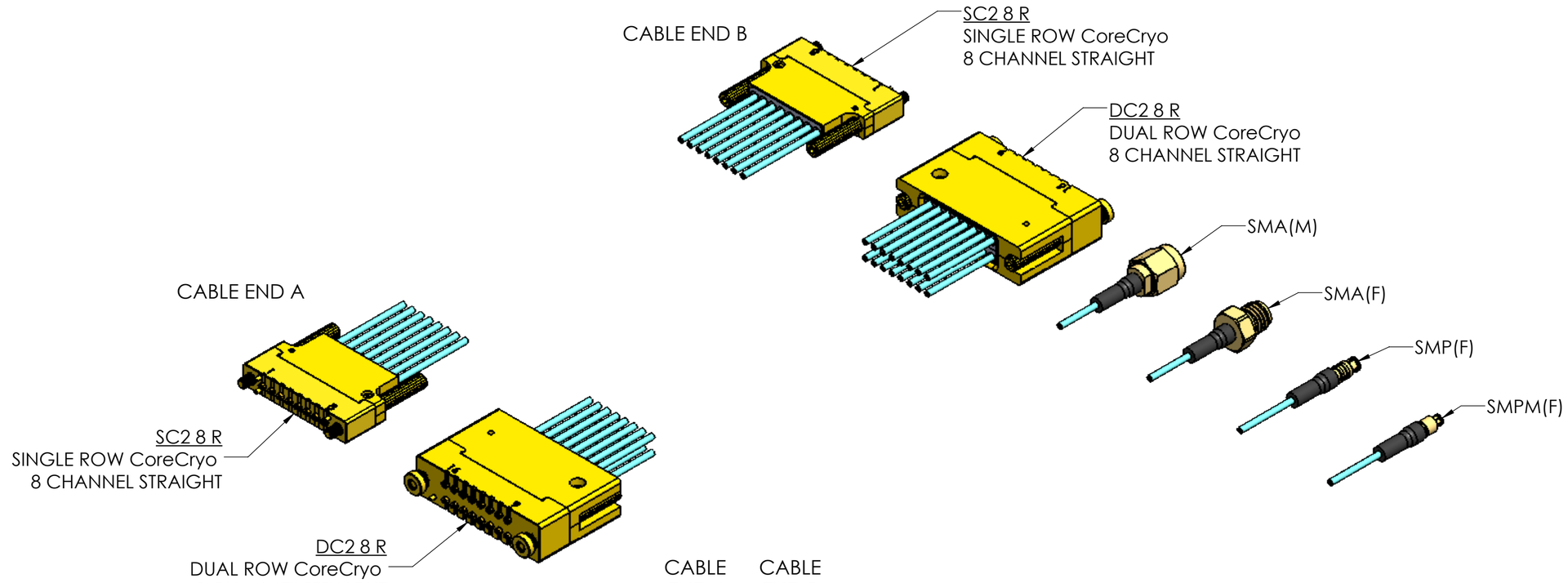
CoreCryo STD OFFERING

REVISION HISTORY					
ECO	REV.	DESCRIPTION	DRAWN BY	APPROVAL	DATE
	P1	PRELIMINARY RELEASE	HTRAN		10.13.25
	P2	ADD NOTES AND REVISE FREQUENCY RANGE	HTRAN		10.15.25
204811	A	INITIAL RELEASE	HTRAN	KFISHER	10.20.25
205028	B	ADD -X CODE: COUNTRY OF ORIGIN-C.O.O.	HTRAN	KFISHER	11.20.25



CABLE END A | CABLE END B

TM 4C X S C2 8 R C2 R 050 C (X)-X

- CABLE CODE: 4C- Cryo (NM) 0.047"
- STRAIN RELIEF: S- HEATSHRINK SHORT; M-HEATSHRINK MEDIUM; L-HEATSHRINK LONG; X-NO HEATSHRINK
- NO. OF ROWS: S- SINGLE ROW; D-DOUBLE ROW
- CONNECTOR TYPE: C2-CoreCryo CPW; S2-CoreCryo STRIPLINE
- # OF CHANLES PER ROW: 2 , 4 , 6 , 8 , 10
- CONNECTOR ORIENTATION: R-RUGGED STRAIGHT
- CONNECTOR TYPE: C2-CoreCryo CPW; S2-CoreCryo STRIPLINE; 2M -SMA MALE; 2F -SMA FEMALE; PF -SMP FEMALE; MF -SMPM FEMALE
- CONNECTOR ORIENTATION: R-RUGGED STRAIGHT (C2 AND S2 CONNECTOR); S-STRAIGHT
- LENGTH (cm): 050=500mm; 100=1000mm; ....
- PHASE MATCHING: C ± 2ps (PAIR) (AS STANDARD); D ± 1ps (PAIR); E ± 0.5ps (PAIR); F ± 2ps (LOT); G ± 1ps (LOT); H ± 0 .5ps (LOT)
- ORIENTATION: 1: SAME; 2: OPPOSITE (APPLIES WHEN USING 2 HC CONNECTORS)
- Country of Origin (C.O.O.): NULL: C.O.O. CN: BUILD TO FG (CN); -U: C.O.O. USA: BUILD FG LEVEL ONLY (USA); -Y: MAKE IN USA: BUILD TO FG (USA)

1. FOOTPRINTS...
   - TM13-0236-XX - DUAL ROW STRIPLINE
   - TM13-0240-XX - DUAL ROW CPW
   - TM13-0239-XX - SINGLE ROW STRIPLINE
   - TM13-0238-XX - SINGLE ROW CPW

NOTES: UNLESS OTHERWISE SPECIFIED...

RoHS 3 Compliant EU 2015/863

DIMENSIONS ARE IN MILLIMETERS [INCHES]
± TOLERANCES UNLESS OTHERWISE NOTED
.X ± 0.3mm [.012"] .XX ± 0.15mm [.006"]
.XXX ± 0.050mm [.002"] .XXXX ± 0.010mm [.0004"]
ANGLE ± 0.5°

NEXT ASSY. | USED ON
APPLICATION
THIRD ANGLE PROJECTION

MATERIAL	-	-	-
		SPECIFICATION	PROCUREMENT

APPROVAL	INITIALS	DATE
DRAWN BY	HT	10.13.25
CHECKED BY		
TEST ENG		
QUALITY		
DESIGN ENG	HT	10.13.25
MFG ENG	LC	11.25.25
ECO APPRV	HT	11.21.25

Amphenol CDI
12900 Alondra Blvd.
Cerritos, CA 90703

TITLE: CoreCryo CABLE BUILDER ASSY

SCALE 1:1 | SUB-DIRECTORY/ | SHEET 1 OF 9

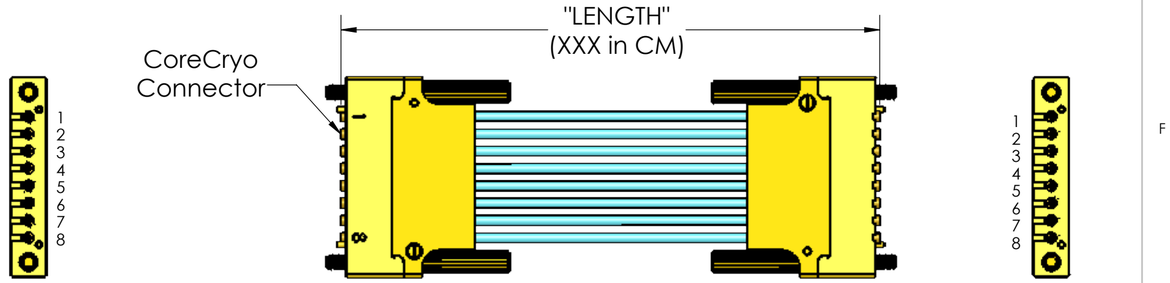
SIZE	CAGE CODE	DRAWING NO.	REV.
C	30990	OL_TM99-0141-00	B

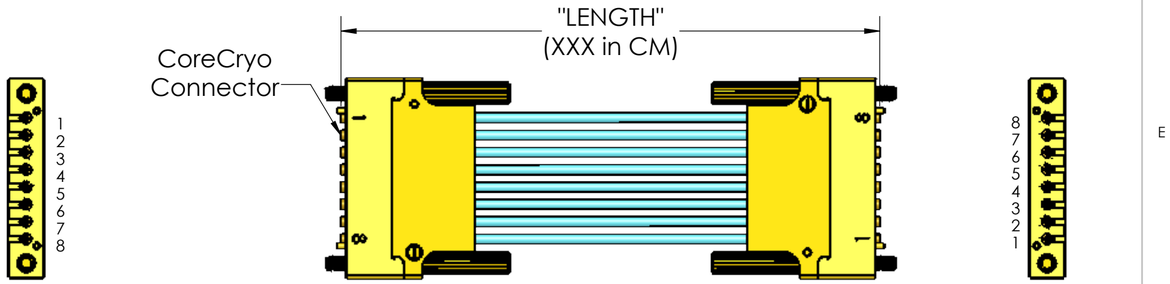
CoreCryo Assy.
TM4CXSXX2RXXRXXXX1-X
TM4CXSXX4RXXRXXXX1-X
TM4CXSXX6RXXRXXXX1-X
TM4CXSXX8RXXRXXXX1-X
TM4CXSX10RXXRXXXX1-X
TM4CXSXX2RXXRXXXX2-X
TM4CXSXX4RXXRXXXX2-X
TM4CXSXX6RXXRXXXX2-X
TM4CXSXX8RXXRXXXX2-X
TM4CXSX10RXXRXXXX2-X
TM4CXDXX2RXXRXXXX2-X
TM4CXDXX4RXXRXXXX2-X
TM4CXDXX6RXXRXXXX2-X
TM4CXDXX8RXXRXXXX2-X
TM4CXDX10RXXRXXXX2-X

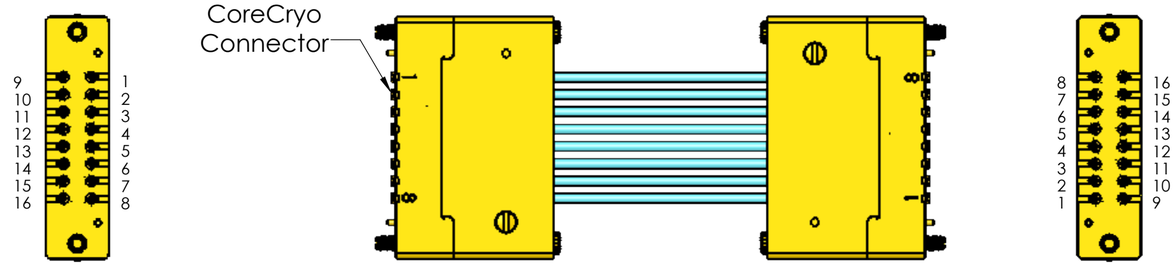
ORIENTATION STYLE 1: SAME ORIENTATION		
CABLE #	CONNECTOR 1 PINOUT	CONNECTOR 2 PINOUT
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8

ORIENTATION STYLE 2: OPPOSITE / REVERSED		
CABLE #	CONNECTOR 1 PINOUT	CONNECTOR 2 PINOUT
1	1	8
2	2	7
3	3	6
4	4	5
5	5	4
6	6	3
7	7	2
8	8	1

ORIENTATION STYLE 2: OPPOSITE / REVERSED		
CABLE #	CONNECTOR 1 PINOUT	CONNECTOR 2 PINOUT
1	1	8
2	2	7
3	3	6
4	4	5
5	5	4
6	6	3
7	7	2
8	8	1
9	9	16
10	10	15
11	11	14
12	12	13
13	13	12
14	14	11
15	15	10
16	16	9







CoreCryo To CoreCryo
(EX: 1R & 2R X 8CH. AS SHOWN)

FREQUENCY	RETURN LOSS (GATED) (dB Max.)	INSERTION LOSS (dB/Ft Max.)
DC TO 14 GHz	-17	-2.2
14 TO 18 GHz	-14	-3.0

MATERIAL(S):

CoreHC2 connector: P/n TM14-0189-01/-02**(Non-Magnetic)**
Contact, Front Shell,Rear Shell,Ground Slider & Solder Sleeve:
BeCu Alloy, Gold over Copper Plating
Spring :
Stainless Steel SUS130M, Passivate
Front Insulator: Rexolite 1422 (unfilled)
Support Insulator 1, Support Insulator 2: PTFE
Dielectric Stop: Peek
Sping pin:
Barrel: Phosphor Bronze, Gold over Copper Plating
Plunger:BeCu Alloy, Gold over Copper Plating
Spring: NAS 604PH, Gold over Copper Plating
Tail Needle: BeCu Alloy, Gold over Copper Plating
HC2 Compliant Carrier: TM4S-XC28R **(Non-Magnetic)**
Carrier, Clamp Shell, Dowel Pin, Screw & Press Nut:
BeCu Alloy, Gold over Copper Plating
Cable Support: Silicone

Cable: P/n TM20-4S9 **(Non-Magnetic)**
Conductor: Solid Silver Plated Copper Alloy (non magnetic)
Dielectric: Solid PTFE
Shielding: Helically wrapped flat silver plated copper tape (non-magnetic)
Shielding: Silver Plated Copper Alloy (non-magnetic)
Jacket: FEP

ELECTRICAL(S): REFERENCE ONLY

Impedance: 50 Ohms Nominal
Frequency Range: DC to 18.0 GHz
VSWR: See Table
Insertion Loss: See Table
HC2 (Spring Pin):
Working Voltage: 325 Vrms max @ Sea Level
Insulation Resistance: 5000 MegOhms min.
Spring Pin:
Current: 1A Max.
Contact Reisistance: 100mOhm Max.

MECHANICAL(S): REFERENCE ONLY

Mating Characteristics:
CoreHC2 Interface per Amphenol CDI
Force to Engage:
CoreHC2 (Individual): .85 Lbs Typ.
Force to Disengage:
CoreHC2 (Individual): .N/A
Connector Durability:
CoreHC2: 1,000 Cycles

ENVIRONMENTAL(S): REFERENCE ONLY

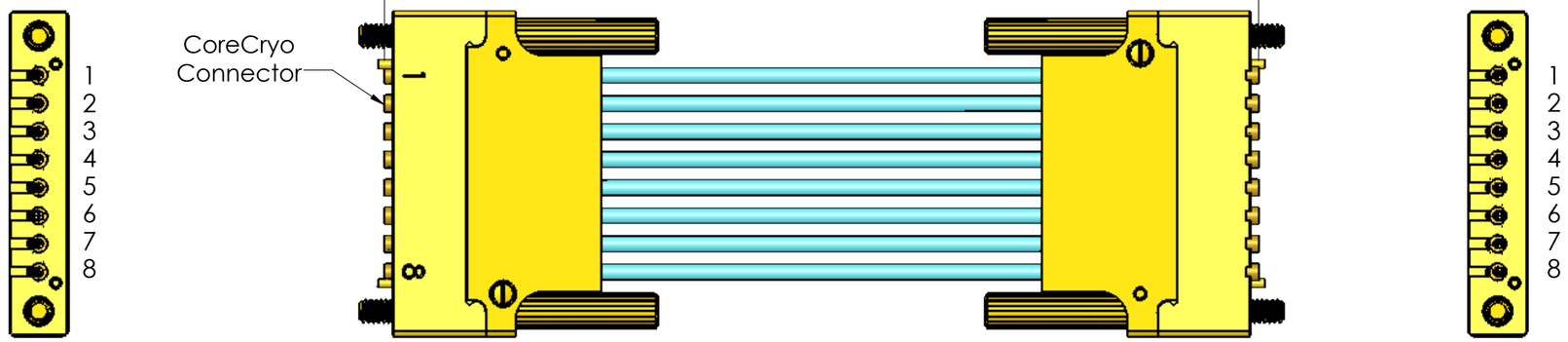
Temperature Range: -65°C to +125°C
Thermal Shock:
MIL-STD-202, Method 107, Test Condition B
Moisture Resistance:
MIL-STD-202, Method 106, Insulation resistance at least 200 MegaOhms within 5 minutes after removal from humidity.

Amphenol CDI

TITLE	SIZE	CAGE CODE	DRAWING NUMBER	REV
CoreCryo CABLE BUILDER ASSY	C	30990	OL_TM99-0141-00	B
	SCALE: 4:1		DO NOT SCALE DRAWING	2 OF 9

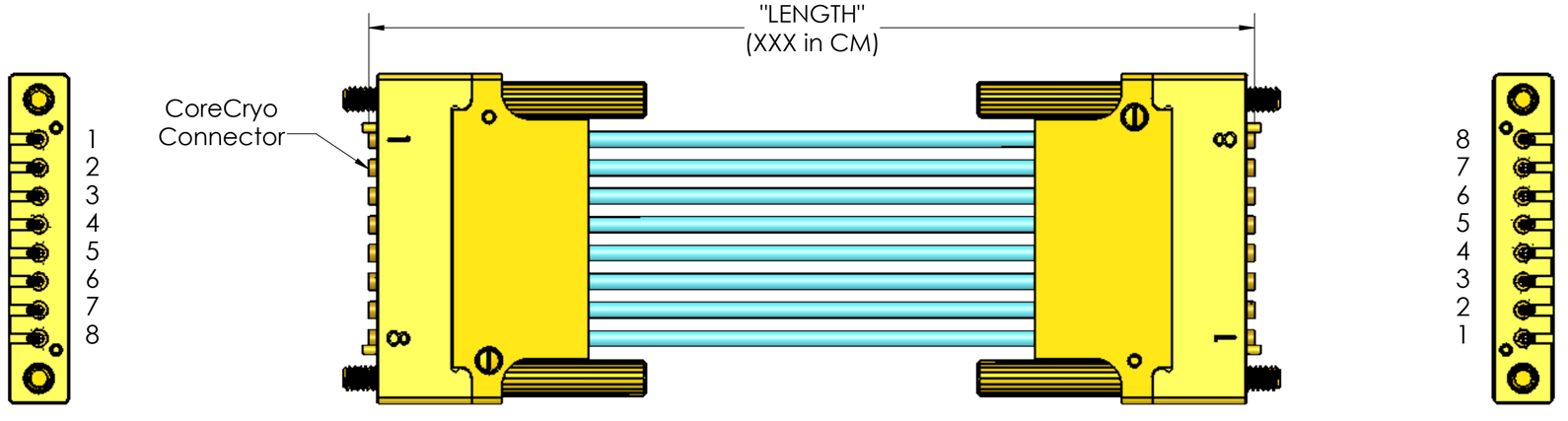
ORIENTATION STYLE 1: SAME ORIENTATION		
CABLE #	CONNECTOR 1 PINOUT	CONNECTOR 2 PINOUT
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8

FREQUENCY	RETURN LOSS (GATED) (dB Max.)	INSERTION LOSS (dB/Ft Max.)
DC TO 14 GHz	-17	-2.2
14 TO 18 GHz	-14	-3.0



CoreCryo To CoreCryo
Single Row Configuration
Same Orientation Style
(EX: 1R X 8CH. As Shown)

ORIENTATION STYLE 2: OPPOSITE / REVERSED		
CABLE #	CONNECTOR 1 PINOUT	CONNECTOR 2 PINOUT
1	1	8
2	2	7
3	3	6
4	4	5
5	5	4
6	6	3
7	7	2
8	8	1

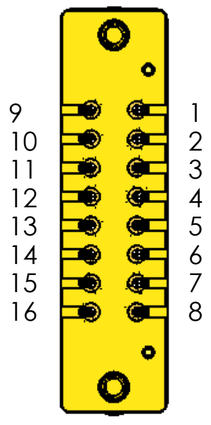


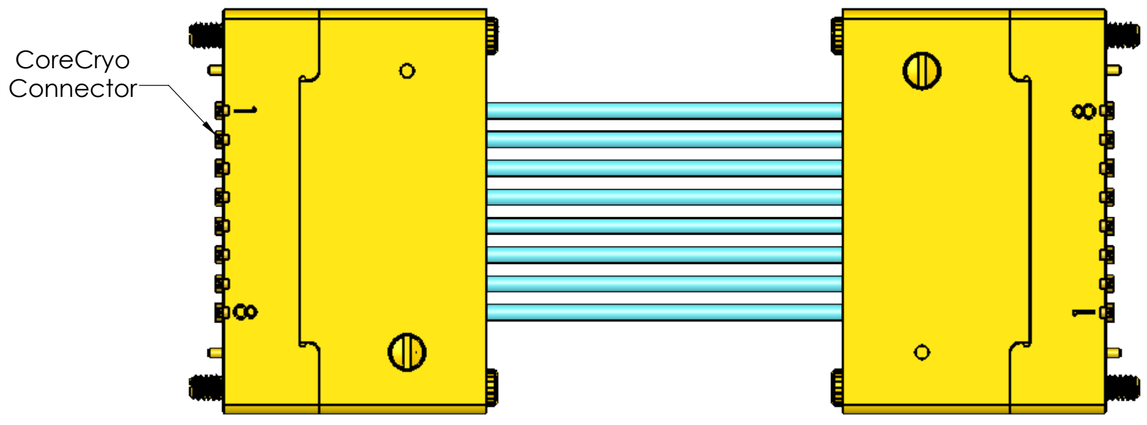
CoreCryo To CoreCryo
Single Row Configuration
Oppsite Orientation Style
(EX: 1R X 8CH. As Shown)

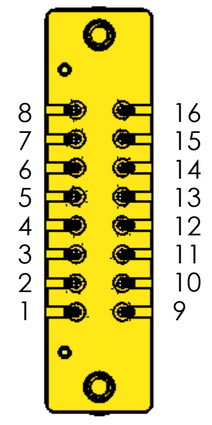
	TITLE	SIZE	CAGE CODE	DRAWING NUMBER	REV
Amphenol CDI	CoreCryo CABLE BUILDER ASSY	C	30990	OL_TM99-0141-00	B
		SCALE: 4:1		DO NOT SCALE DRAWING	3 OF 9

ORIENTATION STYLE 2: OPPOSITE / REVERSED		
CABLE #	CONNECTOR 1	CONNECTOR 2
	PINOUT	PINOUT
1	1	8
2	2	7
3	3	6
4	4	5
5	5	4
6	6	3
7	7	2
8	8	1
9	9	16
10	10	15
11	11	14
12	12	13
13	13	12
14	14	11
15	15	10
16	16	9

FREQUENCY	RETURN LOSS (GATED) (dB Max.)	INSERTION LOSS (dB/Ft Max.)
DC TO 14 GHz	-17	-2.2
14 TO 18 GHz	-14	-3.0





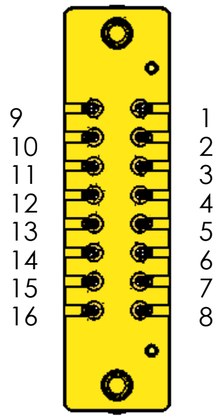


CoreCryo To CoreCryo
Dual Row Configuration
Opposite Orientation Style
(EX: 2R X 8CH. As Shown)

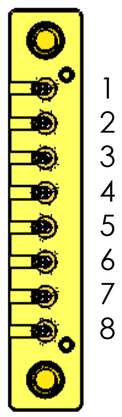
Amphenol CDI	TITLE	SIZE	CAGE CODE	DRAWING NUMBER	REV
	CoreCryo CABLE BUILDER ASSY	C	30990	OL_TM99-0141-00	B
		SCALE: 4:1		DO NOT SCALE DRAWING	4 OF 9

CoreCryo Assy.
TM4CXSXX2RXXXXXXX-X
TM4CXSXX4RXXXXXXX-X
TM4CXSXX6RXXXXXXX-X
TM4CXSXX8RXXXXXXX-X
TM4CXSX10RXXXXXXX-X
TM4CXDXX2RXXXXXXX-X
TM4CXDXX4RXXXXXXX-X
TM4CXDXX6RXXXXXXX-X
TM4CXDXX8RXXXXXXX-X
TM4CXDX10RXXXXXXX-X

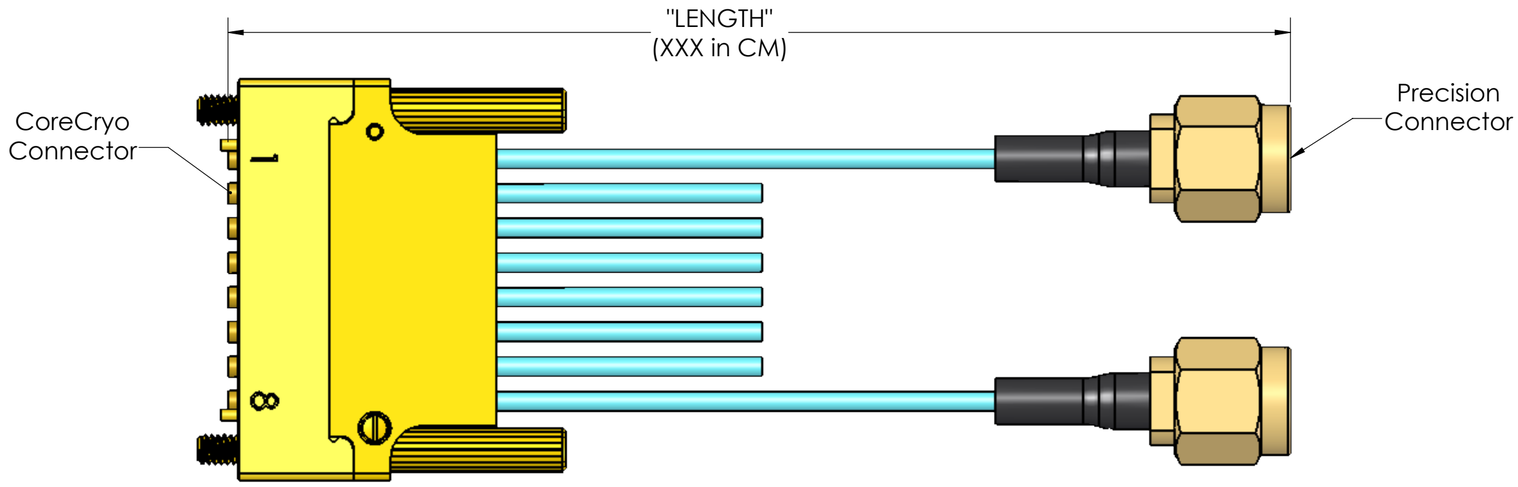
FREQUENCY	RETURN LOSS (GATED) (dB Max.)	INSERTION LOSS (dB/Ft Max.)
DC TO 14 GHz	-17	-2.2
14 TO 18 GHz	-14	-3.0



DUAL ROW



SINGLE ROW



CoreCryo To PRECISION CONNECTOR (EX: 1R & 2R X 8CH. AS SHOWN)

MATERIAL(S):

CoreHC2 connector: P/n TM14-0189-01/-02**(Non-Magnetic)**
Contact, Front Shell,Rear Shell,Ground Slider & Solder Sleeve:
BeCu Alloy, Gold over Copper Plating
Spring :
Stainless Steel SUS130M, Passivate
Front Insulator: Rexolite 1422 (unfilled)
Support Insulator 1, Support Insulator 2: PTFE
Dielectric Stop: Peek
Sping pin:
Barrel: Phosphor Bronze, Gold over Copper Plating
Plunger:BeCu Alloy, Gold over Copper Plating
Spring: NAS 604PH, Gold over Copper Plating
Tail Needle: BeCu Alloy, Gold over Copper Plating
Precision connector: **(Non-Magnetic)**
(See Precision Connector Matrix)
HC2 Compliant Carrier: TM4S-XC28R **(Non-Magnetic)**
Carrier, Clamp Shell, Dowel Pin, Screw & Press Nut:
BeCu Alloy, Gold over Copper Plating
Cable Support: Silicone

Cable: P/n TM20-4S9 **(Non-Magnetic)**
Conductor: Solid Silver Plated Copper Alloy (non magnetic)
Dielectric: Solid PTFE
Shielding: Helically wrapped flat silver plated copper tape (non-magnetic)
Shielding: Silver Plated Copper Alloy (non-magnetic)
Jacket: FEP

ELECTRICAL(S): REFERENCE ONLY

Impedance: 50 Ohms Nominal
Frequency Range: DC to 18.0 GHz
VSWR: See Table
Insertion Loss: See Table
HC2 (Spring Pin):
Working Voltage: 325 Vrms max @ Sea Level
Insulation Resistance: 5000 MegOhms min.
Spring Pin:
Current: 1A Max.
Contact Reisistance: 100mOhm Max.
SMA:
Working Voltage: 250 Vrms max @ Sea Level
DWV: 1000 Vrms max @ Sea Level
Insulation Resistance: 5000 MegOhms min.
SMP & SMPM:
Working Voltage: 217 Vrms max @ Sea Level
Insulation Resistance: 5000 MegOhms min.
Contact Resistance:
Center Contact: 6 m Ω
Outer Contact: 2 m Ω

MECHANICAL(S): REFERENCE ONLY

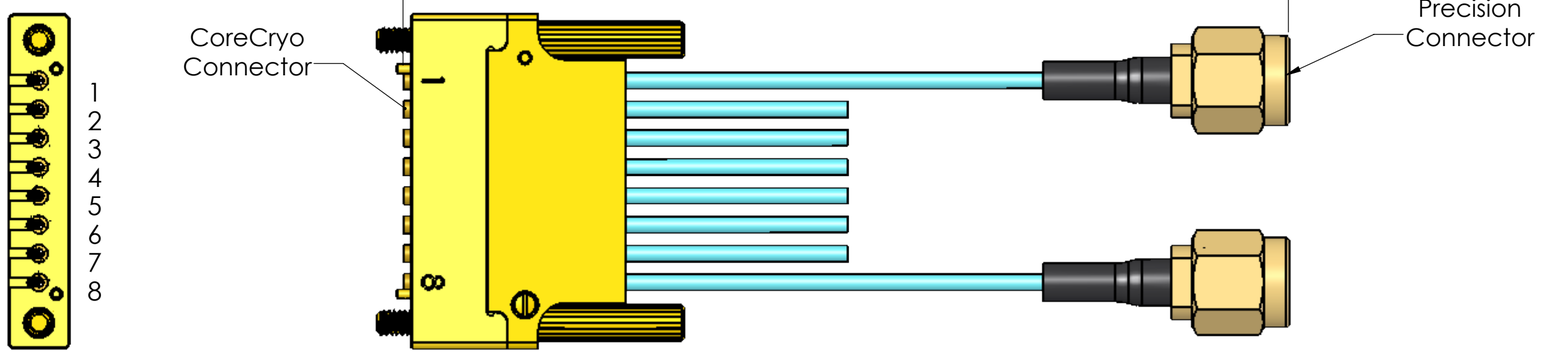
Mating Characteristics:
SMPM Interface per MIL-STD 348
CoreHC2 Interface per Amphenol CDI
Force to Engage:
CoreHC2 (Individual): .85 Lbs Typ.
SMA: 2in-lbs max
SMP: Depend on Detent
SMPM: Depend on Detent
Force to Disengage:
CoreHC2 (Individual): .N/A
SMA: 2in-lbs max
SMP: Depend on Detent
SMPM: Depend on Detent
Connector Durability:
CoreHC2: 1,000 Cycles
SMA: 500 Cycles
SMP & SMPM: 100 Cycles (Full Detent)
SMP & SMPM: 500 Cycles (SmoothBore)

ENVIRONMENTAL(S): REFERENCE ONLY

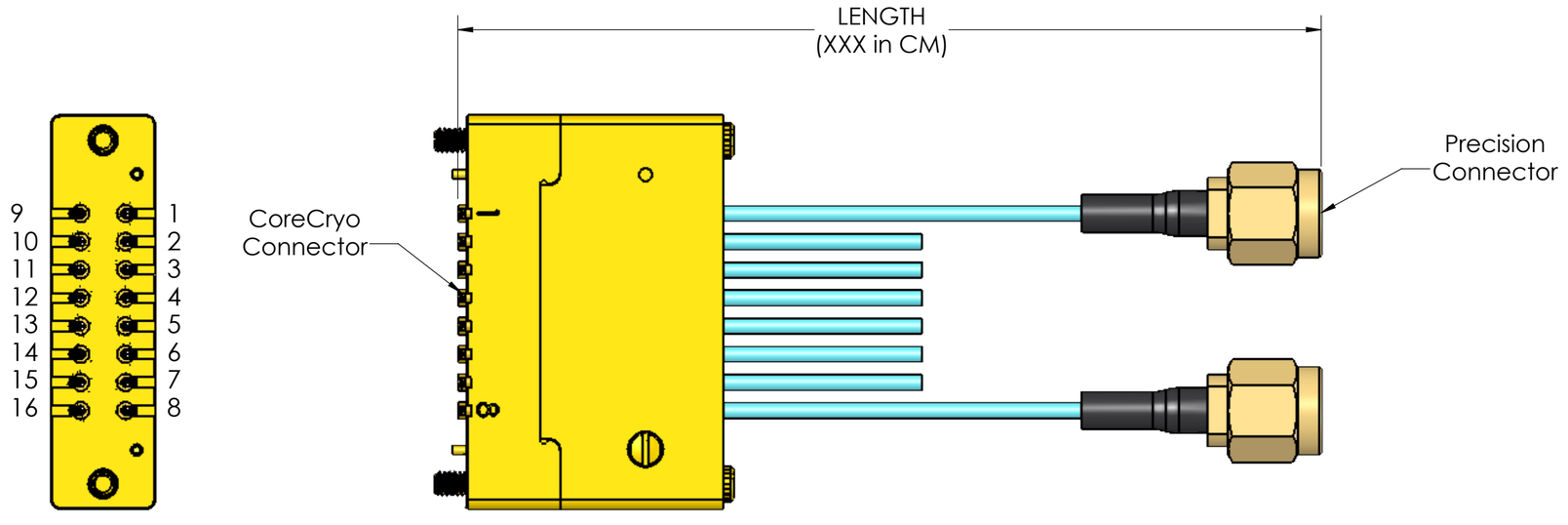
Temperature Range: -65°C to +125°C
Thermal Shock:
MIL-STD-202, Method 107, Test Condition B
Moisture Resistance:
MIL-STD-202, Method 106, Insulation resistance at least 200 MegaOhms within 5 minutes after removal from humidity.

Amphenol CDI	TITLE: CoreCryo CABLE BUILDER ASSY	SIZE: C	CAGE CODE: 30990	DRAWING NUMBER: OL_TM99-0141-00	REV: B
		SCALE: 4:1	DO NOT SCALE DRAWING		5 OF 9

FREQUENCY	RETURN LOSS (GATED) (dB Max.)	INSERTION LOSS (dB/Ft Max.)
DC TO 14 GHz	-17	-2.2
14 TO 18 GHz	-14	-3.0

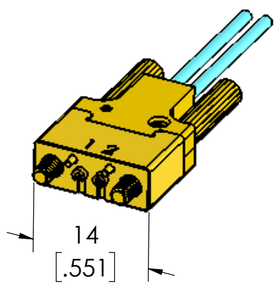


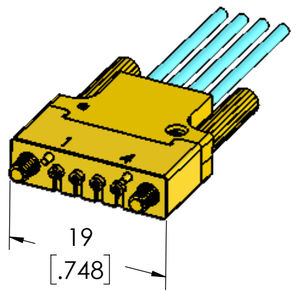
CoreCryo To PRECISION CONNECTOR
(EX: 1R X 8CH. AS SHOWN)

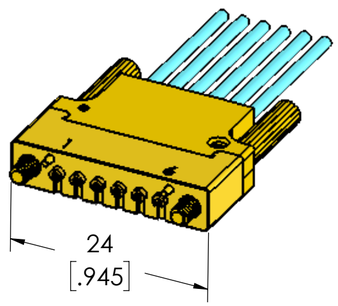


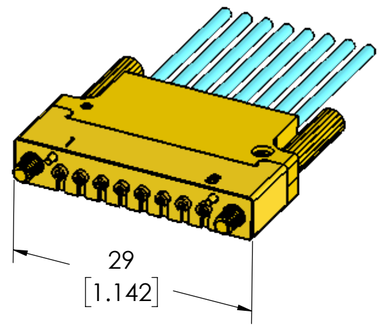
CoreCryo To PRECISION CONNECTOR
(EX: 2R X 8CH. AS SHOWN)

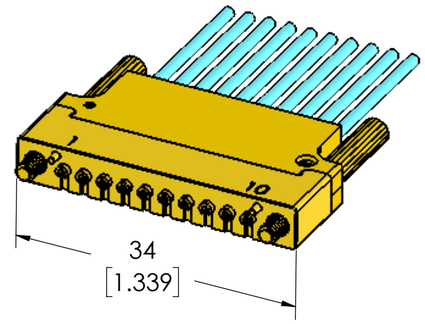
Amphenol CDI	TITLE	SIZE	CAGE CODE	DRAWING NUMBER	REV
	CoreCryo CABLE BUILDER ASSY	C	30990	OL_TM99-0141-00	B
		SCALE: 4:1		DO NOT SCALE DRAWING	6 OF 9

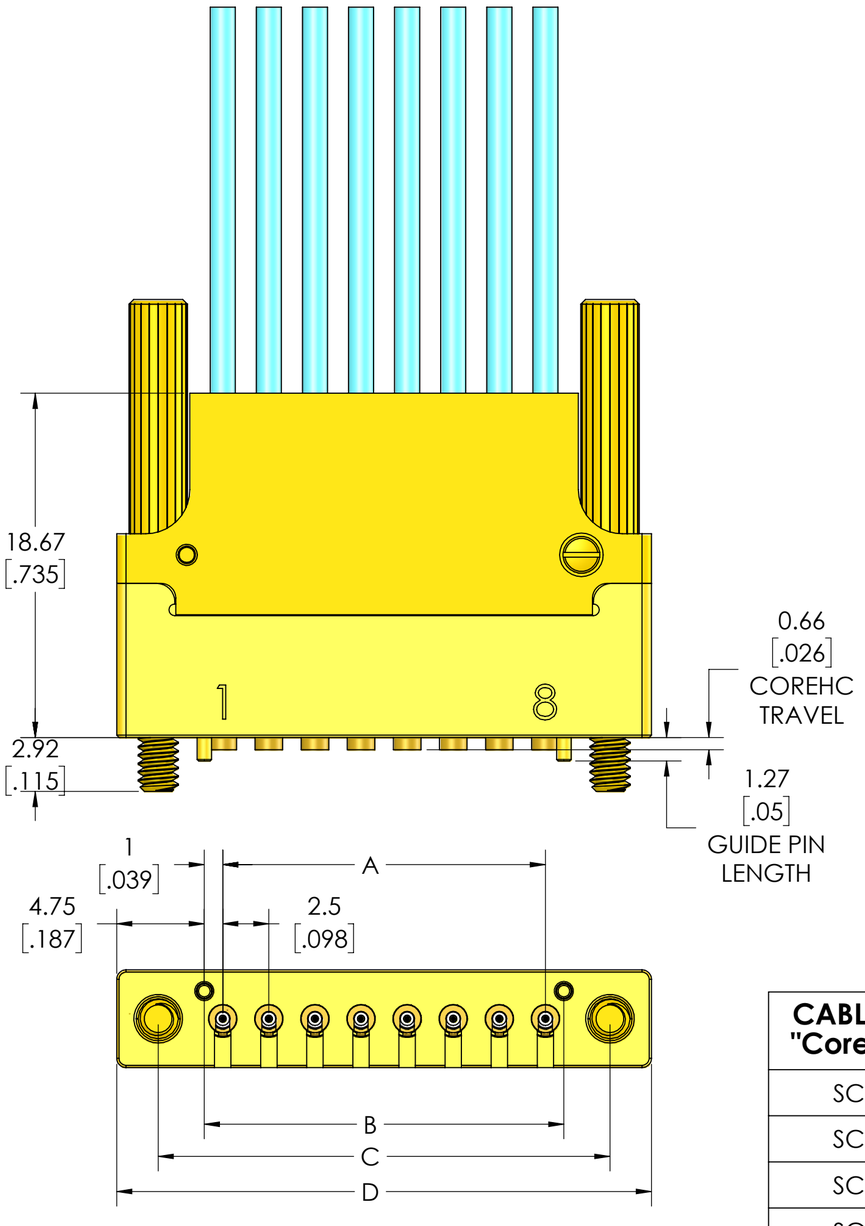




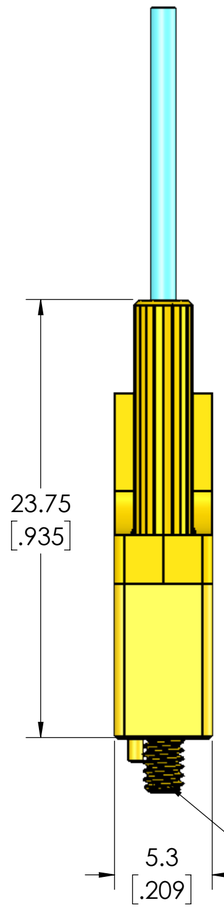


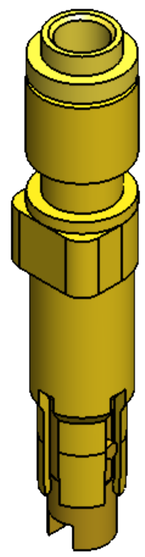






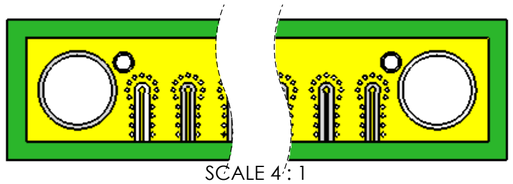
S C2 X R
SINGLE ROW CoreCryo





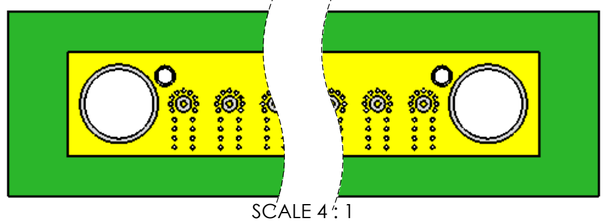
CoreCryo COAXIAL
CONNECTOR

CABLE END "CoreCryo"	DIM. "A" mm[in]	DIM. "B" mm[in]	DIM. "C" mm[in]	DIM. "D" mm[in]
SC22R	2.5 [.0984]	4.5 [.177]	9.5 [.374]	14[.551]
SC24R	7.5[.295]	9.5[.374]	14.5[.571]	19[.748]
SC26R	12.5[.492]	14.5[.571]	19.5 [.768]	24[.945]
SC28R	17.5[.689]	19.5[.768]	24.5[.965]	29[1.142]
SC10R	22.5[.886]	24.5[.965]	29.5[1.161]	34[1.339]



SCALE 4 : 1

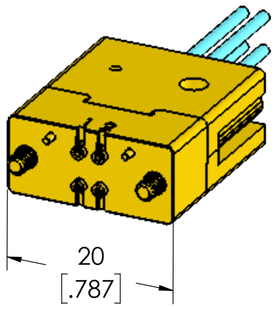
SEE TM13-0238-XX
SINGLE ROW CPW

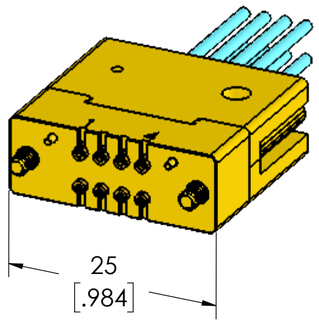


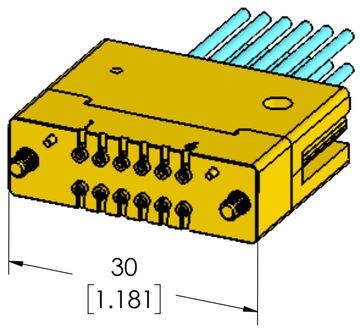
SCALE 4 : 1

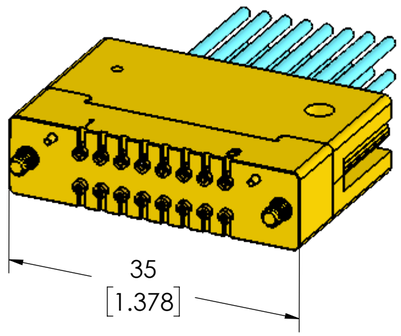
SEE TM13-0239-XX
SINGLE ROW STRIPLINE

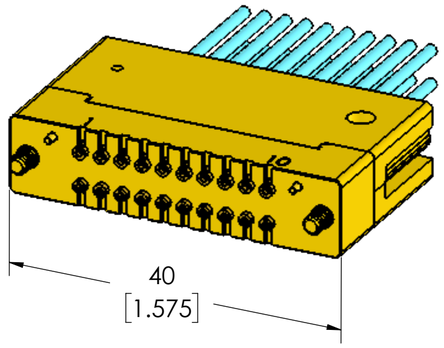
	TITLE	SIZE	CAGE CODE	DRAWING NUMBER	REV
Amphenol CDI	CoreCryo CABLE BUILDER ASSY	C	30990	OL_TM99-0141-00	B
		SCALE: 2:1		DO NOT SCALE DRAWING	7 OF 9

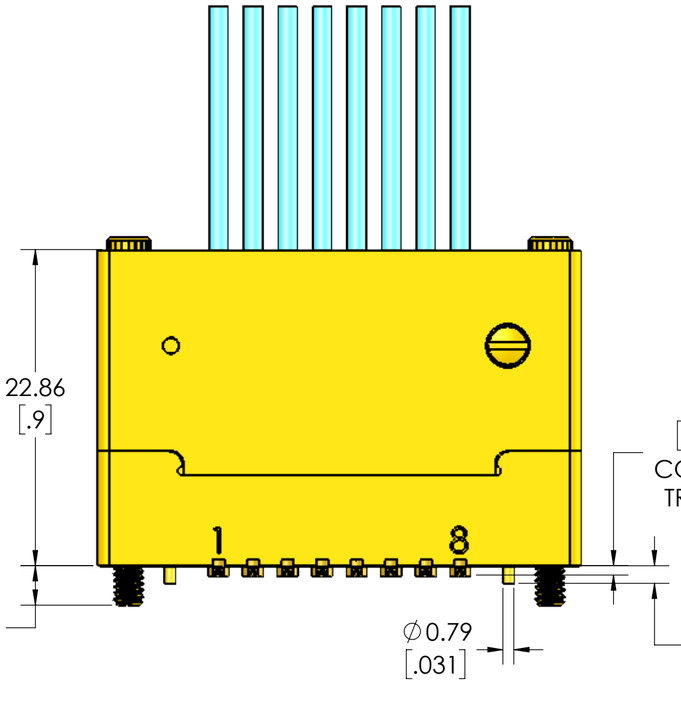


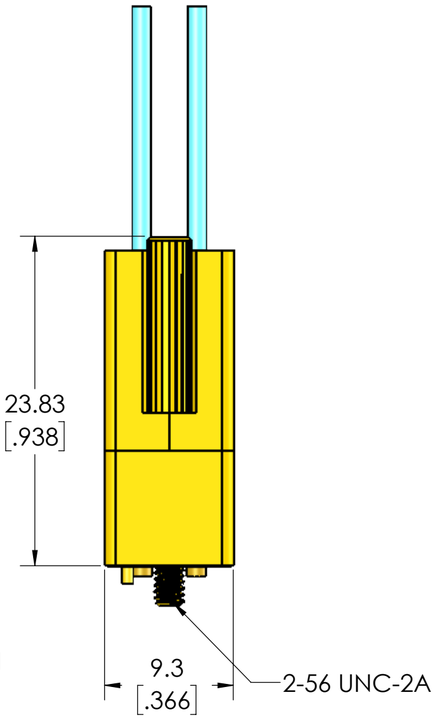


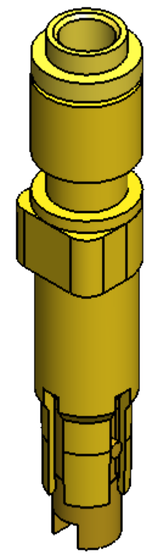




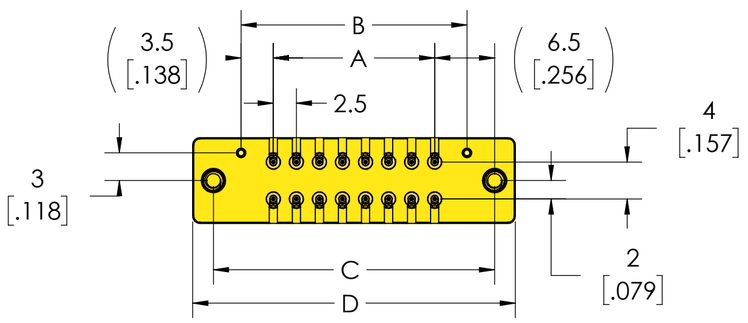






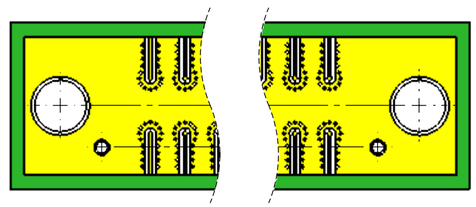


CoreCryo COAXIAL
CONNECTOR

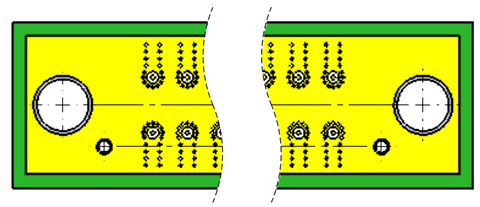


D C2 X R
DUAL ROW CoreCryo

CABLE END "CoreCryo"	DIM. "A" mm[in]	DIM. "B" mm[in]	DIM. "C" mm[in]	DIM. "D" mm[in]
DC22R	2.5 [.0984]	9.5 [.374]	15.5 [.610]	20[.787]
DC24R	7.5[.295]	14.5[.571]	20.5[.807]	25[.984]
DC26R	12.5[.492]	19.5 [.768]	25.5 [1.004]	30[1.181]
DC28R	17.5[.689]	24.5[.965]	30.5[1.201]	35[1.378]
DC10R	22.5[.886]	29.5[1.161]	35.5[1.398]	40[1.575]



SEE TM13-0240-XX
DUAL ROW CPW



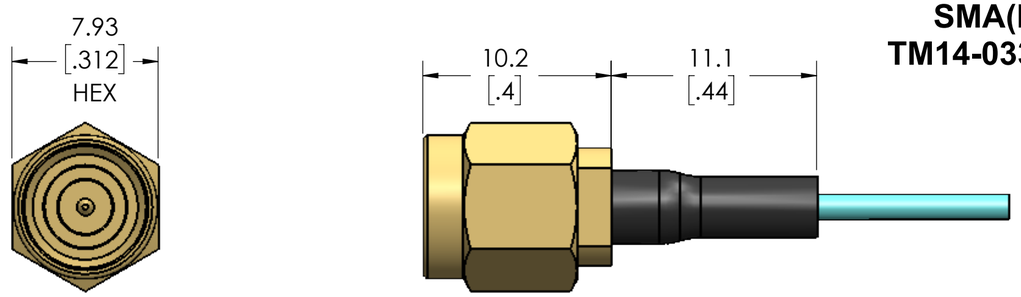
SEE TM13-0236-XX
DUAL ROW STRIPLINE

Amphenol CDI

TITLE	SIZE	CAGE CODE	DRAWING NUMBER	REV
CoreCryo CABLE BUILDER ASSY	C	30990	OL_TM99-0141-00	B
	SCALE: 2:1		DO NOT SCALE DRAWING	8 OF 9

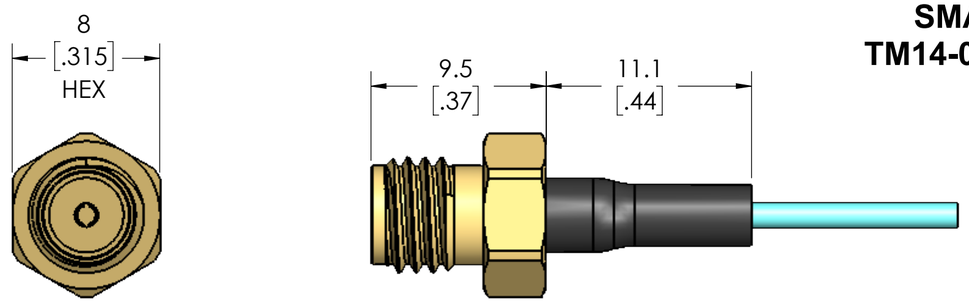
1. Specification
   1.1 Frequency range: DC - 18GHz
   1.2 Impedance: 50 Ohm Nom.
   1.3 VSWR: 1.30 Max.
2. Material
   2.1 Body & Center contact & Coupling nut: Beryllium copper C17300
   2.2 Insulator: PTFE
   2.3 Lock ring: Beryllium copper C17300
   2.4 Gasket: Silicone rubber
3. Finish
   3.1 Body & Center contact & Coupling nut:
   Gold per ASTM B488(Nickel Free) over Copper

SMA(M)
TM14-0338-00



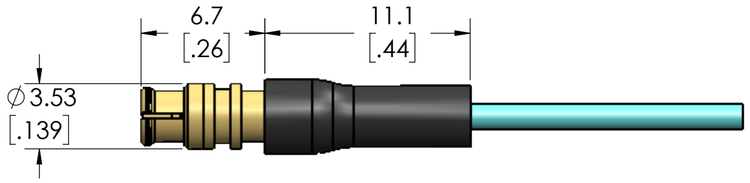
1. Specification
   1.1 Frequency range: DC - 18GHz
   1.2 Impedance: 50 Ohm Nom.
   1.3 VSWR: 1.30 Max.
2. Material
   2.1 Body & Center contact : Beryllium copper C17300
   2.2 Insulator: PTFE
3. Finish
   3.1 Body & Center contact:
   Gold per ASTM B488 (Nickel Free) over Copper

SMA(F)
TM14-0339-00



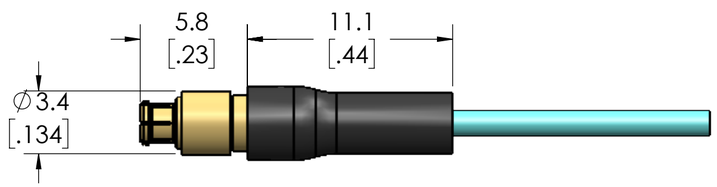
1. Specification
   1.1 Frequency range: DC - 18 GHz
   1.2 Impedance: 50 Ohm Nom.
   1.3 VSWR: 1.30 Max. @18 GHz
   1.3 Insertion Loss: 0.8 x Sqrt(F (GHz))
2. Material
   2.1 Body, Center contact & Anti-rock ring: Beryllium copper C17300
   2.2 Insulator: PTFE
3. Finish
   3.1 Body, Center contact & Anti-rock ring:
   Gold per ASTM B488 (Nickel Free) over Copper

SMP(F)
TM14-0340-00



1. Specification
   1.1 Frequency range: DC - 18 GHz
   1.2 Impedance: 50 Ohm Nom.
   1.3 VSWR: 1.30 Max. @18 GHz
2. Material
   2.1 Body, Center contact & Ferrule: Beryllium copper C17300
   2.2 Insulator: PTFE
3. Finish
   3.1 Body, Center contact & Ferrule:
   Gold per ASTM B488(Nickel Free) over Copper

SMPM(F)
TM14-0341-00



PRECISION CONNECTORS

Amphenol CDI	TITLE: CoreCryo CABLE BUILDER ASSY	SIZE: C	CAGE CODE: 30990	DRAWING NUMBER: OL_TM99-0141-00	REV: B
		SCALE: 2:1		DO NOT SCALE DRAWING	9 OF 9