



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

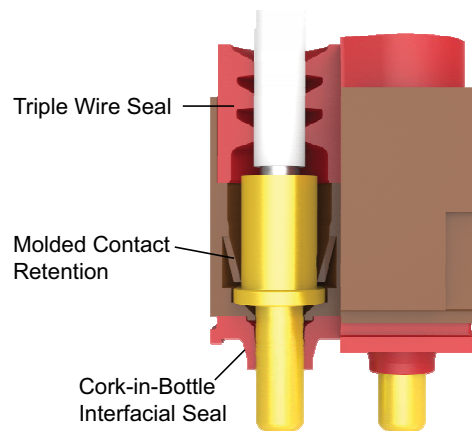
SPECIFICATIONS

- **Product Specification:** 108-32084

ABC Modular Connectors



Connectors can be conveniently stacked to save space

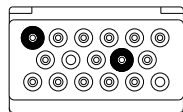


Contact retention and sealing

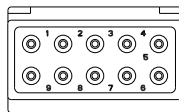
Insert Modules

Front face of pin insert shown

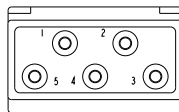
1/2" Modules



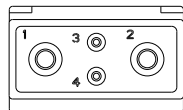
-17
17 Size 22 Contacts



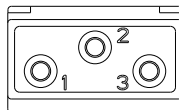
-22
10 Size 22D Contacts



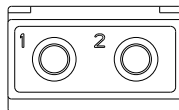
-20
Five Size 20 Contacts



-16
2 Size 22D Contacts
2 Size 16 Contacts

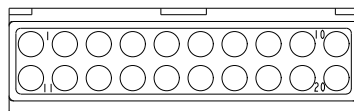


-163
3 Size 16 Contacts

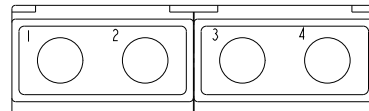


-12
2 Size 12 Contacts

1" Modules

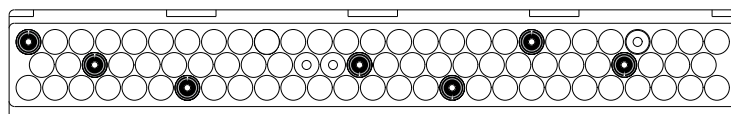


-22*P
20 Size 22D Contacts



-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)

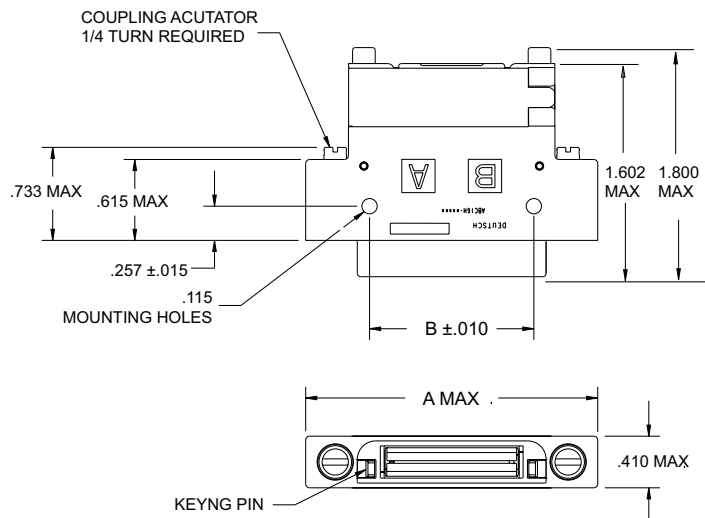
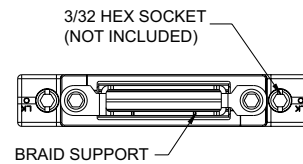
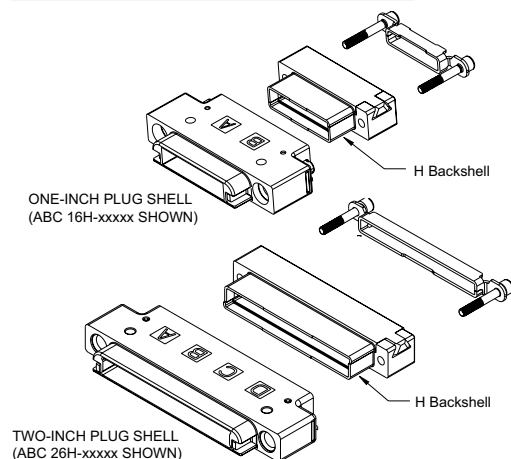
Modification Code

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

Outline Dimensions

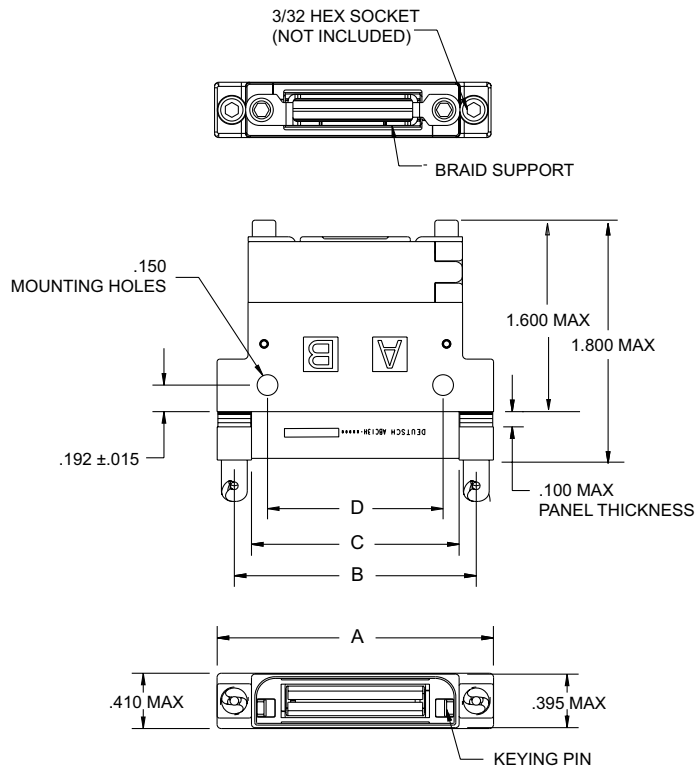
Plug Shell

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



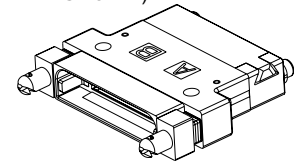
Outline Dimensions

Receptacle Shell

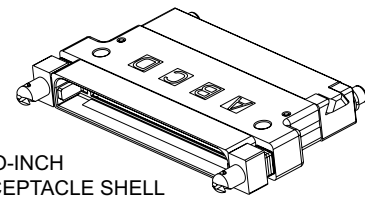


| Shell Size | A | B | C | D |
|------------|-------|-------|-------|-------|
| 1" | 2.020 | 1.750 | 1.510 | 1.270 |
| 2" | 3.020 | 2.750 | 2.510 | 2.270 |

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

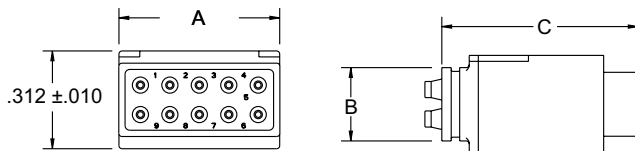


TWO-INCH RECEPTACLE SHELL (ABC 23H-xxxxx SHOWN)



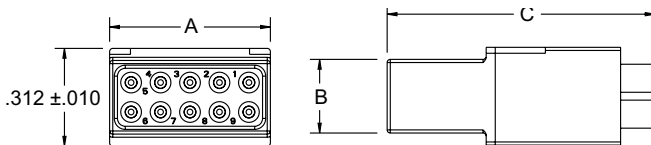
Module Outline Dimensions

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

ABC xx x - xx x - xxxx

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

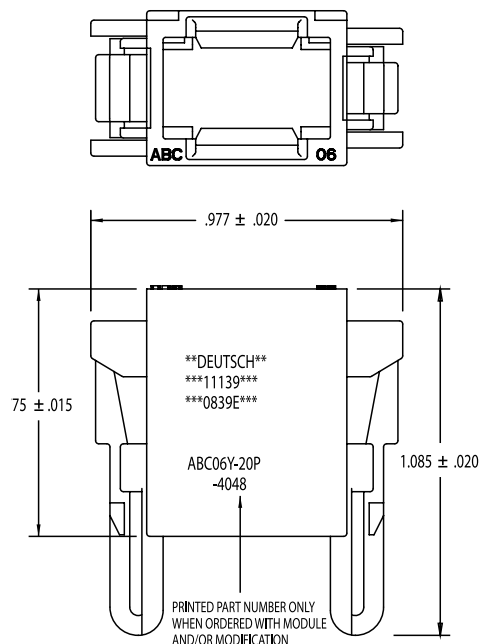
Contact Style

- P Pin
- S Socket

Modification

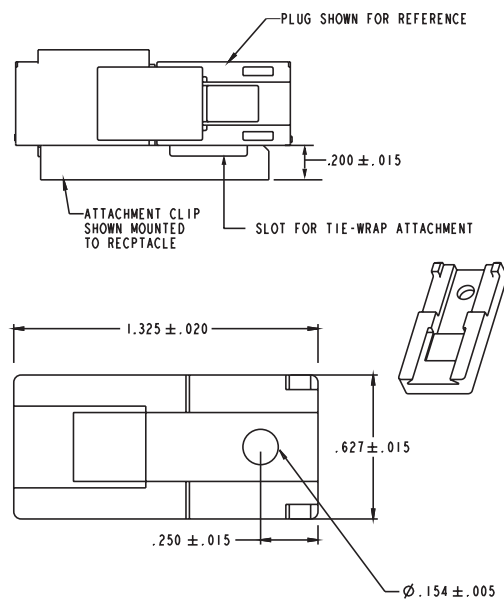
- 6152 Less Contacts and Tools
- 4048 Skydrol Hydraulic Fluid Resistant
- 4049 Jet Fluid Resistant

Plug Shell



Attachment Clip for Receptacle

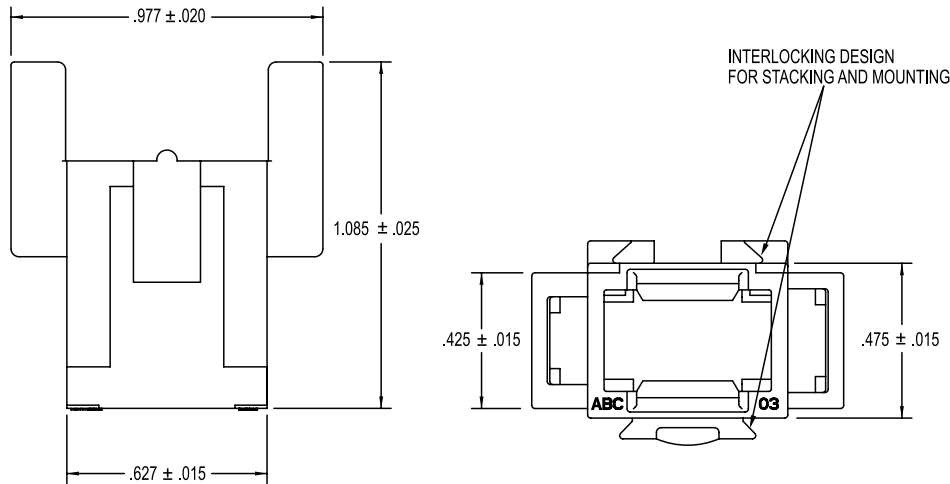
Part No. 3111-260-000



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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Consult TE for the latest dimensions and design specifications.

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