



# DEUTSCH ABC SERIES MODULAR AND IN-LINE COMPOSITE CONNECTORS

FLEXIBLE CONFIGURATIONS IN A COMPOSITE CONNECTOR  
OFFERING WEIGHT SAVINGS AND ENVIRONMENTAL SEALING

# ABC MODULAR AND IN-LINE COMPOSITE CONNECTORS

## WEIGHT AND SPACE SAVING

- Lightweight composite shell
- Stackable
- Integrated backshell

## MODULAR

- 2 shell sizes
- 3 module sizes
- 4 contact sizes
- Over 4000 possible combinations

## CONVENIENT

- 28 to 12 AWG wire range
- Rear-release AS29029 contacts
- Field serviceable

## RUGGED

- Environmentally sealed
- Corrosion resistant
- Fluid resistant
- EMI shielded
- Secure quarter-turn locking system

## APPLICATIONS

- Airframe
- Navigation
- Rack and Panel
- Missile Defense
- Commercial Aerospace

## The Flexible Solution That Saves Weight

ABC modular composite connectors combine a weight-saving composite shell with mix-and-match modularity to create an interconnection system with unmatched configuration flexibility.

ABC modular connectors offer two shell sizes, three insert module sizes, four contact sizes, and twenty six keying options—yielding you over 4000 possible configurations.

ABC in-line connectors are compact, single-module shells that accept any of six half-inch modules. Receptacle shells are a nonreversible stacking design and are panel mountable to a clip.



### ABC In-Line Connectors

One shell size  
Accepts 0.5" modules  
Unplated composite shell



### ABC Modular Connectors

Two shell sizes: 1" and 2"  
Three module sizes: 0.5", 1", 2"  
Nickel-plated composite shell

## Space-Saving Stackability

Not only does the composite shell save weight over metal alternatives, the connectors conveniently stack to provide maximum space efficiency.

## Rugged

The connectors are environmentally sealed and withstand exposure to most fluids found in aerospace applications. Versions with resistance to hydraulic oil or jet fuel are optionally available. Shells are nickel plated to provide excellent corrosion resistance.

## MATERIALS

- **Shell:**
  - Modular Connectors:** Nickel-plated composite
  - In-Line Connectors:** Chemical-resistant PEI composite
- **Seals:** Fluorosilicone blend
- **Inserts:** Glass-filled thermoplastic
- **Mounting Hardware:** Stainless steel
- **Braid Support:** Passivated stainless steel

## ENVIRONMENTAL/MECHANICAL

- **Fluid Resistance:** Suited to most aerospace application  
Optional hydraulic oil and jet fuel resistance available
- **Altitude Immersion:** 1500 V DWV @ 75,000 ft. (except size 80 modules)
- **Temperature Range:** -65°C to +175°C
- **Humidity:** up to 98%, condensing
- **Durability:** 1500 mating cycles
- **Shock:** 100 g (half-sine @ 3 ms)
- **Vibration:** 4 g<sub>rms</sub>
- **Corrosion Resistance:** >1000 hours (salt spray)
- **Shielding:** >40 dB from 100 to 1000 MHz
- **Flammability and Toxicity:** Meets aerospace requirements

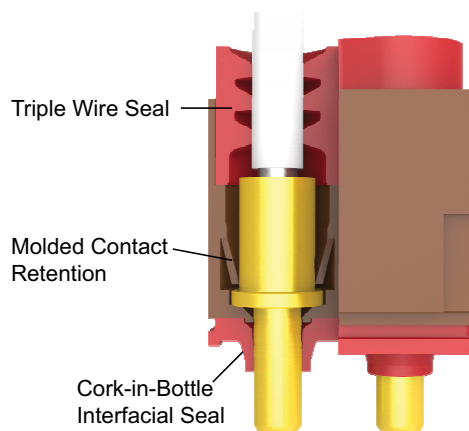
## SPECIFICATIONS

- **Product Specification:** 108-32084

### ABC Modular Connectors



Connectors can be conveniently stacked to save space

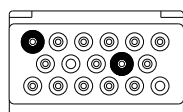


Contact retention and sealing

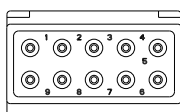
### Insert Modules

Front face of pin insert shown

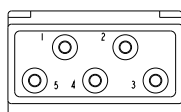
#### 1/2" Modules



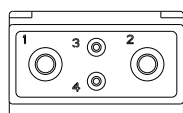
**-17**  
17 Size 22 Contacts



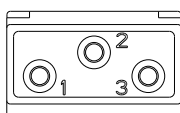
**-22**  
10 Size 22D Contacts



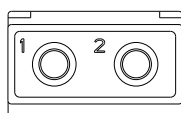
**-20**  
Five Size 20 Contacts



**-16**  
2 Size 22D Contacts  
2 Size 16 Contacts

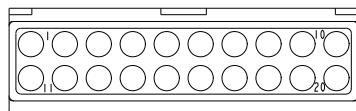


**-163**  
3 Size 16 Contacts

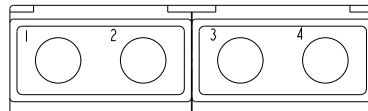


**-12**  
2 Size 12 Contacts

#### 1" Modules

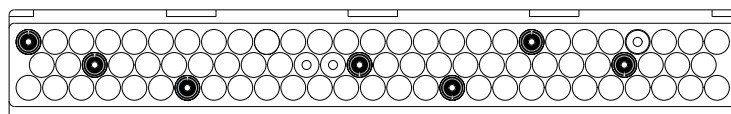


**-22\*P**  
20 Size 22D Contacts



**-124**  
4 Size 12 Contacts

#### 2" Modules



**-80**  
80 Size 22 Contacts

### TE Components . . . TE Technology . . . TE Know-how . . .

AMP | Agastat | CII | Hartman | Kilovac | Microdot | Nanonics | Polamco | Raychem | Rochester | DEUTSCH  
SEACON Phoenix | L.L. Rowe | Phoenix Optix | SEACON

Get your product to market faster with a smarter, better solution.

## ABC Modular Connectors

### Ordering Information

**ABC 2 3 H - 7000 A -090**

#### Series

#### Shell Size

- 0** 1/2 Inch
- 1** 1 Inch
- 2** 2 Inch

#### Types

- 0** Receptacle, Flange Mount
- 3** Receptacle, Stack Mount
- 6** Plug

#### Style

- A** Push-Pull (Receptacle)
- B** Lanyard Release (Plug)
- C** Dynamic Quarter Lock
- D** Rack and Panel
- G** Dynamic Quarter Lock, Straight Grounding Backshell
- H** Dynamic Quarter Lock, Dovetail Grounding Backshell

#### Module Arrangement (See Drawing 3125-214-000)

- 7000** 1-Inch Shell, No Modules
- 0000** 2-Inch Shell, No Modules

#### Keying Positions

- (None)** Keys Supplied Loose
- A-Y** Preloaded Keying (See Drawing 55500 for Configurations)

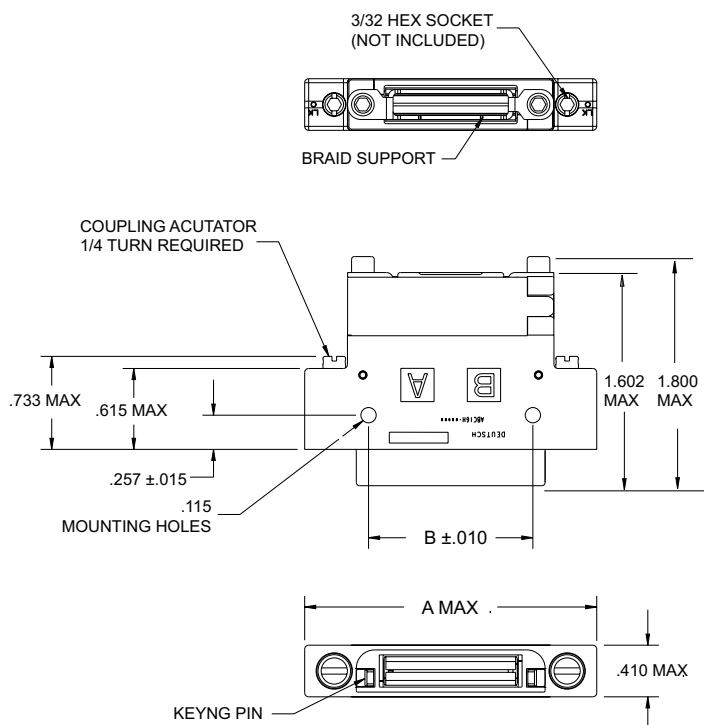
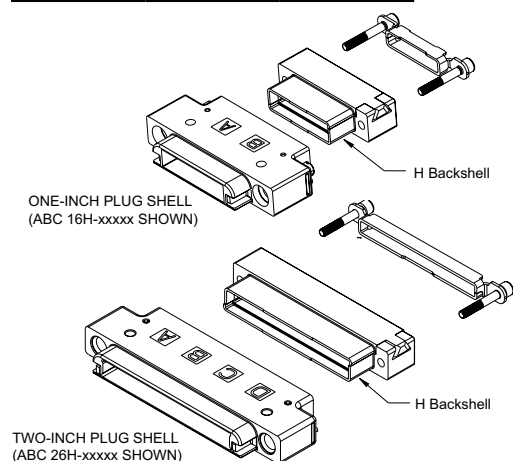
#### Modification Code

- (None)** Standard
- 090** Supplied Without Contacts
- 4010** Vacuum Baked
- 4048** Hydraulic Oil Resistant
- 4049** Jet Fuel Resistant

### Outline Dimensions

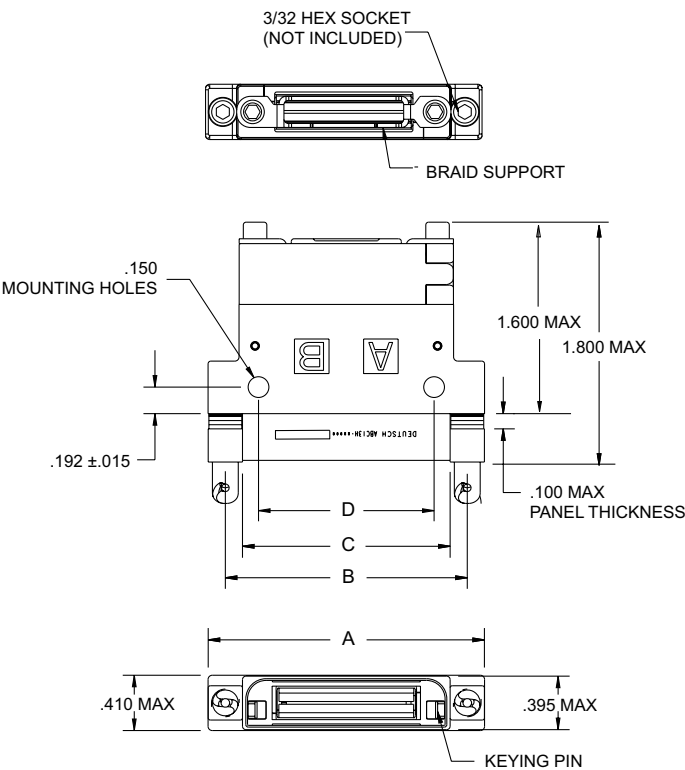
#### Plug Shell

Shell Size	A	B
1"	2.220	1.235
2"	3.210	2.235



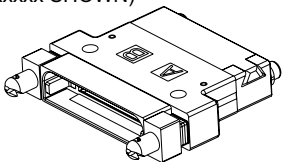
Outline Dimensions

Receptacle Shell

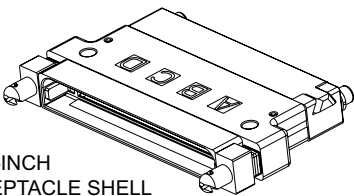


Shell Size	A	B	C	D
1"	2.020	1.750	1.510	1.270
2"	3.020	2.750	2.510	2.270

ONE-INCH RECEPTACLE SHELL (ABC 13H-xxxxx SHOWN)

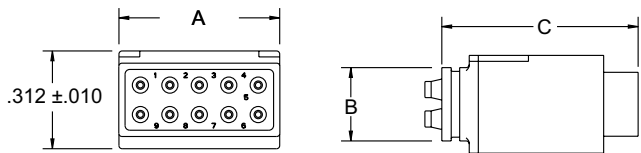


TWO-INCH RECEPTACLE SHELL (ABC 23H-xxxxx SHOWN)



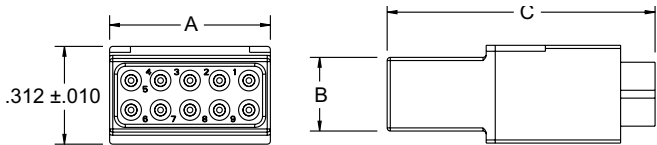
Module Outline Dimensions

Pin Module



Module Size	A	B	C
1/2"	.514 ±.003	.234 ±.003	.627 ±.020
1"	1.028 ±.010	.234 ±.005	.627 ±.020
2"	2.056 ±.010	.236 ±.005	.573 ±.020

Socket Module



Module Size	A	B	C
1/2"	.514	.234 ±.003	.865 ±.020
1"	1.028 ±.010	.234 ±.005	.865 ±.020
2"	2.056 ±.010	.236 ±.005	.780 ±.020

## ABC In-Line Connectors

### Ordering Information

Family Designator

Type

- 03** Receptacle Shell
- 06** Plug Shell

Keying Position

- N** None
- P** Purple
- R** Red
- O** Orange
- Y** Yellow
- B** Blue
- G** Green

Module Arrangement

- 22** Ten Size 22D Contacts
- 20** Five Size 20 Contacts
- 17** Seventeen Size 22 Contacts
- 16** Two Size 22D, Two Size 16 Contacts
- 12** Two Size 12 Contacts
- 163** Three Size 16 Contacts

Contact Style

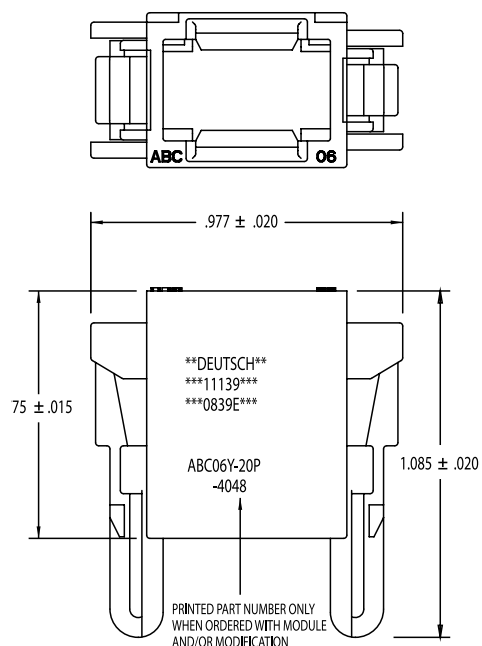
- P** Pin
- S** Socket

Modification

- 6152** Less Contacts and Tools
- 4048** Skydrol Hydraulic Fluid Resistant
- 4049** Jet Fluid Resistant

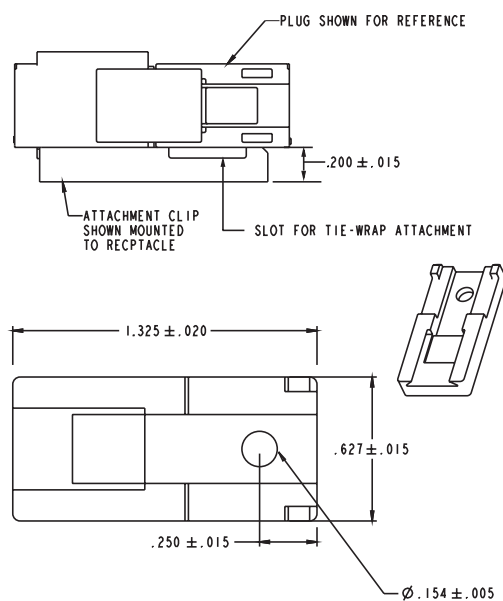
ABC xx x - xx x - xxxx

### Plug Shell



### Attachment Clip for Receptacle

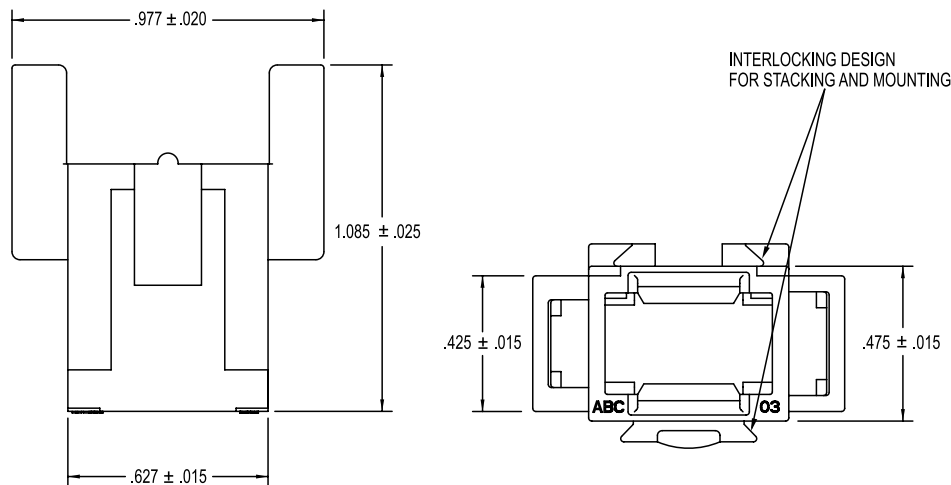
Part No. 3111-260-000



## ABC In-Line Connectors

### Shell Dimensions

#### Receptacle Shell



## Contacts and Sealing Plugs for ABC Connectors

### Contacts and Tooling Part Numbers



Contact Size	Contact Part No.			Tooling (M22520)		Ins/Ext Tool (M81969)
	Pin		Socket	Crimp Tool	Positioner	
	M39029	DEUTSCH Coat*	DEUTSCH Coat*			
22D	/107-620	12331-22	12336-22	/2-01	/2-07	/14-01
20	/107-621	12331-20	12336-20	/2-01	/2-10	/14-10
16	/107-622	12331-16	12336-16	/1-01	/1-04 Blue	/14-03
12	/107-623	12331-12	12336-12	/1-01	/1-04 Yellow	/14-04

\*High-performance, 1500-mating-cycle contacts with no military cross reference for socket contacts

### Sealing Plugs

Contact Size	Part No.	Color
22D	81539-23	Green
20	MS27488-20-2	Red
16	MS27488-16-2	Blue
12	MS27488-12-2	Yellow

### Contact Wire Sizes and Strip Lengths

Contact Size	Wire Range (AWG)	Strip Length
22D	28 - 22	.160 - .190
20	24 - 20	.230 - .260
16	20 - 16	.230 - .260
12	14 - 12	.230 - .260

## For More Information

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