronze - antiglare finish.
<b>Insulator:</b>	Polychloroprene.
<b>Contacts:</b>	Copper alloy, gold plated.

### MECHANICAL FEATURES -

<b>Coupling:</b>	Quick start threaded, with audible anti-vibration feature.
<b>Polarisation:</b>	5 Key/Keyway.
<b>Contact Type:</b>	Crimp removable. Solder and pc tail-non removable.
<b>Contact Arrangements:</b>	2 to 61 contacts.

### ELECTRICAL DATA -

<b>Maximum Contact Current Ratings:</b>	5 to 50 amps.
<b>Voltage Ratings:</b>	Working AC or DC peak between 700V and 1500V.
<b>Temperature Rating:</b>	-55°C to +125°C.

Marine Connectors

# Mk38

3-Start, High Density Screw Coupling Connector



**Mk38.** The Mk38 system of connectors conform to BS9522-F0034 and can withstand the toughest conditions found in the military ground and marine equipment fields.

The range features a high density 100% scoop proof design with a coupling mechanism featuring a quick start thread with an anti-vibration device within a course ribbed nut. This provides positive metal to metal bottoming between connector halves, resulting in a typical screening performance of 75 dB at 100MHz and 65dB at 1000MHz.

Mk38 connectors are available in shell sizes accommodating from 3 to 128 contacts in a comprehensive range of platforms compatible with MIL-C-38999 Series 1.

Crimp rear insertion, rear release contacts conform to MIL-C-39029.

The connector range is available with a full complement of sealed outlets and accessories.

## Specification

### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Nickel aluminium bronze with antiglare finish.
<b>Insulator:</b>	High grade plastic/silicone rubber.
<b>Contacts:</b>	Copper alloy, gold plated.

### MECHANICAL FEATURES -

<b>Coupling:</b>	Quick start threaded with audible anti-vibration feature.
<b>Polarisation:</b>	5 Key/Keyway.
<b>Contact type:</b>	Crimp removable.
<b>Contact Arrangements:</b>	3 to 128 contacts.

### ELECTRICAL DATA -

<b>Maximum Contact Current Ratings:</b>	3 to 24 amps.
<b>Voltage Ratings:</b>	Working AC or DC peak between 550V and 1250V r.m.s.
<b>Temperature Rating:</b>	-65°C to + 200°C.

## Marine Connectors

# AB22

Fine Screw Coupling, Medium Density Connector



## Marine Connectors

# ABSB

Stainless Steel Bayonet Lock Connector



**AB22.** Low to medium density connectors with sealed cable outlets designed for marine applications. Materials, finishes and construction have been engineered to meet the severe environmental and mechanical demands encountered in above and below deck applications. AB22 connectors are approved to VG96930 specification.

A feature of the range is a two part outlet fitting which simplifies wiring of multicore jacketed cables. Coupling is achieved by a fine threaded coupling nut which gives positive sealing and screen continuity.

The current range covers 26 contact arrangements accommodating a maximum of 108 contacts in the largest shell size.

**ABSB Series.** Based on the ABBMS Series of bayonet coupling connectors the ABSB range features shells and accessories manufactured from high corrosion resistant stainless steel.

Ideally suited for marine applications, the ABSB range is also for projects where harsh, highly corrosive environments will be encountered.

The standard accessory is designed to accept jacketed screened cable and heat shrink boot.

Performance of the connector is generally to VG 95234 with additional environmental requirements.

## Specification

### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Aluminium alloy cadmium plated, olive drab passivation. For harsher environments, a combination of stainless steel and hard anodised aluminium.
<b>Insulator:</b>	Polychloroprene.
<b>Contacts:</b>	Copper alloy, gold plated.

### MECHANICAL FEATURES -

<b>Coupling:</b>	Fine thread.
<b>Polarisation:</b>	Insert orientation.
<b>Contact Type:</b>	Crimp or solder removable.
<b>Contact Arrangements:</b>	1 to 108 contacts.

### ELECTRICAL DATA -

<b>Maximum Contact Current Rating:</b>	13 to 150 amps.
<b>Voltage Ratings:</b>	Working AC or DC peak between 500V and 2800V.
<b>Temperature Rating:</b>	-55°C to +125°C.

## Specification

### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	High corrosion resistant stainless steel, anti-glare finish.
<b>Insulator:</b>	Polychloroprene.
<b>Grommet:</b>	Polychloroprene.
<b>Contacts:</b>	Copper alloy, gold over nickel plated.

### MECHANICAL FEATURES -

<b>Coupling:</b>	3 Pin Bayonet.
<b>Polarisation:</b>	Insert orientation.
<b>Contact Type:</b>	Crimp or solder.
<b>Contact Arrangements:</b>	3 - 61 contacts

### ELECTRICAL DATA -

<b>Maximum Contact Current Ratings:</b>	7.5 to 245 amps.
<b>Voltage Ratings:</b>	Between 350V and 1750V AC or DC working.
<b>Contact Resistance:</b>	5milliohms max.
<b>Temperature Rating:</b>	- 55°C to + 125°C

# ABLS

Bayonet Lock Lighting &amp; Audio Connectors



## ABLS Series

Head to Ballast Connector

Connectors cover 575W to 18KW requirement

Based On Mil-Std-5015

Rapid & secure 3-pin bayonet coupling, 120° coupling nut rotation with audible & visual indication when fully mated.

Industry standard crimp contacts

Tough aluminium alloy body able to withstand continuous abuse.

Environmentally sealed to minimum IP67 for exterior use.

Extended length coarse grip coupling nut for secure handling.

Long backshell with either 'PG', cable clamp feature or 'basket weave' cable grip accessory.

## Specification

### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Aluminium alloy, black protective finish
<b>Insulators:</b>	Low fire hazard rubber
<b>Contacts:</b>	Copper alloy, gold or silver plated

### MECHANICAL FEATURES -

<b>Coupling:</b>	3 pin bayonet
<b>Polarisation:</b>	Insert orientation
<b>Contact type:</b>	Crimp removable
<b>Contact Arrangements:</b>	6 to 150 contacts

### ELECTRICAL DATA -

<b>Maximum contact Current Rating:</b>	5 amps to 75 amps
<b>Voltage Rating:</b>	Working 350V to 1250V DC/AC Peak
<b>Contact Resistance:</b>	5 m ohms max
<b>Temperature Rating:</b>	-55°C to +125°C

# ABLC

19 Pin Screw Coupling Lighting Connector



## ABLC Series

19 Pin Lighting Connector

Designed for the professional lighting industry

Fully Compatible with corresponding competition types

Rapid coarse thread screw coupling.

Aluminium shells with heavy duty coupling nut for secure handling.

Crimp or solder contacts.

Long backshell for 'PG', cable clamp adaptor or 'basket weave' cable grip accessory.

Earthing version with integral shell earth tag & first make last break contact.

Black cadmium free hard wearing surface finish.

## Specification

### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Aluminium alloy, black protective finish
<b>Insulators:</b>	Polychloroprene rubber
<b>Contacts:</b>	Copper alloy, gold plated

### MECHANICAL FEATURES -

<b>Coupling:</b>	Coarse thread
<b>Polarisation:</b>	Key/keyway
<b>Contact type:</b>	Solder
<b>Contact Arrangements:</b>	19 contacts

### ELECTRICAL DATA -

<b>Maximum contact Current Rating:</b>	41 amps max, 23 amps rated
<b>Voltage Rating:</b>	Working 700V d.c., 500V a.c.
<b>Contact Resistance:</b>	5 m ohms max
<b>Temperature Rating:</b>	-55°C to +125°C

## Industrial Connectors

# ABXS

Miniature Push-Pull Coupling Connector



**ABXS** With its ingenious ball-bearing coupling mechanism, the ABXS Miniature Push-Pull Connector is easy to use and provides a reliable interconnect for signal and power in audio, control and instrumentation applications. The range has two shell sizes housing 3 to 9 gold plated contacts in a range of aesthetically pleasing long life shell finishes.

The ball-bearing mechanism provides easy connection by pushing on the back accessory and easy disconnection by pulling on the coupling nut. The connector cannot be disconnected by pulling on the cable or backshell using normal force.

The shells are made from copper alloy with a choice of finishes in bright nickel or black epoxy.

## Specification

### STANDARD MATERIALS & FINISHES -

<b>Shell:</b>	Copper alloy, nickel or black protective finish
<b>Insulators:</b>	Thermoplastic
<b>Contacts:</b>	Copper alloy, gold plated

### MECHANICAL FEATURES -

<b>Coupling:</b>	Ball bearing, push-pull
<b>Polarisation:</b>	Key/keyway
<b>Contact type:</b>	Solder
<b>Contact Arrangements:</b>	3 to 9 contacts

### ELECTRICAL DATA -

<b>Maximum contact Current Rating:</b>	3 amps rated
<b>Voltage Rating:</b>	Working 250V d.c.
<b>Temperature Rating:</b>	-55°C to +85°C

## Industrial Connectors

# Wirelock

Mining Connectors



Initially designed for electronic chock control applications in the coal mining industry, the connectors are now extensively used in hazardous and rugged areas where high humidity, dust, fluid contaminants and industrial vapours prevail.

Positive coupling is by means of a unique 'push-pull' feature with provision for inserting a locking staple in any one of four positions.

Heavy duty robust brass shells and accessories, cadmium plated offer the advantages of mechanical strength with high resistance to corrosion.

Insulators are utilised from the ABBMS, AB05 and SB104 ranges with up to 26 contacts and a maximum current rating of 35 amps.

Sealing against water ingress is achieved between mating connectors by using an 'O' ring and by a system of cable hose adaptor and 'O' ring on the rear of the connector.

A range of accessories includes straight and 90° outlets and protective caps.

## Further Details

For detailed product specifications, please contact the AB Connectors Sales Office.

Special Purpose Connectors

## Various - Filters

EMI/RFI Filtered Connectors



Special Purpose Connectors

## Various - Databus

Data Bus Assemblies



**Filter Connectors.** The concern over interference in sophisticated electronic equipment, now operating on lower power levels, has seen an increase use of in-line filter devices to suppress either the effect of externally generated interference, or to reduce emissions from the equipment itself.

AB Connectors have engineered solutions which can be adapted to many of the market standard connector ranges, making retro-fitting to existing equipment a quick and effective solution, to EMI/RFI problems.

As an alternative, AB Connectors produce Interface Filter Adaptors which simply plug in between existing connectors, thereby making modification in the field a simple and cost effective option.

### Specification

<b>Connector Types:</b>	MIL-C-5015 MIL-C-38999 MIL-C-26482 Series 1
<b>Coupling:</b>	Bayonet & Screw.
<b>Contact Type:</b>	Non-Removable, solder or p.c. tail.
<b>Filter Type:</b>	'C' or Pi.
<b>Technology:</b>	Planer or tubular.

Full technical information can be obtained by contacting the AB Connectors Sales Office.

**Databus.** AB Connectors can offer solutions ranging from discrete connectors and contacts up to complete cabled and tested systems. AB databus products conform to the requirements as defined in Mil-STD 1553B, Def. Stan. 00-18 and Def. Stan. 00-19.

Connector Styles are ruggedised for extremely harsh environments i.e. naval, fighting vehicles and mass transportation or lightweight which are especially suited to aerospace applications. The contacts which have the mating geometry Mil-C-39029/90-91, have been designed to simplify the crimping and assembly processes.

AB Databus connectors and systems are proven on current fighting vehicle programmes including active service situations.

Full bespoke harness/system design available.

Full technical information can be obtained by contacting the AB Connectors Sales Office.

Harness Assembly

# Harness / Sub Assembly

Tailored Connector/Cable Assemblies



From original concept to a finished and tested cable assembly or equipment sub-system.

AB Connectors offer a design and manufacturing service which harnesses the skill and experience of a dedicated workforce, investment in the latest manufacturing

## Backshells

Backshells & Accessories



technique and processes and technical back-up services which is second to none.

Specialist products which serve the global rail industry, include bespoke design Inter-car Jumper assemblies. These items form the connections between rail cars or power units and are of a very robust design, often incorporating heavy duty castings, cables and contacts.

To serve the traditional military markets, AB Connectors has developed the necessary capability to capture projects allied to major fighting vehicle and military communication programmes.

These Projects are including heavy duty harnessing for inter-vehicle slave start connectors, scratch built sub-units for Bowman communication system, generator set fuse panels and mobile power units

**Backshell & Accessories.** As part of the 'Systems' approach to interconnection, AB always consider the backshell and accessory as an integral part which should not be left to third party designs. As such, each of the product ranges displayed in this overview can be purchased with components suited to particular mechanical and environmental requirements.

Backshells and accessories range from plain grommet nut, cable clamp and protective caps, to items which are fully watertight and offer EMI/RFI screening.

If the connector situation should change some time in the future, then backshells and accessories can be purchased separately for retro-fit action.

AB Connectors offers a full design and development support programme in order to bespoke backshells and accessories to your individual needs should the necessity occur.

Please consult the relevant product catalogue for full details or contact the Sales Office where consideration can be given to individual requirements.



# Information about Safety

This information is to be used in conjunction with the Product Catalogue and Product Specification. Products may be safely used in the applications for which they have been designed and within the specified ratings and environments. If products are exposed to conditions outside the performance ratings or specified environments they may constitute a hazard. In particular it should be noted that:---

## 1. Material Content of Products.

Circular Connectors generally use metalwork parts made of copper, copper alloy, aluminium alloy, aluminium-bronze, phosphor-bronze or steel, which, dependant on the particular application, may be passivated and protected with cadmium or zinc plate - in conjunction with chromated or anodised surface finishes. The insulating materials can be either natural or synthetic rubber, together with plastic or glass filled plastic moulded parts. Contact materials vary with product type but are usually made of copper, copper alloy, nickel, phosphor-bronze, alumel, chromel or steel.

## 2. Electric Shock, Burns and Fire.

Hazard can occur if the product is used outside the specified parameters or if the product is damaged, wrongly wired or poorly assembled, or poorly integrated into larger equipments, or contaminated with conductive fluids. Live circuit terminations must be protected and live circuits never broken by demating products.

Hotspots may be created when resistance is increased due to damage or incorrect integration particularly soldering, crimping or loose terminations. Overheating can cause breakdown of insulation, electric shock, burns or, ultimately, fire. In the event of fire noxious and/or toxic fumes may be released and, in these circumstances, any fire involving the product should be dealt with by personnel properly equipped.

Connector products with exposed terminators or contacts should not be used on the current supply side of a circuit with exposed contacts on an unmated product. Before making a circuit live, the product and wiring should be checked to ensure that there is no damage and no electrically conducting debris present. Circuit resistance checks should also be conducted before making the circuit live. Always ensure that the correct tools, (specified by AB Connectors Ltd.) are employed for crimping and assembly and that connectors are assembled and wired by properly trained personnel.

## 3. Disposal of Products.

Products should not be burnt.

## 4. Use Transport and Storage of Products.

Care must be exercised to avoid damage to any part of the products during transporting, storage or use. The products, as manufactured, are free of sharp edges. Abnormal transit or storage conditions and abuse during installation can give rise to damage. Products should not be used in a damaged condition.

Improper storage (particularly of damaged products) can give rise to additional hazards particularly corrosion. Your attention is specifically drawn to the need of proper storage of products containing cadmium and you are advised to see the Guidance Note from the Health and Safety Executive on Cadmium - Health and Safety Precautions.

## Safety Rules

1. Ensure all conductor wires are capable of withstanding the electrical and environmental conditions of the application.
2. Always use the correct assembly tools for cables, contacts and connectors.
3. Make circuit resistance checks before making a circuit live.
4. Always protect live 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.

N.B. Additional information on the products and the materials used in them may be obtained from the Sales Department of AB Connectors Ltd.

## Shelf life for rubber components.

AB Connectors incorporate a number of rubber components within their connectors. Most rubbers change in physical properties during storage e.g. excessive hardening, softening, cracking or other surface degradation. These changes may be the result of particular factors or a combination of factors such as light, heat, humidity, oils or solvents.

With a few simple precautions the shelf life may be considerably lengthened.

The storage temperature should be between +5 and +25 degrees C. Direct contact with sources of heat such as boilers, radiators and direct sunlight should be avoided. It is advisable to cover any windows of storage rooms with a red or orange coating or screen. The relative humidity in the storeroom should be below 70%. Very moist or very dry conditions should be avoided. Condensation should not occur.

If the above recommendations are adhered to, then AB Connectors would warrant a shelf life of four years for its products.

## NB

The company reserves the right and may change or vary specification without prior written notice



## Global Presence

The world's demand for electronics is increasing as new technologies, with a higher dependence on complex components, are being adopted by a broader customer base. This growth provides TT electronics an assured future as we focus our efforts to deliver excellence in customer service and quality products to these markets.

From our strong UK base, the company has achieved truly global reach. We have established technical and manufacturing facilities in strategic countries maintaining the successful formula of close liaison with our customers in all major overseas markets.

In addition, through strategic relationships with Original Equipment Manufactures around the world, we are now in the enviable position where we gain double benefit - from the growth in their markets and from the increase in the electronic content of end products.

Information on TT companies can be found by contacting:-

**Head Office:**

TT electronics plc  
Clive House  
12 - 18 Queens Road  
Weybridge  
Surrey  
KT13 9XB  
UK

Tel: +44(0)1932 841310  
Fax: +44(0)1932 836450

Email: [info@ttelectronics.com](mailto:info@ttelectronics.com)  
Web: [www.ttelectronics.com](http://www.ttelectronics.com)



**TT electronics**  
**AB Connectors Limited**

AB Connectors Limited  
Abercynon,  
Mountain Ash  
Rhondda Cynon Taff  
CF45 4SF, UK.  
Tel: +44(0)1443 740331  
Fax: +44(0)1443 741676  
Internet:  
<http://www.ttabconnectors.com>  
Email: [sales@ttabconnectors.com](mailto:sales@ttabconnectors.com)

AB Connectors Limited  
PO Box 2240,  
2500 Business Highway 70 East  
Smithfield,  
NC 27577, USA  
Tel: + (1)919 934 5181  
Fax: + (1)919 934 0652  
Email:  
[abconnectors@abautomotiveusa.com](mailto:abconnectors@abautomotiveusa.com)

AB Connectors Limited  
17 Rue du Kéfir,  
Senia 418  
94567 ORLY Cedex  
France  
Tel: + (33)1 46 87 38 89  
Fax: + (33)1 46 87 40 38