



# DEUTSCH AUTOSPORT INTERCONNECTION SOLUTIONS

FOR PROFESSIONAL MOTOR SPORTS

High-Performance Connectors  
Designed for Harsh-Environment Motorsport



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# DEUTSCH AUTOSPORT INTERCONNECTION SOLUTIONS

CONSISTENTLY LEADING THE WAY IN  
RESEARCH, DEVELOPMENT,  
INNOVATION, RELIABILITY & SERVICE

TE Connectivity (TE) with its DEUTSCH Autosport connection systems offers one of the best expertises in the design and manufacture of interconnection solutions for harsh environments. With over 40-years of international experience, DEUTSCH products are reliable in the Aerospace, Defence, Industrial Transportation and Autosport markets.

In the early 1990's DEUTSCH products were the first to pioneer a range of interconnection solutions specifically for the Autosport industry, enabling them to reach their position as one of the market's leaders.

The AS Series and AS Micro Series radically changed the face of autosport connection technology. Following the success of these products, TE's DEUTSCH Autosport team was established to attend to the growing needs of the autosport teams and harness houses.

A knowledgeable and experienced team of experts, supported with considerable investment in research and backed by an international distribution network, ensures TE's DEUTSCH autosport range of connectors continue to meet the constantly evolving technical challenges faced in this dynamic and demanding industry.

Specified across the entire autosport industry, TE's DEUTSCH products have been recognised many times with world champions across practically every disciplines choosing TE's DEUTSCH Autosport connectors as some of the most reliable, light weight and technologically advanced products available.

**TE Components . . . TE Technology . . . TE Know-how . . .**  
AMP | AGASTAT | CH | HARTMAN | KILOVAC | MICRODOT | NANONICS | POLAMCO | Raychem | Rochester | DEUTSCH  
SEACON Phoenix | LL ROWE | Phoenix Optix | AFP | SEACON

Empower Engineers to Solve Problems, Moving the World Forward.

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# Product Overview

TE's DEUTSCH original Autosport connector – the AS Series connector – continues to set the standard for the autosport industry. Designed by TE's DEUTSCH Autosport engineers for the 93/94 season, the AS Series connector has been used by race winning teams throughout autosport ever since.

TE Connectivity (TE) with its DEUTSCH connectors continues to push the boundaries of technology and innovation, consistently driving the market forwards with new products that match the ever increasing demands of lower weight, smaller size and better performance. All DEUTSCH connectors are thermal cycle tested and environmentally sealed to IP67 when mated\*. All DEUTSCH Autosport connectors also offer:

- Compact design/minimum space envelope
- Interfacial & wire sealing
- Boot termination feature
- PCB option
- Universal option available (not ASC)
- Standard crimp tooling
- Suitable for blind mating
- Visual indication of keyway orientation of connector
- Scoop-proof interface
- Shell-to-shell grounding (not ASC)
- Positive locking coupling mechanism
- No need for backshells or boot termination
- In-line and two hole mounting styles (not ASC)
- Surface finishing options
- Keyway options.

\*1 metre for 30 minutes minimum

## MATERIALS

**Shell / coupling ring:** High strength aluminium alloy with a conductive black zinc finish\*\*

**Contacts:** Gold plated crimp contacts\*

**Insulators:** Thermoplastic

**Interface / wire seals:** Fluorinated silicone.

\*Except hermetic connectors

\*\*Except hermetic and ASC connectors

## VIBRATION

All connectors undergo three rigorous tests for vibration and all meet or exceed the following:

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.

## FLUID RESISTANCE

In most autosports applications when exposed to most fluids the connectors showed no damage.

## AS MICRO XTRA<sup>LITE</sup> HE (ASX) SERIES CONNECTORS

The AS Micro Xtra<sup>Lite</sup> HE connectors offer teams TE's smallest, lightest package for three, five and six wires. The AS Micro Xtra<sup>Lite</sup> HE 6-way is the shortest, lightest AS connector for six wires, offering a solution where space is at its most restrictive. Refer to pages 6,8 and 10 for technical specifications.

## AS MICRO ULTRA<sup>LITE</sup> HE (ASU) SERIES CONNECTORS

The AS Micro Ultra<sup>Lite</sup> HE connectors offer the teams a small and lightweight connector for 3 and 5 wires. The AS Micro Ultra<sup>Lite</sup> HE connectors are a perfect solution where space and weight are restricted. Refer to page 12 for technical specifications.

## AS MICRO<sup>LITE</sup> HE (ASL) SERIES CONNECTORS

The Micro<sup>Lite</sup> HE connector is in excess of 30% lighter than the original AS Micro HE connector and approximately 8mm shorter, whilst still retaining all the critical features including the renowned TE's DEUTSCH #23 contacts. The AS Micro<sup>Lite</sup> HE connector is fully intermateable with the AS Micro HE connector. Refer to page 14 for technical specifications.

## AS RALLY MICRO (ASR) SERIES CONNECTORS

An evolution of the AS Micro<sup>Lite</sup> HE connector, the AS Rally Micro connector has been created with direct input from World Rally Teams. A wider coupling ring and more knurling enables mechanics wearing gloves to get a better grip when connecting and disconnecting in severe environments (snow, ice and mud). Refer to page 16 for technical specifications.

## AS COMPOSITE (ASC) SERIES CONNECTORS

Made as one unit in a rugged thermoplastic housing, the AS Composite connector is extremely resistant to vibration. Refer to page 18 for technical specifications.

## AS MINI SERIES CONNECTORS

The AS Mini Series connector bridges the gap between the existing standard AS Series (Size 8) and the AS Micro range (Size 6), offering 6-way and 3-way connectors in three shell styles. Refer to page 20 for technical specifications.

### **AS SERIES CONNECTORS**

Developed by TE's DEUTSCH engineers from the MIL-C-38999 Series 1.5 (Eurofighter connector), the AS Series connector was the first range of high specification connectors designed by TE's DEUTSCH Autosport specifically for the autosport market. The AS Series connector offers weight and space saving over standard military designs and is available a wide variety of options, with medium and high density arrangements up to 128 ways with four shell styles, and five keyway orientations. Refer to page 22 for technical specifications.

### **AS DOUBLE DENSITY (ASDD) SERIES CONNECTORS**

Next generation connector technology developed by TE's DEUTSCH Autosport, which brings together high density and high performance, inline with racing teams using smaller wire sizes. The AS Double Density range allows almost double the number of contacts to be packaged in the same shell as compared to the standard AS Series connectors. Refer to page 28 for technical specifications.

### **AS MICRO HE HERMETIC SERIES CONNECTORS**

A unique hermetic receptacle developed by TE's DEUTSCH Autosport for transducers, sensors and instrumentation where space and performance is critical. The AS Micro HE Hermetic Series connector offers high density, harsh environment sealing as standard and is one of the most compact products currently available on the market. Mounting and ease of termination has also been a major consideration with PCB style contacts and weld mounting (316 St) offered as standard. Refer to page 30 for technical specifications.

### **AS MICRO HERMETIC (JAM-NUT) SERIES CONNECTORS**

An evolution of the AS Micro HE Hermetic connectors featuring a jam-nut, this connector is ideally suited to fuel tank applications. Refer to page 31 for technical specifications.

### **AS HERMETIC FUEL TANK SERIES CONNECTORS**

A range of hermetically sealed connectors designed specifically for autosport fuel tank applications. AS Hermetic Fuel Tank connector provides a high degree of performance where normal resilient connectors may fail, by using glass to metal sealing in place of traditional plastic and elastomer inserts. Connectors are supplied with a fuel immersible specification o-ring to provide a high standard of sealing between the connector and bulkhead. Refer to page 32 for technical specifications.

### **AS MICRO<sup>LITE</sup> HE FUEL IMMERSIBLE SERIES CONNECTORS**

An evolution of the AS Micro<sup>Lite</sup> connector, the AS Micro<sup>Lite</sup> Fuel Immersible connector contains a DEUTSCH designed fuel resistant elastomer insert which offers excellent resistance to racing fuel. An upgraded hermetic version, including an inline receptacle is also available. Refer to page 34 for technical specifications.

### **AS HEAVY DUTY (ASHD) SERIES CONNECTORS**

A range of power connectors designed specifically for Autosport high current applications. The AS Heavy Duty connectors are ideally suited to battery, alternator, starter motor and energy recovery system applications. Specially designed low insertion / extraction force contacts ensure maximum performance in extreme conditions. Refer to page 36 for technical specifications.

### **FIBRE OPTICS SERIES CONNECTORS**

TE's DEUTSCH Autosport connectors also offer Fibre Optic solutions. Refer to page 43 at the back of this brochure for more information.



# AS Micro Xtra<sup>LITE</sup> HE 3 Way Connector

## Ultra compact design (Size 2 shell)

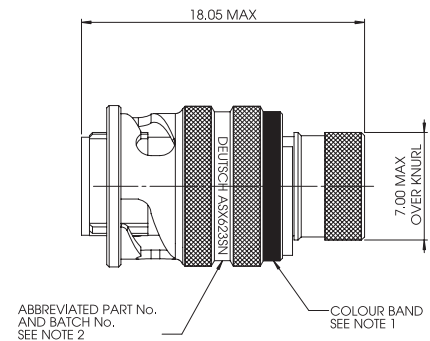
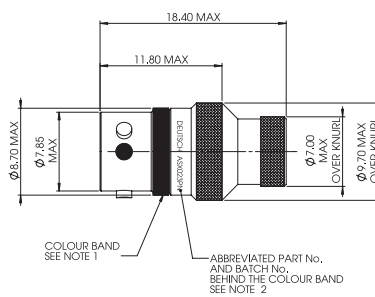
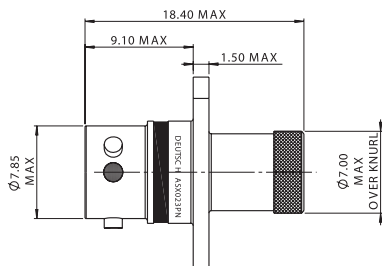
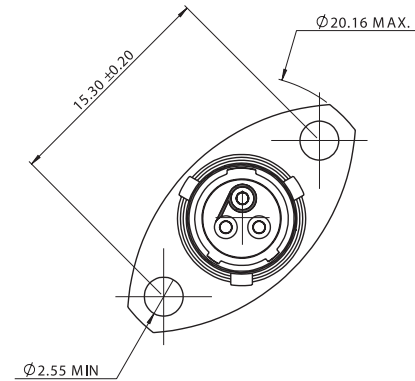
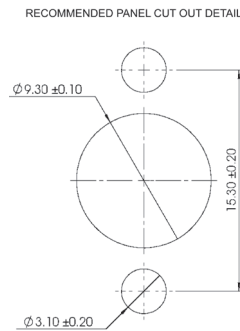
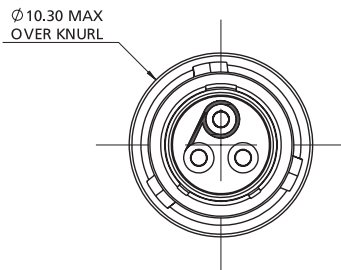
- Minimum space envelope
- 3 Size #22 contacts
- PCB option
- Smaller and lighter than AS Ultra<sup>LITE</sup> (ASU) series connectors

## Easy installation

- Positive locking coupling mechanism
- Suitable for blind mating
- Scoop proof interface
- Boot termination feature

## Built to withstand harsh environments

- Conductive black zinc finish
- Interfacial wire sealing
- Bonded and sealed insert to help prevent moisture ingress



All dimensions are in mm unless otherwise stated.



# AS Micro Xtra<sup>LITE</sup> HE 5 Way Connector

## Ultra compact design (size 2 shell)

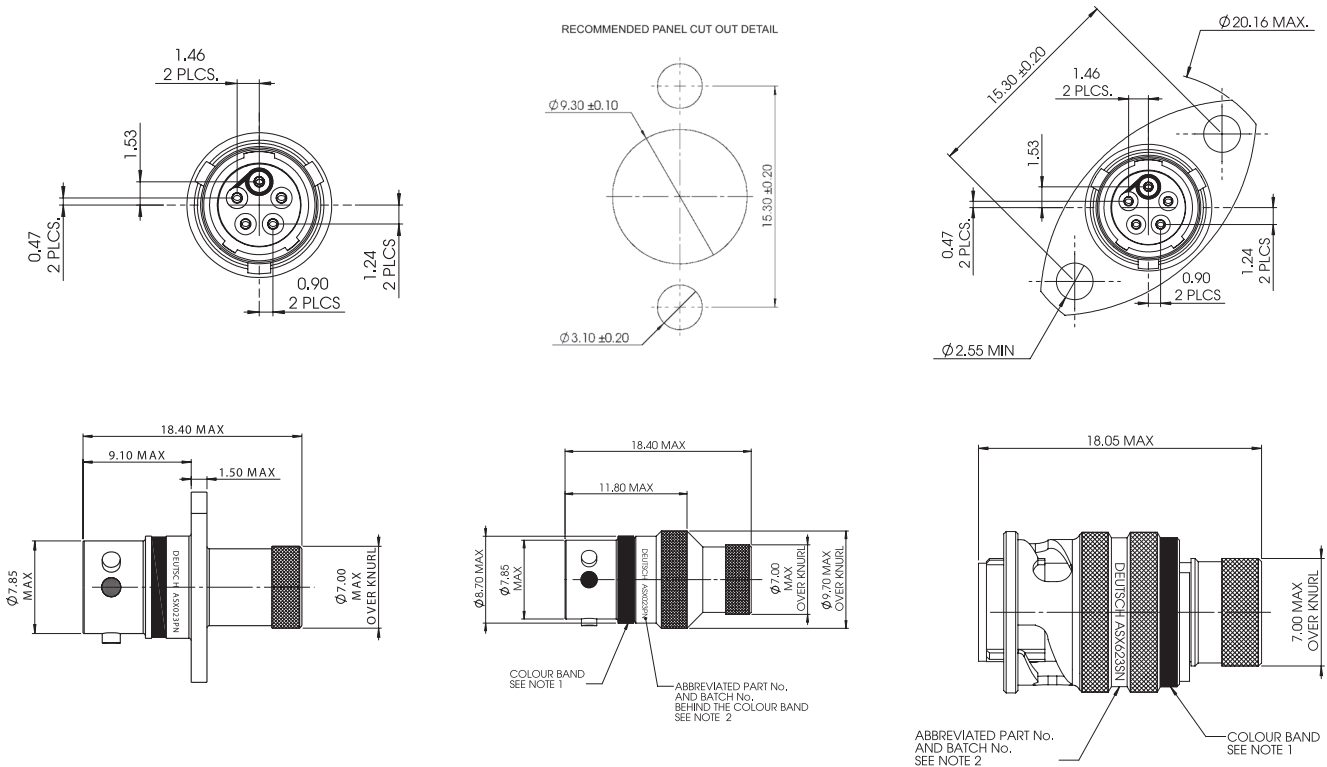
- Minimum space envelope
- 5 Size #24 contacts
- PCB option
- Smaller and lighter than AS Ultra<sup>LITE</sup> (ASU) series connectors

## Easy installation

- Positive locking coupling mechanism
- Suitable for blind mating
- Scoop proof interface
- Boot termination feature

## Built to withstand harsh environments

- Conductive black zinc finish
- Interfacial wire sealing
- Bonded and sealed insert to help prevent moisture ingress



All dimensions are in mm unless otherwise stated.





# AS Micro Xtra<sup>LITE</sup> HE 6 Way Connector



## Ultra compact design (size 2 shell)

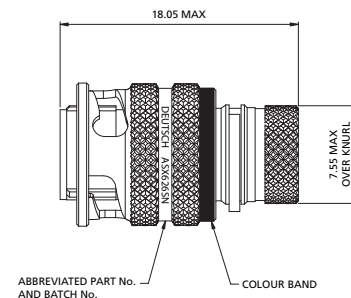
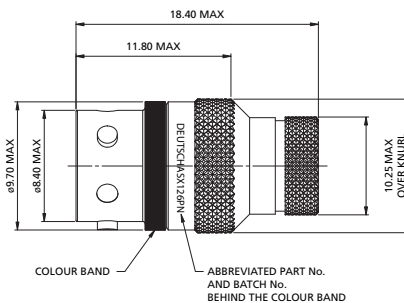
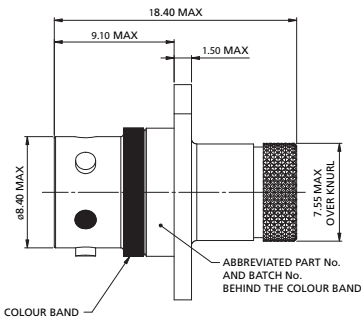
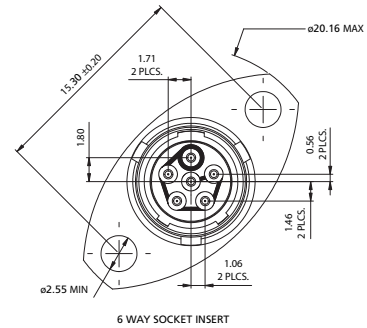
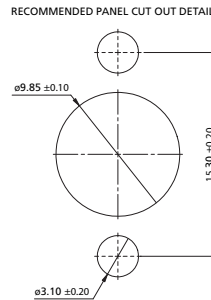
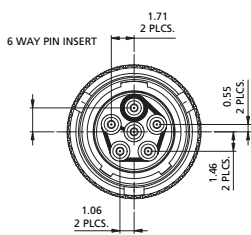
- Minimum space envelope
- 6 Size #24 contacts
- PCB option
- Smaller and lighter than AS Ultra<sup>LITE</sup> (ASU) series connectors

## Easy installation

- Positive locking coupling mechanism
- Suitable for blind mating
- Scoop proof interface
- Boot termination feature

## Built to withstand harsh environments

- Conductive black zinc finish
- Interfacial wire sealing
- Gold-plated crimp contacts
- Bonded and sealed insert to help prevent moisture ingress



All dimensions are in mm unless otherwise stated.



# AS Ultra<sup>LITE</sup> HE & AS Micro Ultra<sup>LITE</sup> HE (ASU) Series Connectors



## Unique DEUTSCH designed product

- Smaller alternative to ASL range
- Cable accommodation 24-30 AWG (5 way), 22-28 AWG (3 way)
- 17% smaller coupling ring than ASL
- 30% lighter than ASL (mated pair)

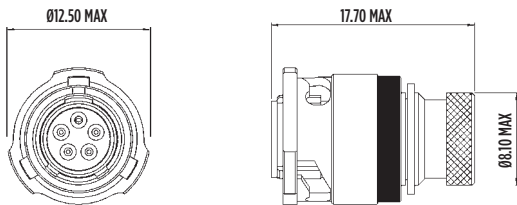
## 2 different contact options

- 5x AWG24 contacts
- 3x AWG22 contacts

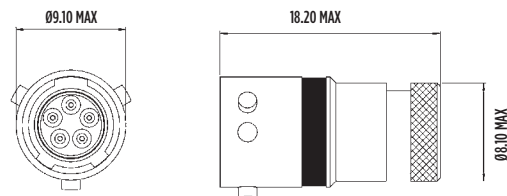
## Built to withstand harsh environments

- Conductive black zinc finish
- Interfacial wire sealing
- Bonded and sealed insert to help prevent moisture ingress

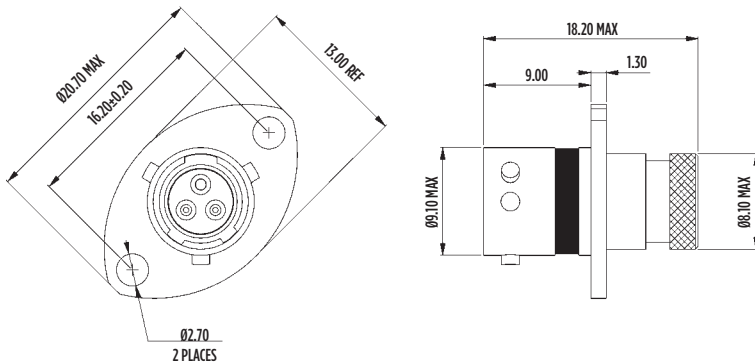
### PLUG - TYPE 6



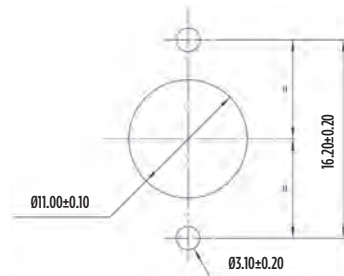
### INLINE RECEPTACLE - TYPE 1



### RECEPTACLE - TYPE O



### PANEL CUT-OUT DETAIL



All dimensions are in mm unless otherwise stated.



# AS Micro<sup>LITE</sup> HE (ASL) Series Connectors



## Compact design (size 6 shell)

- Designed for sensor applications
- 5 Size #23 contacts
- PCB option

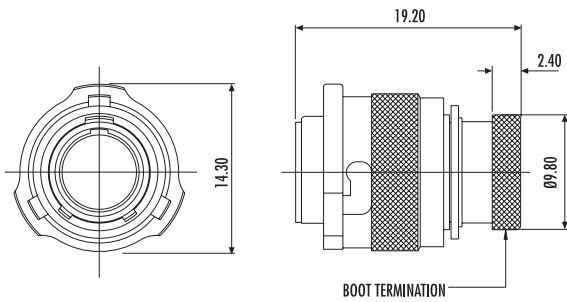
## Easy installation

- Positive locking coupling mechanism
- Suitable for blind mating
- Scoop proof interface
- Boot termination feature

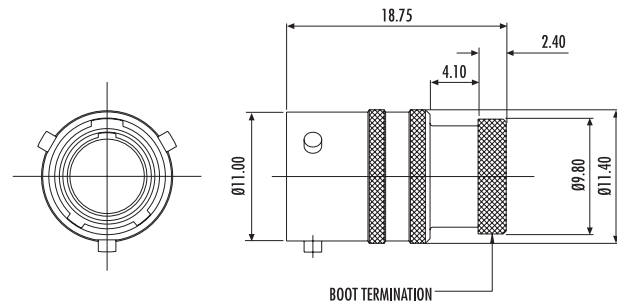
## Built to withstand harsh environments

- Conductive black zinc finish
- Interfacial wire sealing
- Bonded and sealed insert to help prevent moisture ingress

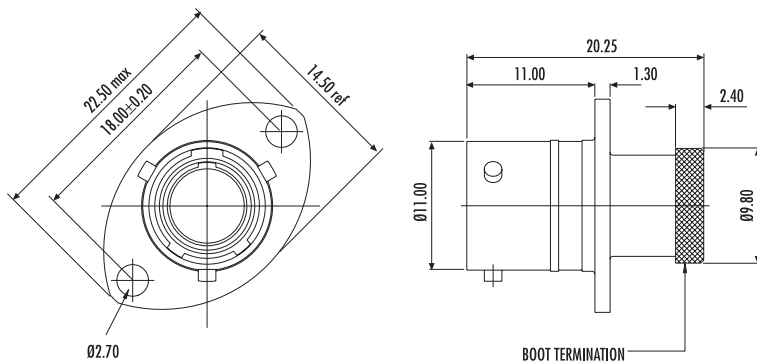
PLUG - TYPE 6



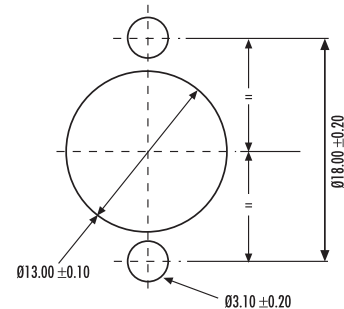
INLINE RECEPTACLE - TYPE 1



RECEPTACLE - TYPE 0



PANEL CUT-OUT DETAIL



All dimensions are in mm unless otherwise stated.

## GENERAL SPECIFICATION

No. of Ways	Contact Size	Shell Size	Max. Current (Amps)	Durability (cycles of engagement & disengagement)	Dielectric Withstanding Voltage (VAC)	No. of Keyway Orientations	Wire Sealing (mm)		Temperature (°C)*	
							Min.	Max.	Min.	Max.
5	23	6	3	500	1000	6	0.60	1.37	-55	+170

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

\*\* Current leakage less than 2 milliAmps at (VAC)

## CONTACTS & TOOLING PART NUMBERS

Contact Size	Socket	Pin	PCB Socket	PCB Pin	Filler Plug	Ins/Ext Tool	Crimp Tool	Socket Positioner	Pin Positioner
23	604935	604927-31	604992-HE	604990-31	600300-22	M81969/14-01	M22520/2-01	604973	604972

## ORDERING INFORMATION

**ASL \* 06 — 05 \* \* — HE — \* \* \***

**Range Ref:** \_\_\_\_\_

**Style:**  
 0 = 2-hole flange receptacle  
 1 = Inline receptacle  
 2 = 2-hole flange receptacle with PCB contacts  
 6 = Free plug

**Shell Size:** \_\_\_\_\_

**Contact Arrangement:** \_\_\_\_\_

**Insert Type:**  
 P = Pin  
 S = Socket

**Shell Keyways:**  
 N = Red (standard)  
 A = Yellow  
 B = Blue  
 C = Orange  
 D = Green  
 E = Grey  
 U = Violet  
 U = (U = Universal for test harnesses- Plug type 6 only)

**Harsh Environment:** \_\_\_\_\_

**Modification Code:** \_\_\_\_\_

## ACCESSORIES PART NUMBERS

Pro Cap		Nut Plate	Gasket
Receptacle	Plug		
604029	604027	ATM396-6	GV-6

	Boot Information	
	Straight	90 degree
Raychem	204W221	224W221
Hellermann	1030-4-G	1181-4-G

# AS Rally Micro (ASR) Series Connectors

## Compact design (size 6 shell)

- Specialised coupling ring for poor grip locations
- 5 Size #23 contacts

## Easy installation

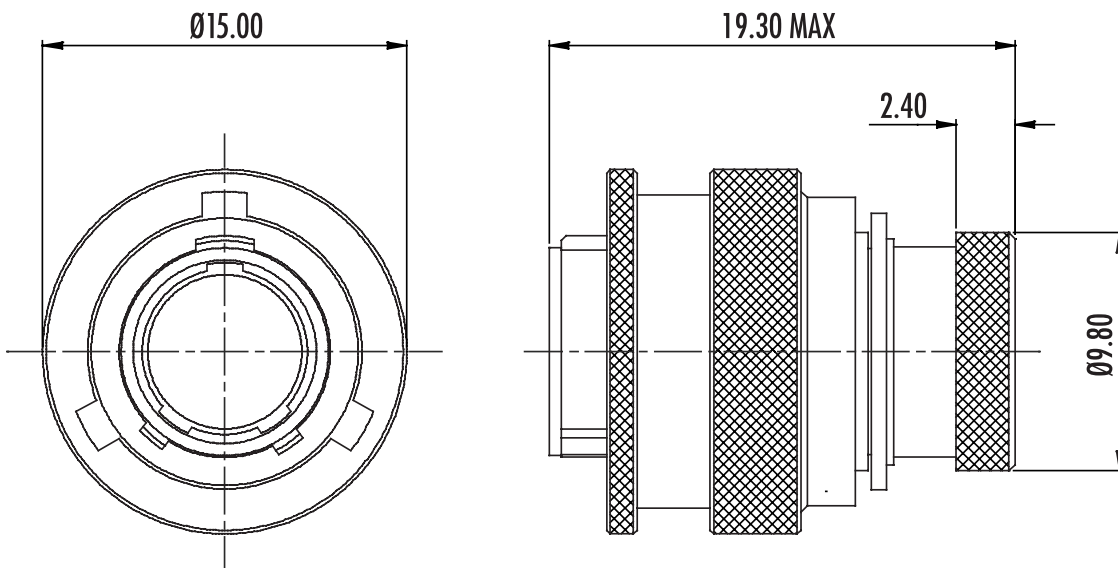
- Positive locking coupling mechanism
- Suitable for blind mating
- Scoop proof interface
- Boot termination feature

## Built to withstand harsh environments

- Conductive black zinc finish
- Interfacial wire sealing
- Bonded and sealed insert to help prevent moisture ingress



PLUG - TYPE 6

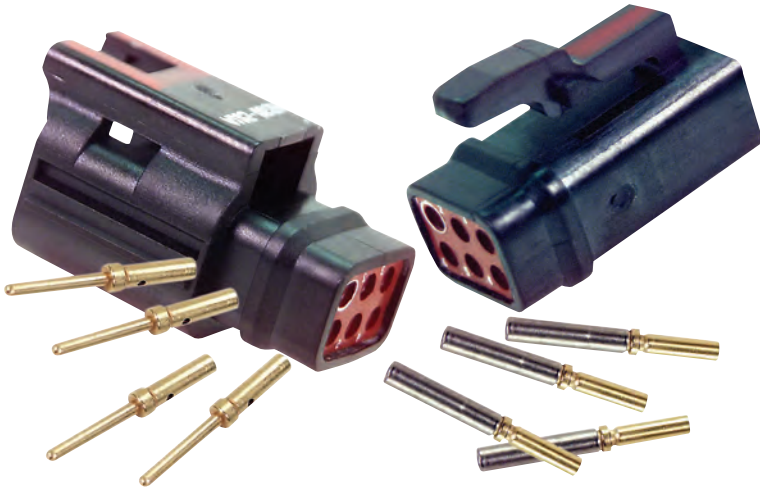


All dimensions are in mm unless otherwise stated.





# AS Composite (ASC) Series Connectors



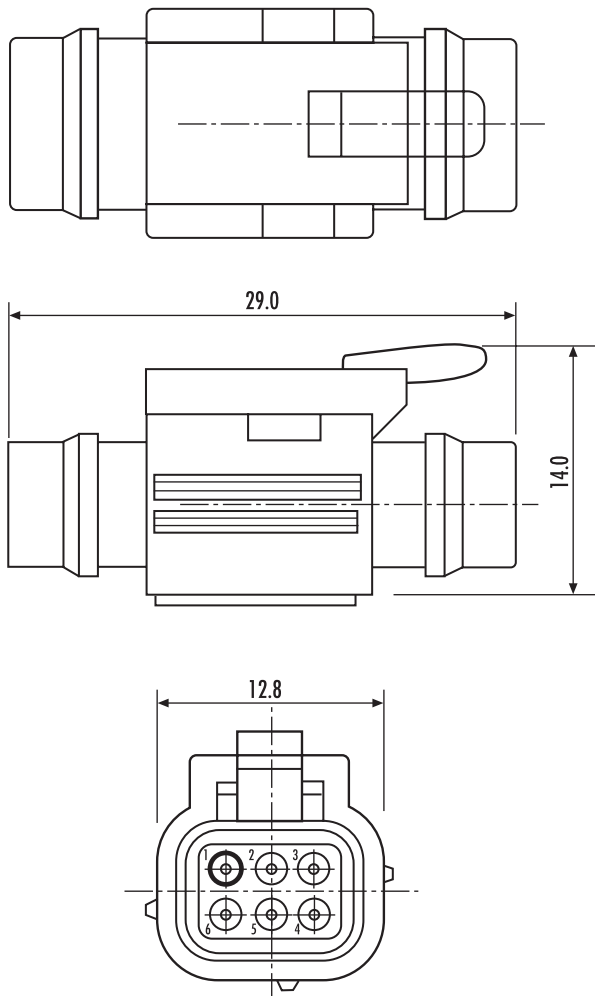
## Extremely resistant to vibration

- Rugged thermoplastic housing

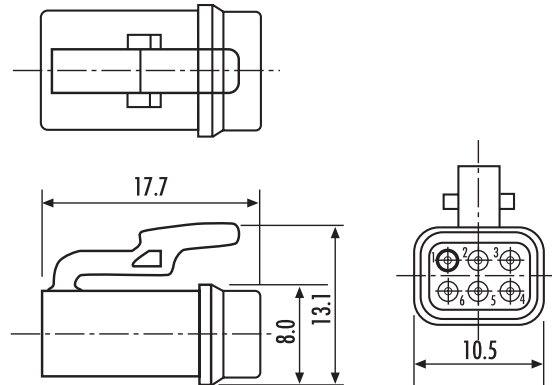
## Specific installation options

- Bondable with suitable adhesive in different configurations
- Cable-tie slot for security and mounting inline connections designed to fit 3.6mm wide cable-tie
- Close stacking possible with locating sides and bottom

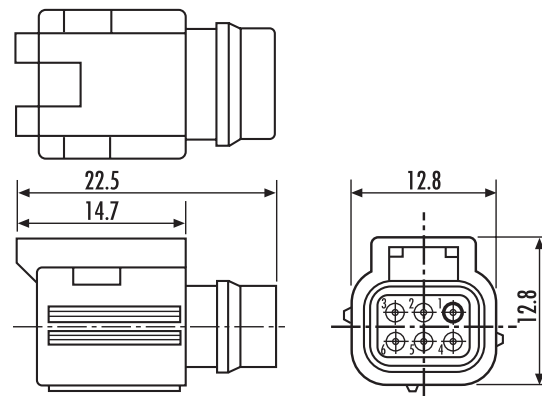
MATED PAIR



PLUG -TYPE 6



RECEPTACLE - TYPE 1



All dimensions are in mm unless otherwise stated.

## GENERAL SPECIFICATION

Contact Size	Shell Size	Max. Current (Amps)	Durability (cycles of engagement & disengagement)	Dielectric Withstanding Voltage (VAC)	No. of Keyway Orientations	Wire Sealing (mm)		Temperature (°C)*	
						Min.	Max.	Min.	Max.
22	6	5	300	1500	6	0.76	1.37	-55	+170

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

\*\* Current leakage less than 2 milliAmps at (VAC)

## CONTACTS & TOOLING PART NUMBERS

Socket	Pin	Filler Plug	Ins/Ext Tool	Crimp Tool	Socket Positioner	Pin Positioner
604984	604946-31	600300-22	M81969/14-01	M22520/2-01	605464	605463

## ORDERING INFORMATION

Range Ref: \_\_\_\_\_

Style: \_\_\_\_\_

1 = 1 Inline Receptacle  
6 = Free plug

Shell Size: \_\_\_\_\_

Contact Arrangement: \_\_\_\_\_

Insert Type: \_\_\_\_\_

P = Pin  
S = Socket

Shell Keyways: \_\_\_\_\_

N = Red (standard)  
A = Yellow  
B = Blue  
C = Orange  
D = Green  
E = Grey

Modification Code: \_\_\_\_\_

**ASC \* 05 - 06 \* \* \*\***

Part Numbers: Receptacle: ASC105-06SN Plug: ASC605-06PN

Please note: Plug only available in pin arrangement, Receptacle only available in socket arrangement.

## ACCESSORIES PART NUMBERS

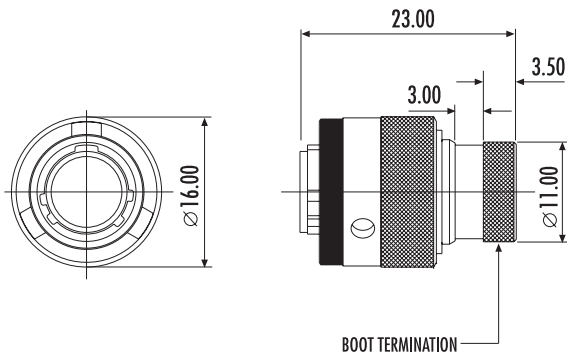
	Boot Information	
	Straight	90 degree
Raychem	204W221	224W221
Hellermann	1030-4-G	1181-4-G

# AS Mini Series Connectors

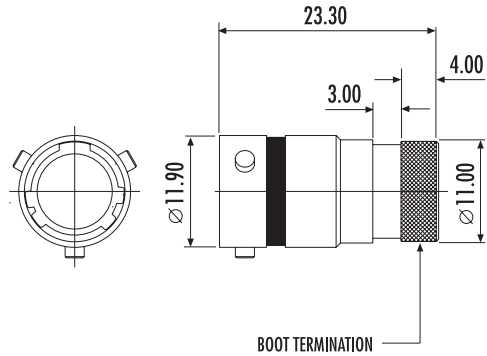


- Size 7 shell  
Smaller option to Mil size 8
- 2 planform options  
3 or 6 contact options
- Integral screen termination  
Ideal for braided cable installations
- Cable accommodation 20, 22, 24 and 26 AWG
- Offers size 8 insert arrangement in smaller shell

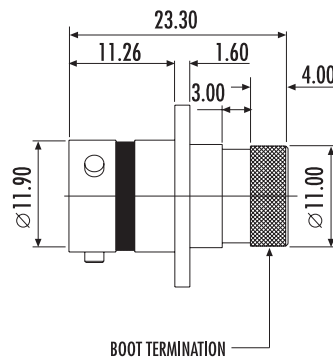
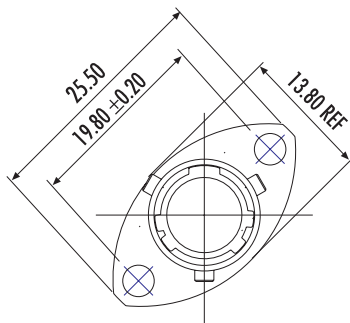
## PLUG - TYPE 6



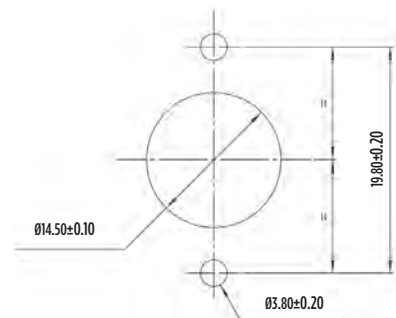
## INLINE RECEPTACLE - TYPE 1



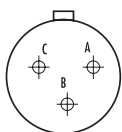
## RECEPTACLE - TYPE 0



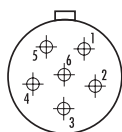
## PANEL CUT-OUT DETAIL



## INSERT ARRANGEMENTS



07-98  
Size 7 3#20



07-35  
Size 7 6#22

All dimensions are in mm unless otherwise stated.

## GENERAL SPECIFICATION

Contact Size	Shell Size	Max. Current (Amps)	Durability (cycles of engagement & disengagement)	Dielectric Withstanding Voltage (VAC)	No. of Keyway Orientations	Wire Sealing (mm)		Temperature (°C)*	
						Min.	Max.	Min.	Max.
22	7	5	500	1500	3	0.76	1.37	-55	+170
20		7.5		1800		1.02	2.11		

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

\*\* Current leakage less than 2 milliAmps at (VAC)

## CONTACTS & TOOLING PART NUMBERS

Contact Size	Socket	Pin	Filler Plug	Ins/Ext Tool	Crimp Tool	Socket Positioner	Pin Positioner
22	604887	38941-22	600300-22	M81969/14-01	M22520/2-01	605000	M22520/2-09
20	6862-201-20278	38941-20	600300-20	M81969/14-10		M22520/2-10	M22520/2-10

## ORDERING INFORMATION

AS \* 07 — \*\* \* \* \*\*\*

**Range Ref:** \_\_\_\_\_

**Style:**  
 0 = 2-hole Receptacle  
 1 = 1 Inline Receptacle  
 6 = Free plug

**Shell Size:** \_\_\_\_\_

**Contact Arrangement:**  
 35, 98

**Insert Type:**  
 P = Pin  
 S = Socket

**Shell Keyways:**  
 N = Red (standard)  
 A = Yellow  
 B = Blue

**Modification Code:** \_\_\_\_\_

## ACCESSORIES PART NUMBERS

Pro Cap		Nut Plate	Gasket
Receptacle	Plug		
AS907	AS807	ATM396-7	GV-7

	Boot Information	
	Straight	90 degree
Raychem	202K121	222K121
Hellermann	152-42-G	1152-4-G

# AS Series Connectors



## Large application choices

- Filter, hermetic & fibre optic options available  
Shell sizes 8 - 24
- Intermateable with existing LN29729 (Mil-C 38999 Series 1.5) and Pan 6433-2 style connectors
- High density arrangements

## Built to withstand harsh environments

- Conductive black zinc finish
- Interfacial wire sealing
- Bonded and sealed insert to help prevent moisture ingress

## GENERAL SPECIFICATION

Contact Size	Shell Size	Max. Current (Amps)	Durability(cycles of engagement & disengagement)	No. of Keyway Orientations	Wire Sealing (mm)		Temperature (° C)*	
					Min.	Max.	Min.	Max.
22	8 to 24 see below	5	500	5	0.76	1.37	-55	+175
20		7.5		only 3 for shell size 8	1.02	2.11		
16		20		1.65	2.77			

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

Shell Size	Contact Arrangement	Number of Contacts			Rating **
		Size 22 D	Size 20	Size 16	
08	-98		3		I
08	-35	6			M
10	-98		6		I
10	-35	13			M
10	-02			2	I
10	-03			3	I
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

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

\*\*Ratings M&I define Dielectric Withstand Voltage ratings as follows:  
I = 1800 volts rms, M = 1300 volts rms, current leakage less than 2 milliAmps.

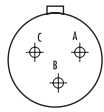
**Please note:** The contact/insert arrangements shown above are standard layouts. Other combinations of shell sizes and insert arrangements may be available. For details contact the TE Technical Support.

## CONTACTS & TOOLING PART NUMBERS

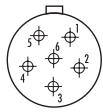
Contact Size	Socket	Pin	Filler Plug	Ins/Ext Tool	Crimp Tool	Socket Positioner	Pin Positioner
22	38943-22	38941-22	600300-22	M81969/14-01	M22520/2-01	M22520/2-07	M22520/2-09
20	38943-20	38941-20	600300-20	M81969/14-10	M22520/2-01	M22520/2-10	M22520/2-10
16	38943-16	38941-16	600300-16	M81969/14-03	M22520/1-01	M22520/1-04	M22520/1-04

**Please note:** PCB versions are ordered with AS2 prefixes and come with contacts.

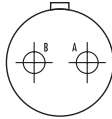
## AS CONTACT / INSERT ARRANGEMENTS



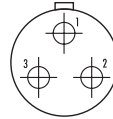
08-98 (I)  
Size 8  
3#20



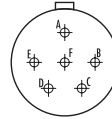
08-35 (M)  
Size 8  
6#22



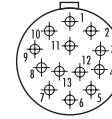
10-02 (I)  
Size 10  
2#16



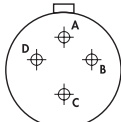
10-03 (I)  
Size 10  
3#16



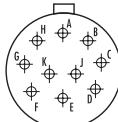
10-98 (I)  
Size 10  
6#20



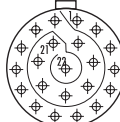
10-35 (M)  
Size 10  
13#22



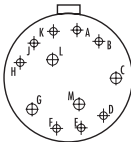
12-04 (I)  
Size 12  
4#16



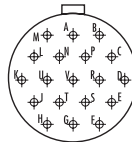
12-98 (I)  
Size 12  
10#20



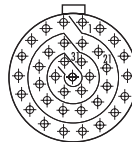
12-35 (M)  
Size 12  
22#22



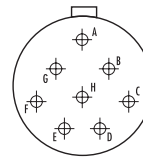
14-97 (I)  
Size 14  
8#20 4#16



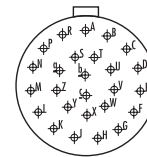
14-19 (I)  
Size 14  
19#20



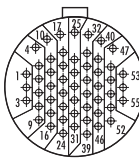
14-35 (M)  
Size 14  
37#22



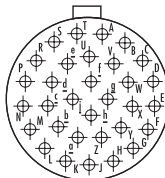
16-08 (I)  
Size 16  
8#16



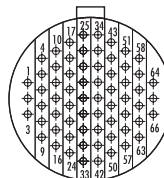
16-26 (I)  
Size 16  
26#20



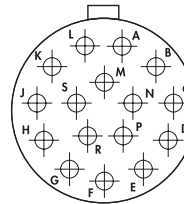
16-35 (M)  
Size 16  
55#22



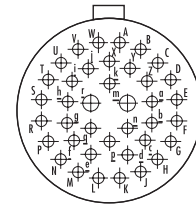
18-32 (I)  
Size 18  
32#20



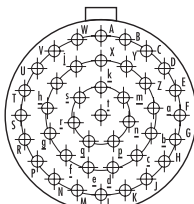
18-35 (M)  
Size 18  
66#22



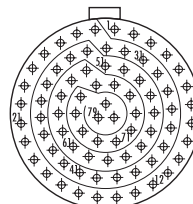
20-16 (I)  
Size 20  
16#16



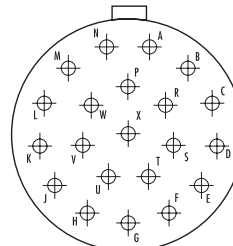
20-39 (I)  
Size 20  
39#20 2#16



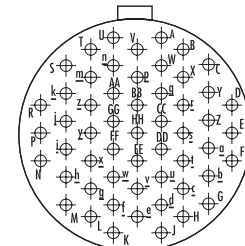
20-41 (I)  
Size 20  
41#20



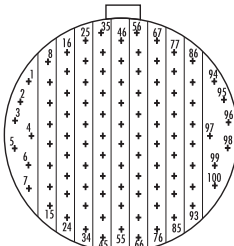
20-35 (M)  
Size 20  
79#22



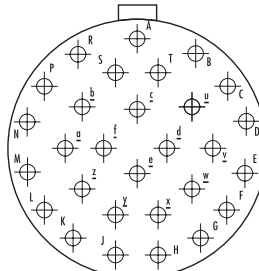
22-21 (I)  
Size 22  
21#16



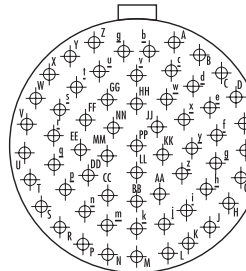
22-55 (I)  
Size 22  
55#20



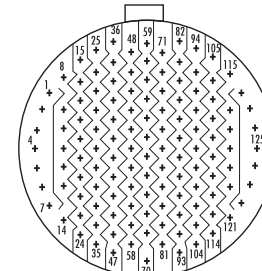
22-35 (M)  
Size 22  
100#22



24-29 (I)  
Size 24  
29#16



24-61 (I)  
Size 24  
61#20

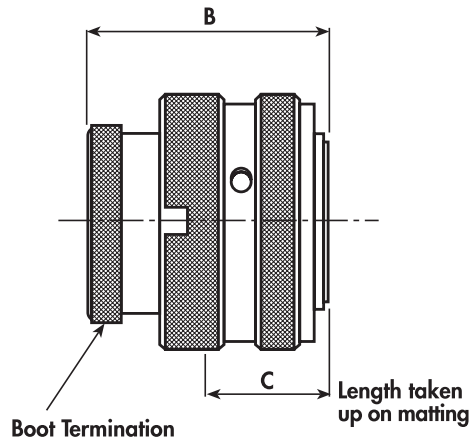


24-35 (M)  
Size 24  
128#22

Ratings M&I define Dielectric Withstand Voltage ratings as follows: I = 1800 volts rms, M = 1300 volts rms, current leakage less than 2 milliamperes.

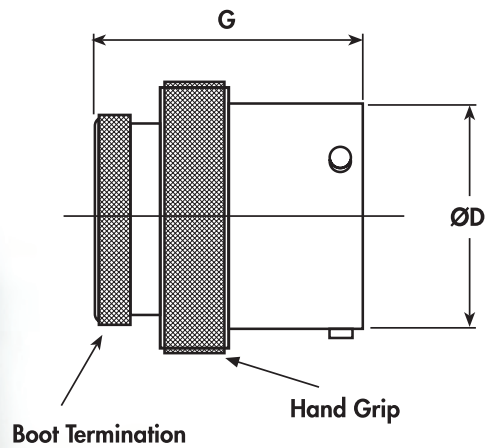
# AS Series Connectors continued

## PLUG - TYPE 6



Shell Size	A Max.	B Max.	C Max.
08	17.70		
10	20.80		
12	25.20		
14	28.40		
16	31.50	33.50	15.00
18	34.80		
20	38.20		
22	41.30		
24	44.60		

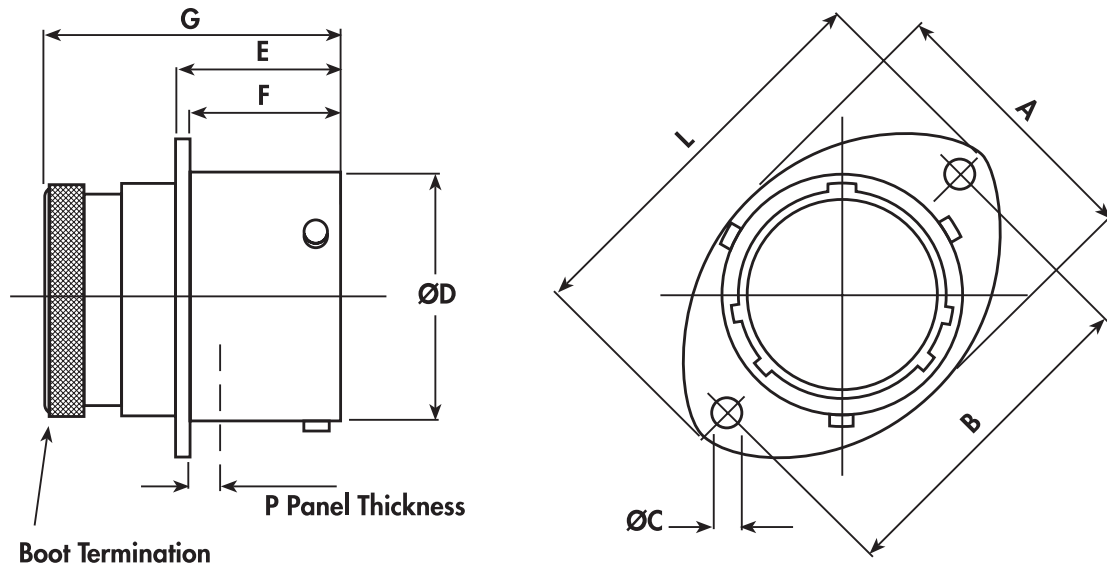
## INLINE RECEPTACLE - TYPE 1



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

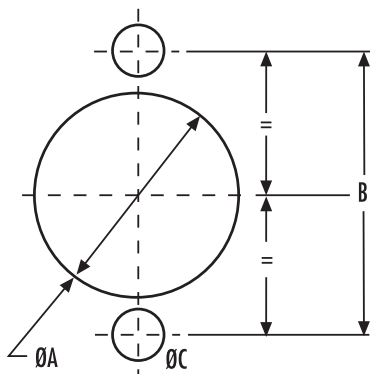


## RECEPTACLE - TYPE O



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		12.00				27.20	
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		16.05		38.40	
16	30.30	34.80	3.20	25.40	17.21		33.50	41.00	3.00
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		15.29		51.10	
24	43.30	49.35	3.70	38.10				55.80	2.26

## PANEL CUT-OUT DETAIL

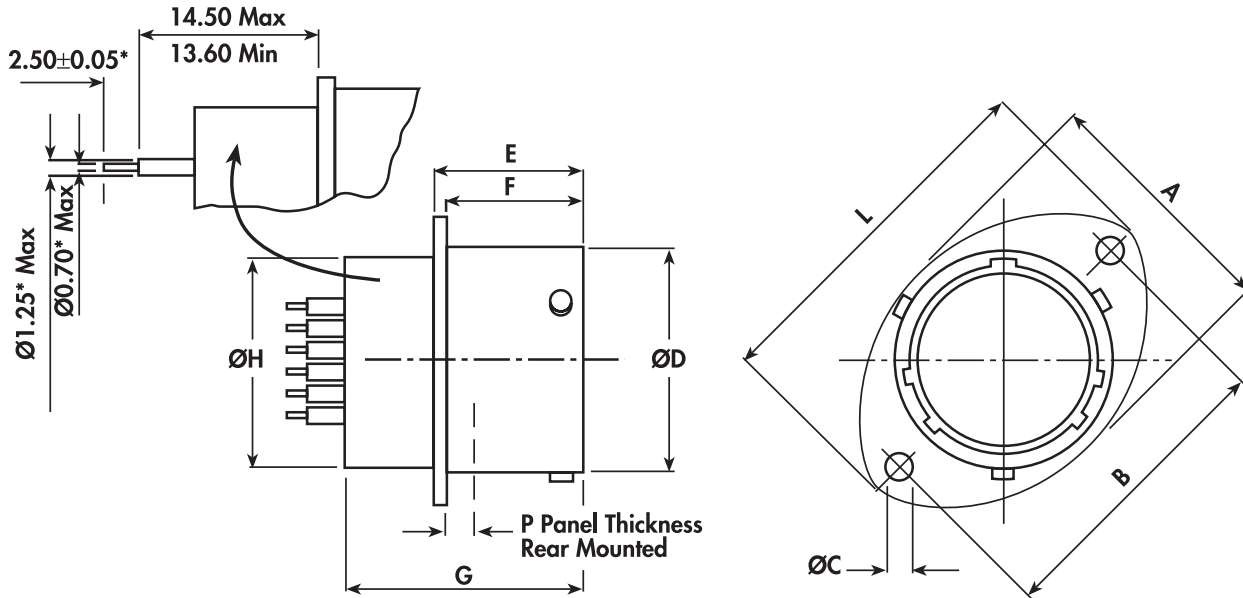


Shell Size	A ±0.10	B ±0.20	C ±0.20
08	14.50	21.40	
10	17.40	25.90	
12	21.90	29.10	
14	25.00	32.50	
16	28.20	34.80	3.6
18	31.40	38.20	
20	34.60	41.60	
22	37.80	44.90	
24	41.00	49.30	4.10

All dimensions are in mm unless otherwise stated.

# AS Series Connectors (continued)

## 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		12.00				11.10	27.20	
10	19.50	25.90		15.00				14.27	32.00	
12	24.00	29.10		19.05		16.05		17.44	35.20	
14	27.00	32.50		22.22				20.60	38.40	
16	30.30	34.80	3.2	25.40	17.21		27.65	23.77	41.00	3.00
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		15.29		33.29	51.10	
24	43.30	49.35	3.7	38.10				36.46	55.80	2.26

All dimensions are in mm unless otherwise stated.

## ORDERING INFORMATION

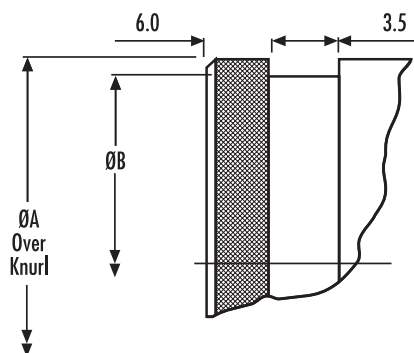
	<b>AS</b>	*	**	-	**	*	*	-	***
<b>Range Ref:</b>	-----								
<b>Style:</b>	-----								
0 = 2-hole flange receptacle (front fixing)									
1 = Inline receptacle									
2 = 2-hole flange box mount PCB receptacle (front fixing or rear fixing)	-----								
6 = Free plug									
8 = Cap for plug									
9 = Cap for receptacle									
<b>Shell Size:</b>	-----								
<b>Contact Arrangement:</b>	-----								
<b>Insert Type:</b>	-----								
P = Pin									
S = Socket									
<b>Shell Keyways:</b>	-----								
N = Red (standard)									
A = Yellow									
D = Green									
B = Blue									
C = Orange									
U = Violet									
(U = Universal for test harnesses)									
<b>Modification Code:</b>	-----								

Please note: The size 8 shell is only available in keyways A, D and N.

## ACCESSORIES PART NUMBERS

Shell Size	Nut Plate	Gasket
08	ATM396 -8	GV-08
10	ATM396 -10	GV-10
12	ATM396 -12	GV-12
14	ATM396 -14	GV-14
16	ATM396 -16	GV-16
18	ATM396 -18	GV-18
20	ATM396 -20	GV-20
22	ATM396 -22	GV-22
24	ATM396 -24	GV-24

## 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

# AS Double Density (ASDD) Series Connectors



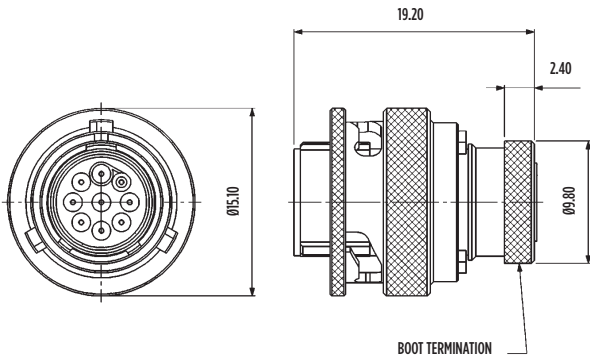
## Next generation connector – high density and high performance 7 shell sizes

- Allows for a saving of 2 shell sizes relative to standard autosport platforms
- Very lightweight
- Almost double the number of contacts compared with the standard autosport range equivalent shell size
- Integral screen

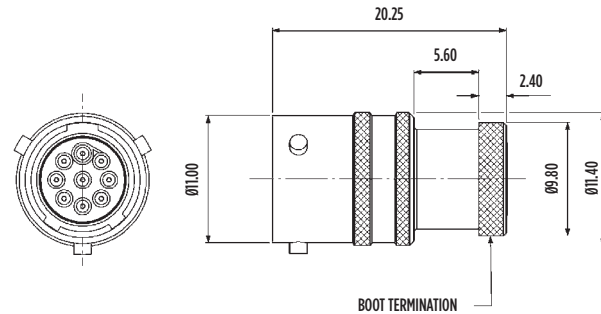
## Built to withstand harsh environments

- Conductive black zinc finish
- Interfacial wire sealing
- Bonded and sealed insert to help prevent moisture ingress

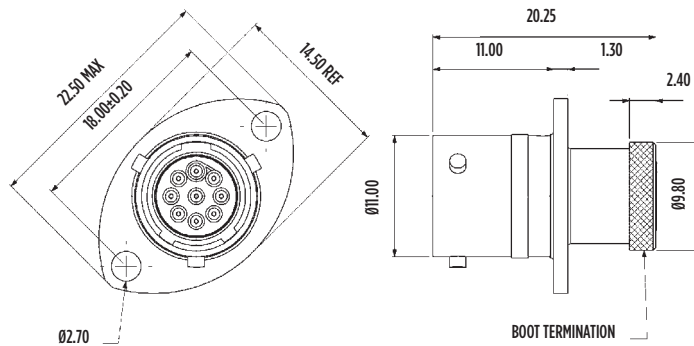
### 9-WAY ONLY PLUG - TYPE 6



### INLINE RECEPTACLE - TYPE 1



### RECEPTACLE - TYPE 0



All dimensions are in mm unless otherwise stated.



# AS Micro HE Hermetic Series Connectors

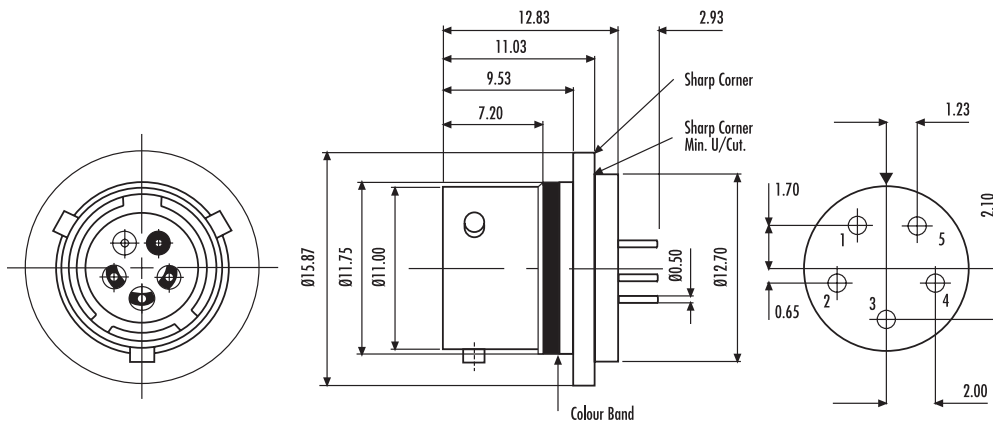


## Hermetic weld mount connector intermateable with AS Micro and ASL

- Filtered Hermetic option also available

## High performance materials

- Stainless Steel (316) for ease of mounting and corrosion performance
- Titanium versions for light weight applications also available
- Glass seal can withstand pressure differentials of 1000 psi without loss of electrical performance or fluid leakage



## GENERAL SPECIFICATION

Contact Size	Shell Size	Max. Current (Amps)	Durability (cycles of engagement & disengagement)	Dielectric Withstanding Voltage (VAC)**	No. of Keyway Orientations	Temp (°C)*		Materials		Finish	
						Min.	Max.	Shell	Contacts	Shell	Contacts
23	6	3	500	1000	5	-65	+200	Stainless Steel (316)***	Nickel Iron	Electro-polished	Gold Plated

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

\*\* Current leakage less than 2 milliamps at (VAC)

\*\*\* Titanium Shell also available

## ORDERING INFORMATION

**AS Micro HE Hermetic Receptacle:** AS 4H 06 — 05 P N — HE

**AS Micro HE Plug:** ASL 606 05S \* — HE

**Shell Orientation:**

N = Red (standard)

All dimensions are in mm unless otherwise stated.

# AS Micro Hermetic (Jam-Nut) Series Connectors

## Dedicated product for sensor and fuel cell use

- Jam-nut fixing
- Enlarged backshell for easier contact soldering
- Fuel immersible specification O-ring for enhanced fluid resistance

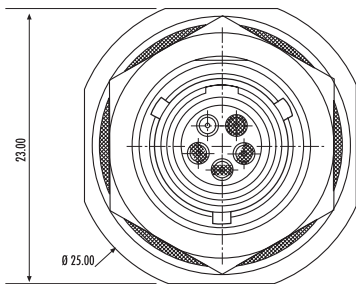
## High performance materials

- Glass seal can withstand pressure differentials of 1000 psi without loss of electrical performance or fluid leakage

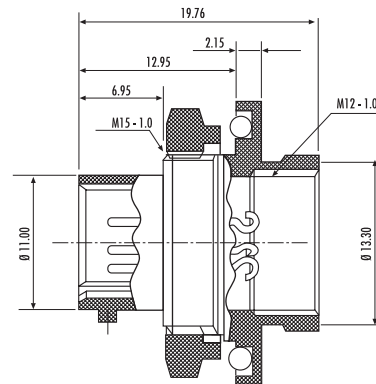
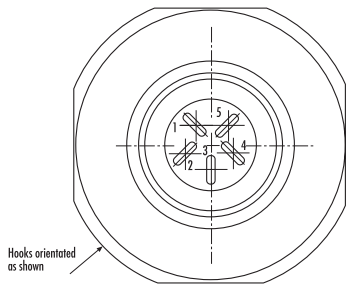
## Fully intermateable with AS Micro HE connector and Micro<sup>LITE</sup> connector



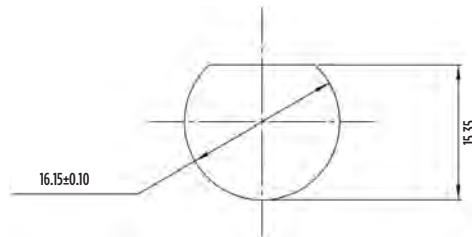
FRONT FACE



REAR FACE



PANEL CUT-OUT DETAIL



## GENERAL SPECIFICATION

Contact Size	Shell Size	Max. Current (Amps)	Durability (cycles of engagement & disengagement)	Dielectric Withstanding Voltage (VAC)**	No. of Keyway Orientations	Temperature (° C)*	
						Min.	Max.
23	6	3	500	1000	1	-65	+200

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

\*\* Current leakage less than 2 milliAmps at (VAC)

## ORDERING INFORMATION

Part No. AS7H06 - 05 PN-HE

All dimensions are in mm unless otherwise stated.

# AS Hermetic Fuel Tank Series Connectors

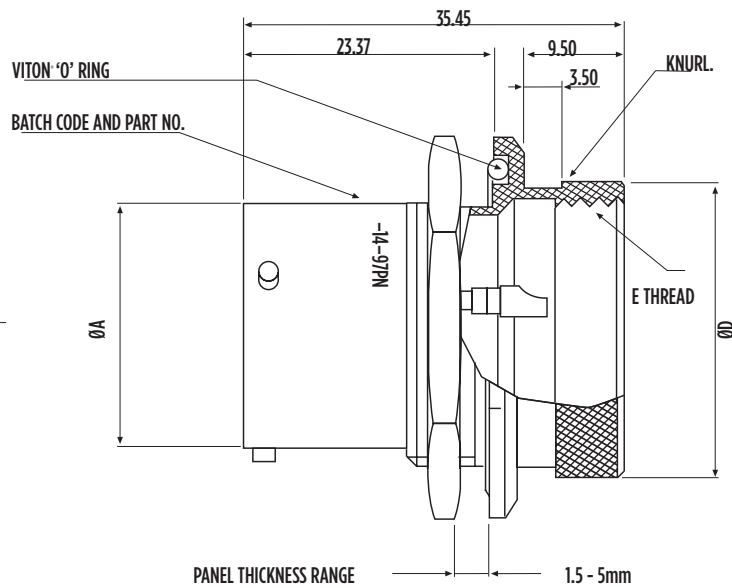
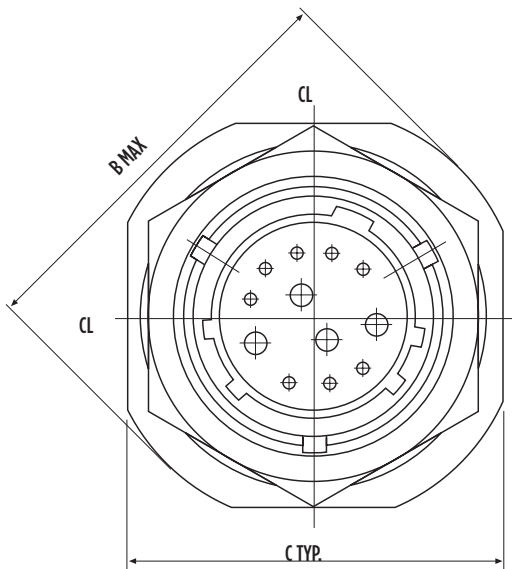


## Range of connectors designed for fuel cell walls

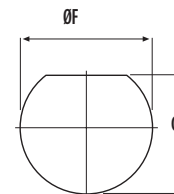
Selection of contact arrangements to accommodate pumps and sensors

## High performance materials

- Fuel immersible specification O-ring for enhanced fluid resistance
- Integral potting cup, rear accessory thread and external boot termination feature
- Glass seal can withstand pressure differentials of 1000 psi without loss of electrical performance or fluid leakage



Shell Size	Part No.	ØA Max.	B Max.	C TYP.	ØD TYP.	E THREAD	ØF Min.	G Max.
10	AS07PT-10-**-**PN	15.04	28.40	25.95	20.50	M18x1.0	17.70	17.00
12	AS07PT-12-**-**PN	19.09	33.00	30.75	23.67	M21x1.0	22.70	21.10
14	AS07PT-14-**-**PN	22.26	36.30	33.85	26.84	M24x1.0	25.70	24.30



RECOMMENDED MOUNTING HOLE

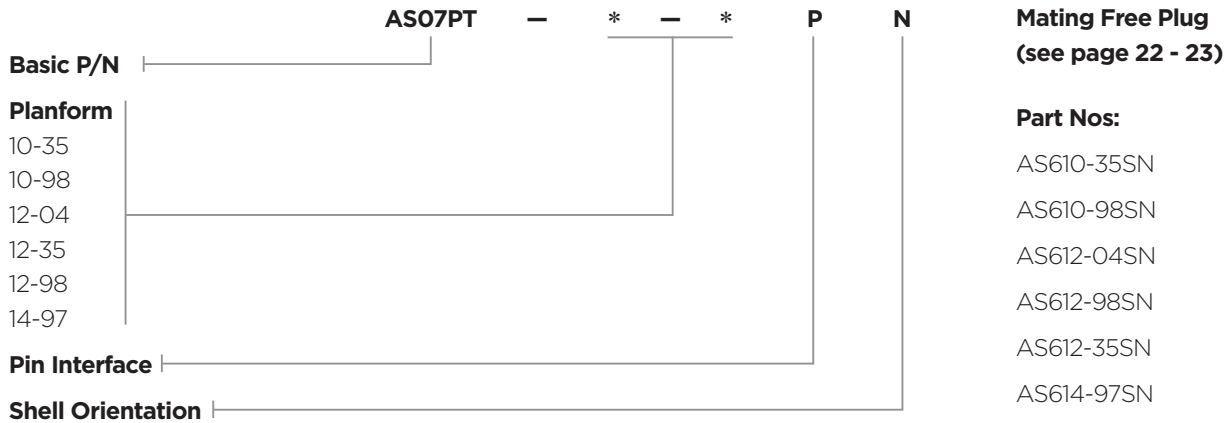
All dimensions are in mm unless otherwise stated.



## GENERAL SPECIFICATION

Contact Size	Max. Current (Amps)	Sealing	Pressure	Electrical	Materials		Finish	
					Shell	Contacts	Shell	Contacts
22	5							
20	7.5	1 x 10 <sup>-8</sup> cc/sec @ 15 PSI	1,000 psi typ.	IR 5000 Mohms @ 500 volt DC	Stainless Steel (303)	Nickel Iron	Electro-polished	Gold Plated
16	20							

## ORDERING INFORMATION



For Aluminium version, please contact Autosport Technical Support - refer to back cover information.

## ACCESSORIES PART NUMBERS

### O'ring table

Part Number	inch	mm	Connector
429320-17	0.676	17.17	Size 6
429320-18	0.739	18.77	Size 10
429320-21	0.926	23.52	Size 12
429320-23	1.051	26.70	Size 14

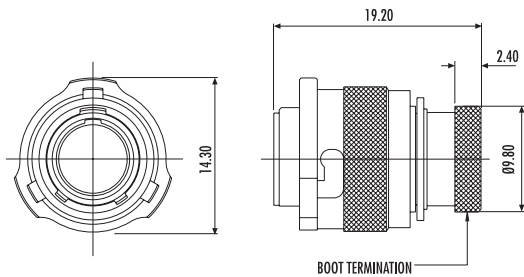
# AS Micro<sup>LITE</sup> HE Fuel Immersible Series Connectors



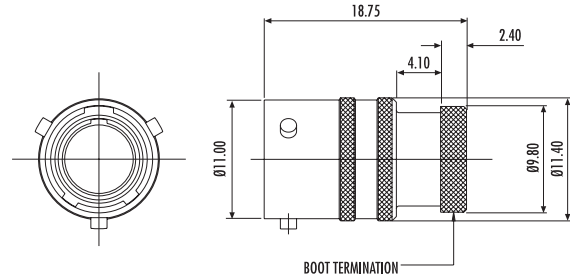
## For in-tank connection applications

- Unique DEUTSCH designed fuel resistant elastomer insert
- Hermetic option with enlarged backshell for easy contact soldering and integrated potting cup available
- Cable accommodation 22, 24, 26 and 28 AWG
- Fully intermateable with AS Micro HE and AS Micro<sup>LITE</sup> connectors

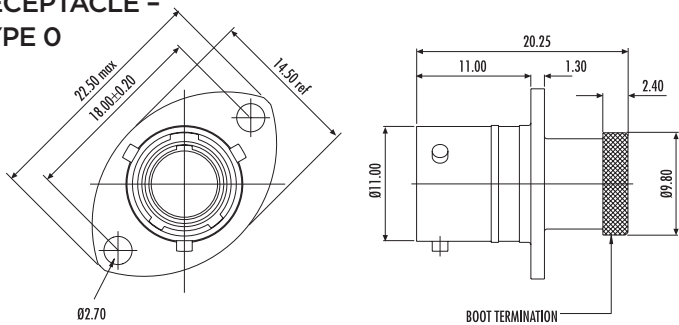
**PLUG - TYPE 6**



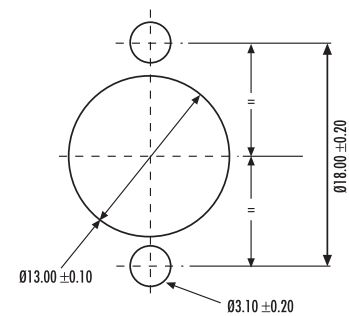
**INLINE RECEPTACLE - TYPE 1**



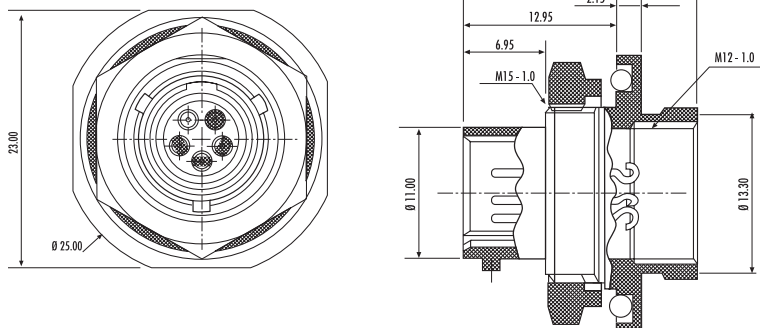
**RECEPTACLE - TYPE 0**



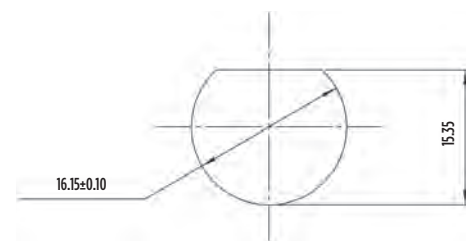
**PANEL CUT-OUT DETAIL**



**HERMETIC RECEPTACLE**



**PANEL CUT-OUT DETAIL**



All dimensions are in mm unless otherwise stated.

## GENERAL SPECIFICATION

Contact Size	Shell Size	Max. Current (Amps)	Durability (cycles of engagement & disengagement)	Dielectric Withstanding Voltage (VAC)**	No. of Keyway Orientations	Wire Sealing (mm)		Temperature (°C)*	
						Min.	Max.	Min.	Max.
23	6	3	500	1000	6	0.60	1.37	-55	+170

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

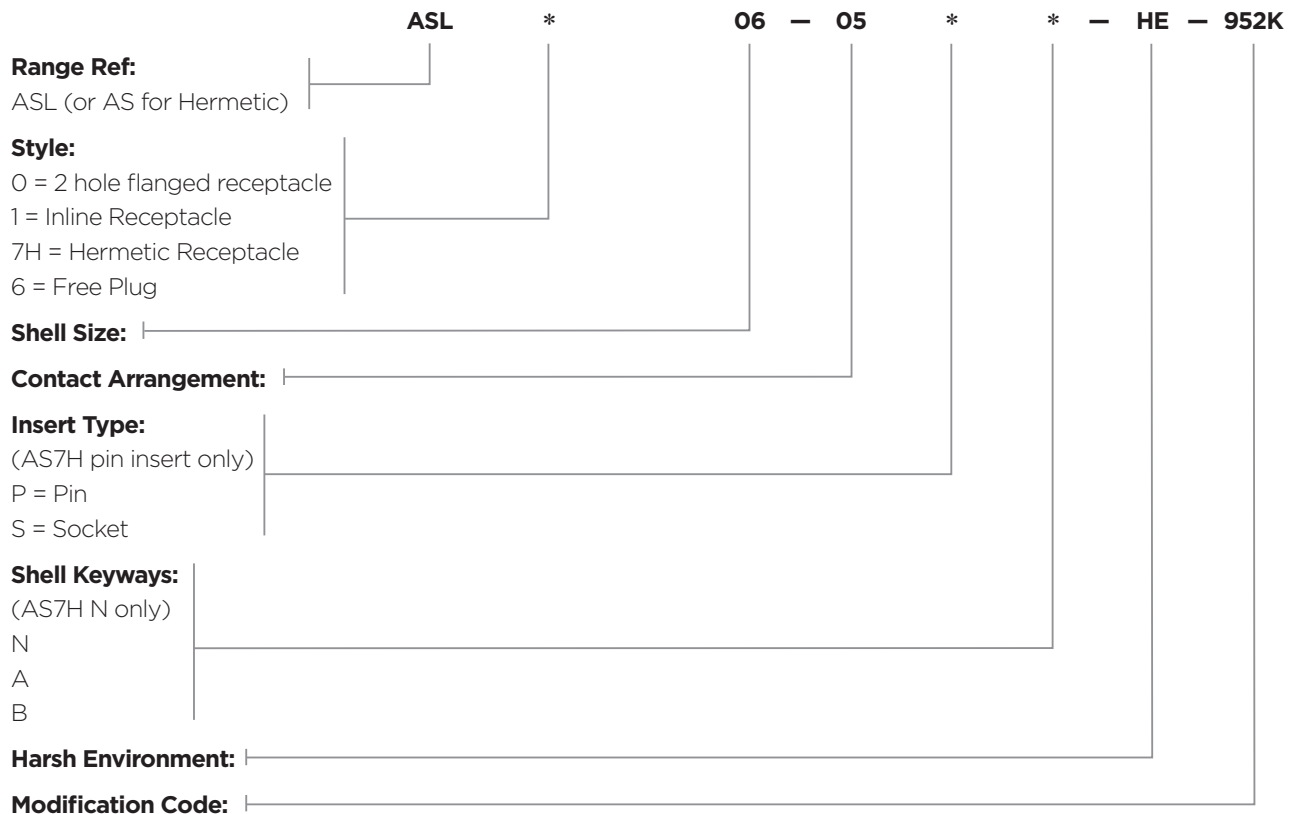
\*\* Current leakage less than 2 milliAmps at (VAC)

For other sizes and arrangements, please call our TE Technical Support on **+44 (0) 1424 852722** or email **autosport@te.com**

## CONTACTS & TOOLING PART NUMBERS

Socket	Pin	Filler Plug	Ins/Ext Tool	Crimp Tool	Socket Positioner	Pin Positioner
604935	604927-31	600300-22	M81969/14-01	M22520/2-01	604973	604972

## ORDERING INFORMATION



## ACCESSORIES PART NUMBERS

Pro Cap		Nut Plate	Gasket
Receptacle	Plug		
604029	604027	ATM396-6	GV-6

	Boot Information	
	Straight	90 degree
Raychem	202A111	222A111
Hellermann	113-4-G	1108-4-G

# AS Heavy Duty (ASHD) Series Connectors

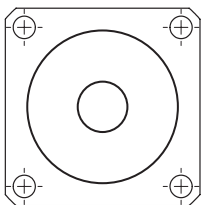


## Autosport design for high current motorsport applications

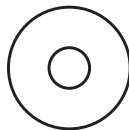
- Early break / Late mate on data contacts to support safety
- Cable accommodation from 16mm<sup>2</sup> - 70mm<sup>2</sup>
- Positive locking coupling mechanism

## High performance materials

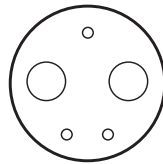
- Environmentally sealed
- Thermal cycle tested
- Heavy duty rated
- Crimp type solid and gold plated copper contacts



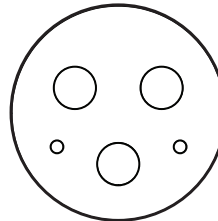
SuperASHD Single  
70mm<sup>2</sup> contact



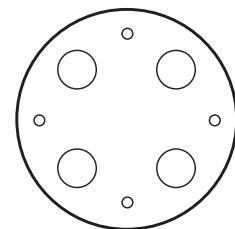
ASHD14-1  
(1 x AWG 4)



AS 22-24320  
(2 x AWG 4, 3 x AWG 20)



AS 24-34220  
(3 x AWG 4, 2 x AWG 20)



AS 24-44420  
(4 x AWG 4, 4 x AWG 20)

All dimensions are in mm unless otherwise stated.



# AS Co-ax Series Connectors



## Autosport designed co-axial cable solution

- Ultra compact and light weight design (size 3 shell)
- Single co-axial contact and gold-plated crimp contacts
- Positive locking coupling mechanism with 2 keyway orientations and boot termination feature
- Designed for RG316 cable

## GENERAL SPECIFICATION

Contact Size	Shell Size	Max. Current (Amps)	Durability (cycles of engagement & disengagement)	Dielectric Withstanding Voltage (VAC)	No. of Keyway Orientations	Wire Sealing (mm)		Temperature (°C)*	
						Min.	Max.	Min.	Max.
-	3	-	500	1000	2	-	-	-55	+175

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

\*\* Current leakage less than 2 milliAmps at (VAC)

All dimensions are in mm unless otherwise stated.

## CONTACTS & TOOLING PART NUMBERS

Contacts Part Numbers		Connector Type	Part Number
Pin	Socket	Plug	ASCX603-1SN-050
610908	610872	Inline - receptacle	ASCX103-1PN-050
		Flanged - receptacle	ASCX003-1PN-050

# Portable Antenna



## Portable antenna

- Ultra compact and light weight design (size 3 shell)
- Single co-axial contact
- Conductive black zinc finish
- Can be cut to length for optimised frequency (supplied with cut chart)
- Designed for RG316 and RG178 cables

## GENERAL SPECIFICATION

Contact Size	Shell Size	Max. Current (Amps)	Durability (cycles of engagement & disengagement)	Dielectric Withstanding Voltage (VAC)	No. of Keyway Orientations	Wire Sealing (mm)		Temperature (°C)*	
						Min.	Max.	Min.	Max.
-	3	-	-	-	2	-	-	-55	+175

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

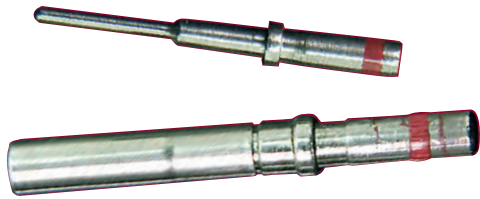
\*\*Current leakage less than 2 milliamps at (VAC)

**Contact Autosport Technical Support for more details of specific products to meet your sealed electrical connection requirements.**

All dimensions are in mm unless otherwise stated.

## CONTACTS & TOOLING PART NUMBERS

Connector Type	Part Number
Plug (standard)	ASCX603-1SN-050
Inline - receptacle	ASCX103-1PN-050
Flanged - receptacle	ASCX003-1PN-050
Portable antenna plug	ASCX603-1SN-ANT20



## Thermocouple Contacts

- Available in #22 for Autosport Range
- Available in #23 for Micro<sup>Lite</sup> Series connectors
- Engineered in Chromel and Alumel
- Designed exclusively for DEUTSCH connectors

### THERMOCOUPLE #22 FOR AUTOSPORT RANGE

Description	Socket
Chromel pin	605346
Chromel socket	605347
Alumel pin	605348
Alumel socket	605349

### THERMOCOUPLE #23 FOR MICRO<sup>LITE</sup>

Description	Socket
Chromel pin	605378-CR
Chromel socket	605380-CR
Alumel pin	605378-AL
Alumel socket	605380-AL

### CUSTOM MADE CONTACTS

In addition to Thermocouple contacts, we are able to engineer special solutions for different wire sizes on our regular contact range.

For more information and ordering details please call our TE Technical Support on **+44 (0) 1424 857088** or email **autosport@te.com**



# Aluminium Wire Options



## ALUMINIUM WIRE

- Available for use with ASHD series connectors
- For aluminium wire AWG 4
- Aluminium wire and contact solution has been certified for flight use
- Other smaller contact sizes and wire options available

# Autosport Specialist Solutions

## ALUMINIUM WIRE GENERAL SPECIFICATION

Contact Size	Shell Size	Max. Current (Amps)	Durability (cycles of engagement & disengagement)	Dielectric Withstanding Voltage (VAC)	No. of Keyway Orientations	Wire Sealing (mm)		Temperature (°C)*	
						Min.	Max.	Min.	Max.
4	-	150	500	1500	-	-	-	-55	+175

Pin	610905
Socket	610906

# AS4 Flangeless Option



## AS4 FLANGELESS

- Weight-saving alternative to AS1 receptacle
- Available on AS shells 8 - 24
- Added knurl for easier coupling
- Factory modified change to save team's time
  - Available on shell sizes 8 - 24
  - Sample part number: AS410-35PN
  - (AS4 shell type denotes flangeless option)

For more information and ordering details please call our TE Technical Support on **+44 (0) 1424 857088** or email [autosport@te.com](mailto:autosport@te.com)



# Clinchnut AS Series Connectors



## CLINCHNUT AS SERIES

- A replacement for nutplates
- Available for PCB and flange mounted versions
- Time-saving option
- Available across the range of AS connectors

### CLINCHNUT AS SERIES GENERAL SPECIFICATION

Contact Size	Shell Size	Max. Current (Amps)	Durability (cycles of engagement & disengagement)	Dielectric Withstanding Voltage (VAC)	No. of Keyway Orientations	Wire Sealing (mm)		Temperature (°C)*	
						Min.	Max.	Min.	Max.
-	-	-	500	-	-	-	-	-55	+175

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

\*\* Current leakage less than 2 milliAmps at (VAC)

Mod Code	978M
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For more information and ordering details please call our TE Technical Support on **+44 (0) 1424 857088** or email [autosport@te.com](mailto:autosport@te.com)

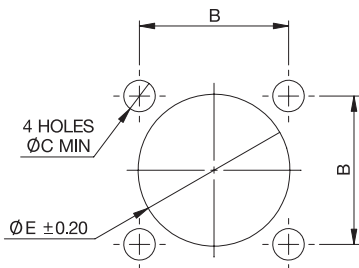
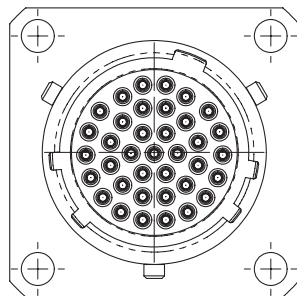
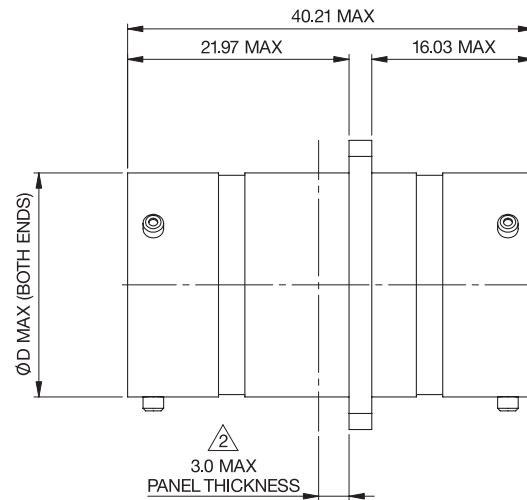
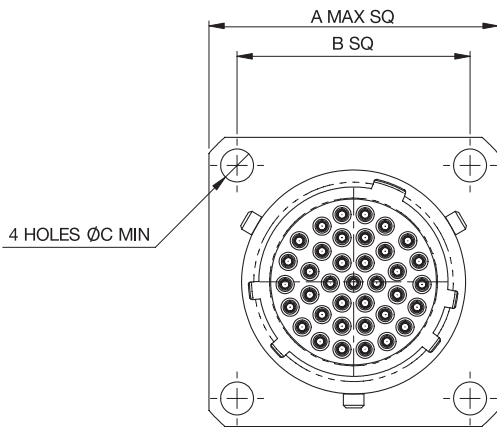


# AS3 Through Bulkhead



## AS3 THROUGH BULKHEAD

- Military proven design
- Scoop-proof interface with shell to shell grounding
- Positive locking coupling mechanism
- Environmentally sealed to IP67
- Thermal cycle tested
- Fully intermateable with AS range of products
- Gold plated crimp contacts
- 4 hole mounting style



PANEL CUT-OUT

### PART NUMBERS

AS310-35PPN

AS312-35PPN

AS314-35PPN

Further options available,  
please contact sales  
offices for details.

Contact TE for more details of specific products to meet your sealed electrical connection requirements.

For more information and ordering details please call our TE Technical Support on **+44 (0) 1424 857088** or email **autosport@te.com**

# AS Fibre Optics Series Connectors



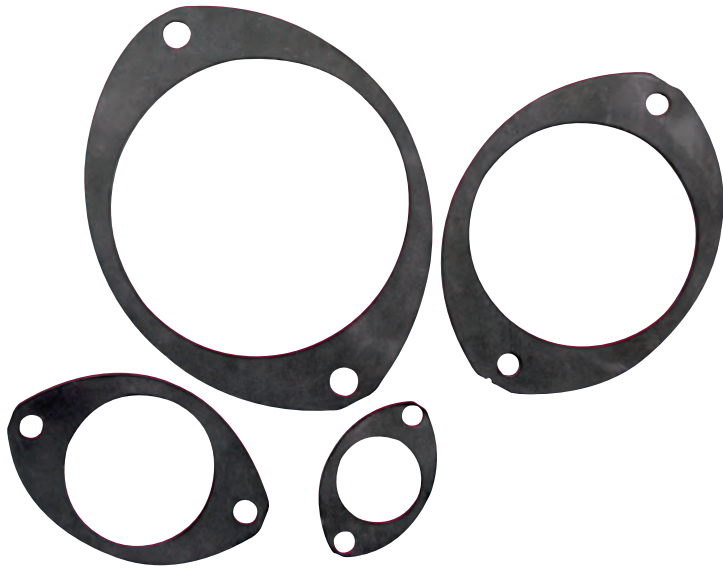
## AS FIBRE OPTIC SOLUTIONS

High quality fibre optic contacts are available in sizes 10-02, 10-03, for any AS Series connector platform having size 16 contact locations, e.g. 12-04, 14-97, 16-08, 20-16, 20-39, 22-21 and 24-29.

The precision ceramic ferruled fibre optic contacts are available for high quality (Aerospace type specification) optic cables and silica glass fibres, enabling high speed, EMI / RFI immune data transmission.

The optical contacts are designed to meet MIL-T-29504/5.

# Termination Boots and Accessories



## *Gaskets*

Designed specifically for TE's DEUTSCH Autosport flanged connectors, these gaskets are available from size 02 through to 24 shells.

Constructed from fluoroelastomer polymer they assist in sealing the connectors to the mounting point and have been manufactured to withstand the temperatures, vibration and fluids found in the modern racing environment.

**For part numbers please refer to page 47.**



## *Nut Plates*

Nut Plates are available for all AS two-hole flange mounted connector receptacles.

They are designed to simplify connector-to-bulkhead assembly, particularly in confined spaces, by eliminating the need to position loose nuts and washers. Nut plates are also anti-vibration and make assembly quicker and easier.

**For part numbers please refer to page 47.**

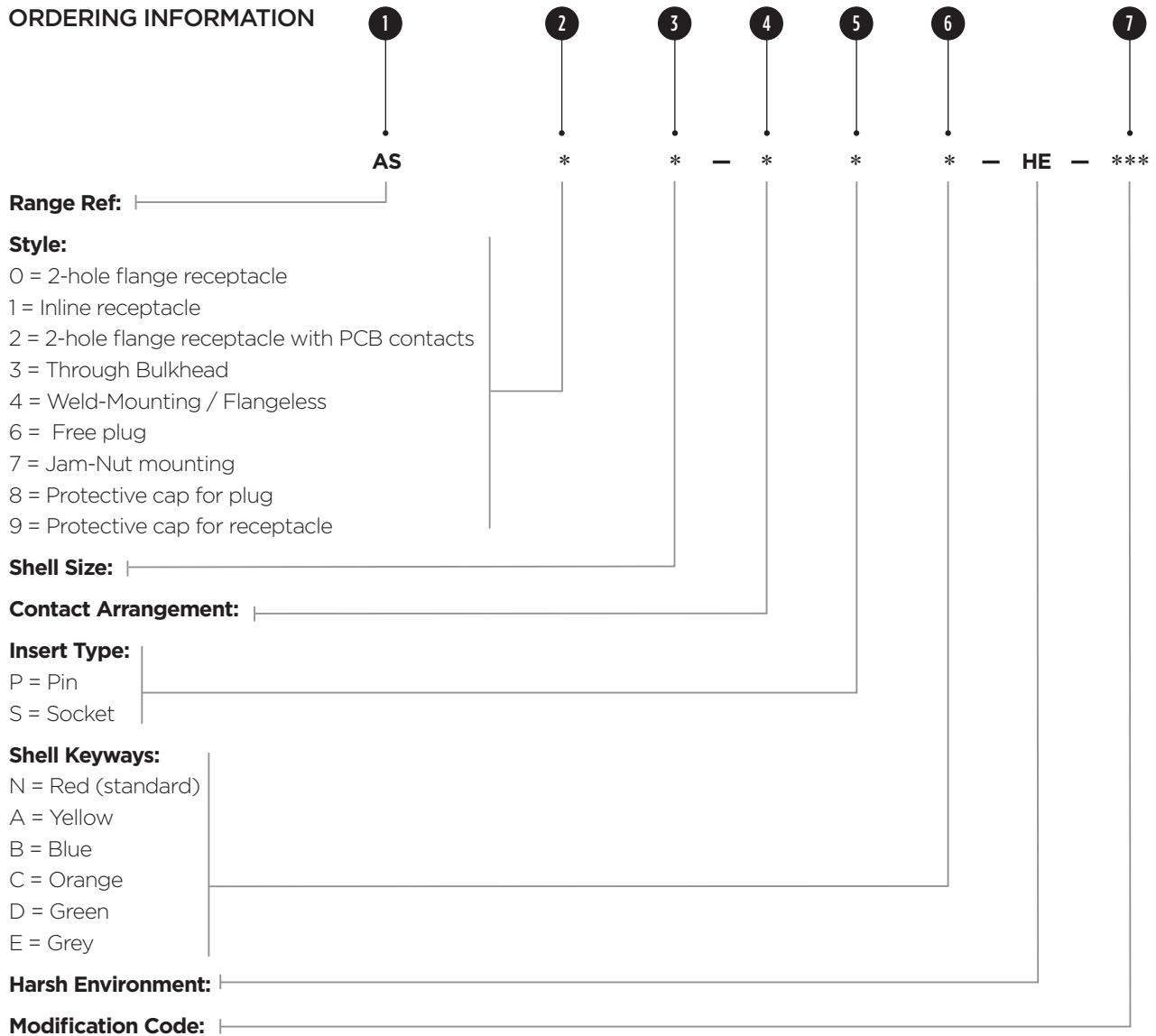
## *Braid Termination Systems*

Attaching braid to the back of an autosport connector can be done in a number of ways, depending on the environment the connector will be operating in. The standard practice of a metal strap on the braid to fasten it to the groove at the back of the shell is seen as a reliable solution with tooling and straps available from a number of sources.

TE Connectivity's engineers would suggest both the TE Connectivity screened backshell options which can be found on-line at [www.te.com/usa-en/product-CX6566-000.html](http://www.te.com/usa-en/product-CX6566-000.html) or the Glenair Band-IT system which uses the part numbers 600-057 (for the autosport connector sizes up to #16) or 600-083 (for the autosport connector sizes up over #16).

# How to Order

## ORDERING INFORMATION



### All TE's DEUTSCH Autosport part numbers work to the same principles.

#### The part number is broken down into sections as follows:

- 'AS' indicates that it is an Autosport connector - all TE's DEUTSCH Autosport connectors start like this. There may be another letter after the AS - this designates a particular series. For example ASL = Micro<sup>UTE</sup>, ASDD = Double Density.
- The next major element is the connector style.  
 0 = 2 hole flanged receptacle  
 1 = Inline receptacle  
 2 = 2 hole flanged receptacle with fixed PCB contacts  
 3 = Through Bulkhead  
 4 = Weld mounting / Flangeless  
 6 = Free plug  
 7 = Jam-nut mounting  
 8 = Protective cap for plug  
 9 = Protective cap for receptacle  
**Please note:** not all of these options are available on all products; the relevant product pages will give you this information.
- Relates to the required shell size. This will range from 02 (small) to 24 (large).
- Is the planform detail (number of contacts).
- Indicates the gender of a plug or receptacle. 'P' for pin or 'S' for socket.
- Designates a keyway. Only connectors of the same keyway can mate. The options are: N, A, B, C, D, E or U for universal or no keyway option. The 'U' option should only be selected for test harnesses and not for racing applications.
- After all these elements there may be a 4-character code, which designates a special modification. For instance this can be a special contact length or a non-standard plating finish. For more information on modification codes please contact the TE Technical Support on **+44 (0) 1424 857 088** or email **autosport@te.com**  
 For details of the ordering procedure for your area, please contact the relevant local distributor. A list of these can be found on the reverse of this brochure or on our website **www.te.com/autosport**

# Reference Guide

## CONTACT TYPE

CONTACT SIZE	PART NO.	P/S	WIRE RANGE	COLOUR BAND	Max. CURRENT	CRIMP TOOL	POSITIONER	PLASTIC TOOLS INSERT/REMOVAL																																																																																																																
Size 24 ASDD excluding 9-way	605719-31	P	24-30	None	3 Amps	M22520/2-01	610286	P	605837 Orange/White																																																																																																															
	605721	s					610287	s		Size 24 ASDD 9 way, ASX 5/6, ASU 5 way	605705-31	P	24-30	None	3 Amps	M22520/2-01	605839	P	605837 Orange/White	605704	s	605840	s	Size 23	604927-31	P	22-28	None	3 Amps	M22520/2-01	604972	P	M81969/14-01 Green/White	604935	s	604973	s	Size 22	38941-22	P	22-26	Orange, Blue, Black	5 Amps	M22520/2-01	M22520/2-09	P	M81969/14-01 Green/White	38943-22	s	Orange, Yellow, Grey	M22520/2-07	s	Size 20	38941-20	P	20-24	Orange, Blue, Orange	7.5 Amps	M22520/2-01	M22520/2-10	P	M81969/14-10 Red/Orange	38943-20	s	Orange, Green, Brown	M22520/2-10	s	Size 16	38941-16	P	16-20	Orange, Blue, Yellow	20 Amps	M22520/1-01	M22520/1-04	P	M15570-6 Blue/White	38943-16	s	Orange, Green, Red	M22520/1-04	s	AS Mini Size 22	38941-22	P	22-26	Orange, Blue, Black	5 Amps	M22520/2-01	M22520/2-09	P	M81969/14-01 Green/White	604887	s	None	605000	s	AS Mini Size 20	38941-20	P	20-24	Orange, Blue, Orange	7.5 Amps	M22520/2-01	M22520/2-10	P	M81969/14-10 Red/Orange	6862-201-20278	s	None	M22520/2-10	s	Size 22 AS Composite/ASU 3-Way, ASX 3-Way	604946-31	P	22-28	None	5 Amps	M22520/2-01	605463
Size 24 ASDD 9 way, ASX 5/6, ASU 5 way	605705-31	P	24-30	None	3 Amps	M22520/2-01	605839	P	605837 Orange/White																																																																																																															
	605704	s					605840	s		Size 23	604927-31	P	22-28	None	3 Amps	M22520/2-01	604972	P	M81969/14-01 Green/White	604935	s	604973	s	Size 22	38941-22	P	22-26	Orange, Blue, Black	5 Amps	M22520/2-01	M22520/2-09	P	M81969/14-01 Green/White	38943-22	s	Orange, Yellow, Grey	M22520/2-07	s	Size 20	38941-20	P	20-24	Orange, Blue, Orange	7.5 Amps	M22520/2-01	M22520/2-10	P	M81969/14-10 Red/Orange	38943-20	s	Orange, Green, Brown	M22520/2-10	s	Size 16	38941-16	P	16-20	Orange, Blue, Yellow	20 Amps	M22520/1-01	M22520/1-04	P	M15570-6 Blue/White	38943-16	s	Orange, Green, Red	M22520/1-04	s	AS Mini Size 22	38941-22	P	22-26	Orange, Blue, Black	5 Amps	M22520/2-01	M22520/2-09	P	M81969/14-01 Green/White	604887	s	None	605000	s	AS Mini Size 20	38941-20	P	20-24	Orange, Blue, Orange	7.5 Amps	M22520/2-01	M22520/2-10	P	M81969/14-10 Red/Orange	6862-201-20278	s	None	M22520/2-10	s	Size 22 AS Composite/ASU 3-Way, ASX 3-Way	604946-31	P	22-28	None	5 Amps	M22520/2-01	605463	P	M81969/14-01 Green/White	604984	s	605464	s								
Size 23	604927-31	P	22-28	None	3 Amps	M22520/2-01	604972	P	M81969/14-01 Green/White																																																																																																															
	604935	s					604973	s		Size 22	38941-22	P	22-26	Orange, Blue, Black	5 Amps	M22520/2-01	M22520/2-09	P	M81969/14-01 Green/White	38943-22	s	Orange, Yellow, Grey	M22520/2-07	s	Size 20	38941-20	P	20-24	Orange, Blue, Orange	7.5 Amps	M22520/2-01	M22520/2-10	P	M81969/14-10 Red/Orange	38943-20	s	Orange, Green, Brown	M22520/2-10	s	Size 16	38941-16	P	16-20	Orange, Blue, Yellow	20 Amps	M22520/1-01	M22520/1-04	P	M15570-6 Blue/White	38943-16	s	Orange, Green, Red	M22520/1-04	s	AS Mini Size 22	38941-22	P	22-26	Orange, Blue, Black	5 Amps	M22520/2-01	M22520/2-09	P	M81969/14-01 Green/White	604887	s	None	605000	s	AS Mini Size 20	38941-20	P	20-24	Orange, Blue, Orange	7.5 Amps	M22520/2-01	M22520/2-10	P	M81969/14-10 Red/Orange	6862-201-20278	s	None	M22520/2-10	s	Size 22 AS Composite/ASU 3-Way, ASX 3-Way	604946-31	P	22-28	None	5 Amps	M22520/2-01	605463	P	M81969/14-01 Green/White	604984	s	605464	s																						
Size 22	38941-22	P	22-26	Orange, Blue, Black	5 Amps	M22520/2-01	M22520/2-09	P	M81969/14-01 Green/White																																																																																																															
	38943-22	s		Orange, Yellow, Grey			M22520/2-07	s		Size 20	38941-20	P	20-24	Orange, Blue, Orange	7.5 Amps	M22520/2-01	M22520/2-10	P	M81969/14-10 Red/Orange	38943-20	s	Orange, Green, Brown	M22520/2-10	s	Size 16	38941-16	P	16-20	Orange, Blue, Yellow	20 Amps	M22520/1-01	M22520/1-04	P	M15570-6 Blue/White	38943-16	s	Orange, Green, Red	M22520/1-04	s	AS Mini Size 22	38941-22	P	22-26	Orange, Blue, Black	5 Amps	M22520/2-01	M22520/2-09	P	M81969/14-01 Green/White	604887	s	None	605000	s	AS Mini Size 20	38941-20	P	20-24	Orange, Blue, Orange	7.5 Amps	M22520/2-01	M22520/2-10	P	M81969/14-10 Red/Orange	6862-201-20278	s	None	M22520/2-10	s	Size 22 AS Composite/ASU 3-Way, ASX 3-Way	604946-31	P	22-28	None	5 Amps	M22520/2-01	605463	P	M81969/14-01 Green/White	604984	s	605464	s																																					
Size 20	38941-20	P	20-24	Orange, Blue, Orange	7.5 Amps	M22520/2-01	M22520/2-10	P	M81969/14-10 Red/Orange																																																																																																															
	38943-20	s		Orange, Green, Brown			M22520/2-10	s		Size 16	38941-16	P	16-20	Orange, Blue, Yellow	20 Amps	M22520/1-01	M22520/1-04	P	M15570-6 Blue/White	38943-16	s	Orange, Green, Red	M22520/1-04	s	AS Mini Size 22	38941-22	P	22-26	Orange, Blue, Black	5 Amps	M22520/2-01	M22520/2-09	P	M81969/14-01 Green/White	604887	s	None	605000	s	AS Mini Size 20	38941-20	P	20-24	Orange, Blue, Orange	7.5 Amps	M22520/2-01	M22520/2-10	P	M81969/14-10 Red/Orange	6862-201-20278	s	None	M22520/2-10	s	Size 22 AS Composite/ASU 3-Way, ASX 3-Way	604946-31	P	22-28	None	5 Amps	M22520/2-01	605463	P	M81969/14-01 Green/White	604984	s	605464	s																																																				
Size 16	38941-16	P	16-20	Orange, Blue, Yellow	20 Amps	M22520/1-01	M22520/1-04	P	M15570-6 Blue/White																																																																																																															
	38943-16	s		Orange, Green, Red			M22520/1-04	s		AS Mini Size 22	38941-22	P	22-26	Orange, Blue, Black	5 Amps	M22520/2-01	M22520/2-09	P	M81969/14-01 Green/White	604887	s	None	605000	s	AS Mini Size 20	38941-20	P	20-24	Orange, Blue, Orange	7.5 Amps	M22520/2-01	M22520/2-10	P	M81969/14-10 Red/Orange	6862-201-20278	s	None	M22520/2-10	s	Size 22 AS Composite/ASU 3-Way, ASX 3-Way	604946-31	P	22-28	None	5 Amps	M22520/2-01	605463	P	M81969/14-01 Green/White	604984	s	605464	s																																																																			
AS Mini Size 22	38941-22	P	22-26	Orange, Blue, Black	5 Amps	M22520/2-01	M22520/2-09	P	M81969/14-01 Green/White																																																																																																															
	604887	s		None			605000	s		AS Mini Size 20	38941-20	P	20-24	Orange, Blue, Orange	7.5 Amps	M22520/2-01	M22520/2-10	P	M81969/14-10 Red/Orange	6862-201-20278	s	None	M22520/2-10	s	Size 22 AS Composite/ASU 3-Way, ASX 3-Way	604946-31	P	22-28	None	5 Amps	M22520/2-01	605463	P	M81969/14-01 Green/White	604984	s	605464	s																																																																																		
AS Mini Size 20	38941-20	P	20-24	Orange, Blue, Orange	7.5 Amps	M22520/2-01	M22520/2-10	P	M81969/14-10 Red/Orange																																																																																																															
	6862-201-20278	s		None			M22520/2-10	s		Size 22 AS Composite/ASU 3-Way, ASX 3-Way	604946-31	P	22-28	None	5 Amps	M22520/2-01	605463	P	M81969/14-01 Green/White	604984	s	605464	s																																																																																																	
Size 22 AS Composite/ASU 3-Way, ASX 3-Way	604946-31	P	22-28	None	5 Amps	M22520/2-01	605463	P	M81969/14-01 Green/White																																																																																																															
	604984	s					605464	s																																																																																																																

## BOOT INFORMATION

SHELL SIZE	STRAIGHT BOOT		90 DEGREE BOOT	
	RAYCHEM	HELLERMAN	RAYCHEM	HELLERMAN
ASX (Size 2)	203W301-25-G03	1037-4-G	223W601	1182-4-G
ASU (Size 3)	204W221-25-G03	1037-4-G	224W221-25-G03	1182-4-G
ASC	204W221	1030-4-G	224W221	1181-4-G
ASL	204W221	1030-4-G	224W221	1181-4-G
AS Mini	202K121	152-42-G	222K121	1152-4-G
08	202K121	152-42-G	222K121	1152-4-G
10	202K132	152-42-G	222K121	1152-4-G
12	202K142	154-42-G	222K132	1154-4-G
14	202K142	155-42-G	222K142	1155-4-G
16	202K153	156-42-G	222K152	1156-4-G
18	202K153	156-42-G	222K152	1156-4-G
20	202K163	157-43-G	222K163	1157-4-G
22	202K163	157-43-G	222K163	1157-4-G
24	202K174	157-43-G	222K174	1157-4-G

## ACCESSORIES

SHELL SIZE	NUTPLATE	GASKET	PLUG/RECEPTACLE	PROTECTIVE CAP
2 ( ASX 3/5 )	ATM396-2 M2	GV-2	Plug	611546
			Receptacle	611545
2 ( ASX 6 only )	ATM396-2 M2	GV-2	Plug	611637
			Receptacle	611636
3/5 (ASU)	ATM396-4 M2	GV-3	Plug	605687
			Receptacle	605684
6 (ASL)	ATM396-6 M2.5	GV-6	Plug	604027
			Receptacle	604029
7 (Mini)	ATM396-7 M3	GV-7	Plug	AS807
			Receptacle	AS907
08	ATM396-8 M3	GV-8	Plug	AS808
			Receptacle	AS908
10	ATM396-10 M3	GV-10	Plug	AS810
			Receptacle	AS910
12	ATM396-12 M3	GV-12	Plug	AS812
			Receptacle	AS912
14	ATM396-14 M3	GV-14	Plug	AS814
			Receptacle	AS914
16	ATM396-16 M3	GV-16	Plug	AS816
			Receptacle	AS916
18	ATM396-18 M3	GV-18	Plug	AS818
			Receptacle	AS918
20	ATM396-20 M3	GV-20	Plug	AS820
			Receptacle	AS920
22	ATM396-22 M3	GV-22	Plug	AS822
			Receptacle	AS922
24	ATM396-24 M3	GV-24	Plug	AS824
			Receptacle	AS924

## WIRE SIZES AND DIMENSIONS

AUTOSPORT SIZE		FINISHED WIRE DIMENSIONS			
CONTACT SIZE	WIRE SIZE (AWG)	CONDUCTOR		INSULATION	
		Min.	Max.	Min.	Max.
24	30,28,26,24	0.254mm 0.010in	0.511mm 0.02in	0.56mm 0.22in	1.02mm 0.040in
23	28,26,24,22	0.321mm .012in	0.790mm .031in	0.60mm .023in	1.37mm .054in
22	26,24,22	0.405mm .015in	0.790mm .031in	0.76mm .030in	1.37mm .054in
20	24,22,20	0.511mm .02in	0.970mm .038in	1.02mm .040in	2.11mm .083in
16	20,18,16	0.812mm .031in	1.530mm .60in	1.65mm .65in	2.77mm .109in

## FILLER PLUGS

CONTACT SIZE	PART NUMBER
24	600300-24
23	600300-22
22	600300-22
20	600300-20
16	600300-16

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