



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
- Military 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_{rms}
- **Corrosion Resistance:** >1000 hours (salt spray)
- **Shielding:** >40 dB from 100 to 1000 MHz
- **Flammability and Toxicity:** Meets aerospace requirements

SPECIFICATIONS

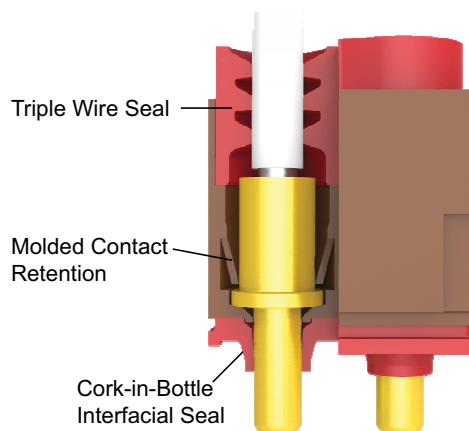
- **Product Specification:** 108-32084



ABC Modular Connectors



Connectors can be conveniently stacked to save space

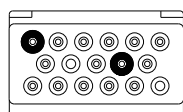


Contact retention and sealing

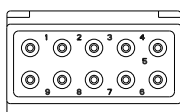
Insert Modules

Front face of pin insert shown

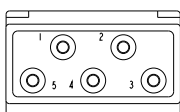
1/2" Modules



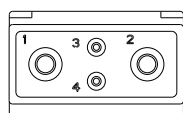
-17
17 Size 22 Contacts



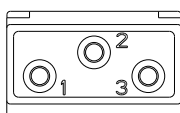
-22
10 Size 22D Contacts



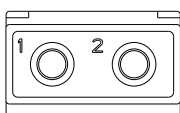
-20
Five Size 20 Contacts



-16
2 Size 22D Contacts
2 Size 16 Contacts



-163
3 Size 16 Contacts



-12
2 Size 12 Contacts

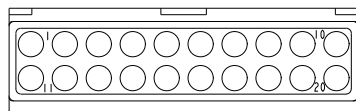
In part number specification, S indicates socket and P indicates pin.

Modules are fully interchangeable in each receptacle or plug.

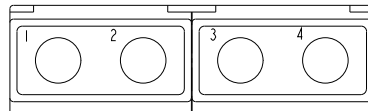
Pin and socket mating does not require a specified location.

Modules can be removed and replaced for power applications easily.

1" Modules

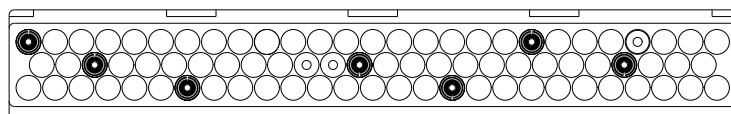


-22*P
20 Size 22D Contacts



-124
4 Size 12 Contacts

2" Modules



-80
80 Size 22 Contacts

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SEACON Phoenix | LL ROWE | Phoenix Optix | AFP | SEACON

Empower Engineers to Solve Problems, Moving the World Forward.



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)

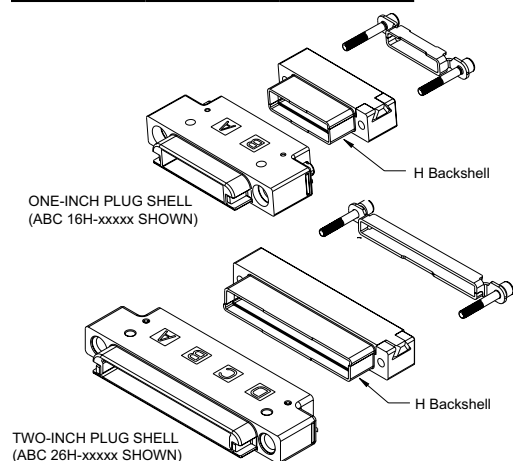
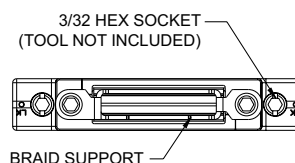
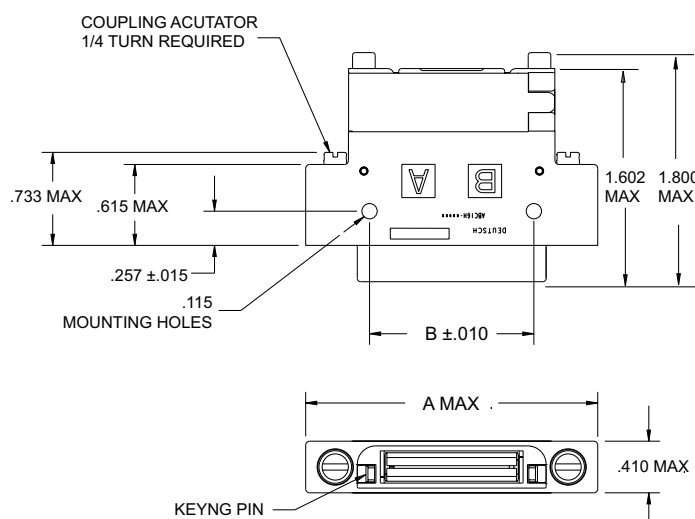
Modification Code

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

Outline Dimensions

Plug Shell

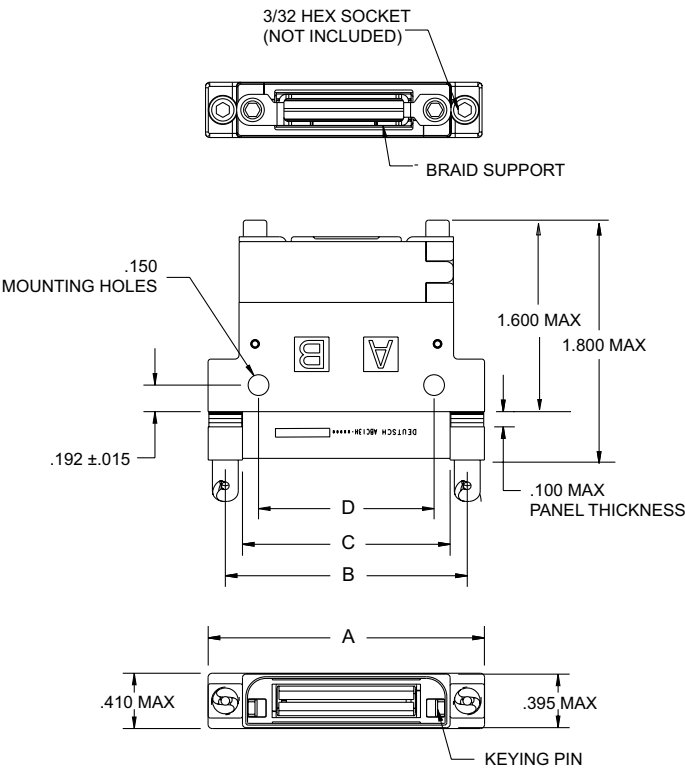
Shell Size	A	B
1"	2.220	1.235
2"	3.210	2.235





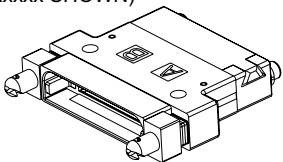
Outline Dimensions

Receptacle Shell

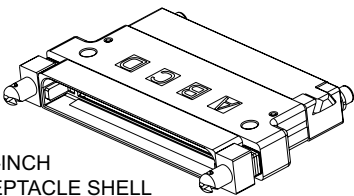


Shell Size	A	B	C	D
1"	2.020	1.750	1.510	1.270
2"	3.020	2.750	2.510	2.270

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

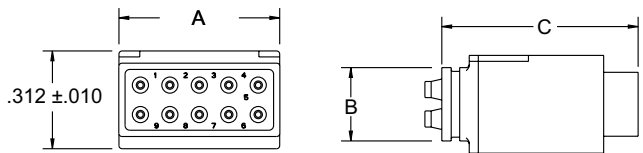


TWO-INCH
RECEPTACLE SHELL
(ABC 23H-xxxxx SHOWN)



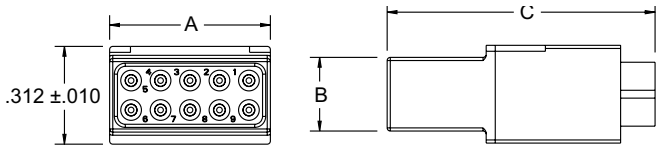
Module Outline Dimensions

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 _____

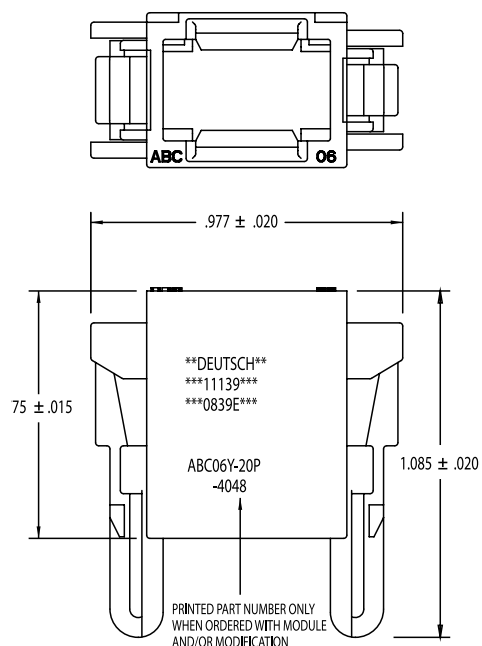
- P** Pin
- S** Socket

Modification _____

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

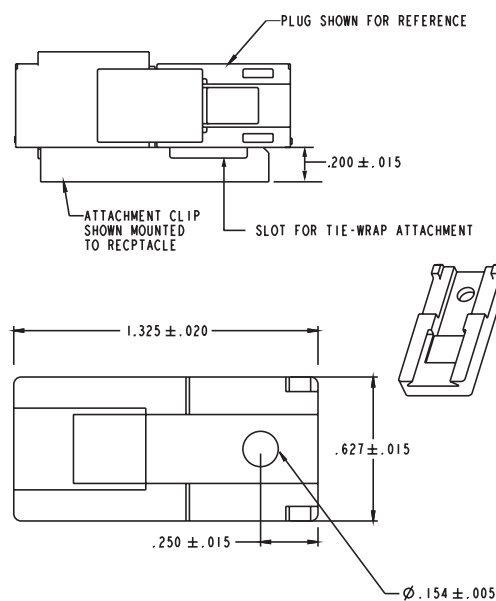
ABC xx x - xx x - xxxx

Plug Shell



Attachment Clip for Receptacle

Part No. 3111-260-000

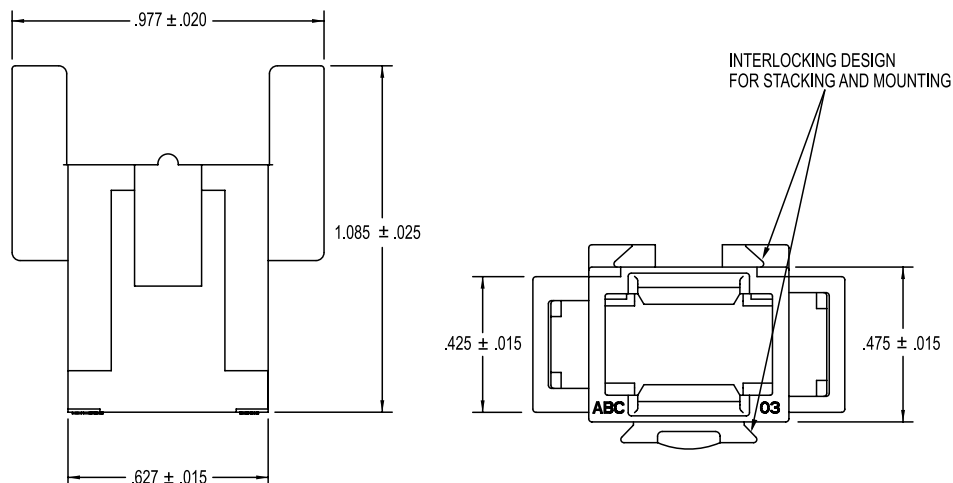




ABC In-Line Connectors

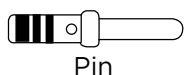
Shell Dimensions

Receptacle Shell



Contacts and Sealing Plugs for ABC Connectors

Contacts and Tooling Part Numbers



Pin



Socket

Contact Size	Contact Part No.							
	Pin				Socket			
	Gold		DEUTSCH Coat*		Gold		DEUTSCH Coat*	
	M39029	DEUTSCH	M39029	DEUTSCH	M39029	DEUTSCH	DEUTSCH	DEUTSCH
22	—	2841-5-14300	—	2841-5-9000	—	2803-4-22143	—	2803-4-0000
22D	/58-360	38941-22	/107-620	12331-22	/57-354	38946-22	—	12336-22
20	/58-363	38941-20	/107-621	12331-20	/57-357	38946-20	—	12336-20
16	/58-364	38941-16	/107-622	12331-16	/57-358	38946-16	—	12336-16
12	/58-365	38941-12	/107-623	12331-12	/57-359	38946-12	—	12336-12

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

Contact Size	Tooling (M22520)		Ins/Ext Tool (M81969)
	Crimp Tool	Positioner	
22	Daniels MH800	K127	M15570-22-1
22D	/2-01	/2-09 (Pin) /2-06 (Socket)	/14-01
20	/2-01	/2-10	/14-10
16	/1-01	/1-04	/14-03
12	/1-01	/1-04	/14-04

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

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