



M55116 AUDIO & M55116 TYPE AUDIO CONNECTORS

TECHNICAL SPECIFICATIONS

| | |
|---|---|
| Shell: | Stainless Steel, 303, Passivated |
| Mating: | Bayonet Coupling |
| Mating Cycles: | 3,000 |
| Temperature: | -55°C to +85°C |
| Insert Material: | Thermoset Plastic |
| Contacts: | Gold-plated Brass / Silver-plated BeCu (Springs) |
| Current Rating: | 0.5 amperes |
| Voltage Rating: | 60V max |
| Contact Depression: | 1.25-1.75 lbs per contact |
| Contact Resistance: | .050 Ω max |
| Insulation Resistance: | 1000 megaohms min, except for connectors unmated after immersion test shall not be less than 100 megaohms |
| Dielectric Withstanding Voltage; Sea Level: | 500V RMS |
| Water Immersion: | 6 feet of water up to 48 hours (mated & unmated) |

Amphenol NEXUS Technologies manufactures the complete line of qualified MIL-DTL-55116 audio connectors which are used throughout military and commercial radio systems and intercom systems for ground, vehicle, airborne, and naval communications.

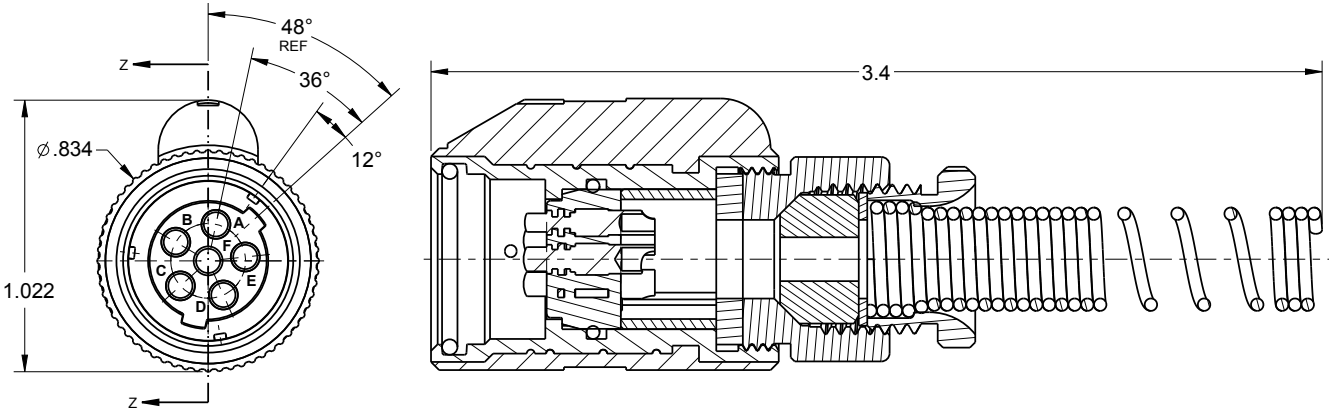
This connector series encompasses waterproof, polarized plugs and receptacles for use in audio frequency circuits at 60 volts maximum potential and 0.5 amperes maximum current. Connectors utilize either crimp sleeve or solder cup contacts. The rigid contacts in the plug connector mate with the pogo-pin, or spring loaded, contacts in the receptacle. In-line plugs and receptacles come with a wire strain relief. Receptacles are also available in panel-mount.

In addition to the standard versions, Amphenol NEXUS Technologies also designs and builds a wide variety of custom M55116-type connectors with options such as: PCB contacts, unique shell geometries, grounded and shielded connectors, and right-angle plug connectors. We also designed a complete miniaturized line of M55116 style connectors, the TAC Series, that meets the same performance requirements as the standard connectors in less than half the size and weight.

M55116 MILITARY & COMMERCIAL CONNECTORS:

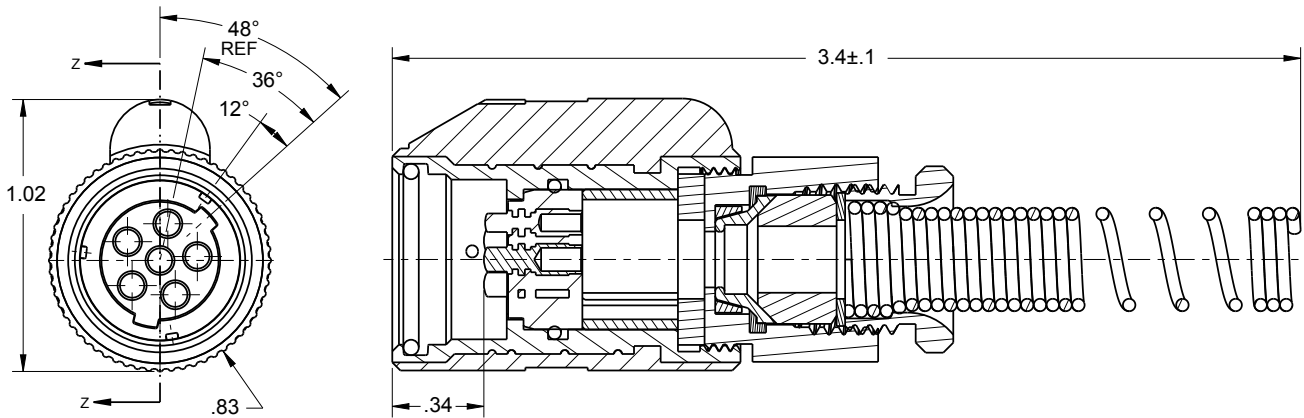
Standard Plug Drawing :

AP-146 shown below, dimensions refer to all standard plugs in chart on page HOW TO ORDER



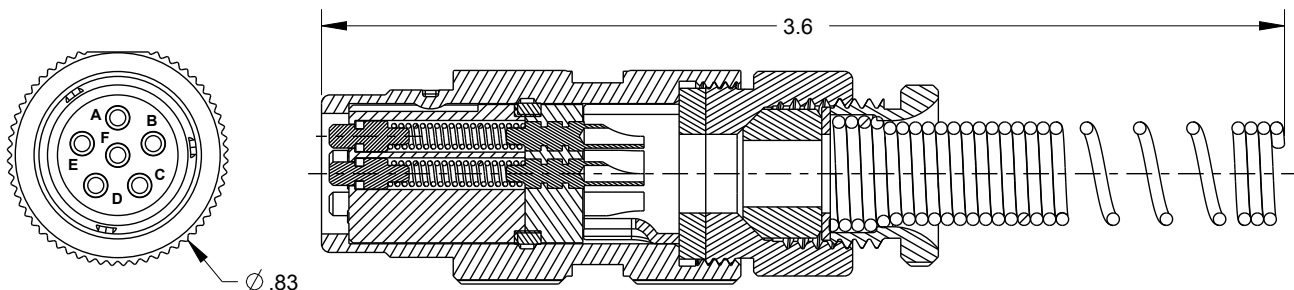
Shielded Plug Drawing :

AP-136 shown below, dimensions refer to the four shielded plugs in chart on page HOW TO ORDER



In-Line Receptacle Drawing :

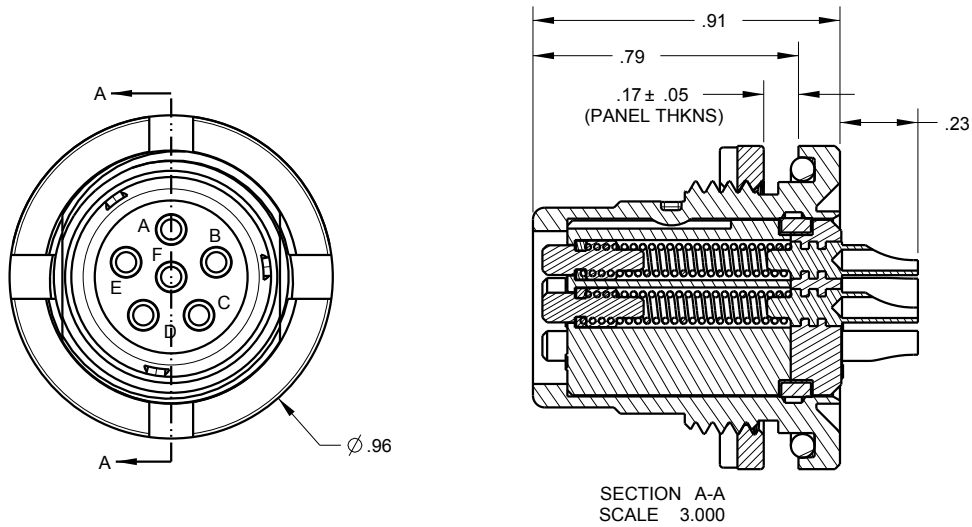
AJ-166 shown below, represents receptacles with wire strain relief in chart on page HOW TO ORDER



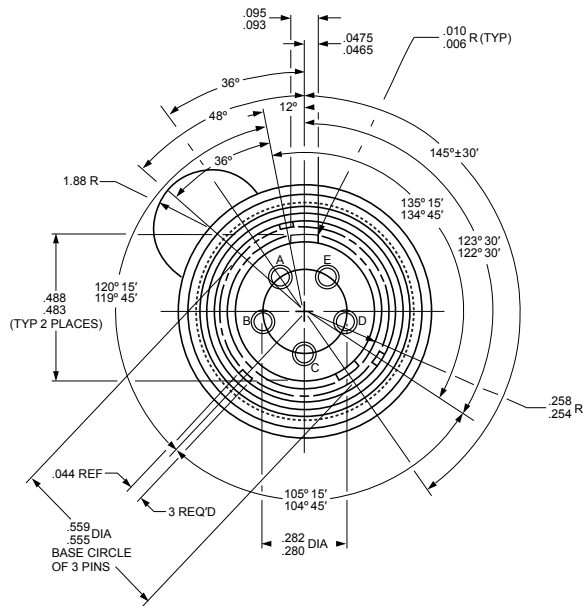
M55116 MILITARY & COMMERCIAL CONNECTORS:

Panel Mount Receptacle Drawing :

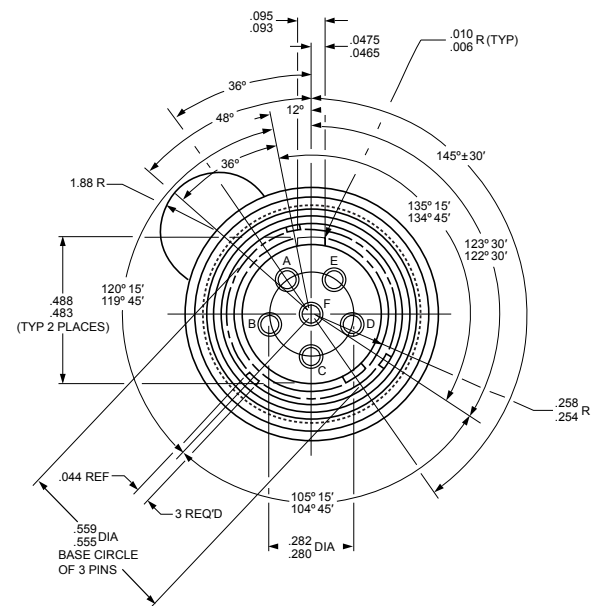
AJ-146 shown below, dimensions are the same for both the 5-pin and 6-pin layout



5-pin Insert Layout :



6-pin Insert Layout :



HOW TO ORDER:

Two Step Process Example :

1.

2.

| Connector List | Cable Dimensions for Strain Relief |
|----------------|------------------------------------|
| AP-125 | X |

1. Connector List

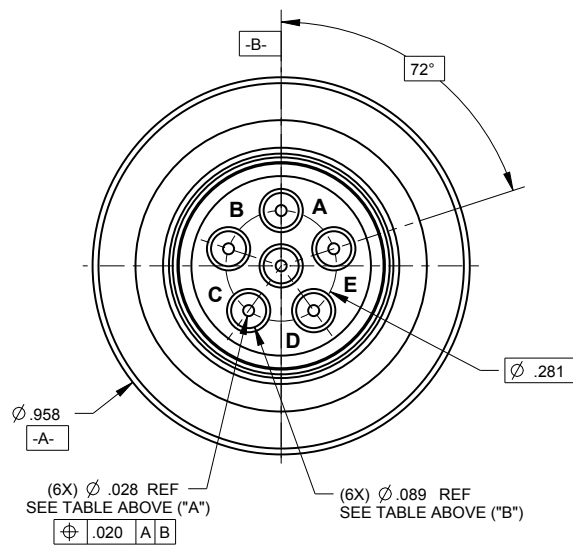
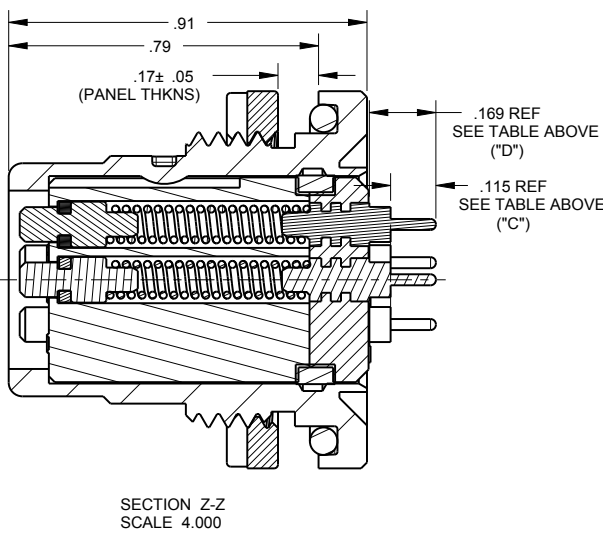
| NEXUS Part Number | Mil-Spec Designation | Connector Type | Number of Contacts | Contact Type | Strain Relief |
|-------------------|----------------------|-----------------------|--------------------|---------------------|---------------|
| AP-125 | M55116/1 | Standard Plug | 5 | Crimp | Wire |
| AP-126 | M55116/2 | Standard Plug | 6 | Crimp | Wire |
| AP-145 | M55116/3 | Standard Plug | 5 | Solder | Wire |
| AP-146 | M55116/4 | Standard Plug | 6 | Solder | Wire |
| AP-155 | M55116/5 | Standard Plug | 5 | Crimp | Molded |
| AP-156 | M55116/6 | Standard Plug | 6 | Crimp | Molded |
| AP-165 | M55116/7 | Standard Plug | 5 | Solder | Molded |
| AP-166 | M55116/8 | Standard Plug | 6 | Solder | Molded |
| AJ-145 | M55116/9 | Panel Mout Receptacle | 5 | Solder Cup Spring | N/A |
| AJ-146 | M55116/10 | Panel Mout Receptacle | 6 | Solder Cup Spring | N/A |
| AJ-155 | M55116/11 | In-line Receptacle | 5 | Crimp Sleeve Spring | Wire |
| AJ-156 | M55116/12 | In-line Receptacle | 6 | Crimp Sleeve Spring | Wire |
| AJ-165 | M55116/13 | In-line Receptacle | 5 | Solder Cup Spring | Wire |
| AJ-166 | M55116/14 | In-line Receptacle | 6 | Solder Cup Spring | Wire |
| AP-105 | U-182B/U | Standard Plug | 5 | Crimp | Molded |
| AP-106 | | Standard Plug | 6 | Crimp | Molded |
| AP-115 | U-229B/U | Standard Plug | 5 | Crimp | Wire |
| AP-116 | | Standard Plug | 6 | Crimp | Wire |
| AP-135 | | Shielded Plug | 5 | Crimp | Wire |
| AP-136 | | Shielded Plug | 6 | Crimp | Wire |
| AP-175 | | Shielded Plug | 5 | Solder | Wire |
| AP-176 | | Shielded Plug | 6 | Solder | Wire |

2. Cable Dimensions for Strain Relief

| Dash Number | Mil-Spec Designation |
|-------------|--|
| -0 | N/A (for Panel-Mount Receptacles Only) |
| -1 | .165 +/- .010 |
| -2 | .228 +/- .010 |
| -3 | .250 +/- .010 |
| -4 | .290 +/- .010 |
| -5 | .325 +/- .010 |

M55116 PCB RECEPTACLES:

| PCB CONTACT OPTIONS | | | | |
|---------------------|--------------|-------|------|------|
| PART # | Ø "A" ± .002 | Ø "B" | "C" | "D" |
| AJ-146RMPC/1 | .040 | .089 | .115 | .169 |
| AJ-146RMPC/2 | .040 | — | — | .437 |
| AJ-146RMPC/3 | .028 | .089 | .188 | .590 |
| AJ-146RMPC/4 | .028 | .089 | .125 | .194 |
| AJ-146RMPC/5 | .028 | .089 | .218 | .257 |
| AJ-146RMPC/6 | .040 | — | — | .110 |
| AJ-146RMPC/7 | .028 | .089 | .150 | .437 |
| AJ-146RMPC/8 | .030 | — | — | .120 |
| AJ-146RMPC/9 | .028 | .089 | .140 | .390 |
| AJ-146RMPC/10 | .040 | — | — | .744 |
| AJ-146RMPC/11 | .030 | — | — | .594 |
| AJ-146RMPC/13 | .040 | — | — | .900 |



M55116 MATING CHART:

| | | JACKS | | | | | |
|-------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | M55116/9 AJ-145 | M55116/10 AJ-146 | M55116/11 AJ-155 | M55116/12 AJ-156 | M55116/13 AJ-165 | M55116/14 AJ-166 |
| PLUGS | M55116/1 AP-125 | X | | X | | X | |
| | M55116/2 AP-126 | | X | | X | | X |
| | M55116/3 AP-145 | X | | X | | X | |
| | M55116/4 AP-146 | | X | | X | | X |
| | M55116/5 AP-155 | X | | X | | X | |
| | M55116/6 AP-156 | | X | | X | | X |
| | M55116/7 AP-165 | X | | X | | X | |
| | M55116/8 AP-166 | | X | | X | | X |
| | AP-105 | X | | X | | X | |
| | AP-106 | | X | | X | | X |
| | AP-115 | X | | X | | X | |
| | AP-116 | | X | | X | | X |
| | AP-135 | X | | X | | X | |
| | AP-136 | | X | | X | | X |
| | AP-175 | X | | X | | X | |
| | AP-176 | | X | | X | | X |
| | AP-186 | | X | | X | | X |



M55116 TYPE RIGHT-ANGLE PLUG CONNECTORS

AP-RA Series Connectors

With space at a premium in today's military vehicles and systems, Amphenol NEXUS Technologies has met that demand with its new Right-Angle M55116-Type Plug Connectors.

Amphenol NEXUS Technologies has re-designed our in-line 5- and 6-conductor shielded plugs to have a 90° back-end to redirect the wires for space-saving purposes. Additionally, the cable location can then be indexed 180°.

FEATURES:

- 90° back-end to redirect the cables which saves almost 2 inches from the standard straight audio plug.
- Connector can be indexed, or clocked, in 13 different locations within a 180° spectrum to accommodate any system configuration.
- Molded-in pin contacts with standard solder cup or crimp-style terminals.
- Contacts provide self-cleaning feature and eliminate issues with pin/socket open contacts.
- Multiple wire strain reliefs accommodates .165 to .325 cable diameters.

OPTIONS:

- 5- or 6- contacts available, either solder or crimp versions.
- Wire strain relief can be supplied for larger/smaller size cable diameters.
- Over-molded versions are available.

HOW TO ORDER:

Contact Amphenol NEXUS Technologies for pricing, availability, or other technical questions

| 1. Base Part Number | 2. Contact Type | 3. Number of Pins | 4. Right Angle Designation | 5. Other Options |
|---------------------|-----------------|-------------------|----------------------------|------------------|
| AP- | 13 | 6 | RA- | OM |

2. Contact Type

| Designates | |
|------------|--------|
| 13 | Crimp |
| 17 | Solder |

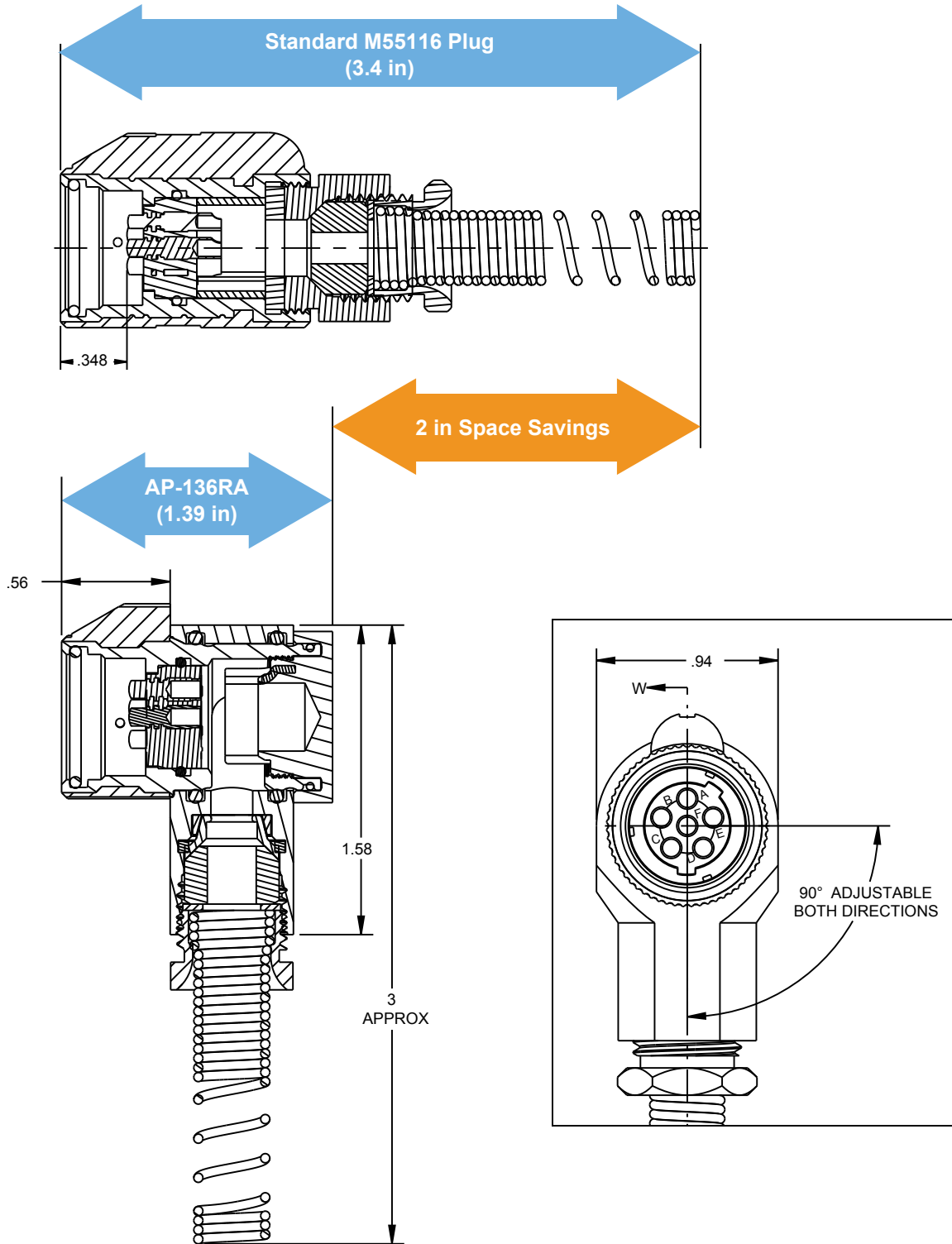
3. Number of Pins

| Designates | |
|------------|--------|
| 5 | 5 Pins |
| 6 | 6 Pins |

5. Other Options

| Designates | | | |
|------------|--------------------|----|---------------------|
| 1 | .165 Strain Relief | 4 | .290 Strain Relief |
| 2 | .228 Strain Relief | 5 | .325 Strain Relief |
| 3 | .250 Strain Relief | OM | Over-molded version |

M55116 TYPE RIGHT-ANGLE PLUG SIZE COMPARISON:



TAC CONNECTORS



Miniature M55116-Type Connectors

AVAILABLE PART NUMBERS:

| Part Number | Connector Style |
|-------------|---|
| MAP-56-30 | 6-Conductor Plug |
| MAP-57-30 | 7-Conductor Plug |
| MAP-56-50 | 6-Conductor Plug (for Overmolding) |
| MAP-57-50 | 7-Conductor Plug (for Overmolding) |
| MAJ-16-00 | 6-Conductor Panel Mount Jack |
| MAJ-17-00 | 7-Conductor Panel Mount Jack |
| MAJ-56-30 | 6-Conductor In-Line Jack |
| MAJ-57-30 | 7-Conductor In-Line Jack |
| MAP-60-50 | 10-Conductor Plug (for Overmolding) |
| MAP-60-00 | 10-Conductor Panel-Mount Plug |
| MAJ-60-50 | 7-Conductor In-Line Jack (for Overmolding) |
| MAJ-60-00 | 10-Conductor Panel-Mount Jack |

New military and commercial applications are demanding a reduction in connector size and weight without a loss of performance. Amphenol NEXUS Technologies has met that demand with its new Miniature M55116-Type TAC Connectors for soldier worn applications, radio systems, and ruggedized communications systems.

TAC Connectors are designed and manufactured to the exacting specifications of MIL-DTL-55116 requirements at half the size of the standard connectors.

Amphenol NEXUS Technologies TAC Connectors are the ideal choice to reduce size and weight and still maintain many of the same performance benefits wherever a M55116 connector is needed on a newly designed system.

FEATURES:

- Both plug and receptacle are 50% smaller than the standard M55116 connectors. (M55116/4 and M55116/10 as a comparison)
- Standard plugs have rigid contacts; jacks have spring-loaded contacts
- Molded-in spring loaded contacts provide self-cleaning feature and eliminate issues with pin/socket open contacts.
- Standard wire strain relief accommodates .125 and .250 cable diameter.

OPTIONS:

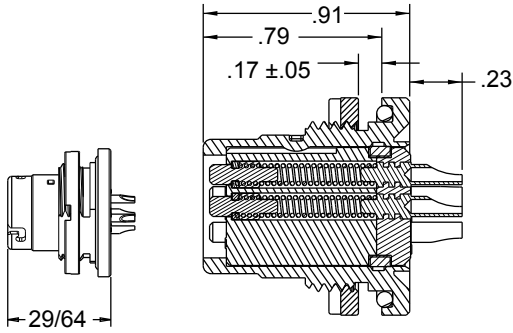
- Shell Styles
 - In-Line Plug
 - Panel-Mount Plug
 - In-Line Jack
 - Panel Mount Jack
- Number of Contacts
 - 6-pin
 - 7-pin
 - 10-pin
- In-Line Rear Accessories
 - Wire Strain Relief
 - Over-Molded
- Contact Types
 - Solder Cup
 - PCB

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TAC CONNECTOR SIZE COMPARISON:

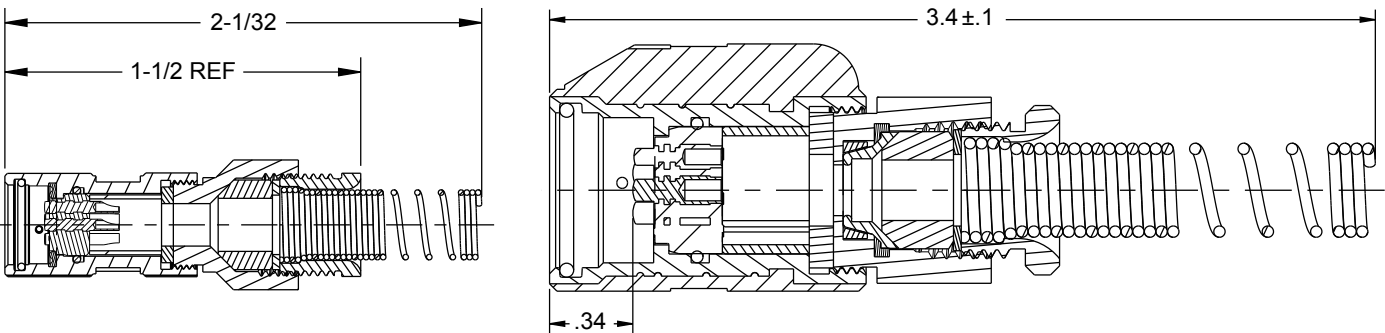
Standard Plug Size Comparison :

MAJ-16-00 shown next to AJ-146



Shielded Plug Size Comparison :

MAP-56-30 shown next to AP-136



In-Line Receptacle Size Comparison :

MAJ-56-30 shown next to AJ-166

