

# Autosport



5th Edition

# Interconnection Solutions

# AS Series

Developed by Deutsch from the MIL-C-38999 Series 1.5 (Eurofighter connector), the Deutsch AS Series is a range of medium and high density circular connectors designed to meet the stringent requirements of the aerospace industry. Foremost of these requirements are enhanced performance with both weight and space savings. Available in a huge range with a wide variety of options, the AS Series features high density arrangements up to 128 ways with four shell styles, and five keyway orientations.

## FEATURES

- High density arrangements up to 128 ways
- Contact sizes 16 (20 Amp) 20 (7.5 Amp) and 22 (5Amp)
- Positive locking coupling mechanism
- Conductive black zinc finish
- Interfacial and wire sealing
- 100% scoop-proof interface with RFI grounding fingers
- Integral screen termination/boot location
- In-line and two hole mounting styles
- Environmentally sealed to IP67
- Filter, Hermetic and Fibre Optic options available
- PCB options as standard
- Standard Gold-plated crimp contacts
- 5 keyway orientations, indicated by different colour bands
- Universal orientation for test equipment

## BENEFITS

- Standardised product range
- Weight, space and cost savings compared to existing aerospace type connectors
- No need for backshells for boot termination
- Screening braid and strain relief boot can both be fitted
- Scoop-proof interconnection where space envelope would previously have dictated the use of non scoop proof connectors
- High quality plating enhances durability and appearance of connector
- Intermateable with existing LN29729 (Mil-C-38999 Series 1 1/2) and Pan 6433-2 style connectors
- Uses standard Aerospace crimp tooling
- Visual indication of keyway orientation of connector
- Purpose designed coupling/decoupling tools



## GENERAL SPECIFICATION

### Standard Connector

Supplied complete with crimp contacts and insertion/extraction tool

### Materials

Shell/Coupling ring: Aluminium alloy. Black Zinc finish

Contacts: Copper alloy  
Gold plated

Insulators: Thermoplastic

Interface/Wire seals: Fluorinated silicone

### Wire Sealing

Connector rear sealing grommets are designed to seal on wires having an overall insulation diameter within the following range:

Contact Size	22	20	16
Min (mm)	0.76	1.02	1.65
Max (mm)	1.37	2.11	2.77

### Dielectric Withstand Voltage

This is dependent on the spacing of the contacts within the insert layout. See contact/insert arrangements page 15 & 16

Contact Size	22	20	16
Current Rating	5 Amps	7.5 Amps	20 Amps
Conductor Diameter	0.790mm max	0.970mm max	1.530mm max

### Contact Rating and Wire Acceptance

Temperature Rating  $-55^{\circ}\text{C}$  to  $+175^{\circ}\text{C}^*$

\*The upper limit is the maximum internal hot-spot temperature resulting from the combination of ambient temperature and heating due to current.

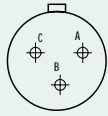
## VIBRATION

Tested to exceed: Dynamic test - random on random 60g RMS in 3 axis.

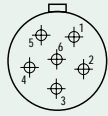
Endurance test - random 57g RMS in 2 axis for 8 hours each axis.

Sinusoidal resonance to over 75g.

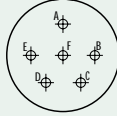
**AS CONTACT/ INSERT ARRANGEMENTS**



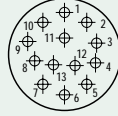
08-98 (I)  
Size 8  
3#20



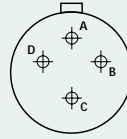
08-35 (M)  
Size 8  
6#22



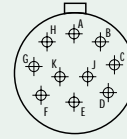
10-98 (I)  
Size 10  
6#20



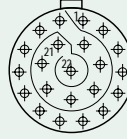
10-35 (M)  
Size 10  
13#22



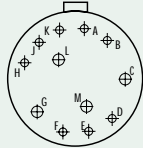
12-04 (I)  
Size 12  
4#16



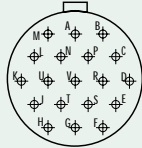
12-98 (I)  
Size 12  
10#20



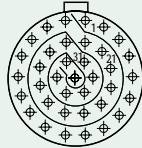
12-35 (M)  
Size 12  
22#22



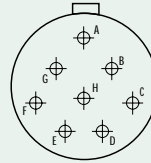
14-97 (I)  
Size 14  
8#20 4#16



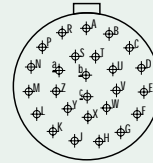
14-19 (I)  
Size 14  
19#20



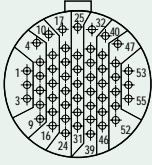
14-35 (M)  
Size 14  
37#22



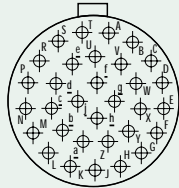
16-08 (I)  
Size 16  
8#16



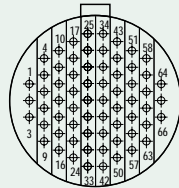
16-26 (I)  
Size 16  
26#20



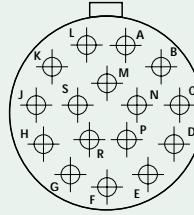
16-35 (M)  
Size 16  
55#22



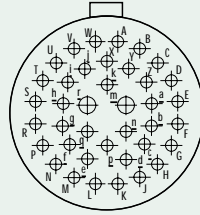
18-32 (I)  
Size 18  
32#20



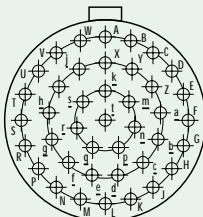
18-35 (M)  
Size 18  
66#22



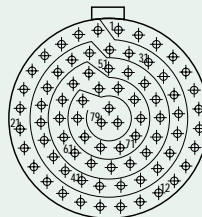
20-16 (I)  
Size 20  
16#16



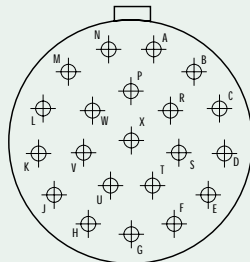
20-39 (I)  
Size 20  
37#20 2#16



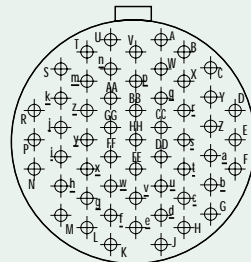
20-41 (I)  
Size 20  
41#20



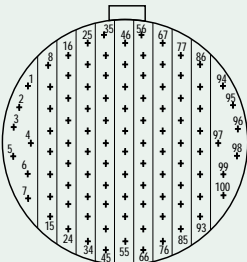
20-35 (M)  
Size 20  
79#22



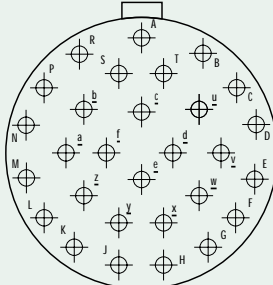
22-21 (I)  
Size 22  
21#16



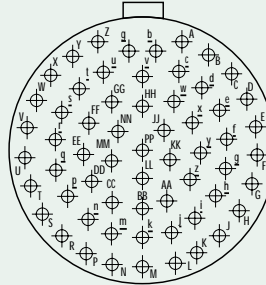
22-55 (I)  
Size 22  
55#20



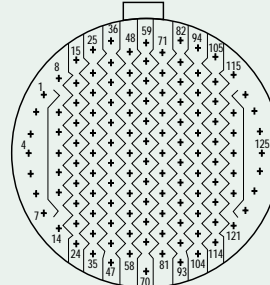
22-35 (M)  
Size 22  
100#22



24-29 (I)  
Size 24  
29#16



24-61 (I)  
Size 24  
61#20



24-35 (M)  
Size 24  
128#22

# AS Series...Cont.

SHELL SIZE	CONTACT ARRANGEMENT	NUMBER OF CONTACTS			RATING
		SIZE 22 D	SIZE 20	SIZE 16	
8	-98		3		I
8	-35	6			M
10	-98		6		I
10	-35	13			M
12	-04			4	I
12	-98		10		I
12	-35	22			M
14	-97		8	4	I
14	-19		19		I
14	-35	37			M
16	-08			8	I
16	-26		26		I
16	-35	55			M

Note 1: Ratings M & I define Dielectric withstand voltage ratings as follows:

I = 1800 volts AC rms

M = 1300 volts AC rms.

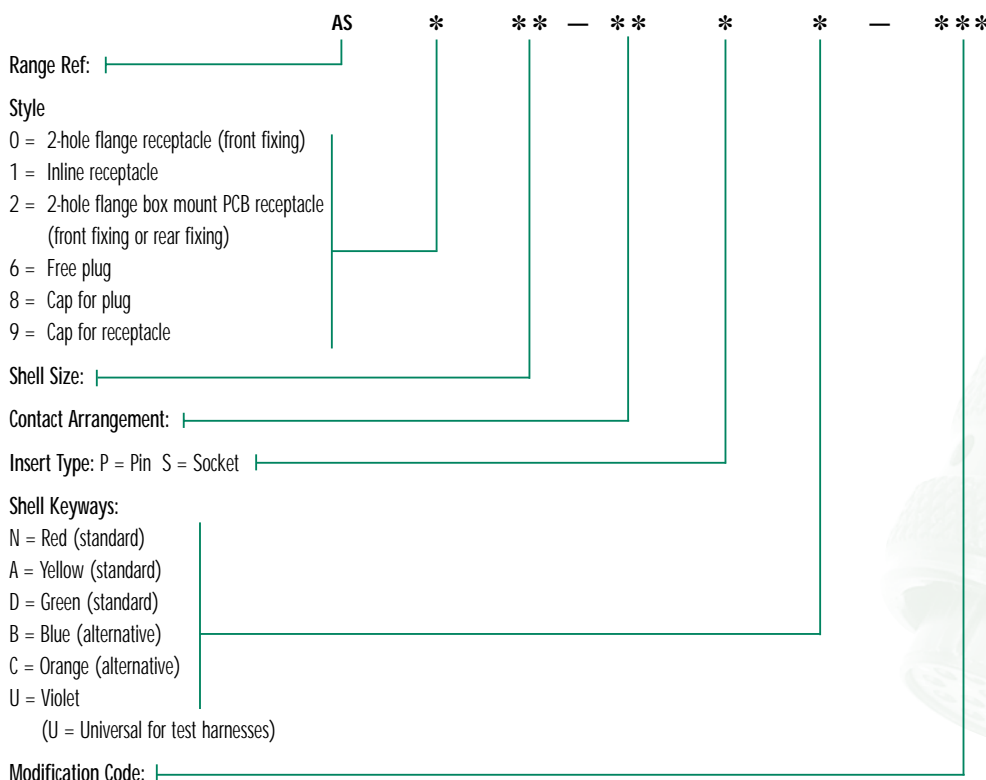
SHELL SIZE	CONTACT ARRANGEMENT	NUMBER OF CONTACTS			RATING
		SIZE 22 D	SIZE 20	SIZE 16	
18	-32		32		I
18	-35	66			M
20	-16			16	I
20	-39		37	2	I
20	-41		41		I
20	-35	79			M
22	-21			21	I
22	-55		55		I
22	-35	100			M
24	-29			29	I
24	-61		61		I
24	-35	128			M

Note 2: The contact/insert arrangements shown above are standard layouts. Other combinations of shell size and insert arrangements may be available. For details consult the sales office.

## AS SERIES: CONTACTS, TOOLING AND FILLER PLUGS

CONTACT SIZE	PART NUMBERS						
	SOCKET	PIN	FILLER PLUG	INS/EXT TOOL	CRIMP TOOL	PIN POSITIONER	SKT POSITIONER
22	38943-22	38941-22	600300-22	M81969/14-01	M22520/2-01	M22520/2-09	M22520/2-07
20	38943-20	38941-20	600300-20	M81969/14-10	M22520/2-01	M22520/2-10	M22520/2-10
16	38943-16	38941-16	600300-16	M81969/14-03	M22520/1-01	M22520/1-04	M22520/1-04

## ORDERING INFORMATION



### How to order:

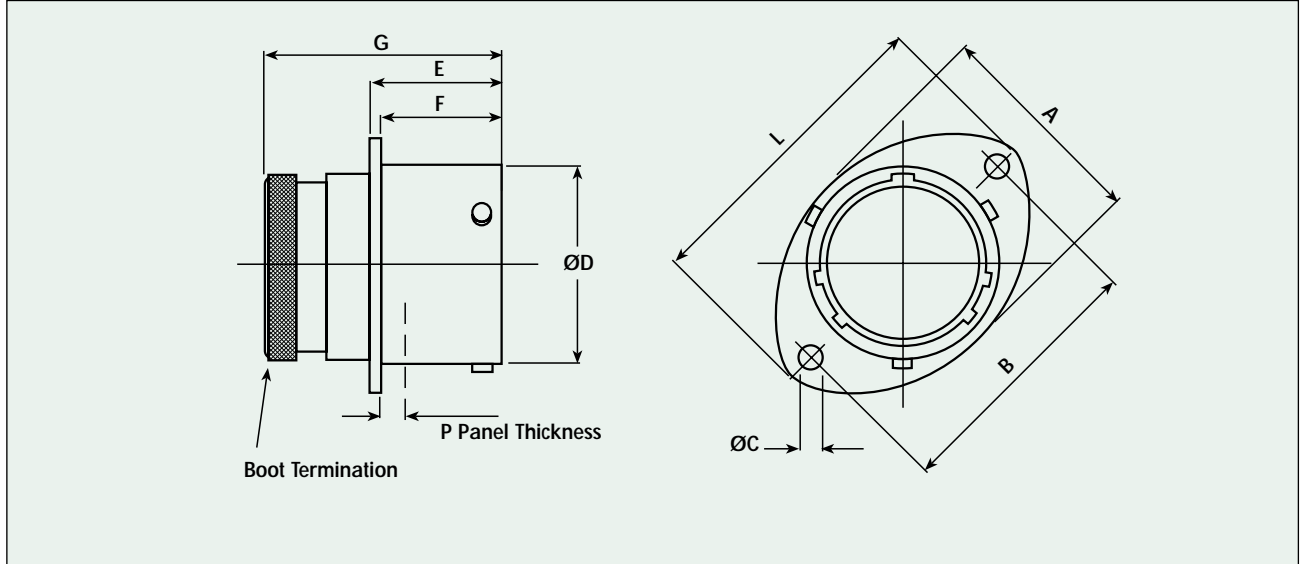
Quote the AS reference, followed by the style, shell size, contact arrangement, insert style and shell keyway option, e.g. AS008-98PN.

For protective caps quote the AS style reference and shell size, e.g. AS808.

If you require a special modification, a code will be allocated and this should be added to the ordering code.

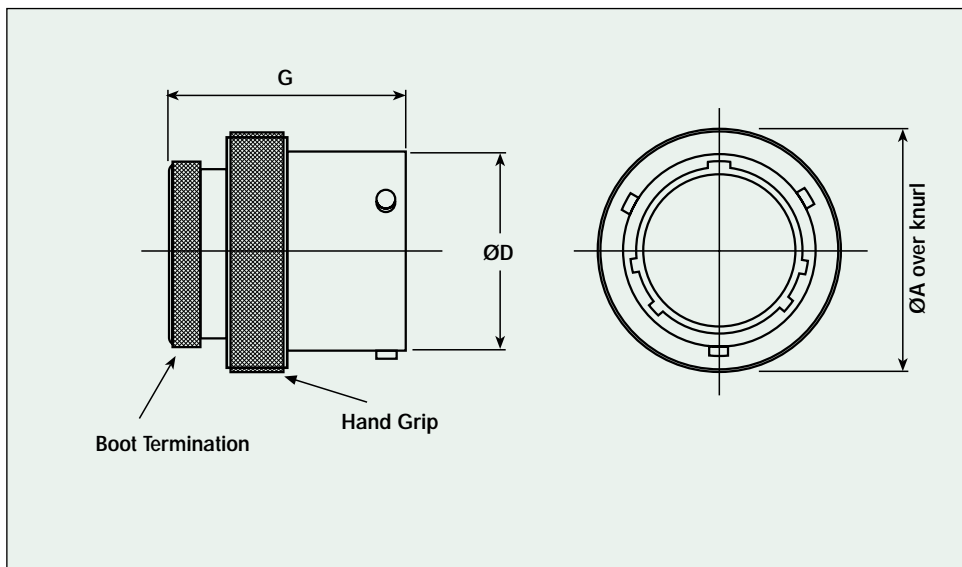
## AS SHELL STYLES

### RECEPTACLE – TYPE 0



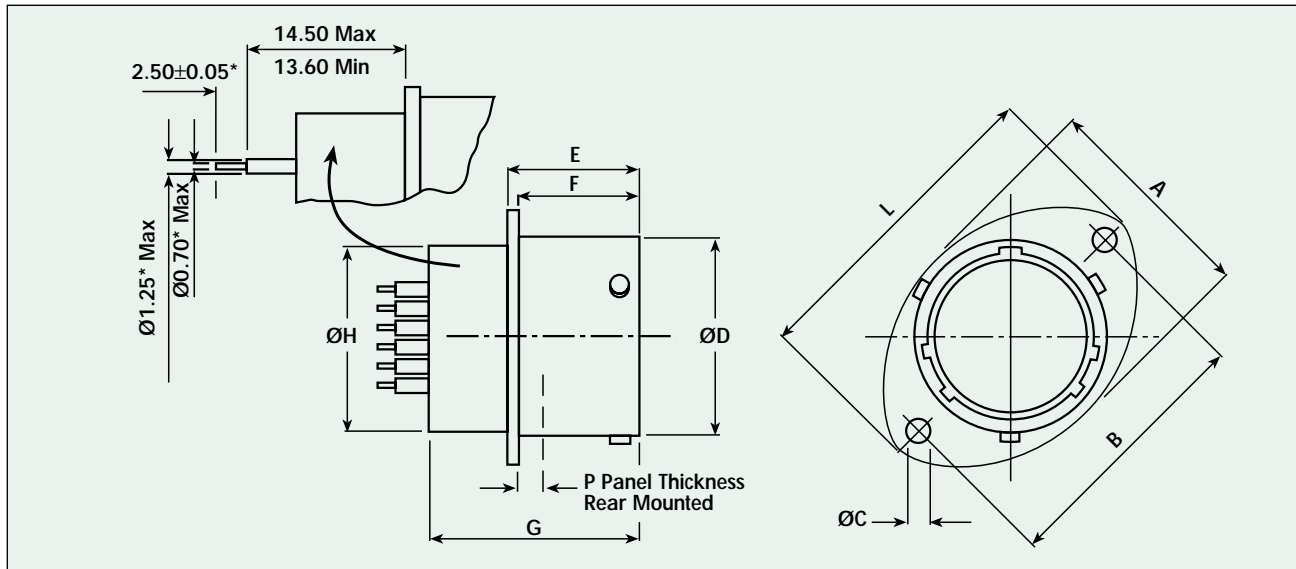
SHELL SIZE	A Ref	B ± 0.2	C + 0.1 - 0	D + 0 - 0.13	E + 0.15 - 0	F + 0 - 0.13	G MAX	L MAX	P MAX
08	16.50	21.35	3.20	12.00	17.21	16.05	33.50	27.20	3.00
10	19.50	25.90		15.00				32.00	
12	24.00	29.10		19.05				35.20	
14	27.00	32.50		22.22				38.40	
16	30.30	34.80		25.40				41.00	
18	33.70	38.20		28.57				44.70	
20	37.00	41.60		31.75				47.90	
22	40.00	44.95	34.92	51.10	15.29				
24	43.30	49.35	3.70	38.10		55.80	2.26		

### INLINE RECEPTACLE – TYPE 1



SHELL SIZE	A MAX	D + 0 - 0.13	G MAX
08	17.70	12.00	33.50
10	20.80	15.00	
12	25.20	19.05	
14	28.40	22.22	
16	31.50	25.40	
18	34.80	28.57	
20	38.20	31.75	
22	41.30	34.92	
24	44.60	38.10	

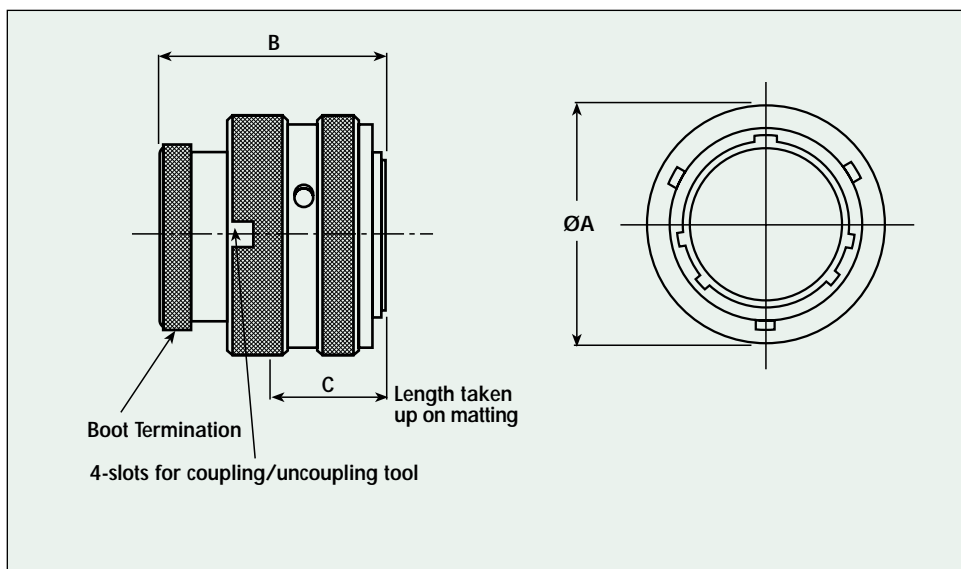
## PCB BOX MOUNTING RECEPTACLE – TYPE 2



\*Dimensions for 20 and 22 contacts shown are for standard parts. Other PCB contacts are available.

SHELL SIZE	A Ref	B ± 0.2	C + 0.1 - 0	D + 0 - 0.13	E + 0.15 - 0	F + 0 - 0.13	G MAX	H MAX	L MAX	P MAX
08	16.50	21.40	3.2	12.00	17.21	16.05	27.65	11.10	27.20	3.00
10	19.50	25.90		15.00				14.27	32.00	
12	24.00	29.10		19.05				17.44	35.20	
14	27.00	32.50		22.22				20.60	38.40	
16	30.30	34.80		25.40				23.77	41.00	
18	33.70	38.20		28.57				26.94	44.70	
20	37.00	41.60		31.75				30.11	47.90	
22	40.00	44.95		34.92				33.29	51.10	
24	43.30	49.35	3.7	38.10	15.29	36.46	55.80	2.26		

## PLUG – TYPE 6



SHELL SIZE	A MAX	B MAX	C MAX
08	17.70	33.50	15.00
10	20.80		
12	25.20		
14	28.40		
16	31.50		
18	34.80		
20	38.20		
22	41.30		
24	44.60		

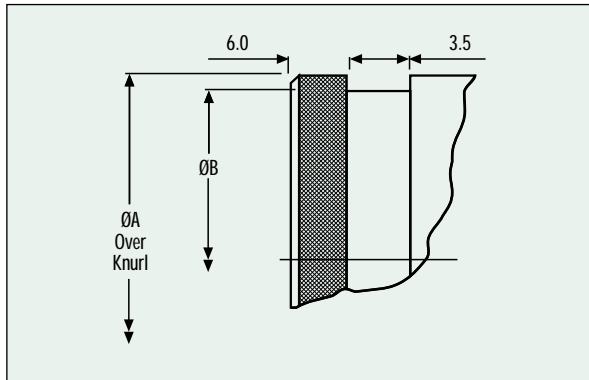


## AS PROTECTIVE CAPS

RECOMMENDED FOR EQUIPMENT STORAGE/TRANSIT



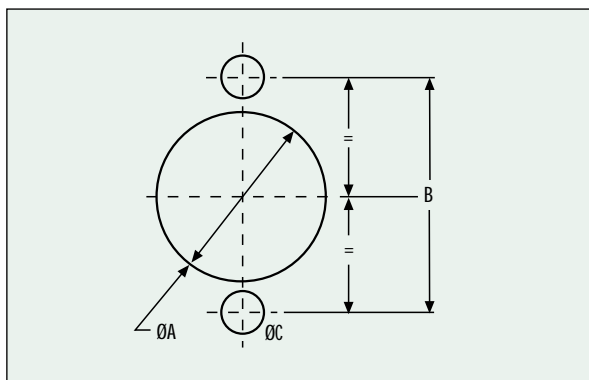
## BOOT TERMINATION DETAIL



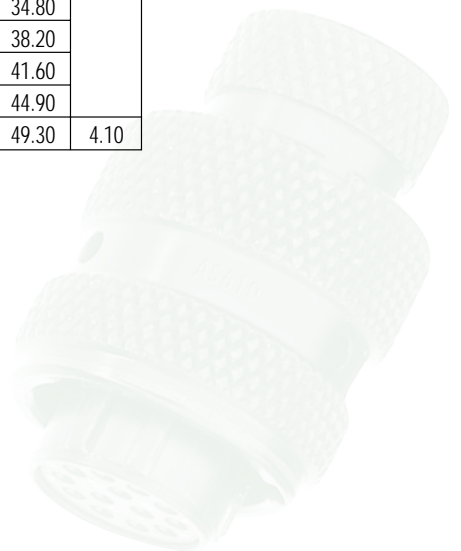
SHELL SIZE	A ± 0.10	B ± 0.05
08	11.20	10.00
10	14.22	12.95
12	17.39	16.15
14	20.55	19.15
16	23.72	23.35
18	26.89	25.35
20	30.06	28.50
22	33.24	31.70
24	36.41	34.85

Note:  
For details on applicable Strain Relief Boots and the Braid Termination System see page 29

## PANEL CUT-OUT DETAIL



SHELL SIZE	A ± 0.10	B ± 0.20	C ± 0.20
08	14.50	21.40	3.6
10	17.40	25.90	
12	21.90	29.10	
14	25.00	32.50	
16	28.20	34.80	
18	31.40	38.20	
20	34.60	41.60	
22	37.80	44.90	
24	41.00	49.30	4.10



# Meeting the aspirations of a Global Market

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A STEP AHEAD IN TECHNOLOGY

**interconnection solutions for harsh environments**

With its dedicated Autosport Division in constant liaison with the autosport industry, its in-house research, development and manufacturing facilities and excellent distribution network, Deutsch is the market leader in autosport interconnection solutions.

Deutsch Autosport connectors are built to withstand the harshest conditions found in the motorsport arena. Its products are supported by dedicated technicians and engineers with the total backup expected from a company like Deutsch.

**Autosport Industry First From Deutsch**

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Contact your local distribution outlet for sales and further information:



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