

MRC CONNECTORS

PDS-233-10



OVERVIEW

Amphenol Aerospace now offers a connector series that can be used for all of your multi-media needs. This series is capable of running Gigabit Ethernet, USB 2.0/USB 3.0, HDMI and 10 Gigabit Ethernet when specified and designated to a specific configuration. MRC is a micro-miniature connector ideal for Commercial, Industrial and Military Communication Systems.

The MRC flange mounting plugs are supplied with rigid contacts that are flat to the front surface of the connector. This feature allows it to be used in applications such as ruggedized displays, radios, and routers that have potential to come in contact with dirt and sand during use. The MRC can be easily cleaned by simply wiping off debris whereas standard pin and socket style connectors tend to be more difficult to remove debris once it has been compacted in the contacts.

The MRC cable assemblies feature connectors with spring loaded contacts and two coupling styles (Push/Pull and Push w/ ¼ turn lock). Both of these coupling styles mate with the standard flange mounting plug. Cable assemblies are available in various lengths and can either be supplied as double ended with MRC connectors on both ends or with standard COTS RJ45, USB, HDMI connections on one end. Additional cable materials and connector configuration are available; please consult our product team with your requirements.

MRC SERIES SPECIFICATIONS

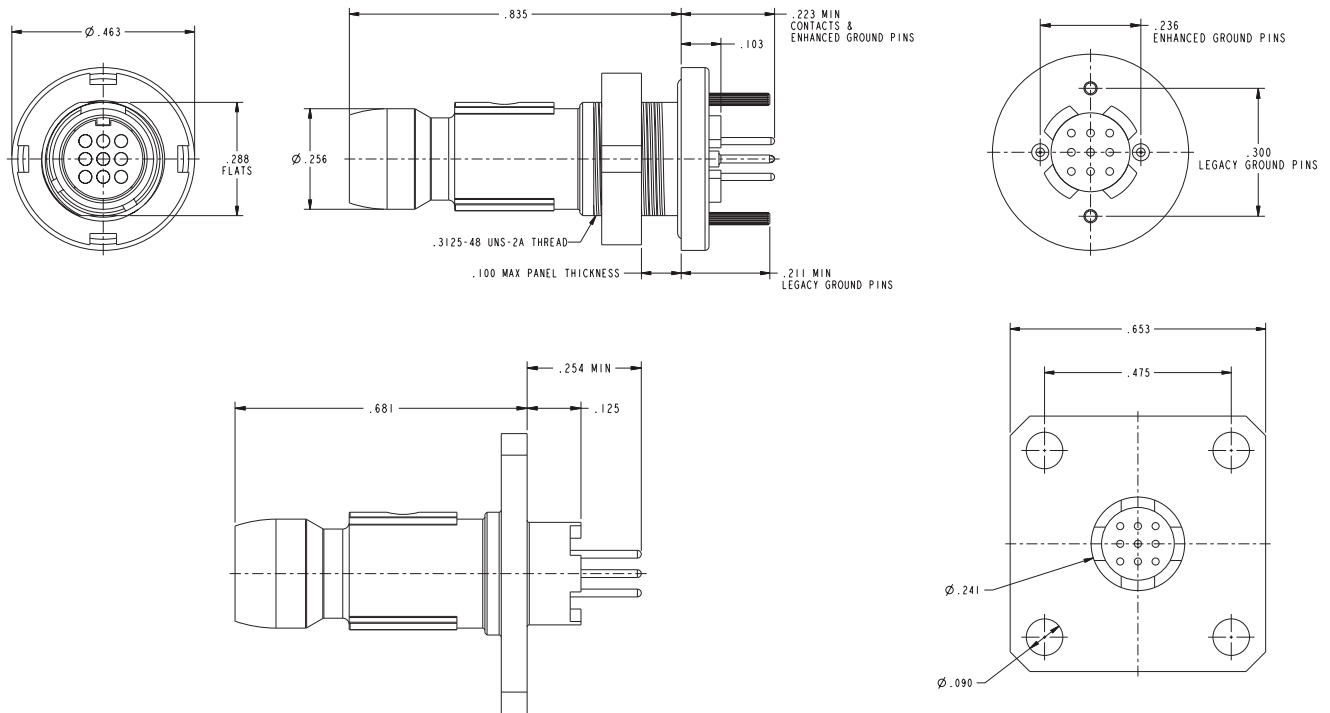
CURRENT RATING	2.5 AMPS Max Per Contact
PROTOCOLS SUPPORTED	Gigabit Ethernet, USB 2.0/3.0, 10 Gigabit Ethernet, & HDMI
DURABILITY	2000 Mating Cycles
UNMATING FORCE	4 lb. Min
TEMPERATURE RANGE	See Individual Connector Pages

MATERIALS & FINISHES

SHELLS	Aluminum Alloy
CONTACTS	Copper Alloy, Gold Plated
INSULATORS	Polyphenylene Sulfide (PPS), Teflon
CANTED COIL SPRING	Stainless Steel, Gold Plated

9 PIN MOUNT PLUG

HOW TO ORDER



1. Series	2. Shell Style	3. Service Class	4. Alternate Keying Positions	5. Grounding Pins
MRC9	7	C	N	G

*Omit grounding pins for square flange.

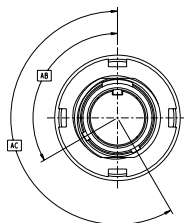
1. SERIES	
MRC9	9 Pin MRC Connector

2. SHELL STYLE	
7	PC Jam Nut Panel Mount Plug
2	PC Square Flange*

*Only mates with a Push -Pull style Receptacle

3. SERVICE CLASS	
	Finish
C	OD Cadmium
E	Electroless Nickel
D	Durmalon
Z	Black Zinc Nickel
G	Green Zinc Nickel
B	Black Electroless Nickel

4. ALTERNATE KEYING POSITION		
Key Position	AB°	AC°
N	120	210
A	150	210
B	95	210
C	120	275
D	150	275

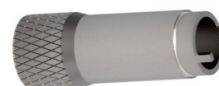


5. GROUNDING PINS	
Omit	Legacy Ground Pins - inactive for new design
G	Enhanced Ground Pin
N	Non-grounded

FOR JAMNUT ONLY

TEMPERATURE
-55° C to 175° C

SPANNER NUT TOOL
11-013020-005



ETHERNET CABLE ASSEMBLIES

HOW TO ORDER



1.	2.	3.	4.	5.	6.
Series	Cable End A	Service Class	Alternate Keying Position (Side A)	Cable Length in Inches	Cable End B
MRC9	1	C	N	24	EM

TEMPERATURE
-20° C to 75° C

1. SERIES	
MRC9	9 Pin MRC Connector

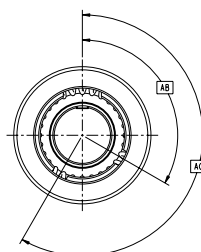
5. CABLE LENGTH
Determine the overall length of your cable from end to end in inches. For Ex. 24 = 24 Inches. Note: 12 inch Minimum

2. SHELL STYLE	
Connector Designator	Cable End A
1	Push-pull Receptacle (Spring Contacts)
3	Twist-lock Receptacle (Spring Contacts)

6. SHELL STYLE	
Connector Designator	Cable End B
EM	Ethernet RJ45 Male Cat 6
E1	Push-pull Receptacle (Spring Contacts)
E3	Twist-lock Receptacle (Spring Contacts)
EMZ	Ethernet RJ45 Male Cat 6, LSZH
EIZ	Push-pull Receptacle (Spring Contacts), LSZH
E3Z	Twist-lock Receptacle (Spring Contacts), LSZH

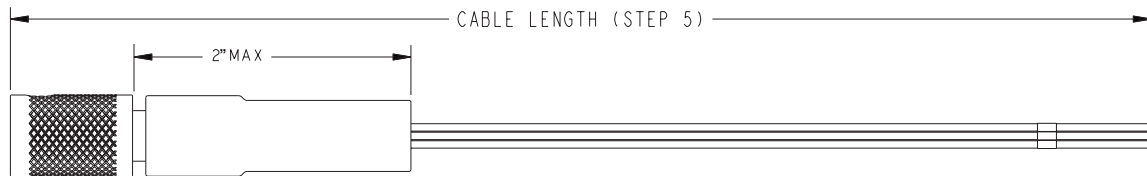
3. SERVICE CLASS	
	Finish
C	OD Cadmium
E	Electroless Nickel
D	Durmalon
Z	Black Zinc Nickel
G	Green Zinc Nickel
B	Black Electroless Nickel

4. ALTERNATE KEYING POSITION		
Key Position	AB°	AC°
N	120	210
A	150	210
B	95	210
C	120	275
D	150	275



9 PIN PIG TAIL CABLE ASSEMBLIES

HOW TO ORDER



1. Series	2. Cable End A	3. Service Class	4. Alternate Keying Position (Side A)	5. Cable Length in Inches	6. Cable End B
MRC9	1	C	N	24	P

TEMPERATURE
-55° C to 105° C

1. SERIES	
MRC9	9 Pin MRC Connector

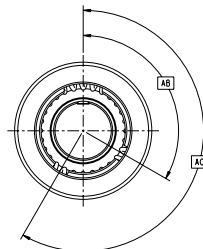
5. CABLE LENGTH
Determine the overall length of your cable from end to end in inches. For Ex. 24 = 24 Inches. Note: 12 inch Minimum

2. SHELL STYLE	
Connector Designator	Cable End A
1	Push-pull Receptacle (Spring Contacts)
3	Twist-lock Receptacle (Spring Contacts)

6. SHELL STYLE	
Connector Designator	Cable End B
P	Pig Tail Wire
P1	Push-Pull Receptacle
P3	Twist-Lock Receptacle

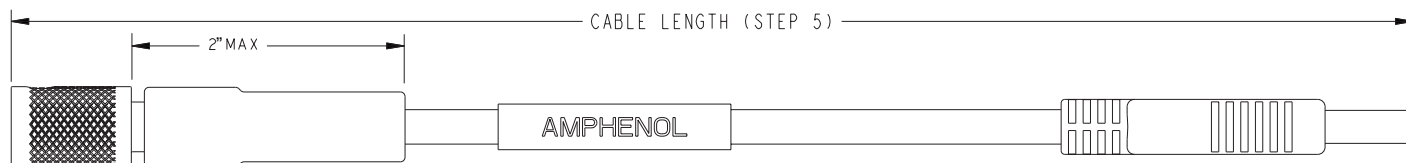
3. SERVICE CLASS	
	Finish
C	OD Cadmium
E	Electroless Nickel
D	Durmalon
Z	Black Zinc Nickel
G	Green Zinc Nickel
B	Black Electroless Nickel

4. ALTERNATE KEYING POSITION		
Key Position	AB°	AC°
N	120	210
A	150	210
B	95	210
C	120	275
D	150	275



USB 2.0/3.0 CABLE ASSEMBLIES

HOW TO ORDER



1. Series	2. Cable End A	3. Service Class	4. Alternate Keying Position (Side A)	5. Cable Length in Inches	6. Cable End B
MRC9	1	C	N	24	U1

1. SERIES

MRC9	9 Pin MRC Connector
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2. SHELL STYLE

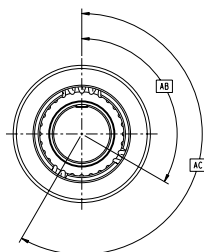
Connector Designator	Cable End A
1	Push-pull Receptacle (Spring Contacts)
3	Twist-lock Receptacle (Spring Contacts)

3. SERVICE CLASS

	Finish
C	OD Cadmium
E	Electroless Nickel
D	Durmalon
Z	Black Zinc Nickel
G	Green Zinc Nickel
B	Black Electroless Nickel

4. ALTERNATE KEYING POSITION (SIDE A)

Key Position	AB°	AC°
N	120	210
A	150	210
B	95	210
C	120	275
D	150	275



5. CABLE LENGTH

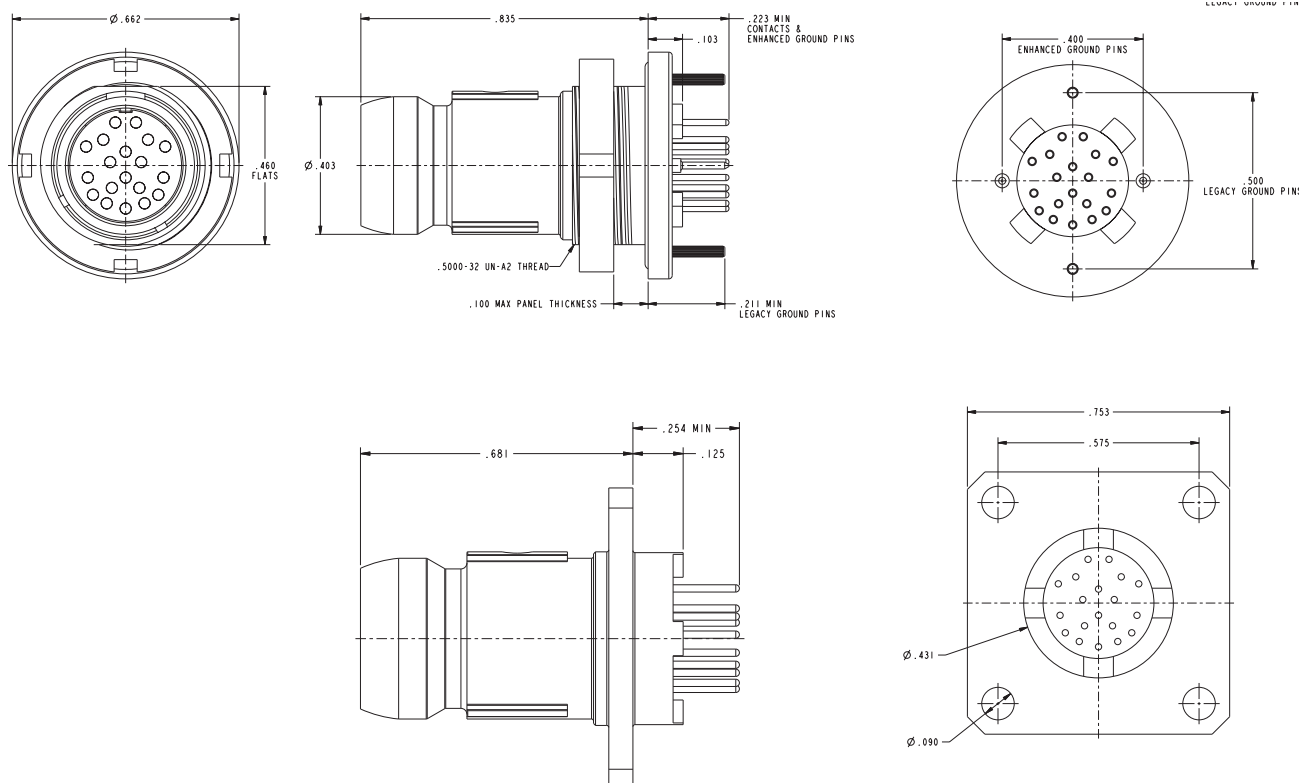
Determine the overall length of your cable from end to end in inches. For Ex. 24 = 24 Inches.
Note: 12 inch Minimum, 180 inch Maximum

6. SHELL STYLE

Connector Designator	Cable End B	
U1	USB 2.0 Type A Male	
U2	USB 2.0 Type A Micro B Male	
U3	USB 3.0 Type A Male	
U4 Superseded by U4A or U4B		
U4A	Push Pull USB 3.0 Type A Female	
U4B	Twist Lock USB 3.0 Type A Female	
U5	USB 3.0 Type A Micro B Male	
U6A	Push-pull Receptacle	USB 2.0 Cable
U6B		USB 3.0 Cable
U7A	Twist-lock Receptacle	USB 2.0 Cable
U7B		USB 3.0 Cable

19 PIN HDMI CHASSIS MOUNT PLUG

HOW TO ORDER



1. Series	2. Shell Style	3. Service Class	4. Alternate Keying Position	5. Grounding Pins
MRC19	7	C	N	G

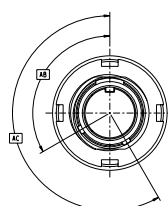
*Omit grounding pins for square flange.

1. SERIES	
MRC19	19 Pin MRC Connector

2. SHELL STYLE	
7	PC Jam Nut Panel Mount Plug

3. SERVICE CLASS	
	Finish
C	OD Cadmium
E	Electroless Nickel
D	Durmalon
Z	Black Zinc Nickel
G	Green Zinc Nickel
B	Black Electroless Nickel

4. ALTERNATE KEYING POSITION		
Key Position	AB°	AC°
N	120	210
A	150	210
B	95	210
C	120	275
D	150	275



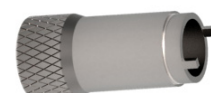
5. GROUNDING PINS	
Omit	Legacy Ground Pins - inactive for new design
G	Enhanced Ground Pins
N	Non-grounded

FOR JAMNUT ONLY

TEMPERATURE
-55° C to 175° C

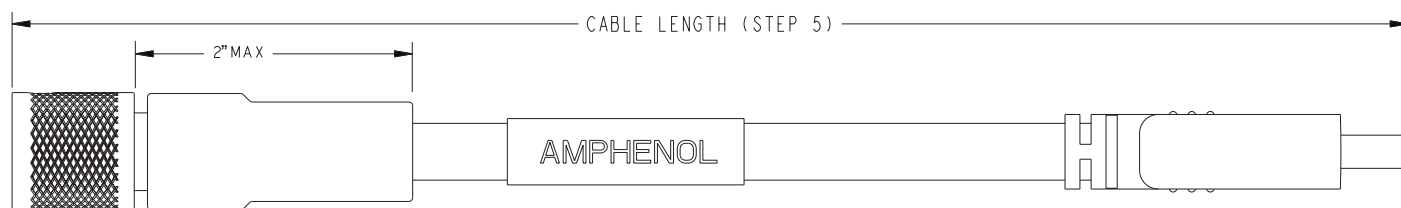
SPANNER NUT TOOL
11-013020-007

30-40 inch lb. recommended torque



HDMI CABLE ASSEMBLIES

HOW TO ORDER



1.	2.	3.	4.	5.	6.
Series	Cable End A	Service Class	Alternate Keying Position (End A)	Cable Length in Inches	Cable End B
MRC19	1	C	N	24	H1

TEMPERATURE
-20° C to 80° C

1. SERIES

MRC19	19 Pin MRC Connector
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2. SHELL STYLE

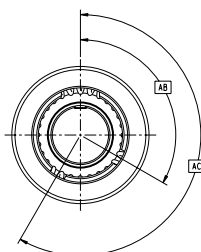
Connector Designator	Cable End A
1	Push-pull Receptacle (Spring Contacts)
3	Twist-lock Receptacle (Spring Contacts)

3. SERVICE CLASS

	Finish
C	OD Cadmium
E	Electroless Nickel
D	Durmalon
Z	Black Zinc Nickel
G	Green Zinc Nickel
B	Black Electroless Nickel

4. ALTERNATE KEYING POSITION (END A)

Key Position	AB°	AC°
N	120	210
A	150	210
B	95	210
C	120	275
D	150	275



5. CABLE LENGTH

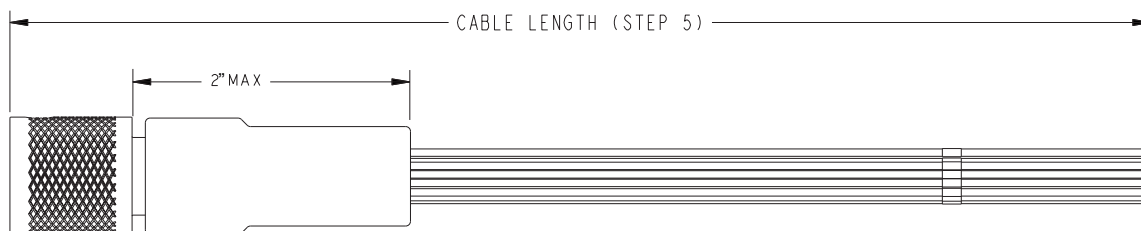
Determine the overall length of your cable from end to end in inches. For Ex. 24 = 24 Inches.
Note: 12 inch Minimum, 180 inch Maximum.

6. SHELL STYLE

Connector Designator	Cable End B
H1	HDMI Male
H2	HDMI Male Mini
H3	Push-pull Receptacle (Spring Contacts)
H4	Twist-lock Receptacle (Spring Contacts)

19 PIN PIG TAIL CABLE ASSEMBLIES

HOW TO ORDER



1.	2.	3.	4.	5.	6.
Series	Cable End A	Service Class	Alternate Keying Position (End A)	Cable Length in Inches	Cable End B
MRC19	1	C	N	24	P

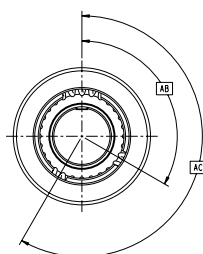
TEMPERATURE
-55° C to 105° C

1. SERIES	
MRC19	19 Pin MRC Connector

2. SHELL STYLE	
Connector Designator	Cable End A
1	Push-pull Receptacle (Spring Contacts)
3	Twist-lock Receptacle (Spring Contacts)

3. SERVICE CLASS	
	Finish
C	OD Cadmium
E	Electroless Nickel
D	Durmalon
Z	Black Zinc Nickel
G	Green Zinc Nickel
B	Black Electroless Nickel

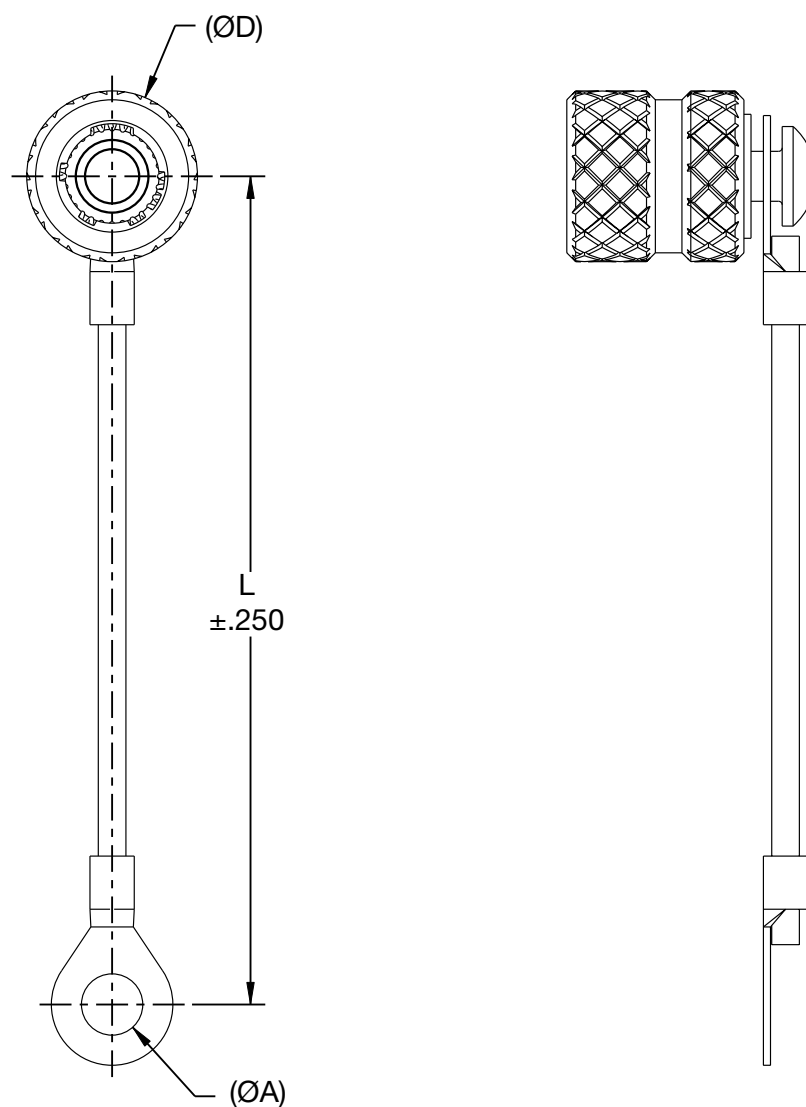
4. ALTERNATE KEYING POSITION (END A)		
Key Position	AB°	AC°
N	120	210
A	150	210
B	95	210
C	120	275
D	150	275



5. CABLE LENGTH
Determine the overall length of your cable from end to end in inches. For Ex. 24 = 24 Inches. Note: 12 inch Minimum

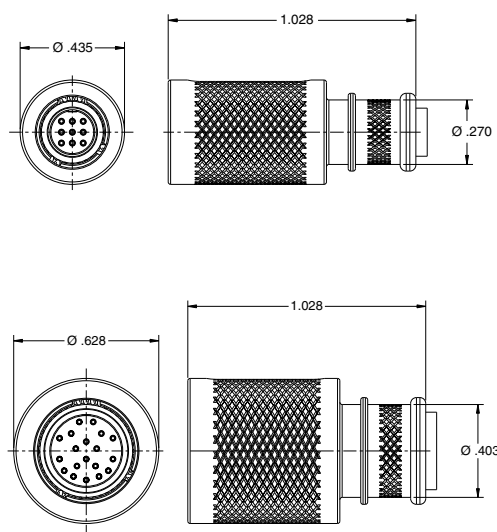
6. SHELL STYLE	
Connector Designator	Cable End B
P	Pig Tail Wire
P1	Push-Pull Receptacle
P3	Twist-Lock Receptacle

PROTECTION CAP FOR PLUG

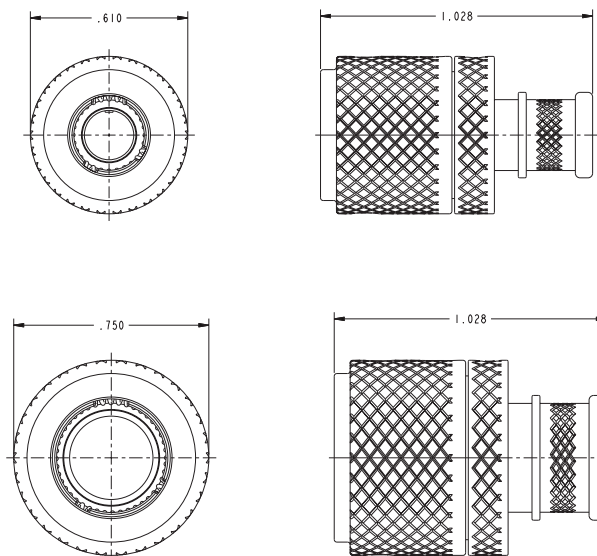


CONNECTOR OPTIONS

1 - PUSH-PULL RECEPTACLE (SPRING LOADED CONTACTS)



3 - TWIST-LOCK RECEPTACLE (SPRING LOADED CONTACTS)



MRC SOLUTIONS

The MRC panel mount connectors are also available with COTS connector assemblies. These assemblies allow the user to connect commercial cables inside their box or on the backside of a bulkhead. This type of assembly allows the user to ruggedize specific areas of the application while others can remain commercial. Please contact Amphenol with your requirements.



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