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REVISION HISTORY

LTR	DESCRIPTION	CLASS	DWN	ENGR	SEE JPL DATA MANAGEMENT SYSTEM FOR APPROVAL SIGNATURES AND DATES.
A	----- INITIAL RELEASE -----	E			
B	CHANGED TO IP64+ RATED CONNECTORS.	E	D PALMER	D PALMER	
C	UPDATE FOR PRODUCTION RELEASE.	E	D PALMER	D PALMER	

NOTES:

1. LASER MARK ON BACK SIDE OF P1 BACKSHELL (NOT THE COVERPLATE) WITH 1.0 mm MINIMUM HIGH CHARACTERS THE TEXT SHOWN IN TABLE 1. (THE VENDOR DESIGNATION AND THE STARTING SERIAL NUMBER SHALL BE IN ACCORDANCE WITH THE VALUES PROVIDED IN THE PURCHASE ORDER). LABEL INDIVIDUAL CABLE ENDS AS SHOWN.
2. ALL DIMENSIONS IN mm.
3. LENGTH TOLERANCE IS ± 10 mm EXCEPT AS NOTED.
4. ON J1-J3, USE AN 8mm ± 1 mm LENGTH OF 1.2mm I.D. HEATSHRINK, ITEM 14, ON THE INSULATION OF EACH INDIVIDUAL WIRE TO ENSURE A GOOD SEAL WITH THE CONNECTOR HOUSING.
5. INSULATE DRAIN WIRES INSIDE P1 BACKSHELL WITH TEFLON TUBE SLEEVING, ITEM 18, (FOIL SHIELDS DO NOT NEED TO BE ISOLATED FROM EACH OTHER INSIDE THE P1 BACKSHELL.)
6. USE MANUFACTURER SPECIFIED TOOLING FOR ALL CONTACTS AND CONNECTORS.
7. STRIP CABLE JACKET AND WIRE INSULATION PER NASA-STD-8739.4A, SECTION 10. (TMT.CTR.TEC.16.052.DRF01) INSPECT PER NASA-STD-8739.4A, SECTIONS 20.5.1a, 20.5.2a, A.3, A.4, AND A.5. (TMT.CTR.TEC.16.052.DRF01)
8. USE ADHESIVE LINED HEAT SHRINK TUBING, ITEM 16 ON EACH CABLE AT P1 AND J1-J3 TO SEAL IT.
9. CRIMP ITEM 1 AND ITEM 4 CONTACTS PER NASA-STD-8739.4A, SECTION 12. (TMT.CTR.TEC.16.052.DRF01) INSPECT PER NASA-STD-8739.4A, SECTIONS 20.5.1c, 20.5.2c, A.8, A.9, AND A.10 (TMT.CTR.TEC.16.052.DRF01)
10. CRIMP AND INSPECT ITEM 10 PER JST "PRECAUTION FOR CRIMPING PROCESS." (TMT.CTR.TEC.16.051.DRF01)
11. WIRE PULLOUT TEST: VALIDATE CRIMPING PROCESSES PER NASA-STD-8739.4A, SECTION 12. (TMT.CTR.TEC.16.052.DRF01) CRIMP AND TEST 3 SAMPLE CONTACTS AT THE FREQUENCY SPECIFIED IN 12.3.5.
 - ITEM 1, AXIAL FORCE = 36 N
 - ITEM 4, AXIAL FORCE = 22 N
 - ITEM 10, AXIAL FORCE = 20 N (PER WWW.JST-MFG.COM)
12. CONTACT RETENTION TEST: 100% OF CONTACTS SHALL BE PUSH TESTED FOR SEATING PER NASA-STD8739.4A SECTION 13. (TMT.CTR.TEC.16.052.DRF01)
 - ITEM 1, AXIAL FORCE = 22.1 N
 - ITEM 4, AXIAL FORCE = 14 N
 - ITEM 10, AXIAL FORCE = 10 N

13. SPOT TIE CABLE BUNDLE TOGETHER UNDER BLACK HEAT SHRINK AS NEEDED USING ITEM 20.
14. USE FUSION WRAP, ITEM 19, TO BUILD UP DIAMETER OF THE WIRE BUNDLE FOR THE STRAIN RELIEF INSIDE OF THE P1 BACKSHELL, ITEM 2.
15. EACH CABLE SHALL BE 100% ELECTRICALLY TESTED.
 - CONNECTION RESISTANCE LESS THAN 0.5 OHMS.
 - INSULATION RESISTANCE MORE THAN 5 MOHMS.
16. -1 CONFIGURATION ONLY
17. P1 BACKSHELL SUPPORTS CABLE EGRESS FROM EITHER SIDE. CONNECT AS SHOWN.
18. ALTERNATE LEMO CONNECTOR FEG.0B.304.CYBD42Z (BRASS) CAN BE USED WITH TMT PERMISSION.
19. ALTERNATE JST CONTACT SWPR-001T-P025 (TIN FINISH) CAN BE USED WITH TMT PERMISSION.
20. SILICONE INTERFACIAL SEAL (INCLUDED WITH ITEM 1) TO BE INSTALLED ON MATING FACE OF CONNECTOR P1.
21. ALL CONNECTOR PINS SHALL BE FITTED TO EACH CONNECTOR EVEN IF NOT USED FOR CONNECTIVITY.
22. INSTALL SEALING PLUGS, ITEM 21, IN CONNECTOR P1, ITEM 1, IN ALL UNWIRED LOCATIONS (36, 39, 42, 46, 47, 48, 49, AND 50. FOR -1; ADD 40, 41, 43, 44, AND 45 FOR -2 AND -3).
23. UNUSED PINS IN THE JST CONNECTORS, J2 AND J3, ARE TO BE SEALED WITH 1.3 mm DIA. NYLON MONOFILAMENT, ITEM 22, CRIMPED TO A TERMINAL, ITEM 10, AND INSERTED IN UNUSED LOCATIONS IN THE SAME MANNER AS A NORMAL WIRE. TRIM THE MONIFILAMENT FLUSH WITH THE SURFACE OF THE SILICONE SEALING GLAND.

FOR PRODUCTION

		MATERIAL:
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EV 09/2016

JPL B SH1

LEGEND

AL = ADHESIVE LINED
AR = AS REQUIRED
EQUIV. = EQUIVALENT
PBT = POLYBUTYLENE TEREPHTHALATE
PTFE = POLYTETRAFLUOROETHYLENE
POS = POSITION
QL = QUICK LOCK
REC = RECEPTACLE
SOC = SOCKET
TBD = TO BE DETERMINED
TPU = THERMOPLASTIC POLYURETHANE ELASTOMER
(DESMOPAN 786)

TABLE 1: CABLE MARKING TEXT	
LINE 1	STRAIN GAUGE HYDRA
LINE 2	10398529- L REV M
LINE 3	S/N NNN -XXXXX
WHERE L IS THE DASH NUMBER FROM THE PARTS LIST, M IS THE CURRENT REVISION, NNN IS A 3-LETTER VENDOR DESIGNATION (ASSIGNED BY TMT) AND XXXXX IS A UNIQUE SERIAL NUMBER FOR EACH CABLE ASSEMBLY.	

4	-	22	J2-J3	-	TFM-B100-150CL	1.3 mm DIA. MONOFILAMENT	TRIPLE FISH	NYLON	23
10	5	21	P1	28198	4737-37-0-0	SEALING PLUG	POSITRONIC	PTFE	22
AR	AR	20		92194	LTN-4C OR EQUIV.	LACING TAPE, 0.05" WIDE	ALPHA WIRE	NYLON	
AR	AR	19	P1	62081	P36728 OR EQUIV.	SEAL-TITE FUSION WRAP	LAWSON PROD.		
AR	AR	18	P1	92194	TFT20026 NA005	TUBING, 0.4mm I.D. NATURAL	ALPHA WIRE	PTFE	
AR	AR	17	P1	92194	F2213/4 BK105	HEAT SHRINK, 19mm I.D. BLACK	ALPHA WIRE	POLYOLEFIN	
AR	AR	16	P1 J1-J3	92194	F3211/4 BK103	HEAT SHRINK, 6.4mm I.D. BLACK, AL	ALPHA WIRE	POLYOLEFIN	
AR	AR	15		92194	F221B3/16 CL100	HEAT SHRINK, 4.8mm I.D. CLEAR	ALPHA WIRE	POLYOLEFIN	
AR	AR	14	J1-J3	92194	F221B3/64 CL100	HEAT SHRINK, 1.2mm I.D. CLEAR	ALPHA WIRE	POLYOLEFIN	
-	AR	13		92194	78113	CABLE, SJ, 3 CONDUCTOR, 26AWG	ALPHA WIRE		
AR	AR	12		92194	78112	CABLE, SJ, 2 CONDUCTOR, 26AWG	ALPHA WIRE		
AR	AR	11		92194	78152	CABLE, SJ, 2 PAIR, 28AWG	ALPHA WIRE		
2	11	10	J1-J3	67D17	SWPR-001GH-P025	TERMINAL, SOCKET, 22-26 AWG	JST SALES AMER.		19
-	1	9	J3	67D17	06R-JWPF-VSLE-D	HOUSING, 6 POS, REC, 2mm	JST SALES AMER.	PBT	
-	1	8	J2	67D17	03R-JWPF-VSLE-S	HOUSING, 3 POS, REC, 2mm	JST SALES AMER.	PBT	
1	1	7	J1	67D17	02R-JWPF-VSLE-S	HOUSING, 2 POS, REC, 2mm	JST SALES AMER.	PBT	
3	3	6	P3, P5-P6	2P953	GMA.0B.035.DV	BEND RELIEF, GREEN	LEMO	TPU	
4	4	5	P2, P4, P7-P8	2P953	GMA.0B.035.DR	BEND RELIEF, RED	LEMO	TPU	
7	7	4	P2-P8	2P953	FEG.0B.304.U1716	CONNECTOR, 4-Pin LEMO PLUG	LEMO		18
1	1	3	P1	00779	1-2308272-7	CABLE CLAMP, SIZE 5, 14-16 mm	TE CONNECTIVITY	ZINC ALLOY	
1	1	2	P1	00779	1-2308338-1	BACKSHELL, 50 POSITION DSUB, QL	TE CONNECTIVITY	ZINC ALLOY	
1	1	1	P1	28198	EVD50P00000/AA-1289.2	PLUG, D-SUB 50 PIN MALE CRIMP	POSITRONIC	INCLUDES PINS	
-2, -3	-1	ITEM NO	REF DES	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL OR NOTE	
PARTS LIST									

TABLE 2: FINISHED CABLE LENGTHS			
CONNECTOR	LENGTH		
	-1	-2	-3
P2	1090 mm	1090 mm	1090 mm
P3	935 mm	935 mm	935 mm
P4	805 mm	805 mm	805 mm
P5	655 mm	655 mm	655 mm
P6	815 mm	815 mm	815 mm
P7	560 mm	560 mm	560 mm
P8	690 mm	690 mm	690 mm
J1	860 mm	300 mm	620 mm
J2	885 mm	-	-
J3	490 mm	-	-



