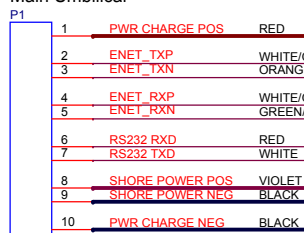


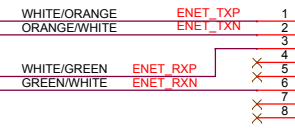
Harness 10021057-H01 wired in-place after installation of bulkhead connector

Aft Bulkhead Connector Main Umbilical



Seacon/MINK-10-L-BCR-DO
10 pin bulkhead receptacle
wired in place
Seacon MINI-CON series
Current limit per #14 pin: 16A
Current limit per wire: 16A

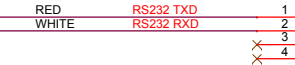
24 AWG twisted pair 24" MIN Actual TBD 2 wires



To MB Ethernet Connector
or
Cradle Point Router WAN Port

RJ45 Ethernet
Stewart/940-SP-3088R-A133

24 AWG twisted pair 36" MIN Actual TBD 2 wires



To MB RS-232 Serial Console
MB3.0: J6

Molex C-Grid 4x1
Molex/50-57-9404

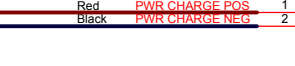
18 AWG hook-up wire 36" MIN Actual TBD 2 wires



To Mother Board Shore Power;
MB3.0: J26

3.5MM DIP PLUG
Hirose/MDF6-4DS-3.5C

14 AWG 20" 2 wires (Jim Montgomery 3-7-16)

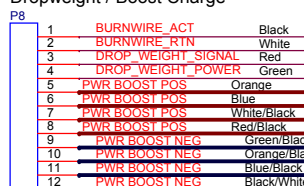


To Power Interface Board: J1

PC15 [1-1] Molex/0016020087
Molex C-Grid Contact
Quantity Q2 = 2

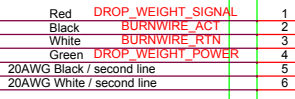
Harness 10021057-H02 wired in-place after installation of bulkhead connector

Aft Bulkhead Connector Dropweight / Boost Charge



Subconn/MCBH12F AS
SubConn Circular Micro 12 pins
Teledyne Impulse stock connector with 20AWG 24" pigtail
Current limit per pin 5A

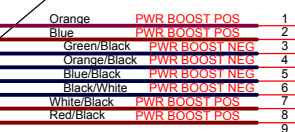
Teledyne Impulse/ 20AWG trim to 18" 4 wires (Jim Montgomery 3-7-16)



To MB Aft Signals
MB3.0: J33

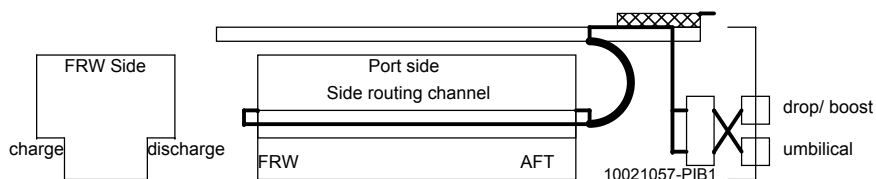
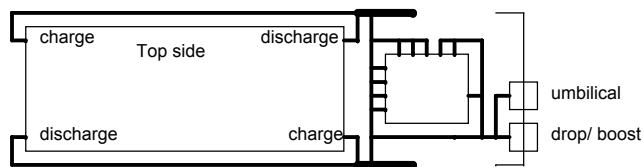
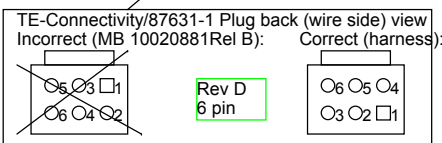
TE Connectivity Mod II series 2-row
Crimp contacts: 2-87523-4 (20-24 AWG)
Crimper 91516-1
Mates with TE 5-102618-1
Current limit 3A per pin
TE-Connectivity/87631-1

Teledyne Impulse/ 20AWG trim to 8" 8 wires (Jim Montgomery 3-7-16)



To Power Interface Board: J3

Hirose MDF6 Series Crimp contacts:
MDF6-1618SC, MDF6-1618SC (16-18AWG)
Mates with Hirose/MDF6- 10DP-3.5DSA(05)

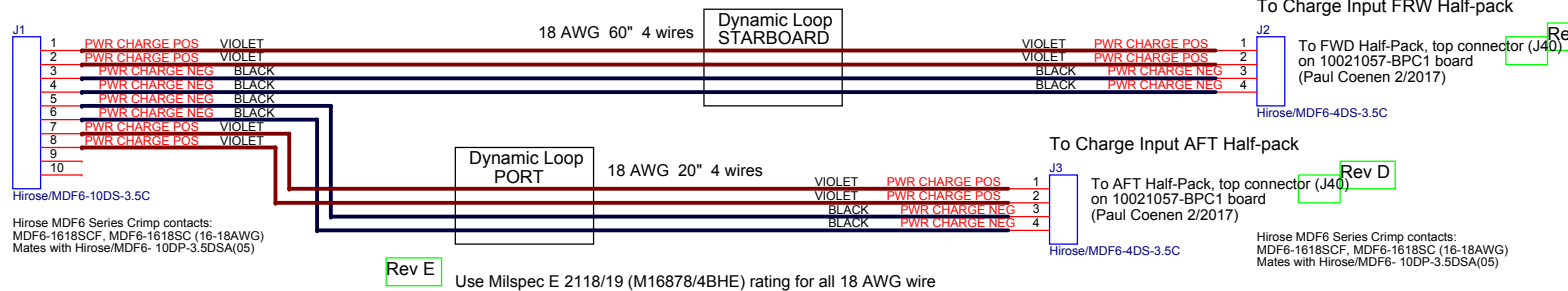


Rev notes sheet 1
RevA(07/30/2014): Initial Release
RevC(03/26/2015): harness PN added, some moved to p2, length changed
RevD(04/24/2017): wiring update for MB 3.0 only
-H02 length changed 8 wires from 18" to 8"; 4 wires from 12" to 18"; plug P6 changed from 8pin to 6pin, rewired
-H01 length changed 14AWG 2 wires from 24" to 20";
RevE(11/28/17) JR
-Updated revision to "E" on sheet 1.
-Made updates to sheets 2, 3, and 4.

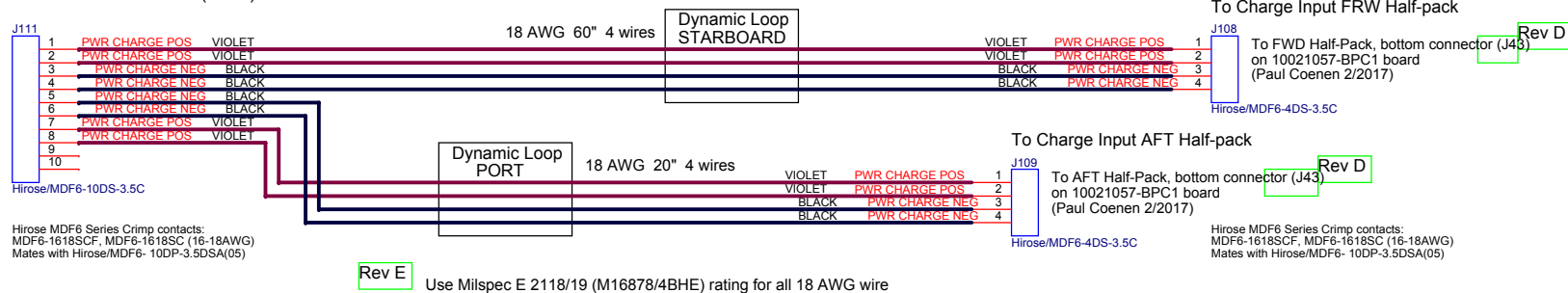
		Monterey Bay Aquarium Research Institute 7700 Sandholdt Rd, Moss landing CA 95076	
Engineer Klimov	831-775-1914	Charge Harnesses p1	
Size B	Doc. or Part Number -Doc-	File Name (auto) 10021057-APACK-HARNESSES	Rev E
Page 1	Modify Date (auto) Tuesday, November 28, 2017	Design Modify Date (auto) Tuesday, November 28, 2017	Sheet 1 of 4
Full path (auto):			

X:\900739.L\PROJECT.DRAWINGS\PROJECT.EE.DWG\SUBATTERY\PACK2013\10021057-APACK\10021057-APACK-HARNESSES.DWG

Harness 10021057-H03 (1 of 2)



Harness 10021057-H03 (2 of 2)



Max voltage drop:
18 AWG: 6.39 mOhm/ft * 5 ft * 3A = 96 mV

Hirose MDF6 series Current RatingCharging per battery pack 24A MAX

AWG#16 : 7A
AWG#18 : 6A
AWG#20 : 5A
AWG#22 : 4A

Per Half-Pack 12A MAX
Per connector 6A
Per wire 3A

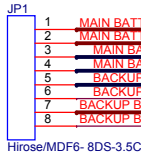
Rev notes sheet 2 (continuation from sheet1)
RevD(05/14/2017): Plug-in connections J2, J3, J108, J109 specified
RevE(11/28/17) JR: Specified milspec E rating on all 18AWG wire.

		Monterey Bay Aquarium Research Institute 7700 Sandholdt Rd, Moss landing CA 95076	
Engineer Klimov	831-775-1914	Page Title Charge Harnesses p2	Project: 901400
Size B	Doc. or Part Number -<Doc>	File Name (auto) 10021057-APACK-HARNESSES	Rev ref sheet 1
Page 1	Modify Date (auto): Tuesday, November 28, 2017	Design Modify Date (auto): Tuesday, November 28, 2017	Sheet 2 of 4
Full path (auto): X:\900739.LR\PROJECT.DRAWINGS\PROJECT.EE.DWG\SUBATTERYPACK2013\10021057-APACK\10021057-APACK-HARNESSES			

Harness 10021057-H04

Rev E Use Milspec E 2118/19 (M16878/4BHE) rating for all 18 AWG wire
18 AWG 54" 3 TWISTED PAIRS

From Half-pack
Output FRW



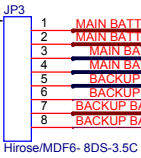
Dynamic Loop
PORT

To MB3.0 Main Battery Connector J30



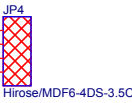
Rev D
MB2.5
mating
references
removed

From Half-pack Output AFT



Dynamic Loop
STARBOARD

To MB3.0 Main Battery Connector J27

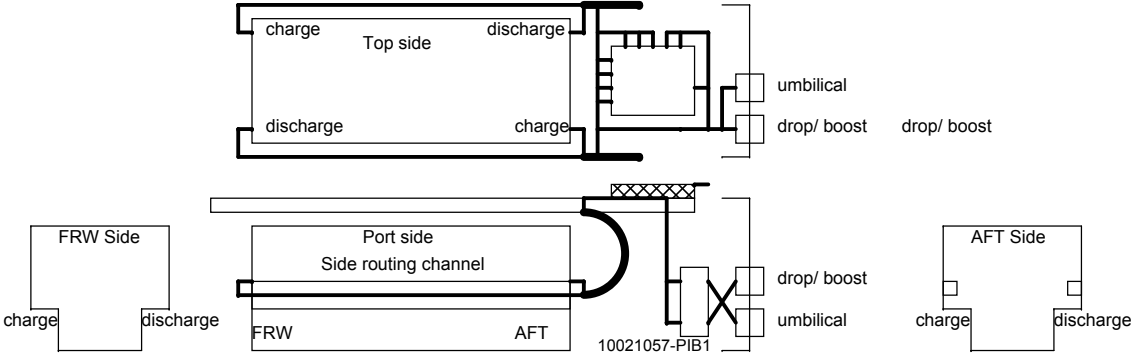


To MB3.0 BackUp Battery Connector J32



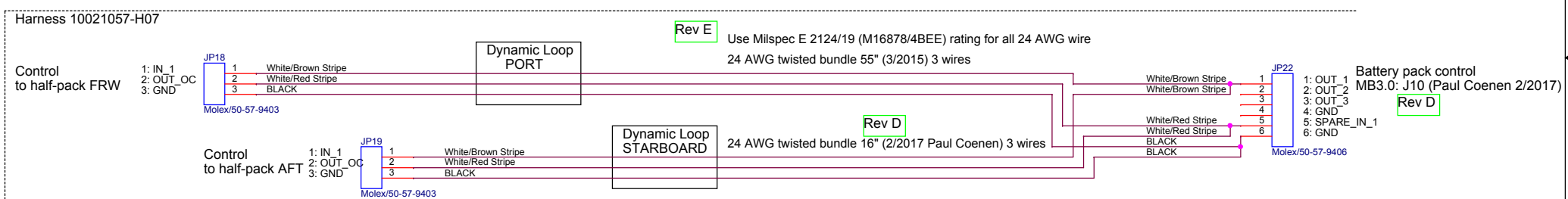
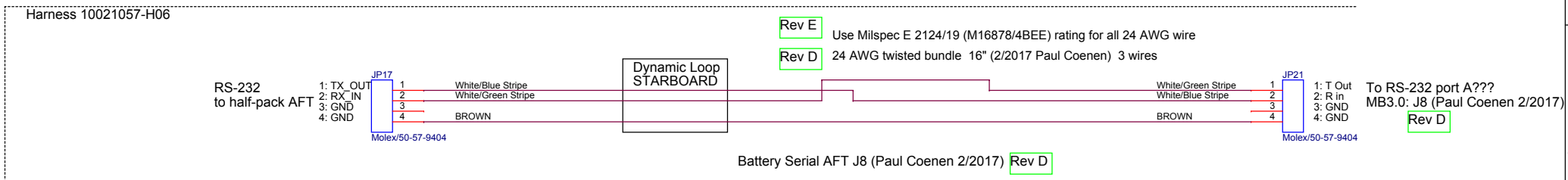
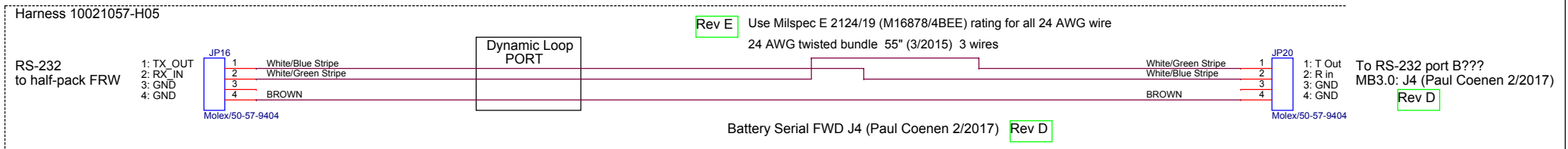
Crimp contacts for Hirose MDF6 Series:
MDF6-1618SCF, MDF6-1618SC (18-18AWG)
Mates with: Hirose/MDF6- 8DP-3.5DSA(05)
Hirose MDF6 series Current Rating:
AWG#16 : 7A; AWG#18 : 6A
AWG#20 : 5A; AWG#22 : 4A

18 AWG high-flex 24" 3 TWISTED PAIRS
Use Milspec E 2118/19 (M16878/4BHE) rating for all 18 AWG wire
Rev E



Rev notes sheet 3 (continuation from sheet2)
RevD(05/14/2017): MB2.5 connector references removed:
- Tyco Mate-N-Lok 8-pin
- Tyco Mate-N-Lok 4-pin
RevE(11/28/17) JR:
-Specified milspec E rating on all 18AWG wire.
-Specified twisted pairs.

		Monterey Bay Aquarium Research Institute 7700 Sandholdt Rd, Moss landing CA 95076	
Engineer Klimov		Project: 901400	
Size B		Rev ref sheet 1	
Doc. or Part Number <Doc>		File Name (auto) 10021057-APACK-HARNESSES	
Page Modify Date (auto): Tuesday, November 28, 2017		Sheet: 3 of 4	
Design Modify Date (auto): Tuesday, November 28, 2017		Full path (auto): X:\900739.LRA\PROJECT.DRAWINGS\PROJECT.EE.DWG\SUBATTERY\PACK2013\10021057-APACK\10021057-APACK-HARNESSES.DWG	



Rev notes sheet 4 (continuation from sheet3)
RevD(05/14/2017): Plug-in connections for JP20, JP21, JP22 specified;
lengths updated from 36" to 16"
RevE(11/28/17) JR:
-Specified milspec E rating on all 24AWG wire.

		Monterey Bay Aquarium Research Institute 7700 Sandholdt Rd, Moss landing CA 95076	
Engineer Klimov		Page Title COMM Harnesses	
831-775-1914		Project: 901400	
Size B	Doc. or Part Number -Doc-	File Name (auto) 10021057-APACK-HARNESSES	Rev ref sheet 1
Page B	Modify Date (auto): Tuesday, November 28, 2017	Design Modify Date (auto): Tuesday, November 28, 2017	Sheet: 4 of 4
Full path (auto): X:\900739.L\RA\PROJECT.DRAWINGS\PROJECT.EE.DWG\SUBATTERYPACK2013\10021057-APACK\10021057-APACK-HARNESSES.DWG			