

# **Mil-Spec Connectors & Accessories**



**DEUTSCH ECD**

## **Defense / Aerospace Operations . . .**

*is the world's premier manufacturer of electrical interconnection devices for use in defense, aerospace, and commercial applications. Whether you need an interconnection device for a commercial or military aircraft, missile, tank, truck transmission or a host of other applications, Deutsch has the solution you're looking for.*

**Deutsch ECD Defense Aerospace Operations**

5733 W. Whittier Ave., Hemet CA (USA) 92545  
Phone 909/765-2200 • FAX 909/922-1544

## ABC In-Line Connector Series

A simple, low-cost, environmentally sealed, in-line service break for open wire harnesses.

The ABC In-Line Connector Series has three simple elements: Lightweight, corrosion proof shells; versatile, composite modules; field proven, crimp-type contacts that offer exceptional durability.

The ABC In-Line Connector Series uses standard ABC one-half inch modules. These proven modules are designed to terminate standard wire sizes. Selecting from four different modules, designers can accommodate a variety of custom wiring needs.

The ABC In-Line Series can maximize density and save space, making it ideal for installation in tight locations.

The ABC In-Line Series can be mounted using an available mounting clip that attaches with a wire tie or other common hardware.

### SERVICEABILITY

Individual plug shells can be quickly mated or unmated from a stack. The contacts can be inserted and removed from the module using standard military tools.

### MODULE ARRANGEMENTS

ABC In-Line Connector Modules are available in a variety of arrangements, using sizes 22, 20, 16 and 12 crimp style contacts.

Each module holds the contacts into place with the proven Deutsch Dielectric Retention System. A silicone rear grommet, with a triad wire seal and a cork-in-the-bottle

interfacial seal, is featured for environmental protection.

### EXTENDED LIFE CONTACTS

The ABC In-Line Connector Series uses solderless, rear release, crimp-type, extended life, MIL-C-39029 contacts. Crimp-type contacts save time and reduce costs during assembly by eliminating the need for heat guns, wet processes and other special tools. They make field repair procedures quick and simple.

Extended life contacts have a durability rating three times greater than standard Mil-Spec contacts.

### SPECIFICATIONS

#### Corrosion

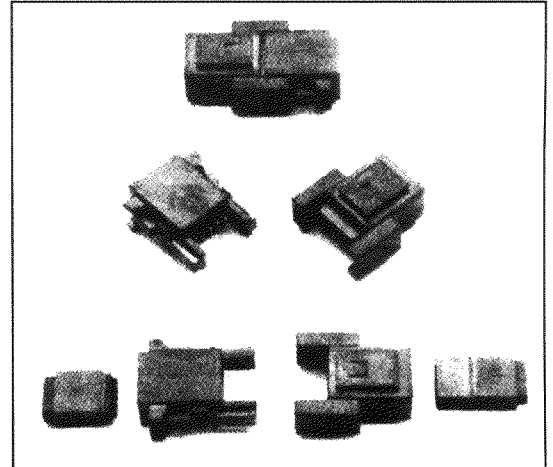
Withstands 1000 hours of salt-laden atmosphere. (Meets or exceeds AFLC 8810310, paragraph 1.2.1.6)

#### Fluid Compatibility

Fluid resistant in jet fuel, lubrication oil, liquid coolant, hydraulic fluid, gasoline, cleaning compound, defrosting fluid, and solvents. (Meets or exceeds AFLC 8810310, paragraph 1.2.1.8)

#### Altitude Immersion

Altitudes from sea level to 110,000 feet (5.36 TORR). Test voltage will vary with altitude. (Meets or exceeds AFLC 8810310, paragraph 1.2.1.3).



### Humidity

Humidity conditions up to 98% relative humidity including condensation. (Meets or exceeds AFLC 8810310, paragraph 1.2.1.5).

### Physical Shock

The ABC In-Line Connector Series is designed to survive in difficult environments. (Shock and vibration meets or exceeds AFLC 8810310, paragraph 3.16).

### Thermal Shock

65° C to +175° C (Meets or exceeds AFLC 8810310, paragraph 1.2.1.7).

### Vibration

Random: 44.1 G rms at ambient temperature. (Meets or exceeds AFLC 8810310, paragraph 1.2.1.2).

### Working Temperature Range

65° C to +175° C

### Shell Material

PEI Composite

### Keying

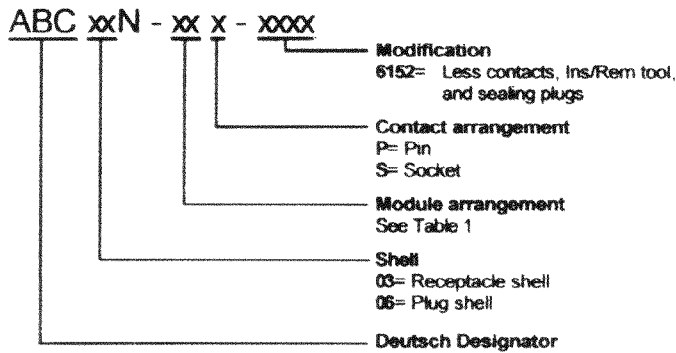
Modules and shells are polarized to prevent crossed circuits and mismatching.

### Connector Retention

Dual connector latches will withstand a minimum of 30 lbs. pull apart force.



## Ordering Information



**Example 1:**

- ABC03N-22P would contain:  
 1- Receptacle shell  
 1- 22 pin contact module  
 1- Size 22 pin contact kit  
 1- Insertion/ removal tool

**Example 2:**

- ABC03N-22P-6152 would contain:  
 1- Receptacle shell  
 1- 22 pin contact module

**Table 1 — Module Arrangements**

Description	Part Number	Insert Arrangement
Ten size 22 contacts	Pin 22P	
	Socket 22S	
Five size 20 contacts	Pin 20P	
	Socket 20S	
Two size 22 and two size 16 contacts	Pin 16P	
	Socket 16S	
Two size 12 contacts	Pin 12P	
	Socket 12S	

**Table 2 — Component Ordering**

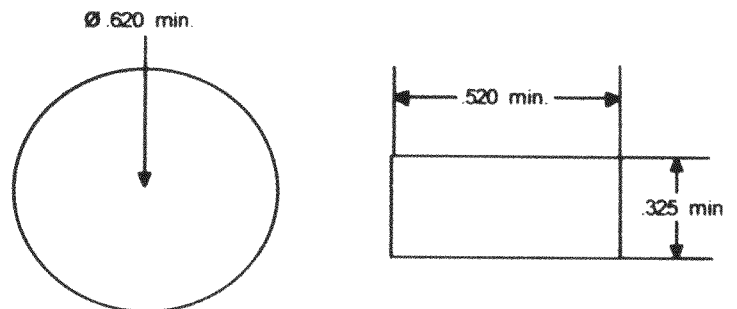
**Ordering Shells Separately**

Part Number	Description
ABC03N	Receptacle Shell
ABC06N	Plug Shell

**Ordering Modules Separately**

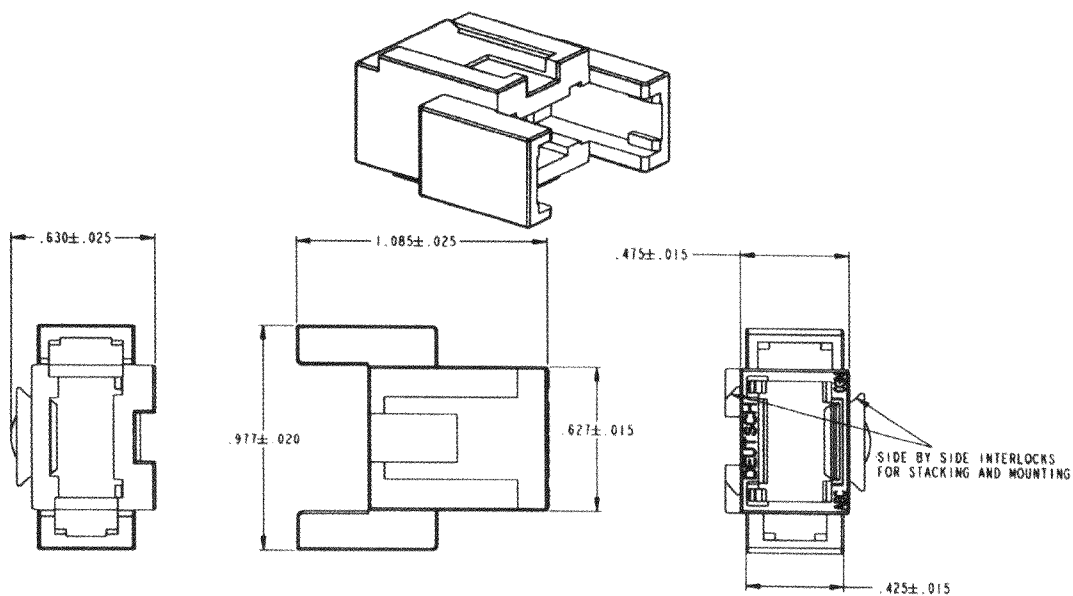
Part Number	Description
22P	Refer to Table- 1
22S	
20P	
20S	
16P	
16S	
12P	
12S	

**Figure 1 — Module Clearance Dimensions**



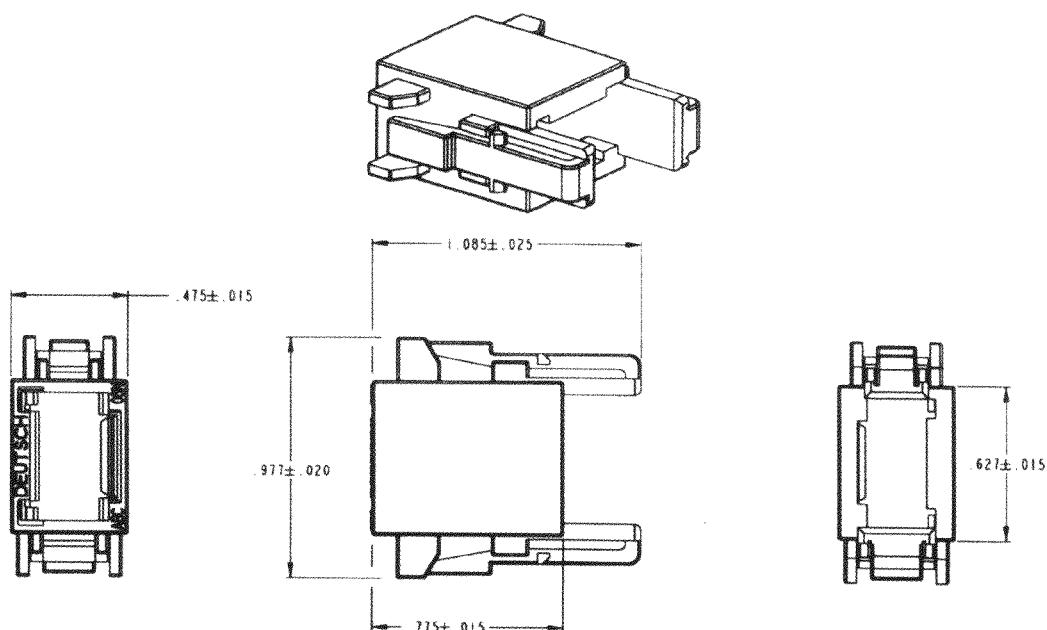
**Figure 2 — Receptacle Shell**

Part #: ABC03N

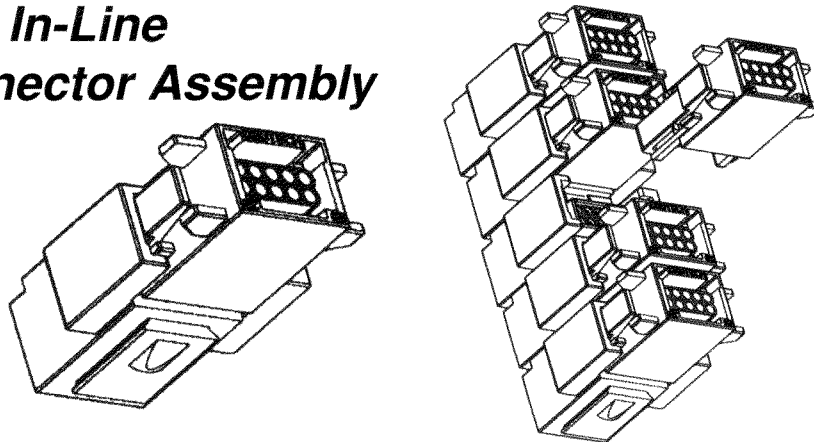


**Figure 3 — Plug Shell**

Part #: ABC06N

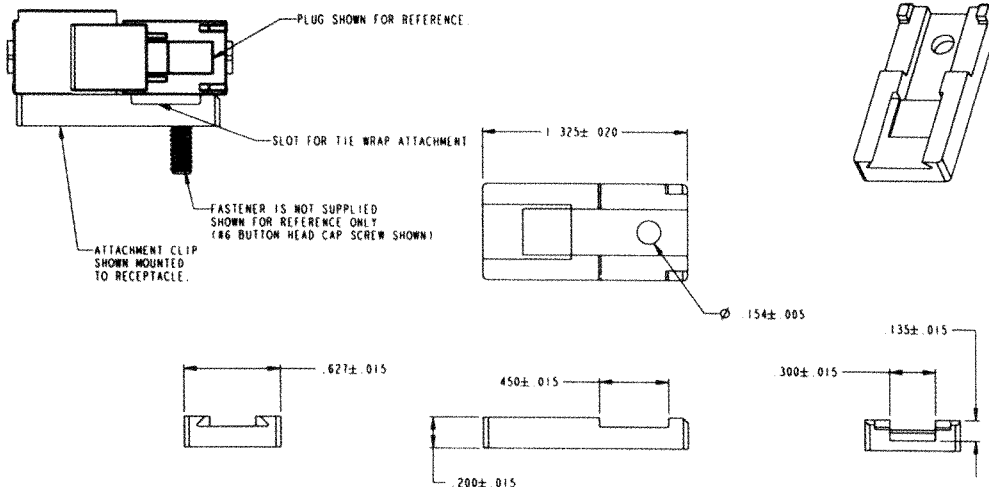


**Figure 4 — ABC In-Line Connector Assembly**



**Figure 5 — Mounting Bracket**

**Part #: 3111-260-0000**



**Figure 6 — Standard Contacts and Tooling Ordering Information**

Size	Deutsch Contact Part Number	Style	Wire Gauge	Strip Length	Crimp Tool (positioner)	Military Insertion/ Extraction Tools	Deutsch Sealing Plugs Part #	Color
22D	12331-22	Pin	22 thru 28	.160-.190	M22520/2-01	M81969/14-01	81539-23	Green
22D	12336-22	Socket	22 thru 28	.160-.190	Pin(M22520/2-06) Skt(M22520/2-09)			
20	12331-20	Pin	20 thru 24	.230-.260	M22520/1-01	M81969/14-10	4113-4-2001	Red
20	12336-20	Socket	20 thru 24	.230-.260	(M22520/1-04)			
16	12331-16	Pin	16 thru 20	.230-.260	M22520/1-01	M81969/14-03	0613-1-1601	Blue
16	12336-16	Socket	16 thru 20	.230-.260	(M22520/1-04)			
12	12331-12	Pin	12 thru 14	.230-.260	M22520/1-01	M81969/14-04	0613-1-1201	Yellow
12	12336-12	Socket	12 thru 14	.230-.260	(M22520/1-04)			

