



Marine Connectors

Mk 18 & Mk 38

Screw Coupling Connector Series



A Subsidiary of TT electronics plc

TT electronics
AB Connectors Limited

AB Connectors

Company Profile

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

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

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

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

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



Mark 18

Screw Coupling Connector Series

Rugged and reliable on land and sea. The Mark 18 connector range is a complete system of connectors designed to withstand the toughest use under extreme environmental conditions.

The Mark 18 range has proved its worth in naval applications. The aluminium bronze shells of these connectors resists salt water corrosion and their design allows fast, simple connection and disconnection.

On land, the Mark 18 connectors are built to take punishment. In ground tactical communications equipment, for example, the Mark 18 takes heavy, incessant vibration in its stride.

In earth-moving and other heavy industry vehicles and machinery, Mark 18 connectors maintain their high performance in spite of strain and jolts. They're as rugged as the job they have to do and yet delicate enough to use in equipment practice.

The Mark 18 connector System is designed for multi-core screened cables and equipment wiring.

The Mark 18 range is available with filter contacts.

Contents

BS Designations	4
Ordering Information	5
Features	6
Technical Information	7
Shell Styles & Dimensions	8
Contact Arrangements	9
Polarization & Contacts	10
Mk 18 Receptacles	11 - 19
Outlets	20 - 25
Accessories	26 - 28
Spares	29
Tools Kits	30
Tools	31
Panel Cutout Details	32
Product Safety Information	33
Mk 38 Screw Coupling Connector Series	34 - 60



BS designations for connectors, contacts, fittings & accessories



M = Contact Pins
F = Contact Sockets
C = Crimp Buckets
S = Solder Buckets
N, B, C, E & F = Polarisation

The last position – Modification Standard – has allocated 'O' for Standard Connectors. Other alpha designations allow for variants.

Mk 18

ordering information

Shell Styles

B.S. Code Number	Description	Catalogue Page
C2560	Free Connector with Accessory Thread & Coarse Ribbed Coupling Nut	6
C2561	Fixed Square Flange Connector with Accessory Thread	8
C2562	Fixed Connector with Single Hole Mounting with Accessory Thread	10
C2563	Fixed Connector with Single Hole Mounting without Accessory Thread	12
C2564	Through Bulkhead Connector	14

Contact/Filler Plug Styles

B.S. Code Number	Description	Catalogue Page
CRIMP		
A2585-**-0	Plug Pin	5
A2586-**-0	Socket Contact	5
A2015-**-0	Filler Plug	24
SOLDER (Size 8 Special only)		
A2592-08-0	Plug Pin	5
A2593-08-0	Socket Contact	5

KEY

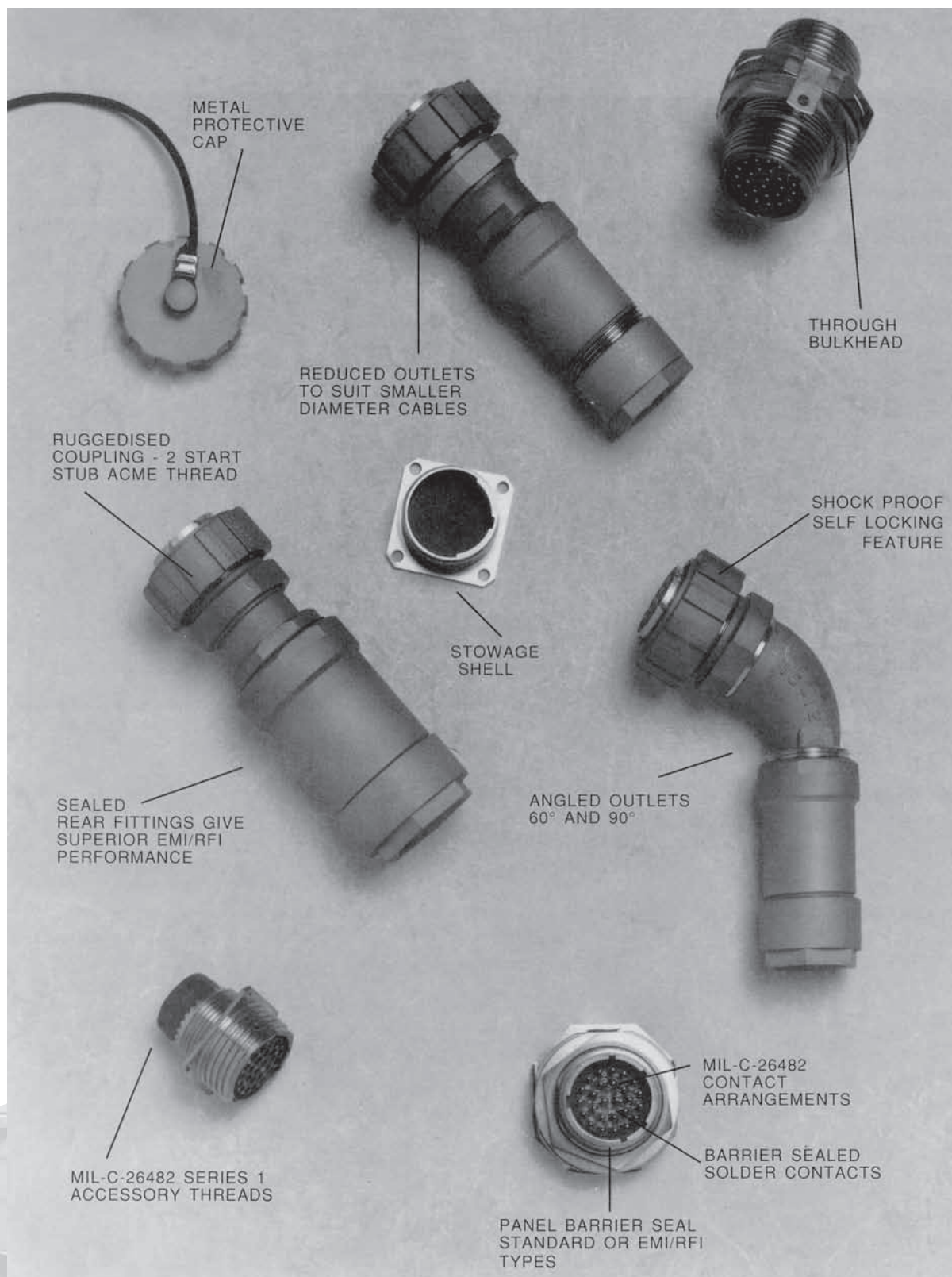
- ★★ Denotes Shell Size insertion
- Denotes Contact Arrangement insertion
- †† Denotes Cable Diameter in mm insertion
- ** Denotes Contact Size insertion

Accessories

B.S. Code Number	Description	Catalogue Page
A2570-★★-0	Standard Front Outlet Sub Assembly	16
A2571-★★-0	Reduced Front Outlet Sub Assembly	17
A2573-★★-0	60° Front Outlet Sub Assy.	16
A2574-★★-0	60° Reduced Front Outlet Sub Assembly	17
A2575-★★-0	90° Front Outlet Sub Assy.	16
A2574-★★-0	90° Reduced Front Outlet Sub Assembly	17
A2576-★★-0	Rear Outlet Sub. Assembly Sealed	18
A2580-★★-0	Nut & Ferrule Assembly Single Hole Mount Connectors only	21
A2581-★★-0	Nut & Ferrule Assembly Free & Fixed Square Flange Connectors	21
A2578-★★-††	Sealed Cable Accessory Kit	18
A2582-★★-0	Straight Strain Relief Clamp - Single Hole Mount Connectors only	22
A2583-★★-0	Straight Strain Relief Clamp Free & Fixed Square Flange Connectors	22
A2566-★★-0	Protective Cap - Fixed Nylon Cord	23
A2568-★★-0	Stainless Steel Wire - Covered	
A2567-★★-0	Protective Cap - Free Nylon Cord	23
A2569-★★-0	Stainless Steel Wire - Covered	
C2565-★★-0	Dummy Stowage	23
A2587-★★-0	Panel Barrier Gasket	24
A2584-■-■	Moisture Sealing Grommet	23

Mk 18

features



Mk 18

technical information

Mechanical Characteristics

Shells, Protective Caps, Outlets and Strain Relief Clamps

Material & Finish:

Contact Insulators:

Contacts: Sizes 20, 16, 12 and 8

Nickel aluminium bronze to D. G. Ships specifications 348 and 1043. Anti-glare finish.

Polychloroprene Rubber (solder types).

Polychloroprene Rubber combined with hard plastic disc (crimped types).

High conductivity copper alloy with gold plated finish.

Environmental Characteristics

Salt Mist:

Mechanical Endurance:

Watertightness (Immersion):

Temperature Severity:

Vibration Severity:

Shock Severity:

Impact:

Severity 1 (BS9520 – 1.2.6.17)

500 mating cycles (BS9520 – 1.2.7.1)

39 KN/M² – 20°C duration 100 hours (BS9520 – 1.2.6.14)

– 55°C to + 125°C

General Application

55 Hz to 5000 Hz 0.75 mm 98 m/s²(10g) 6 hours duration

Naval Application

1 Hz to 33 Hz 0.127 mm (0.254 total amplitude (0.57g) 6 hours duration

General Application

490 m/s² (50g) (BS9520 – 1.2.6.4)

Naval Application

1176 m/s² (120g)

Drop Height 1 metre (BS9520 – 1.2.5.7) 5 impacts.

Electrical Characteristics

Working Voltage (sea level):

700 volts d.c. or a.c. peak (service rating 1)

1250 volts d.c. or a.c. peak (service rating 2)

1500 volts d.c. or a.c. peak (service rating 3)

Note 1 – Voltage service ratings relative to contact arrangements are shown on page 4 of this catalogue.

Note 2 – The establishment of the Electrical Safety factor is the responsibility of the user.

Current Rating

Contact size 20

16

12

8

Nominal Rating

5 ampere

15 ampere

24 ampere

50 ampere

B.S. Rating at 85°C

3 ampere

10 ampere

20 ampere

40 ampere

Note – for bunched cable ratings, users must refer to the specific cable specification.

Contact Resistance (maximum)

Contact size 20

16

12

8

10 milliohms

5 milliohms

3 milliohms

3 milliohms

Insulation Resistance:

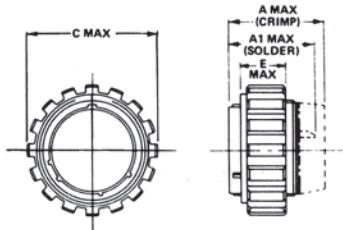
20 megohms minimum at 125°C

5000 megohms minimum at 25°C

Mk 18

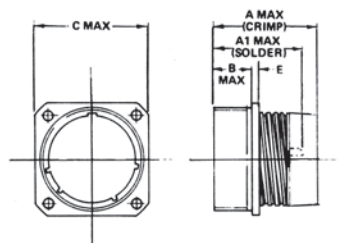
shell style and dimensions

FREE PLUG AND SOCKET



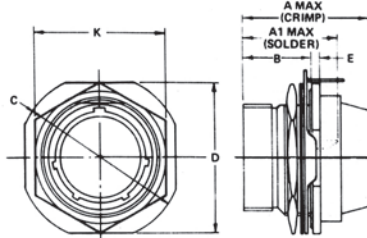
SHELL SIZE	C MAX		A MAX		AI MAX		E MAX		MAX MASS (g)
	MM	IN	MM	IN	MM	IN	MM	IN	
8	21.03	.828	33.02	1.300	25.35	.998	14.73	.580	26
10	23.80	.937	33.02	1.300	25.35	.998	14.73	.580	34
12	28.17	1.109	33.02	1.300	25.35	.998	14.73	.580	44
14	31.34	1.234	33.02	1.300	25.35	.998	14.73	.580	59
16	36.50	1.437	33.02	1.300	25.35	.998	14.73	.580	76
18	39.27	1.546	33.02	1.300	25.35	.998	14.73	.580	96
20	42.42	1.670	33.02	1.300	25.35	.998	16.26	.640	115
22	45.21	1.780	33.02	1.300	25.35	.998	16.26	.640	135
24	48.39	1.905	33.02	1.300	25.35	.998	16.26	.640	154

SQUARE FLANGE MOUNTING WITH ACCESSORY THREAD



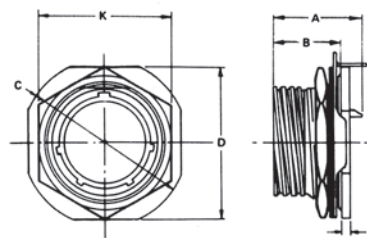
SHELL SIZE	C MAX		A MAX		AI MAX		B MAX		E MAX		MAX MASS (g)
	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	
8	21.03	.828	33.02	1.300	25.60	1.008	11.68	.460	1.78	.070	16
10	24.23	.954	33.02	1.300	25.60	1.008	11.68	.460	1.78	.070	23
12	26.59	1.047	33.02	1.300	25.60	1.008	11.68	.460	1.78	.070	31
14	28.98	1.141	33.02	1.300	25.60	1.008	11.68	.460	1.78	.070	42
16	31.12	1.225	33.02	1.300	25.60	1.008	11.68	.460	1.78	.070	56
18	33.73	1.328	33.02	1.300	25.60	1.008	11.68	.460	1.78	.070	62
20	36.91	1.453	34.80	1.370	27.15	1.069	14.73	.580	2.54	.100	89
22	40.08	1.578	34.80	1.370	27.15	1.069	14.73	.580	2.54	.100	106
24	43.26	1.703	34.80	1.370	27.15	1.069	15.49	.610	2.54	.100	124

SINGLE HOLE MOUNTING WITH ACCESSORY THREAD



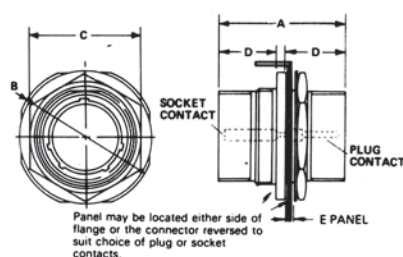
SHELL SIZE	A MAX		AI MAX		B MAX		C MAX		D MAX		E MAX		K MAX		MAX MASS (g)
	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	
8	33.02	1.300	25.60	1.008	18.03	0.710	27.43	1.080	24.21	0.953	3.30	0.130	19.30	0.760	39
10	33.02	1.300	25.60	1.008	18.03	0.710	30.48	1.200	27.31	1.075	3.30	0.130	22.61	0.890	53
12	33.02	1.300	25.60	1.008	18.03	0.710	35.31	1.390	32.13	1.265	3.30	0.130	27.18	1.070	70
14	33.02	1.300	25.60	1.008	18.03	0.710	38.35	1.510	35.31	1.390	3.30	0.130	30.48	1.200	85
16	33.02	1.300	25.60	1.008	18.03	0.710	41.66	1.640	38.48	1.515	3.30	0.130	33.53	1.320	104
18	33.02	1.300	25.60	1.008	18.03	0.710	44.70	1.760	41.53	1.635	3.30	0.130	36.83	1.450	126
20	34.80	1.370	27.15	1.069	22.86	0.900	49.53	1.950	46.44	1.828	4.06	0.160	39.88	1.570	152
22	34.80	1.370	27.15	1.069	22.86	0.900	52.58	2.070	49.64	1.954	4.06	0.160	43.18	1.700	182
24	34.80	1.370	27.15	1.069	23.88	0.940	55.68	2.192	52.79	2.078	4.06	0.160	46.23	1.820	215

SINGLE HOLE MOUNTING (solder type)



SHELL SIZE	A MAX		B MAX		C MAX		D MAX		E MAX		K MAX		MAX MASS (g)
	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	
8	25.60	1.008	18.03	0.710	27.43	1.080	24.21	0.953	3.31	0.130	19.30	0.760	29
10	25.60	1.008	18.03	0.710	30.48	1.200	27.31	1.075	3.31	0.130	22.61	0.890	38
12	25.60	1.008	18.03	0.710	35.31	1.390	32.13	1.265	3.31	0.130	27.18	1.070	49
14	25.60	1.008	18.03	0.710	38.35	1.510	35.31	1.390	3.31	0.130	30.48	1.200	63
16	25.60	1.008	18.03	0.710	41.66	1.640	38.48	1.515	3.31	0.130	33.53	1.320	81
18	25.60	1.008	18.03	0.710	44.70	1.760	41.53	1.635	3.31	0.130	36.83	1.450	106
20	27.15	1.069	22.86	0.900	49.53	1.950	46.44	1.828	4.07	0.160	39.88	1.570	130
22	27.15	1.069	22.86	0.900	52.58	2.070	49.64	1.954	4.07	0.160	43.18	1.700	158
24	27.15	1.069	22.86	0.900	55.68	2.192	52.79	2.078	4.07	0.160	46.23	1.820	188

THROUGH BULKHEAD

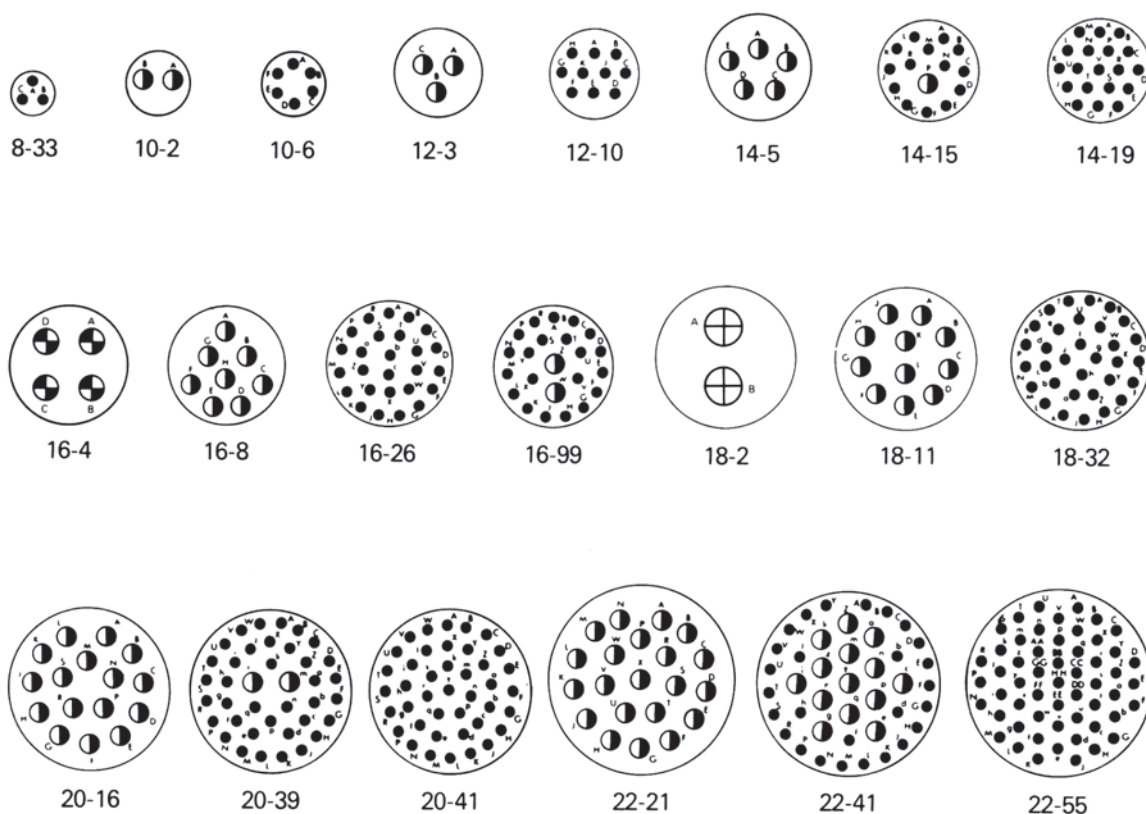


SHELL SIZE	A MAX		B MAX		C MAX		D MAX		E MAX PANEL		MAX MASS (g)
	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	
10	50.20	1.976	30.48	1.200	22.61	0.890	22.90	0.902	6.35	0.250	76
12	50.20	1.976	35.31	1.390	27.18	1.070	22.90	0.902	6.35	0.250	98
14	50.20	1.976	38.35	1.510	30.48	1.200	22.90	0.902	6.35	0.250	126
16	50.20	1.976	41.66	1.640	33.53	1.320	22.90	0.902	6.35	0.250	162
18	50.20	1.976	44.71	1.760	36.83	1.450	22.90	0.902	6.35	0.250	212
20	53.35	2.100	49.53	1.950	39.88	1.570	23.50	0.925	6.35	0.250	260
22	53.35	2.100	52.58	2.070	43.18	1.700	23.50	0.925	6.35	0.250	316
24	53.35	2.100	55.68	2.192	46.23	1.820	23.50	0.925	6.35	0.250	376

Note: for Panel Cutout Details see page 32.

Mk 18

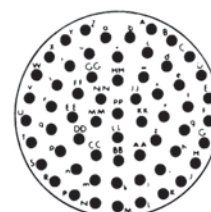
contact arrangements



Shell Size	Arrangements	Number of Contacts	Contact Size	Current Rating	Voltage Rating (See Note)
8	33	3	20	5	1
10	2	2	16	15	2
10	6	6	20	5	1
12	3	3	16	15	2
12	10	10	20	5	1
14	5	5	16	15	2
14	15	15	20-16	5-15	1
14	19	19	20	5	1
16	4	4	12	24	3
16	8	8	16	15	2
16	26	26	20	5	1
16	99	23	20-16	5-15	1
18	2	2	8	50	3
18	11	11	16	15	2
18	32	32	20	5	1
20	16	16	16	15	2
20	39	39	20-16	5-15	1
20	41	41	20	5	1
22	21	21	16	15	2
22	41	41	20-16	5-15	1
22	55	55	20	5	1
24	61	61	20	5	1

NOTE: VOLTAGE RATINGS

1. Denote 700v Working d.c. at sea level
2. Denotes 1,250 Working d.c. at sea level
3. Denotes 1,500 Working d.c. at sea level



24-61

- = Size 20 Contacts
- ◐ = Size 16 Contacts
- ⊗ = Size 12 Contacts
- ⊕ = Size 8 Contacts

All views are front face of plug moulding (insulator)
For other Planforms consult our Sales Office

Mk 18

contacts

CRIMP CONTACTS

PLUG

SOCKET

Contact Size	A		B		C Dia Max				Max Mass (g)	Plug		Socket		Qty Per Pack
	Dia mm	Min in	Dia mm	Max in	Plug		Socket			No.	NATO No.	No.	NATO No.	
20	1.22	0.048	2.62	0.103	1.04	0.041	1.12	0.044	0.4	31720/120	015-1232	31720/220	015-1234	25
16	1.68	0.066	3.76	0.148	1.613	0.0635	1.73	0.068	0.8	31720/116	015-1233	31720/216	015-1235	25
12	2.49	0.098	5.13	0.202	2.41	0.095	2.54	0.100	1.2	31720/112	015-1285	31720/212	015-1286	10

Crimp contacts are supplied with the connectors; they may also be purchased as spares in packs, as above.

SOLDER CONTACTS

Size 8 – Dimensions Max.
(Dimensions in mm)

PLUG

Part No.	Qty Per Pack
508/1/31720/108	4

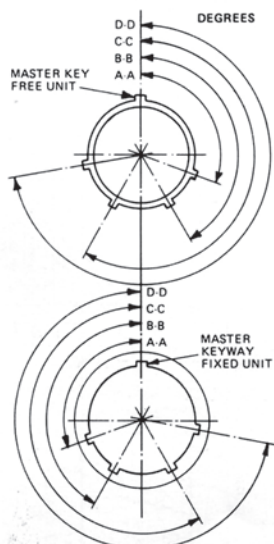
SOCKET

Part No.	Qty Per Pack
508/1/31720/208	4

Size 8 removable solder contacts are supplied with the connectors unassembled. They may also be purchased as spares in packs as above.

All other solder contacts are supplied as part of the connector assembly.

NOTE: For conductor diameter and conductor insulation dimensions, see page 32.

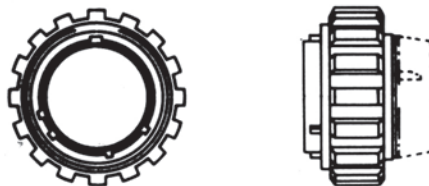


POLARISATION

Polarisation is achieved by varying the angular relationship of the group of minor keys (free unit) or keyways (fixed unit) to Master Key (free units) or Keyway (fixed units). The position of the insert (plug or socket) remains constant to the Master Key or Keyway.

Shell size	DEGREE OF ANGLE																			
	Normal					B					C					E				
	A-A	B-B	C-C	D-D	D-D	A-A	B-B	C-C	D-D	D-D	A-A	B-B	C-C	D-D	D-D	A-A	B-B	C-C	D-D	D-D
8	105	140	215	265	—	Not used	—	—	Not used	—	—	Not used	—	—	Not used	118	148	243	278	82
10	105	140	215	265	85	120	195	245	125	160	235	285	115	145	245	275	85	135	210	255
12	105	140	215	265	89	124	199	249	121	156	231	281	115	145	245	275	85	135	210	255
14	105	140	215	265	91	126	201	251	119	154	229	279	75	105	205	235	120	170	245	280
16	105	140	215	265	93	128	203	253	117	152	227	277	75	105	205	235	120	170	245	280
18	105	140	215	265	95	130	205	255	115	150	225	275	75	105	205	235	120	170	245	280
20	105	140	215	265	95	130	205	255	115	150	225	275	75	105	205	235	120	170	245	280
22	105	140	215	265	97	132	207	257	113	148	223	273	75	105	205	235	120	170	245	280
24	105	140	215	265	97	132	207	257	113	148	223	273	75	105	205	235	120	170	245	280

FREE CONNECTOR WITH ACCESSORY THREAD AND COARSE RIBBED COUPLING NUT



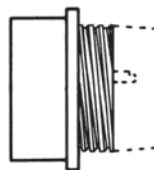
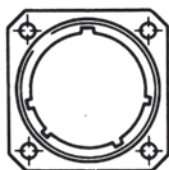
Shell Size	Contact Arrangement	Polarisation	CRIMP TYPE				SOLDER TYPE			
			Contact Plug		Contact Socket		Contact Plug		Contact Socket	
			Part No.	Nato No.	Part No.	Nato No.	Part No.	Nato No.	Part No.	Nato No.
8	8-33	N E F	508/11	5935-99	508/11	5935-99	508/11	5935-99	508/11	5935-99
			31000/100	015-0000	31030/100	015-0006	31060/100	015-0003	31090/100	015-0009
			31000/130	015-0001	31030/130	015-0007	31060/130	015-0004	31090/130	015-0010
			31000/140	015-0002	31030/140	015-0008	31060/140	015-0005	31090/140	015-0011
10	10-2	N	31002/100	015-0012	31032/100	015-0022	31062/100	015-0017	31092/100	015-0027
		B	31002/110	015-0013	31032/110	015-0023	31062/110	015-0018	31092/110	015-0028
		C	31002/120	015-0014	31032/120	015-0024	31062/120	015-0019	31092/120	015-0029
		E	31002/130	015-0015	31032/130	015-0025	31062/130	015-0020	31092/130	015-0030
		F	31002/140	015-0016	31032/140	015-0026	31062/140	015-0021	31092/140	015-0031
	10-6	N	31003/100	015-0032	31033/100	015-0042	31063/100	015-0037	31093/100	015-0047
		B	31003/110	015-0033	31033/110	015-0043	31063/110	015-0038	31093/110	015-0048
		C	31003/120	015-0034	31033/120	015-0044	31063/120	015-0039	31093/120	015-0049
		E	31003/130	015-0035	31033/130	015-0045	31063/130	015-0040	31093/130	015-0050
		F	31003/140	015-0036	31033/140	015-0046	31063/140	015-0041	31093/140	015-0051
12	12-3	N	31004/100	015-0052	31034/100	015-0062	31064/100	015-0057	31094/100	015-0067
		B	31004/110	015-0053	31034/110	015-0063	31064/110	015-0058	31094/110	015-0068
		C	31004/120	015-0054	31034/120	015-0064	31064/120	015-0059	31094/120	015-0069
		E	31004/130	015-0055	31034/130	015-0065	31064/130	015-0060	31094/130	015-0070
		F	31004/140	015-0056	31034/140	015-0066	31064/140	015-0061	31094/140	015-0071
	12-10	N	31006/100	015-0072	31036/100	015-0082	31066/100	015-0077	31096/100	015-0087
		B	31006/110	015-0073	31036/110	015-0083	31066/110	015-0078	31096/110	015-0088
		C	31006/120	015-0074	31036/120	015-0084	31066/120	015-0079	31096/120	015-0089
		E	31006/130	015-0075	31036/130	015-0085	31066/130	015-0080	31096/130	015-0090
		F	31006/140	015-0076	31036/140	015-0086	31066/140	015-0081	31096/140	015-0091
14	14-5	N	31007/100	015-0092	31037/100	015-0102	31067/100	015-0097	31097/100	015-0107
		B	31007/110	015-0093	31037/110	015-0103	31067/110	015-0098	31097/110	015-0108
		C	31007/120	015-0094	31037/120	015-0104	31067/120	015-0099	31097/120	015-0109
		E	31007/130	015-0095	31037/130	015-0105	31067/130	015-0100	31097/130	015-0110
		F	31007/140	015-0096	31037/140	015-0106	31067/140	015-0101	31097/140	015-0111
	14-15	N	31009/100		31039/100		31069/100		31099/100	
		B	31009/110		31039/110		31069/110		31099/110	
		C	31009/120		31039/120		31069/120		31099/120	
		E	31009/130		31039/130		31069/130		31099/130	
		F	31009/140		31039/140		31069/140		31099/140	
16	14-19	N	31010/100	015-0112	31040/100	015-0122	31070/100	015-0117	31100/100	015-0127
		B	31010/110	015-0113	31040/110	015-0123	31070/110	015-0118	31100/110	015-0128
		C	31010/120	015-0114	31040/120	015-0124	31070/120	015-0119	31100/120	015-0129
		E	31010/130	015-0115	31040/130	015-0125	31070/130	015-0120	31100/130	015-0130
		F	31010/140	015-0116	31040/140	015-0126	31070/140	015-0121	31100/140	015-0131
	16-4	N	31012/100	015-1290	31042/100	015-1300	31072/100	015-1295	31102/100	015-1305
		B	31012/110	015-1291	31042/110	015-1301	31072/110	015-1296	31102/110	015-1306
		C	31012/120	015-1292	31042/120	015-1302	31072/120	015-1297	31102/120	015-1307
		E	31012/130	015-1293	31042/130	015-1303	31072/130	015-1298	31102/130	015-1308
		F	31012/140	015-1294	31042/140	015-1304	31072/140	015-1299	31102/140	015-1309
	16-8	N	31013/100	015-0132	31043/100	015-0142	31073/100	015-0137	31103/100	015-0147
		B	31013/110	015-0133	31043/110	015-0143	31073/110	015-0138	31103/110	015-0148
		C	31013/120	015-0134	31043/120	015-0144	31073/120	015-0139	31103/120	015-0149
		E	31013/130	015-0135	31043/130	015-0145	31073/130	015-0140	31103/130	015-0150
		F	31013/140	015-0136	31043/140	015-0146	31073/140	015-0141	31103/140	015-0151
	16-26	N	31014/100	015-0152	31044/100	015-0162	31074/100	015-0157	31104/100	015-0167
		B	31014/110	015-0153	31044/110	015-0163	31074/110	015-0158	31104/110	015-0168
		C	31014/120	015-0154	31044/120	015-0164	31074/120	015-0159	31104/120	015-0169
		E	31014/130	015-0155	31044/130	015-0165	31074/130	015-0160	31104/130	015-0170
		F	31014/140	015-0156	31044/140	015-0166	31074/140	015-0161	31104/140	015-0171
	16-99	N	31015/100		31045/100					
		B	31015/110		31045/110					
		C	31015/120		31045/120					
		E	31015/130		31045/130					
		F	31015/140		31045/140					

Shell Size	Contact Arrangement	Polarization	CRIMP TYPE				SOLDER TYPE			
			Contact Plug		Contact Socket		Contact Plug		Contact Socket	
			Part No.	Nato No.	Part No.	Nato No.	Part No.	Nato No.	Part No.	Nato No.
18	18-2	N B C E F	508/11	5935-99	508/11	5935-99	508/11	5935-99	508/11	5935-99
							37664/100		37665/100	
							37664/110		37665/110	
							37664/120		37665/120	
							37664/130		37665/130	
							37664/140		37665/140	
	18-11	N B C E F	31016/100	015-0172	31046/100	015-0182	31076/100	015-0177	31106/100	015-0187
			31016/110	015-0173	31046/110	015-0183	31076/110	015-0178	31106/110	015-0188
			31016/120	015-0174	31046/120	015-0184	31076/120	015-0179	31106/120	015-0189
			31016/130	015-0175	31046/130	015-0185	31076/130	015-0180	31106/130	015-0190
			31016/140	015-0176	31046/140	015-0186	31076/140	015-0181	31106/140	015-0191
	18-32	N B C E F	31017/100	015-0192	31047/100	015-0202	31077/100	015-0197	31107/100	015-0207
			31017/110	015-0193	31047/110	015-0203	31077/110	015-0198	31107/110	015-0208
			31017/120	015-0194	31047/120	015-0204	31077/120	015-0199	31107/120	015-0209
			31017/130	015-0195	31047/130	015-0205	31077/130	015-0200	31107/130	015-0210
			31017/140	015-0196	31047/140	015-0206	31077/140	015-0201	31107/140	015-0211
20	20-16	N B C E F	31018/100	015-0212	31048/100	015-0222	31078/100	015-0217	31108/100	015-0227
			31018/110	015-0213	31048/110	015-0223	31078/110	015-0218	31108/110	015-0228
			31018/120	015-0214	31048/120	015-0224	31078/120	015-0219	31108/120	015-0229
			31018/130	015-0215	31048/130	015-0225	31078/130	015-0220	31108/130	015-0230
			31018/140	015-0216	31048/140	015-0226	31078/140	015-0221	31108/140	015-0231
	20-39	N B C E F	31019/100		31049/100		31079/100		31109/100	
			31019/110		31049/110		31079/110		31109/110	
			31019/120		31049/120		31079/120		31109/120	
			31019/130		31049/130		31079/130		31109/130	
			31019/140		31049/140		31079/140		31109/140	
	20-41	N B C E F	31020/100	015-0232	31050/100	015-0242	31080/100	015-0237	31110/100	015-0247
			31020/110	015-0233	31050/110	015-0243	31080/110	015-0238	31110/110	015-0248
			31020/120	015-0234	31050/120	015-0244	31080/120	015-0239	31110/120	015-0249
			31020/130	015-0235	31050/130	015-0245	31080/130	015-0240	31110/130	015-0250
			31020/140	015-0236	31050/140	015-0246	31080/140	015-0241	31110/140	015-0251
22	22-21	N B C E F	31024/100	015-0252	31054/100	015-0262	31084/100	015-0257	31114/100	015-0267
			31024/110	015-0253	31054/110	015-0263	31084/110	015-0258	31114/110	015-0268
			31024/120	015-0254	31054/120	015-0264	31084/120	015-0259	31114/120	015-0269
			31024/130	015-0255	31054/130	015-0265	31084/130	015-0260	31114/130	015-0270
			31024/140	015-0256	31054/140	015-0266	31084/140	015-0261	31114/140	015-0271
	22-41	N B C E F	31025/100		31055/100					
			31025/110	533-1031	31055/110	533-1032				
			31025/120	533-1033	31055/120	533-1034				
			31025/130		31055/130					
			31025/140		31055/140					
	22-55	N B C E F	31026/100	015-0272	31056/100	015-0282	31086/100	015-0277	31116/100	015-0287
			31026/110	015-0273	31056/110	015-0283	31086/110	015-0278	31116/110	015-0288
			31026/120	015-0274	31056/120	015-0284	31086/120	015-0279	31116/120	015-0289
			31026/130	015-0275	31056/130	015-0285	31086/130	015-0280	31116/130	015-0290
			31026/140	015-0276	31056/140	015-0286	31086/140	015-0281	31116/140	015-0291
24	24-61	N B C E F	31028/100	015-0292	31058/100	015-0302	31088/100	015-0297	31118/100	015-0307
			31028/110	015-0293	31058/110	015-0303	31088/110	015-0298	31118/110	015-0308
			31028/120	015-0294	31058/120	015-0304	31088/120	015-0299	31118/120	015-0309
			31028/130	015-0295	31058/130	015-0305	31088/130	015-0300	31118/130	015-0310
			31028/140	015-0296	31058/140	015-0306	31088/140	015-0301	31118/140	015-0311

Important Note: All Crimped Connector Assemblies **must** have the Rear Moisture Seal supported by a Nut and Ferrule Assembly when not used with outlets. See page 26.

When using solder types, the moisture grommet seal **must** be ordered separately. See page 28.

FIXED SQUARE FLANGE CONNECTOR WITH ACCESSORY THREAD



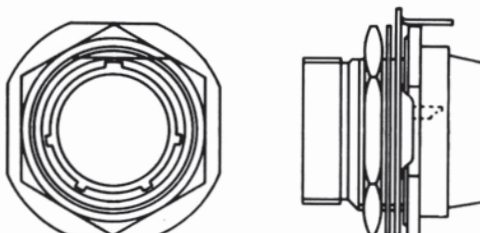
Shell Size	Contact Arrangement	Polarisation	CRIMP TYPE				SOLDER TYPE			
			Contact Plug		Contact Socket		Contact Plug		Contact Socket	
			Part No.	Nato No.	Part No.	Nato No.	Part No.	Nato No.	Part No.	Nato No.
8	8-33	N E F	508/11	5935-99-	508/11	5935-99-	508/11	5935-99-	508/11	5935-99-
			31120/100	015-0312	31150/100	015-0318	31180/100	015-0315	31210/100	015-0321
			31120/130	015-0313	31150/130	015-0319	31180/130	015-0316	31210/130	015-0322
			31120/140	015-0314	31150/140	015-0320	31180/140	015-0317	31210/140	015-0323
10	10-2	N B C E F	31122/100	015-0324	31152/100	015-0334	31182/100	015-0329	31212/100	015-0339
			31122/110	015-0325	31152/110	015-0335	31182/110	015-0330	31212/110	015-0340
			31122/120	015-0326	31152/120	015-0336	31182/120	015-0331	31212/120	015-0341
			31122/130	015-0327	31152/130	015-0337	31182/130	015-0332	31212/130	015-0342
			31122/140	015-0328	31152/140	015-0338	31182/140	015-0333	31212/140	015-0343
	10-6	N B C E F	31123/100	015-0344	31153/100	015-0354	31183/100	015-0349	31213/100	015-0359
			31123/110	015-0345	31153/110	015-0355	31183/110	015-0350	31213/110	015-0360
			31123/120	015-0346	31153/120	015-0356	31183/120	015-0351	31213/120	015-0361
			31123/130	015-0347	31153/130	015-0357	31183/130	015-0352	31213/130	015-0362
			31123/140	015-0348	31153/140	015-0358	31183/140	015-0353	31213/140	015-0363
12	12-3	N B C E F	31124/100	015-0364	31154/100	015-0374	31184/100	015-0369	31214/100	015-0379
			31124/110	015-0365	31154/110	015-0375	31184/110	015-0370	31214/110	015-0380
			31124/120	015-0366	31154/120	015-0376	31184/120	015-0371	31214/120	015-0381
			31124/130	015-0367	31154/130	015-0377	31184/130	015-0372	31214/130	015-0382
			31124/140	015-0368	31154/140	015-0378	31184/140	015-0373	31214/140	015-0383
	12-10	N B C E F	31126/100	015-0384	31156/100	015-0394	31186/100	015-0389	31216/100	015-0399
			31126/110	015-0385	31156/110	015-0395	31186/110	015-0390	31216/110	015-0400
			31126/120	015-0386	31156/120	015-0396	31186/120	015-0391	31216/120	015-0401
			31126/130	015-0387	31156/130	015-0397	31186/130	015-0392	31216/130	015-0402
			31126/140	015-0388	31156/140	015-0398	31186/140	015-0393	31216/140	015-0403
14	14-5	N B C E F	31127/100	015-0404	31157/100	015-0414	31187/100	015-0409	31217/100	015-0419
			31127/110	015-0405	31157/110	015-0415	31187/110	015-0410	31217/110	015-0420
			31127/120	015-0406	31157/120	015-0416	31187/120	015-0411	31217/120	015-0421
			31127/130	015-0407	31157/130	015-0417	31187/130	015-0412	31217/130	015-0422
			31127/140	015-0408	31157/140	015-0418	31187/140	015-0413	31217/140	015-0423
	14-15	N B C E F	31129/100		31159/100		31189/100		31219/100	
			31129/110		31159/110		31189/110		31219/110	
			31129/120		31159/120		31189/120		31219/120	
			31129/130		31159/130		31189/130		31219/130	
			31129/140		31159/140		31189/140		31219/140	
	14-19	N B C E F	31130/100	015-0424	31160/100	015-0434	31190/100	015-0429	31220/100	015-0439
			31130/110	015-0425	31160/110	015-0435	31190/110	015-0430	31220/110	015-0440
			31130/120	015-0426	31160/120	015-0436	31190/120	015-0431	31220/120	015-0441
			31130/130	015-0427	31160/130	015-0437	31190/130	015-0432	31220/130	015-0442
			31130/140	015-0428	31160/140	015-0438	31190/140	015-0433	31220/140	015-0443
16	16-4	N B C E F	31132/100	015-1310	31162/100	015-1320	31192/100	015-1315	31222/100	015-1325
			31132/110	015-1311	31162/110	015-1321	31192/110	015-1316	31222/110	015-1326
			31132/120	015-1312	31162/120	015-1322	31192/120	015-1317	31222/120	015-1327
			31132/130	015-1313	31162/130	015-1323	31192/130	015-1318	31222/130	015-1328
			31132/140	015-1314	31162/140	015-1324	31192/140	015-1319	31222/140	015-1329
	16-8	N B C E F	31133/100	015-0444	31163/100	015-0454	31193/100	015-0449	31223/100	015-0459
			31133/110	015-0445	31163/110	015-0455	31193/110	015-0450	31223/110	015-0460
			31133/120	015-0446	31163/120	015-0456	31193/120	015-0451	31223/120	015-0461
			31133/130	015-0447	31163/130	015-0457	31193/130	015-0452	31223/130	015-0462
			31133/140	015-0448	31163/140	015-0458	31193/140	015-0453	31223/140	015-0463
	16-26	N B C E F	31134/100	015-0464	31164/100	015-0474	31194/100	015-0469	31224/100	015-0479
			31134/110	015-0465	31164/110	015-0475	31194/110	015-0470	31224/110	015-0480
			31134/120	015-0466	31164/120	015-0476	31194/120	015-0471	31224/120	015-0481
			31134/130	015-0467	31164/130	015-0477	31194/130	015-0472	31224/130	015-0482
			31134/140	015-0468	31164/140	015-0478	31194/140	015-0473	31224/140	015-0483
	16-99	N B C E F	31135/100		31165/100					
			31135/110		31165/110					
			31135/120		31165/120					
			31135/130		31165/130					
			31135/140		31165/140					

Shell Size	Contact Arrangement	Polarisation	CRIMP TYPE				SOLDER TYPE			
			Contact Plug		Contact Socket		Contact Plug		Contact Socket	
			Part No.	Nato No.	Part No.	Nato No.	Part No.	Nato No.	Part No.	Nato No.
18	18-2		508/1/	5935-99-	508/1/	5935-99-	508/1/	5935-99-	508/1/	5935-99-
		N					37666/100		37667/100	
		B					37666/110		37667/110	
		C					37666/120		37667/120	
		E					37666/130		37667/130	
		F					37666/140		37667/140	
	18-11	N	31136/100	015-0484	31166/100	015-0494	31196/100	015-0489	31226/100	015-0499
		B	31136/110	015-0485	31166/110	015-0495	31196/110	015-0490	31226/110	015-0500
		C	31136/120	015-0486	31166/120	015-0496	31196/120	015-0491	31226/120	015-0501
		E	31136/130	015-0487	31166/130	015-0497	31196/130	015-0492	31226/130	015-0502
		F	31136/140	015-0488	31166/140	015-0498	31196/140	015-0493	31226/140	015-0503
	18-32	N	31137/100	015-0504	31167/100	015-0514	31197/100	015-0509	31227/100	015-0519
		B	31137/110	015-0505	31167/110	015-0515	31197/110	015-0510	31227/110	015-0520
		C	31137/120	015-0506	31167/120	015-0516	31197/120	015-0511	31227/120	015-0521
		E	31137/130	015-0507	31167/130	015-0517	31197/130	015-0512	31227/130	015-0522
		F	31137/140	015-0508	31167/140	015-0518	31197/140	015-0513	31227/140	015-0523
20	20-16	N	31138/100	015-0524	31168/100	015-0534	31198/100	015-0529	31228/100	015-0539
		B	31138/110	015-0525	31168/110	015-0535	31198/110	015-0530	31228/110	015-0540
		C	31138/120	015-0526	31168/120	015-0536	31198/120	015-0531	31228/120	015-0541
		E	31138/130	015-0527	31168/130	015-0537	31198/130	015-0532	31228/130	015-0542
		F	31138/140	015-0528	31168/140	015-0538	31198/140	015-0533	31228/140	015-0543
	20-39	N	31139/100		31169/100		31199/100		31229/100	
		B	31139/110		31169/110		31199/110		31229/110	
		C	31139/120		31169/120		31199/120		31229/120	
		E	31139/130		31169/130		31199/130		31229/130	
		F	31139/140		31169/140		31199/140		31229/140	
	20-41	N	31140/100	015-0544	31170/100	015-0554	31200/100	015-0549	31230/100	015-0559
		B	31140/110	015-0545	31170/110	015-0555	31200/110	015-0550	31230/110	015-0560
		C	31140/120	015-0546	31170/120	015-0556	31200/120	015-0551	31230/120	015-0561
		E	31140/130	015-0547	31170/130	015-0557	31200/130	015-0552	31230/130	015-0562
		F	31140/140	015-0548	31170/140	015-0558	31200/140	015-0553	31230/140	015-0563
22	22-21	N	31144/100	015-0564	31174/100	015-0574	31204/100	015-0569	31234/100	015-0579
		B	31144/110	015-0565	31174/110	015-0575	31204/110	015-0570	31234/110	015-0580
		C	31144/120	015-0566	31174/120	015-0576	31204/120	015-0571	31234/120	015-0581
		E	31144/130	015-0567	31174/130	015-0577	31204/130	015-0572	31234/130	015-0582
		F	31144/140	015-0568	31174/140	015-0578	31204/140	015-0573	31234/140	015-0583
	22-41	N	31145/100		31175/100					
		B	31145/110		31175/110					
		C	31145/120		31175/120					
		E	31145/130		31175/130					
		F	31145/140		31175/140					
	22-55	N	31146/100	015-0584	31176/100	015-0594	31206/100	015-0589	31236/100	015-0599
		B	31146/110	015-0585	31176/110	015-0595	31206/110	015-0590	31236/110	015-0600
		C	31146/120	015-0586	31176/120	015-0596	31206/120	015-0591	31236/120	015-0601
		E	31146/130	015-0587	31176/130	015-0597	31206/130	015-0592	31236/130	015-0602
		F	31146/140	015-0588	31176/140	015-0598	31206/140	015-0593	31236/140	015-0603
24	24-61	N	31148/100	015-0604	31178/100	015-0614	31208/100	015-0609	31238/100	015-0619
		B	31148/110	015-0605	31178/110	015-0615	31208/110	015-0610	31238/110	015-0620
		C	31148/120	015-0606	31178/120	015-0616	31208/120	015-0611	31238/120	015-0621
		E	31148/130	015-0607	31178/130	015-0617	31208/130	015-0612	31238/130	015-0622
		F	31148/140	015-0608	31178/140	015-0618	31208/140	015-0613	31238/140	015-0623

Important Note: All Crimped Connector Assemblies **must** have the Rear Moisture Seal Support by a Nut and Ferrule Assembly when not used with Outlets.

When using solder types, the moisture grommet seal **must** be ordered separately.

FIXED CONNECTOR WITH SINGLE HOLE MOUNTING WITH ACCESSORY THREAD



Shell Size	Contact Arrangement	Polarisation	CRIMP TYPE				SOLDER TYPE			
			Contact Plug		Contact Socket		Contact Plug		Contact Socket	
			Part No.	Nato No.	Part No.	Nato No.	Part No.	Nato No.	Part No.	Nato No.
8	8-33	N E F	508/1/	5935-99-	508/1/	5935-99-	508/1/	5935-99-	508/1/	5935-99-
			31240/101	015-0624	31270/101	015-0630	31300/101	015-0627	31330/101	015-0633
			31240/131	015-0625	31270/131	015-0631	31300/131	015-0628	31330/131	015-0634
			31240/141	015-0626	31270/141	015-0632	31300/141	015-0629	31330/141	015-0635
10	10-2	N B C E F	31242/101	015-0636	31272/101	015-0646	31302/101	015-0641	31332/101	015-0651
			31242/111	015-0637	31272/111	015-0647	31302/111	015-0642	31332/111	015-0652
			31242/121	015-0638	31272/121	015-0648	31302/121	015-0643	31332/121	015-0653
			31242/131	015-0639	31272/131	015-0649	31302/131	015-0644	31332/131	015-0654
			31242/141	015-0640	31272/141	015-0650	31302/141	015-0645	31332/141	015-0655
	10-6	N B C E F	31243/101	015-0656	31273/101	015-0666	31303/101	015-0661	31333/101	015-0671
			31243/111	015-0657	31273/111	015-0667	31303/111	015-0662	31333/111	015-0672
			31243/121	015-0658	31273/121	015-0668	31303/121	015-0663	31333/121	015-0673
			31243/131	015-0659	31273/131	015-0669	31303/131	015-0664	31333/131	015-0674
			31243/141	015-0660	31273/141	015-0670	31303/141	015-0665	31333/141	015-0675
12	12-3	N B C E F	31244/101	015-0676	31274/101	015-0686	31304/101	015-0681	31334/101	015-0691
			31244/111	015-0677	31274/111	015-0687	31304/111	015-0682	31334/111	015-0692
			31244/121	015-0678	31274/121	015-0688	31304/121	015-0683	31334/121	015-0693
			31244/131	015-0679	31274/131	015-0689	31304/131	015-0684	31334/131	015-0694
			31244/141	015-0680	31274/141	015-0690	31304/141	015-0685	31334/141	015-0695
	12-10	N B C E F	31246/101	015-0696	31276/101	015-0706	31306/101	015-0701	31336/101	015-0711
			31246/111	015-0697	31276/111	015-0707	31306/111	015-0702	31336/111	015-0712
			31246/121	015-0698	31276/121	015-0708	31306/121	015-0703	31336/121	015-0713
			31246/131	015-0699	31276/131	015-0709	31306/131	015-0704	31336/131	015-0714
			31246/141	015-0700	31276/141	015-0710	31306/141	015-0705	31336/141	015-0715
14	14-5	N B C E F	31247/101	015-0716	31277/101	015-0726	31307/101	015-0721	31337/101	015-0731
			31247/111	015-0717	31277/111	015-0727	31307/111	015-0722	31337/111	015-0732
			31247/121	015-0718	31277/121	015-0728	31307/121	015-0723	31337/121	015-0733
			31247/131	015-0719	31277/131	015-0729	31307/131	015-0724	31337/131	015-0734
			31247/141	015-0720	31277/141	015-0730	31307/141	015-0725	31337/141	015-0735
	14-15	N B C E F	31249/101		31279/101		31309/101		31339/101	
			31249/111		31279/111		31309/111		31339/111	
			31249/121		31279/121		31309/121		31339/121	
			31249/131		31279/131		31309/131		31339/131	
			31249/141		31279/141		31309/141		31339/141	
	14-19	N B C E F	31250/101	015-0736	31280/101	015-0746	31310/101	015-0741	31340/101	015-0751
			31250/111	015-0737	31280/111	015-0747	31310/111	015-0742	31340/111	015-0752
			31250/121	015-0738	31280/121	015-0748	31310/121	015-0743	31340/121	015-0753
			31250/131	015-0739	31280/131	015-0749	31310/131	015-0744	31340/131	015-0754
			31250/141	015-0740	31280/141	015-0750	31310/141	015-0745	31340/141	015-0755
16	16-4	N B C E F	31252/101	015-1330	31282/101	015-1340	31312/101	015-1335	31342/101	015-1345
			31252/111	015-1331	31282/111	015-1341	31312/111	015-1336	31342/111	015-1346
			31252/121	015-1332	31282/121	015-1342	31312/121	015-1337	31342/121	015-1347
			31252/131	015-1333	31282/131	015-1343	31312/131	015-1338	31342/131	015-1348
			31252/141	015-1334	31282/141	015-1344	31312/141	015-1339	31342/141	015-1349
	16-8	N B C E F	31253/101	015-0756	31283/101	015-0766	31313/101	015-0761	31343/101	015-0771
			31253/111	015-0757	31283/111	015-0767	31313/111	015-0762	31343/111	015-0772
			31253/121	015-0758	31283/121	015-0768	31313/121	015-0763	31343/121	015-0773
			31253/131	015-0759	31283/131	015-0769	31313/131	015-0764	31343/131	015-0774
			31253/141	015-0760	31283/141	015-0770	31313/141	015-0765	31343/141	015-0775
	16-26	N B C E F	31254/101	015-0776	31284/101	015-0786	31314/101	015-0781	31344/101	015-0791
			31254/111	015-0777	31284/111	015-0787	31314/111	015-0782	31344/111	015-0792
			31254/121	015-0778	31284/121	015-0788	31314/121	015-0783	31344/121	015-0793
			31254/131	015-0779	31284/131	015-0789	31314/131	015-0784	31344/131	015-0794
			31254/141	015-0780	31284/141	015-0790	31314/141	015-0785	31344/141	015-0795
	16-99	N B C E F	31255/101		31285/101					
			31255/111		31285/111					
			31255/121		31285/121					
			31255/131		31285/131					
			31255/141		31285/141					

Shell Size	Contact Arrangement	Polarisation	CRIMP TYPE				SOLDER TYPE			
			Contact Plug		Contact Socket		Contact Plug		Contact Socket	
			Part No.	Nato No.	Part No.	Nato No.	Part No.	Nato No.	Part No.	Nato No.
18	18-11	N	508/1/	5935-99-	508/1/	5935-99-	508/1/	5935-99-	508/1/	5935-99-
		B	31256/101	015-0796	31286/101	015-0806	31316/101	015-0801	31346/101	015-0811
		C	31256/111	015-0797	31286/111	015-0807	31316/111	015-0802	31346/111	015-0812
		E	31256/121	015-0798	31286/121	015-0808	31316/121	015-0803	31346/121	015-0813
		F	31256/131	015-0799	31286/131	015-0809	31316/131	015-0804	31346/131	015-0814
	18-32	N	31256/141	015-0800	31286/141	015-0810	31316/141	015-0805	31346/141	015-0815
		B	31257/101	015-0816	31287/101	015-0826	31317/101	015-0821	31347/101	015-0831
		C	31257/111	015-0817	31287/111	015-0827	31317/111	015-0822	31347/111	015-0832
		E	31257/121	015-0818	31287/121	015-0828	31317/121	015-0823	31347/121	015-0833
		F	31257/131	015-0819	31287/131	015-0829	31317/131	015-0824	31347/131	015-0834
20	20-16	N	31257/141	015-0820	31287/141	015-0830	31317/141	015-0825	31347/141	015-0835
		B	31258/100	015-0836	31288/100	015-0846	31318/100	015-0841	31348/100	015-0851
		C	31258/110	015-0837	31288/110	015-0847	31318/110	015-0842	31348/110	015-0852
		E	31258/120	015-0838	31288/120	015-0848	31318/120	015-0843	31348/120	015-0853
		F	31258/130	015-0839	31288/130	015-0849	31318/130	015-0844	31348/130	015-0854
	20-39	N	31258/140	015-0840	31288/140	015-0850	31318/140	015-0845	31348/140	015-0855
		B	31259/100		31289/100		31319/100		31349/100	
		C	31259/110		31289/110		31319/110		31349/110	
		E	31259/120		31289/120		31319/120		31349/120	
		F	31259/130		31289/130		31319/130		31349/130	
22	20-41	N	31259/140		31289/140		31319/140		31349/140	
		B	31260/100	015-0856	31290/100	015-0866	31320/100	015-0861	31350/100	015-0871
		C	31260/110	015-0857	31290/110	015-0867	31320/110	015-0862	31350/110	015-0872
		E	31260/120	015-0858	31290/120	015-0868	31320/120	015-0863	31350/120	015-0873
		F	31260/130	015-0859	31290/130	015-0869	31320/130	015-0864	31350/130	015-0874
	22-21	N	31260/140	015-0860	31290/140	015-0870	31320/140	015-0865	31350/140	015-0875
		B	31264/100	015-0876	31294/100	015-0886	31324/100	015-0881	31354/100	015-0891
		C	31264/110	015-0877	31294/110	015-0887	31324/110	015-0882	31354/110	015-0892
		E	31264/120	015-0878	31294/120	015-0888	31324/120	015-0883	31354/120	015-0893
		F	31264/130	015-0879	31294/130	015-0889	31324/130	015-0884	31354/130	015-0894
24	22-41	N	31264/140	015-0880	31294/140	015-0890	31324/140	015-0885	31354/140	015-0895
		B	31265/100		31295/100					
		C	31265/110		31295/110					
		E	31265/120		31295/120					
		F	31265/130		31295/130					
	22-55	N	31265/140		31295/140					
		B	31266/100	015-0896	31296/100	015-0906	31326/100	015-0901	31356/100	015-0911
		C	31266/110	015-0897	31296/110	015-0907	31326/110	015-0902	31356/110	015-0912
		E	31266/120	015-0898	31296/120	015-0908	31326/120	015-0903	31356/120	015-0913
		F	31266/130	015-0899	31296/130	015-0909	31326/130	015-0904	31356/130	015-0914
24	24-61	N	31266/140	015-0900	31296/140	015-0910	31326/140	015-0905	31356/140	015-0915
		B	31268/100	015-0916	31298/100	015-0926	31328/100	015-0921	31358/100	015-0931
		C	31268/110	015-0917	31298/110	015-0927	31328/110	015-0922	31358/110	015-0932
		E	31268/120	015-0918	31298/120	015-0928	31328/120	015-0923	31358/120	015-0933
		F	31268/130	015-0919	31298/130	015-0929	31328/130	015-0924	31358/130	015-0934
			31268/140	015-0920	31298/140	015-0930	31328/140	015-0925	31358/140	015-0935

Important Note: All Single Hole Mounting Connectors **must** to effect a proper seal be installed with the special Earthing Washer whether or not used as an earthing/grounding facility.

When using solder types. the moisture grommet seal **must** be ordered separately. See page 28.

FIXED CONNECTOR SINGLE HOLE MOUNTING

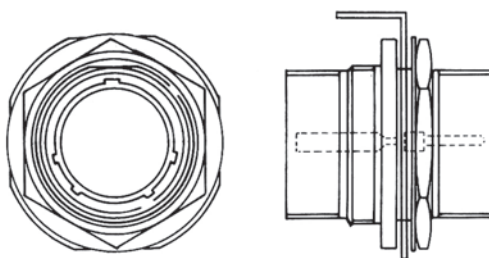


Shell Size	Contact Arrangement	Polarisation	SOLDER TYPE			
			Contact Plug		Contact Socket	
			Part No.	Nato No.	Part No.	Nato No.
8	8-33	N E F	508/1/	5935-99-	508/1/	5935-99-
			31360/ 101	015-0936	31390/ 101	015-0939
			31360/ 131	015-0937	31390/ 131	015-0940
			31360/ 141	015-0938	31390/ 141	015-0941
10	10-2	N	31362/ 101	015-0942	31392/ 101	015-0947
		B	31362/ 111	015-0943	31392/ 111	015-0948
		C	31362/ 121	015-0944	31392/ 121	015-0949
		E	31362/ 131	015-0945	31392/ 131	015-0950
		F	31362/ 141	015-0946	31392/ 141	015-0951
	10-6	N	31363/ 101	015-0952	31393/ 101	015-0957
		B	31363/ 111	015-0953	31393/ 111	015-0958
		C	31363/ 121	015-0954	31393/ 121	015-0959
		E	31363/ 131	015-0955	31393/ 131	015-0960
		F	31363/ 141	015-0956	31393/ 141	015-0961
12	12-3	N	31364/ 101	015-0962	31394/ 101	015-0967
		B	31364/ 111	015-0963	31394/ 111	015-0968
		C	31364/ 121	015-0964	31394/ 121	015-0969
		E	31364/ 131	015-0965	31394/ 131	015-0970
		F	31364/ 141	015-0966	31394/ 141	015-0971
	12-10	N	31366/ 101	015-0972	31396/ 101	015-0977
		B	31366/ 111	015-0973	31396/ 111	015-0978
		C	31366/ 121	015-0974	31396/ 121	015-0979
		E	31366/ 131	015-0975	31396/ 131	015-0980
		F	31366/ 141	015-0976	31396/ 141	015-0981
14	14-5	N	31367/ 101	015-0982	31397/ 101	015-0987
		B	31367/ 111	015-0983	31397/ 111	015-0988
		C	31367/ 121	015-0984	31397/ 121	015-0989
		E	31367/ 131	015-0985	31397/ 131	015-0990
		F	31367/ 141	015-0986	31397/ 141	015-0991
	14-15	N	31369/ 101		31399/ 101	
		B	31369/ 111		31399/ 111	
		C	31369/ 121		31399/ 121	
		E	31369/ 131		31399/ 131	
		F	31369/ 141		31399/ 141	
	14-19	N	31370/ 101	015-0992	31400/ 101	015-0997
		B	31370/ 111	015-0993	31400/ 111	015-0998
		C	31370/ 121	015-0994	31400/ 121	015-0999
		E	31370/ 131	015-0995	31400/ 131	015-1000
		F	31370/ 141	015-0996	31400/ 141	015-1001
16	16-4	N	31372/ 101	015-1350	31402/ 101	015-1355
		B	31372/ 111	015-1351	31402/ 111	015-1356
		C	31372/ 121	015-1352	31402/ 121	015-1357
		E	31372/ 131	015-1353	31402/ 131	015-1358
		F	31372/ 141	015-1354	31402/ 141	015-1359
	16-8	N	31373/ 101	015-1002	31403/ 101	015-1007
		B	31373/ 111	015-1003	31403/ 111	015-1008
		C	31373/ 121	015-1004	31403/ 121	015-1009
		E	31373/ 131	015-1005	31403/ 131	015-1010
		F	31373/ 141	015-1006	31403/ 141	015-1011
	16-26	N	31374/ 101	015-1012	31404/ 101	015-1017
		B	31374/ 111	015-1013	31404/ 111	015-1018
		C	31374/ 121	015-1014	31404/ 121	015-1019
		E	31374/ 131	015-1015	31404/ 131	015-1020
		F	31374/ 141	015-1016	31404/ 141	015-1021

Shell Size	Contact Arrangement	Polarization	SOLDER TYPE			
			Contact Plug		Contact Socket	
			Part No.	Nato No.	Part No.	Nato No.
18	18-2	N B C E F	508/1/	5935-99-	508/1/	5935-99-
			37668/ 101		37669/ 101	
			37668/ 111		37669/ 111	
			37668/ 121		37669/ 121	
			37668/ 131		37669/ 131	
			37668/ 141		37669/ 141	
	18-11	N B C E F	31376/ 101	015-1022	31406/ 101	015-1027
			31376/ 111	015-1023	31406/ 111	015-1028
			31376/ 121	015-1024	31406/ 121	015-1029
			31376/ 131	015-1025	31406/ 131	015-1030
			31376/ 141	015-1026	31406/ 141	015-1031
	18-32	N B C E F	31377/ 101	015-1032	31407/ 101	015-1037
			31377/ 111	015-1033	31407/ 111	015-1038
			31377/ 121	015-1034	31407/ 121	015-1039
			31377/ 131	015-1035	31407/ 131	015-1040
			31377/ 141	015-1036	31407/ 141	015-1041
20	20-16	N B C E F	31378/ 100	015-1042	31408/ 100	015-1047
			31378/ 110	015-1043	31408/ 110	015-1048
			31378/ 120	015-1044	31408/ 120	015-1049
			31378/ 130	015-1045	31408/ 130	015-1050
			31378/ 140	015-1046	31408/ 140	015-1051
	20-39	N B C E F	31379/ 100		31409/ 100	
			31379/ 110		31409/ 110	
			31379/ 120		31409/ 120	
			31379/ 130		31409/ 130	
			31379/ 140		31409/ 140	
	20-41	N B C E F	31380/ 100	015-1052	31410/ 100	015-1057
			31380/ 110	015-1053	31410/ 110	015-1058
			31380/ 120	015-1054	31410/ 120	015-1059
			31380/ 130	015-1055	31410/ 130	015-1060
			31380/ 140	015-1056	31410/ 140	015-1061
22	22-21	N B C E F	31384/ 100	015-1062	31414/ 100	015-1067
			31384/ 110	015-1063	31414/ 110	015-1068
			31384/ 120	015-1064	31414/ 120	015-1069
			31384/ 130	015-1065	31414/ 130	015-1070
			31384/ 140	015-1066	31414/ 140	015-1071
	22-55	N B C E F	31386/ 100	015-1072	31416/ 100	015-1077
			31386/ 110	015-1073	31416/ 110	015-1078
			31386/ 120	015-1074	31416/ 120	015-1079
			31386/ 130	015-1075	31416/ 130	015-1080
			31386/ 140	015-1076	31416/ 140	015-1081
24	24-61	N B C E F	31388/ 100	015-1082	31418/ 100	015-1087
			31388/ 110	015-1083	31418/ 110	015-1088
			31388/ 120	015-1084	31418/ 120	015-1089
			31388/ 130	015-1085	31418/ 130	015-1090
			31388/ 140	015-1086	31418/ 140	015-1091



THROUGH BULKHEAD CONNECTOR



Shell Size	Contact Arrangement	Polarisation	Part No.
10	10-2	N	508/1/...
		B	37321/100
		C	37321/110
		E	37321/120
		F	37321/130
		F	37321/140
12	10-6	N	37322/100
		B	37322/110
		C	37322/120
		E	37322/130
		F	37322/140
		F	37322/140
14	12-3	N	37323/100
		B	37323/110
		C	37323/120
		E	37323/130
		F	37323/140
		F	37323/140
16	12-10	N	37325/100
		B	37325/110
		C	37325/120
		E	37325/130
		F	37325/140
		F	37325/140
18	14-5	N	37326/100
		B	37326/110
		C	37326/120
		E	37326/130
		F	37326/140
		F	37326/140
20	14-19	N	37329/100
		B	37329/110
		C	37329/120
		E	37329/130
		F	37329/140
		F	37329/140
22	16-4	N	37331/100
		B	37331/110
		C	37331/120
		E	37331/130
		F	37331/140
		F	37331/140
24	16-8	N	37332/110
		B	37332/110
		C	37332/120
		E	37332/130
		F	37332/140
		F	37332/140
26	16-26	N	37333/100
		B	37333/110
		C	37333/120
		E	37333/130
		F	37333/140
		F	37333/140

Shell Size	Contact Arrangement	Polarisation	Part No.
18	† 18-2	N	508/1/...
		B	37334/100
		C	37334/110
		E	37334/120
		F	37334/130
		F	37334/140
20	† 18-11	N	37335/100
		B	37335/110
		C	37335/120
		E	37335/130
		F	37335/140
		F	37335/140
22	18-32	N	37336/100
		B	37336/110
		C	37336/120
		E	37336/130
		F	37336/140
		F	37336/140
24	† 20-16	N	37337/100
		B	37337/110
		C	37337/120
		E	37337/130
		F	37337/140
		F	37337/140
26	† 20-39	N	37338/100
		B	37338/110
		C	37338/120
		E	37338/130
		F	37338/140
		F	37338/140
28	20-41	N	37339/100
		B	37339/110
		C	37339/120
		E	37339/130
		F	37339/140
		F	37339/140
30	† 22-21	N	37343/100
		B	37343/110
		C	37343/120
		E	37343/130
		F	37343/140
		F	37343/140
32	22-55	N	37345/100
		B	37345/110
		C	37345/120
		E	37345/130
		F	37345/140
		F	37345/140
34	24-61	N	37347/100
		B	37347/110
		C	37347/120
		E	37347/130
		F	37347/140
		F	37347/140

Important Note: All Single Hole Mounting Connectors **must**, to effect a proper seal, be installed with the Special Earthing Washer whether or not used as an Earthing/Grounding facility.

† Non-preferred planforms information on availability can be obtained from our sales office.

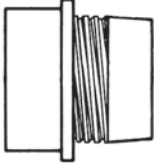
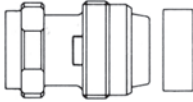
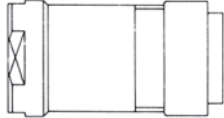
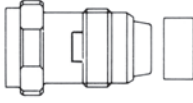
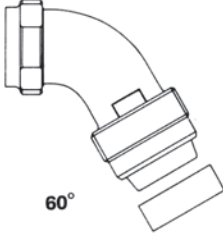
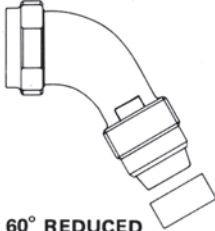
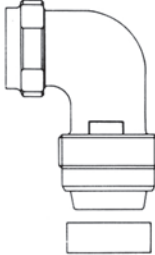
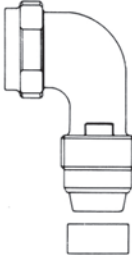
R.F.I. IMPROVED, STANDARD AND REDUCED OUTLETS

How to Order – Select connector style + front outlet + rear outlet from the options illustrated below. Note: For sealed rear outlets, an accessory kit is required, select from table on page 23.

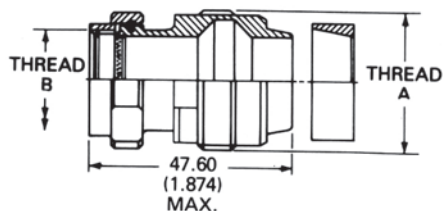
Important Note: Sealed outlets are available for crimp type connectors only.

For dimensions and part numbers of outlet sub-assemblies see pages 21 to 23.

For dimensions of complete connector and outlet assemblies see pages 24 to 25.

CONNECTOR STYLE	FRONT OUTLET OPTIONS	REAR OUTLET OPTIONS
 FREE UNIT OR  FIXED SQUARE FLANGE MOUNTING UNIT	 STRAIGHT	 SEALED, PLUS ACCESSORY KIT
	 STRAIGHT REDUCED	
	 60°	
	 60° REDUCED	
	 90°	
	 90° REDUCED	

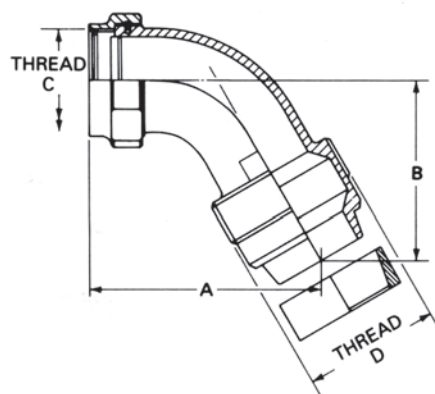
STANDARD FRONT SUB-ASSEMBLY OUTLETS (DIMENSIONS mm)



**STRAIGHT FRONT OUTLET
SUB-ASSEMBLY**

STRAIGHT FRONT SUB-ASSEMBLY

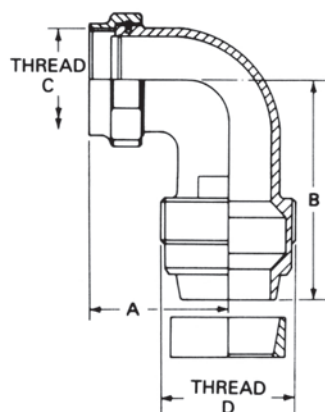
Shell Size	Thread 'A'	Thread 'B'	Nato No. 5935-99-654-	Part No.
8	1 ¹ / ₁₆ x 20 UN-2A	7 ⁷ / ₁₆ x 28 UNEF-2B	6250	508/1/37208/000
10	1 ³ / ₁₆ x 20 UNEF-2A	9 ⁹ / ₁₆ x 24 UNEF-2B	6251	508/1/37209/000
12	1 ⁵ / ₁₆ x 20 UNEF-2A	1 ¹ / ₁₆ x 24 UNEF-2B	6252	508/1/37210/000
14	1 ¹ / ₁₆ x 20 UN-2A	1 ³ / ₁₆ x 20 UNEF-2B	6253	508/1/37211/000
16	1 ¹ / ₄ x 20 UN-2A	1 ⁵ / ₁₆ x 20 UNEF-2B	6254	508/1/37212/000
18	1 ³ / ₈ x 20 UN-2A	1 ¹ / ₁₆ x 18 UNEF-2B	6255	508/1/37213/000
20	1 ¹ / ₂ x 20 UN-2A	1 ³ / ₁₆ x 18 UNEF-2B	6256	508/1/37214/000
22	1 ⁹ / ₁₆ x 20 UN-2A	1 ⁵ / ₁₆ x 18 UNEF-2B	6257	508/1/37215/000
24	1 ¹¹ / ₁₆ x 20 UN-2A	1 ⁷ / ₁₆ x 18 UNEF-2B	6258	508/1/37216/000



**60° FRONT OUTLET
SUB-ASSEMBLY**

60° FRONT SUB-ASSEMBLY

Shell Size	Length 'A' Max	Length 'B' Max	Thread 'C'	Thread 'D'	Nato No. 5935-99-654-	Part No.
8	61.10	29.20	7 ⁷ / ₁₆ x 28 UNEF-2B	1 ¹ / ₁₆ x 20 UN-2A	6259	508/1/37217/000
10	62.40	29.93	9 ⁹ / ₁₆ x 24 UNEF-2B	1 ³ / ₁₆ x 20 UNEF-2A	6260	508/1/37218/000
12	67.25	32.28	1 ¹ / ₁₆ x 24 UNEF-2B	1 ⁵ / ₁₆ x 20 UNEF-2A	6261	508/1/37219/000
14	68.65	33.06	1 ³ / ₁₆ x 20 UNEF-2B	1 ¹ / ₁₆ x 20 UN-2A	6262	508/1/37220/000
16	73.50	35.57	1 ⁵ / ₁₆ x 20 UNEF-2B	1 ¹ / ₄ x 20 UN-2A	6263	508/1/37221/000
18	74.90	36.25	1 ¹ / ₁₆ x 18 UNEF-2B	1 ³ / ₈ x 20 UN-2A	6264	508/1/37222/000
20	78.10	36.93	1 ³ / ₁₆ x 18 UNEF-2B	1 ¹ / ₂ x 20 UN-2A	6265	508/1/37223/000
22	79.55	37.61	1 ⁵ / ₁₆ x 18 UNEF-2B	1 ⁹ / ₁₆ x 20 UN-2A	6266	508/1/37224/000
24	80.80	38.30	1 ⁷ / ₁₆ x 18 UNEF-2B	1 ¹¹ / ₁₆ x 20 UN-2A	6267	508/1/37225/000

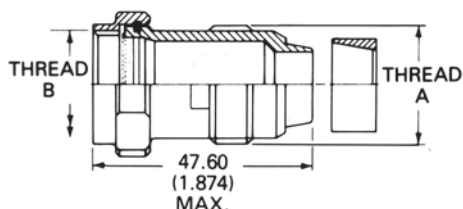


**90° FRONT OUTLET
SUB-ASSEMBLY**

90° FRONT SUB-ASSEMBLY

INFORMATION
AVAILABLE
ON REQUEST

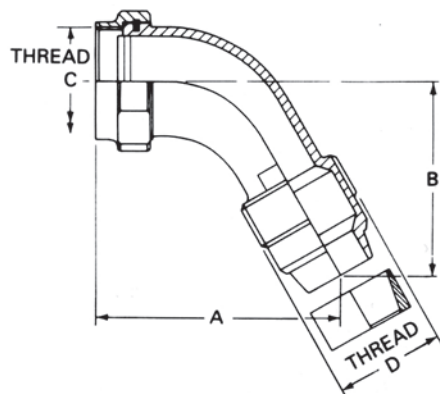
REDUCED FRONT SUB-ASSEMBLY OUTLETS (DIMENSIONS mm)



**STRAIGHT REDUCED FRONT OUTLET
SUB-ASSEMBLY**

STRAIGHT REDUCED FRONT OUTLET SUB-ASSEMBLY

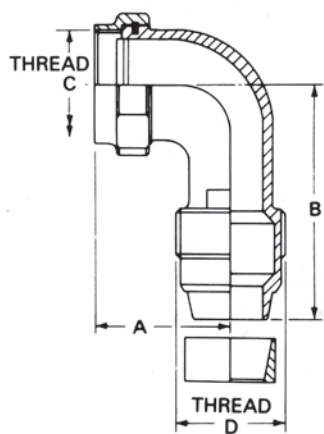
Shell Size		Thread 'A'	Thread 'B'	Nato No. 5935-99- 654-	Part No.
Connector	Outlet				
10	8	$\frac{11}{16} \times 20$ UN-2A	$\frac{9}{16} \times 24$ UNEF-2B	6268	508/1/37245/000
12	10	$\frac{13}{16} \times 20$ UNEF-2A	$\frac{11}{16} \times 24$ UNEF-2B	6269	508/1/37246/000
14	10	$\frac{13}{16} \times 20$ UNEF-2A	$\frac{13}{16} \times 20$ UNEF-2B	6270	508/1/37247/000
16	12	$\frac{15}{16} \times 20$ UNEF-2A	$\frac{15}{16} \times 20$ UNEF-2B	6271	508/1/37248/000
18	14	$1\frac{1}{16} \times 20$ UN-2A	$1\frac{1}{16} \times 18$ UNEF-2B	6272	508/1/37249/000
20	16	$1\frac{1}{4} \times 20$ UN-2A	$\frac{3}{16} \times 18$ UNEF-2B	6273	508/1/37250/000
22	16	$1\frac{1}{4} \times 20$ UN-2A	$\frac{5}{16} \times 18$ UNEF-2B	6274	508/1/37251/000
24	18	$\frac{13}{8} \times 20$ UN-2A	$\frac{7}{16} \times 18$ UNEF-2B	6275	508/1/37252/000



**60° REDUCED FRONT OUTLET
SUB-ASSEMBLY**

60° REDUCED FRONT OUTLET SUB-ASSEMBLY

Shell Size		Length 'A' Max	Length 'B' Max	Thread 'C'	Thread 'D'	Nato No. 5935-99- 654-	Part No.
Connector	Outlet						
10	8	61.10	35.10	$\frac{9}{16} \times 24$ UNEF-2B	$\frac{11}{16} \times 20$ UN-2A	6276	508/1/37254/000
12	10	62.80	35.15	$\frac{11}{16} \times 24$ UNEF-2B	$\frac{13}{16} \times 20$ UNEF-2A	6277	508/1/37255/000
14	10	63.40	35.26	$\frac{13}{16} \times 20$ UNEF-2B	$\frac{13}{16} \times 20$ UNEF-2A	6278	508/1/37256/000
16	12	67.25	36.21	$\frac{15}{16} \times 20$ UNEF-2B	$\frac{15}{16} \times 20$ UNEF-2A	6279	508/1/37257/000
18	14	69.20	39.01	$1\frac{1}{16} \times 18$ UNEF-2B	$1\frac{1}{16} \times 20$ UN-2A	6280	508/1/37258/000
20	16	70.80	40.91	$\frac{3}{16} \times 18$ UNEF-2B	$1\frac{1}{4} \times 20$ UN-2A	6281	508/1/37259/000
22	16	75.50	43.06	$\frac{5}{16} \times 18$ UNEF-2B	$1\frac{1}{4} \times 20$ UN-2A	6282	508/1/37260/000
24	18	77.00	44.41	$\frac{7}{16} \times 18$ UNEF-2B	$\frac{13}{8} \times 20$ UNEF-2A	6283	508/1/37261/000



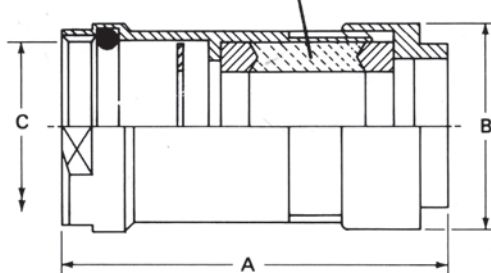
**90° REDUCED FRONT OUTLET
SUB-ASSEMBLY**

90° REDUCED FRONT OUTLET SUB-ASSEMBLY

INFORMATION
AVAILABLE
ON REQUEST

REAR SUB-ASSEMBLY OUTLETS SEALED (DIMENSIONS mm)

Sealed cable accessory Kits (ordered separately)
See table below



SEALED REAR OUTLET SUB-ASSEMBLY

Shell Size	Length 'A' Max	'B' Dia Max	Thread 'C'	Nato No. 5935-99-654-	Part No.
8	65.55	21.00	$1\frac{1}{16} \times 20$ UN-2B	6284	508/1/37444/000
10	65.55	23.80	$1\frac{3}{16} \times 20$ UNEF-2B	6285	508/1/37445/000
12	65.55	28.15	$1\frac{5}{16} \times 20$ UNEF-2B	6286	508/1/37446/000
14	65.55	31.30	$1\frac{1}{2} \times 20$ UN-2B	6287	508/1/37447/000
16	70.55	36.45	$1\frac{3}{4} \times 20$ UN-2B	6288	508/1/37448/000
18	70.55	39.25	$1\frac{7}{8} \times 20$ UN-2B	6289	508/1/37449/000
20	70.55	42.40	$1\frac{1}{2} \times 20$ UN-2B	6290	508/1/37450/000
22	70.55	45.34	$1\frac{9}{16} \times 20$ UN-2B	6291	508/1/37451/000
24	70.55	48.00	$1\frac{11}{16} \times 20$ UN-2B	6292	508/1/37452/000

SEALED CABLE ACCESSORY KITS

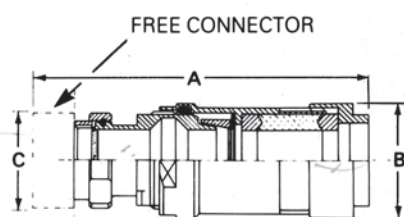
Rear section Shell Size	Cable Diameter (mm) Accommodated (in descending order)	Part No. 508/1/	Nato.No. 5935-99-654-
8	8mm to 4mm	37453/010	6302
10	11mm to 7mm 8mm to 4mm	37454/010 /030	6303 6305
12	14mm to 10mm 11mm to 7mm	37455/010 /030	6310 6311
14	17mm to 13mm 14mm to 10mm 11mm to 7mm	37456/010 /030 /050	6537 6314 6316
16	20mm to 16mm 17mm to 13mm 14mm to 10mm 11mm to 7mm	37457/010 /040 /070 /100	6320 6322 6325 6538
18	23mm to 19mm 20mm to 16mm 17mm to 13mm 14mm to 10mm	37458/010 /030 /050 /070	6360 6361 6539 6541
20	26mm to 22mm 23mm to 19mm 20mm to 16mm 17mm to 13mm 14mm to 10mm	37459/010 /030 /050 /070 /090	6542 6543 6335 6337 6544
22	29mm to 25mm 26mm to 22mm 23mm to 19mm 20mm to 16mm 17mm to 13mm	37460/010 /030 /050 /070 /090	6545 6343 6546 6344 6547
24	32mm to 28mm 29mm to 25mm 26mm to 22mm 23mm to 19mm 20mm to 16mm 17mm to 13mm	37461/010 /020 /030 /040 /050 /060	6548 6549 6550 6348 6349 6551

Note: All the above accessory kits are supplied with a quantity of size 20 (red) filler plugs. These may be used in unwired size 20 contacts only, or discarded.

CONNECTOR AND STANDARD OUTLET ASSEMBLY DIMENSIONS SEALED

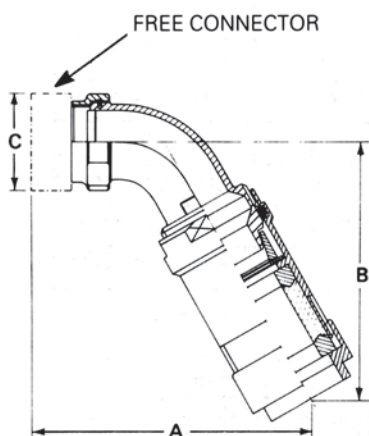
(DIMENSIONS mm)

STRAIGHT OUTLET DIMENSIONS SEALED



**STRAIGHT OUTLET DIMENSIONS
SEALED**

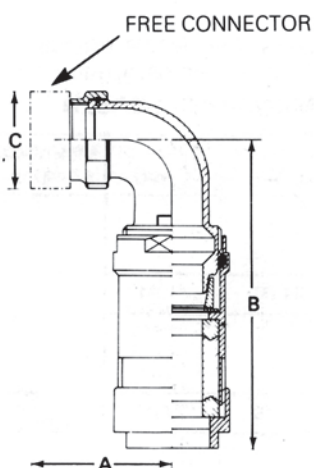
Shell Size Size	Length 'A' Max	Dia 'B' Max	Dia 'C' Max	Max Mass (g)
8	106.70	21.00	21.03	
10	106.70	23.80	23.80	
12	106.70	28.15	28.17	
14	106.70	31.30	31.34	
16	111.70	36.45	36.50	
18	111.70	39.25	39.27	
20	113.40	42.40	42.42	
22	113.40	45.34	45.21	
24	113.40	48.00	48.39	



**60° OUTLET
DIMENSIONS
SEALED**

60° OUTLET DIMENSIONS SEALED

Shell Size Size	Length 'A' Max	Length 'B' Max	Dia 'C' Max	Max Mass (g)
8	80.10	69.60	21.03	
10	81.20	70.00	23.80	
12	86.10	72.80	28.17	
14	87.30	73.50	31.34	
16	94.60	80.70	36.50	
18	95.80	81.40	39.27	
20	98.90	82.20	42.42	
22	100.10	82.90	45.21	
24	101.50	83.70	48.39	



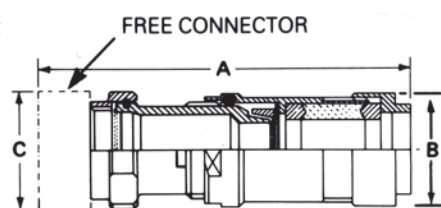
**90° OUTLET
DIMENSIONS
SEALED**

90° OUTLET DIMENSIONS SEALED

Shell Size Size	Length 'A' Max	Length 'B' Max	Dia 'C' Max	Max Mass (g)
10	42.50	81.10	23.80	

CONNECTOR AND REDUCED OUTLET ASSEMBLY DIMENSIONS SEALED

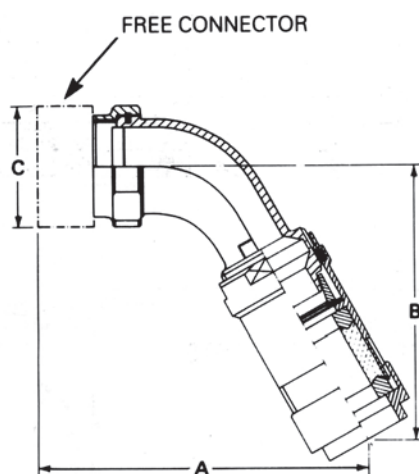
(DIMENSIONS mm)



**STRAIGHT REDUCED OUTLET
DIMENSIONS SEALED**

STRAIGHT REDUCED OUTLET DIMENSIONS SEALED

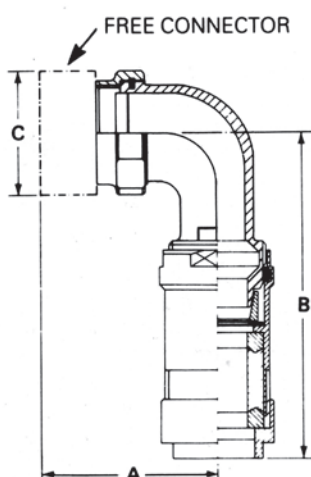
Shell Size Connector	Outlet	Length 'A' Max	Dia 'B' Max	Dia 'C' Max	Max Mass (g)
10	8	106.70	21.00	23.80	
12	10	106.70	23.80	28.17	
14	10	106.70	23.80	31.34	
16	12	106.70	28.15	36.50	
18	14	106.70	31.30	39.27	
20	16	113.40	36.45	42.42	
22	16	113.40	36.45	45.21	
24	18	113.40	39.25	48.39	



**60° REDUCED OUTLET
DIMENSIONS SEALED**

60° REDUCED OUTLET DIMENSIONS SEALED

Shell Size Connector	Outlet	'A' Max	'B' Max	'C' Max	Max Mass (g)
10	8	81.10	69.80	23.80	
12	10	86.00	72.60	28.17	
14	10	87.20	73.30	31.34	
16	12	94.50	80.50	36.50	
18	14	95.70	81.20	39.27	
20	16	98.80	82.00	42.42	
22	16	100.00	82.70	45.21	
24	18	101.40	83.50	48.39	



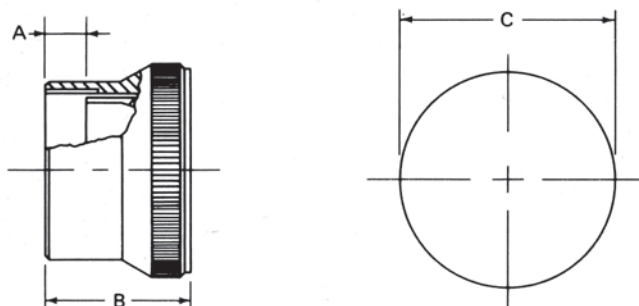
**90° REDUCED OUTLET
DIMENSIONS SEALED**

90° REDUCED OUTLET DIMENSIONS SEALED

Shell Size Connector	Outlet	'A' Max	'B' Max	'C' Max	Max Mass (g)
14	10	42.50	84.00	31.34	
20	16	51.10	93.70	39.27	

ACCESSORIES

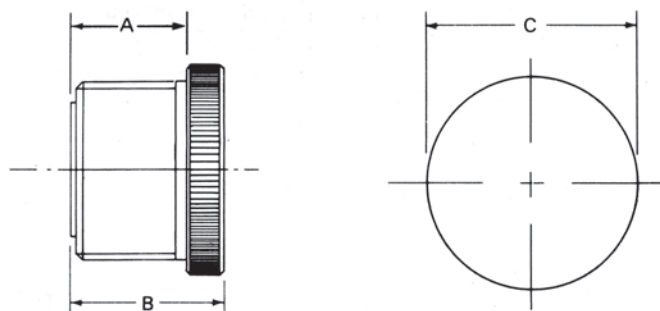
NUT AND FERRULE ASSEMBLY FOR USE WITH FREE CONNECTORS AND THE SQUARE FLANGE CONNECTORS WITH ACCESSORY THREAD



Shell Size	Dimensions (Max)						Max Mass (g)	No. 508/1/. . .	Nato No. 5935-99-
	A		B		C				
	mm	in	mm	in	mm	in			
8	7.24	0.285	18.54	0.730	17.53	0.690	11	31889/010	015-1276
10	7.24	0.285	18.54	0.730	20.83	0.820	17	31889/020	015-1277
12	7.24	0.285	18.54	0.730	23.88	0.940	21	31889/030	015-1278
14	7.24	0.285	18.54	0.730	27.18	1.070	26	31889/040	015-1279
16	7.24	0.285	18.54	0.730	30.23	1.190	30	31889/050	015-1280
18	7.24	0.285	18.54	0.730	33.53	1.320	35	31889/060	015-1281
20	7.24	0.285	18.54	0.730	36.58	1.440	40	31889/070	015-1282
22	7.24	0.285	18.54	0.730	39.88	1.570	45	31889/080	015-1283
24	7.24	0.285	18.54	0.730	42.93	1.690	50	31889/090	015-1284

Important Note: Solder type connectors fitted with a Nut and Ferrule Assembly, must use a Moisture Sealing Grommet see page 28 for ordering details.

NUT AND FERRULE ASSEMBLY FOR USE WITH SINGLE HOLE MOUNTING CONNECTORS WITH ACCESSORY THREAD

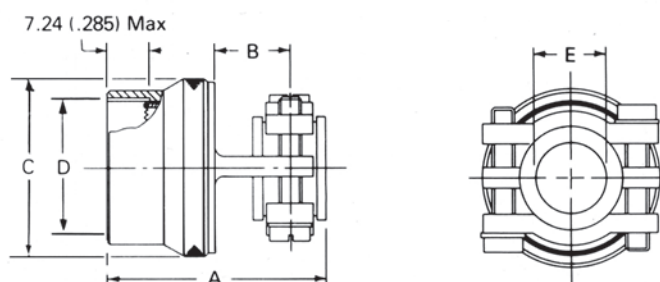


Shell Size	Dimensions (Max)						Max Mass (g)	No. 508/1/. . .	Nato No. 5935-99-
	A		B		C				
	mm	in	mm	in	mm	in			
8	7.87	0.310	11.94	0.470	18.80	0.740	11	31888/010	015-1267
10	7.87	0.310	11.94	0.470	22.10	0.870	14	31888/020	015-1268
12	7.87	0.310	11.94	0.470	25.15	0.990	17	31888/030	015-1269
14	7.87	0.310	11.94	0.470	28.45	1.120	19	31888/040	015-1270
16	7.87	0.310	11.94	0.470	31.50	1.240	22	31888/050	015-1271
18	7.87	0.310	11.94	0.470	34.80	1.370	24	31888/060	015-1272
20	7.87	0.310	11.94	0.470	37.85	1.490	28	31888/070	015-1273
22	7.87	0.310	11.94	0.470	41.15	1.620	30	31888/080	015-1274
24	7.87	0.310	11.94	0.470	44.20	1.740	33	31888/090	015-1275

Important Note: Solder type connectors fitted with a Nut and Ferrule Assembly, must use a Moisture Sealing Grommet see page 28 for ordering details.

ACCESSORIES

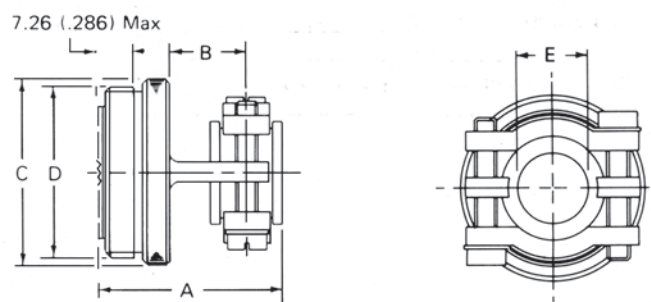
STRAIGHT STRAIN RELIEF CLAMP FOR USE WITH FREE CONNECTORS AND THE SQUARE FLANGE CONNECTORS WITH ACCESSORY THREAD



Shell Size	Dimensions Max									Max Mass (g)	No. 508/1/ . . .	Nato No. 5935-99-
	A		B		C Dia		D.UNEF Class	E NOM Dia				
	mm	in	mm	in	mm	in	2B Thread	mm	in			
8	34.06	1.341	10.13	0.399	17.53	0.690	7/16×28	3.18	.125		31933/000	015-1629
10	34.06	1.341	10.13	0.399	20.83	0.820	9/16×24	4.78	.188		31934/000	015-1630
12	34.06	1.341	10.13	0.399	23.88	0.940	11/16×24	7.92	.312		31935/000	015-1631
14	37.24	1.466	13.31	0.524	27.18	1.070	13/16×20	9.53	.375		31936/000	015-1632
16	37.24	1.466	13.31	0.524	30.23	1.190	15/16×20	12.19	.480		31937/000	015-1633
18	38.00	1.496	13.31	0.524	33.53	1.320	11/16×18	15.88	.625		31938/000	015-1634
20	41.17	1.621	16.48	0.649	36.58	1.440	13/16×18	15.88	.625		31939/000	015-1635
22	41.17	1.621	16.48	0.649	39.88	1.570	15/16×18	19.05	.750		31940/000	015-1636
24	41.17	1.621	16.48	0.649	42.93	1.690	17/16×18	20.32	.800		31941/000	015-1637

Important Note: Solder type connectors fitted with a Strain Relief Clamp must use a Moisture Sealing Grommet, see page 28 for ordering details.

STRAIGHT STRAIN RELIEF CLAMP FOR USE WITH SINGLE HOLE MOUNTING CONNECTORS WITH ACCESSORY THREAD

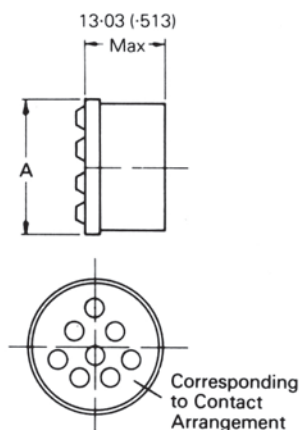


Shell Size	Dimensions Max									Max Mass (g)	No. 508/1/ . . .	Nato No.
	A		B		C Dia		D.UNEF Class	E NOM Dia				
	mm	in	mm	in	mm	in	2 A Thread	mm	in			
8	27.61	1.087	10.13	0.399	18.80	0.740	5/8×24	3.18	0.125		31924/000	Withdrawn from DEF Stan 5935 (Part 5) ISS2 but available on request.
10	27.61	1.087	10.13	0.399	22.10	0.870	3/4×20	4.78	0.188		31925/000	
12	27.61	1.087	10.13	0.399	25.15	0.990	7/8×20	7.92	0.312		31926/000	
14	30.78	1.212	13.31	0.524	28.45	1.120	1×20	9.53	0.375		31927/000	
16	30.78	1.212	13.31	0.524	31.50	1.240	1 1/8×18	12.19	0.480		31928/000	
18	31.55	1.242	13.31	0.524	34.80	1.370	1 1/4×18	15.88	0.625		31929/000	
20	34.72	1.367	16.48	0.649	37.85	1.490	1 3/8×18	15.88	0.625		31930/000	
22	34.72	1.367	16.48	0.649	41.15	1.620	1 1/2×18	19.05	0.750		31931/000	
24	34.72	1.367	16.48	0.649	44.20	1.740	1 5/8×18	20.32	0.800		31932/000	

Important Note: Solder type connectors fitted with a Strain Relief Clamp must use a Moisture Sealing Grommet, see page 28 for ordering details.

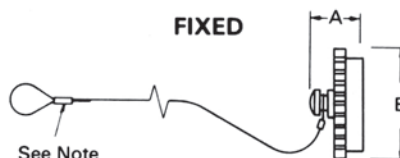
ACCESSORIES

MOISTURE SEALING GROMMET FOR USE WITH SOLDER TYPE CONNECTORS ONLY



Contact Arrangement	A Dia Max		Max Mass (g)	No. 508/2/...	Nato No. 5365-99-
	mm	in			
8-33	8.84	0.384	0.8	08814/200	015-1238
10-2	11.84	0.466	1.5	10778/200	015-1239
10-6	11.84	0.466	1.5	10646/200	015-1240
12-3	15.04	0.592	2.4	10647/203	015-1241
12-10	15.04	0.592	2.4	10647/200	015-1242
14-5	18.03	0.710	3.5	12509/200	015-1243
14-15	18.03	0.710	3.5	12507/200	—
14-19	18.03	0.710	3.5	10648/200	015-1244
16-4	21.13	0.832	4.5	10779/200	015-1360
16-8	21.23	0.836	4.5	13894/200	015-1245
16-26	21.23	0.836	4.5	10649/200	015-1246
18-11	23.72	0.934	5.9	10650/211	015-1247
18-32	23.72	0.934	5.9	10650/200	015-1248
20-16	26.90	1.059	7.4	10651/216	015-1249
20-39	26.90	1.059	7.4	10651/239	—
20-41	26.90	1.059	7.4	10651/200	015-1250
22-21	30.18	1.188	9.0	10652/221	015-1251
22-55	30.18	1.188	9.0	10652/200	015-1252
24-61	33.43	1.316	11.0	11015/200	015-1253

PROTECTIVE CAPS

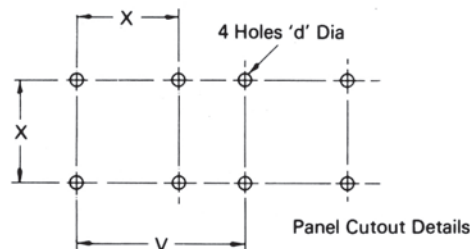
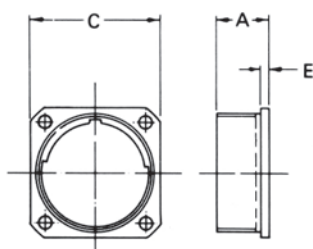


Shell Size	Dimensions				Max Mass (g)	No. 508/1/ . . .	Nato No. 5365-99-
	A Max		B Max				
	mm	in	mm	in			
8	18.35	.722	21.03	.828	19	31740/010	015-1214
10	18.35	.722	23.80	.937	25	31740/020	015-1215
12	18.35	.722	28.17	1.109	30	31740/030	015-1216
14	18.35	.722	31.34	1.234	34	31740/040	015-1217
16	18.35	.722	36.50	1.437	39	31740/050	015-1218
18	18.35	.722	39.27	1.546	44	31740/060	015-1219
20	18.35	.722	42.42	1.670	49	31740/070	015-1220
22	18.35	.722	45.21	1.780	54	31740/080	015-1221
24	18.35	.722	48.39	1.905	59	31740/090	015-1222

Shell Size	Dimensions				Max Mass (g)	No. 508/1/ . . .	Nato No. 5365-99-
	C Max		D Max				
	mm	in	mm	in			
8	20.60	.811	21.03	.828	12	31738/010	015-1223
10	20.60	.811	23.80	.937	17	31738/020	015-1224
12	20.60	.811	28.17	1.109	22	31738/030	015-1225
14	20.60	.811	31.34	1.234	28	31738/040	015-1226
16	20.60	.811	36.50	1.437	34	31738/050	015-1227
18	20.60	.811	39.27	1.546	40	31738/060	015-1228
20	22.10	.870	42.42	1.670	46	31738/070	015-1229
22	22.10	.870	45.21	1.780	52	31738/080	015-1230
24	22.10	.870	48.39	1.905	57	31738/090	015-1231

Important Note: Approximately 452.2mm (18") of flexible nylon cord, plus Crimp Ferrule are supplied with each protective cap.

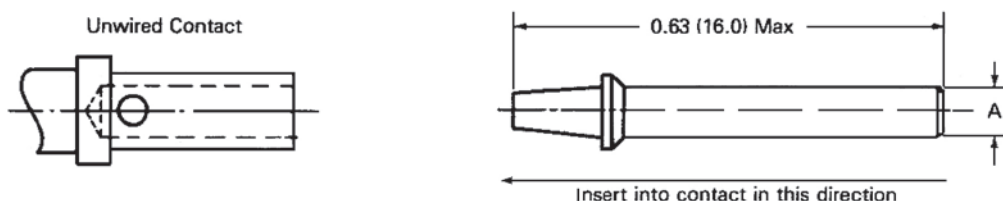
DUMMY (STOWAGE)



Shell Size	'C' Max. Sq.		'A' Max		'E' Max		'X' TP		'V' Min		'd' Dia		Max Mass (g)	No. 508/1/...	Nato No. 5935-99-
	mm	in	mm	in	mm	in	mm	in	mm	in	±.13	±.005			
8	21.03	.828	13.21	.520	1.78	.070	15.09	.594	22.61	.890	3.30	.130	10	31842/000	015-1205
10	24.23	.954	13.21	.520	1.78	.070	18.26	.719	25.37	.999	3.30	.130	15	31843/000	015-1206
12	26.59	1.047	13.21	.520	1.78	.070	20.62	.812	29.74	1.171	3.30	.130	21	31844/000	015-1207
14	28.98	1.141	13.21	.520	1.78	.070	23.01	.906	32.92	1.296	3.30	.130	28	31845/000	015-1208
16	31.12	1.225	13.21	.520	1.78	.070	24.61	.969	38.07	1.499	3.30	.130	38	31846/000	015-1209
18	33.73	1.328	13.21	.520	1.78	.070	26.97	1.062	40.84	1.608	3.30	.130	41	31847/000	015-1210
20	36.91	1.453	17.02	.670	2.54	.100	29.36	1.156	43.99	1.732	3.30	.130	87	31848/000	015-1211
22	40.08	1.578	17.02	.670	2.54	.100	31.75	1.250	46.79	1.842	3.30	.130	91	31849/000	015-1212
24	43.26	1.703	17.78	.700	2.54	.100	34.93	1.375	49.96	1.967	4.19	.165	118	31850/000	015-1213

SPARES

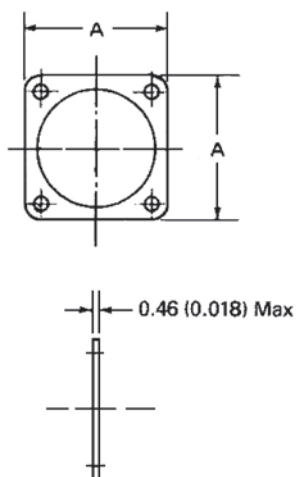
FILLER PLUG (PLASTIC)
FOR USE WITH UNWIRED CONTACTS TO EFFECT A GROMMET SEAL



Contact Size	'A' Dia Max		Colour Code	No. 508/1/...	Nato No. 5340-99-	Qty. per Pack
	mm	in				
20	1.75	0.069	Red	31720/320	017-1635	25
16	2.31	0.091	Blue	31720/316	017-1636	25
12	3.12	0.123	Yellow	31720/312	017-1637	25

Note: No filler plug is available for size 8 contacts

PANEL BARRIER GASKET



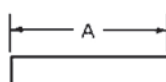
Shell Size	'A' Min		No. 508/2/...	Nato No. 5330-99-
	mm	in		
8	20.78	.818	31813/000	015-1254
10	23.98	.944	31814/000	015-1255
12	26.34	1.037	31815/000	015-1256
14	28.73	1.131	31816/000	015-1257
16	30.86	1.215	31817/000	015-1258
18	33.48	1.318	31818/000	015-1259
20	36.65	1.443	31819/000	015-1260
22	39.83	1.568	31820/000	015-1261
24	43.00	1.693	31821/000	015-1262

Note: Gaskets and 'o' rings in a conductive material are available on request.

NUT, BOLT AND WASHER PACK
FOR USE WITH FIXED SQUARE FLANGE CONNECTOR

Shell Sizes	Size	Qty.	No. 508/1/...	Nato No. 5995-99-
8 to 18	6 BA	25	31725/001	525-6421
20 to 22	6 BA	25	31725/002	525-6422
24	4 BA	25	31725/003	—

KYNAR SLEEVE



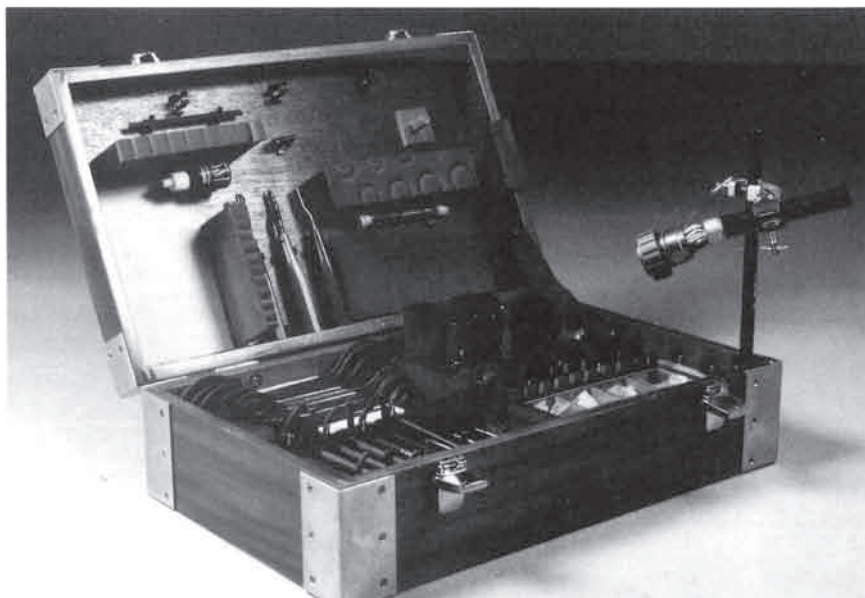
'A'		Qty.	No. 508/1/...	Nato No. 5970-99-
mm	in			
9.5	0.375	100	31721/000	525-6420

Mk 18

tools and tool kits

INSTALLATION TOOL KIT

The Installation Tool Kit contains all the tools necessary to crimp, insert and remove the three sizes of contacts in the Connector range, Hand Tools to assemble outlets to connectors and connector/cable, assemblies to the equipment/installation. The box is so designed to give support to the cable/connector assembly being wired, thus allowing the operator to have both hands free to complete the assembly. Spare contacts, filler plugs, cable core sleeves etc. are included in the Kit.



NO. 558/1/02413/001

NATO NO. 5180-99-136-1081

CRIMP TOOL KIT

The Crimp Tool Kit contains the crimping tools, turret and in-service gauge, PLUS the insertion and extraction tools required for the three sizes of contacts in the connector range.



NO. 558/1/05003/000

NATO NO. 5180-99-136-9447

MAINTENANCE TOOL KIT

The maintenance Tool Kit, contains the holding spanners, necessary to support the connectors whilst the outlets are assembled PLUS a set of coupling/uncoupling spanners which are used to engage/disengage connector/cable assemblies installed on Maximum panel packing densities. (i.e. on minimum panel cutout spacing.)



NO. 558/1/05004/000

NATO NO. 5180-99-136-9448

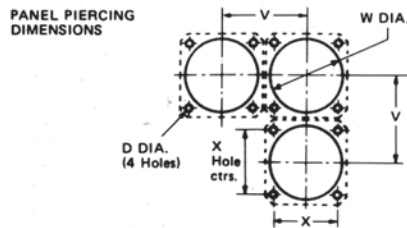
Mk 18

tools

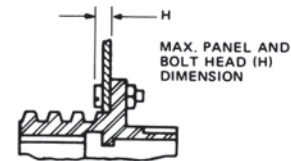
DESCRIPTION	NATO NUMBER	NUMBER
INSERTION TOOL—CONTACT SIZE 20 INSERTION TOOL—CONTACT SIZE 16 INSERTION TOOL—CONTACT SIZE 12 INSERTION TOOL—CONTACT SIZE 8 LEADER—CONTACT SIZE 8	5935-99-015-1263 5935-99-015-1264 5935-99-015-1288 — —	558/1/02364/000 558/1/02365/000 558/1/02366/000 558/1/05248/000 558/2/05250/000
REMOVAL TOOL—CONTACT SIZE 20 REMOVAL TOOL—CONTACT SIZE 16 REMOVAL TOOL—CONTACT SIZE 12 REMOVAL TOOL—CONTACT SIZE 8 (PIN) REMOVAL TOOL—CONTACT SIZE 8 (SKT)	5935-99-015-1265 5935-99-015-1266 5935-99-015-1289 — —	558/1/00748/000 558/1/00749/000 558/1/00750/000 558/1/05120/000 558/1/05124/000
SPANNER—COUPLING NUT SIZE 8-10 SPANNER—COUPLING NUT SIZE 12-14 SPANNER—COUPLING NUT SIZE 16-18 SPANNER—COUPLING NUT SIZE 20, 22, 24	5120-99-136-1085 5120-99-136-1087 5120-99-136-1089 5120-99-136-1091	558/1/02368/001 558/1/02368/021 558/1/02368/041 558/1/02368/061
SPANNER—UNCOUPLING NUT SIZE 8-10 SPANNER—UNCOUPLING NUT SIZE 12-14 SPANNER—UNCOUPLING NUT SIZE 16-18 SPANNER—UNCOUPLING NUT SIZE 20, 22, 24	5120-99-136-1086 5120-99-136-1088 5120-99-136-1090 5120-99-136-1092	558/1/02368/011 558/1/02368/031 558/1/02368/051 558/1/02368/071
SPANNER HEX. BOX—SIZES 8 & 10 SPANNER HEX. BOX—SIZES 12 & 14 SPANNER HEX. BOX—SIZES 16 & 18 SPANNER HEX. BOX—SIZES 20 & 22 SPANNER HEX. BOX—SIZE 24	5120-99-136-1094 5120-99-136-1095 5120-99-136-1096 5120-99-136-1097 5120-99-136-1098	558/2/02369/000 558/2/02370/000 558/2/02371/000 558/2/02372/000 558/2/02373/000
SPANNER HOLDING SIZE 8 SPANNER HOLDING SIZE 10 SPANNER HOLDING SIZE 12 SPANNER HOLDING SIZE 14 SPANNER HOLDING SIZE 16 SPANNER HOLDING SIZE 18 SPANNER HOLDING SIZE 20 SPANNER HOLDING SIZE 22 SPANNER HOLDING SIZE 24	5120-99-136-1099 5120-99-136-1100 5120-99-136-1101 5120-99-136-1102 5120-99-136-1103 5120-99-136-1104 5120-99-136-1105 5120-99-136-1106 5120-99-136-1107	558/1/02363/000 558/1/02363/001 558/1/02363/002 558/1/02363/003 558/1/02363/004 558/1/02363/005 558/1/02363/006 558/1/02363/007 558/1/02363/008
SPANNER OPEN ENDED SIZE A (2) SPANNER OPEN ENDED SIZE B SPANNER OPEN ENDED SIZE C SPANNER OPEN ENDED SIZE D SPANNER OPEN ENDED SIZE E SPANNER OPEN ENDED SIZE F SPANNER OPEN ENDED SIZE G SPANNER OPEN ENDED SIZE H SPANNER OPEN ENDED SIZE J	5120-99-136-1108 5120-99-136-1109 5120-99-136-1110 5120-99-136-1111 5120-99-136-1112 5120-99-136-1113 5120-99-136-1114 5120-99-136-1115 5120-99-137-3447	558/2/02383/000 558/2/02384/000 558/2/02385/000 558/2/02386/000 558/2/02387/000 558/2/02388/000 558/2/02389/000 558/2/02390/000 558/2/05047/000
SUPPORT BAR—CONNECTOR HOLDING TOMMY BAR	5120-99-136-1117 5120-99-136-3019	558/2/02367/000 558/2/02442/000
EXTRACTOR—OUTLET FERRULE	5120-99-527-3237	558/2/05002/000
HEX. HEADED SOCKET WRENCH	5120-99-120-9559	558/4/05008/000
CRIMP TOOL ASSEMBLY comprising 1 CRIMP TOOL 1 TURRET HEAD	5120-99-136-1082 5120-99-136-1083	558/1/05007/000 558/4/02431/000 558/4/02432/000
IN SERVICE GAUGE 'LOCTITE 221' (10cc) 'HELLERINE M'	5120-99-136-1084 8030-99-224-8425	558/4/00903/000 508/4/31723/000 508/4/31724/000
CONTACT PIN CRIMP SIZE 20 (PKT OF 25) CONTACT PIN CRIMP SIZE 16 (PKT OF 25) CONTACT PIN CRIMP SIZE 12 (PKT OF 10) CONTACT SKT. CRIMP SIZE 20 (PKT OF 25) CONTACT SKT. CRIMP SIZE 16 (PKT OF 25) CONTACT SKT. CRIMP SIZE 12 (PKT OF 10) FILLER PLUG SIZE 20 (PKT OF 25) FILLER PLUG SIZE 16 (PKT OF 25) FILLER PLUG SIZE 12 (PKT OF 25) SLEEVE 'KYNAR' (PKT OF 100)	5999-99-015-1232 5999-99-015-1233 5999-99-015-1285 5999-99-015-1234 5999-99-015-1235 5999-99-015-1286 5340-99-017-1635 5340-99-017-1636 5340-99-017-1637 5970-99-525-6420	508/1/31720/120 508/1/31720/116 508/1/31720/112 508/1/31720/220 508/1/31720/216 508/1/31720/212 508/1/31720/320 508/1/31720/316 508/1/31720/312 508/1/31721/000
CLAMP CONNECTOR HOLDING	5120-99-136-1116	558/1/02402/000
INSTALLATION TOOL BOX CRIMP TOOL BOX MAINTENANCE TOOL BOX		558/1/02397/000 558/1/05005/000 558/1/05006/000

Mk 18

panel cutout details

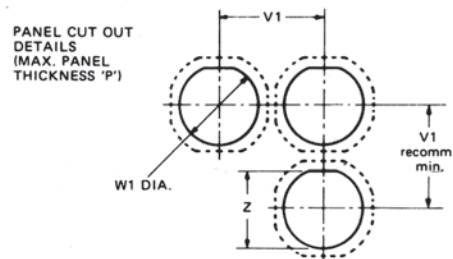


REAR OF PANEL MOUNTING DETAILS



FOR SQUARE FLANGE MOUNTING CONNECTOR

Shell Size	'X' (TP)		'W' Dia		'V' Min		'D' Dia		'H' Max	
	mm	in	± 0.25 mm	$\pm .010$ in	mm	in	$\pm .13$ mm	$\pm .005$ in	mm	in
8	15.09	.594	14.32	.560	22.61	.890	3.30	.130	5.87	.23
10	18.26	.719	17.27	.680	25.37	.999	3.30	.130	5.87	.23
12	20.62	.812	21.34	.840	29.74	1.171	3.30	.130	5.87	.23
14	23.01	.906	24.38	.960	32.92	1.296	3.30	.130	5.87	.23
16	24.61	.969	27.69	1.090	38.07	1.499	3.30	.130	5.87	.23
18	26.97	1.062	30.73	1.210	40.84	1.608	3.30	.130	5.87	.23
20	29.36	1.154	34.04	1.340	43.99	1.732	3.30	.130	8.36	.329
22	31.75	1.250	37.08	1.460	46.79	1.842	3.30	.130	8.36	.329
24	34.93	1.375	40.39	1.590	49.96	1.967	4.19	.165	8.36	.329



FOR SINGLE HOLE MOUNTING CONNECTORS

Shell Size	'V1' Min		'W1'		'Z'		'P' Max	
	mm	in	$\pm .13$ mm	$\pm .005$ in	$\pm .13$ mm	$\pm .005$ in	mm	in
8	27.31	1.075	15.90	.626	14.94	.588	2.54	.100
10	30.48	1.200	18.92	.745	17.91	.705	2.54	.100
12	35.31	1.390	23.70	.933	22.33	.879	2.54	.100
14	38.35	1.510	26.77	1.054	25.45	1.002	2.54	.100
16	41.66	1.640	29.95	1.179	28.65	1.128	2.54	.100
18	44.70	1.760	33.12	1.304	31.83	1.253	2.54	.100
20	49.28	1.940	36.30	1.429	35.00	1.378	6.10	.240
22	52.71	2.075	39.47	1.554	38.18	1.503	6.10	.240
24	55.88	2.200	42.65	1.679	41.35	1.628	6.10	.240

Note. An allowance must be made on the above recommended minimum spacings in the vertical plane when a combination of both angled and straight outlets are used.

CONDUCTOR DIAMETER AND CONDUCTOR INSULATION DIMENSIONS

Contact Size	Conductor Size				Conductor Insulation O/D			
	Crimp		Solder		Crimp		Solder	
	Max	Min	Max	Min	Max	Min	Max	Min
20	19/0.20	25/0.10	1.22	—	2.16	1.19	2.16	1.19
16	7/0.5	16/0.20	1.75	—	2.77	1.67	2.77	1.67
12	7/0.85	7/0.67	2.84	—	3.61	2.46	3.61	2.46

(Dimensions in mm)

Mk 18

product safety information

Products: Electrical Connectors and Accessories Electromechanical Switches

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

Rectangular Connectors and Electromechanical Switches. These connectors generally are made using plastic or glass filled plastic moulded insulators and contact materials of plated phosphor-bronze, brass or copper.

2. Electric Shock, Burns and Fire

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

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

Connector or Switch 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, are employed for crimping and that connectors and switches are assembled and wired by properly trained personnel.

3. Use Transport and Storage of Products

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

Improper storage (particularly of damaged products) can give rise to additional hazards particularly corrosion. Your attention is specifically drawn to the need for 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.

Disposal of Products. Products should not be burnt.

Fibre Optic Products. Fibre Optic products, when used in conjunction with lasers, can give rise to hazards. You are to see the requirements of British Standards 4803 : 1972 and Guide Note PM19 from the Health and Safety Executive on the use of lasers.

SAFETY RULES

1. FOLLOW THESE GUIDELINES.
2. ALWAYS PROTECT LIVE CIRCUITS AND NEVER DEMATE A LIVE CONNECTOR.
3. NEVER USE A DAMAGED CONNECTOR.
4. NEVER BURN DISCARDED CONNECTORS.

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

Mark 38

Screw Coupling Connector Series

The Mk38 system of connectors is designed to meet the exacting needs of the military ground and marine equipment field, particularly where multicore screened cable or conduit is specified.

The Mk38 features a high density 100% scoop proof capability with a ruggedised coupling system that allows fast, reliable simple connection and disconnection. The aluminium bronze shells offer both high strength and excellent resistance against salt water corrosion. The range is available with a full complement of straight, 60°, and 90° sealed outlets and accessories. The system provides for an efficient 360° screening facility ensuring good grounding for RFI environments. Conductive gaskets are available for sealing and grounding the fixed connector to the equipment panel.

Features:

- Meets the requirements of BS9522 F0034
- 4 shell styles
- 9 shell sizes (9,11,13...25)
- Comprehensive range of insert arrangements
- 3 to 128 ways
- 100% scoop proof
- Planforms and mounting holes conform to MIL-DTL-38999 series 1
- Contacts conform to MIL-C-39029
- Contacts are gold plated, crimp removeable rear release
- Hard front socket moulding
- Interfacial seal
- Key/Keyway polarisation
- Alternative polarisation position
- Ruggedised threaded coupling system
- Aluminium bronze shells for excellent corrosion resistance
- Full range of sealed outlets available

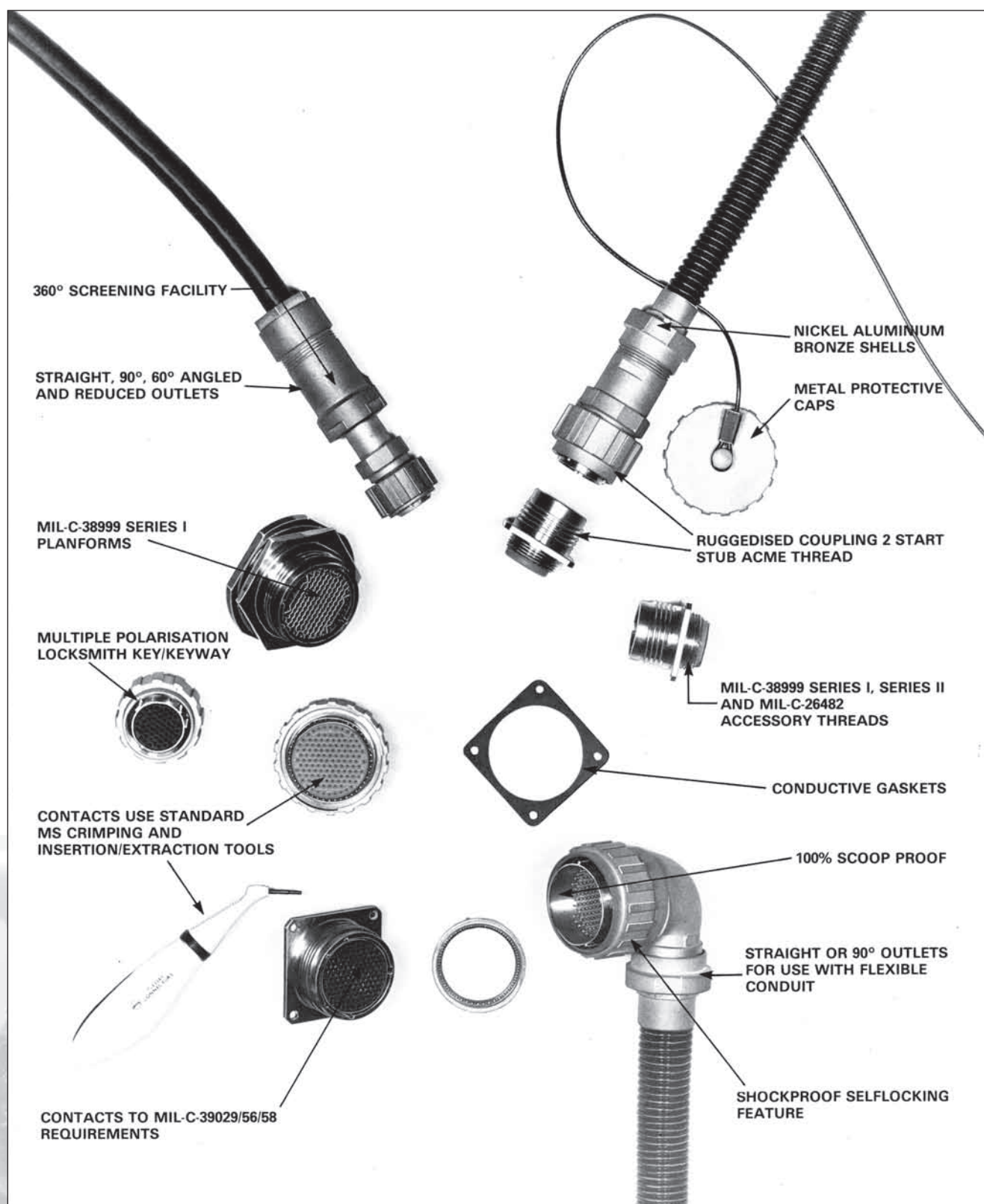
Contents

Features	35
Technical Information	36
Shell Style & Dimensions	37 - 39
Insert Arrangements by Shell Size	40
Insert Arrangements	41 - 43
Contacts	44
Mk 38 Receptacles	45 - 48
Outlets	49 - 53
Accessories	53 - 55
Insertion & Extraction Tools	56
Contact Insertion	57
Insertion & Extraction Tools	58
Panel Cutout Dimensions	59
Product Safety Information	60



Mk 38

features



Mk 38

technical data

Mechanical Characteristics

Shells, Protective caps and Outlets
Material and Finish

Nickel/aluminium bronze to specifications NES 747 and
DG Ships 1043 Antiglare finish.

Contact Insulators

Rigid plastic with Fluoro silicone rubber grommet and pin face.

Contacts

High conductivity copper alloy with gold plated finish.

Environmental Characteristics

Salt Mist

Severity 1 (BS9520-1.2.6.17)

Mechanical Endurance

500 mating cycles (BS9520-1.2.7.1)

Temperature Severity

–65°C to +200°C

Water tightness (Immersion)

39KN/m² duration 100 hours at 20°C (applicable to styles with suitable
jacketed cable and sealed outlet fittings).

Vibration Severity:

General Application

55Hz, to 5000Hz, 0.75mm, 98m/s² (10g). duration 6 hours.

Naval Application

1Hz to 33Hz, 0.254mm, (0.57g) duration 6 hours

Shock Severity:

General Application

490m/s² (50g) duration 11ms

Naval Application

1176m/s² (120g)

Bump Severity:

390m/s² (40g) 4000 bumps.

Electrical Characteristics

Insulation Resistance

5000 Megohms at 25°C

Current Rating

Contact Size	Nominal Rating (Amps)
22D	3
20	5
16	15
12	24

Voltage Rating

Mated and unmated connectors at sea level

M – 1300 V.r.m.

I – 1800 V.r.m.

II – 2300 V.r.m.

Note 1

Voltage service rating relative to contact arrangements are shown
on Page 7 of this catalogue.

Note 2

The establishment of the Electrical Safety factor is the responsibility
of the user.

Contact Resistance

Conforms to MIL-C-39029 Specification

R.F.I. Screening Performance (typical)

Shielding Attenuation

–75dB at 100 MHz M1L-STD-1344 (triaxial cavity)
–65dB at 1000 MHz

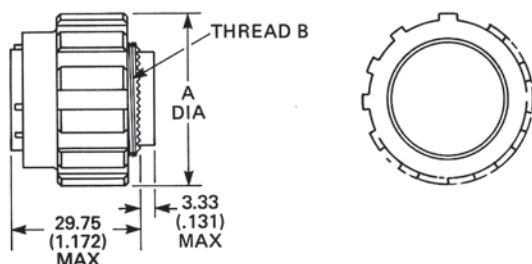
Surface Transfer Impedance

1 mΩ at 40 MHz

Mk 38

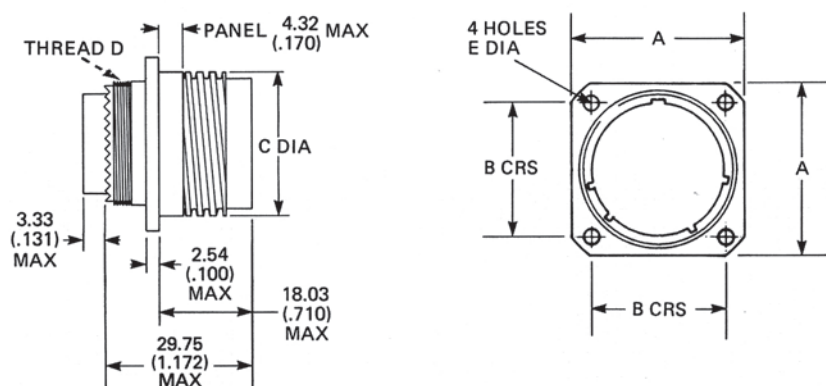
shell styles and dimensions

Free Connector with Accessory Thread (Style 06)



Shell Size		A, Dia Max	Thread B
9	mm in	21.03 .828	.4375-28 UNEF
11	mm in	23.80 .937	.5625-24 UNEF
13	mm in	28.17 1.109	.6875-24 UNEF
15	mm in	31.34 1.234	.8125-20 UNEF
17	mm in	36.50 1.437	.9375-20 UNEF
19	mm in	39.27 1.546	1.0625-18 UNEF
21	mm in	42.42 1.670	1.1875-18 UNEF
23	mm in	45.21 1.780	1.3125-18 UNEF
25	mm in	48.39 1.905	1.4375-18 UNEF

Fixed Square Flange Mounting with Accessory Thread (Style 00)

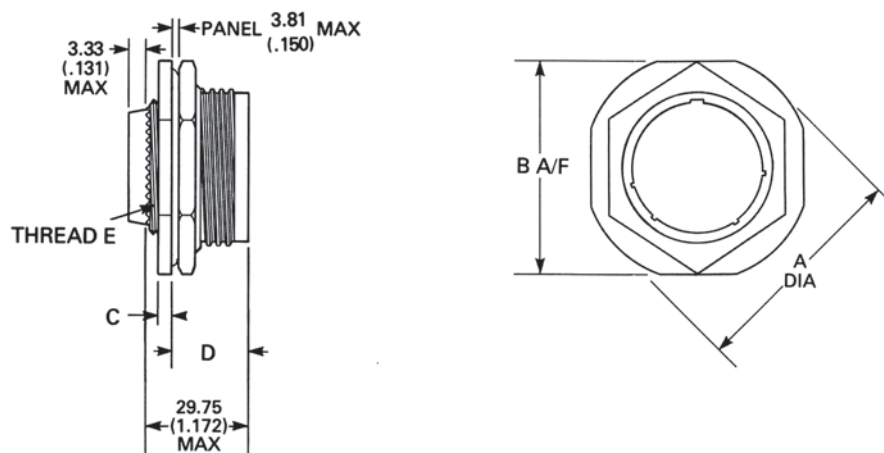


Shell Size		A Dim Max	B CRS	C Dia Max	Thread D	E Hole Dia Min
9	mm in	24.33 .958	18.26 .719	13.74 .541	.4375-28 UNEF	3.12 .123
11	mm in	26.70 1.051	20.62 .812	16.69 .657	.5625-24 UNEF	3.12 .123
13	mm in	29.08 1.145	23.01 .906	20.75 .817	.6875-24 UNEF	3.12 .123
15	mm in	31.47 1.239	24.61 .969	23.93 .942	.8125-20 UNEF	3.12 .123
17	mm in	33.83 1.332	26.97 1.062	27.13 1.068	.9375-20 UNEF	3.12 .123
19	mm in	37.03 1.458	29.36 1.156	30.30 1.193	1.0625-18 UNEF	3.12 .123
21	mm in	40.18 1.582	31.75 1.250	33.48 1.318	1.1875-18 UNEF	3.12 .123
23	mm in	43.38 1.708	34.93 1.375	36.68 1.444	1.3125-18 UNEF	3.61 .142
25	mm in	46.53 1.832	38.10 1.500	39.83 1.568	1.4375-18 UNEF	3.61 .142

Mk 38

shell styles and dimensions

Fixed Single Hole Mounting with Accessory Thread (Style 07)



Shell Size		A. Dia Max	B. A/F Max	C Max	D Max	Thread E
9	mm in	30.58 1.204	27.38 1.078	3.05 .120	20.57 .810	.4375-28 UNEF
11	mm in	35.33 1.391	32.16 1.266	3.05 .120	20.57 .810	.5625-24 UNEF
13	mm in	38.51 1.516	35.33 1.391	3.05 .120	21.08 .830	.6875-24 UNEF
15	mm in	41.68 1.641	38.51 1.516	3.05 .120	21.08 .830	.8125-20 UNEF
17	mm in	44.86 1.766	41.68 1.641	3.05 .120	21.08 .830	.9375-20 UNEF
19	mm in	49.63 1.954	46.43 1.828	3.63 .143	21.08 .830	1.0625-18 UNEF
21	mm in	52.78 2.078	49.63 1.954	3.63 .143	21.08 .830	1.1875-18 UNEF
23	mm in	55.98 2.204	52.78 2.078	3.63 .143	21.08 .830	1.3125-18 UNEF
25	mm in	59.13 2.328	55.98 2.204	3.63 .143	21.08 .830	1.4375-18 UNEF

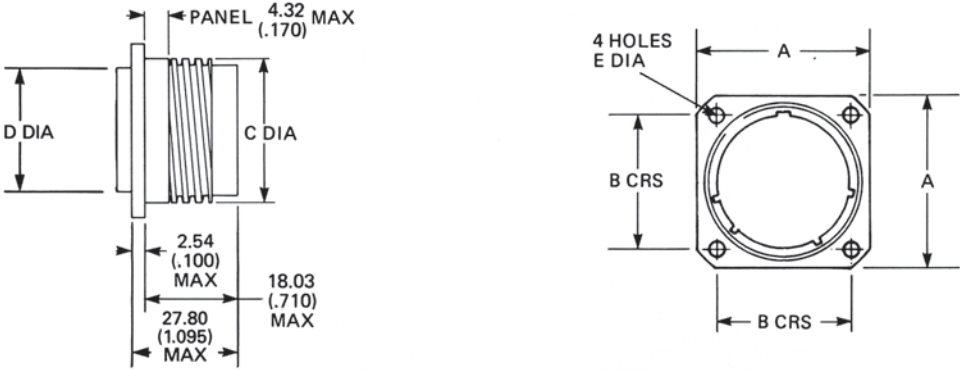
Note: For panel cutout details see page 59.



Mk 38

shell styles and dimensions

Fixed Square Flange Box Mounting (Style P2)



Shell Size		A Dim. Max	B CRS	C. Dia Max	D Dia Max	E Hole Dia Min.
9	mm in	24.33 .958	18.26 .719	13.74 .541	11.1 .437	3.12 .123
11	mm in	26.70 1.051	20.62 .812	16.69 .657	14.3 .568	3.12 .123
13	mm in	29.08 1.145	23.01 .906	20.75 .817	17.5 .689	3.12 .123
15	mm in	31.47 1.239	24.61 .969	23.93 .942	20.6 .811	3.12 .123
17	mm in	33.83 1.332	26.97 1.062	27.13 1.068	23.8 .937	3.12 .123
19	mm in	37.03 1.458	29.36 1.156	30.30 1.193	27.0 1.063	3.12 .123
21	mm in	40.18 1.582	31.75 1.250	33.48 1.318	30.1 1.185	3.12 .123
23	mm in	43.38 1.708	34.93 1.375	36.66 1.444	33.3 1.311	3.61 .142
25	mm in	46.53 1.832	38.10 1.500	39.83 1.568	36.5 1.437	3.61 .142

Note: For panel cutout details see page 59.



Mk 38

insert arrangements by shell size

Shell Size	Insert Arrangement	Service Rating	Contacts							
			Total No.	Quantity – Each Size						
				8	12	16	20	22D		
9	9–35	M	6	–	–	–	–	6	*†	
	9–98	I	3	–	–	–	3	–		
11	11–05	I	5	–	–	–	5	–		
	11–35	M	13	–	–	–	–	13		
	11–98	I	6	–	–	–	6	–		
	11–99	I	7	–	–	–	7	–		
13	13–04	I	4	–	–	4	–	–	†	
	13–35	M	22	–	–	–	–	22		†
	13–98	I	10	–	–	–	10	–		
15	15–05	II	5	–	–	5	–	–	†	
	15–18	I	18	–	–	–	18	–		*†
	15–19	I	19	–	–	–	19	–		
	15–35	M	37	–	–	–	–	37		†
	15–97	I	12	–	–	4	8	–		
17	17–06	I	6	–	6	–	–	–	†	
	17–08	II	8	–	–	8	–	–		
	17–26	I	26	–	–	–	26	–		
	17–35	M	55	–	–	–	–	55		
19	19–11	II	11	–	–	11	–	–	†	
	19–28	I	28	–	–	2	26	–		*†
	19–32	I	32	–	–	–	32	–		
	19–35	M	66	–	–	–	–	66		
21	21–11	I	11	–	11	–	–	–	†	
	21–16	II	16	–	–	16	–	–		†
	21–32	I	32	1	–	–	31	–		
	21–35	M	79	–	–	–	–	79		†
	21–41	I	41	–	–	–	41	–		
23	23–21	II	21	–	–	21	–	–	†	
	23–32	I	32	–	–	–	32	–		†
	23–35	M	100	–	–	–	–	100		
	23–55	I	55	–	–	–	55	–		
25	25–04	I	56	–	–	8	48	–	†	
	25–19	I	19	–	19	–	–	–		†
	25–24	I	24	–	12	12	–	–		
	25–29	I	29	–	–	29	–	–		†
	25–35	M	128	–	–	–	–	128		
	25–61	I	61	–	–	–	61	–		

*Insert arrangements are non-preferred sizes, information on availability can be obtained from our Sales Office.

† Contact arrangements not currently available in fixed square flange box mounting style.

Mk 38

insert arrangements

Shell Size 9



9-35
6 Size 22D Contacts
Service Rating M



9-98
3 Size 20 Contacts
Service Rating I

Shell Size 11



11-05
5 Size 20 Contacts
Service Rating I



11-35
13 Size 22D Contacts
Service Rating M



11-98
6 Size 20 Contacts
Service Rating I



11-99
7 Size 20 Contacts
Service Rating I

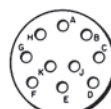
Shell Size 13



13-04
4 Size 16 Contacts
Service Rating I



13-35
22 Size 22D Contacts
Service Rating M



13-98
10 Size 20 Contacts
Service Rating I

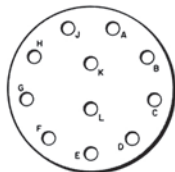
Service Rating

Service Rating	Test Voltages—AC rms					
	Sea Level		70,000 feet		100,000 feet	
	Mated	Unmated	Mated	Unmated	Mated	Unmated
M	1300	1300	800	350	800	200
I	1800	1800	1000	400	1000	200
II	2300	2300	1000	500	1000	200

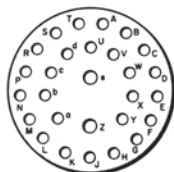
Current Rating

Contact Size	Current (amps)
12	24
16	15
20	5
22D	3

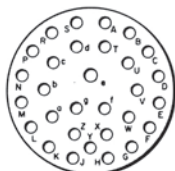
Shell Size 19



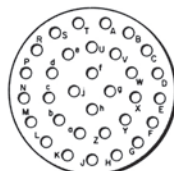
19-11
11 Size 16 Contacts
Service Rating II



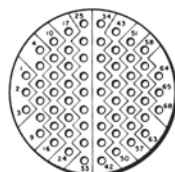
19-28
26 Size 20 Contacts
2 Size 16 Contacts
Service Rating I



19-30
1 Size 16 Contact
29 Size 20 Contacts
Service Rating I

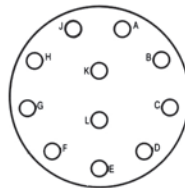


19-32
32 Size 20 Contacts
Service Rating I

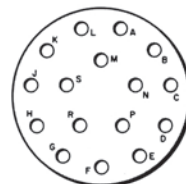


19-35
66 Size 22D Contacts
Service Rating M

Shell Size 21



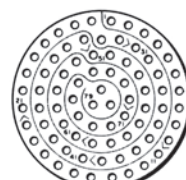
21-11
11 Size 12 Contacts
Service Rating I



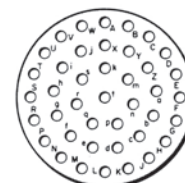
21-16
16 Size 16 Contacts
Service Rating II



21-32
1 Size 8 Contact
31 Size 20 Contact
Service Rating I



21-35
79 Size 22D Contacts
Service Rating M



21-41
41 Size 20 Contacts
Service Rating I

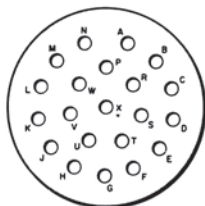
Service Rating

Service Rating	Test Voltages—AC rms					
	Sea Level		70,000 feet		100,000 feet	
	Mated	Unmated	Mated	Unmated	Mated	Unmated
M	1300	1300	800	350	800	200
I	1800	1800	1000	400	1000	200
II	2300	2300	1000	500	1000	200

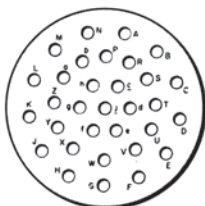
Current Rating

Contact Size	Current (amps)
12	24
16	15
20	5
22D	3

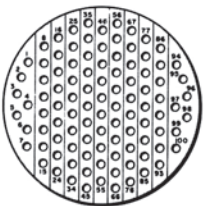
Shell Size 23



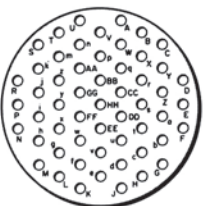
23-21
21 Size 16 Contacts
Service Rating II



23-32
32 Size 20 Contacts
Service Rating I

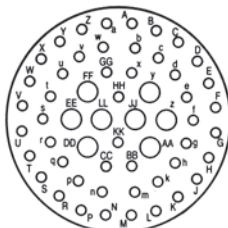


23-35
100 Size 22D Contacts
Service Rating M

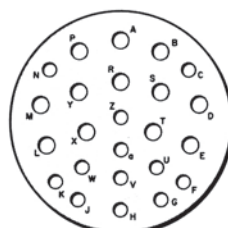


23-55
55 Size 20 Contacts
Service Rating I

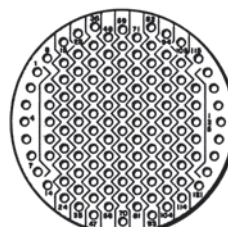
Shell Size 25



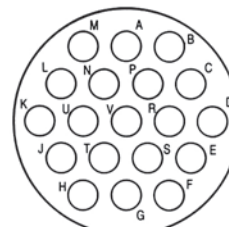
25-04
8 Size 16 Contacts
48 Size 20 Contact
Service Rating I



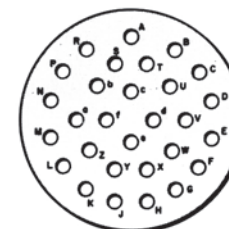
25-24
12 Size 12 Contacts
12 Size 16 Contacts
Service Rating I



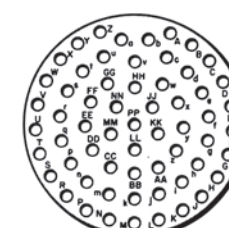
25-35
128 Size 22D Contacts
Service Rating M



25-19
19 Size 12 Contacts
Service Rating I



25-29
29 Size 16 Contacts
Service Rating I



25-61
61 Size 20 Contacts
Service Rating I

Service Rating

Service Rating	Test Voltages—AC rms					
	Sea Level		70,000 feet		100,000 feet	
	Mated	Unmated	Mated	Unmated	Mated	Unmated
M	1300	1300	800	350	800	200
I	1800	1800	1000	400	1000	200
II	2300	2300	1000	500	1000	200

Current Rating

Contact Size	Current (amps)
12	24
16	15
20	5
22D	3

Mk 38

contacts

Plug



Socket

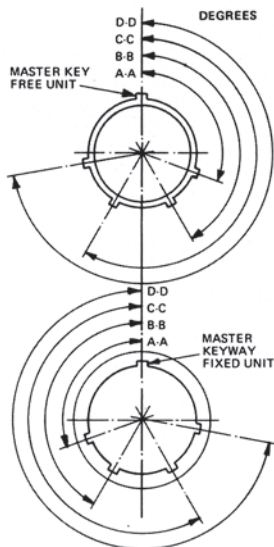


Plessey Number	MIL-C-Part Number	Style	Barrel Size
523/4/18229/000	M 39029/58-365	Plug	12
523/4/18227/000	M 39029/58-364	Plug	16
523/4/18225/000	M 39029/58-363	Plug	20
523/4/18219/000	M 39029/58-360	Plug	22D

Plessey Number	MIL-C-Part Number	Style	Barrel Size
523/4/18244/000	M 39029/56-353	Socket	12
523/4/18243/000	M 39029/58-352	Socket	16
523/4/18242/000	M 39029/56-351	Socket	20
523/4/18241/000	M 39029/58-348	Socket	22D

Wire sizes and Diameters

Contact size	Wire size (AWG)	Finished wire outside dimensions			
		Minimum		Maximum	
22D	28, 26, 24, 22	Inches	mm	Inches	mm
20	24, 22, 20	.030	.076	.054	1.37
16	20, 18, 16	.040	1.02	.083	2.11
12	14, 12	.065	1.65	.109	2.77
		.097	2.46	1.42	3.61

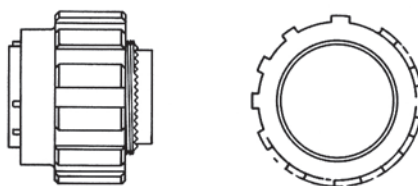


Polarisation

Polarisation is achieved by varying the angular relationship of the group of minor keys (free unit) or keyways (fixed unit) to Master Key (free units) or Keyway (fixed units). The position of the insert (plug or socket) remains constant to the Master Key or Keyway.

Shell size	DEGREE OF ANGLE																			
	Normal					B					C					E				
	A-A	B-B	C-C	D-D	D-D	A-A	B-B	C-C	D-D	D-D	A-A	B-B	C-C	D-D	D-D	A-A	B-B	C-C	D-D	D-D
9	105	140	215	265	265	Not used					Not used					118	148	248	278	278
11	105	140	215	265	265	85	120	195	245	245	125	160	235	285	285	115	145	245	275	275
13	105	140	215	265	265	89	124	199	249	249	121	156	231	281	281	115	145	245	275	275
15	105	140	215	265	265	91	126	201	251	251	119	154	229	279	279	75	105	205	235	235
17	105	140	215	265	265	93	128	203	253	253	117	152	227	277	277	75	105	205	235	235
19	105	140	215	265	265	95	130	205	255	255	115	150	225	275	275	75	105	205	235	235
21	105	140	215	265	265	95	130	205	255	255	115	150	225	275	275	75	105	205	235	235
23	105	140	215	265	265	97	132	207	257	257	113	148	223	273	273	75	105	205	235	235
25	105	140	215	265	265	97	132	207	257	257	113	148	223	273	273	75	105	205	235	235

Free Connector (Style 06)

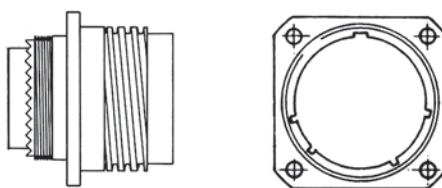


Shell Size	Insert Arrangements	Free Plug	Free Socket
9	9–35	508/1/38000/***	508/1/38050/***
11	11–05 11–35 11–98 11–99	508/1/38003/*** 508/1/38004/*** 508/1/38005/*** 508/1/38006/***	508/1/38053/*** 508/1/38054/*** 508/1/38055/*** 508/1/38056/***
13	13–04 13–35 13–98	508/1/38008/*** 508/1/38010/*** 508/1/38011/***	508/1/38058/*** 508/1/38060/*** 508/1/38061/***
15	15–05 15–18 15–19 15–35 15–97	508/1/38013/*** 508/1/38015/*** 508/1/38018/*** 508/1/38016/*** 508/1/38017/***	508/1/38063/*** 508/1/38065/*** 508/1/38068/*** 508/1/38066/*** 508/1/38067/***
17	17–06 17–08 17–26 17–35	508/1/38019/*** 508/1/38020/*** 508/1/38021/*** 508/1/38022/***	508/1/38069/*** 508/1/38070/*** 508/1/38071/*** 508/1/38072/***
19	19–11 19–28 19–32 19–35	508/1/38025/*** 508/1/38026/*** 508/1/38028/*** 508/1/38029/***	508/1/38075/*** 508/1/38076/*** 508/1/38078/*** 508/1/38079/***
21	21–11 21–16 21–35 21–41 †21–32	508/1/38031/*** 508/1/38032/*** 508/1/38033/*** 508/1/38035/*** 508/1/38034/***	508/1/38081/*** 508/1/38082/*** 508/1/38083/*** 508/1/38085/*** 508/1/38084/***
23	23–21 23–32 23–35 23–55	508/1/38037/*** 508/1/38038/*** 508/1/38039/*** 508/1/38040/***	508/1/38087/*** 508/1/38088/*** 508/1/38089/*** 508/1/38090/***
25	25–04 25–24 25–29 25–35 25–61 25–19	508/1/38046/*** 508/1/38042/*** 508/1/38043/*** 508/1/38044/*** 508/1/38045/*** 508/1/38047/***	508/1/38096/*** 508/1/38092/*** 508/1/38093/*** 508/1/38094/*** 508/1/38095/*** 508/1/38097/***

*** Suffix explanation see page 48.

† This insert arrangement contains one size 8 cavity suitable for Twinax contacts to M39029/90 & 91. These are not supplied with connector.

Fixed Square Flange (Style 00)

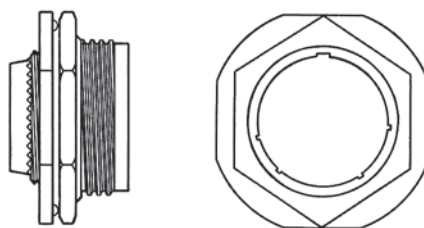


Shell Size	Insert Arrangements	Fixed Square Flange Plug	Fixed Square Flange Socket
9	9-35	508/1/38100/***	508/1/38150/***
11	11-05 11-35 11-98 11-99	508/1/38103/*** 508/1/38104/*** 508/1/38105/*** 508/1/38106/***	508/1/38153/*** 508/1/38154/*** 508/1/38155/*** 508/1/38156/***
13	13-04 13-35 13-98	508/1/38108/*** 508/1/38110/*** 508/1/38111/***	508/1/38158/*** 508/1/38160/*** 508/1/38161/***
15	15-05 15-18 15-19 15-35 15-97	508/1/38113/*** 508/1/38115/*** 508/1/38118/*** 508/1/38116/*** 508/1/38117/***	508/1/38163/*** 508/1/38165/*** 508/1/38168/*** 508/1/38166/*** 508/1/38167/***
17	17-06 17-08 17-26 17-35	508/1/38119/*** 508/1/38120/*** 508/1/38121/*** 508/1/38122/***	508/1/38169/*** 508/1/38170/*** 508/1/38171/*** 508/1/38172/***
19	19-11 19-28 19-32 19-35	508/1/38125/*** 508/1/38126/*** 508/1/38128/*** 508/1/38129/***	508/1/38175/*** 508/1/38176/*** 508/1/38178/*** 508/1/38179/***
21	21-11 21-16 21-35 21-41 †21-32	508/1/38131/*** 508/1/38132/*** 508/1/38133/*** 508/1/38135/*** 508/1/38134/***	508/1/38181/*** 508/1/38182/*** 508/1/38183/*** 508/1/38185/*** 508/1/38184/***
23	23-21 23-32 23-35 23-55	508/1/38137/*** 508/1/38138/*** 508/1/38139/*** 508/1/38140/***	508/1/38187/*** 508/1/38188/*** 508/1/38189/*** 508/1/38190/***
25	25-04 25-24 25-29 25-35 25-61 25-19	508/1/38146/*** 508/1/38142/*** 508/1/38143/*** 508/1/38144/*** 508/1/38145/*** 508/1/38147/***	508/1/38196/*** 508/1/38192/*** 508/1/38193/*** 508/1/38194/*** 508/1/38195/*** 508/1/38197/***

*** Suffix explanation see page 48.

† This insert arrangement contains one size 8 cavity suitable for Twinax contacts to M39029/90 & 91. These are not supplied with connector.

Fixed Single Hole Mounting (Style 07)

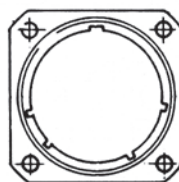
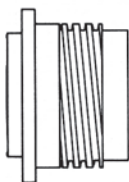


Shell Size	Insert Arrangements	Fixed Single Hole Mounting	Fixed Single Hole Mounting Socket
9	9-35	508/1/38200/***	508/1/38250/***
11	11-05 11-35 11-98 11-99	508/1/38203/*** 508/1/38204/*** 508/1/38205/*** 508/1/38206/***	508/1/38253/*** 508/1/38254/*** 508/1/38255/*** 508/1/38256/***
13	13-04 13-35 13-98	508/1/38208/*** 508/1/38210/*** 508/1/38211/***	508/1/38258/*** 508/1/38260/*** 508/1/38261/***
15	15-05 15-18 15-19 15-35 15-97	508/1/38213/*** 508/1/38215/*** 508/1/38218/*** 508/1/38216/*** 508/1/38217/***	508/1/38263/*** 508/1/38265/*** 508/1/38268/*** 508/1/38266/*** 508/1/38267/***
17	17-06 17-08 17-26 17-35	508/1/38219/*** 508/1/38220/*** 508/1/38221/*** 508/1/38222/***	508/1/38269/*** 508/1/38270/*** 508/1/38271/*** 508/1/38272/***
19	19-11 19-28 19-32 19-35	508/1/38225/*** 508/1/38226/*** 508/1/38228/*** 508/1/38229/***	508/1/38275/*** 508/1/38276/*** 508/1/38278/*** 508/1/38279/***
21	21-11 21-16 21-35 21-41 †21-32	508/1/38231/*** 508/1/38232/*** 508/1/38233/*** 508/1/38235/*** 508/1/38234/***	508/1/38281/*** 508/1/38282/*** 508/1/38283/*** 508/1/38285/*** 508/1/38284/***
23	23-21 23-32 23-35 23-55	508/1/38237/*** 508/1/38238/*** 508/1/38239/*** 508/1/38240/***	508/1/38287/*** 508/1/38288/*** 508/1/38289/*** 508/1/38290/***
25	25-04 25-24 25-29 25-35 25-61 25-19	508/1/38246/*** 508/1/38242/*** 508/1/38243/*** 508/1/38244/*** 508/1/38245/*** 508/1/38247/***	508/1/38296/*** 508/1/38292/*** 508/1/38293/*** 508/1/38294/*** 508/1/38295/*** 508/1/38297/***

*** Suffix explanation see page 48.

† This insert arrangement contains one size 8 cavity suitable for Twinax contacts to M39029/90 & 91. These are not supplied with connector.

Fixed Square Flange Box Mounting (Style P2)



Shell Size	Insert Arrangements	Fixed Square Flange Plug	Fixed Square Flange Socket
9	9–35	508/1/38300/***	508/1/38350/***
11	11–05 11–35 11–98 11–99	508/1/38303/*** 508/1/38304/*** 508/1/38305/*** 508/1/38306/***	508/1/38353/*** 508/1/38354/*** 508/1/38355/*** 508/1/38356/***
13	13–35	508/1/38310/***	508/1/38360/***
15	15–18 15–35	508/1/38315/*** 508/1/38316/***	508/1/38365/*** 508/1/38366/***
17	17–06 17–26 17–35	508/1/38319/*** 508/1/38321/*** 508/1/38322/***	508/1/38369/*** 508/1/38371/*** 508/1/38372/***
19	19–32 19–35	508/1/38328/*** 508/1/38329/***	508/1/38378/*** 508/1/38379/***
21	21–35	508/1/38333/***	508/1/38383/***
23	23–35 23–55	508/1/38339/*** 508/1/38340/***	508/1/38389/*** 508/1/38390/***
25	25–24 25–35	508/1/38342/*** 508/1/38344/***	508/1/38392/*** 508/1/38394/***

Suffix Explanation

Connector
Supplied
With Contacts

200
210
220
230
240

Normal Orientation
B Orientation
C Orientation
E Orientation
F Orientation

Connector
Supplied
Without Contacts

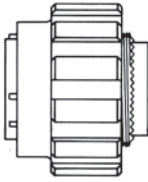
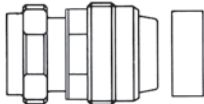
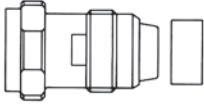
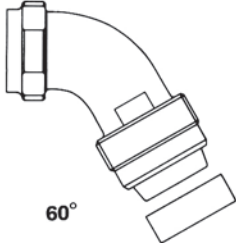
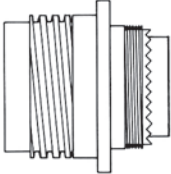
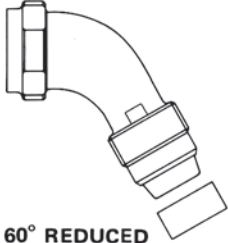
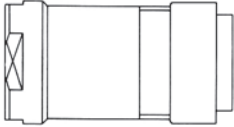
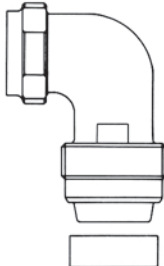
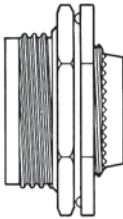
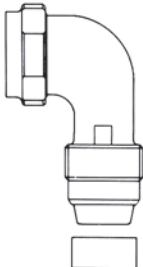
201
211
221
231
241

Mk 38

standard and reduced sealed outlets for multicore jacketed cable

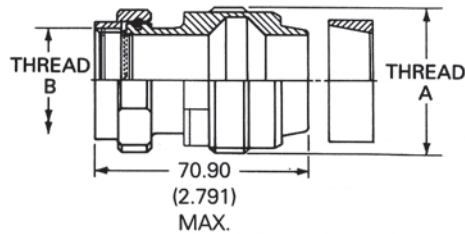
How to Order – Select connector style + front outlet + rear outlet from the options illustrated below.
Note: Rear outlets require accessory seal kit; select from table on page 51.

For dimensions and part numbers of outlet sub-assemblies see pages 49 to 51.

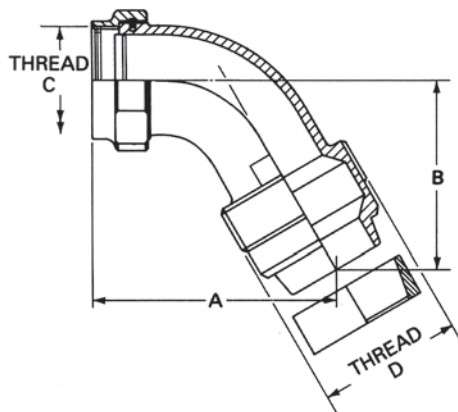
CONNECTOR STYLE	FRONT OUTLET OPTIONS	REAR OUTLET
 FREE UNIT	 STRAIGHT	
	 STRAIGHT REDUCED	
OR	 60°	
 FIXED SQUARE FLANGE MOUNTING UNIT	 60° REDUCED	 PLUS ACCESSORY KIT (SEE PAGE 20)
OR	 90°	
 FIXED SINGLE HOLE MOUNTING UNIT	 90° REDUCED	

Mk 38

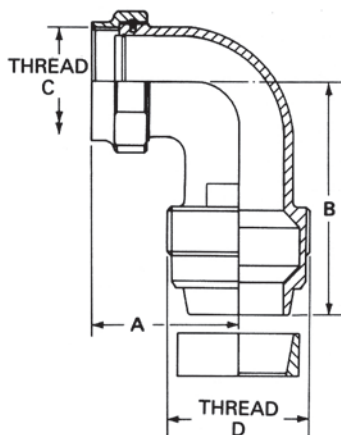
standard front sub-assembly outlets



**STRAIGHT FRONT OUTLET
SUB-ASSEMBLY**



**60° FRONT OUTLET
SUB-ASSEMBLY**



**90° FRONT OUTLET
SUB-ASSEMBLY**

STRAIGHT FRONT SUB-ASSEMBLY

Shell Size	Thread 'A'	Thread 'B'		Plessey Part No.
9	1 ¹ / ₁₆ × 20 UN-2A	7 ¹ / ₁₆ × 28 UNEF-2B		508/1/37897/000
11	1 ³ / ₁₆ × 20 UNEF-2A	9 ¹ / ₁₆ × 24 UNEF-2B		508/1/37898/000
13	1 ⁵ / ₁₆ × 20 UNEF-2A	1 ¹ / ₁₆ × 24 UNEF-2B		508/1/37899/000
15	1 ¹ / ₁₆ × 20 UN-2A	1 ³ / ₁₆ × 20 UNEF-2B		508/1/37900/000
17	1 ¹ / ₄ × 20 UN-2A	1 ⁵ / ₁₆ × 20 UNEF-2B		508/1/37901/000
19	1 ³ / ₈ × 20 UN-2A	1 ¹ / ₁₆ × 18 UNEF-2B		508/1/37902/000
21	1 ¹ / ₂ × 20 UN-2A	1 ³ / ₁₆ × 18 UNEF-2B		508/1/37903/000
23	1 ⁹ / ₁₆ × 20 UN-2A	1 ⁵ / ₁₆ × 18 UNEF-2B		508/1/37904/000
25	1 ¹¹ / ₁₆ × 20 UN-2A	7 ¹ / ₁₆ × 18 UNEF-2B		508/1/37905/000

60° FRONT SUB-ASSEMBLY

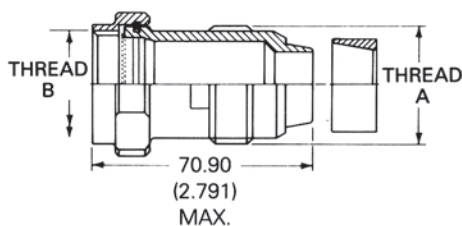
Shell Size	Length 'A' Max	Length 'B' Max	Thread 'C'	Thread 'D'		Plessey Part No.
9	38.80 1.528	29.50 1.161	7 ¹ / ₁₆ × 28 UNEF-2B	1 ¹ / ₁₆ × 20 UNEF-2A		508/1/37906/000
11	39.90 1.571	29.90 1.177	9 ¹ / ₁₆ × 24 UNEF-2B	1 ³ / ₁₆ × 20 UNEF-2A		508/1/37907/000
13	44.80 1.764	32.70 1.287	1 ¹ / ₁₆ × 24 UNEF-2B	1 ⁵ / ₁₆ × 20 UN-2A		508/1/37908/000
15	46.00 1.811	33.40 1.315	1 ³ / ₁₆ × 20 UNEF-2B	1 ¹ / ₁₆ × 20 UN-2A		508/1/37909/000
17	50.80 2.000	36.20 1.425	1 ⁵ / ₁₆ × 20 UNEF-2B	1 ¹ / ₄ × 20 UN-2A		508/1/37910/000
19	52.00 2.047	36.90 1.453	1 ¹ / ₁₆ × 20 UNEF-2B	1 ³ / ₈ × 20 UN-2A		508/1/37911/000
21	53.30 2.098	37.70 1.484	1 ³ / ₁₆ × 18 UNEF-2B	1 ¹ / ₂ × 20 UN-2A		508/1/37912/000
23	54.50 2.146	38.40 1.512	1 ⁹ / ₁₆ × 18 UNEF-2B	1 ⁹ / ₁₆ × 20 UN-2A		508/1/37913/000
25	55.90 2.201	39.20 1.543	1 ⁷ / ₁₆ × 24 UNEF-2B	1 ¹¹ / ₁₆ × 20 UN-2A		508/1/37914/000

90° FRONT SUB-ASSEMBLY

Shell Size	Length 'A' Max	Length 'B' Max	Thread 'C'	Thread 'D'		Plessey Part No.
11	25.07 .987	41.85 1.648	9 ¹ / ₁₆ × 24 UNEF-2B	1 ³ / ₁₆ × 20 UNEF-2A		508/1/37652/000

Mk 38

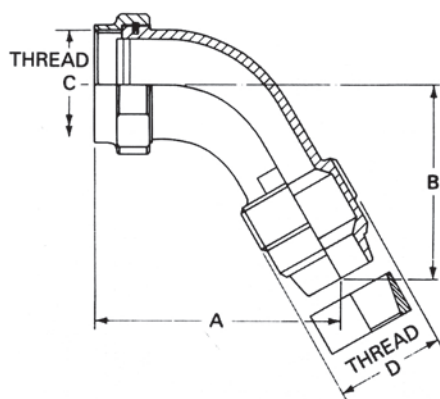
reduced front sub-assembly outlets



**STRAIGHT REDUCED FRONT OUTLET
SUB-ASSEMBLY**

STRAIGHT REDUCED FRONT OUTLET SUB-ASSEMBLY

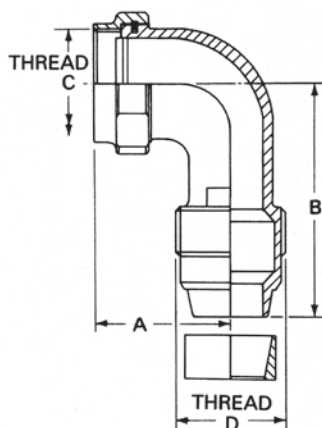
Shell Size		Thread 'A'	Thread 'B'		Plessey Part No.
Connector	Outlet				
11	9	1 $\frac{1}{16}$ × 20 UN-2A	9 $\frac{1}{16}$ × 24 UNEF-2B		508/1/37915/000
13	11	1 $\frac{3}{16}$ × 20 UNEF-2A	1 $\frac{1}{16}$ × 24 UNEF-2B		508/1/37916/000
15	11	1 $\frac{3}{16}$ × 20 UNEF-2A	1 $\frac{3}{16}$ × 20 UNEF-2B		508/1/37917/000
17	13	1 $\frac{5}{16}$ × 20 UNEF-2A	1 $\frac{5}{16}$ × 20 UNEF-2B		508/1/37918/000
19	15	1 $\frac{1}{2}$ × 20 UN-2A	1 $\frac{1}{16}$ × 18 UNEF-2B		508/1/37919/000
21	17	1 $\frac{1}{4}$ × 20 UN-2A	1 $\frac{3}{16}$ × 18 UNEF-2B		508/1/37920/000
23	17	1 $\frac{1}{4}$ × 20 UN-2A	1 $\frac{5}{16}$ × 18 UNEF-2B		508/1/37921/000
25	19	1 $\frac{3}{8}$ × 20 UN-2A	1 $\frac{7}{16}$ × 18 UNEF-2B		508/1/37922/000



**60° REDUCED FRONT OUTLET
SUB-ASSEMBLY**

60° REDUCED FRONT OUTLET SUB-ASSEMBLY

Shell Size		Length 'A' Max	Length 'B' Max	Thread 'C'	Thread 'D'		Plessey Part No.
Connector	Outlet						
11	9	41.30 1.626	30.30 1.193	9 $\frac{1}{16}$ × 24 UNEF-2B	1 $\frac{1}{16}$ × 20 UN-2A		508/1/37923/000
13	11	46.00 1.811	33.20 1.307	1 $\frac{1}{16}$ × 24 UNEF-2B	1 $\frac{3}{16}$ × 20 UNEF-2A		508/1/37924/000
15	11	47.30 1.862	34.00 1.339	1 $\frac{3}{16}$ × 20 UNEF-2B	1 $\frac{3}{16}$ × 20 UNEF-2A		508/1/37925/000
17	13	52.40 2.063	37.20 1.465	1 $\frac{5}{16}$ × 20 UNEF-2B	1 $\frac{5}{16}$ × 20 UNEF-2A		508/1/37926/000
19	15	53.20 2.094	37.70 1.484	1 $\frac{1}{2}$ × 18 UNEF-2B	1 $\frac{1}{16}$ × 20 UN-2A		508/1/37927/000
21	17	54.50 2.146	38.50 1.516	1 $\frac{3}{16}$ × 18 UNEF-2B	1 $\frac{1}{4}$ × 20 UN-2A		508/1/37928/000
23	17	56.20 2.213	39.60 1.559	1 $\frac{5}{16}$ × 18 UNEF-2B	1 $\frac{1}{4}$ × 20 UN-2A		508/1/37929/000
25	19	55.20 2.173	39.00 1.535	1 $\frac{7}{16}$ × 18 UNEF-2B	1 $\frac{3}{8}$ × 20 UN-2A		508/1/37930/000



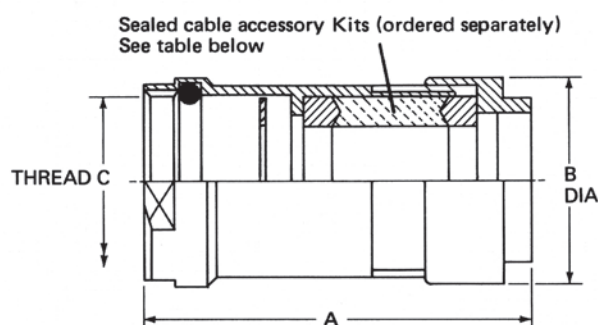
**90° REDUCED FRONT OUTLET
SUB-ASSEMBLY**

90° REDUCED FRONT OUTLET SUB-ASSEMBLY

Shell Size		Length 'A' Max	Length 'B' Max	Thread 'C'	Thread 'D'		Plessey Part No.
Connector	Outlet						
15	11	25.07 .987	45.85 1.805	1 $\frac{3}{16}$ × 20 UNEF-2B	1 $\frac{3}{16}$ × 20 UNEF-2A		508/1/37623/000
21	17	31.87 2.255	45.70 1.799	1 $\frac{1}{2}$ × 18 UNEF-2B	1 $\frac{1}{4}$ × 20 UN-2A		508/1/37626/000

Mk 38

rear sub-assembly outlets



SEALED REAR OUTLET SUB-ASSEMBLY

Shell Size	Length 'A' Max mm	Length 'A' Max ins	'B' Dia Max. mm	'B' Dia Max. ins	Thread 'C'	Nato No. 5935-99-654-	Plessey Part No.
9	63.80	2.512	21.00	.827	1 ¹ / ₁₆ × 20 UN-2B	6284	508/1/37444/000
11	63.80	2.512	23.80	.937	1 ³ / ₁₆ × 20 UNEF-2B	6285	508/1/37445/000
13	63.80	2.512	28.15	1.108	1 ⁵ / ₁₆ × 20 UNEF-2B	6286	508/1/37446/000
15	63.80	2.512	31.30	1.232	1 ¹ / ₁₆ × 20 UN-2B	6287	508/1/37447/000
17	68.80	2.709	36.45	1.435	1 ¹ / ₄ × 20 UN-2B	6288	508/1/37448/000
19	68.80	2.709	39.25	1.545	1 ³ / ₈ × 20 UN-2B	6289	508/1/37449/000
21	68.80	2.709	42.40	1.669	1 ¹ / ₂ × 20 UN-2B	6290	508/1/37450/000
23	68.80	2.709	45.34	1.785	1 ⁹ / ₁₆ × 20 UN-2B	6291	508/1/37451/000
25	68.80	2.709	48.00	1.890	1 ¹ / ₁₆ × UN-2B	6292	508/1/37452/000

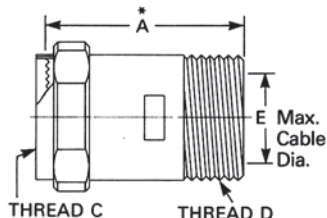
SEALED CABLE ACCESSORY KITS

Rear Section Shell Size	Cable Diameter (mm) Accommodated (in descending order)	Plessey Part No. 508/1/	
9	8mm to 4mm	37931/010	
11	11mm to 7mm 8mm to 4mm	37932/010 /030	
13	14mm to 10mm 11mm to 7mm	37933/010 /030	
15	17mm to 13mm 14mm to 10mm 11mm to 7mm	37934/010 /030 /050	
17	20mm to 16mm 17mm to 13mm 14mm to 10mm 11mm to 7mm	37935/010 /030 /050 /070	
19	23mm to 19mm 20mm to 16mm 17mm to 13mm 14mm to 10mm	37936/010 /030 /050 /070	
21	26mm to 22mm 23mm to 19mm 20mm to 16mm 17mm to 13mm 14mm to 10mm	37937/010 /030 /050 /070 /090	
23	29mm to 25mm 26mm to 22mm 23mm to 19mm 20mm to 16mm 17mm to 13mm	37938/010 /030 /050 /070 /090	
25	32mm to 28mm 29mm to 25mm 26mm to 22mm 23mm to 19mm 20mm to 16mm 17mm to 13mm	37939/010 /030 /050 /070 /090 /110	

Mk 38

accessories

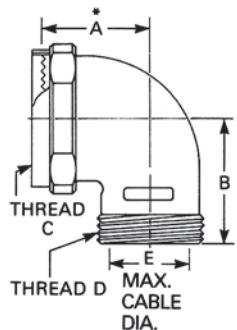
Flexible Conduit Outlet, Straight



Shell Size	Part No.	A Max		Thread C UNEF	Thread D UNEF	E Max. Cable Dia.	
		mm	ins			mm	ins
9	508/1/37701/000	38.40	1.512	.4375 - 28	.625 - 24	6.71	.264
11	508/1/37703/000	38.40	1.512	.5625 - 24	.750 - 20	9.96	.392
13	508/1/37705/000	38.40	1.512	.6875 - 24	1.000 - 20	12.85	.506
15	508/1/37707/000	38.40	1.512	.8125 - 20	1.000 - 20	16.03	.631
17	508/1/37661/000	38.40	1.512	.9375 - 20	1.000 - 20	15.80	.622
17A	508/1/37709/000	38.40	1.512	.9375 - 20	1.1875 - 18	19.20	.756
19	508/1/37711/000	39.40	1.551	1.0625 - 18	1.1875 - 18	21.80	.858
21	508/1/37713/000	39.40	1.551	1.1875 - 18	1.1875 - 18	21.80	.858
23	508/1/37715/000	39.40	1.551	1.3125 - 18	1.1875 - 18	21.80	.858
23A	508/1/37717/000	39.40	1.551	1.3125 - 18	1.4375 - 18	28.20	1.110
25	508/1/37663/000	39.40	1.551	1.4375 - 18	1.1875 - 18	21.80	.858
25A	508/1/37719/000	39.40	1.551	1.4375 - 18	1.000 - 20	15.80	.622

* This dimension when added to shell length gives overall connector dimension

Flexible Conduit Outlet, 90° Elbow



Shell Size	Part No.	A Max		B Max		Thread C UNEF	Thread D UNEF	E Max. Cable Dia.	
		mm	ins	mm	ins			mm	ins
9	508/1/37672/000	16.50	.650	24.30	.957	.4375 - 28	.625 - 24	6.71	.264
11	508/1/37675/000	19.00	.748	25.20	.992	.5625 - 24	.750 - 20	9.96	.392
13	508/1/37678/000	23.50	.925	27.70	1.091	.6875 - 24	1.000 - 20	12.85	.506
15	508/1/37681/000	23.50	.925	29.20	1.150	.8125 - 20	1.000 - 20	16.03	.631
17	508/1/37647/000	23.50	.925	29.90	1.177	.9375 - 20	1.000 - 20	15.80	.622
17A	508/1/37684/000	27.00	1.063	29.90	1.177	.9375 - 20	1.1875 - 18	19.20	.756
19	508/1/37687/000	27.00	1.063	31.50	1.240	1.0625 - 18	1.1875 - 18	21.80	.858
21	508/1/37690/000	27.00	1.063	33.90	1.335	1.1875 - 18	1.1875 - 18	21.80	.858
23	508/1/37693/000	27.00	1.063	33.90	1.335	1.3125 - 18	1.1875 - 18	21.80	.858
23A	508/1/37696/000	32.00	1.260	33.90	1.335	1.3125 - 18	1.4375 - 18	28.20	1.110
25	508/1/37650/000	27.00	1.063	35.80	1.409	1.4375 - 18	1.1875 - 18	21.80	.858
25A	508/1/37699/000	27.00	1.063	35.80	1.409	1.4375 - 18	1.000 - 20	15.80	.622

* This dimension when added to shell length gives overall connector dimension

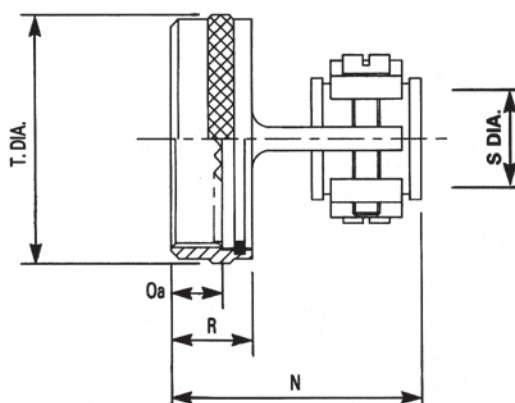
† Outlets not yet tooled. Please contact our Sales Office.

The outlet to connector interface features are identical to those on pages 50 and 51.

The R.F.I. Shielding and pressure sealing efficiency of conduit joint is the responsibility of the conduit supplier.

Accessories

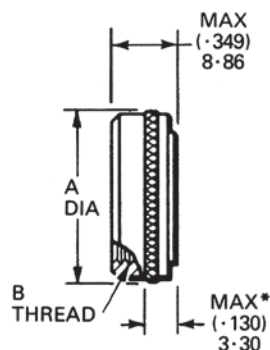
Straight Strain Relief Clamp



Shell Size	N Max		Oa Min		R Max		S Dia Min		T Dia Max		Part No.
	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	
9	26.00	1.023	5.31	.209	8.86	.349	2.93	.115	14.81	.583	508/1/38496/090
11	26.00	1.023	5.31	.209	8.86	.349	4.53	.178	18.16	.715	508/1/38496/110
13	26.00	1.023	5.31	.289	8.86	.349	7.68	.302	21.16	.833	508/1/38496/130
15	29.20	1.150	5.31	.209	8.86	.349	9.28	.365	24.51	.965	508/1/38496/150
17	29.60	1.165	5.31	.209	8.86	.349	12.45	.490	27.48	1.082	508/1/38496/170
19	30.00	1.181	5.31	.209	8.86	.349	15.63	.615	30.86	1.215	508/1/38496/190
21	33.20	1.307	5.31	.209	8.86	.349	15.63	.615	33.83	1.332	508/1/38496/210
23	33.20	1.307	5.31	.209	8.86	.349	18.80	.740	37.21	1.465	508/1/38496/230
25	33.20	1.307	5.31	.209	8.86	.349	20.10	.790	40.18	1.582	508/1/38496/250

Mk 38

accessories



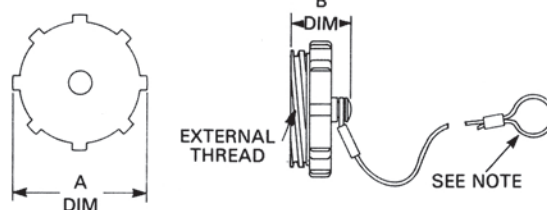
Nut and Ferrule Assembly

Shell Size	Part No	A Dia. Max. mm	ins	Thread 'B' UNEF
9	508/1/37850/009	14.80	.583	.4375-28
11	508/1/37850/011	18.16	.715	.5625-24
13	508/1/37850/013	21.15	.833	.6875-24
15	508/1/37850/015	24.51	.965	.8125-20
17	508/1/37850/017	27.48	1.082	.9375-20
19	508/1/37850/019	30.86	1.215	1.0625-18
21	508/1/37850/021	33.83	1.332	1.1875-18
23	508/1/37850/023	37.21	1.465	1.3125-18
25	508/1/37850/025	40.18	1.582	1.4375-18

*This dimension when added to shell length gives overall connector dimension

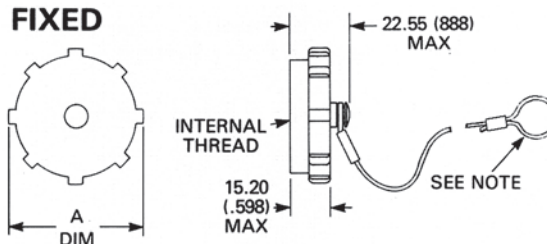
Protective Caps

FREE



Shell Size	A Dim Max mm	ins	B Dim Max mm	ins	Part No.
9	21.03	.828	20.60	.811	508/1/38402/009
11	23.80	.937	20.60	.811	508/1/38402/011
13	28.17	1.109	20.60	.811	508/1/38402/013
15	31.34	1.234	20.60	.811	508/1/38402/015
17	36.50	1.437	20.60	.811	508/1/38402/017
19	39.27	1.546	20.60	.811	508/1/38402/019
21	42.42	1.670	22.10	.870	508/1/38402/021
23	45.21	1.780	22.10	.870	508/1/38402/023
25	48.39	1.905	22.10	.870	508/1/38402/025

FIXED



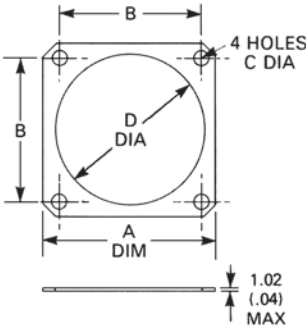
Shell Size	A Dim Max mm	ins	Part Number
9	21.03	.828	508/1/38400/009
11	23.80	.937	508/1/38400/011
13	28.17	1.109	508/1/38400/013
15	31.34	1.234	508/1/38400/015
17	36.50	1.437	508/1/38400/017
19	39.27	1.546	508/1/38400/019
21	42.42	1.670	508/1/38400/021
23	45.21	1.780	508/1/38400/023
25	48.39	1.905	508/1/38400/025

Important Note: Approximately 450mm (18") of flexible coated stainless steel wire, plus Crimp Ferrule are supplied with each protective cap.

Mk 38

accessories

Panel Conductive Gaskets (Silver Loaded Silicone)



Shell Size	A Dim Max		B CRS		C Hole Dia		D Dia Min		Part Number
	mm	ins	mm	ins	mm	ins	mm	ins	
9	24.33	.958	18.26	.719	3.12	.123	14.22	.560	508/2/38401/109
11	26.70	1.051	20.62	.812	3.12	.123	17.02	.670	508/2/38401/111
13	29.08	1.145	23.01	.906	3.12	.123	21.08	.830	508/2/38401/113
15	31.47	1.239	24.61	.969	3.12	.123	24.38	.960	508/2/38401/115
17	33.83	1.332	26.97	1.062	3.12	.123	27.43	1.080	508/2/38401/117
19	37.03	1.458	29.36	1.156	3.12	.123	30.73	1.210	508/2/38401/119
21	40.18	1.582	31.75	1.250	3.12	.123	33.78	1.330	508/2/38401/121
23	43.38	1.708	34.93	1.375	3.61	.142	37.08	1.460	508/2/38401/123
25	46.53	1.832	38.10	1.500	3.61	.142	40.13	1.580	508/2/38401/125

Grommet Sealing Plug

Extra quantities of grommet seal plugs may be ordered by Plessey Part Number or MS part numbers from the table below.



MS Number/Size	Plessey No.	Colour Code
MS27488-12	523/2/18230/001	YELLOW
MS27488-16	523/2/18230/002	BLUE
MS27488-20	523/2/18230/003	RED
MS27488-22	523/2/18230/004	BLACK

Mk 38

insertion and extraction tools

The Mk 38 insertion and extraction tools have been designed for ease of operation and dependability. The dove-tail handle design prevents the tool tip misalignment associated with "tweezer type" tools. By preventing misalignment, it eliminates the damage that can occur to the sealing member of the connector. The moulded handle has been "ergonomically designed" to insure proper manipulation by production personnel. The unique wire gripping feature provides for extraction, without damage, to either contact or wire.

The tips are made of special alloy steel, that provides the proper balance between the hardness necessary for long usage and the resiliency needed to prevent tip breakage.

The handles are marked and colour coded with respect to size and whether the tool is for insertion or extraction.



Contact		Insertion Tool	
Size	Cat No.	Cat No.	Colour
22D	523/4/18219/000	558/1/05267/000	Black
	523/4/18241/000		
20	523/4/18225/000	558/1/05253/000	Red
	523/4/18242/000		
16	523/4/18227/000	558/1/05251/000	Blue
	523/4/18243/000		
12	523/4/18229/000	558/1/05251/001	Yellow
	523/4/18244/000		



Contact		Extraction Tool	
Size	Cat No.	Cat No.	Colour
22D	523/4/18219/000	558/1/05254/002	Black/White
	523/4/18241/000		
20	523/4/18225/000	558/1/05254/000	Red/White
	523/4/18242/000		
16	523/4/18227/000	558/1/05252/000	Blue/White
	523/4/18243/000		
12	523/4/18229/000	558/1/05252/001	Yellow/White
	523/4/18244/000		

Crimping Tools

Tools conforming to MIL-C-22520 can be used to crimp Mk. 38 connector contacts.

Recommendation for the various contact types and sizes are as follows:

Crimping Tool	Positioner or Turret Die	Contact Type/Size
M22520/2-01 M22520/7-01	M22520/2-09 M22520/7-07	22D, Pins
M22520/2-01 M22520/7-01	M22520/2-07 M22520/7-05	22D, Socket
M22520/1-01 M22520/2-01 M22520/7-01	M22520/1-04 M22520/2-10 M22520/7-08	20 Pin 20 Socket
M22520/1-01 M22520/7-01	M22520/1-04 M22520/7-04	16 Pin 16 Socket
M22520/1-01	M22520/1-04	12 Pin 12 Socket

The above crimp tools are all available from the approved MIL. Spec. tool manufacturers.

Mk 38

contact insertion

Tool Description – Plessey Connectors Insertion tools (Fig. 1) are designed to install pin and socket contacts into Mk.38 Connectors designed around MIL-C-38999 contact retention system. Positive retention of contacts is accomplished by allowing the locking tabs of the contact retaining spring to engage behind the contact shoulder.

Fig. 1

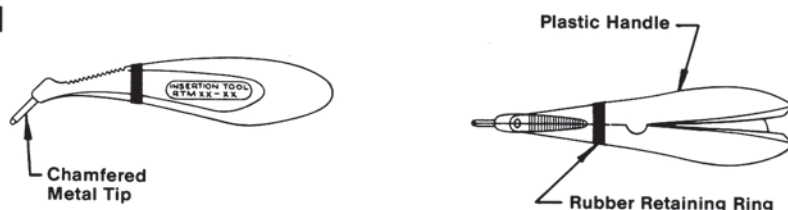


Fig. 2

Preparation for Insertion

1. Remove grommet nut or outlet from the connector and place over the wires to be installed.
2. Insert the crimped contact/wire assembly between the tool tips, making sure that contact shoulder is butted against tips.

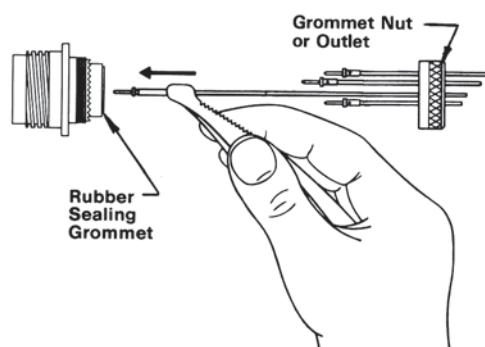
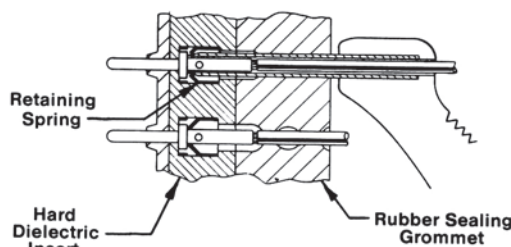


Fig. 3



Insertion Procedure

3. Align contact and tool with the selected hole in the connector as nearly perpendicular to the grommet face as possible.
4. Carefully push the contact into the rubber grommet hole and hard dielectric insert body until the contact shoulder stops against the insert. The contact retaining spring will then be felt or heard locking into place (Fig. 3).

CAUTION: Do not squeeze the plastic tool handles while the tool tips are inside the connector. Spreading, angling, or rotating the tips can damage them and the connector.

5. Withdraw the tool completely from the connector by sliding it back along the wire insulation. Remove tool and apply a gentle pull on the wire to confirm that the contact is properly locked into place.
6. Install all other wired contacts in the same manner. Unused holes must be filled with an un-wired contact followed by a sealing plug.
7. Reassemble grommet nut or outlet.

Mk 38

insertion and extraction tools

Tool Description – Plessey Connectors Extraction tools (Fig. 1A) are designed to extract pin and socket contacts from Mk.38 Connectors designed around MIL-C-38999 contact retention system. Extraction of contacts is accomplished by releasing the locking tabs of the contact retaining spring.

Fig. 1A

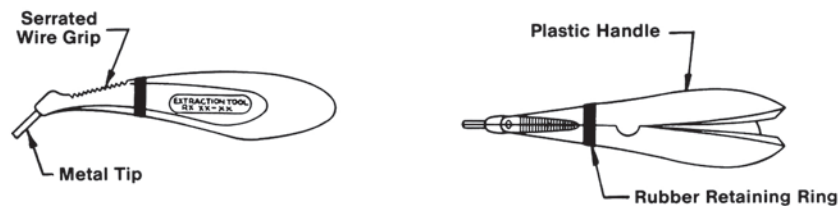
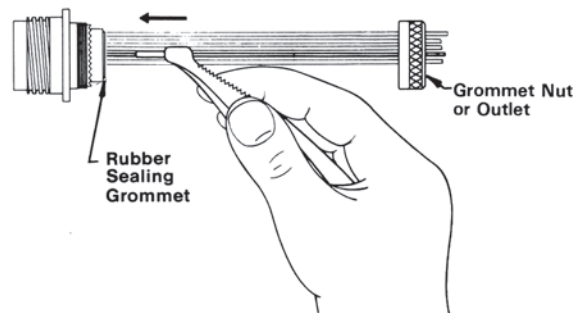


Fig. 2A

Preparation for Extraction

1. Disassemble grommet nut or outlet from the connector, allowing it to hang on the wire bundle.
2. Insert the wire of the contact to be extracted between the tool tips.



Extraction Procedure

3. Slide the tool tips down the wire insulation into the rubber sealing grommet and hard dielectric insert body until they stop against the contact shoulder (Fig. 3A) If tips catch on wire barrel and will not enter to full depth, remove tool completely and open and close handles to realign tips.

CAUTION: Do not squeeze the plastic tool handles while the tool tips are inside the connector. Spreading, angling, or rotating the tips can damage them and the connector.

4. With the tool tips firmly butted against the contact shoulder, grip the wire insulation against the serrated tool surface without permitting any slack, and exert a light pull on the tool and wire to extract the contact (Fig. 4A) Do not increase pull if contact does not slide out easily – tool tips were not butted properly and excessive tension will damage the contact retaining spring – Remove tool completely and repeat extraction procedure.
5. If wired contact is not replaced, fill unused hole with an unwired contact followed by a sealing plug.
6. Reassemble grommet nut or outlet.

Fig. 3A

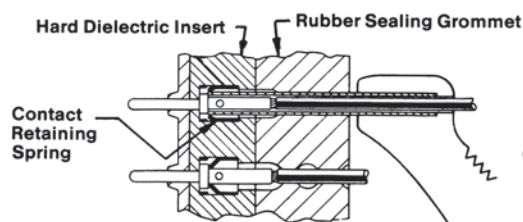
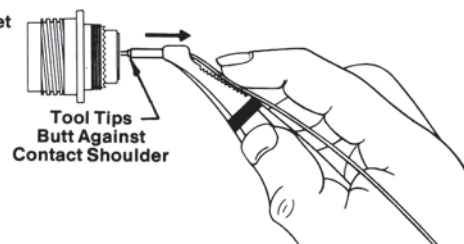
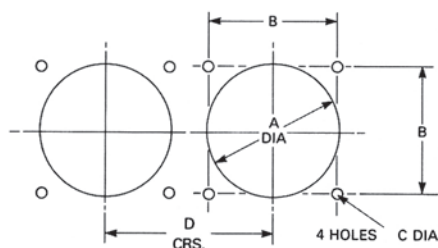


Fig. 4A

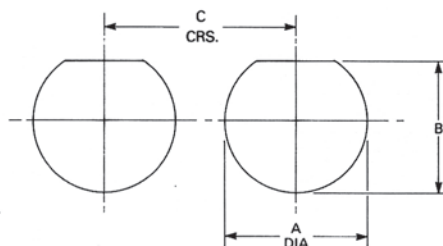


Mk 38

panel cutout dimensions



Shell Size	A Dia Min		B CRS		C Hole Dia Tolerance		D CRS MIN	
	mm	ins	mm	ins	mm	ins	mm	ins
9	16.66	.656	18.26	.719	3.38 3.12	.133 .123	25.91	1.020
11	20.22	.796	20.62	.812	3.38 3.12	.133 .123	27.69	1.090
13	23.42	.922	23.01	.906	3.38 3.12	.133 .123	32.51	1.280
15	26.59	1.047	24.61	.969	3.38 3.12	.133 .123	35.31	1.390
17	30.96	1.219	26.97	1.062	3.38 3.12	.133 .123	40.64	1.600
19	32.94	1.297	29.36	1.156	3.38 3.12	.133 .123	44.20	1.740
21	36.12	1.422	31.75	1.250	3.38 3.12	.133 .123	47.24	1.860
23	39.29	1.547	34.93	1.375	3.94 3.68	.155 .145	50.29	1.980
25	42.47	1.672	38.10	1.500	3.94 3.68	.155 .145	53.09	2.090



Shell Size	A Dia		B Dim		C CRS MIN	
	mm	ins	mm	ins	mm	ins
9	17.95 17.70	.707 .697	16.99 16.74	.669 .659	30.48	1.200
11	21.13 20.88	.832 .822	19.53 19.28	.769 .759	35.31	1.390
13	25.83 25.58	1.017 1.007	24.26 24.01	.955 .945	38.35	1.510
15	29.05 28.80	1.144 1.134	27.53 27.28	1.084 1.074	41.66	1.640
17	32.23 31.98	1.269 1.259	30.68 30.43	1.208 1.198	44.70	1.760
19	35.40 35.15	1.394 1.384	33.86 33.61	1.333 1.323	49.53	1.950
21	38.53 38.28	1.517 1.507	37.06 36.81	1.459 1.449	52.83	2.080
23	41.75 41.50	1.644 1.634	40.24 39.99	1.584 1.574	55.88	2.200
25	44.93 44.68	1.769 1.759	43.41 43.16	1.709 1.699	62.23	2.450

Note

An allowance must be made on the above recommended minimum spacings in the vertical plane when a combination of straight and angled outlets are used.

Customer Service

Plessey Connectors produce a range of service tools and test equipment for cable assembly. Ring Northampton Sales Office for details.

Mk 38

product safety information

**Products: Electrical Connectors and Accessories
Electromechanical Switches**

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

Rectangular Connectors and Electromechanical Switches. These connectors generally are made using plastic or glass filled plastic moulded insulators and contact materials of plated phosphor-bronze, brass or copper.

2. Electric Shock, Burns and Fire

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

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

Connector or Switch 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, are employed for crimping and that connectors and switches are assembled and wired by properly trained personnel.

3. Use Transport and Storage of Products

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

Improper storage (particularly of damaged products) can give rise to additional hazards particularly corrosion. Your attention is specifically drawn to the need for 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.

Disposal of Products. Products should not be burnt.

Fibre Optic Products. Fibre Optic products, when used in conjunction with lasers, can give rise to hazards. You are to see the requirements of British Standards 4803 : 1972 and Guide Note PM19 from the Health and Safety Executive on the use of lasers.

SAFETY RULES

1. FOLLOW THESE GUIDELINES.
2. ALWAYS PROTECT LIVE CIRCUITS AND NEVER DEMATE A LIVE CONNECTOR.
3. NEVER USE A DAMAGED CONNECTOR.
4. NEVER BURN DISCARDED CONNECTORS.

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



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.

Information on TT electronics companies can be found by contacting:-

Head Office:

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

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

Email: info@ttelectronics.com
Web: www.ttelectronics.com



AB Connectors Limited
Abercynon, Mountain Ash,
Rhondda Cynon Taff, CF45 4SF, UK.

Telephone: + 44(0) 1443 740331
Facsimile: + 44(0) 1443 741676
Email: sales@ttabconnectors.com
Website: www.ttabconnectors.com

AB Interconnect Inc.
PO Box 2240, 2500 Business Highway 70 East,
Smithfield, NC 27577, USA.

Telephone: + (1)919 934 5181
Facsimile: + (1)919 934 0652
Email: sales@abinterconnect.com
Website: www.abinterconnect.com

AB Connectors Limited
17 Rue de Kefir, Senia 418,
94567 ORLY Cedex, France

Telephone: + (33)1 46 87 38 89
Facsimile: + (33)1 46 87 40 38