

SMALL SIZE
BIG POWER



Pola Power[®]
Designed to specifically meet the
continuing demand for more power.

Pola Power[®]

Connectors

Single Pole Power Series

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Who We Are

TT Electronics' brand AB Connectors specialises in the design, test and manufacture of high performance electronic connectors and interconnect solutions, supplying a range of global customers in aerospace and defence, industrial and transportation markets.

Our broad product portfolio which includes miniature connectors, high power connectors, soldier systems, harness assemblies and box systems serve within key applications such as signalling, communication and power distribution.

Operating from the principle site in Abercynon, South Wales, our research and development teams have an excellent track record for developing innovative industry solutions and our engineers have extensive experience in designing a range of product configurations to meet customer specific requirements for the most demanding environments.



From plant layout to production line set-up and quick change-over processes, we offer the ideal service, with a flexible manufacturing environment and accredited facilities.

Quality systems and approvals include ISO9001 along with various product and market sector approvals including the military Mil-std 790 and mass transit IRIS certifications and environmental approval to ISO14001. As a result of these qualifications AB Connectors brand has been awarded several major customer approvals and accreditations.

TT Electronics 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.

Technical Information

Materials & Finishes

Shell:	Aluminium alloy, passivated stainless steel, nickel aluminium bronze
Shell Plating:	Black Zinc Nickel, RoHS compliant. Black Zinc Cobalt, RoHS compliant Green Zinc Cobalt, RoHS compliant, Olive drab cadmium
Insulators:	Low fire hazard thermoplastic conforms to EN44545 HL3 R22/R23
Contacts:	Copper alloy, silver plated, gold plated, nickel plated

Mechanical Features

Coupling:	3 pin reverse bayonet 120 nut rotation
Contact termination:	Crimp or threaded
Durability:	500 minimum mating and un-mating
Contact insertion force:	70N
Contact resistance:	0.06mΩ [NFF61-030]

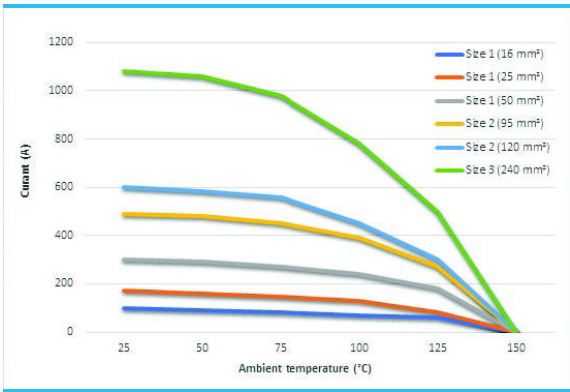
Electrical Features

Current ratings:	300 - 600 - 1000 Amp
Voltage:	3,600V ac or dc peak

Environmental Ratings

Temperature range:	-55°C to +150°C
Shock severity:	75g
Vibration:	5-500Hz long endurance 30 hour test at 10g
Acceleration:	50g
Sealing:	IP67
Corrosion Resistance:	Zinc Nickel 500 hours Zinc Cobalt 96 hours IP2X as per BSEN60529

Contact de-rating curve:



Part Number Explanation

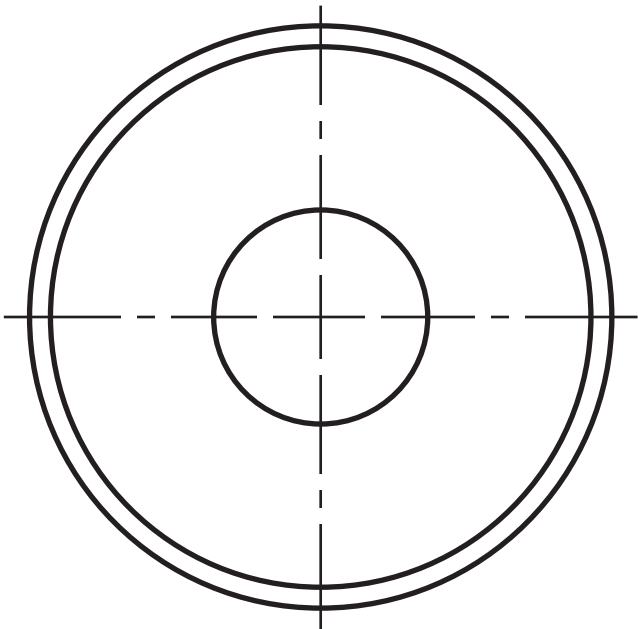
ABHC	SE06	T	30	A1	P	C	N	**	**
Series Prefix	Shell Style	Accy Type	Shell Size	Contact Arrangement	Contact Gender	Contact Termination	Insert Orientation	Modification Code	Contact Supply
Series Prefix:		ABHC		Series Prefix					
Shell Style:		01		In line coupler					
		03		Wall mount receptacle (front or rear)					
		SE06		Plug with RFI rounding					
		PSE06		Plug with RFI rounding and (with rubber cover coupling nut)					
		07		Through bulkhead receptacle					
		09		Single hole mounted receptacle					
Accessory Type:		A		No accessory thread					
		T		With accessory thread					
		FT		90° locking with accessory thread					
		FM		90° with band strap screen termination					
		SCGA		Straight with cable gland adaptor					
Shell Size:		18		up to 200 Amps					
		24		up to 400 Amps					
		30		up to 600 Amps					
		40		up to 1000 Amps					
Contact Arrangement:		A1		Single pole power					
Contact Gender:		P		Pin					
		S		Socket					
Contact Termination:		C		Crimp					
		TI*		Threaded (internal thread on contact)					
				*Add metric thread required or omit for standard					
		TE*		Thread (external thread on contact)					
				*Add metric thread required or omit for standard					
Insert Orientation:		N		Normal orientation					
				A, B, C, D, E, F, G, H					
Modification Code:		M09		Black zinc nickel					
		M32		Black zinc cobalt plated finish					
		M11		Green zinc cobalt plated finish					
		M122		Electroless nickel					
		M177		Stainless steel					
		M206		Aluminium bronze					
Contact Supply:		P3		Omit for silver plated contact					
		V0		For gold plated contact					
				For connector supplied without contact					

Current Rating

Availability chart

Contact Arrangement	Shell Size 18	Shell Size 24	Shell Size 30	Shell Size 40	Cable Size	Current Rating
A	✓	✓	✓	✓	Contact supplied separately	
A1	✓*	✓	✓	✓	16mm ²	85A
A2	✗	✓*	✓	✓	25mm ²	120A
A3	✗	✗	✓	✓	50mm ²	185A
A4	✗	✗	✓	✓	95mm ²	340A
A5	✗	✗	✓*	✓	120mm ²	600A
A6	✗	✗	✗	✓*	240mm ²	1000A

✓* Indicates the contact size as standard that will come with the relevant shell size unless V0 is stated in part number.

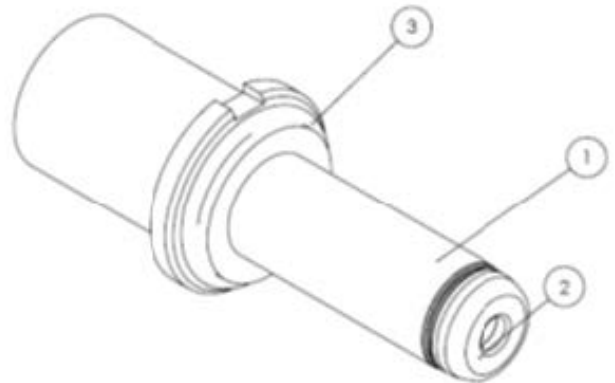


Contact Features

Socket and pin contact

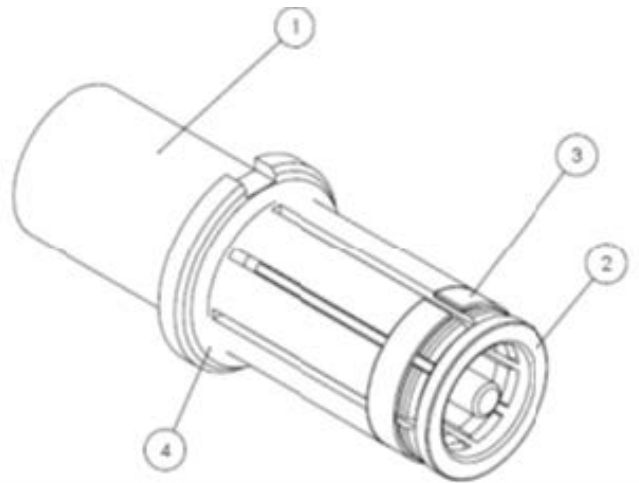
Socket Contact

- Silver, gold or nickel plated copper alloy, available in crimp or threaded termination.
- IP2XB Finger Protection when installed within connector.
- High tension beryllium copper compression ring to ensure constant contact
- Individual contact seal for IP67 when in unmated position.



Pin Contact

- Silver, gold or nickel plated copper alloy, available in crimp or threaded termination.
- IP2XB Finger Protection when installed within connector.
- Individual contact seal for IP67 when in unmated position.

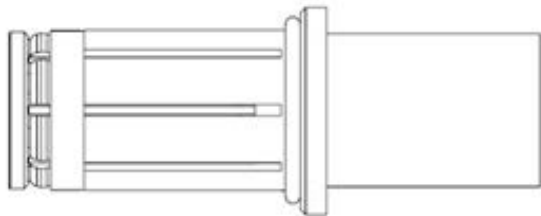
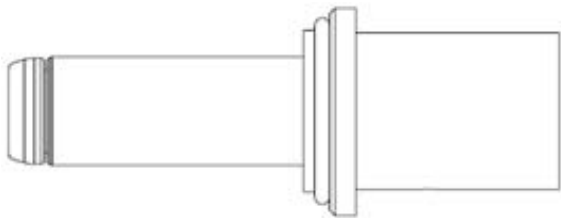


Contact Selection

Crimp contact part number

ABHC	30	A1	K	P	K	**
Series Prefix	Shell Style	Contact Arrangement	Contact	Contact Gender	Contact Termination	Contact Supply

Series Prefix:	ABHC	Series Prefix	
Shell Style:	30		18, 24, 30, 40
Contact Arrangement:	A1		Single pole power – see below chart for current ratings
Contact Gender:	P		Pin
	S		Socket
Contact Termination:	K		Crimp
Contact Supply:	P3		Omit for silver plated contact For gold plated contact



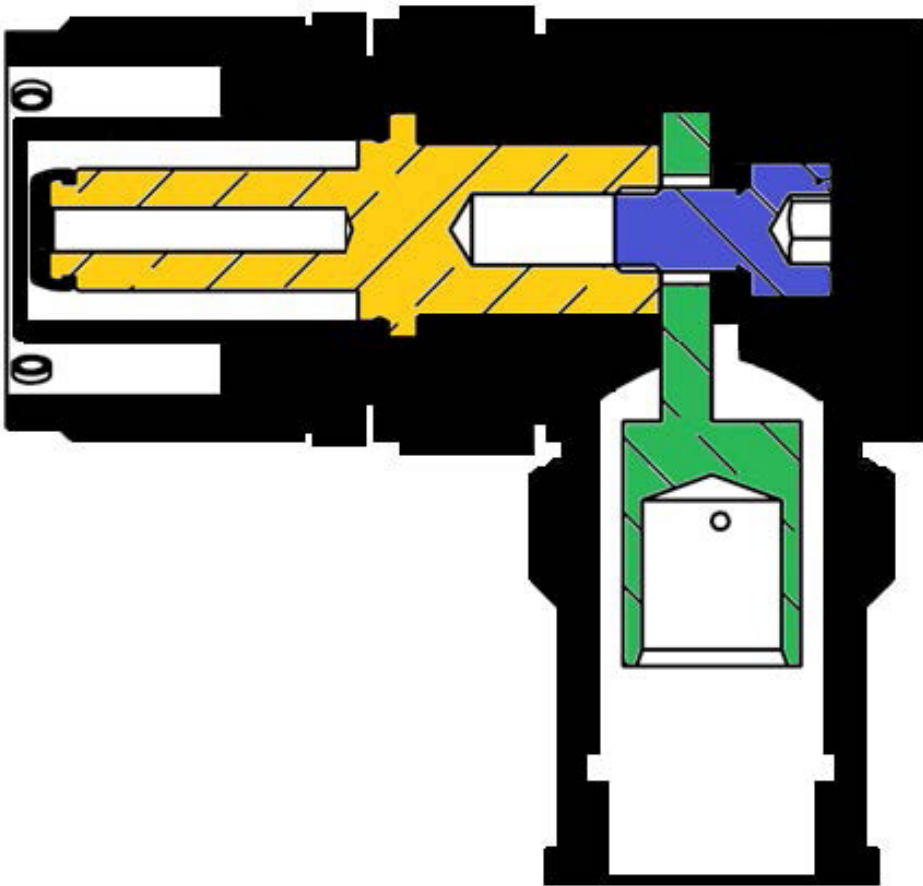
Contact Arrangement	ØC mm	ØE mm	Cable Size	Current Rating
A			Contact supplied separately	
A1			16mm ²	85A
A2			25mm ²	120A
A3			50mm ²	185A
A4			95mm ²	340A
A5			120mm ²	600A
A6			240mm ²	1000A

Contact Selection

Threaded contact part number

ABHC	30	A1	K	P	K	**
Series Prefix	Shell Style	Contact Arrangement	Contact	Contact Gender	Contact Termination	Contact Supply

Series Prefix:	ABHC	Series Prefix
Shell Style:	30	18, 24, 30, 40
Contact Arrangement:	A1	Single pole power – see below chart for current ratings
Contact Gender:	P	Pin
	S	Socket
Contact Termination:	TI*	Threaded (internal thread on contact)
	TE**	*Add metric thread required or omit for standard
		Thread (external thread on contact)
		**Add Metric thread required or omit for standard
Contact Supply:	P3	Omit for silver plated contact
		For gold plated contact

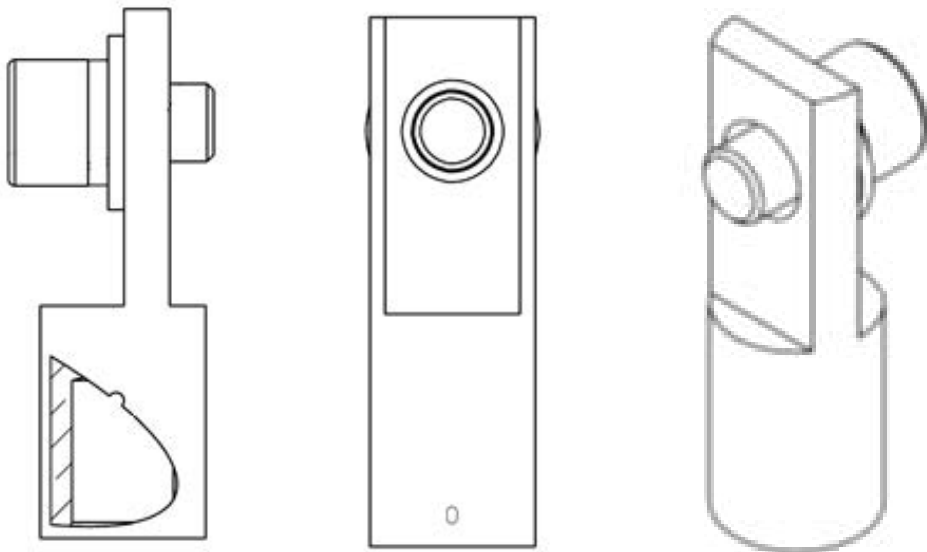


Contact Selection

Threaded contact part number - crimp lug

ABHC	M10	120	**
Series Prefix	Thread Size	Cable Size (mm2)	Contact Supply

Series Prefix:	ABHC	Series Prefix
Thread Size:	M10	M10 threaded
Cable Size:	120	120mm sq. cable size
Contact Supply:	P3	Omit for silver plated Gold plating

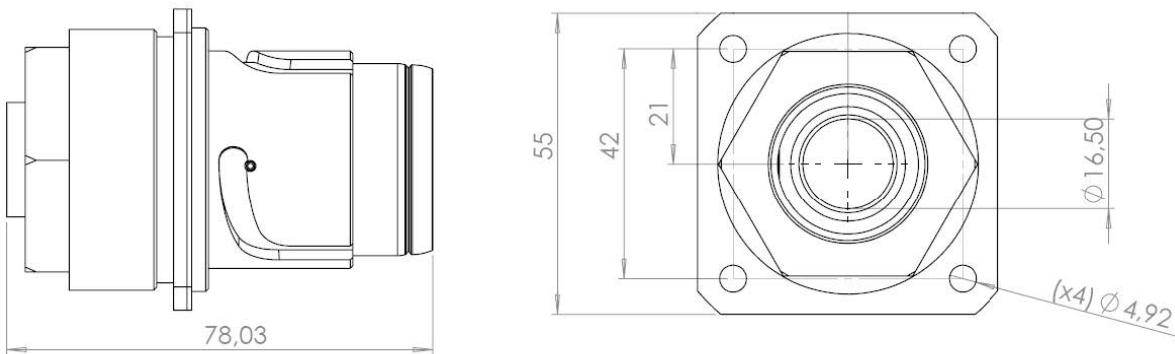


03 Wall Mount Receptacle (Front or Rear)

Accessory type: SCGA - straight with accessory nut

Shell Style	ØA Max	B	C	D
18				
24				
30	80.00	55.00	42.00	21.00
40				

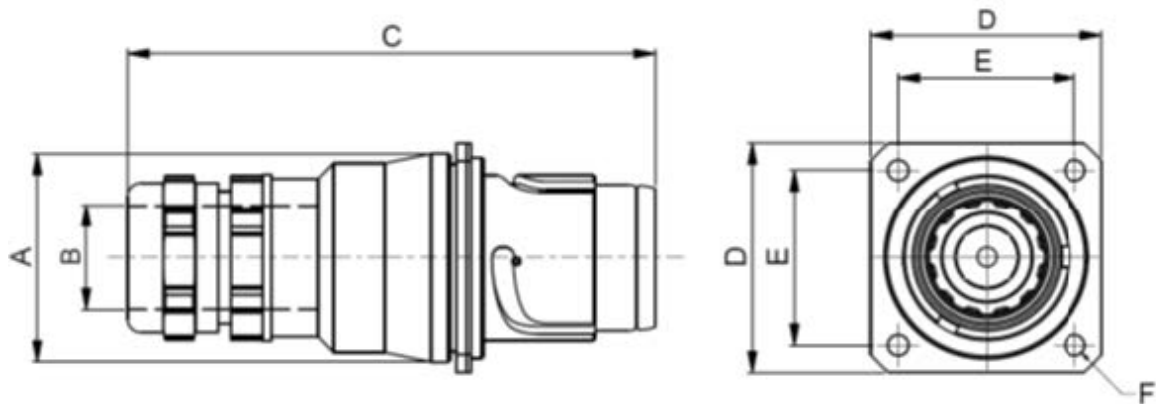
All dimensions in mm



Accessory type: SSCG - straight with screened cable gland

Shell Style	ØA Max	ØB Max	C Max	D Max	E	ØF Max
18						
24						
30	50.00	25.00	125.66	55.00	42.00	5.00
40						

All dimensions in mm

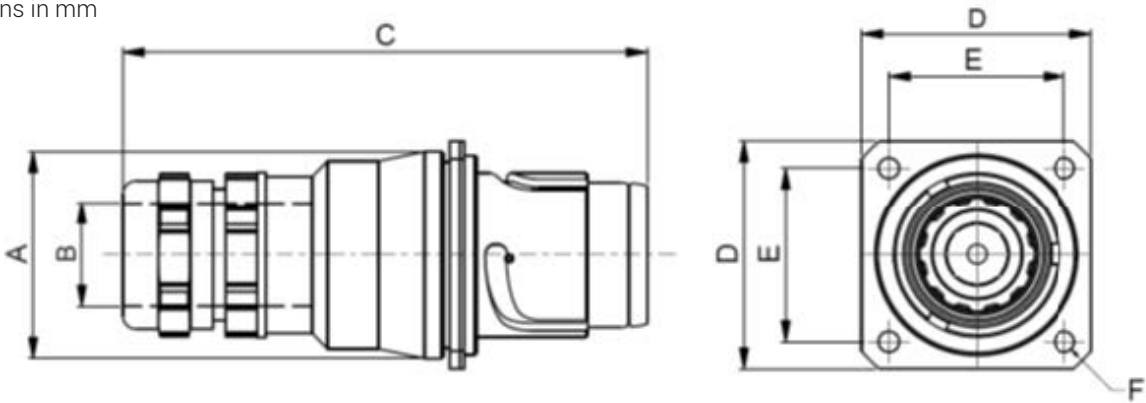


SE06 Plug with RFI Grounding

Accessory type: SSCG - straight with screened cable gland

Shell Style	ØA Max	ØB Max	C Max	ØD Max
18				
24				
30	51.50	50.00	124.33	25.00
40				

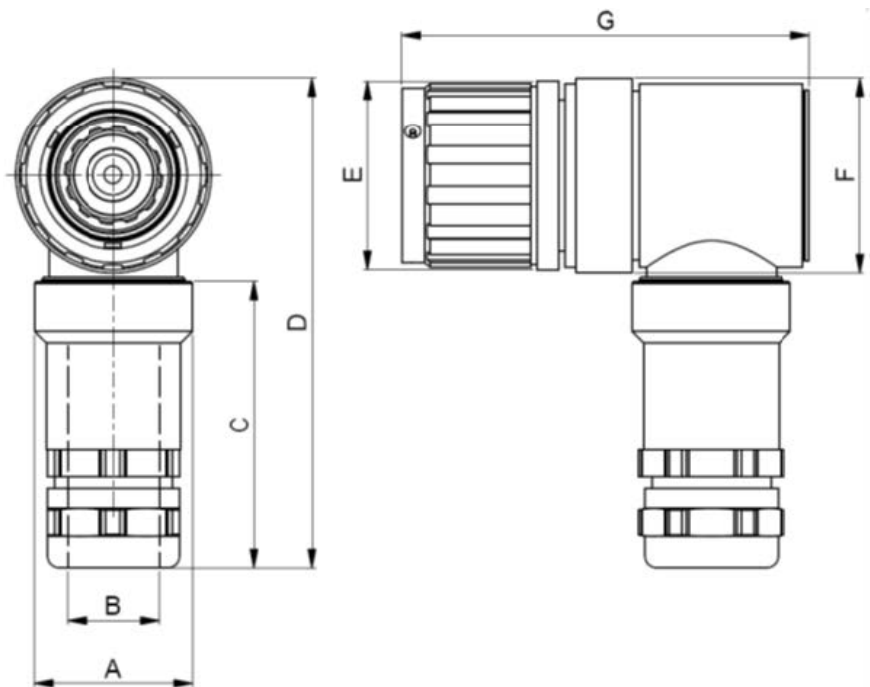
All dimensions in mm



Accessory type: SSCG - straight with screened cable gland

Shell Style	ØA Max	ØB Max	C Max	D Max	ØE Max	F Max	G Max
18							
24							
30	44.00	25.00	78.00	135.00	51.50	53.50	112.00
40							

All dimensions in mm



Product Safety Information

Socket Contact

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 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 moulded parts. Contact materials vary with product type but are usually made of copper, copper alloy, nickel, phosphor-bronze, alume 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 shot, 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 terminations 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 TT Electronics) are employed for crimping and assembled and wired by properly trained personnel.

3) Disposal or Products

Products should not be burnt.

4) Use, Transport and Storage of Products

Care must be taken to avoid damage to any part of the products during transportation, 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.

5) Safety Rules

- i. Ensure all conductor wires are capable of withstanding the electrical and environmental conditions of the application.
- ii. Always use the correct assembly tools for cables, contacts and connectors.
- iii. Make circuit resistance checks before making a circuit live.
- iv. Always protect live circuits and never demate a live connector.
- v. Never use a damaged connector.
- vi. Never burn discarded connectors or cable.
- vii. 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 TT Electronics.

6) Shelf Life for Rubber Components

TT Electronics' AB Connectors brand incorporates 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°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 TT Electronics would warrant a shelf life of four years for its products.

N. B. 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 on 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 Manufacturers around the world, we are now in the enviable position where we gain double benefit - from growth in their markets and from the increase in the electronic content of end products.

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General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.