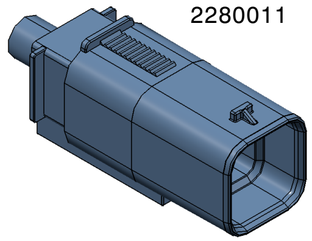
LOW VOLTAGE CONNECTOR STANDARD

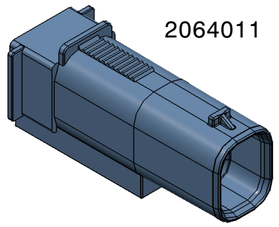
Project: VARIOUS

CA	DATE	REV	DESCRIPTION	DRWN
CA-00201029	13OCT2024	01	PRODUCTION RELEASE	J.PANG
CA-00205452	06NOV2024	02	LICENSE UPDATE	J.PANG

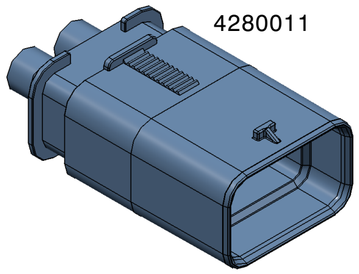
2280011



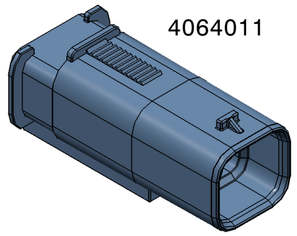
2064011



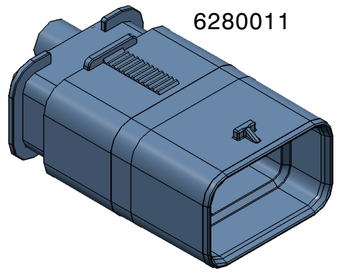
4280011



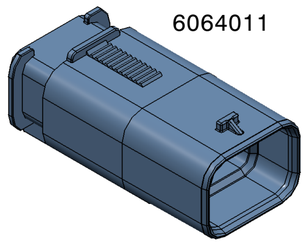
4064011



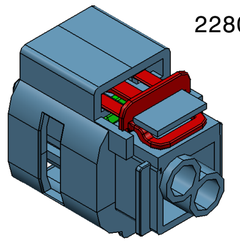
6280011



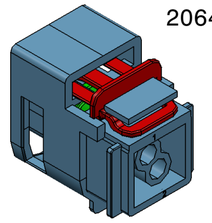
6064011



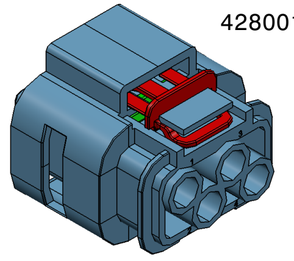
2280012



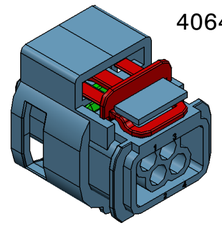
2064012



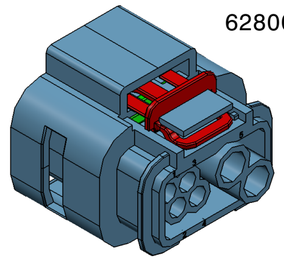
4280012



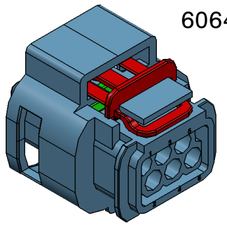
4064012



6280012



6064012



CATEGORY	PART NUMBER FEMALE CONNECTOR	PART NUMBER MALE CONNECTOR	STYLE CODE 1 (COLOR)	STYLE CODE 2 (KEY)	PEDIGREE	INTERFACE SPECIFICATION	PEDIGREE	TAB QUANTITY 0.64XO.64MM	TAB QUANTITY 2.8XO.8MM
LOW POWER	2064012	2064011	0 - BLUE 1 - BLACK	0 A B C D	B	2064000-TS	B	2	0
	4064012	4064011			B	4064000-TS	B	4	0
	6064012	6064011			B	6064000-TS	B	6	0
HIGH POWER	2280012	2280011			B	2280000-TS	B	0	2
	4280012	4280011			B	4280000-TS	B	0	4
	6280012	6280011			B	6280000-TS	B	4	2

LICENSING

L1. THIS WORK IS MARKED WITH CC0 1.0 UNIVERSAL.
TO VIEW A COPY OF THIS LICENSE, VISIT https://creativecommons.org/publicdomain/zero/1.0/

REGULATORY COMPLIANCES

R1. ALL MATERIALS AND COATINGS MUST COMPLY WITH ALL APPLICABLE INTERNATIONAL ENVIRONMENTAL RELATED REGULATIONS, INCLUDING BUT NOT LIMITED TO EU DIRECTIVES WVTA, ELV, RRR, RoHS, WEEE, REACH AND BATTERY DIRECTIVE 2006/66/EC, WHICH ARE DESCRIBED IN DETAIL AT THE GADSL LIST IN ITS LATEST VERSION AT THE TIME OF USE (http://www.gadsl.org).
REFER TO TESLA SPEC DOC# BMS-0000408 FOR DETAIL.
R2. ALL MATERIALS AND COATINGS MUST COMPLY WITH EU DIRECTIVE 2000/53/EC (ELV DIRECTIVE).
R3. COMPONENT TO CONFORM TO EU DIRECTIVE 2003/138/EC (MATERIAL CODING DIRECTIVE).
R4. TOOL TO USE REMOVABLE MOLD INSERT(S) AT INDICATED AREA(S) WILL CONTAIN PART DATA INCLUDING PART NUMBER, PART REVISION LEVEL, MANUFACTURED DATE, RECYCLING MARK, TESLA LOGO AND CONTRACT MANUFACTURER ID.
R5. MATERIAL MUST COMPLY WITH FMVSS 302 OR BETTER

GENERAL NOTES

G1. THE MASTER SOURCE OF INFORMATION FOR THIS DOCUMENT IS A COMPUTER DATABASE.
G2. 3D CAD DATA SUPPLIED IS TO BE USED TO PRODUCE PRODUCTION TOOLING AND FOR INSPECTION.
G3. PRINTED DOCUMENT IS UNCONTROLLED - DOCUMENT OBSOLETE WHEN PRINTED.
G4. THIS ASSEMBLY SHALL COMPLY WITH GRADE B BATCH TRACEABILITY REQUIREMENTS PER TESLA INC SPECIFICATION BMS-0000151.
G5. PART TO BE LABELED WITH PART NUMBER IN THE AREA SHOWN PER TESLA PART LABELING SPECIFICATION BMS-0000007.
G6. THIS COMPONENT MUST BE PACKAGED IN ACCORDANCE WITH TESLA INC SPECIFICATION BMS-0000005.
G7. COMPONENTS TO BE PLACED IN POLY BAG. BAG TO BE MARKED WITH PART NUMBER, REVISION, QUANTITY, P.O. NUMBER, MANUFACTURING DATE AND VENDOR.
G8. COMPONENTS TO BE PLACED IN CARTON MARKED FOR SHIPPING IN ACCORDANCE WITH TESLA INC. SPECIFICATION BMS-0000003.
G9. ANY PERMANENT TOOLING CONSTRUCTED TO MANUFACTURE THIS COMPONENT SHALL BE PROPERTY OF TESLA MOTORS, INC. AND SHALL BE PERMANENTLY MARKED WITH "TESLA INC.", TOOLING PART NUMBER AND DATE.
G10. IN ADDITION TO THIS DRAWING, ALL PARTS SUPPLIED TO TESLA SHALL MEET ALL REQUIREMENTS OF: TESLA TS-0022480 - LOW VOLTAGE STANDARD INTERFACE SPECIFICATION
TESLA RS-3690003 - 48V CONNECTOR RELIABILITY TEST INSPECTION.
G11. A FULL SHROUD ON THE MATING CONNECTOR AS SHOWN IS REQUIRED TO PREVENT SCOOP DAMAGE TO THE HEADER PINS.
G12. CPA TO BE SHIPPED IN DISENGAGED POSITION.

DIMENSIONAL NOTES

D1. INTERPRET SPECIFICATIONS PER GEOMETRIC DIMENSIONING & TOLERANCING ASME Y14.5-2009.
D2. CAD UNITS ARE MILLIMETERS AT 1:1. TOOLING SUPPLIER TO ALLOW FOR MATERIAL SHRINKAGE. DIMENSIONS APPLY AFTER FINISHING OPERATIONS UNLESS OTHERWISE STATED.
D3. LENGTH DIMENSIONS SPECIFIED IN THE DRAWING VIEWS OF THIS DOCUMENT SUPERSEDE DIMENSIONS PROVIDED IN OTHER DOCUMENTS.
D4. HARDCOPY IS NOT TO SCALE. DO NOT SCALE IMAGES.
D5. DIMENSIONS ARE TO THEORETICAL SHARP CORNERS.
D6. THIS PART HAS BEEN PREVIOUSLY DESIGNED AND TOOLED WITH THE DATUM REFERENCES AS SHOWN. THE DATUM REFERENCES USED ON THIS DRAWING TAKES PRECEDENCE OVER THE EWCAP DRAWING GUIDELINE DATUM REFERANCE REQUIREMENT.
D7. SEALING SURFACES DEPICTED IN LIGHT BLUE AND MUST BE FREE OF PARTING LINES AND DEFECTS.
SPI B2 FINISH OR BETTER
SURFACE Rz <= 2.5um
D8. PARTING LINE MISMATCH NOT TO EXCEED 0.05mm. FLASH NOT TO EXCEED 0.05mm.
D9. ALL RADII 0.25 +0.25/-0.25 UNLESS OTHERWISE NOTED.
D10. ALL SURFACES ASSUMED 0.5 DEGREE DRAFT ANGLE UNLESS OTHERWISE NOTED.
D10. TOLERANCES UNLESS OTHERWISE NOTED:

SURFACES WITH BLENDED UNIFORMITY	ALL TRIM EDGES	ØSIZE ±0.250 CIRCULAR FEATURES	SIZE ±0.250 NON-CIRCULAR FEATURES
⌓ 0.5 A B C	⌓ 0.5 A B C	Ø 0.5 M A B C	0.5 M A B C

MATERIAL SPECIFICATIONS

M1. MANUFACTURING PROCESS: INJECTION MOLDING
M2. REGRIND IS PERMITTED. IF REGRIND IS USED IN PRODUCTION, SAMPLES MADE FROM MAXIMUM INTENDED AMOUNT OF REGRIND MUST BE VALIDATED TO PERFORMANCE REQUIREMENTS SPECIFIED IN THIS DOCUMENT.
M3. CLEANLINESS: PART TO BE FREE OF MOLD RELEASE ON ALL SURFACES.
M4. APPEARANCE SURFACES TO BE FREE OF COSMETIC DEFECTS INCLUDING, BUT NOT LIMITED TO, SPLAY, INCLUDED PARTICLES, BURNED PLASTIC MARKS AND SIMILAR IMPERFECTIONS.
M5. EJECTOR PIN, PARTING LINE AND GATE LOCATION MUST BE APPROVED BY TESLA INC. DESIGN ENGINEER PRIOR TO MOLD FABRICATION.
M6. NO CHANGES SHALL BE MADE TO RAW MATERIALS OR ASSOCIATED PROCESSING MATERIALS WITHOUT THE PRIOR WRITTEN CONSENT OF TESLA INC.

TERMINAL NOTES

T1. RECOMMENDED MATERIAL: COPPER OR CuNiSi ALLOY (50% IACS MIN)
T2. RECOMMENDED FINISH: 100% LEAD FREE TIN + NICKEL UNDERPLATING (<20 CYCLES), SILVER + NICKEL UNDERPLATING (<50 CYCLES)
T3. TAB TO BE FREE OF BURRS IN EXCESS OF 10% OF MATERIAL THICKNESS UNLESS OTHERWISE SPECIFIED
T4. LOOSE BURRS OR SLIVERS ARE NOT PERMISSIBLE
T5. PARTS ARE TO BE FREE OF OILS AND CONTAMINANTS
T6. ALL DIMENSIONS AFTER PLATING
T7. TOTAL TWIST ALONG LENGTH OF TERMINAL NOT TO EXCEED 5° IN EITHER DIRECTION
T8. NO CHANGES SHALL BE MADE TO TERMINAL MATERIAL OR PLATING WITHOUT THE PRIOR WRITTEN CONSENT OF TESLA INC.
T9. MATERIAL AND PLATING SPECIFICATIONS DEPENDENT ON MANUFACTURING AND ASSEMBLY PROCESS
T10. 0.64 TERMINAL MUST FOLLOW EWCAP-001: 064-T002 4 BEAM APPLICATION UNLESS OTHERWISE NOTED
T11. 2.8 TERMINAL MUST FOLLOW EWCAP-001: 280-T001 UNLESS OTHERWISE NOTED
T12. 6.3 TERMINAL MUST FOLLOW EWCAP-001: 630-T001 UNLESS OTHERWISE NOTED

CAD FILE NAME		TRACEABILITY GRADE	
3SH-07710087		B	
DRAWN BY	J.PANG	DATE	06NOV2024

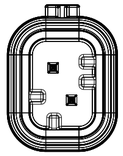
MATERIAL			
N/A			
FINISH		EST. MASS (g)	
N/A		N/A	
THIRD ANGLE PROJECTION	DIMENSIONS ARE IN MILLIMETERS. ANGLES ARE IN DEGREES.	SCALE 1:1	SHEET SIZE C
ITEM NAME	LOW VOLTAGE CONNECTOR STANDARD		
ITEM NUMBER	DRW-00456412	REVISION B.2	SHEET 1 of 12

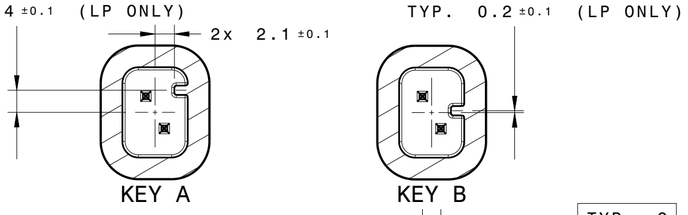
SHEET SIZE C

Project: VARIOUS

INTERFACE KEY DETAIL

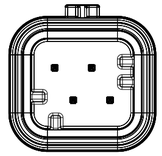
2064000-TS
(ALL KEYS SUPERIMPOSED)

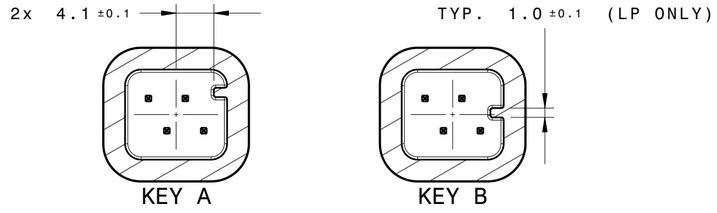




SECTION PLANE 4
SCALE: 2/1

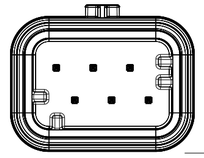
4064000-TS
(ALL KEYS SUPERIMPOSED)

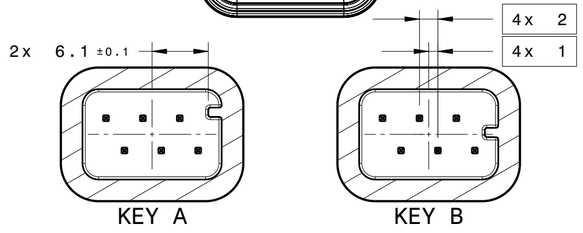




SECTION PLANE 4
SCALE: 2/1

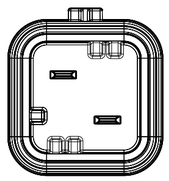
6064000-TS
(ALL KEYS SUPERIMPOSED)

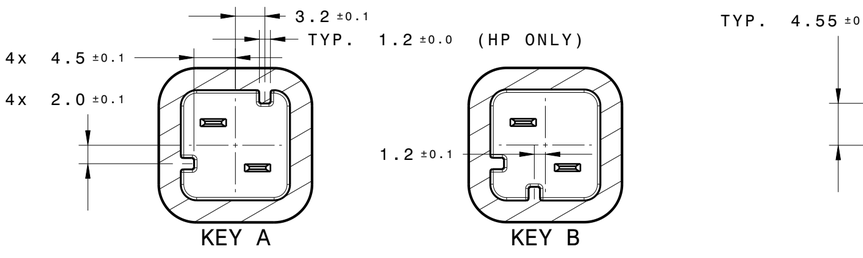




SECTION PLANE 4
SCALE: 2/1

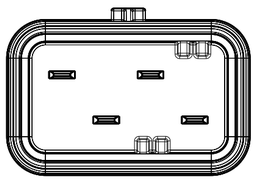
2280000-TS
(ALL KEYS SUPERIMPOSED)

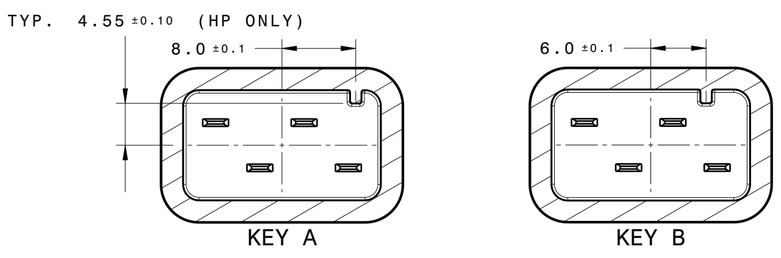




SECTION PLANE 4
SCALE: 2/1

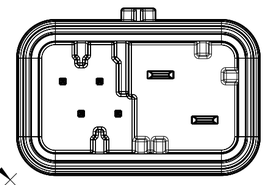
4280000-TS
(ALL KEYS SUPERIMPOSED)

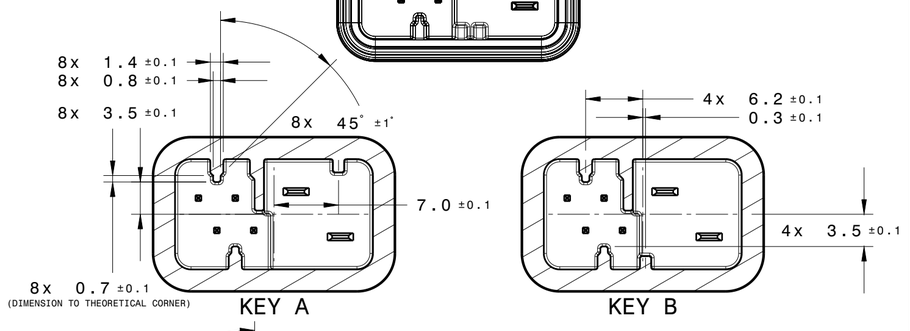




SECTION PLANE 4
SCALE: 2/1

6280000-TS
(ALL KEYS SUPERIMPOSED)





SECTION PLANE 4
SCALE: 2/1

NOTE:
ALL CENTERLINE PLANES ESTABLISHED BY DATUM B
ALL DIMENSIONS ON PAGE: ⌖ 0.2 A B

TESLA

ITEM NAME			
LOW VOLTAGE CONNECTOR STANDARD			
ITEM NUMBER	DRW-00456412	REVISION	B.2
		SHEET	2 of 12

SHEET SIZE C

Project: VARIOUS

LOW POWER (LP) INTERFACE DIMENSIONS

6064000-TS SHOWN FOR ILLUSTRATION PURPOSES. ALL KEYS SHOWN SUPERIMPOSED.
DIMENSIONS W,X,Y,Z USED TO ESTABLISH MAIN PROFILE. KEYS AND RIBS IGNORED.

DIMENSION W

INTERFACE	PLANE 1	PLANE 2	PLANE 4
2064000-TS	13.91	***14.30**	14.42
4064000-TS			
6064000-TS			

* DENOTES NEUTRAL DRAFT PLANE

DIMENSION Y

INTERFACE	PLANE 1	PLANE 2	PLANE 4
2064000-TS	11.21	***11.60**	11.72
4064000-TS	15.21	***15.60**	16.72
6064000-TS	19.21	***19.60**	19.72

* DENOTES NEUTRAL DRAFT PLANE

DIMENSION X

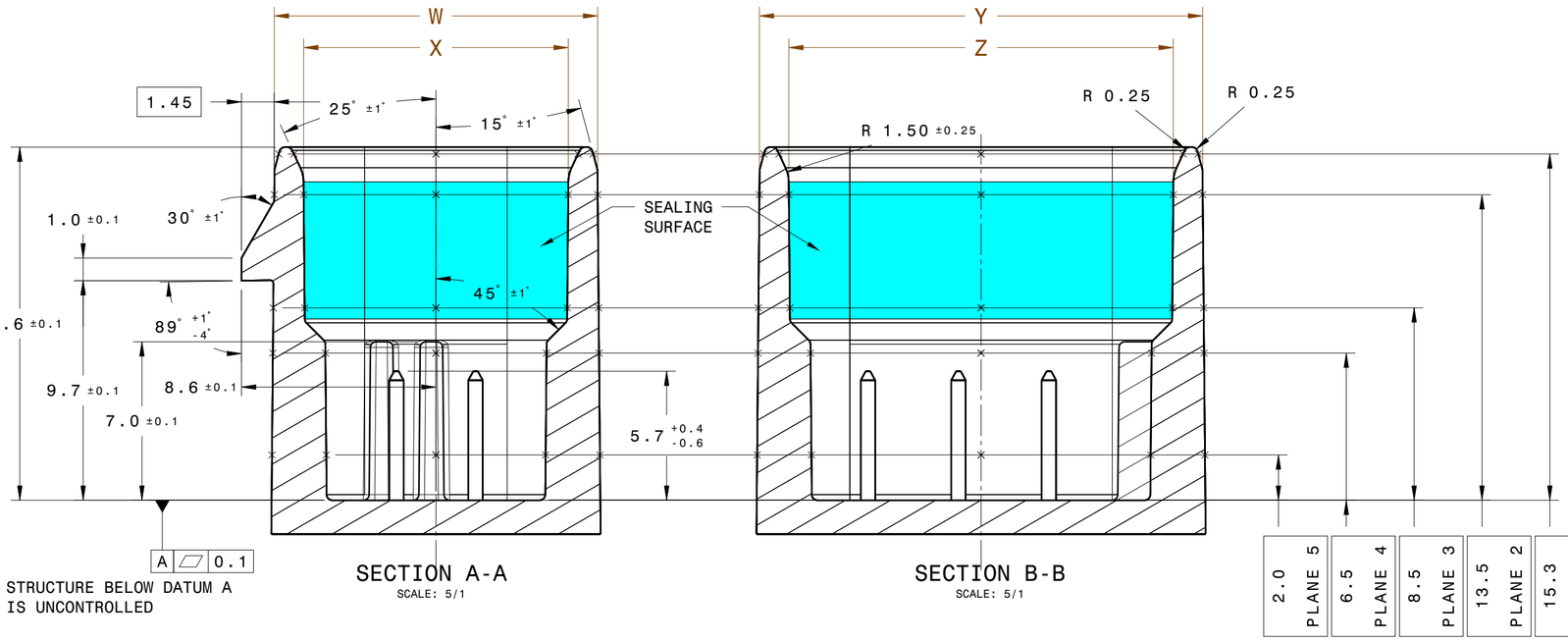
INTERFACE	PLANE 1	PLANE 2	PLANE 3	PLANE 4	PLANE 5
2064000-TS	12.56	***11.7**	11.61	9.78	***9.70**
4064000-TS					
6064000-TS					

* DENOTES NEUTRAL DRAFT PLANE

DIMENSION Z

INTERFACE	PLANE 1	PLANE 2	PLANE 3	PLANE 4	PLANE 5
2064000-TS	9.86	***9.00**	8.91	7.08	***7.00**
4064000-TS	13.86	***13.00**	12.91	11.08	***11.00**
6064000-TS	17.86	***17.00**	16.91	15.08	***15.00**

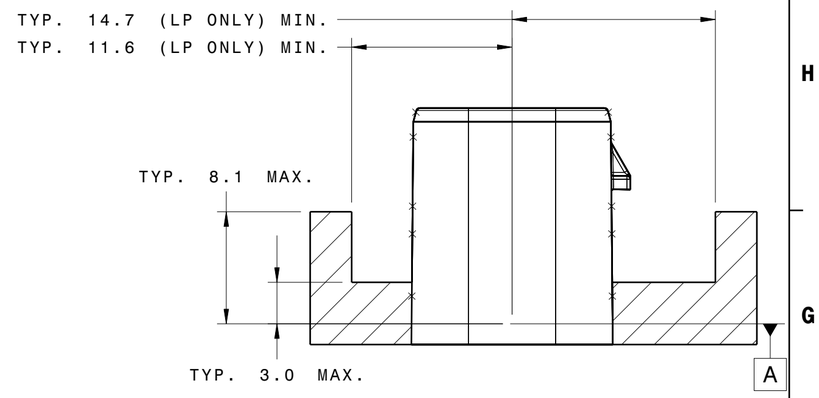
* DENOTES NEUTRAL DRAFT PLANE

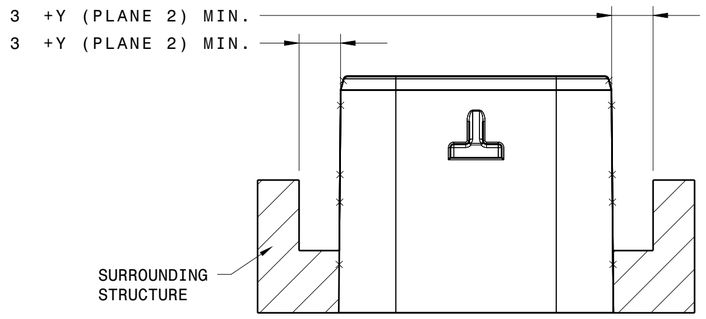


STRUCTURE BELOW DATUM A IS UNCONTROLLED

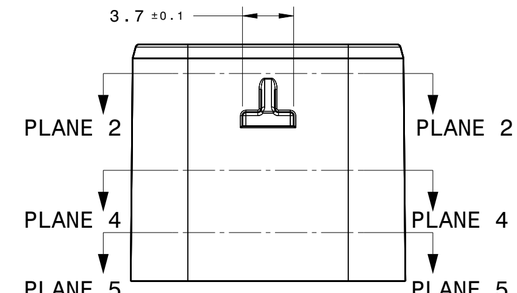
SECTION A-A
SCALE: 5/1

SECTION B-B
SCALE: 5/1

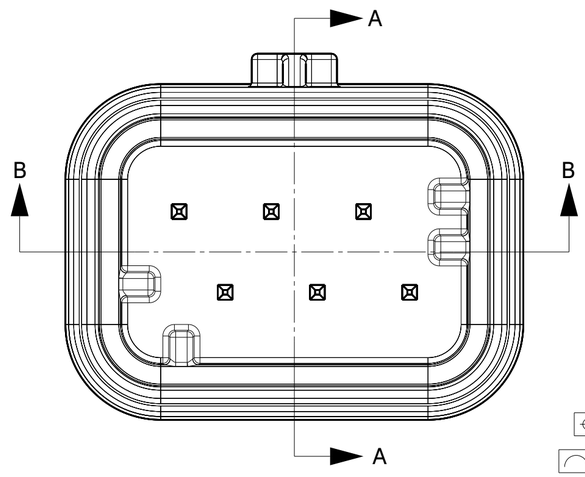




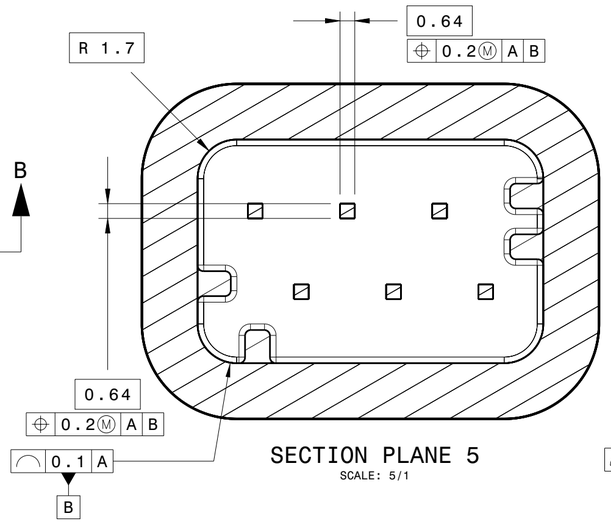
HEADER KEEP OUT ZONE
SCALE: 3/1



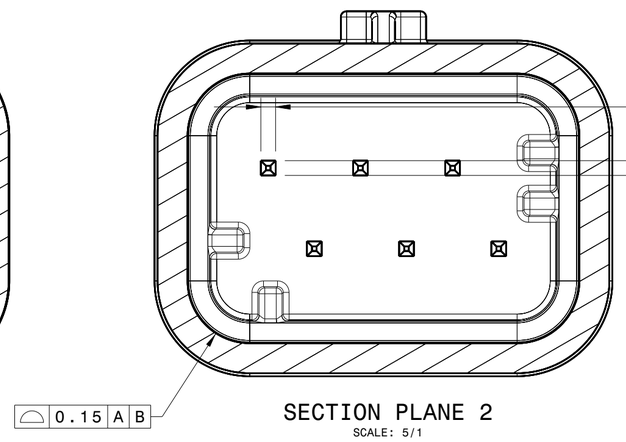
FRONT VIEW
SCALE: 5/1



TOP VIEW
SCALE: 5/1



SECTION PLANE 5
SCALE: 5/1



SECTION PLANE 2
SCALE: 5/1

ITEM NAME			
LOW VOLTAGE CONNECTOR STANDARD			
ITEM NUMBER	DRW-00456412	REVISION	B.2
		SHEET	3 of 12

SHEET SIZE C

Project: VARIOUS

HIGH POWER (HP) INTERFACE DIMENSIONS

6280000-TS SHOWN FOR ILLUSTRATION PURPOSES. ALL KEYS SHOWN SUPERIMPOSED.
DIMENSIONS W,X,Y,Z USED TO ESTABLISH MAIN PROFILE. KEYS AND RIBS IGNORED.

DIMENSION W

INTERFACE	PLANE 1	PLANE 2	PLANE 4
2280000-TS	16.11	***16.50**	16.62
4280000-TS			
6280000-TS			

* DENOTES NEUTRAL DRAFT PLANE

DIMENSION Y

INTERFACE	PLANE 1	PLANE 2	PLANE 4
2280000-TS	16.01	***16.40**	16.52
4280000-TS	25.61	***26.00**	26.12
6280000-TS			

* DENOTES NEUTRAL DRAFT PLANE

DIMENSION X

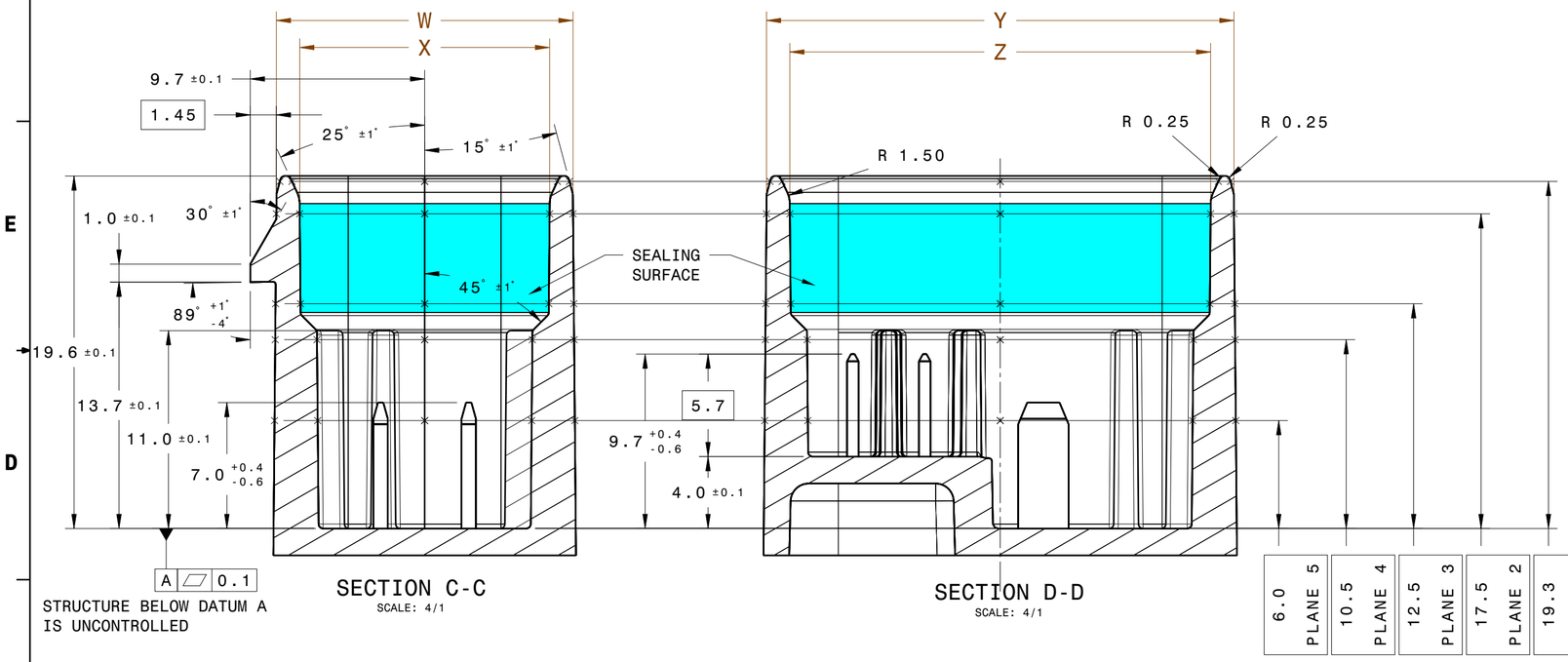
INTERFACE	PLANE 1	PLANE 2	PLANE 3	PLANE 4	PLANE 5
2280000-TS	14.76	***13.90**	13.81	11.98	***11.90**
4280000-TS					
6280000-TS					

* DENOTES NEUTRAL DRAFT PLANE

DIMENSION Z

INTERFACE	PLANE 1	PLANE 2	PLANE 3	PLANE 4	PLANE 5
2280000-TS	14.66	***13.80**	13.71	11.88	***11.80**
4280000-TS	24.26	***23.40**	23.31	21.48	***21.40**
6280000-TS					

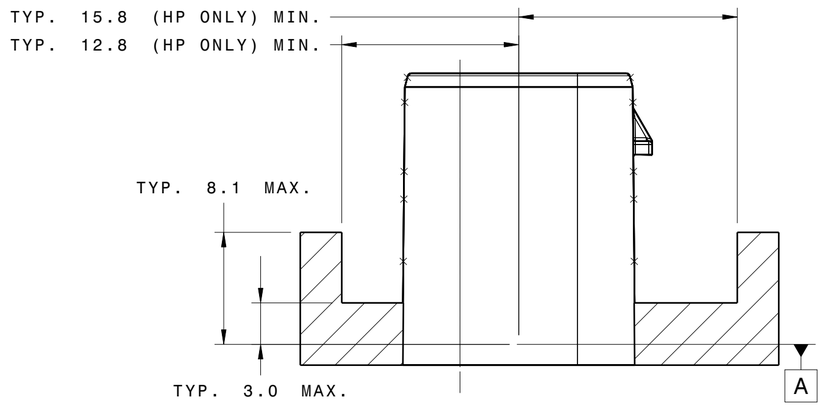
* DENOTES NEUTRAL DRAFT PLANE



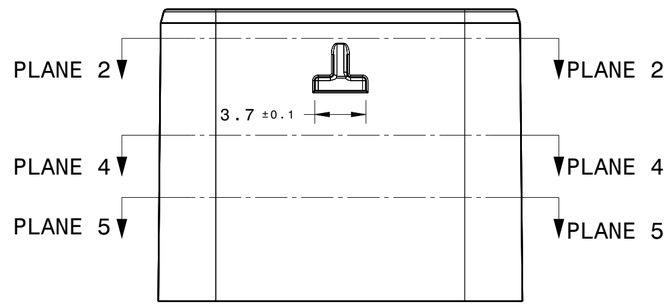
STRUCTURE BELOW DATUM A IS UNCONTROLLED

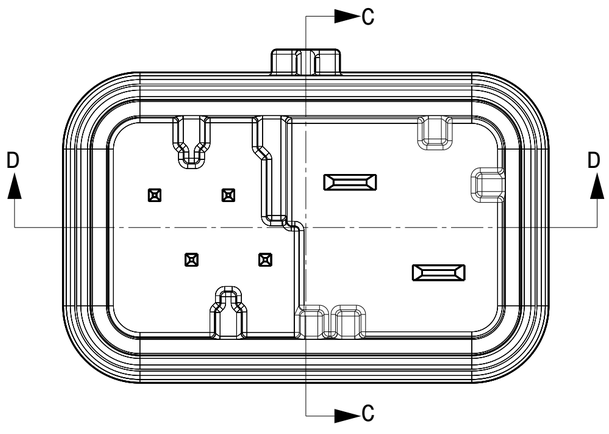
SECTION C-C
SCALE: 4/1

SECTION D-D
SCALE: 4/1

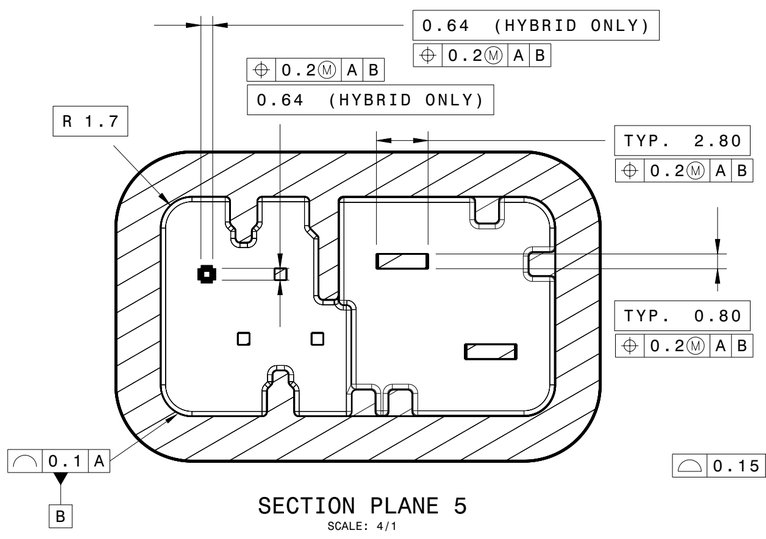


HEADER KEEP OUT ZONE
SCALE: 3/1

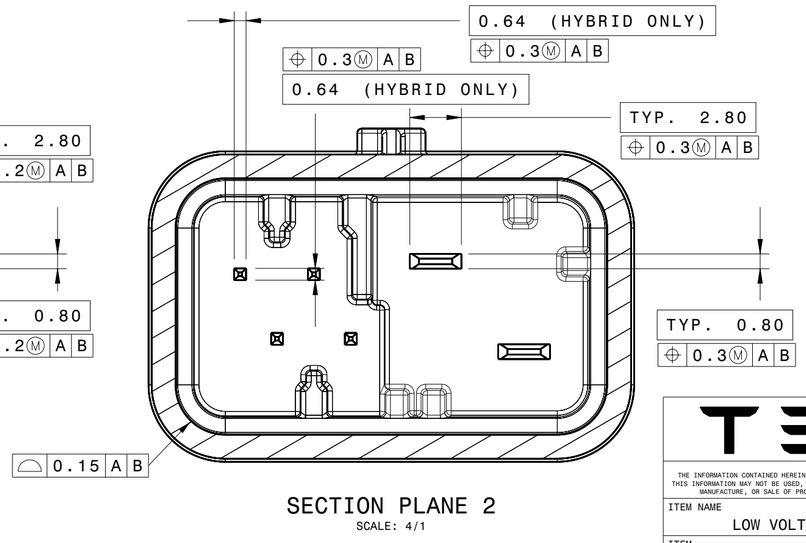




TOP VIEW
SCALE: 4/1



SECTION PLANE 5
SCALE: 4/1



SECTION PLANE 2
SCALE: 4/1

TRUE POSITION MEASURED AT TOP OF TERMINAL

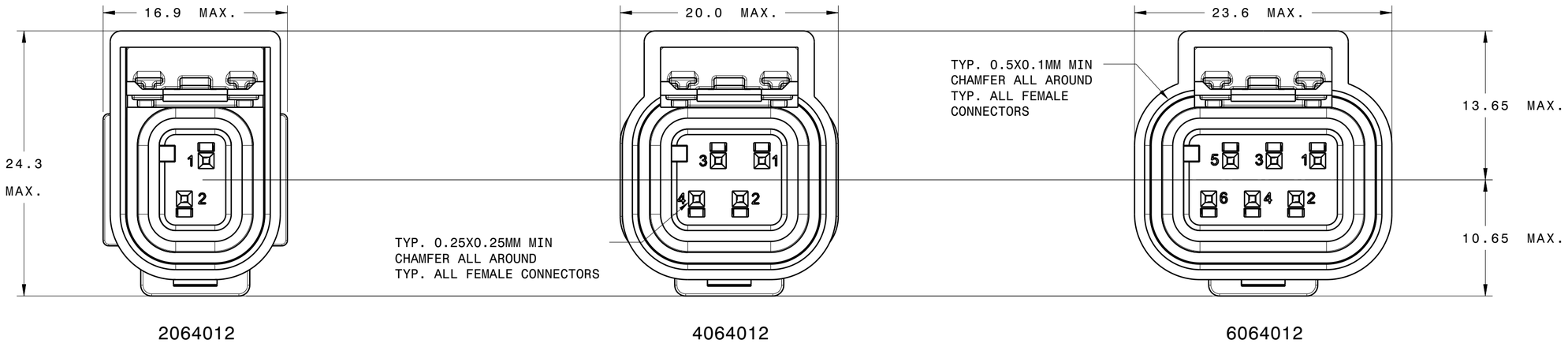
ITEM NAME			
LOW VOLTAGE CONNECTOR STANDARD			
ITEM NUMBER	DRW-00456412	REVISION	SHEET
		B.2	4 of 12

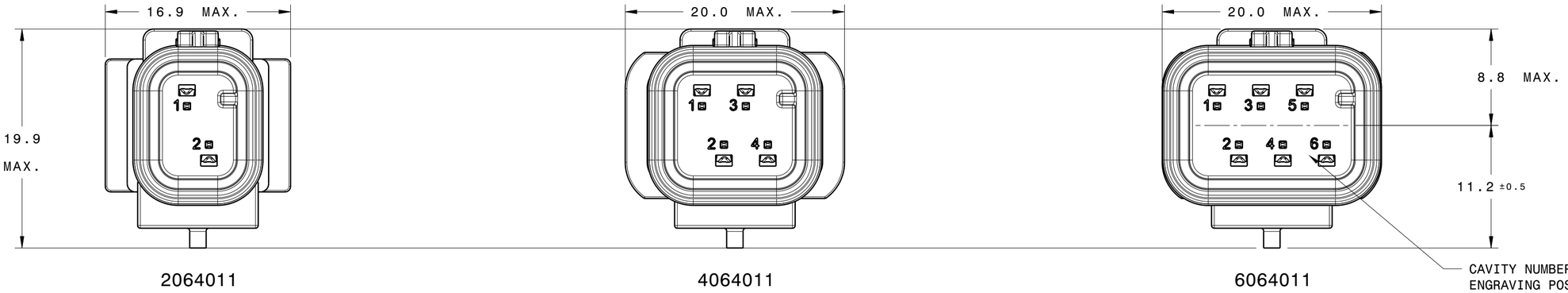
SHEET SIZE C

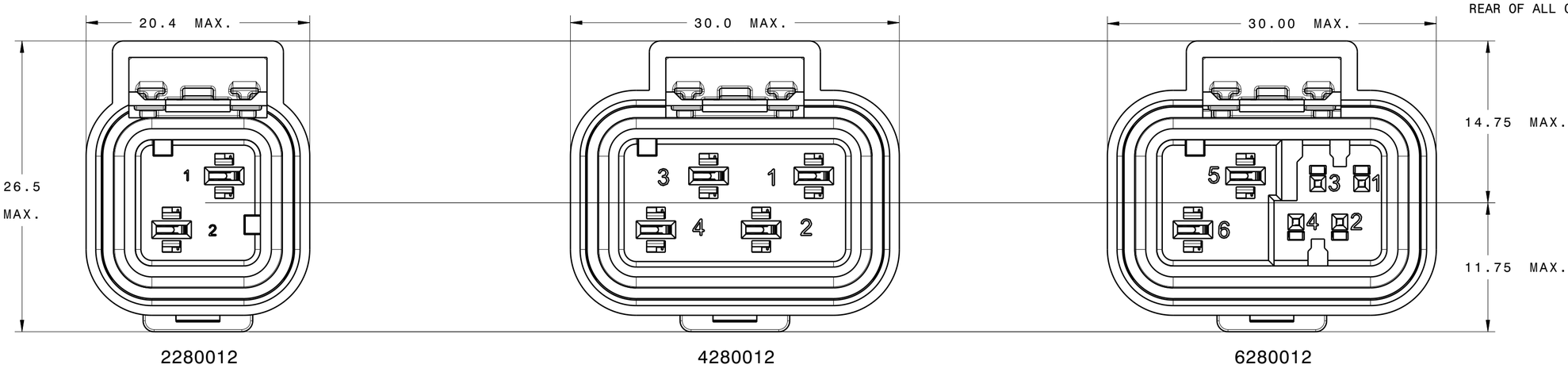
Project: VARIOUS

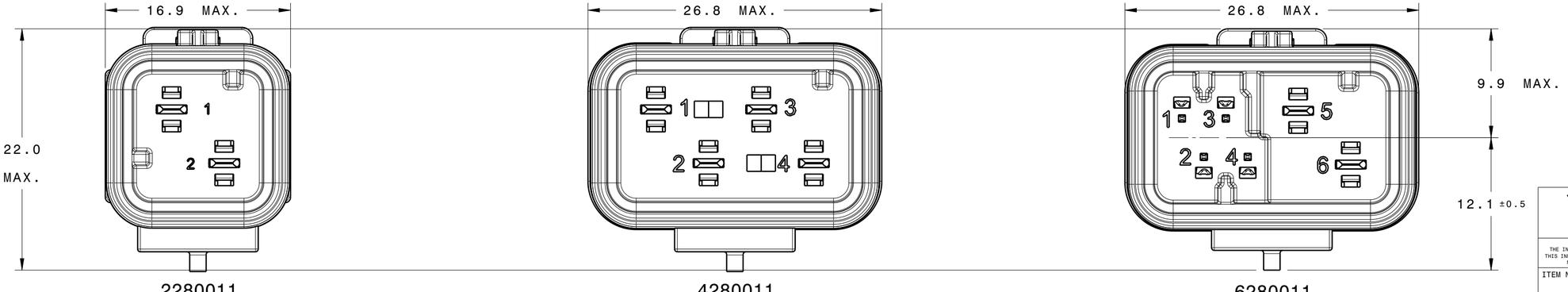
FRONT CONNECTOR VIEW

MAXIMUM EXTERNAL DIMENSIONS SHOWN TO ENSURE PACKAGING







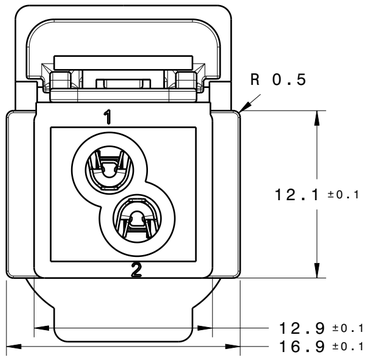


ITEM NAME			
LOW VOLTAGE CONNECTOR STANDARD			
ITEM NUMBER	DRW-00456412	REVISION	B.2
		SHEET	5 of 12

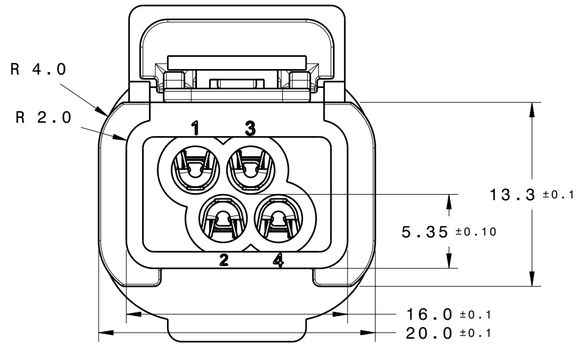
SHEET SIZE | C

REAR CONNECTOR VIEW

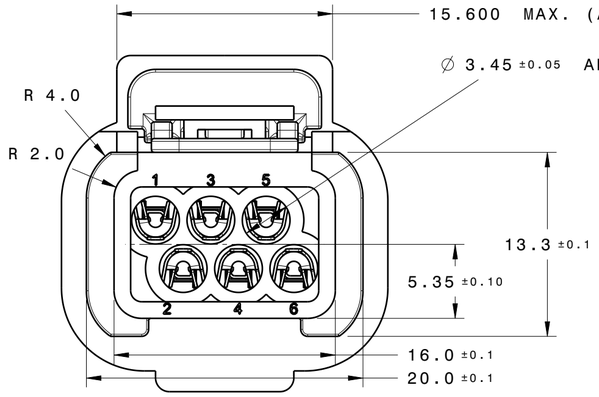
CABLE EXIT AND ACCESSORY RIB FEATURE PRECISION TO ENSURE COMPATIBILITY



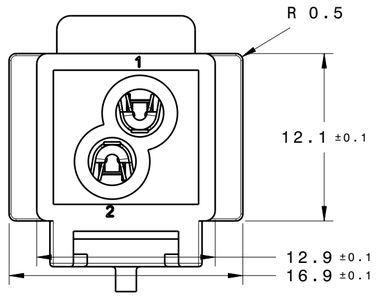
2064012



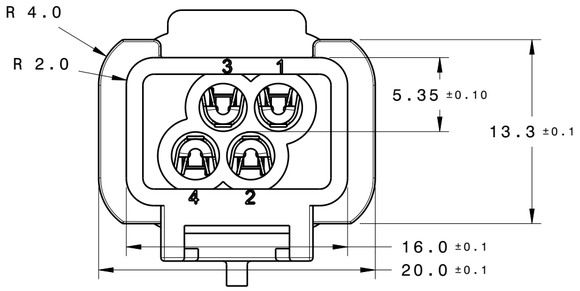
4064012



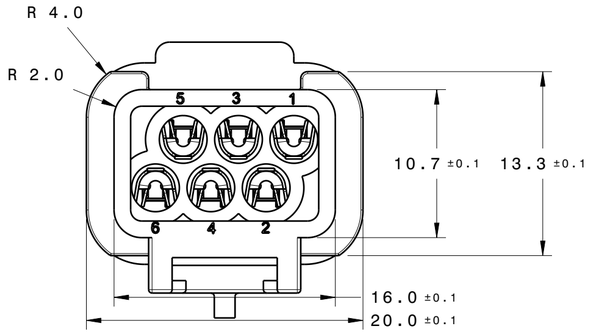
6064012



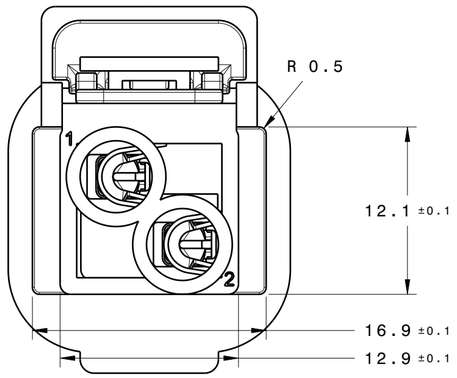
2064011



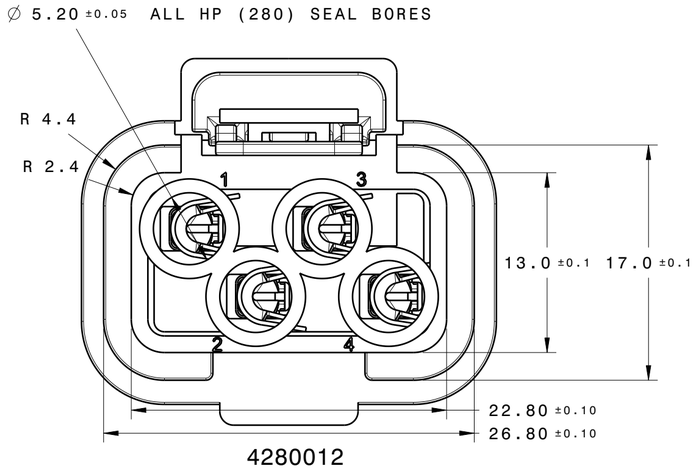
4064011



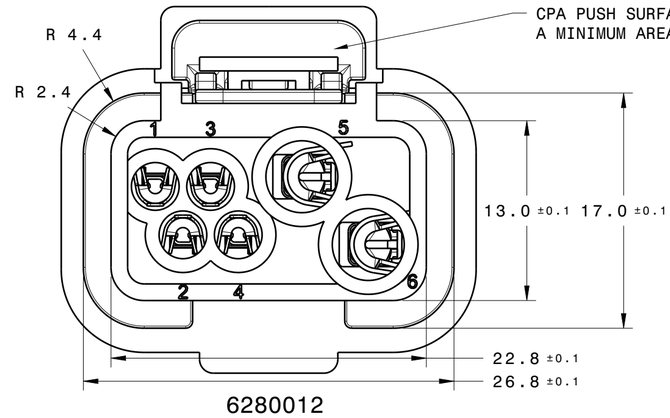
6064011



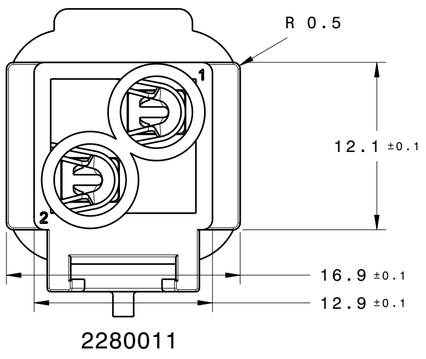
2280012



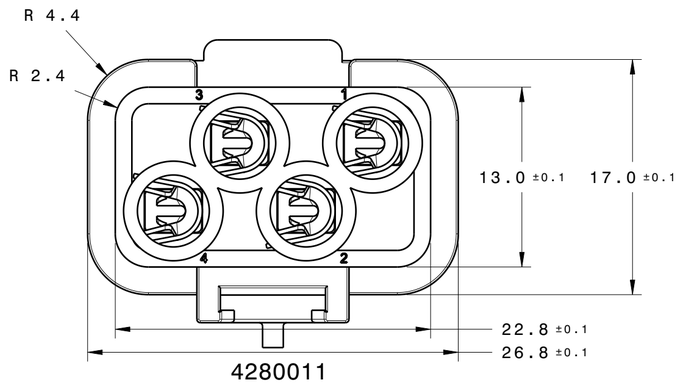
4280012



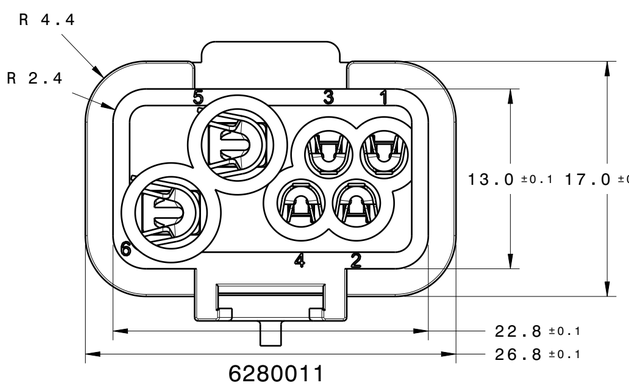
6280012



2280011



4280011

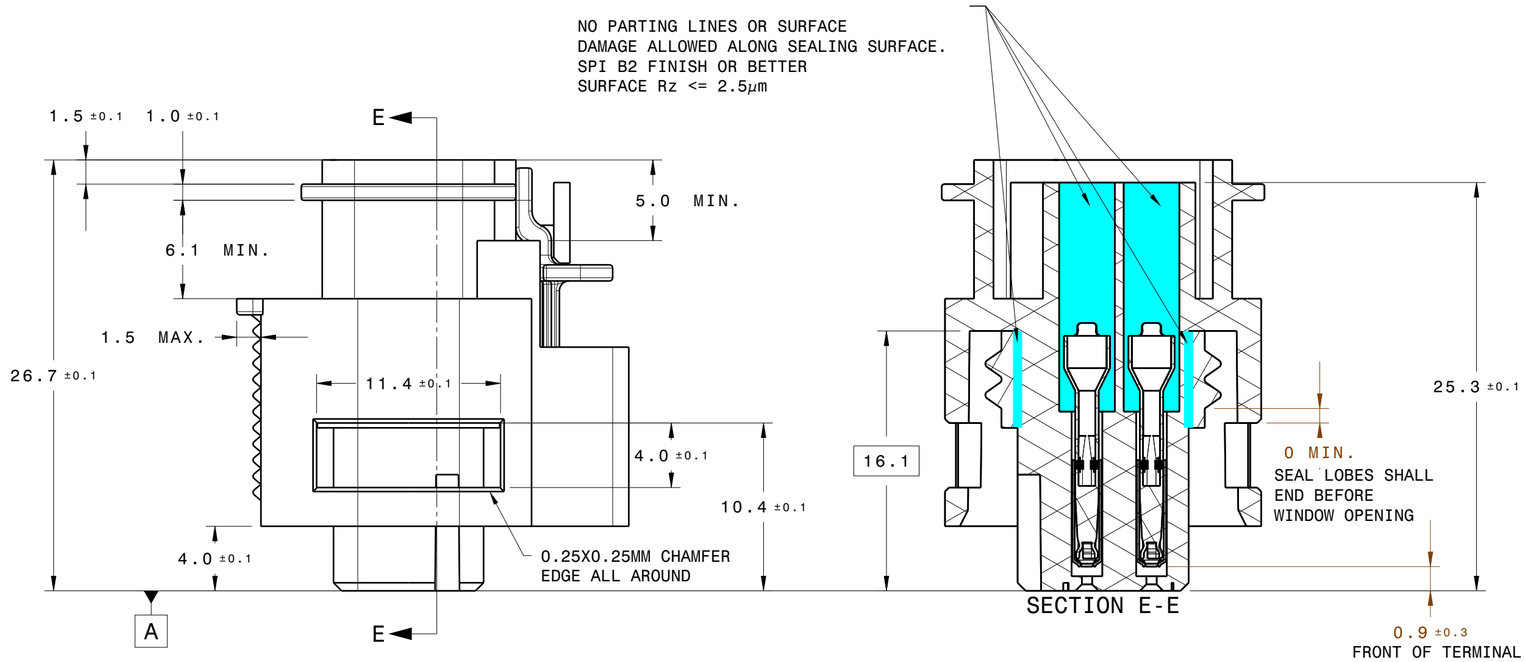


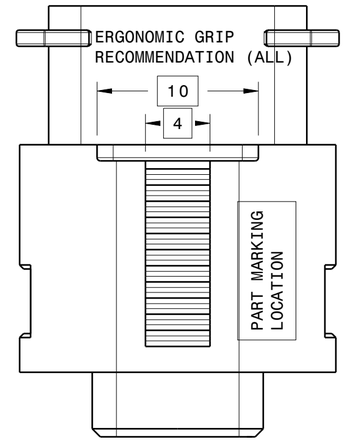
6280011

ITEM NAME			
LOW VOLTAGE CONNECTOR STANDARD			
ITEM NUMBER	REVISION	SHEET	SHEET SIZE
DRW-00456412	B.2	6 of 12	C

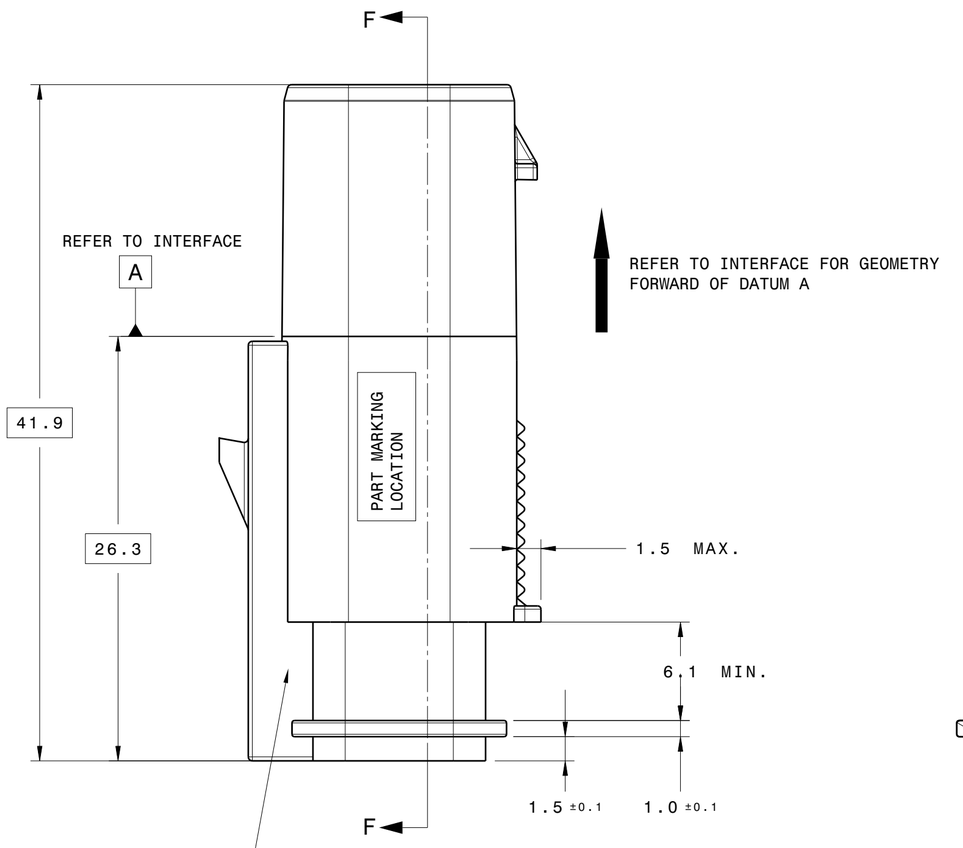
Project: VARIOUS

LOW POWER (LP) FEMALE CONNECTOR TYPICAL DIMENSIONS

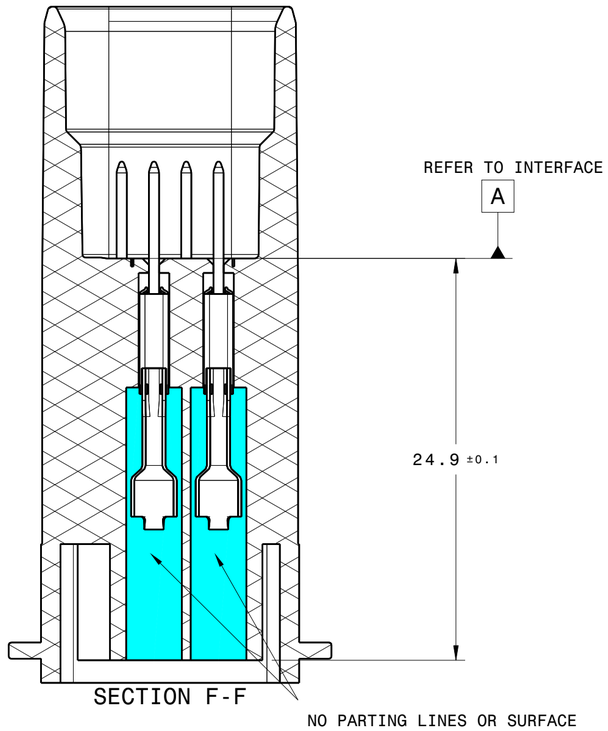




LOW POWER (LP) MALE CONNECTOR TYPICAL DIMENSIONS



REFER TO INTERFACE FOR GEOMETRY
FORWARD OF DATUM A



NO PARTING LINES OR SURFACE
DAMAGE ALLOWED ALONG SEALING SURFACE.
SPI B2 FINISH OR BETTER
SURFACE Rz <= 2.5μm

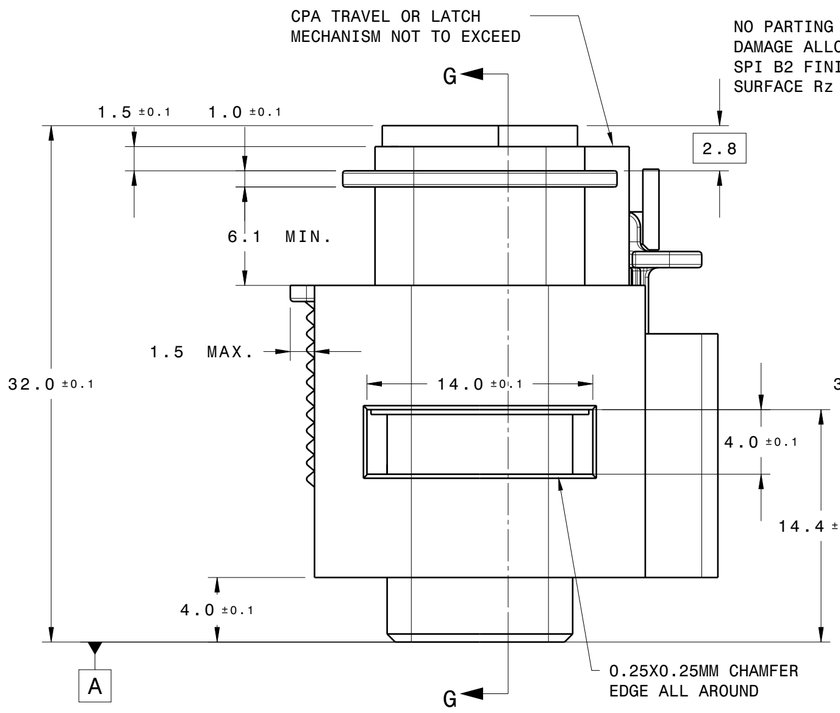
ALL MALE CONNECTORS SHALL
FEATURE A 7MM CLIP BASE PER
EWCAP-005-7

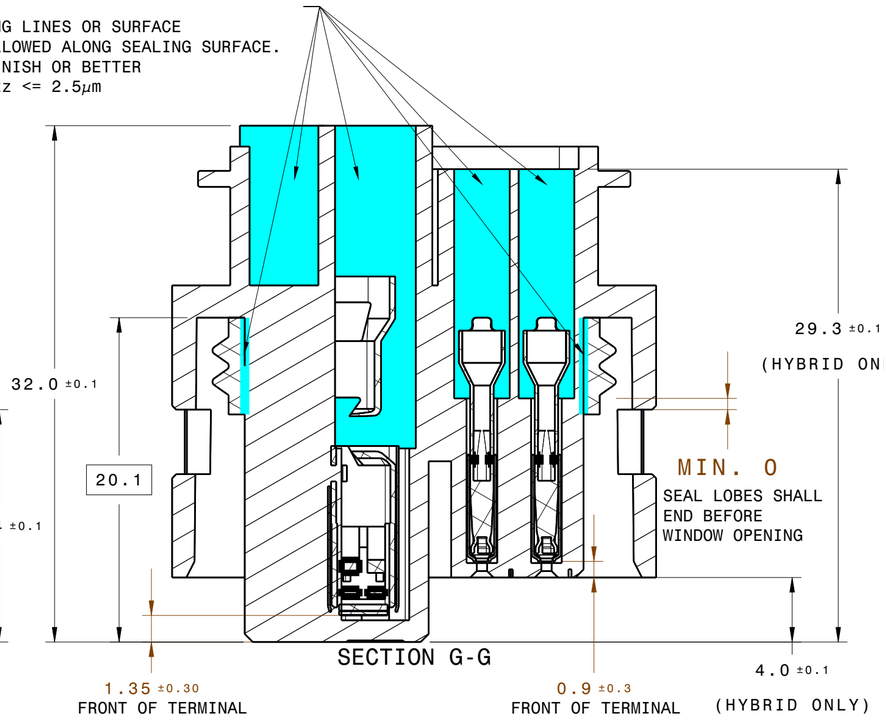
ITEM NAME			
LOW VOLTAGE CONNECTOR STANDARD			
ITEM NUMBER	DRW-00456412	REVISION	B.2
		SHEET	7 of 12

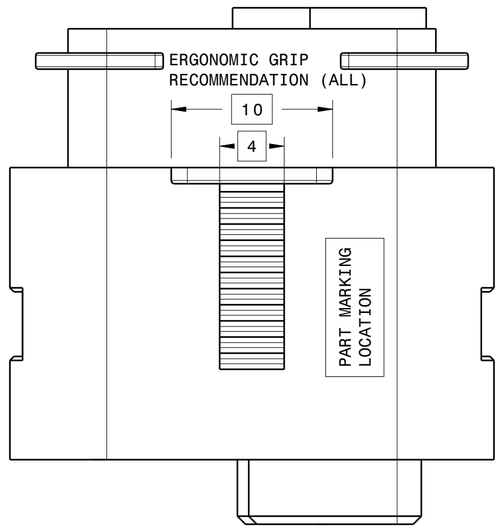
SHEET SIZE C

Project: VARIOUS

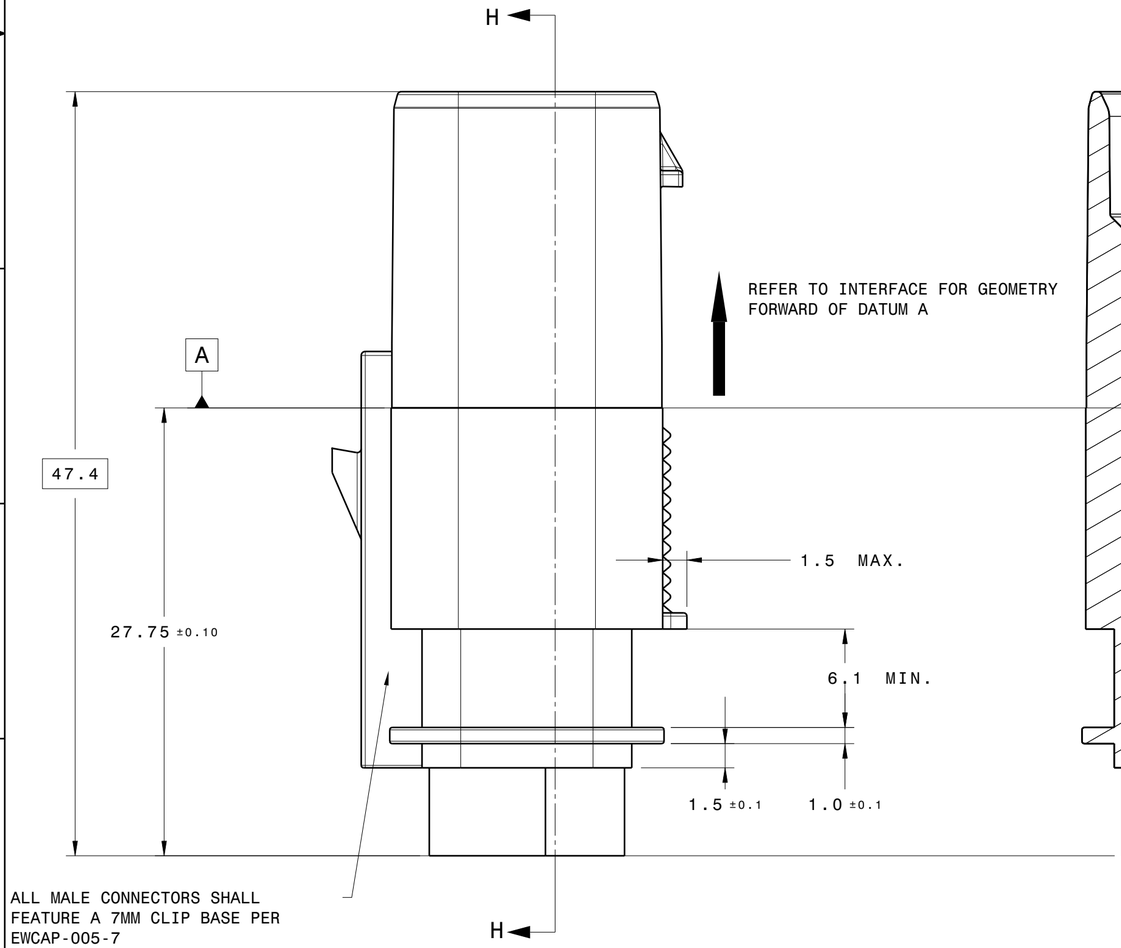
HIGH POWER (HP) AND HYBRID FEMALE CONNECTOR DIMENSIONS



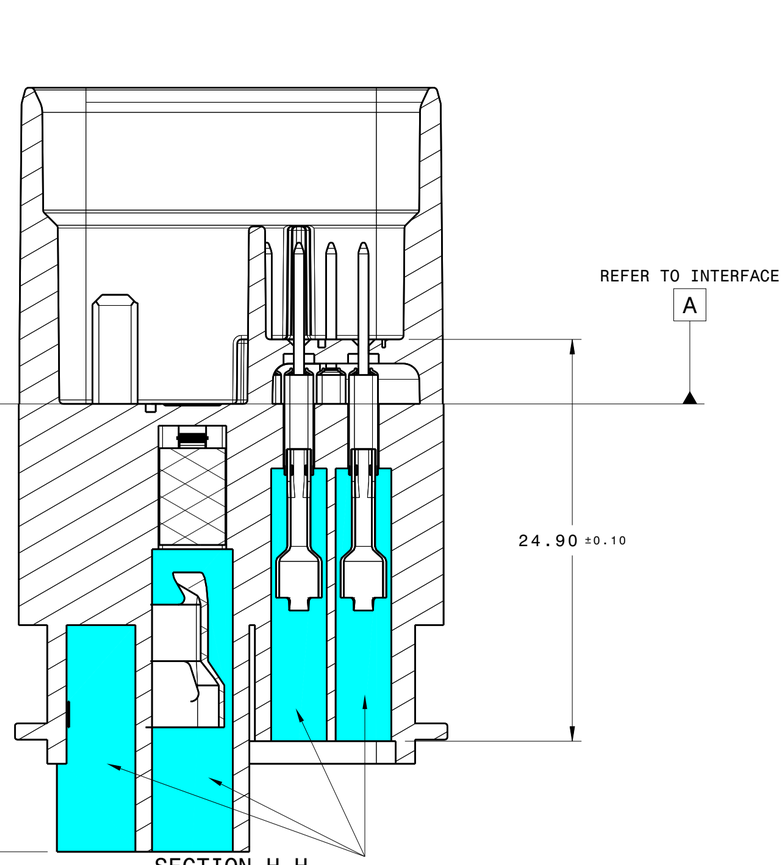




HIGH POWER (HP) AND HYBRID MALE CONNECTOR DIMENSIONS



ALL MALE CONNECTORS SHALL
FEATURE A 7MM CLIP BASE PER
EWCAP-005-7



NO PARTING LINES OR SURFACE
DAMAGE ALLOWED ALONG SEALING SURFACE.
SPI B2 FINISH OR BETTER
SURFACE Rz <= 2.5μm

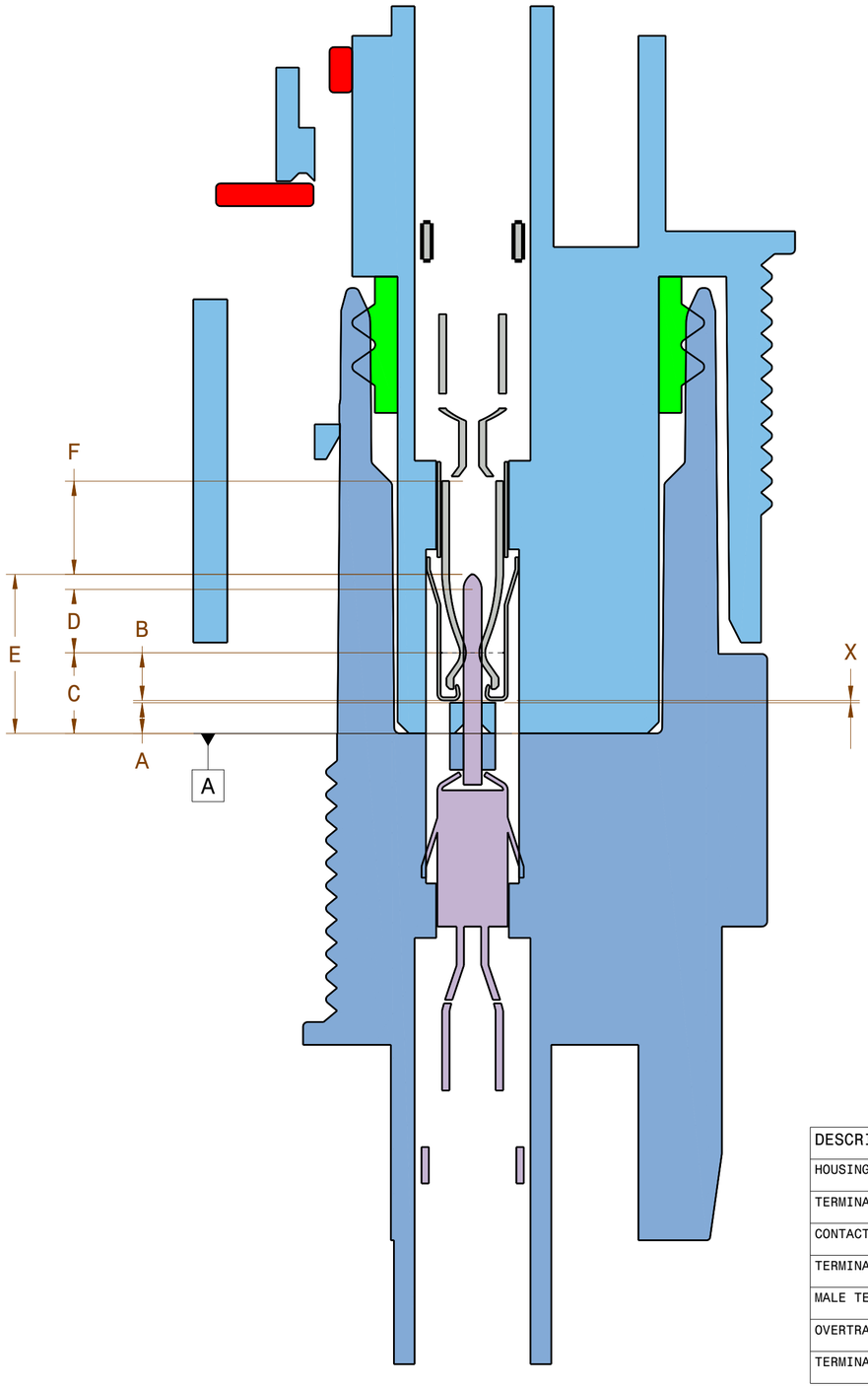
ITEM NAME			
LOW VOLTAGE CONNECTOR STANDARD			
ITEM NUMBER	DRW-00456412	REVISION	SHEET
		B.2	8 of 12

SHEET SIZE C

TERMINAL DIMENSIONS

064 TERMINALS SHALL BE TE MQS PART NUMBERS SPECIFIED BELOW OR A CAVITY COMPATIBLE EQUIVALENT MEETING ALL SPECIFIED DIMENSIONS IN THIS DOCUMENT AND DEMONSTRATED TO EQUAL OR EXCEED ELECTRICAL/THERMAL PERFORMANCE. INTERNAL CAVITY DIMENSIONS SHALL BE SPECIFIED BY THE TERMINAL SUPPLIER.

280 TERMINALS SHALL BE TE MCP PART NUMBERS SPECIFIED BELOW OR A CAVITY COMPATIBLE EQUIVALENT MEETING ALL SPECIFIED DIMENSIONS IN THIS DOCUMENT AND DEMONSTRATED TO EQUAL OR EXCEED ELECTRICAL/THERMAL PERFORMANCE. INTERNAL CAVITY DIMENSIONS SHALL BE SPECIFIED BY THE TERMINAL SUPPLIER.



DESCRIPTION	ITEM	0.64x0.64		2.8x0.8	
		MIN. (MM)	MAX. (MM)	MIN. (MM)	MAX. (MM)
HOUSING THICKNESS	A	0.5	0.9	1.05	1.35
TERMINAL CONTACT POINT	B	1.58	1.78	2	2.3
CONTACT POINT REFERENCE	C	(2.08)	(3.08)	(3.05)	(4.05)
TERMINAL WIPE	D	(1.22)	(3.12)	(1.05)	(2.85)
MALE TERMINAL LENGTH	E	5.1	6.1	6.4	7.4
OVERTRAVEL CLEARANCE	F	1.6	-	8.1	-
TERMINAL POSITION PLAY	X	0	0.4	0	0.4

CONNECTOR CROSS SECTION FOR ILLUSTRATION ONLY

Project: VARIOUS

064 FEMALE TERMINALS						
Part No.	Terminal Description	Size	Wire (mm²)	Material	Plating	TE
2129805-00-A	TERM,REC,MQS 4PT,LL,S,064,0.13-0.17	064	0.13-0.17	CuNiSi	Sn	2141826-1
2129805-01-A	TERM,REC,MQS 4PT,LL,S,064,0.25-0.35	064	0.25-0.35	CuNiSi	Sn	5-962885-1
2129805-02-A	TERM,REC,MQS 4PT,LL,S,064,0.5-0.75	064	0.5-0.75	CuNiSi	Sn	5-965906-1
2129805-20-A	TERM,REC,MQS 4PT,LL,S,064,0.13-0.17	064	0.13-0.17	CuNiSi	Ag	2141826-6
2129805-21-A	TERM,REC,MQS 4PT,LL,S,064,0.25-0.35	064	0.25-0.35	CuNiSi	Ag	5-962885-6
2129805-22-A	TERM,REC,MQS 4PT,LL,S,064,0.5-0.75	064	0.5-0.75	CuNiSi	Ag	5-965906-6
2129805-10-A	TERM,REC,MQS 4PT,LL,S,064,0.13-0.17	064	0.13-0.17	CuNiSi	Au	2141826-5
2129805-11-A	TERM,REC,MQS 4PT,LL,S,064,0.25-0.35	064	0.25-0.35	CuNiSi	Au	5-962885-5
2129805-12-A	TERM,REC,MQS 4PT,LL,S,064,0.5-0.75	064	0.5-0.75	CuNiSi	Au	5-965906-5
Part No.	Terminal Description	Size	Wire (mm²)	Material	Plating	TE
2039298-00-A	TERM,REC,MQS 2PT,LL,S,064,0.13-0.17	064	0.13-0.17	CuNiSi	Sn	2479123-1
2039298-01-A	TERM,REC,MQS 2PT,LL,S,064,0.25-0.35	064	0.25-0.35	CuNiSi	Sn	2479013-1
2039298-02-A	TERM,REC,MQS 2PT,LL,S,064,0.5-0.75	064	0.5-0.75	CuNiSi	Sn	2479014-1
2039298-20-A	TERM,REC,MQS 2PT,LL,S,064,0.13-0.17	064	0.13-0.17	CuNiSi	Ag	2479123-6
2039298-21-A	TERM,REC,MQS 2PT,LL,S,064,0.25-0.35	064	0.25-0.35	CuNiSi	Ag	2479013-6
2039298-22-A	TERM,REC,MQS 2PT,LL,S,064,0.5-0.75	064	0.5-0.75	CuNiSi	Ag	2479014-6
064 MALE TERMINALS						
Part No.	Terminal Description	Size	Wire (mm²)	Material	Plating	TE
2035352-00-A	TERM,TAB,MQS,LL,S,064,0.13-0.17	064	0.13-0.17	CuNiSi	Sn	2141830-1
2035352-01-A	TERM,TAB,MQS,LL,S,064,0.25-0.35	064	0.25-0.35	CuNiSi	Sn	5-962886-1
2035352-02-A	TERM,TAB,MQS,LL,S,064,0.5-0.75	064	0.5-0.75	CuNiSi	Sn	5-965908-1
2035352-20-A	TERM,TAB,MQS,LL,S,064,0.13-0.17	064	0.13-0.17	CuNiSi	Ag	2141830-3
2035352-21-A	TERM,TAB,MQS,LL,S,064,0.25-0.35	064	0.25-0.35	CuNiSi	Ag	5-962886-3
2035352-22-A	TERM,TAB,MQS,LL,S,064,0.5-0.75	064	0.5-0.75	CuNiSi	Ag	5-965908-3
2035352-10-A	TERM,TAB,MQS,LL,S,064,0.13-0.17	064	0.13-0.17	CuNiSi	Au	2141830-2
2035352-11-A	TERM,TAB,MQS,LL,S,064,0.25-0.35	064	0.25-0.35	CuNiSi	Au	5-962886-2
2035352-12-A	TERM,TAB,MQS,LL,S,064,0.5-0.75	064	0.5-0.75	CuNiSi	Au	5-965908-2
280 FEMALE TERMINALS						
Part No.	Terminal Description	Size	Wire (mm²)	Material	Plating	TE
1086556-00-A	TERM,REC,MCP,LL,S,280,0.2-0.5	280	0.2-0.5	CuNiSi	Sn	1-2141859-1
1086556-01-A	TERM,REC,MCP,LL,S,280,0.5-1	280	0.5-1	CuNiSi	Sn	1-968855-1?
1086556-02-A	TERM,REC,MCP,LL,S,280,1.5-2.5	280	1.5-2.5	CuNiSi	Sn	1-968857-1
1086556-03-A	TERM,REC,MCP,LL,S,280,12 AWG	280	12 AWG	CuNiSi	Sn	1-1719506-1
1086556-04-A	TERM,REC,MCP,LL,S,280,4	280	4	CuNiSi	Sn	1-968859-1
1086556-20-A	TERM,REC,MCP,LL,S,280,0.2-0.5	280	0.2-0.5	CuNiSi	Ag	1-2141859-3
1086556-21-A	TERM,REC,MCP,LL,S,280,0.5-1	280	0.5-1	CuNiSi	Ag	1-968855-3
1086556-22-A	TERM,REC,MCP,LL,S,280,1.5-2.5	280	1.5-2.5	CuNiSi	Ag	1-968857-3
1086556-23-A	TERM,REC,MCP,LL,S,280,12 AWG	280	12 AWG	CuNiSi	Ag	1-1719506-3
1086556-24-A	TERM,REC,MCP,LL,S,280,4	280	4	CuNiSi	Ag	1-968859-3
1086556-10-A	TERM,REC,MCP,LL,S,280,0.2-0.5	280	0.2-0.5	CuNiSi	Au	1-2141859-2
1086556-11-A	TERM,REC,MCP,LL,S,280,0.5-1	280	0.5-1	CuNiSi	Au	1-968855-2
1086556-12-A	TERM,REC,MCP,LL,S,280,1.5-2.5	280	1.5-2.5	CuNiSi	Au	1-968857-2
Part No.	Terminal Description	Size	Wire (mm²)	Material	Plating	TE
2129809-30-A	TERM,TAB,MCP,LL,S,280,0.2-0.5	280	0.2-0.5	CuSn	Sn	1-965982-1
2129809-31-A	TERM,TAB,MCP,LL,S,280,0.5-1	280	0.5-1	CuSn	Sn	1-962915-1
2129809-32-A	TERM,TAB,MCP,LL,S,280,1-2.5	280	1-2.5	CuSn	Sn	1-962916-1
2129809-33-A	TERM,TAB,MCP,LL,S,280,12 AWG	280	12 AWG	CuSn	Sn	1-1719504-1
2129809-34-A	TERM,TAB,MCP,LL,S,280,2.5-4	280	2.5-4	CuSn	Sn	1-968947-1
2129809-50-A	TERM,TAB,MCP,LL,S,280,0.5-1	280	0.5-1	CuSn	Ag	1-962915-2
2129809-51-A	TERM,TAB,MCP,LL,S,280,1-2.5	280	1-2.5	CuSn	Ag	1-962916-2
2129809-52-A	TERM,TAB,MCP,LL,S,280,12 AWG	280	12 AWG	CuSn	Ag	1-1719504-2
2129809-53-A	TERM,TAB,MCP,LL,S,280,2.5-4	280	2.5-4	CuSn	Ag	1-968947-2
2129809-40-A	TERM,TAB,MCP,LL,S,280,0.2-0.5	280	0.2-0.5	CuSn	Au	1-965982-3
2129809-41-A	TERM,TAB,MCP,LL,S,280,0.5-1	280	0.5-1	CuSn	Au	1-962915-3
2129809-42-A	TERM,TAB,MCP,LL,S,280,1-2.5	280	1-2.5	CuSn	Au	1-962916-3
280 MALE TERMINALS						
Part No.	Terminal Description	Size	Wire (mm²)	Material	Plating	TE
2129809-60-A	TERM,TAB,MCP,LL,S,280,0.5-1	280	0.5-1	CuFe	Sn	2-962915-1
2129809-61-A	TERM,TAB,MCP,LL,S,280,1-2.5	280	1-2.5	CuFe	Sn	2-962916-1
2129809-62-A	TERM,TAB,MCP,LL,S,280,2.5-4	280	2.5-4	CuFe	Sn	2-968947-1
2129809-80-A	TERM,TAB,MCP,LL,S,280,0.5-1	280	0.5-1	CuFe	Ag	2-962915-2
2129809-81-A	TERM,TAB,MCP,LL,S,280,1-2.5	280	1-2.5	CuFe	Ag	1-962916-2
2129809-82-A	TERM,TAB,MCP,LL,S,280,2.5-4	280	2.5-4	CuFe	Ag	2-968947-2
2129809-70-A	TERM,TAB,MCP,LL,S,280,0.5-1	280	0.5-1	CuFe	Au	2-962915-3
2129809-71-A	TERM,TAB,MCP,LL,S,280,1-2.5	280	1-2.5	CuFe	Au	2-962916-3

SHEET SIZE C

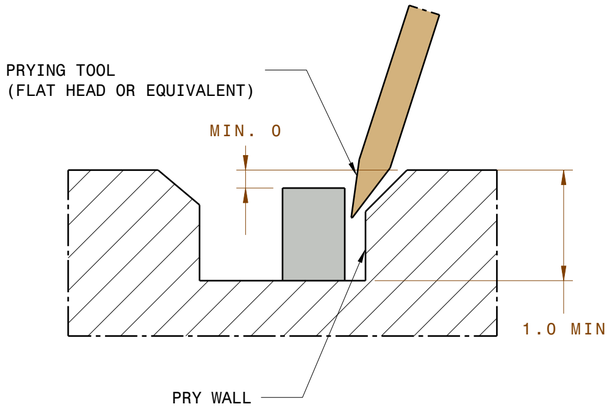
ITEM NAME: LOW VOLTAGE CONNECTOR STANDARD

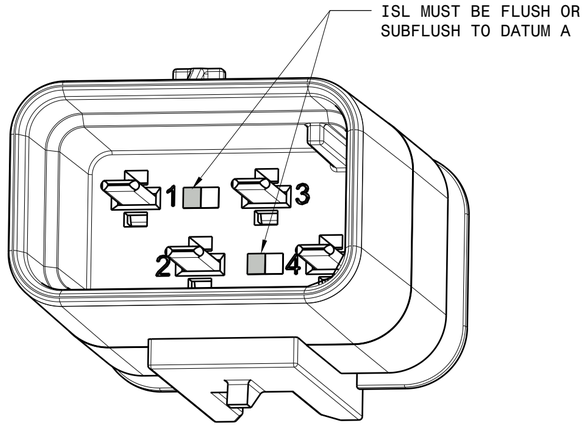
ITEM NUMBER	REVISION	SHEET
DRW-00456412	B.2	9 of 12

Project: VARIOUS

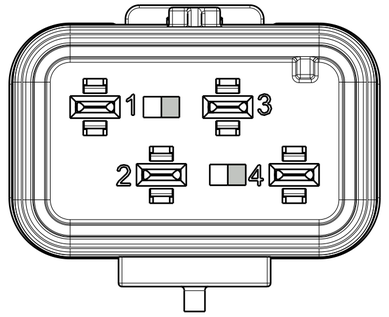
MALE ISL (INDEPENDANT SECONDARY LOCK)

QUANTITY AND LOCATION MAY VARY

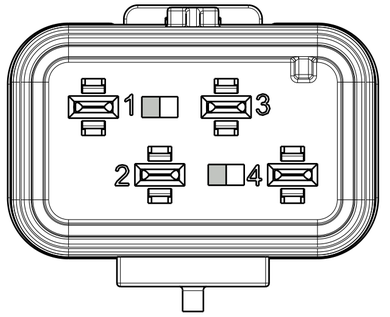




ISOMETRIC
SCALE: 3/1



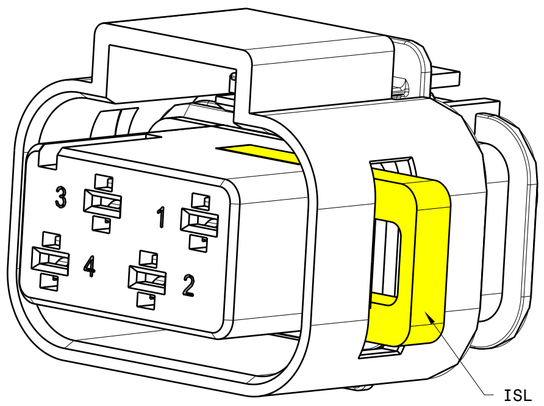
UNLOCKED POSITION
(EXAMPLE ONLY)
SCALE: 3/1



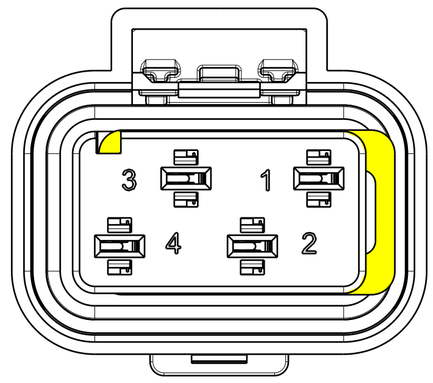
LOCKED POSITION
(EXAMPLE ONLY)
SCALE: 3/1

FEMALE ISL (INDEPENDANT SECONDARY LOCK)

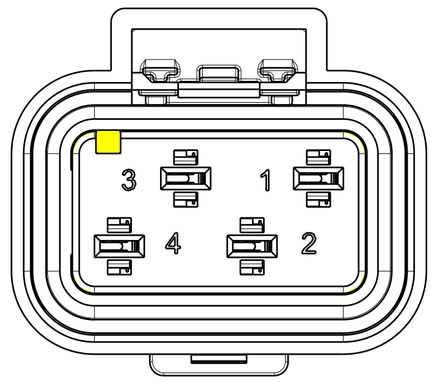
SIZE AND LOCATION MAY VARY



ISOMETRIC
SCALE: 3/1



UNLOCKED POSITION
(EXAMPLE ONLY)
SCALE: 3/1



LOCKED POSITION
(EXAMPLE ONLY)
SCALE: 3/1

ITEM NAME			
LOW VOLTAGE CONNECTOR STANDARD			
ITEM NUMBER	DRW-00456412	REVISION	B.2
		SHEET	10 of 12

SHEET SIZE C

PERFORMANCE REQUIREMENTS

AT A MINIMUM, ALL CONNECTORS ARE EXPECTED TO MEET APPLICABLE PERFORMANCE REQUIREMENTS OF USCAR-2

THE FOLLOWING CLASSIFICATIONS ARE TO BE USED:

TEMPERATURE CLASS: T2
SEALING CLASS: S2
S3 WHEN BACKSHELL ACCESSORY FITTED
VIBRATION CLASS: V4 IN SEALED CONFIGURATION
V1 IN UNSEALED CONFIGURATION
ERGONOMIC CLASS: USCAR-25 CLASSIFICATION NOT REQUIRED
SEALED CONNECTOR MATING FORCE SHALL BE EQUAL TO OR BELOW 75N

PARTS SUPPLIED TO TESLA MUST MEET ALL ADDITIONAL PERFORMANCE REQUIREMENTS LISTED IN THE GENERAL NOTES OF THIS DOCUMENT.

GENERAL REQUIREMENTS

SEALING:
WIRE SEALS AND HOUSING RADIAL SEAL SHALL BE AN OPTIONAL PART. CONNECTOR SHALL BE FUNCTIONAL WITHOUT SEALS INSTALLED

CODING:
FOUR KEY CODES (A,B,C,D) PLUS UNIVERSAL CODE (O) OPTIONS SHALL BE AVAILABLE

CONNECTOR POSITION ASSURANCE (CPA):
CPA SHALL BE AVAILABLE AS AN OPTIONAL PART

CYCLE RATING:
10 CYCLES MINIMUM FOR TIN PLATED TERMINALS (DRY/UNLUBRICATED)
50 CYCLES MINIMUM FOR SILVER PLATED TERMINALS (DRY/UNLUBRICATED)

HOUSING COLOR:
0V-16V - BLACK
16V 60V - LIGHT BLUE (RAL 5012)

CREEPAGE AND CLEARANCE:
ALL CONNECTORS SHALL PASS IEC-60664-1 CREEPAGE AND CLEARANCE REQUIREMENTS FOR THE APPLICABLE VOLTAGES WHILE MEETING:
BASIC INSULATION RATING
ALTITUDE = 5000M (CORRECTION FACTOR = 1.48)
POLLUTION DEGREE: 3

	MATERIAL GROUP I (RECOMMENDED)	MATERIAL GROUP II	MATERIAL GROUP III
MIN. CREEPAGE (MM)	1.6	1.8	2.0
MIN. CLEARANCE (MM)	1.2	1.2	1.2

MATERIALS:
ALL PLASTICS SHALL MEET HB FLAMMABILITY PER UL94 OR GREATER
ELECTRICAL RTI MUST MEET 125C OPERATING TEMPERATURE
MATERIAL RATED TO CTI (COMPARATIVE TRACKING INDEX) EQUAL TO 600 OR GREATER, PLC = 0, UL840 MATERIAL GROUP 1 IS RECOMMENDED

SIGNAL INTEGRITY:
CONNECTORS SHALL MEET 100BASE-TX AND 10BASE-T1S WITH TWISTED PAIR WIRING

TEST REQUIREMENTS

ISOLATION RESISTANCE:
CONNECTORS SHALL MEET A MINIMUM ISOLATION RESISTANCE OF 100MOHM AT 330VDC BETWEEN ADJACENT CONDUCTORS

HIPOT TESTING:
CONNECTORS SHALL WITHSTAND A TEST VOLTAGE BETWEEN ADJACENT CONDUCTORS RAISED UNIFORMLY FROM 0V TO 330VDC AT 23C +/-5C
THERE SHALL BE NO DIELECTRIC BREAKDOWN OR FLASH OVER BETWEEN CAVITIES OR TO THE OUTSIDE AT ANY TIME DURING THE TEST.

PRESSURE TEST (SEALED ONLY):
TEST PRESSURE: +1.5PSi
ACCEPTANCE CRITERIA: <0.03PSI PRESSURE LOSS
TEST TIME: 3 SECONDS
TEST FIXTURE VOLUME INCLDUING TUBING: <1.8E-5 M^3

ITEM NAME: LOW VOLTAGE CONNECTOR STANDARD
ITEM NUMBER: DRW-00456412
REVISION: B.2
SHEET: 11 of 12
SHEET SIZE: C

Project: VARIOUS

PRESSURE TESTING

DURING ANY CONNECTOR LEVEL PRESSURE TEST, FIXTURE MUST SEAL OFF ALL SEALING SURFACES (HEADER SIDE/WIRE SEAL BORES OR FEMALE SIDE SEAL).

DURING ANY HARNESS LEVEL PRESSURE TEST, FIXTURE ONLY SHOULD FORM THE HEADER SIDE SEALING SURFACE (PER TS INTERFACE).

NO DAMAGE TO ANY SEALING SURFACES FROM FIXTURE PERMITTED.

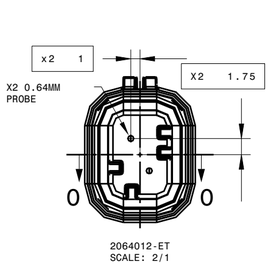
DURING ANY CONNECTOR LEVEL PRESSURE TEST, ISL SHOULD REMAIN IN CONNECTOR SHIPPING POSITION AND SHOULD NOT BE CYCLED.
FIXTURE MUST ACCOUNT FOR EXTRA SPACE NEEDED FOR ISL SHIPPING POSITION.

FIXTURE SEALING SURFACE AND LEAD IN GEOMETRY MUST MATCH 3D AND 2D TOLERANCES OF ITS RESPECTIVE INTERFACE SPECIFICATION.

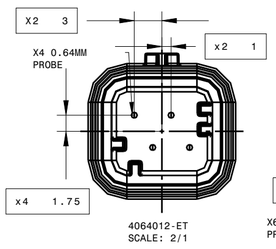
END OF LINE (PRODUCTION) ELECTRICAL TESTING AND FIXTURES

PART NUMBER FEMALE CONNECTOR	End of Line (EOL) Tester Interface Low Current/Continuity	PROBE QUANTITY 0.64MM	PROBE QUANTITY 0.8MM
2064012	2064012-ET-A	2	0
4064012	4064012-ET-A	4	0
6064012	6064012-ET-A	6	0
2280012	2280012-ET-A	0	2
4280012	4280012-ET-A	0	4
6280012	6280012-ET-A	4	2

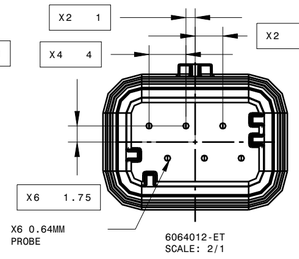
PROBE SIZE (MM)	TYPE	CURRENT RATING (A)	MAX SPRING FORCE AT WORKING STROKE (N)	WORKING STROKE (MM)	TIP STYLE
0.64	INGUN GKS-075 305 064 A 0602 M	3	0.6	4.3	BULLET NOSE
0.8	INGUN GKS-112 305 080 A 3002 M	3	3	4	BULLET NOSE



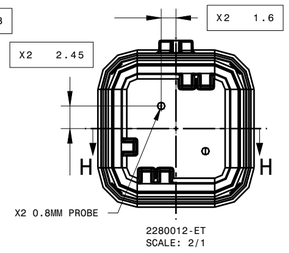
2064012-ET
SCALE: 2/1



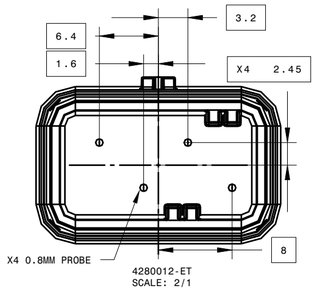
4064012-ET
SCALE: 2/1



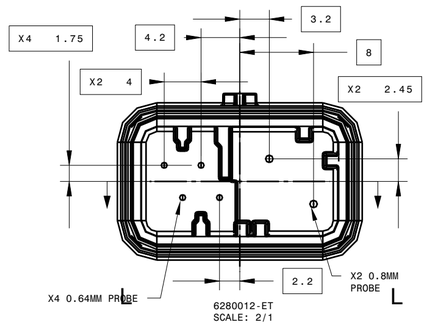
6064012-ET
SCALE: 2/1



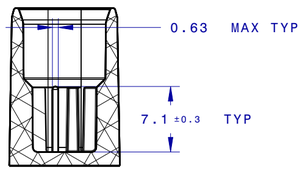
2280012-ET
SCALE: 2/1



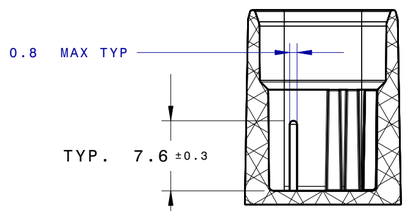
4280012-ET
SCALE: 2/1



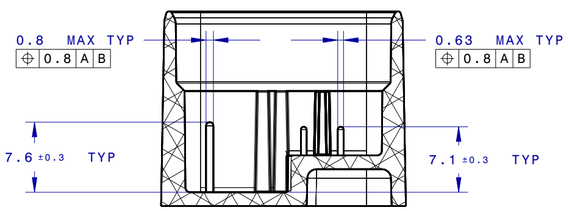
6280012-ET
SCALE: 2/1



SECTION I-I
APPLIES TO ALL LOW POWER PROBES
SCALE: 2/1



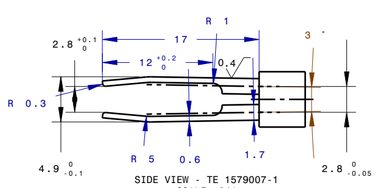
SECTION H-H
APPLIES TO 2280012-ET AND 4280012-ET
SCALE: 2/1



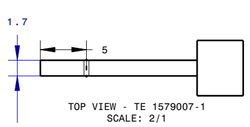
SECTION L-L
APPLIES TO 6280012-ET
SCALE: 2/1

ELECTRICAL PROBING AND TERMINAL REMOVAL

FORBIDDEN TO INSERT POGO PIN/EXTRACTION TOOL/PROBING TOOL INTO TERMINAL SLIDING CONTACT, EXCEPT FOR AN ELECTRICAL TESTING FIXTURE AS DEFINED ABOVE.

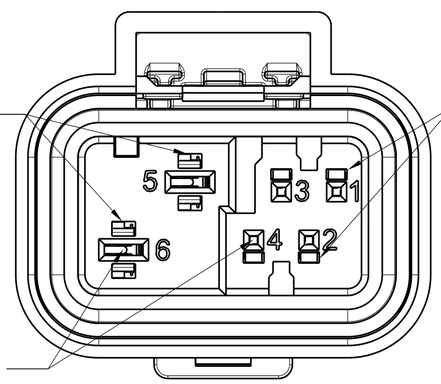


SIDE VIEW - TE 1579007-1
SCALE: 2/1



TOP VIEW - TE 1579007-1
SCALE: 2/1

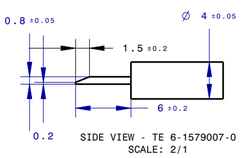
OPENING FOR TERMINAL EXTRACTION (LOCKING LANCE) AND ELECTRICAL PROBING OPENING MUST BE COMPATIBLE WITH TE 1579007-1 OR EQUIVALENT



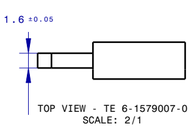
6280012-**-B
SHOWN FOR REFERENCE
SCALE: 1/1

NO TOOLS ALLOWED TO AVOID DAMAGE TO SLIDING CONTACT

OPENING FOR TERMINAL EXTRACTION (LOCKING LANCE) AND ELECTRICAL PROBING OPENING MUST BE COMPATIBLE WITH TE 6-1579007-0 OR EQUIVALENT



SIDE VIEW - TE 6-1579007-0
SCALE: 2/1



TOP VIEW - TE 6-1579007-0
SCALE: 2/1

ALL FIXTURES MUST USE TS INTERFACE KEYING RIBS AND **NOT** EXTERNAL CONNECTOR FEATURES FOR POKE YOKE OR KEYING.

ITEM NAME			
LOW VOLTAGE CONNECTOR STANDARD			
ITEM NUMBER	DRW-00456412	REVISION	B.2
		SHEET	12 of 12

SHEET SIZE C