

The Deutsch HPC

Composite Circular Connectors



DEUTSCH
ADVANCED INTERCONNECT

The HPC Composite Circular Connector

The HPC is a top-of-the-line composite connector with broad line availability that can meet the most rugged environment, high current and signal requirements.

- **Environmentally Sealed - Deutsch HPC Series** have triple redundant wire seals and interfacial cork-in-the-bottle seals.

- **High Corrosion Resistance - no degradation** when exposed to most medical, marine, and industrial fluids and chemicals.

- **High Reliability Contacts - crimp design,** with closed entry sockets.

- **Multiple Insert Arrangements - 12 insert arrangements** utilize 12, 16, 20, and 22 gauge contacts with up to 70 contacts per connector.

- **Reversible Inserts - plugs and receptacles** are available with either pin or socket inserts.

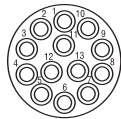
- **Safety - meets or exceeds flammability requirements of UL94 class V-O specifications - current and voltage ratings are in line with NEC standards.**

A Full Line of Inserts

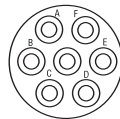
HPC Insert Arrangements



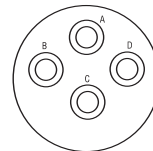
0007 ARRANGEMENT
3 SIZE 20 CAVITIES



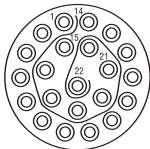
0009 ARRANGEMENT
13 SIZE 22 CAVITIES



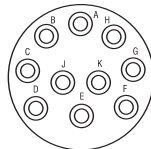
0006 ARRANGEMENT
7 SIZE 20 CAVITIES



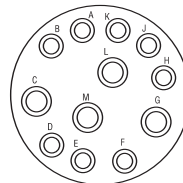
0003 ARRANGEMENT
4 SIZE 16 CAVITIES



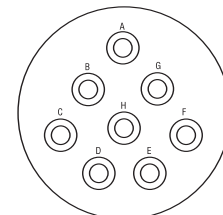
0008 ARRANGEMENT
22 SIZE 22 CAVITIES



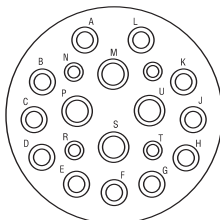
0005 ARRANGEMENT
10 SIZE 20 CAVITIES



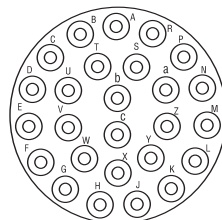
0002 ARRANGEMENT
4 SIZE 16 CAVITIES
8 SIZE 20 CAVITIES



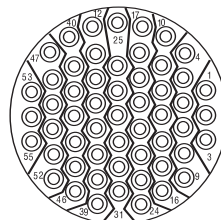
0011 ARRANGEMENT
8 SIZE 16 CAVITIES



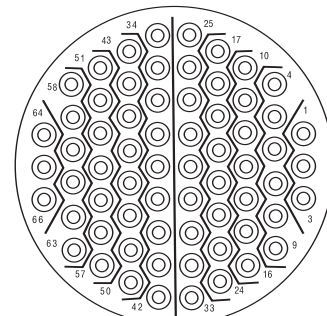
0010 ARRANGEMENT
4 SIZE 16 CAVITIES
11 SIZE 20 CAVITIES
4 SIZE 22 CAVITIES



0001 ARRANGEMENT
26 SIZE 20 CAVITIES



0012 ARRANGEMENT
55 SIZE 22 CAVITIES

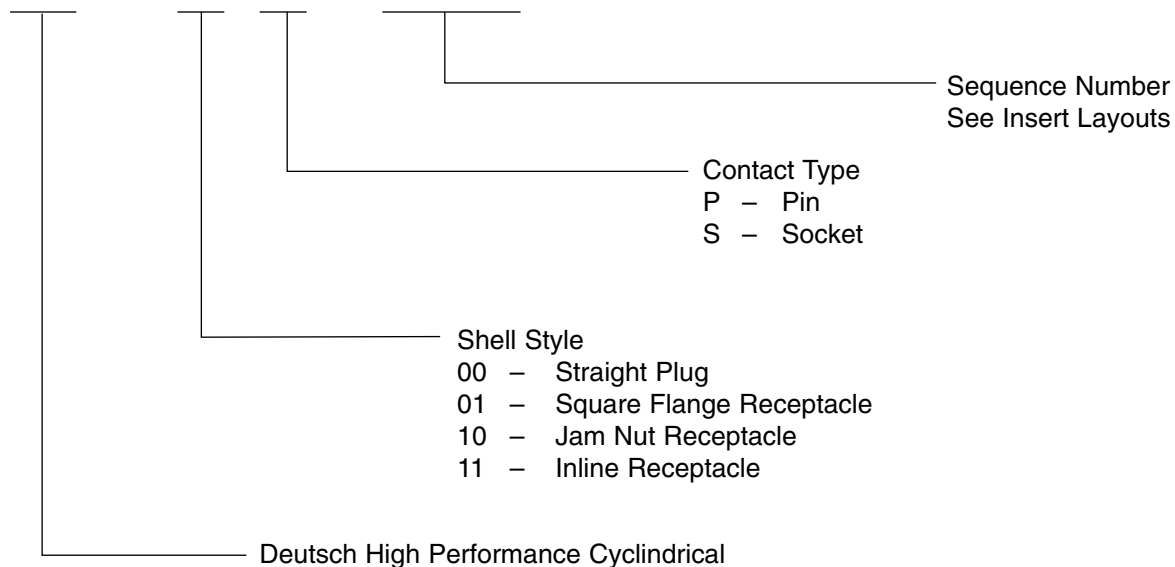


0004 ARRANGEMENT
66 SIZE 20 CAVITIES

(Consult factory for availability of alternate arrangements.)

Ordering Information: Deutsch HPC Connector Part Numbers

HPC – XX X - XXXX



Contact and Tooling Information - Deutsch HPC

(Consult factory for alternate plating availability.)

Size	Contact Deutsch Part No.	Style	Wire Gauge	Strip Length ±.003	Crimp Tool (Positioner)	Insertion Extraction Tool	Seating Plugs Deutsch Part Number
22	6760-201-2231	PIN	22 THRU 28	.160 - .190	1M22520/7-01 (M22520/7-07)	6757-201-2201	MS27488-22
22	6762-201-2231	SOCKET	22 THRU 28	.160 - .190	1M22520/7-01 (M22520/7-05)	6757-201-2201	MS27488-22
20	6760-201-2031	PIN	20 THRU 24	.230 - .260	2M22520/1-01 (M22520/1-04) RED	6757-201-2001	4113-4-2001
20	6762-201-2031	SOCKET	20 THRU 24	.230 - .260	2M22520/1-01 (M22520/1-04) RED	6757-201-2001	4113-4-2001
16	6760-201-1631	PIN	20 THRU 16	.230 - .260	2M22520/1-01 (M22520/1-04) BLUE	6757-201-1601	0613-1-1601
16	6762-201-1631	SOCKET	20 THRU 16	.230 - .260	2M22520/1-01 (M22520/1-04) BLUE	6757-201-1601	0613-1-1601
12	6760-201-1231	PIN	12 THRU 14	.230 - .260	2M22520/1-01 (M22520/1-04) YELLOW	6757-201-1201	0613-1-1201
12	6762-201-1231	SOCKET	12 THRU 14	.230 - .260	2M22520/1-01 (M22520/1-04) YELLOW	6757-201-1201	0613-1-1201

CONNECTOR SOLUTIONS

Figure 1 - Plug Connector

DEUTSCH PART NUMBER	SHELL SIZE	A THREAD	BØ MAX.
HPC-00xP/S-xxxx	02	M15X1.0-6g 0.100R	.984
HPC-00xP/S-xxxx	03	M18X1.0-6g 0.100R	1.157
HPC-00xP/S-xxxx	04	M22X1.0-6g 0.100R	1.279
HPC-00xP/S-xxxx	05	M25X1.0-6g 0.100R	1.405
HPC-00xP/S-xxxx	06	M28X1.0-6g 0.100R	1.515
HPC-00xP/S-xxxx	07	M31X1.0-6g 0.100R	1.641

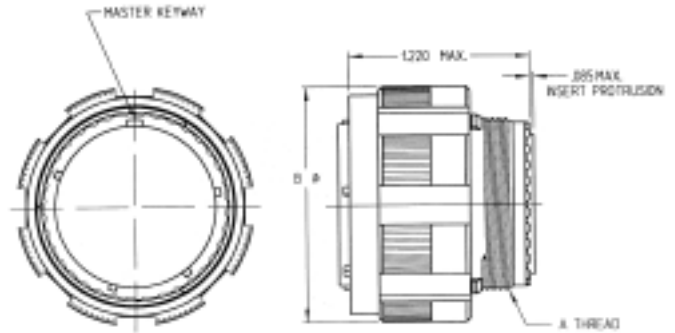
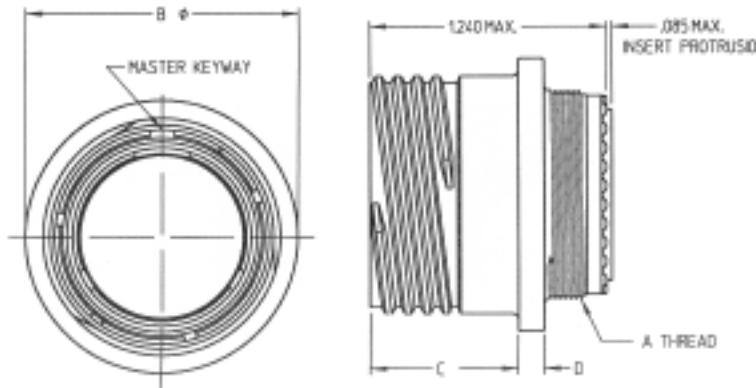


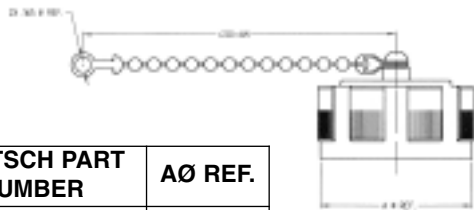
Figure 2 - Receptacle Connector



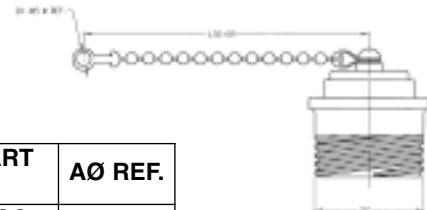
DEUTSCH PART NUMBER	SHELL SIZE	A THREAD	B ±.008	C ±.035	D
HPC-11xP/S-xxxx	02	M15X1.0-6g 0.100R	.877	.768	.144/.083
HPC-11xP/S-xxxx	03	M18X1.0-6g 0.100R	1.012	.768	.144/.083
HPC-11xP/S-xxxx	04	M22X1.0-6g 0.100R	1.145	.768	.144/.083
HPC-11xP/S-xxxx	05	M25X1.0-6g 0.100R	1.234	.768	.144/.083
HPC-11xP/S-xxxx	06	M28X1.0-6g 0.100R	1.364	.768	.144/.083
HPC-11xP/S-xxxx	07	M31X1.0-6g 0.100R	1.498	.736	.171/.083

Figure 3 - Protective Covers

(Plug, Sealing)

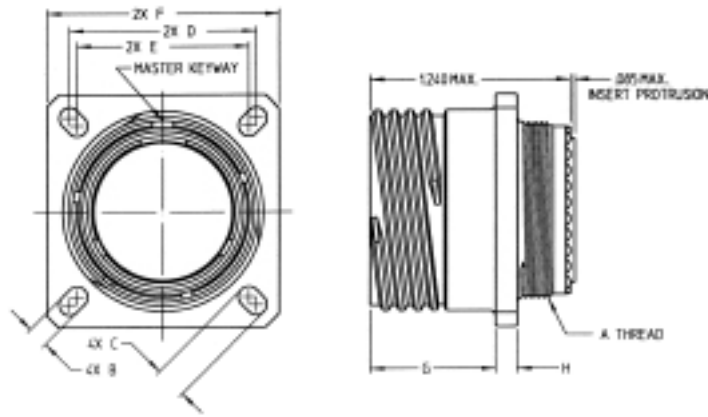


DEUTSCH PART NUMBER	AØ REF.
BVDSRED02DC	.920
BVDSRED03DC	1.094
BVDSRED04DC	1.216
BVDSRED05DC	1.342
BVDSRED06DC	1.452
BVDSRED07DC	1.577



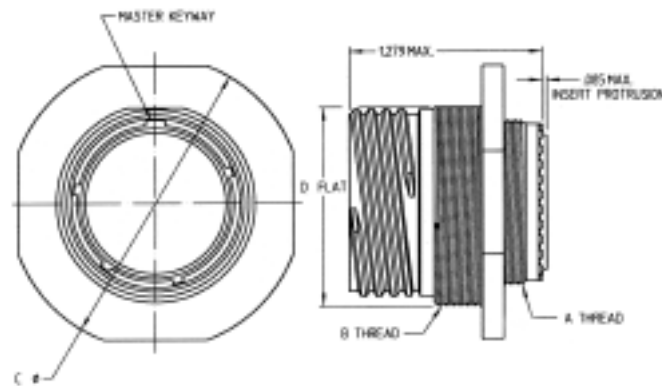
DEUTSCH PART NUMBER	AØ REF.
BVDSRED02SC	.743
BVDSRED03SC	.868
BVDSRED04SC	.993
BVDSRED05SC	1.180
BVDSRED06SC	1.242
BVDSRED07SC	1.361

Figure 4 - Receptacle Connector - Square Flange Mounting



DEUTSCH PART NUMBER	SHELL SIZE	A THREAD	B ±.005	C ±.010	D ±.010	E ±.010	F ±.025	G ±.035	H
HPC-01xP/S-xxxx	02	M15X1.0-6g 0.100R	.128	.195	.812	.719	1.030	.768	.144/.083
HPC-01xP/S-xxxx	03	M18X1.0-6g 0.100R	.128	.195	.905	.812	1.122	.768	.144/.083
HPC-01xP/S-xxxx	04	M22X1.0-6g 0.100R	.128	.175	.969	.906	1.215	.768	.144/.083
HPC-01xP/S-xxxx	05	M25X1.0-6g 0.100R	.128	.195	1.062	.969	1.305	.768	.144/.083
HPC-01xP/S-xxxx	06	M28X1.0-6g 0.100R	.128	.195	1.156	1.062	1.433	.768	.144/.083
HPC-01xP/S-xxxx	07	M31X1.0-6g 0.100R	.128	.195	1.250	1.156	1.560	.736	.171/.083

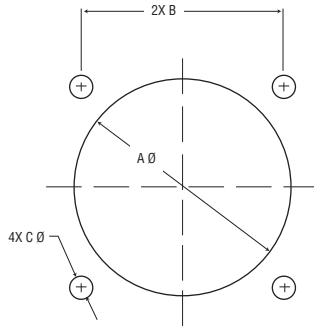
Figure 5 - Receptacle Connector - Jam Nut Mounting



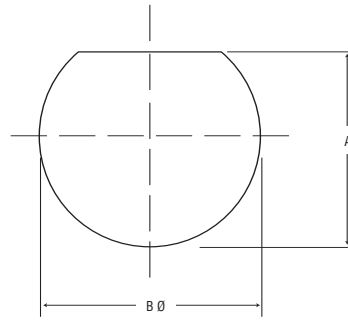
DEUTSCH PART NUMBER	SHELL SIZE	A THREAD	B THREAD	C ±.025	D ±.010
HPC-10xP/S-xxxx	02	M15X1.0-6g 0.100R	M20X1.0-6g 0.100R	1.370	.740
HPC-10xP/S-xxxx	03	M18X1.0-6g 0.100R	M25X1.0-6g 0.100R	1.490	.920
HPC-10xP/S-xxxx	04	M22X1.0-6g 0.100R	M28X1.0-6g 0.100R	1.615	1.055
HPC-10xP/S-xxxx	05	M25X1.0-6g 0.100R	M32X1.0-6g 0.100R	1.735	1.160
HPC-10xP/S-xxxx	06	M28X1.0-6g 0.100R	M35X1.0-6g 0.100R	1.920	1.285
HPC-10xP/S-xxxx	07	M31X1.0-6g 0.100R	M38X1.0-6g 0.100R	2.050	1.415

Figure 6 - Panel Mount Cutout

(Jam Nut Receptacle)

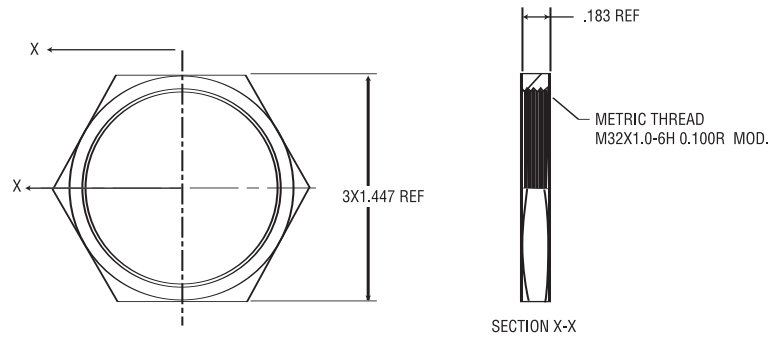


SHELL SIZE	A Ø ±.015	B ±.010	C Ø ±.005
02	.800	.812	.128
03	.925	.906	.128
04	1.050	.969	.128
05	1.220	1.062	.128
06	1.300	1.156	.128
07	1.400	1.250	.128



SHELL SIZE	A Ø + .000 - .010	B Ø + .010 - .000
02	.755	.800
03	.935	.980
04	1.070	.969
05	1.175	1.105
06	1.300	1.355
07	1.430	1.475

Figure 7 - Nut Panel

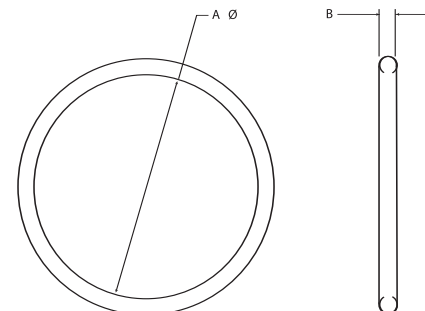


SECTION X-X

DEUTSCH PART NUMBER	SHELL SIZE	A Ø ±.015	C THREAD (REF.)
6726-201-0201	02	1.175	M20X1.0-6H 0.100R
6726-201-0301	03	1.291	M25X1.0-6H 0.100R
6726-201-0401	04	1.475	M28X1.0-6H 0.100R
6726-201-0501	05	1.660	M32X1.0-6H 0.100R
6726-201-0601	06	1.805	M35X1.0-6H 0.100R
6726-201-0701	07	1.956	M38X1.0-6H 0.100R

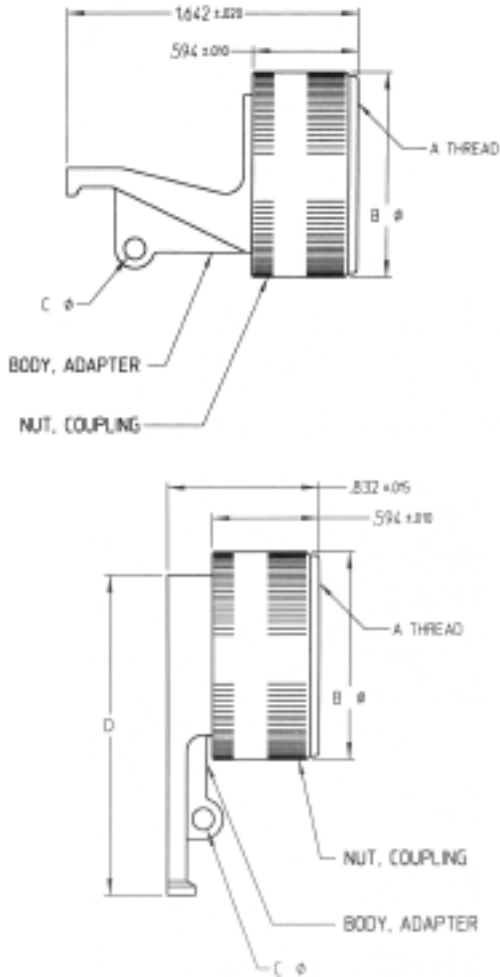
Figure 8 - O-Ring

DEUTSCH PART NUMBER	SHELL SIZE	A Ø ±.015	B Ø ±.008
6713-203-0206	02	.989	.070
6713-203-0306	03	1.114	.070
6713-20-0406	04	1.239	.070
6713-203-0506	05	1.364	.070
6713-203-0606	06	1.487	.103
6713-203-0706	07	1.612	.103



HPC REAR ACCESSORIES

Figure 9 - Strain Reliefs - Straight and 90°



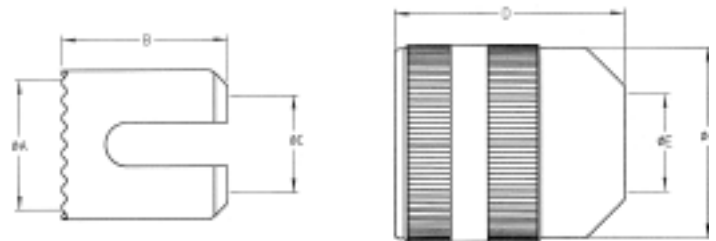
DEUTSCH PART NUMBER	SHELL SIZE	B Ø ±.015	C Ø ±.010
HPCSREA02LG	02	.775	.120
HPCSREA03LG	03	.905	.120
HPCSREA04LG	04	1.030	.120
HPCSREA05LG	05	1.160	.140
HPCSREA06LG	06	1.270	.140
HPCSREA07LG	07	1.400	.140

HPC E X XX LG
 BASIC IDENTIFIER
 E – ENVIRONMENTAL
 BODY TYPE
 A – STRAIGHT
 B – 90°
 SHELL SIZE
 PLACE HOLDER

DEUTSCH PART NUMBER	SHELL SIZE	B Ø ±.015	C Ø ±.010	D ±.020
HPCSREB02LG	02	.775	.120	2.010
HPCSREB03LG	03	.905	.120	2.075
HPCSREB04LG	04	1.030	.120	2.135
HPCSREB05LG	05	1.160	.140	2.198
HPCSREB06LG	06	1.270	.140	2.258
HPCSREB07LG	07	1.400	.140	2.320

Figure 10 - Strain Reliefs - Backshell

HPC EC XX SR
 BASIC IDENTIFIER
 HPC REAR ACCESSORIES
 STRAIN RELIEF
 ENCLOSED CABLE BACKSHELL
 SHELL STYLE
 SR – STRAIN RELIEF



DEUTSCH PART NUMBER	SHELL SIZE	ØA ±.025	B ±.025	ØC ±.025	D ±.025	ØE ±.020	ØF ±.025	CABLE DIAMETER MIN.	CABLE DIAMETER MAX.
HPCSREC02SR	02	.465	.857	.295	1.185	.295	.735	.180	.290
HPCSREC03SR	03	.579	.857	.445	1.185	.445	.860	.250	.380
HPCSREC04SR	04	.704	.857	.500	1.185	.500	.975	.325	.490
HPCSREC05SR	05	.829	.857	.555	1.185	.555	1.115	.350	.550
HPCSREC06SR	06	.935	.857	.665	1.185	.665	1.225	.450	.660
HPCSREC07SR	07	1.060	1.105	.690	1.513	.690	1.345	.550	.680

HPC SPECIFICATIONS

GENERAL SPECIFICATIONS

DURABILITY

No electrical or mechanical defects after 500 cycles of engagements and disengagements.

CURRENT RATING

22.....5.0 amps
20.....7.5 amps
16.....13 amps
12.....20 amps

SILICONE INSERT

Front and rear silicone inserts are devoid of all organic matter.

CORROSION

Composite connectors exceed 2000 hours salt spray.

VIBRATION

Properly wired and mated connectors assemblies will withstand 4 hours of 20g peak sinusoidal vibration in both radial and axial directions without loss of electrical continuity in excess of one microsecond.

TEMPERATURE

Operating temperatures -55°C to +125°C.

USABLE WIRE SIZE

Size 22 Contact .030" to .054" O.D.
Size 20 Contact .040" to .083" O.D.
Size 16 Contact .065" to .109" O.D.
Size 12 Contact .097" to .142" O.D.

DIELECTRIC WITHSTANDING VOLTAGE

(Test Voltage)
Sea Level 1500 VAC (rms)

WORKING VOLTAGE

750 Volts ac (rms).....22 size
1000 Volts ac (rms).....20 size
1000 Volts ac (rms).....16 size
1000 Volts ac (rms).....12 size

COUPLING TORQUE

Shell Size	Max./Min. (in. lb.)
02	12/1
03	16/2
04	20/3
05	24/3
06	28/3
07	32/4

HUMIDITY

Properly wired and mated connector assemblies will withstand 10 days of 98% relative humidity while undergoing temperature cycling of +25°C and +65°C without loss of electrical qualities or leakage.

CONTACT INSERTION / REMOVAL FORCE

(Maximum)
10 lbs.....Size 22
20 lbs.....Size 20
20 lbs.....Size 16
30 lbs.....Size 12

CONTACT RETENTION

Contacts withstand a minimum load of:
8 lbs. for size 22
10 lbs. for size 20
15 lbs. for size 16
20 lbs. for size 12
In either direction, contact displacement less than .012".

WATER IMMERSION

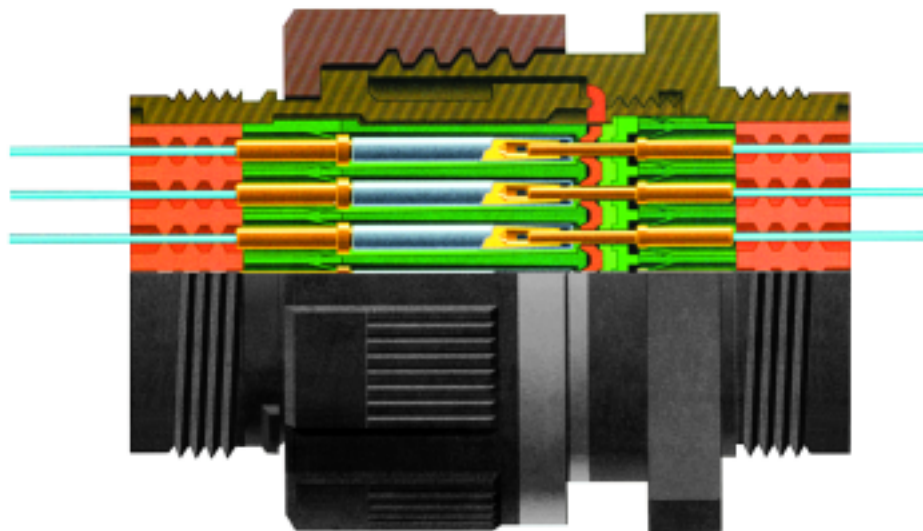
Properly wired and mated connector assemblies will withstand immersion under 4 feet of water for 24 hrs. without loss of electrical qualities or leakage.

FLUID IMMERSION

No mechanical or electrical effects will adversely affect the function of the parts after being subjected to the following fluids, solvents and chemicals:
SAE 30 Motor Oil
Trichloroethylene
Turpentine
Glass Cleaner
Kerosene
Power Steering Fluid
Speedball Power Cleaner
Vinegar
Ethylene Glycol
Isopropyl Alcohol
Treon TMC
Methanol
Diesel Fluid
Brake Fluid

ALTITUDE IMMERSION

Properly wired and mated connector assemblies, when cycled three times, from sea level to 50,000 feet, will exhibit no loss of electrical qualities or leakage.



DEUTSCH ADVANCED INTERCONNECT

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Information contained within is for reference only. Consult factory for current envelope drawings, updated specifications and additions of changes to the product lines.