

164-SERIES

WATERPROOF AUDIO CONNECTORS



Introduction

Hitech India 164 series connectors are water resistant, five & six pin contact electrical connectors for use in low voltage audio frequency circuits & applications. They employ three-point bayonet coupling for quick disconnect & self wipe contact.

These connectors are extensively used in military communication equipments, where high reliability is paramount & severe environmental conditions are encountered.

Hitech India 164 series connectors are qualified to MIL specification MIL-DTL-55116. They are intermatable with any other manufacturers product which is designed as per MIL-DTL-55116.

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Specifications

Electrical

Operating Current	500 m A per contact
Operating Voltage	60V max.
Contact Resistance	0.050 ohms max.
Insulation Resistance	1000 M ohm @ 100 V DC
Dielectric Strength	500V rms

Mechanical

Number of Contacts	5 or 6
Air Pressure	2.5 PSI
Durability	3000 cycles, mate & unmate.
Immersion	48 hrs. At 6ft.

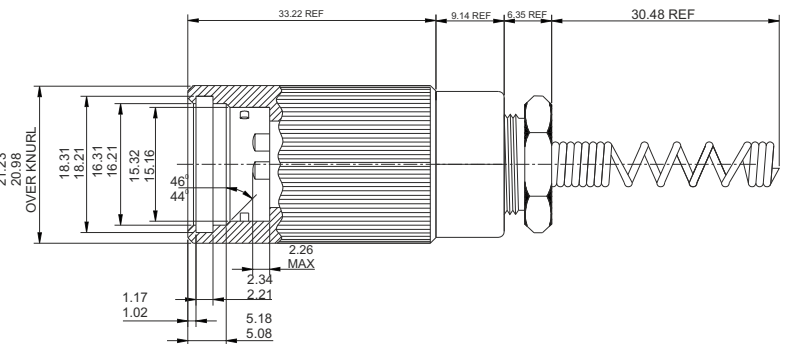
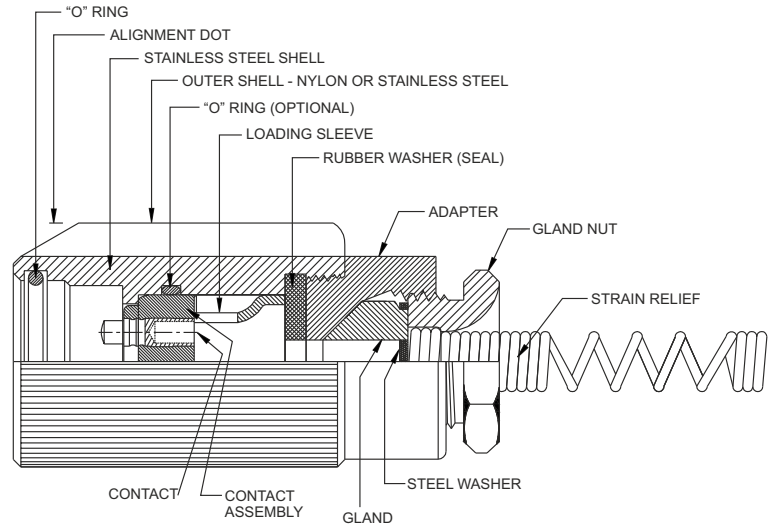
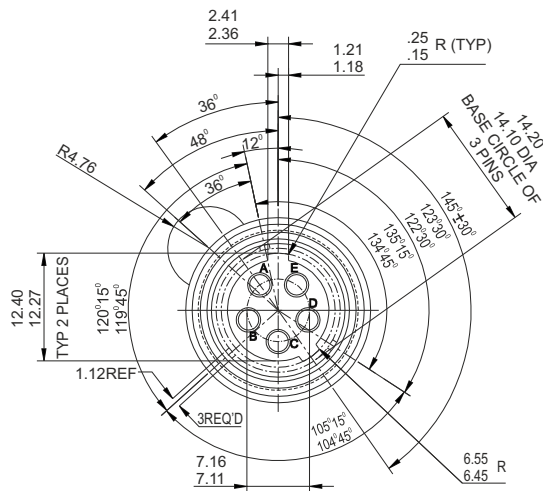
Environmental

Operating Temperature	-55°C to +85 °C.
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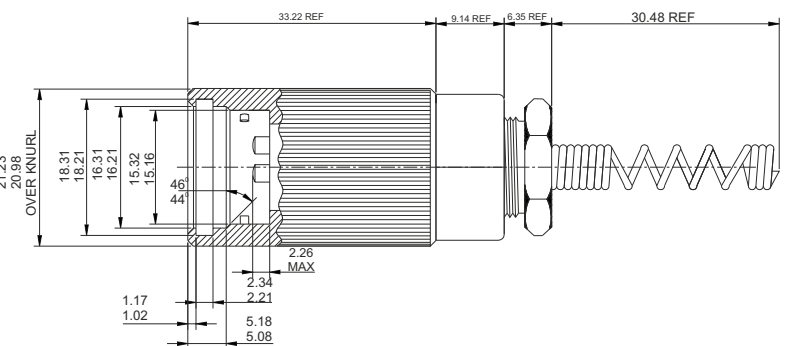
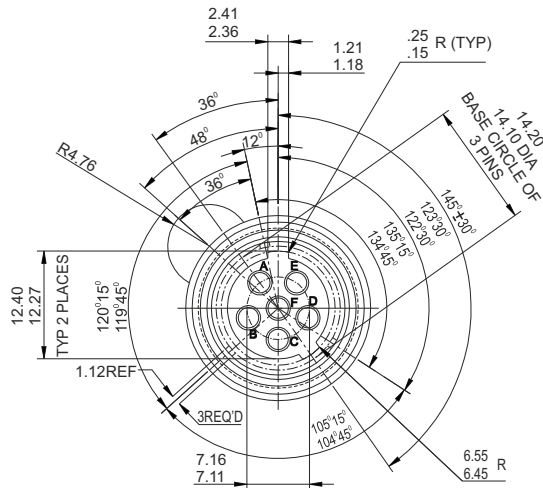
Material & Finishes

Part	Material	Finish
Shell & Nut	Stainless Steel	Sand Blasted
Insulator	Diallyphthalate as per ASTM D5948 Type SDG-F	-
Contact	Copper Alloy -Brass	0.75µm Gold over Nickel

Five & Six Pin Audio Plug Connector Crimp Sleeve Terminal



M55116/1-X

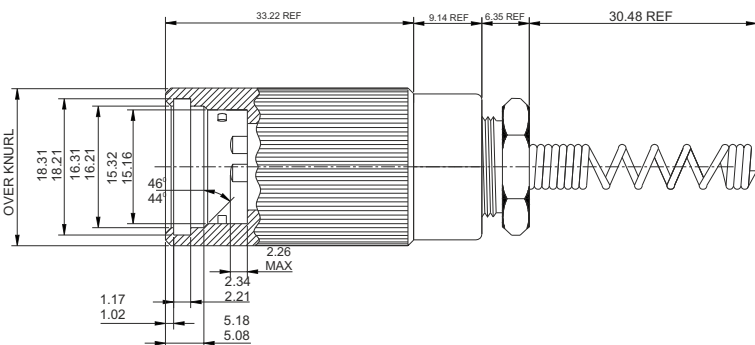
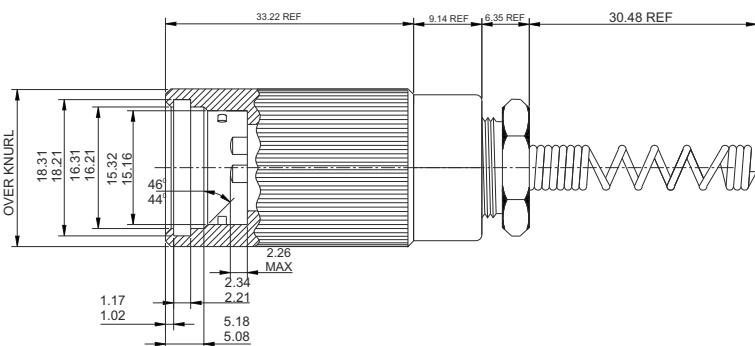


M55116/2-X

Sr No.	Description	MIL Designation	Hitech India Designation
1	5 Pin Audio plug connector with crimp sleeve terminal & wire strain relief	M55116/1-X	164-229-X
2	6 Pin Audio plug connector with crimp sleeve terminal & wire strain relief	M55116/2-X	164-229-6-X

Dash no-X	Cable diameter
-0	N/A
-1	4.19 ± 0.25
-2	5.79 ± 0.25
-3	6.35 ± 0.25
-4	7.36 ± 0.25
-5	8.12 ± 0.25

X Stands for the Cable size accommodation, is identified by a dash number as shown in above table . This number indicates the outside diameter of the cable that the connector will accommodate.

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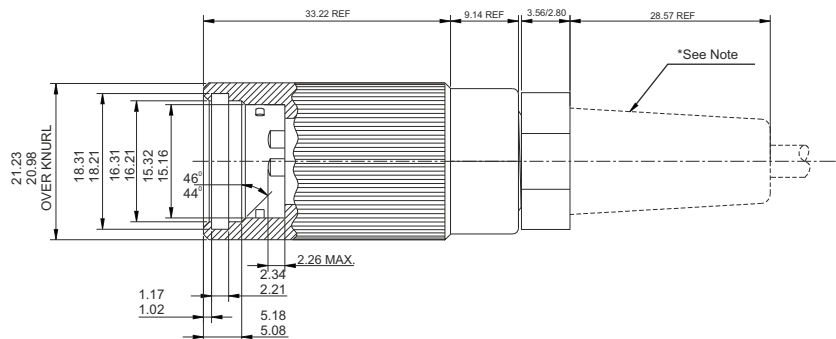
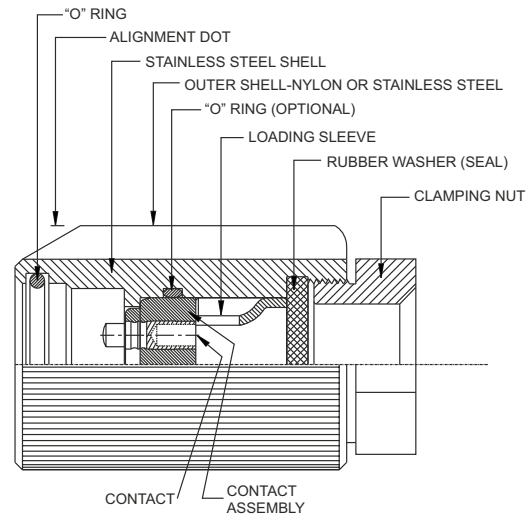
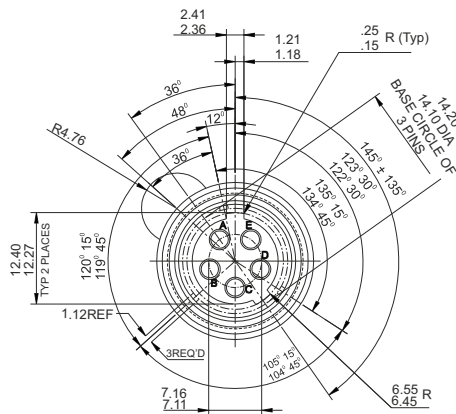
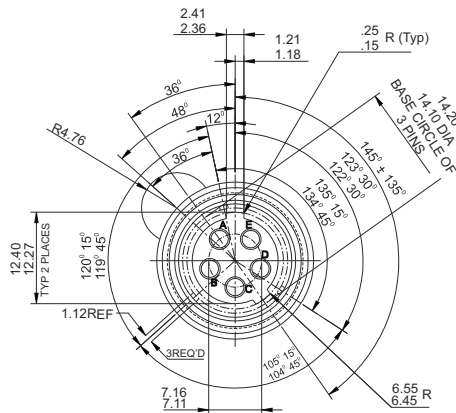
Technical drawing of a circular component with six pins labeled A through F. The drawing includes various dimensions:

- Pin Dimensions:**
 - Pin A: 2.41, 2.36
 - Pin B: 1.21, 1.18
 - Pin C: .25 R (TYP), .15
 - Pin D: 14.20
 - Pin E: 14.10 DIA 3 PINS
 - Pin F: 6.55 R, 6.45 R
- Angles:**
 - 36°, 48°, 12°, 120°/15°, 119°/45°, 135°/15°, 134°/45°, 123°/30°, 122°/30°, 145°/±30°, 105°/15°, 104°/45°
- Radii:**
 - R4.76
 - .25 R (TYP)
 - 6.55 R
 - 6.45 R
 - 7.16
 - 7.11
- Other Dimensions:**
 - 12.40
 - 12.27
 - TYP 2 PLACES
 - 1.12 REF
 - 3 REQ'D

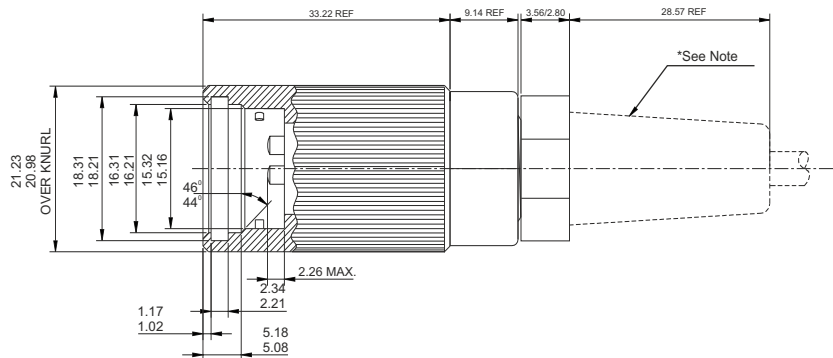
Dash no-X	Cable diameter
-0	N/A
-1	4.19 $\pm$ 0.25
-2	5.79 $\pm$ 0.25
-3	6.35 $\pm$ 0.25
-4	7.36 $\pm$ 0.25
-5	8.12 $\pm$ 0.25

4

Five & Six Pin Audio Plug Connector Crimp Sleeve Terminal



M55116/5-X



M55116/6-X

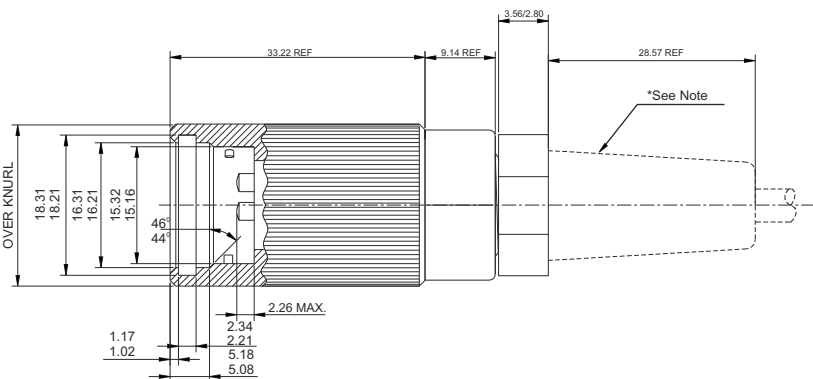
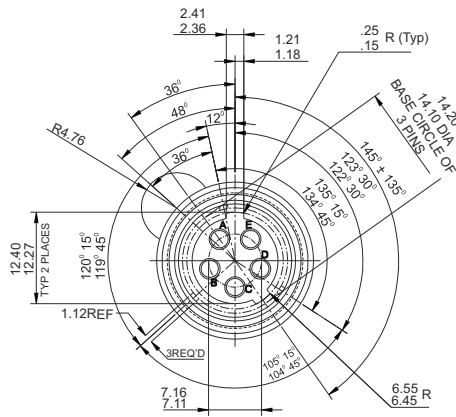
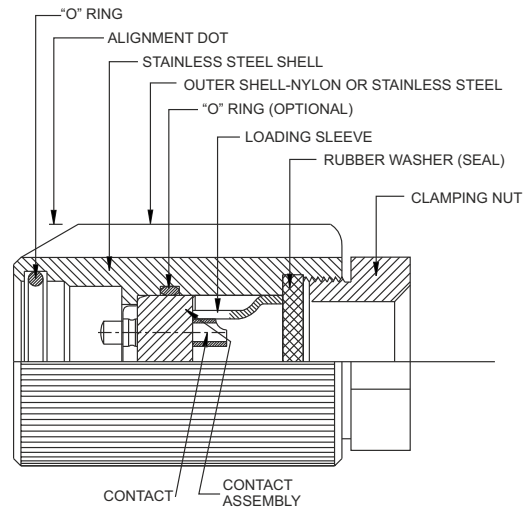
Sr No.	Description	MIL Designation	Hitech India Designation
1	5 Pin Audio plug connector with crimp sleeve terminal & molded strain relief (Not supplied)	M55116/5-X	164-182-X
2	6 Pin Audio plug connector with crimp sleeve terminal & molded strain relief (Not supplied)	M55116/6-X	164-182-6-X

Dash no-X	Cable diameter
-0	N/A
-1	4.19 ± 0.25
-2	5.79 ± 0.25
-3	6.35 ± 0.25
-4	7.36 ± 0.25
-5	8.12 ± 0.25

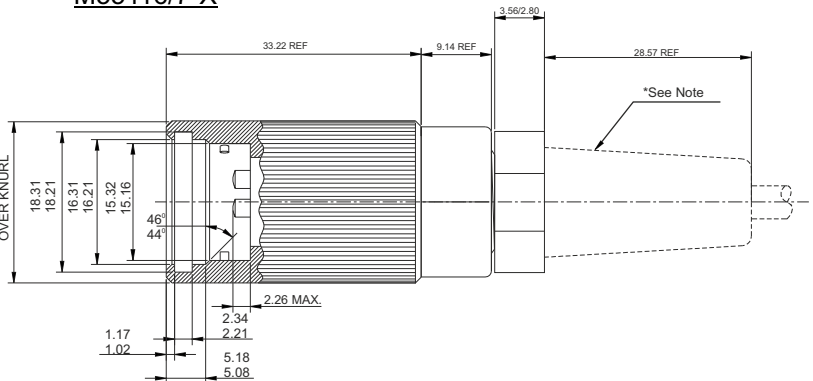
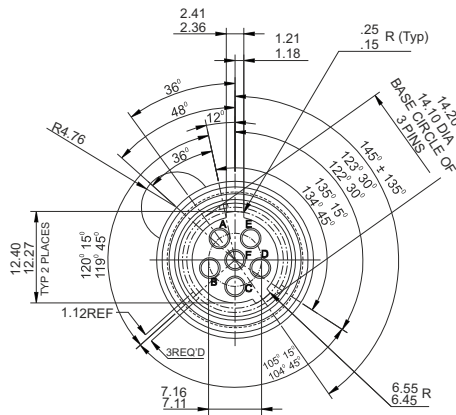
X Stands for the Cable size accommodation, is identified by a dash number as shown in above table . This number indicates the outside diameter of the cable that the connector will accommodate.

*Nylon molded strain relief on request

Five & Six Pin Audio Plug Connector Solder Cup Terminal



M55116/7-X



M55116/8-X

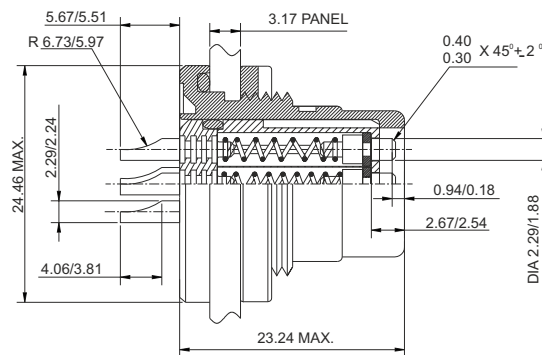
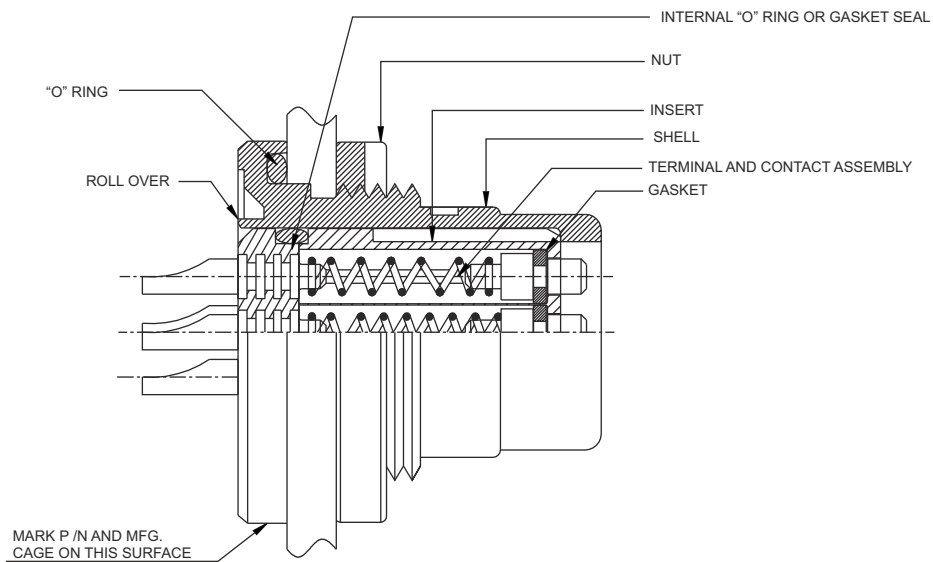
Sr No.	Description	MIL Designation	Hitech India Designation
1	5 Pin Audio plug connector with Solder Cup Terminal & molded strain relief (Not Supplied)	M55116/7-X	164-182-S-X
2	6 Pin Audio plug connector with Solder Cup Terminal & molded strain relief (Not Supplied)	M55116/8-X	164-182-6S-X

Dash no-X	Cable diameter
-0	N/A
-1	4.19 ± 0.25
-2	5.79 ± 0.25
-3	6.35 ± 0.25
-4	7.36 ± 0.25
-5	8.12 ± 0.25

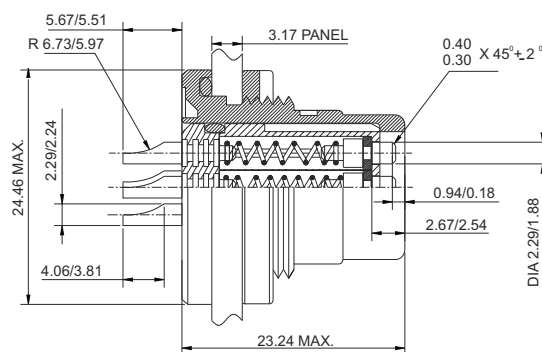
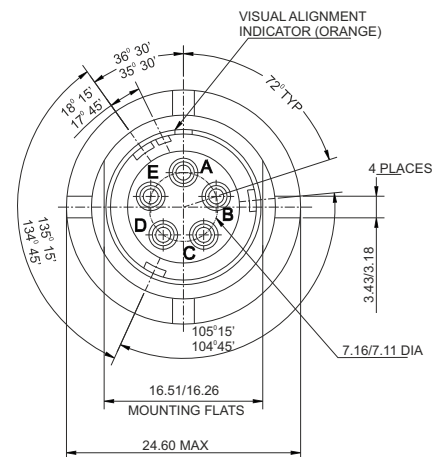
X Stands for the Cable size accommodation, is identified by a dash number as shown in above table. This number indicates the outside diameter of the cable that the connector will accommodate.

*Nylon molded strain relief on request

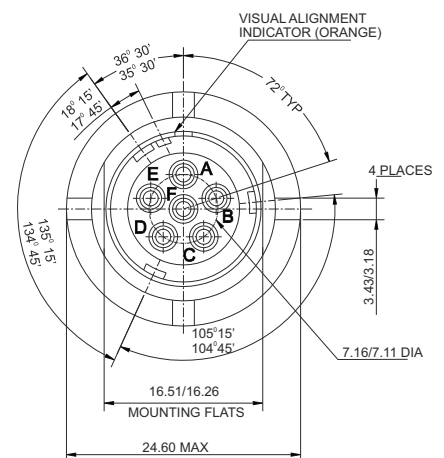
Five & Six Pin Audio Receptacle Panel Mount Connector-Solder



M55116/9

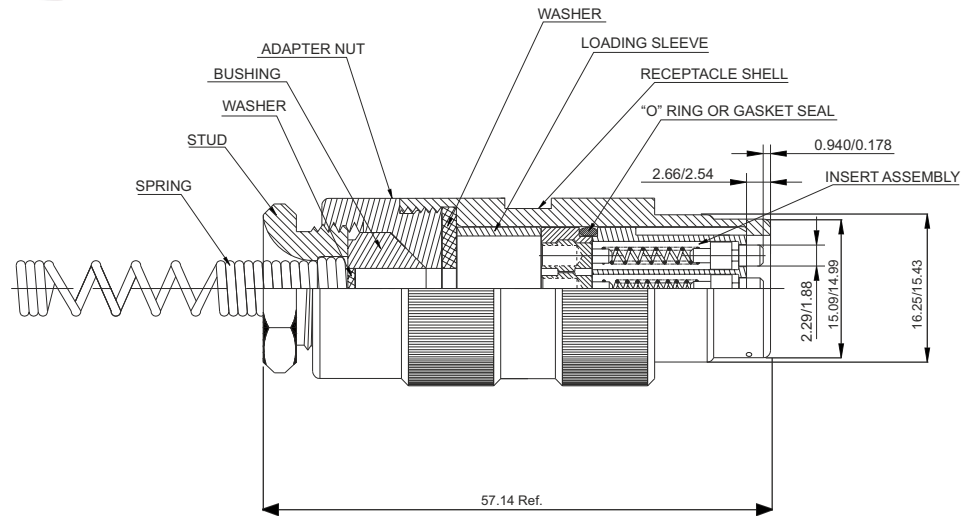
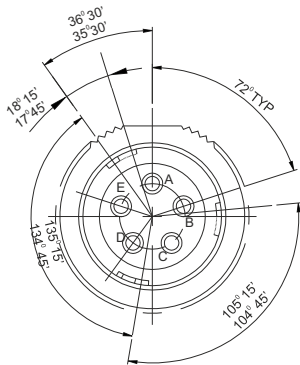


M55116/10

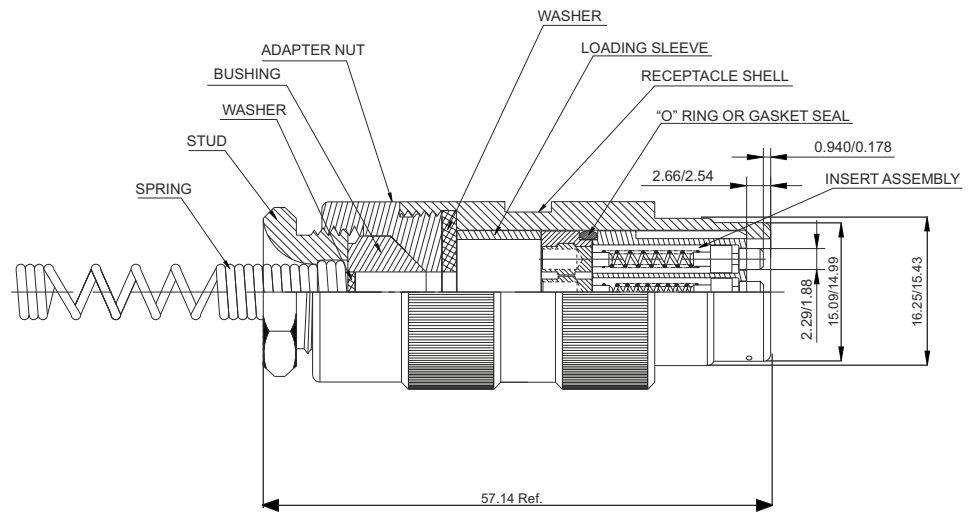
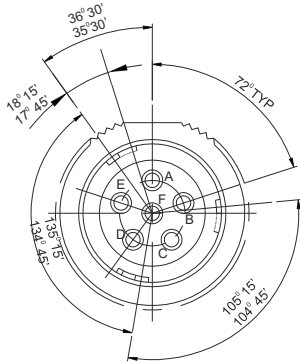


Sr No.	Description	MIL Designation	Hitech India Designation
1	5 Pin Audio Receptacle with solder cup terminal, Panel Mount	M55116/9	164-183
2	6 Pin Audio Receptacle with solder cup terminal, Panel Mount	M55116/10	164-183-6

Five & Six Pin Audio Receptacle Connector Crimp Sleeve Terminal



M55116/11-X



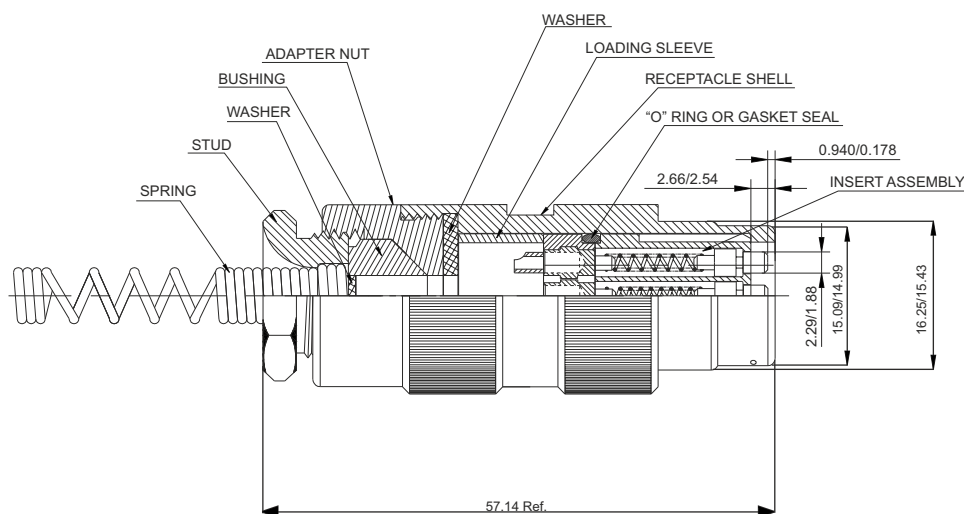
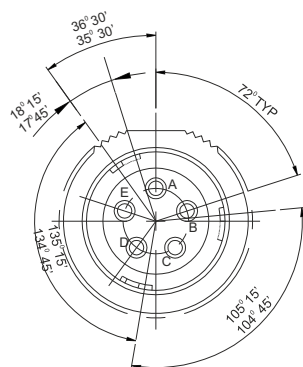
M55116/12-X

Sr No.	Description	MIL Designation	Hitech India Designation
1	5 Pin Audio Receptacle with Crimp sleeve terminal & wire strain relief	M55116/11-X	164-228-X
2	6 Pin Audio Receptacle with Crimp sleeve terminal & wire strain relief	M55116/12-X	164-228-6-X

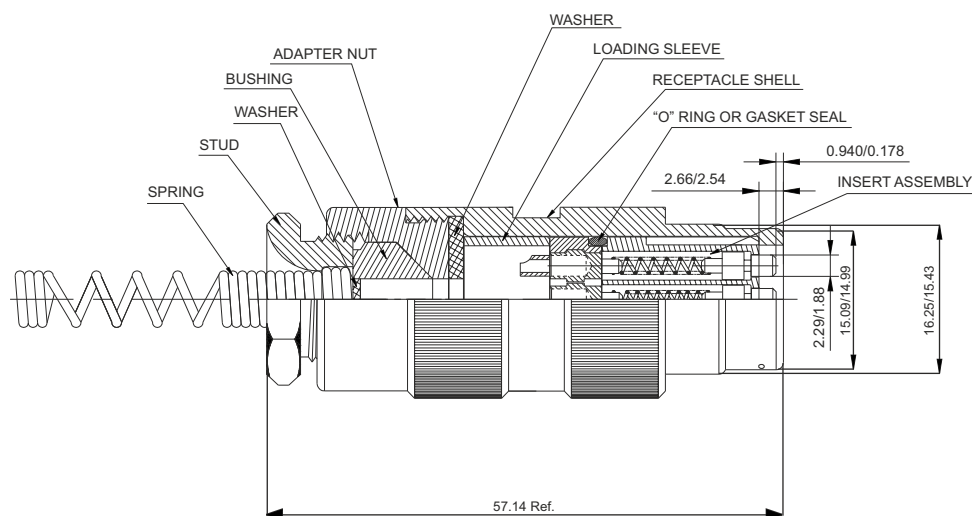
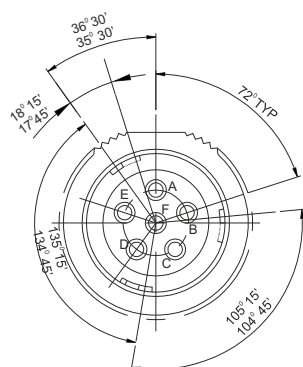
Dash no-X	Cable diameter
-0	N/A
-1	4.19 ± 0.25
-2	5.79 ± 0.25
-3	6.35 ± 0.25
-4	7.36 ± 0.25
-5	8.12 ± 0.25

X Stands for the Cable size accommodation, is identified by a dash number as shown in above table . This number indicates the outside diameter of the cable that the connector will accommodate.

Five & Six Pin Audio Receptacle Connector Solder Cup Terminal & wire strain relief



M55116/13-X



M55116/14-X

Sr No.	Description	MIL Designation	Hitech India Designation
1	5 Pin Audio Receptacle with solder cup terminal & wire strain relief	M55116/13-X	164-228-S-X
2	6 Pin Audio Receptacle with solder cup terminal & wire strain relief	M55116/14-X	164-228-6S-X

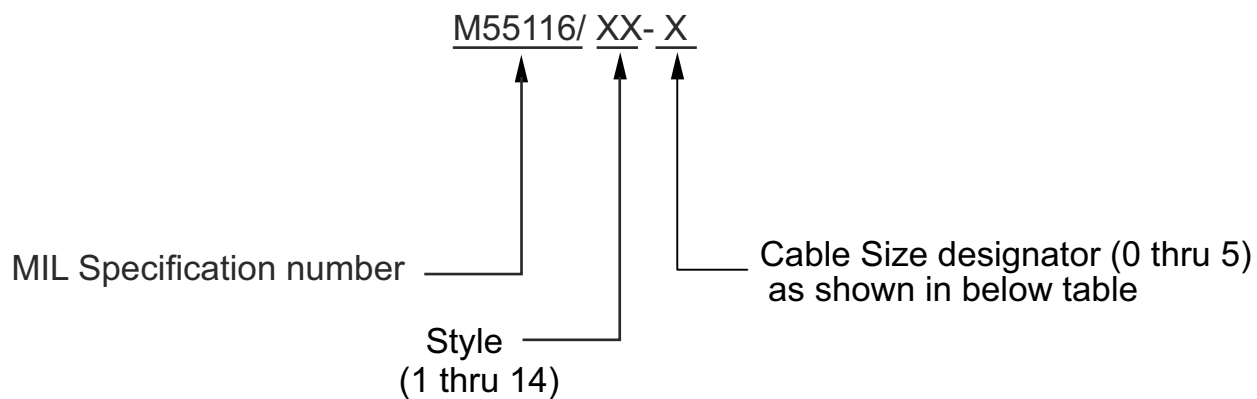
Dash no-X	Cable diameter
-0	N/A
-1	4.19 ± 0.25
-2	5.79 ± 0.25
-3	6.35 ± 0.25
-4	7.36 ± 0.25
-5	8.12 ± 0.25

X Stands for the Cable size accommodation, is identified by a dash number as shown in above table . This number indicates the outside diameter of the cable that the connector will accommodate.

List of Part Numbers

Sr. No.	MIL Specification Designation	Hitech India Designation
1	M55116/1-1	164-229-1
2	M55116/1-2	164-229-2
3	M55116/1-3	164-229-3
4	M55116/1-4	164-229-4
5	M55116/1-5	164-229-5
6	M55116/2-1	164-229-6-1
7	M55116/2-2	164-229-6-2
8	M55116/2-3	164-229-6-3
9	M55116/2-4	164-229-6-4
10	M55116/2-5	164-229-6-5
11	M55116/3-1	164-229-S-1
12	M55116/3-2	164-229-S-2
13	M55116/3-3	164-229-S-3
14	M55116/3-4	164-229-S-4
15	M55116/3-5	164-229-S-5
16	M55116/4-1	164-229-6S-1
17	M55116/4-2	164-229-6S-2
18	M55116/4-3	164-229-6S-3
19	M55116/4-4	164-229-6S-4
20	M55116/4-5	164-229-6S-5
21	M55116/5-1	164-182-1
22	M55116/5-2	164-182-2
23	M55116/5-3	164-182-3
24	M55116/5-4	164-182-4
25	M55116/5-5	164-182-5
26	M55116/6-1	164-182-6-1
27	M55116/6-2	164-182-6-2
28	M55116/6-3	164-182-6-3
29	M55116/6-4	164-182-6-4
30	M55116/6-5	164-182-6-5
31	M55116/7-1	164-182-S-1
32	M55116/7-2	164-182-S-2
33	M55116/7-3	164-182-S-3
34	M55116/7-4	164-182-S-4
35	M55116/7-5	164-182-S-5
36	M55116/8-1	164-182-6S-1
37	M55116/8-2	164-182-6S-2
38	M55116/8-3	164-182-6S-3
39	M55116/8-4	164-182-6S-4
40	M55116/8-5	164-182-6S-5
41	M55116/9	164-183
42	M55116/10	164-183-6
43	M55116/11-1	164-228-1
44	M55116/11-2	164-228-2
45	M55116/11-3	164-228-3
46	M55116/11-4	164-228-4
47	M55116/11-5	164-228-5
48	M55116/12-1	164-228-6-1
49	M55116/12-2	164-228-6-2
50	M55116/12-3	164-228-6-3
51	M55116/12-4	164-228-6-4
52	M55116/12-5	164-228-6-5
53	M55116/13-1	164-228-S-1
54	M55116/13-2	164-228-S-2
55	M55116/13-3	164-228-S-3
56	M55116/13-4	164-228-S-4
57	M55116/13-5	164-228-S-5
58	M55116/14-1	164-228-6S-1
59	M55116/14-2	164-228-6S-2
60	M55116/14-3	164-228-6S-3
61	M55116/14-4	164-228-6S-4
62	M55116/14-5	164-228-6S-5

Ordering Information



Dash no-X	Cable diameter
-0	N/A
-1	4.19 ± 0.25
-2	5.79 ± 0.25
-3	6.35 ± 0.25
-4	7.36 ± 0.25
-5	8.12 ± 0.25

Note : Standard plug connector supplied with nylon over molding. For Stainless Steel version please add prefix S01 at the end of part number ordering information.

Special Products

Special Products

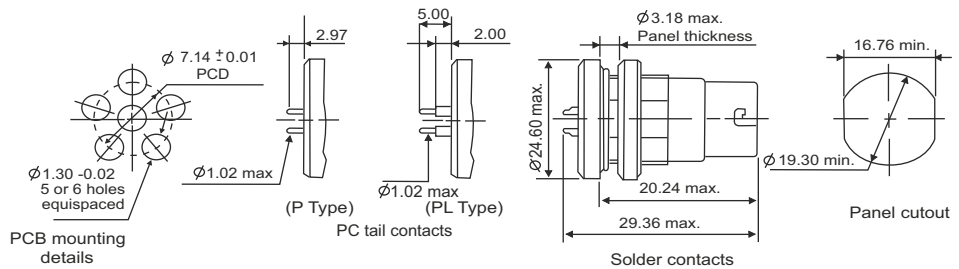
Receptacles With PC Tail Contacts



Barrel Rigid Contact
(Crimp Sleeve Terminal)



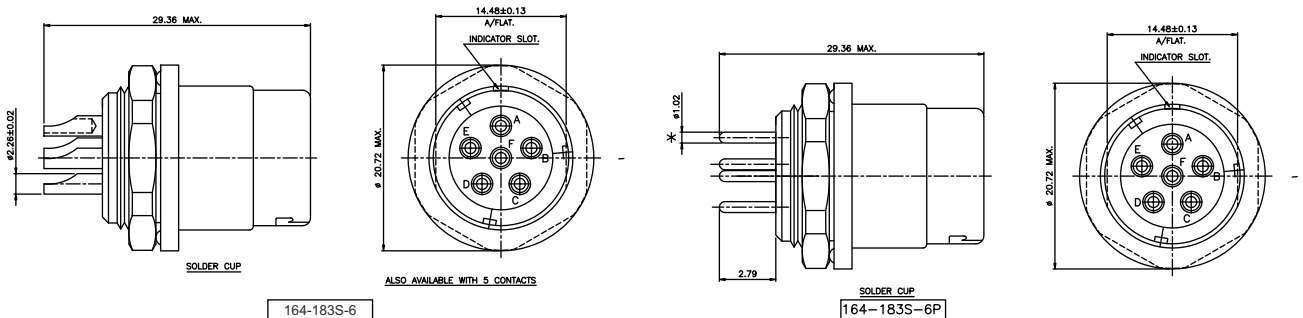
Solder Rigid Contact
(Solder Cup Terminal)



All dimensions in mm

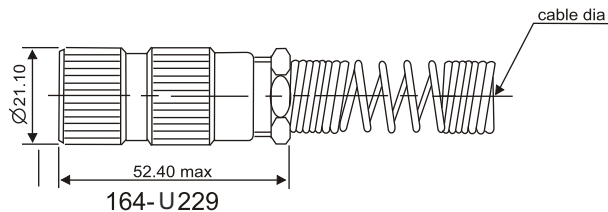
Part Number	No. of Contacts	Contact Type	Mates With
164-183-P	5	PC tail spring loaded	164-229, 164-229-S, 164-182
164-183-PL	5	PC tail spring loaded	
164-183-6P	6	PC tail spring loaded	164-229-6, 164-229-6S, 164-182-6
164-183-6PL	6	PC tail spring loaded	

Rear Mount Receptacles 6 Pins



Note: For 5 Pin Connector Contact Factory

Plug Connector Without Nylon Overmoulded

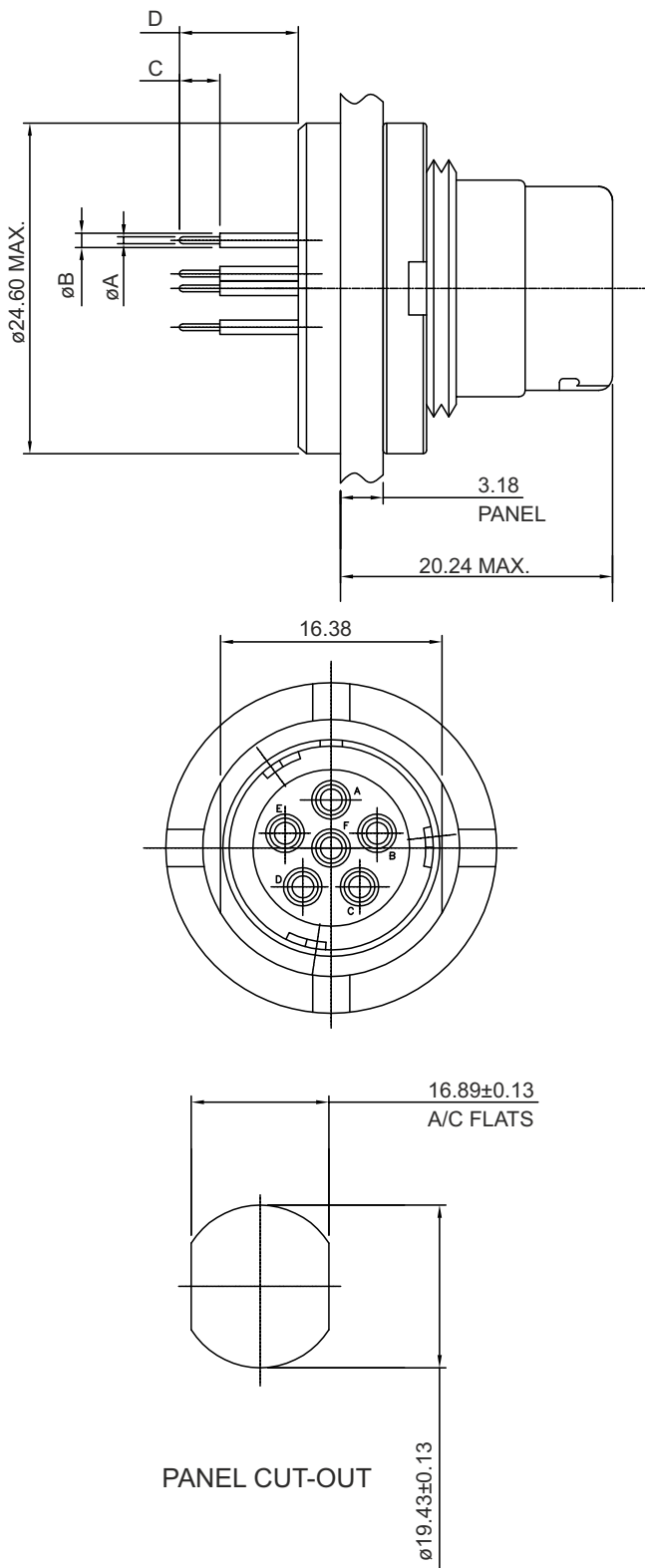


Part Number	No of contact	Contact Type
164-U229-X	5	Barrel Rigid
164-U229-S-X	5	Solder Rigid
164-U229-6-X	6	Barrel Rigid
164-U229-6S-X	6	Solder Rigid

Dash no-X	Cable diameter
-0	N/A
-1	4.19 ± 0.25
-2	5.79 ± 0.25
-3	6.35 ± 0.25
-4	7.36 ± 0.25
-5	8.12 ± 0.25

Receptacle Connector (5 & 6 pin)

164 Receptacle Connector With PC Tail Contact



164-183-5PL-XX

(FOR 5 PIN)

MODIFIER	øA	øB	C±0.50	D±0.50
NO MODIFIER	1.02	1.78	3.00	5.00
-1	1.02	2.26	2.92	4.29
-5	0.71	2.26	3.18	4.93
-8	0.71	2.26	4.78	14.99
-9	1.02	1.02	11.10	11.10
-10	0.71	2.26	5.54	6.53
-12	1.02	1.02	2.79	2.79
-13	0.71	2.26	3.81	11.10
-14	0.76	0.76	3.05	3.05
-15	0.71	2.26	3.56	9.91
-16	1.02	1.02	18.90	18.90
-20	0.76	0.76	14.33	14.33
-21	1.02	1.02	2.79	2.79
-22	0.65	2.25	3.10	5.00
-23	1.02	1.78	2.00	5.00

164-183-6PL-XX

(FOR 6 PIN)

MODIFIER	øA	øB	C±0.50	D±0.50
NO MODIFIER	1.02	1.78	3.00	5.00
-1	1.02	2.26	2.92	4.29
-2	1.02	1.02	11.10	10.10
-8	0.71	2.26	4.78	14.99
-9	0.71	2.26	3.18	4.93
-10	0.71	2.26	5.54	6.53
-12	1.02	1.02	2.79	2.79
-13	0.71	2.26	3.81	11.10
-14	0.76	0.76	3.05	3.05
-15	0.71	2.26	3.56	9.91
-16	1.02	1.02	18.90	18.90
-20	0.76	0.76	14.33	14.33
-21	1.02	1.02	2.79	2.79
-22	0.65	2.25	3.10	5.00
-23	1.02	1.78	2.00	5.00

Note: Consult Factory For Other Pcb Termination Styles And Availability

Special Products

Filtered Audio Receptacle Connector

Connector Meets All Requirement Of MIL-C-55116/5081

Filter Specifications:

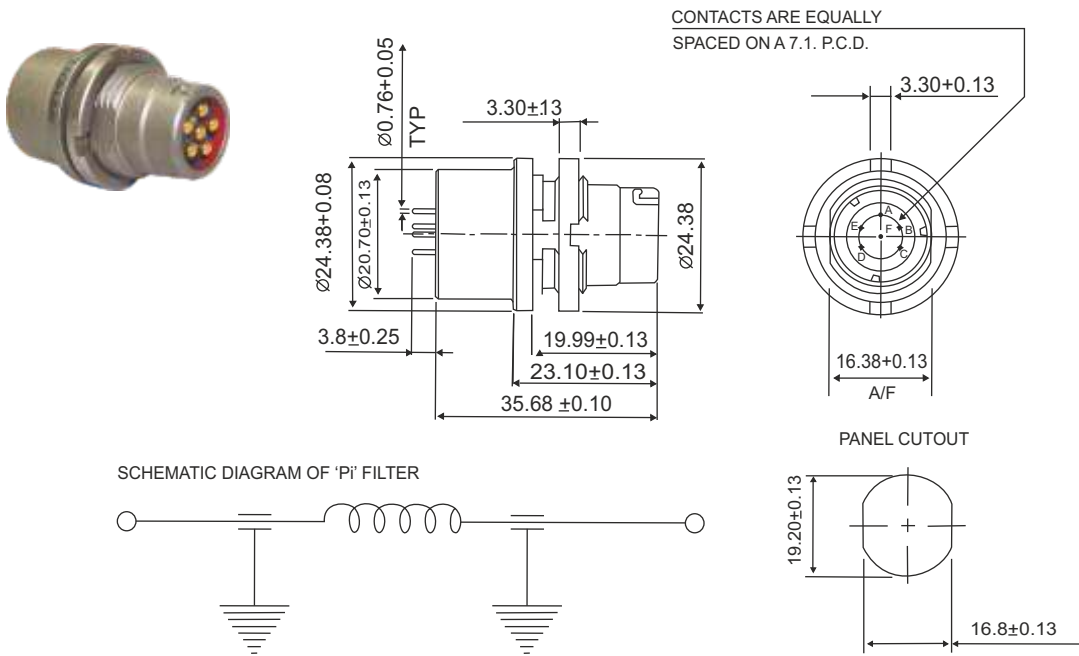
Capacitance (1KHz, 25°)	:8000PF TYP
Insertion Loss (TYP.) (MIL-STD-220, No Load 25°)	:1Mhz - 4dB :10Mhz - 25dB :50Mhz - 60dB
Working Voltage	:100DVC
Dielectric Voltage Breakdown	:300VDC
Insulation Resistance (100VDC, 25°C)	:10000 Mohms Min.
RF Current	:0.25 A Max.

ALL PINS ARE FILTERED

Method Of Designation

Connector Number	Description	No. Of Contacts	Contact Termination
164F-1836B-527	164 Filtered Audio Receptacle Connector	6	PC Tail
164F-1835B-527	164 Filtered Audio Receptacle Connector	5	PC Tail

164F-1836B -527 Filtered Audio Receptacle Connector



Special Products

164F - 1836B -527 Filtered Audio Receptacle Connector

Specifications (Technical Data):

Materials

Shell and Panel Nut	: Stainless Steel
Contacts	: Copper Alloy
Insulator	: Diallyl Pthalate Per MIL-M-14 Type MDG/Polyethersulfone

Finish Colour

Shell and Panel Nut	: Sand blasted and Passivated
Contacts	: 0.75µ Thick Gold Plate Over Nickel Undercoat 2.54µ
Insulator	: Blue/Black

Electrical Properties

Operating Voltage	: 60V Max. Potential
Current Rating	: 0.5A Max.
Dielectric Breakdown	: 300V DC
Insulation Resistance	: 1000M Ohms
Contact Resistance(Mated)	: 0.050 Ohms Max.

Mechanical Properties

Air Pressure	: 2.5 P.S.I.
Water Immersion	: 48 Hrs. At 6 Feet
Durability	: 3000 Cycles Mate & Unmate

Operating Temperature Range: -55°C TO 85°C Hitech

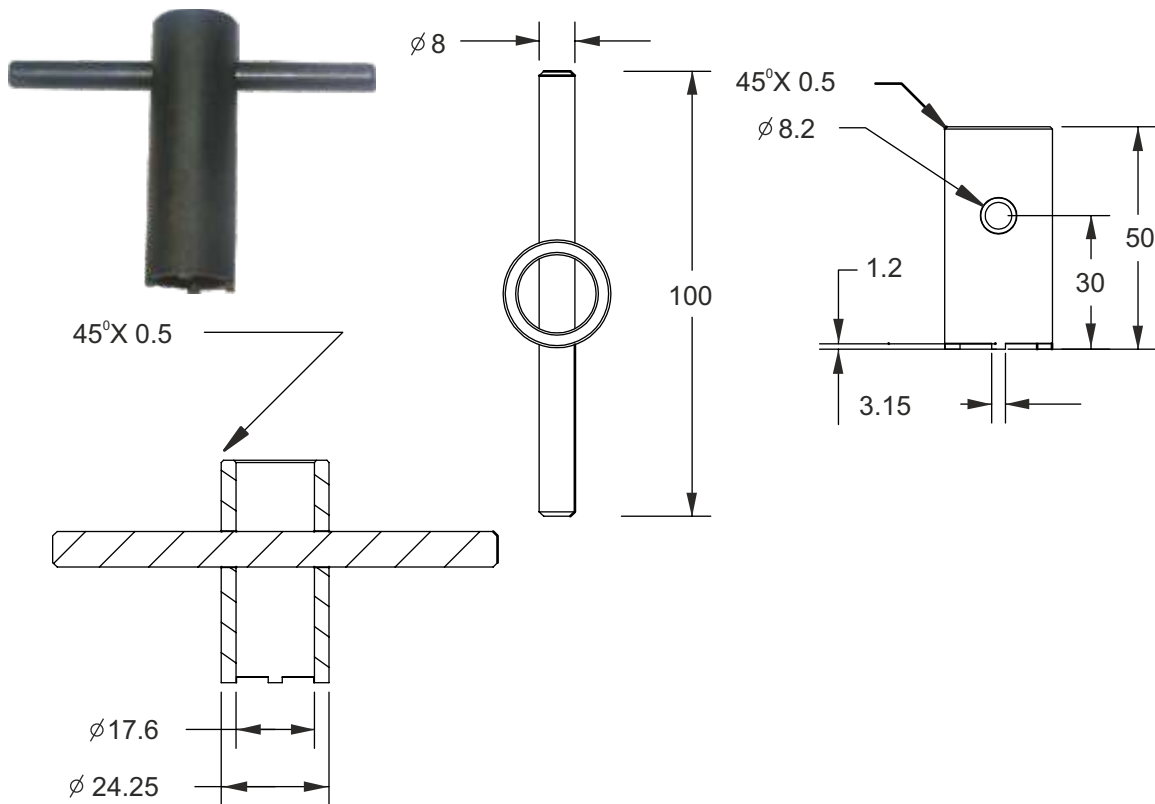
India 164 F-1836B-527 Receptacle Mates With:

Hitech India 164-229-6 & 164-229

Hitech India 164-229-6S & 164-229-S

Special Products

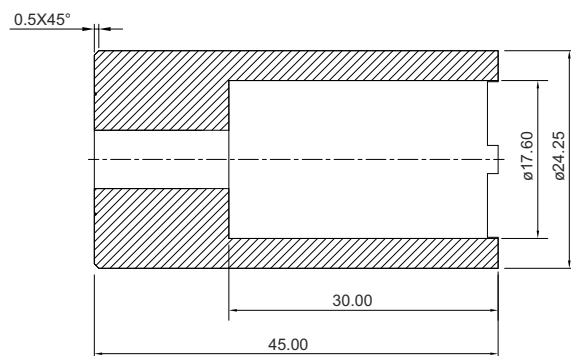
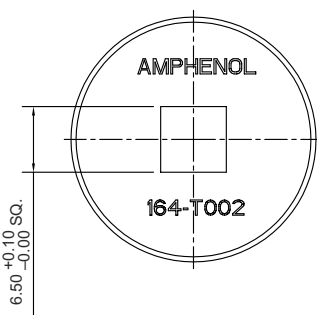
Tightening Spanner (164-T001)
(Panel Nut Tightening For 164-183 Connector)



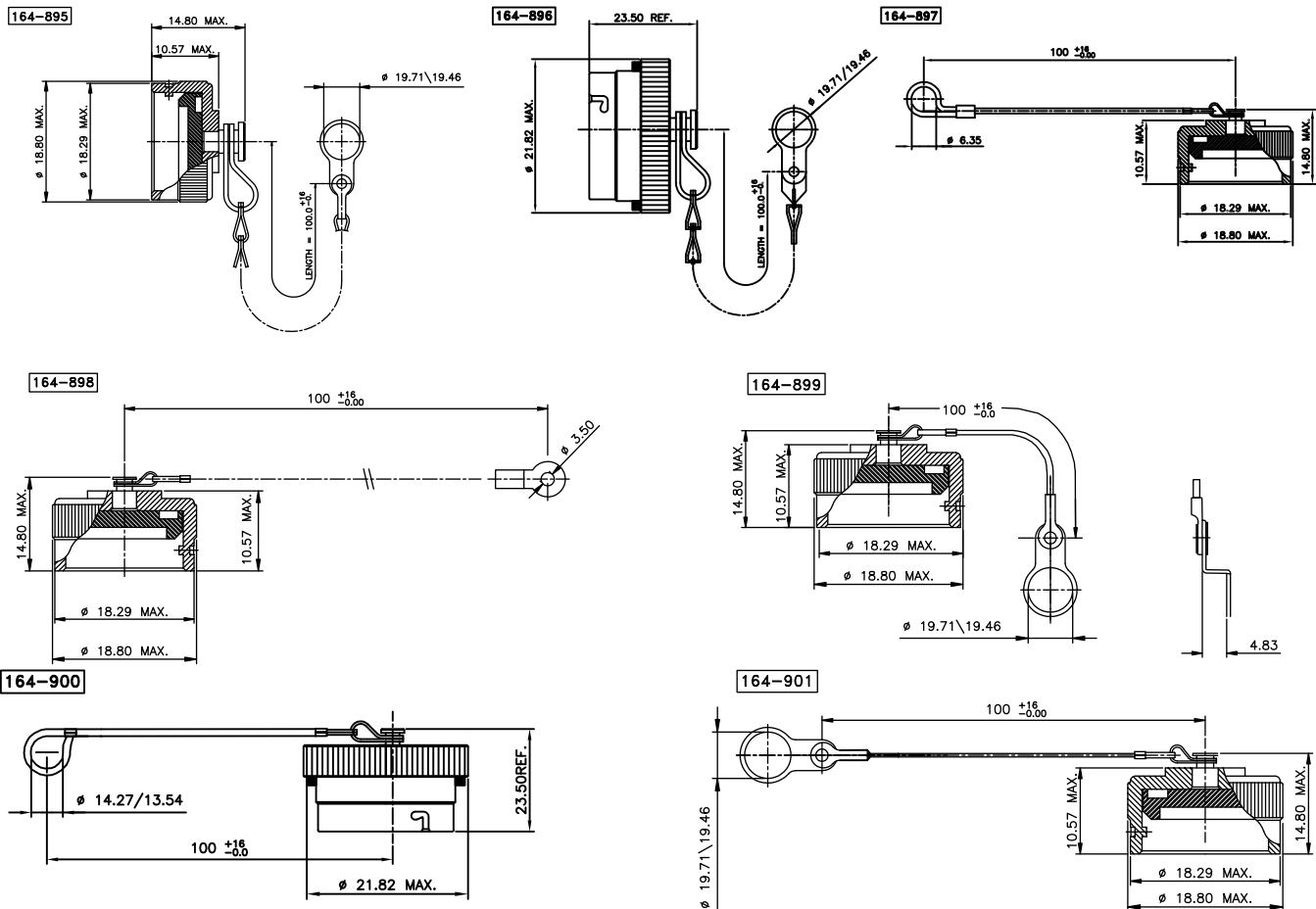
Tightening Spanner (164-T002)
(Panel Nut Tightening For 164-183 Connector - Torque Wrench Provision)



Ordering Part No. - 164- T002



Accessories - Caps For 5 & 6 Pin Connectors



ORDERING INFORMATION FOR 164 DUST CAP

Series Designation 164
 164. MIL 55116 Audio Connector
 Caps
 Shell Style 895

895:-Receptacle dust caps for 5 & 6 pin
 audio connector with chain & solid ring

896:-Plug dust caps for 5 & 6 pin
 audio connector with chain & solid ring

897:-Receptacle dust caps for 5 & 6 pin
 audio connector with nylon rope & loop

898:-Receptacle dust caps for 5 & 6 pin
 audio connector with nylon rope & SS lug

899:-Receptacle dust caps for 5 & 6 pin
 audio connector with SS rope & lug

900:-Plug caps for 5 & 6 pin
 audio connector with SS rope & loop

901:-Receptacle dust caps for 5 & 6 pin
 audio connector with nylon rope & solid ring

CD LXX
 Special Deviation for length
 for standard none for Non std.
 mention length in mm

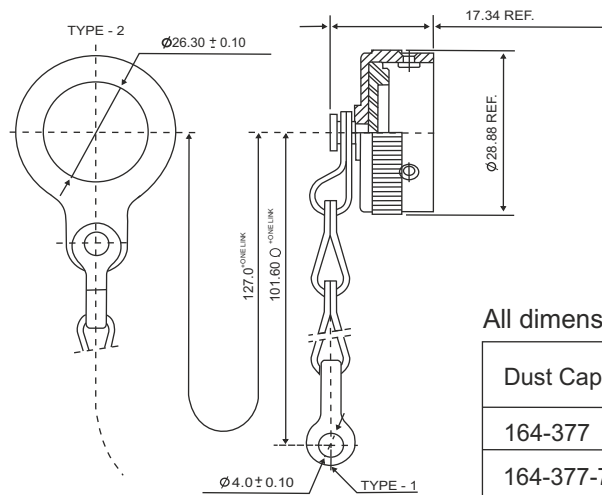
Finish

Standard Black anodic caps
 CD - Cadmium olive green finish
 622 - Zn Co olive green finish
 624 - Zn Co black finish

MATERIAL

Cover : Machined Alluminium Alloy
 Gasket : Silicon elastomer
 Chain : Stainless steel passivated
 Ring : Stainless steel passivated
 SS Rope : Stainless steel teflon coated
 Rope : Nylon (olive green)
 Fastners : Stainless steel passivated

Dust Cap for 10 Pin Receptacle



All dimensions in mm

Table 1

Dust Cap No.	Link Type	Cap Finish
164-377	Type -2	Black Anodised
164-377-714	Type-2	Cadmium Plate with Electroless Under Coat
164-377-01	Type-1	Black Anodised
164-377-01-714	Type-1	Cadmium Plate with Electroless Under Coat

Specification 10 Pin Connector

Specifications:

1. Materials & Finish

Receptacle Shell	: Stainless Steel, passivated, sand blasted
Plug Shell	: Stainless Steel, black passivated
Rear Shell	: Aluminium alloy, black oxide : Zinc Black for shielded
Inserts	: Diallylphthalate as per MIL-M-14F, type MDG
Contacts	: Copper Alloy, Gold plated .000030 In
Panel Nuts	: Stainless Steel, passivated sand blasted

2. Mechanical Properties

Durability	: 3000 Cycles Min.
Air Pressure	: 2.5psi.
Immersion	: 48 Hrs at 6 ft.

3. Electrical Performance

Dielectric Strength	: 500 vRms
Insulation Resistance	: 1000 Megha Ohms Min.
Contact Resistance (mated) :	.015 Ohms (Max.)

4. Reference Standard

MIL-C-10544

5. Environmental

Operating Temperature :- -55°C to +85°C

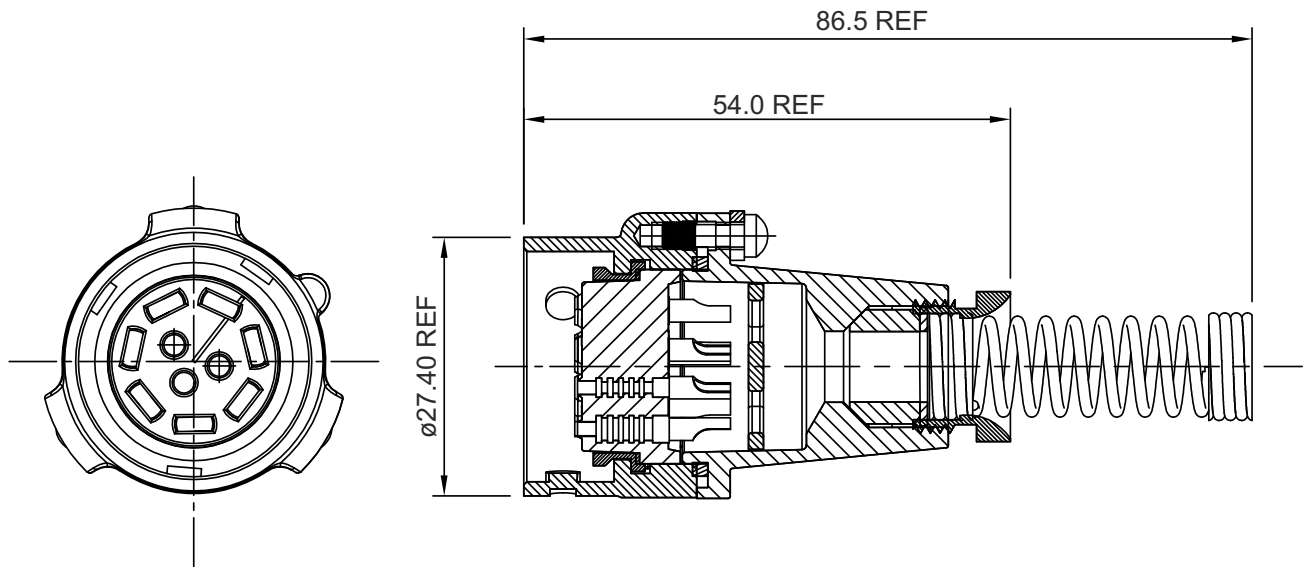
6. Ordering Information

SL. NO.	MIL PART NUMBER	Hitech India PART NUMBER	CONNECTOR	NO. OF CONTACTS	TYPE OF TERMINATION	REAR SHELL DESIGN
1	U-77()/U	164-77/U	PLUG	10	SOLDER POCKET	STRAIGHT
2	U-78()/U	164-78/U	PLUG	10	SOLDER POCKET	STRAIGHT
3	U-79()/U	164-79/U	RECEPTACLE	10	SOLDER POCKET	STRAIGHT
4	U-126()/U	164-126/U*	RECEPTACLE	10	SOLDER POCKET	STRAIGHT
5	U-127()/U	164-127/U*	PLUG	10	SOLDER POCKET	RIGHT ANGLE
6	U-161()/U	164-161/U	PLUG	10	TAPER PIN	STRAIGHT

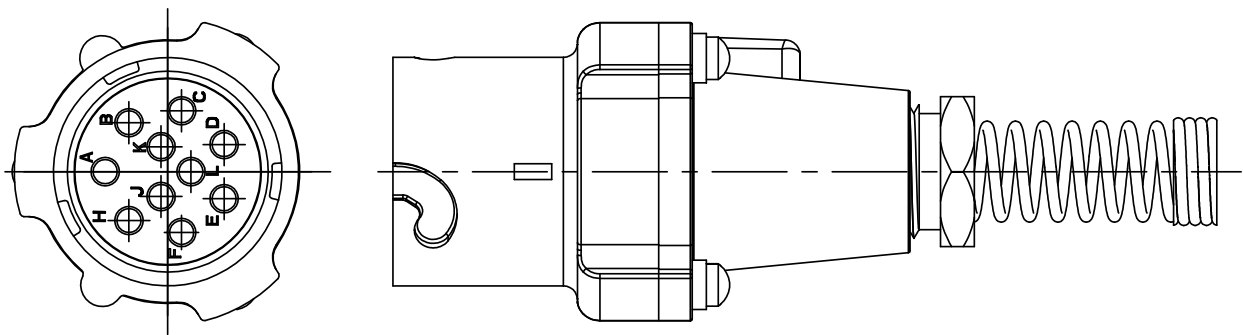
* For More Information Contact Factory

Audio Connectors 10 Pin

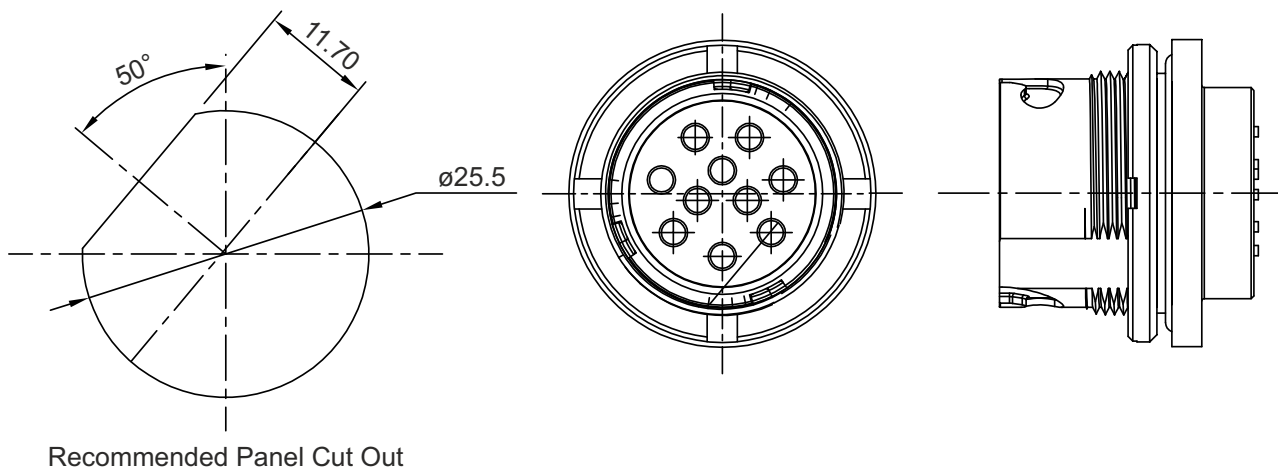
164-77/U Plug With Rigid Contacts, Solder Pocket Terminal, Straight Rear Shell

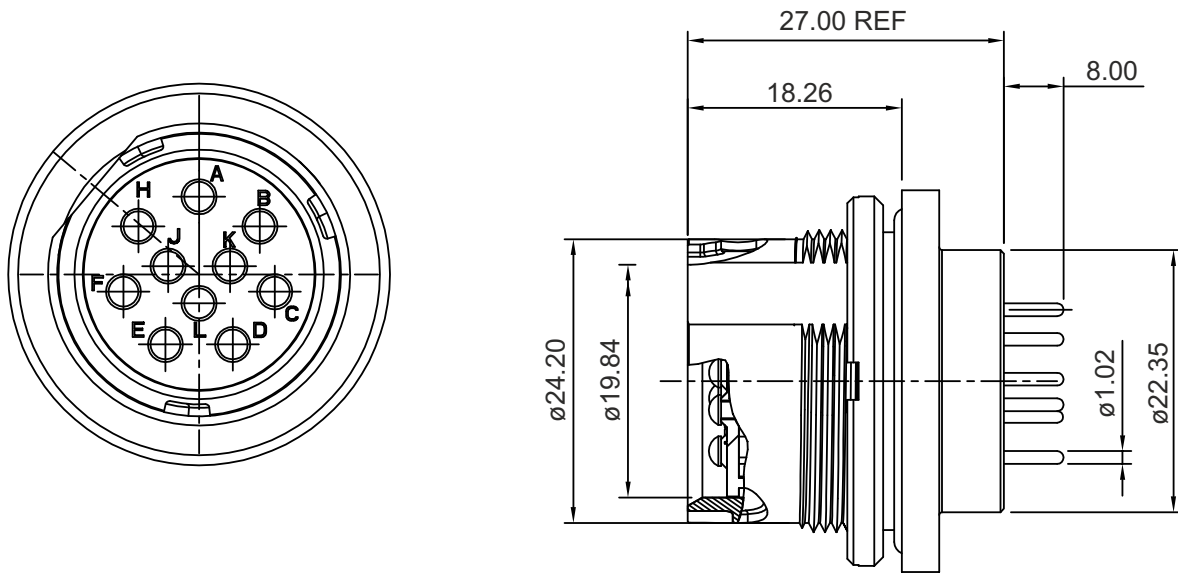


164-78/U Receptacle With Non Rigid Contacts, Solder Pocket Terminal, Straight Rear Shell

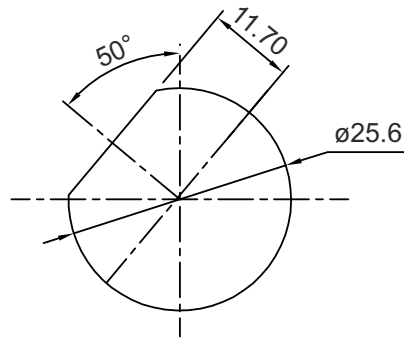


164-79/U Panel Mount Receptacle With Non Rigid Contacts, Solder Pocket Terminal

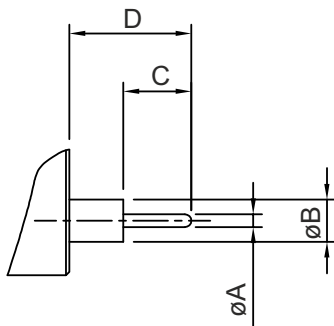




164-79/U—P PLAIN PIN DESIGN



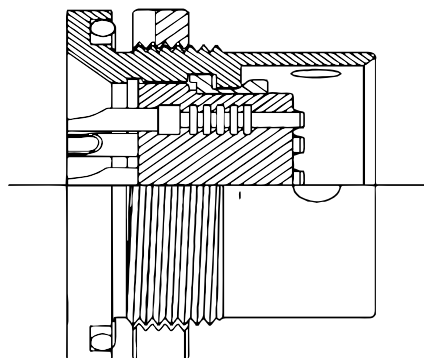
RECOMANDED PANEL CUT OUT



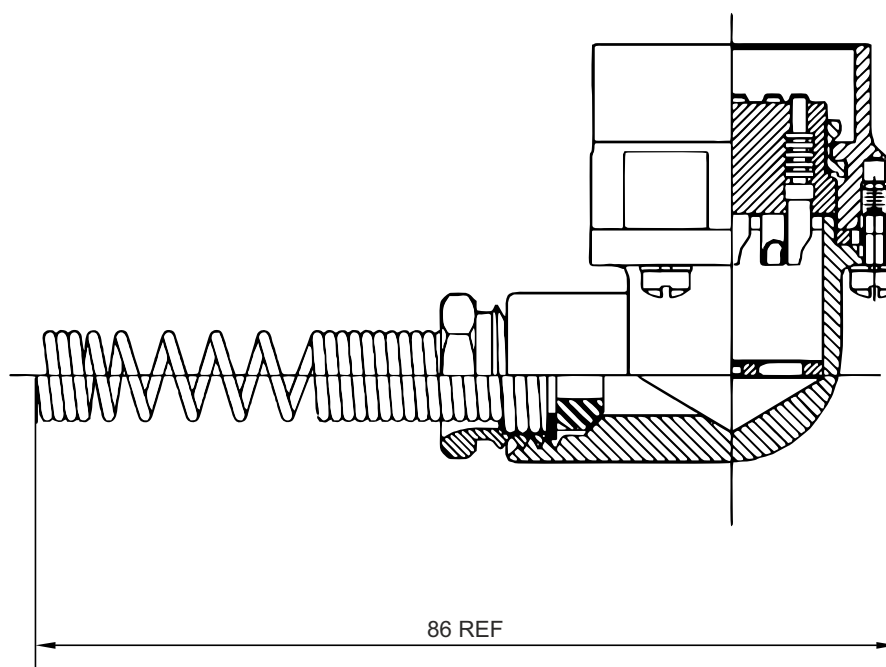
164-79/U—PL—XX STEPPED PIN DESIGN

MODIFIER(XX)	ØA	ØB	C	D
NO MODIFIER	1.02	1.78	3.00	5.00
-1	1.02	2.26	2.92	4.29
-2	1.02	1.02	11.10	11.10
-8	0.71	2.26	4.78	14.99
-9	0.71	2.26	3.18	4.93
-10	0.71	2.26	5.54	6.53
-12	1.02	1.02	2.79	2.79
-13	0.71	2.26	3.81	11.10
-14	0.76	0.76	3.05	3.05
-15	0.71	2.26	3.56	9.91
-16	1.02	1.02	18.90	18.90
-20	0.76	0.76	14.33	14.33
-21	1.02	1.02	2.79	2.79
-22	0.65	2.25	3.10	5.00
-23	1.02	1.78	2.00	5.00

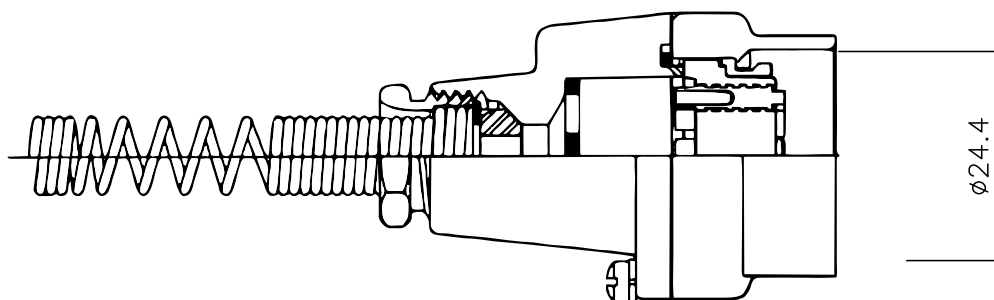
164-126/U Panel Mount Plug With Rigid Contacts, Solder Pocket Terminal



164-127/U Plug With Rigid Contacts, Solder Pocket Terminal, Right Angled Rear Shell

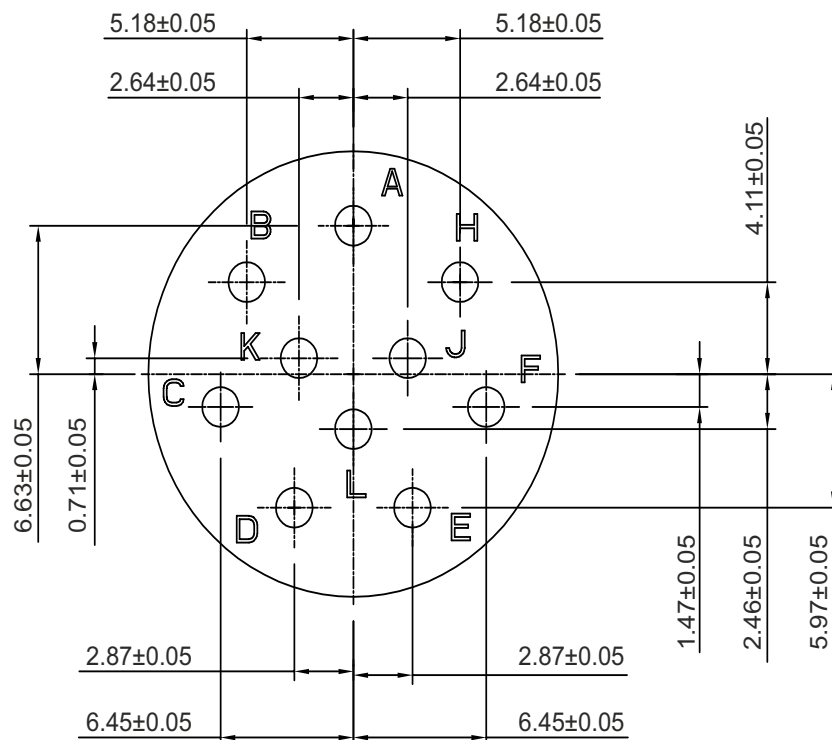


164-161/U Plug With Rigid Contacts, Solder Pocket Terminal, Right Angled Rear Shell



Audio Connectors 10 Pin

PCB Pin Co-ordinates



Specifications:

1. Ordering Information

164—79/U—P

: Plain Pin Design

164—79/U—P

: Stepped Pin Design

2. Materials & Finish

Front Shell

: Stainless Steel, Sand Blasted Finish.

Spanner Nut

: Stainless Steel, Sand Blasted Finish.

Inserts

: Diallylphthalate as per MIL—M—14F, type MDG

Contacts

: Copper Alloy, Gold plated .000030 In

3. Mechanical Properties

Durability

: 3000 Cycles Minimum.

Air Pressure

: 2.5psi.

Immersion

: 48 Hrs at 6 ft.

4. Electrical Performance

Dielectric Strength

: 500 vRms

Insulation Resistance

: 1000 Megha Ohms Min

Contact Resistance (mated)

: .015 Ohms (Max)

5. Reference Standard

STD : — MIL—C—10544

PART NO : — U—79/U