H1

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

J1 BULKHEAD
SEACON MINR-84

To J1 BULKHEAD

350V_OUT_2 3	10 AWG	RED 16 AWG
350V_COM_2 4	10 AWG	BLACK 16 AWG
350V_OUT_1 5	10 AWG	RED 16 AWG
350V_COM_1 6	10 AWG	BLACK 16 AWG
+24V_IN 11	16 AWG	
UW_RS232_RXD 14	22 AWG	
POWER RETURN 12	16 AWG	
RS232_RTN 15	22 AWG	
UW_RS232_TXD 13	22 AWG	
SEAWATER GROUND 7	22 AWG	
ALL OTHER PINS	NC	16 AWG

B7P1
M80-263F202-00-00

A P187_R_IN	
B N187_R_IN	

To **B7** IGB

B7P2
M80-263F202-00-00

A P187_L_IN	
B N187_L_IN	

B5P5
M80-4800605

1 ISO_24V*	RED 22 AWG 1.1mm Ø
2 ISO_24V*	RED 22 AWG 1.1mm Ø
3 ISO_RS232_RX	NC
4 ISO_GND*	BLK 22 AWG 1.1mm Ø
5 ISO_GND*	BLK 22 AWG 1.1mm Ø
6 ISO_RS232_TX	WHT 22 AWG 1.1mm Ø

TOOLING:
*USE T-CONTACT

To **B5** HPB

CHASSIS LUG

CHASSIS LUG — GRN 22 AWG 1.1mm Ø

B7P3
M80-4800405

1 ANNODE	GRN 22 AWG 1.1mm Ø
2 CHASSIS	GRN 22 AWG 1.1mm Ø
3 ANNODE	NC
4 CHASSIS	GRN 22 AWG 1.1mm Ø

To **B7** IGB

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

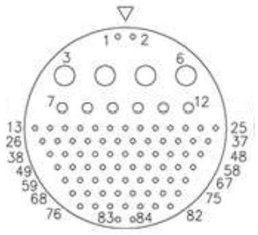
TITLE:
J1 Bulkhead
Power and Fiber Input
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 1 OF 41

H1



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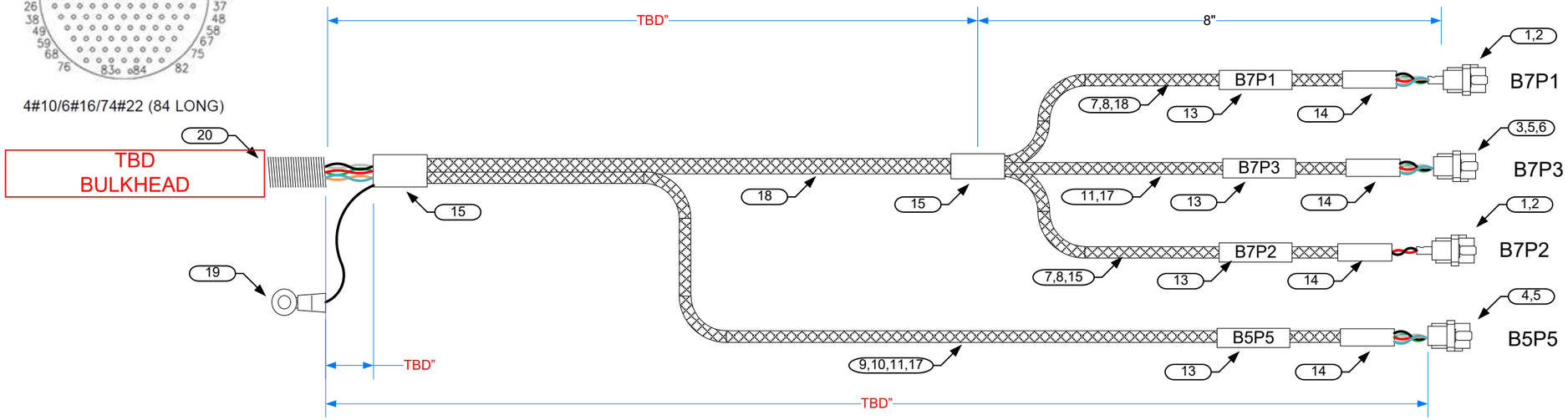
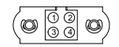
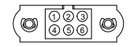


FACE VIEW
HARWIN 4MM
M80-263F202-00-00



FACE VIEW
HARWIN 2MM
M80-4800405

FACE VIEW
HARWIN 4MM
M80-263F202-00-00



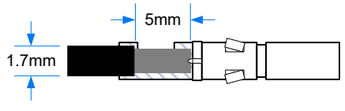
FACE VIEW
HARWIN 2MM
M80-4800605

TABLE A1H1: PARTS LIST

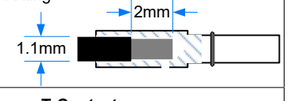
ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	4	M80-327	HARWIN	CONN SOCKET 10AWG CRIMP/SLD GOLD
3	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
4	1	M80-4800605	HARWIN	DATAMATE FEMALE 6-PIN
5	4	M80-2060005	HARWIN	DATAMATE 22AWG FEMALE CRIMP T-CONTACT
6	2	M80-0110005	HARWIN	DATAMATE 22AWG FEMALE CRIMP
7	TBD	AT161929 BK005	ALPHA	16 AWG BLACK WIRE PTFE
8	TBD	AT161929 RD005	ALPHA	16 AWG RED WIRE PTFE
9	TBD	2845/19 BK001	ALPHA	22 AWG BLACK WIRE PTFE 1.07mm Ø
10	TBD	2845/19 RD001	ALPHA	22 AWG RED WIRE PTFE 1.07mm Ø
11	TBD	2845/19 GR001	ALPHA	22 AWG GRN WIRE PTFE 1.07mm Ø
12	TBD	2845/19 WH001	ALPHA	22 AWG WHT WIRE PTFE 1.07mm Ø
13	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
14	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
15	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
16	2"	STOCK	STOCK	1/8" CLEAR HEAT SHRINK
17	TBD	PTN0.25BK-100	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
18	TBD	PTN0.50BK-100	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeving
19	1	STOCK	STOCK	CRIMP EYE
20	1	TBD	TBD	J1 BULKHEAD

NOTE:

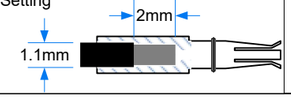
Power Contact (16AWG):
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



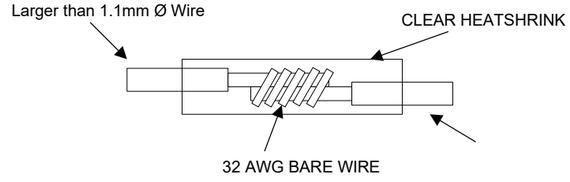
Large Bore Signal Contact:
M22520/2-01 - Hand Crimp Tool
T5747 – Positioner
6 – Crimp Tool Setting



T-Contact:
M22520/2-01 - Hand Crimp Tool
Z80-444 – Positioner
6 – Crimp Tool Setting



22 AWG SPLICES FOR
HARWIN CONNECTORS



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MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
J1 Bulkhead
Power and Fiber Input
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 2 OF 41

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

TOOLING:
*USE T-CONTACT

To **B6**
HPB J10

B6P10
M80-4800405

*CISCO_SWITCH_2 1
*GND 3
CISCO_SWITCH_2 2
GND 4

RED 22 AWG 1.1mm Ø
RED 22 AWG 1.1mm Ø

B10 DC-A
TBD

9V TO 60V IN
GROUND

To **B10**
CISCO 1

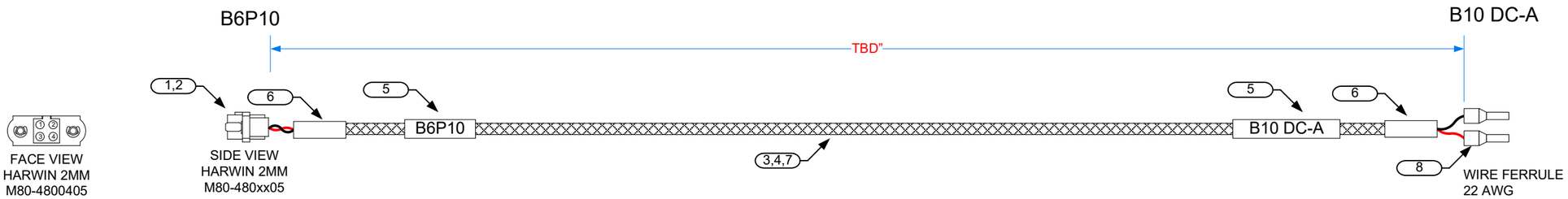
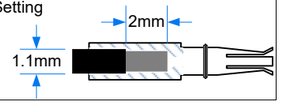


TABLE A1H2: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
2	2	M80-2060005	HARWIN	DATAMATE 22AWG FEMALE CRIMP T-CONTACT
3	TBD	2845/19 BK001	HARWIN	22 AWG BLACK WIRE PTFE 1.07mm Ø
4	TBD	2845/19 RD001	HARWIN	22 AWG RED WIRE PTFE 1.07mm Ø
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
8	2	FSD75-8-D	Panduit Corp	CONN FERRULE DIN 22AWG WHITE

T-Contact:
M22520/2-01 - Hand Crimp Tool
Z80-444 – Positioner
6 – Crimp Tool Setting



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MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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TITLE:
H2 CISCO Switch 1
Switch Power
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 3 OF 41

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

TOOLING:
*USE T-CONTACT

To **B6**
HPB J11

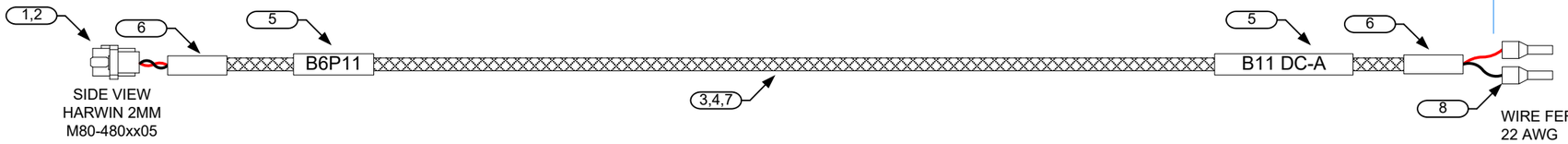
B6P11
M80-4800405

B11 DC-A
FERRELS

To **B11**
CISCO 2

*CISCO_SWITCH_2 1	RED 22 AWG 1.1mm Ø	9V TO 60V IN
*GND 3	BLK 22 AWG 1.1mm Ø	GROUND
CISCO_SWITCH_2 2	NC	
GND 4	NC	

FACE VIEW
HARWIN 2MM
M80-4800405



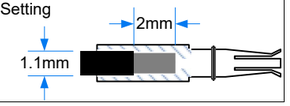
SIDE VIEW
HARWIN 2MM
M80-480xx05

WIRE FERRULE
22 AWG

TABLE A1H3: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
2	2	M80-2060005	HARWIN	DATAMATE 22AWG FEMALE CRIMP T-CONTACT
3	TBD	2845/19 BK001	HARWIN	22 AWG BLACK WIRE PTFE 1.07mm Ø
4	TBD	2845/19 RD001	HARWIN	22 AWG RED WIRE PTFE 1.07mm Ø
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
8	2	FSD75-8-D	Panduit Corp	CONN FERRULE DIN 22AWG WHITE

T-Contact:
M22520/2-01 - Hand Crimp Tool
Z80-444 – Positioner
6 – Crimp Tool Setting



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MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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TITLE:
H3 CISCO Switch 2
Switch Power
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 4 OF 41

B7P6
M80-263F202-00-00

B9P1
M80-263F202-00-00

To **B7**
IGB J6

P187_R_OUT A — RED 16 AWG — A P187V

N187_R_OUT B — BLK 16 AWG — B N187V

To **B9**
IPB 1 J1

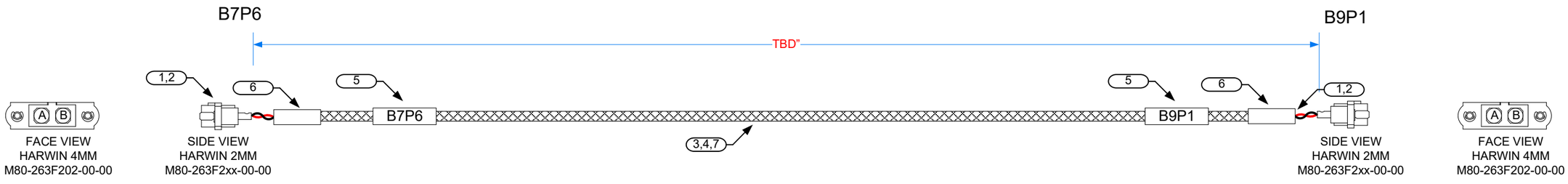
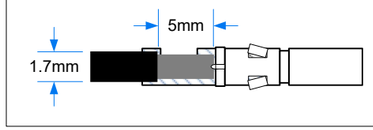


TABLE A1H4: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	4	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
3	TBD		HARWIN	16 AWG BLACK WIRE PTFE
4	TBD		HARWIN	16 AWG RED WIRE PTFE
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving

NOTE:

Power Contact (16AWG):
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



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DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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TITLE:
H4 IPB 1 POWER
375V Power
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 5 OF 41

B7P7
M80-263F202-00-00

B8P1
M80-263F202-00-00

To **B7**
IGB J7

P187_R_OUT A — RED 16 AWG — A P187V

N187_R_OUT B — BLK 16 AWG — B N187V

To **B8**
IPB 2 J1

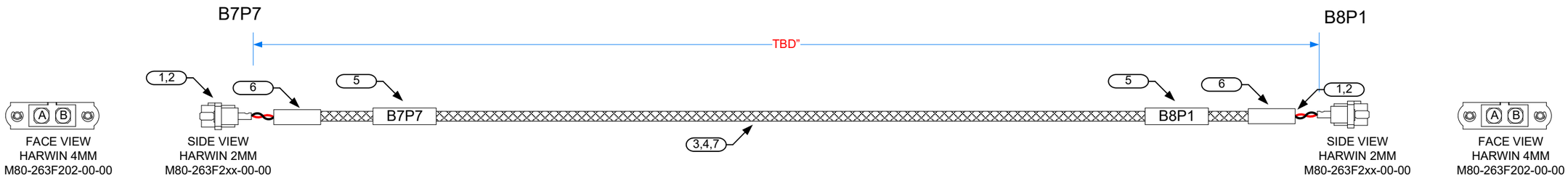
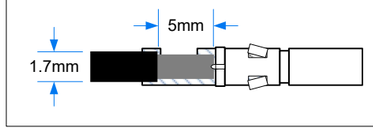


TABLE A1H5: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	4	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
3	TBD	AT161929 BK005	HARWIN	16 AWG BLACK WIRE PTFE
4	TBD	AT161929 RD005	HARWIN	16 AWG RED WIRE PTFE
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving

NOTE:

Power Contact (16AWG):
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



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PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H5 IPB 2 POWER
375V Power
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 6 OF 41

H6

B7P4
M80-263F202-00-00

B6P3
M80-263F202-00-00

To **B7**
IGB J4

P187_R_OUT A — RED 16 AWG — A P187_L

N187_R_OUT B — BLK 16 AWG — B N187_L

To **B6**
HPB J3

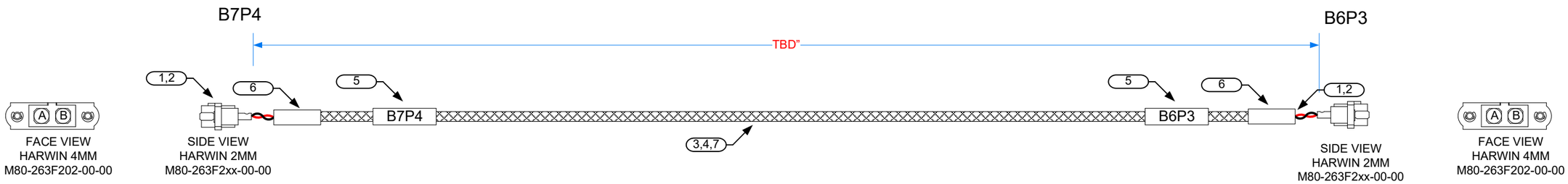
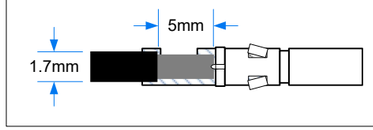


TABLE A1H6: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	4	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
3	TBD	AT161929 BK005	HARWIN	16 AWG BLACK WIRE PTFE
4	TBD	AT161929 RD005	HARWIN	16 AWG RED WIRE PTFE
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving

NOTE:

Power Contact (16AWG):
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



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MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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TITLE:
H6 HOTEL POWER BOARD POWER
375V Power LEFT
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 7 OF 41

H7

B7P5
M80-263F202-00-00

B6P4
M80-263F202-00-00

To **B7**
IGB J5

P187_R_OUT A — RED 16 AWG — A P187_L

N187_R_OUT B — BLK 16 AWG — B N187_L

To **B6**
HPB J4

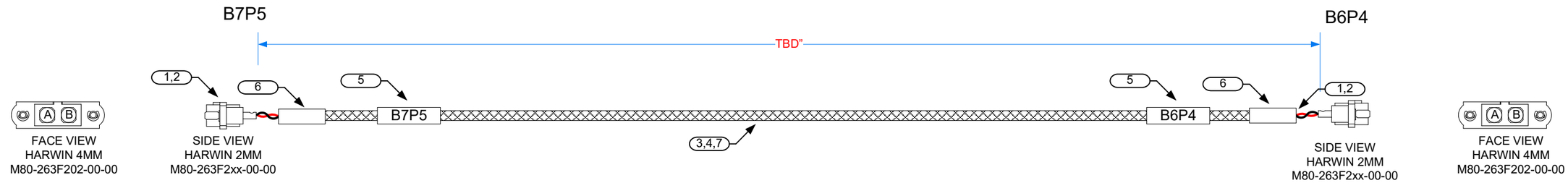
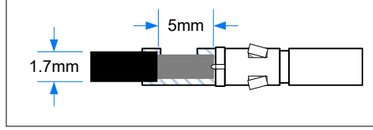


TABLE A1H7: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	4	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
3	TBD	AT161929 BK005	HARWIN	16 AWG BLACK WIRE PTFE
4	TBD	AT161929 RD005	HARWIN	16 AWG RED WIRE PTFE
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving

NOTE:

Power Contact (16AWG):
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



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MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H6 HOTEL POWER BOARD POWER
375V Power RIGHT
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 8 OF 41

H8

B9P4
M80-263F202-00-00

To **B9**
IPB 1 J4

CHA_P187_OUT
CHA_N187_OUT

B10P1
RJ-45

BI_DA+ 1
BI_DA- 2
BI_DB+ 3
BI_DC+ 4
BI_DC- 5
BI_DB- 6
BI_DD+ 7
BI_DD- 8

B13P1
TBD

PPS+ C
PPS- S

P1 BULKHEAD
M80-263F202-00-00

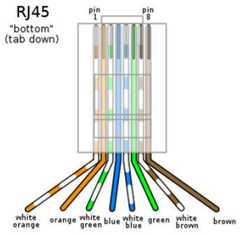
9 375V
10 375R
1 BI_DA+
2 BI_DA-
3 BI_DB+
4 BI_DC+
5 BI_DC-
6 BI_DB-
7 BI_DD+
8 BI_DD-
11 PPS+
12 PPS-

To P1
BULKHEAD

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

FACE VIEW
HARWIN 4MM
M80-263F202-00-00

RJ45
"bottom"
(tab down)



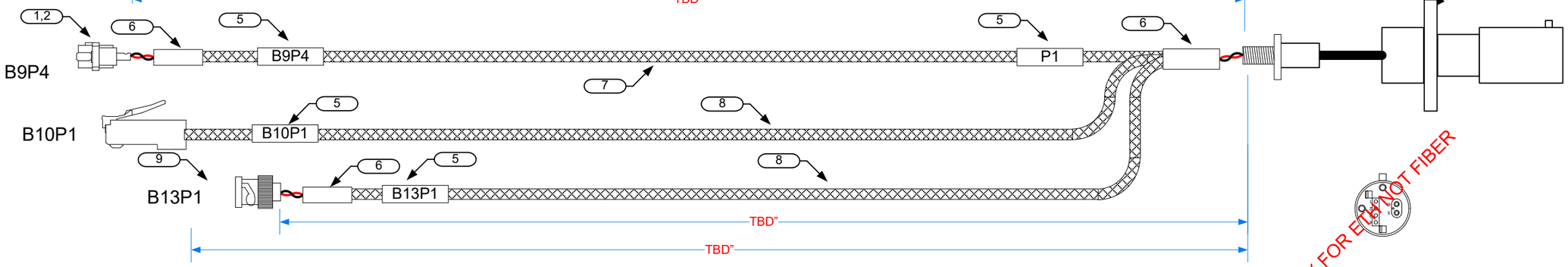
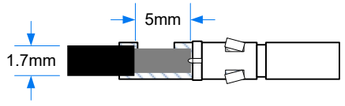


TABLE A1H8: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
2	1	STOCK	STOCK	RJ45 CONNECTOR
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeving
8	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
9	1	STOCK	STOCK	GENERIC BNC SOLDER
9	TBD	TBD	TBD	WET MATE PENETRATOR CONNECTOR

NOTE:
Power Contact (16AWG):
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H8 P1 BULKHEAD
IPS 1 CHA 375V OUTPUT
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 9 OF 41

H9

B9P5
M80-263F202-00-00

To **B9**
IPB 1 J5

CHB_P187_OUT — RED 16 AWG
CHB_N187_OUT — BLK 16 AWG

P2 BULKHEAD
M80-263F202-00-00

9 375V
10 375R

B10 P2
RJ-45

BI_DA+ 1	WHT/ORG	1 BI_DA+
BI_DA- 2	ORG	2 BI_DA-
BI_DB+ 3	WHT/GRN	3 BI_DB+
BI_DC+ 4	BLU	4 BI_DC+
BI_DC- 5	WHT/BLU	5 BI_DC-
BI_DB- 6	GRN	6 BI_DB-
BI_DD+ 7	WHT/BRN	7 BI_DD+
BI_DD- 8	BRN	8 BI_DD-
		11 PPS+
		12 PPS-

To P2
BULKHEAD

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

B13 P2
TBD

PPS+ C	TBD	
PPS- S	TBD	

FACE VIEW
HARWIN 4MM
M80-263F202-00-00

RJ45
"bottom"
(tab down)
pin 1 pin 8
white orange, orange, white green, blue, white blue, green, white brown, brown

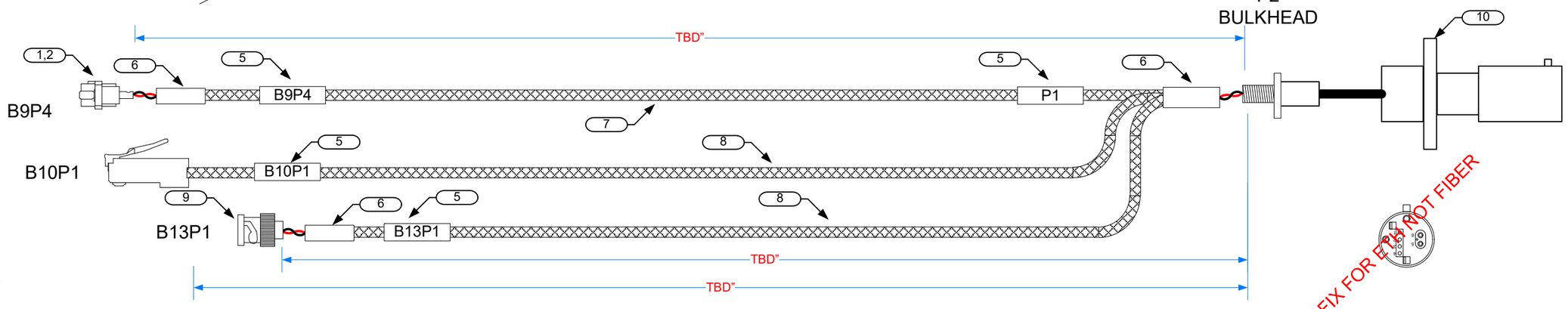
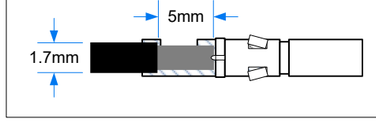


TABLE A1H9: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
2	1	STOCK	STOCK	RJ45 CONNECTOR
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeving
8	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
9	1	STOCK	STOCK	GENERIC BNC SOLDER
10	TBD	TBD	TBD	WET MATE PENETRATOR CONNECTOR

NOTE:

Power Contact (16AWG):
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



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MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
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1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H9 P2 BULKHEAD
IPS 1 CHB 375V OUTPUT
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 10 OF 41

H10

B9P6
M80-263F202-00-00

To **B9**
IPB 1 J6

CHC_P187_OUT — RED 16 AWG
CHC_N187_OUT — BLK 16 AWG

P3 BULKHEAD
TBD

9 375V
10 375R

B10 P3
RJ-45

BI_DA+ 1	WHT/ORG	1 BI_DA+
BI_DA- 2	ORG	2 BI_DA-
BI_DB+ 3	WHT/GRN	3 BI_DB+
BI_DC+ 4	BLU	4 BI_DC+
BI_DC- 5	WHT/BLU	5 BI_DC-
BI_DB- 6	GRN	6 BI_DB-
BI_DD+ 7	WHT/BRN	7 BI_DD+
BI_DD- 8	BRN	8 BI_DD-

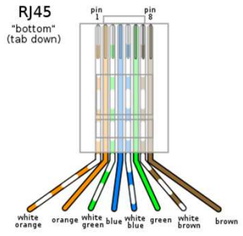
B13 P3
TBD

PPS+ C	TBD	11 PPS+
PPS- S	TBD	12 PPS-

To P3
BULKHEAD

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

FACE VIEW
HARWIN 4MM
M80-263F202-00-00



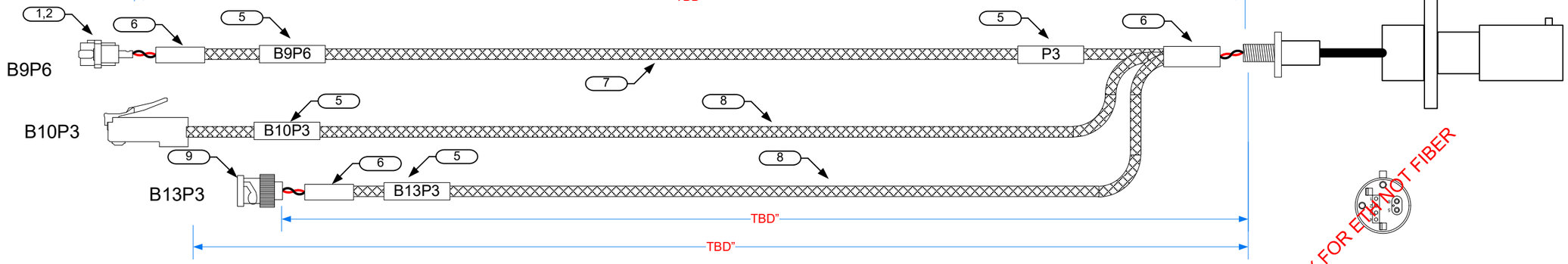
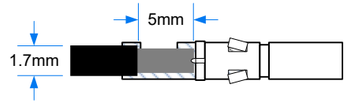


TABLE A1H10: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
2	1	STOCK	STOCK	RJ45 CONNECTOR
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeving
8	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
9	1	STOCK	STOCK	GENERIC BNC SOLDER
10	TBD	TBD	TBD	WET MATE PENETRATOR CONNECTOR

NOTE:
Power Contact (16AWG):
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



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MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
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TITLE:
H10 P3 BULKHEAD
IPS 1 CHC 375V OUTPUT
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 11 OF 41

H11

B9P7
M80-263F202-00-00

To **B9**
IPB 1 J7

CHD_P187_OUT — RED 16 AWG
CHD_N187_OUT — BLK 16 AWG

P4 BULKHEAD
TBD

9 375V
10 375R

B10 P4
RJ-45

BI_DA+ 1	WHT/ORG	1 BI_DA+
BI_DA- 2	ORG	2 BI_DA-
BI_DB+ 3	WHT/GRN	3 BI_DB+
BI_DC+ 4	BLU	4 BI_DC+
BI_DC- 5	WHT/BLU	5 BI_DC-
BI_DB- 6	GRN	6 BI_DB-
BI_DD+ 7	WHT/BRN	7 BI_DD+
BI_DD- 8	BRN	8 BI_DD-

To P4
BULKHEAD

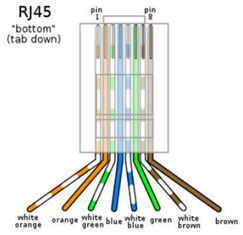
WARNING:
CONTACT ORDER
NOT SEQUENTIAL

B13 P4
TBD

PPS+ C	TBD	11 PPS+
PPS- S	TBD	12 PPS-

FACE VIEW
HARWIN 4MM
M80-263F202-00-00

RJ45
"bottom"
(tab down)



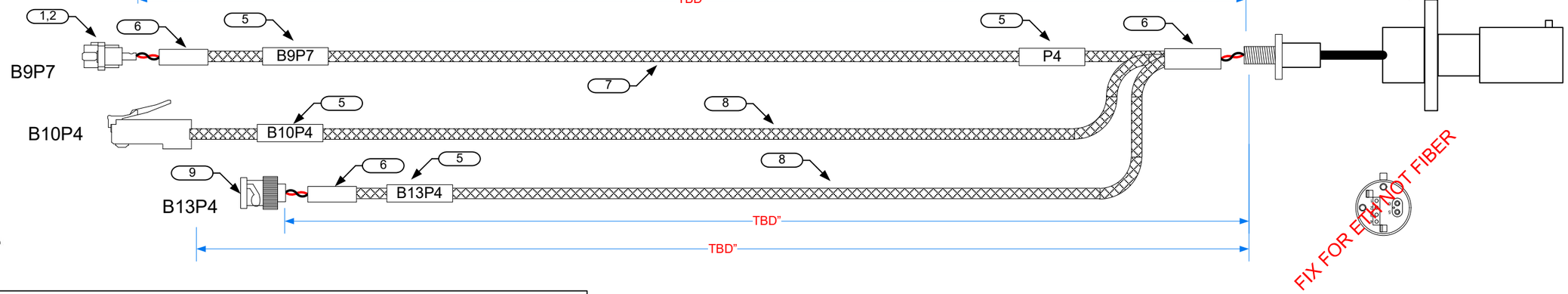
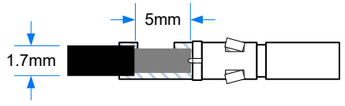


TABLE A1H11: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
2	1	STOCK	STOCK	RJ45 CONNECTOR
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeving
8	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
9	1	STOCK	STOCK	GENERIC BNC SOLDER
10	TBD	TBD	TBD	WET MATE PENETRATOR CONNECTOR

NOTE:
Power Contact (16AWG):
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



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ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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TITLE:
H11 P4 BULKHEAD
IPS 1 CHD 375V OUTPUT
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 12 OF 41

H12

B8P4
M80-263F202-00-00

P5 BULKHEAD
TBD

To **B8**
IPB 2 J4

CHA_P187_OUT — RED 16 AWG — TBD
CHA_N187_OUT — BLK 16 AWG — TBD

To P5
BULKHEAD

NEEDS WORK

FIBER ??

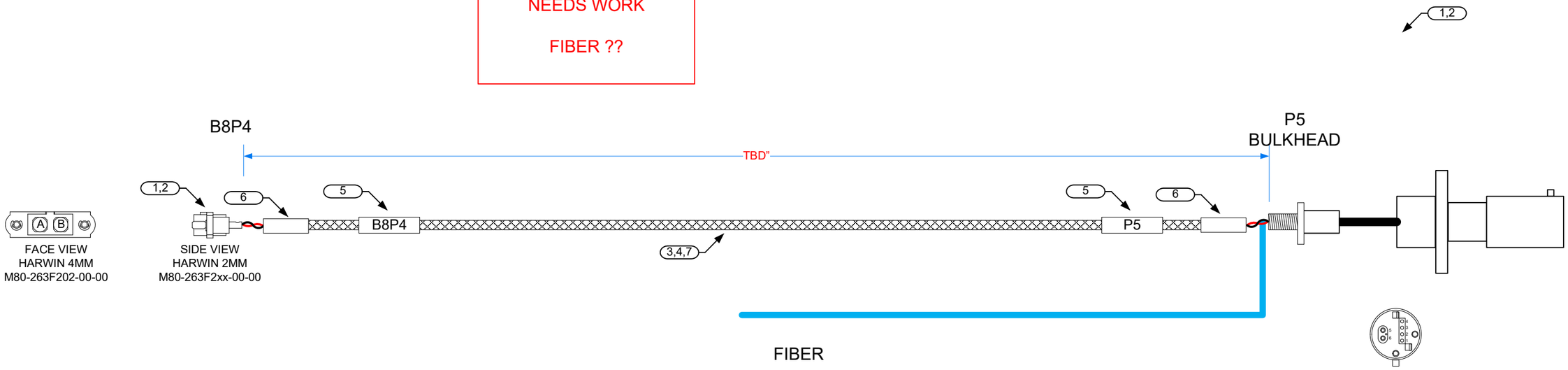
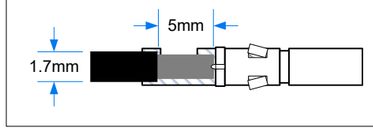


TABLE A1H12: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
3	TBD	AT161929 BK005	HARWIN	16 AWG BLACK WIRE PTFE
4	TBD	AT161929 RD005	HARWIN	16 AWG RED WIRE PTFE
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeving

NOTE:

Power Contact (16AWG):
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



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ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
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TITLE:
H12 P5 BULKHEAD
IPS 2 CHA 375V OUTPUT
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 13 OF 41

H13

B8P5
M80-263F202-00-00

P6 BULKHEAD
M80-263F202-00-00

To **B8**
IPB 2 J5

CHB_P187_OUT — RED 16 AWG — 9 375V
CHB_N187_OUT — BLK 16 AWG — 10 375R

B11 P2
RJ-45

BI_DA+ 1	WHT/ORG	1 BI_DA+
BI_DA- 2	ORG	2 BI_DA-
BI_DB+ 3	WHT/GRN	3 BI_DB+
BI_DC+ 4	BLU	4 BI_DC+
BI_DC- 5	WHT/BLU	5 BI_DC-
BI_DB- 6	GRN	6 BI_DB-
BI_DD+ 7	WHT/BRN	7 BI_DD+
BI_DD- 8	BRN	8 BI_DD-
		11 PPS+
		12 PPS-

To P6
BULKHEAD

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

B13 P5
TBD

PPS+ C	TBD
PPS- S	TBD

FACE VIEW
HARWIN 4MM
M80-263F202-00-00

RJ45
"bottom"
(tab down)

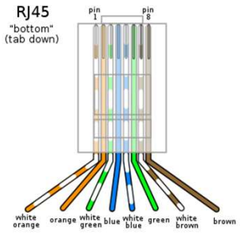
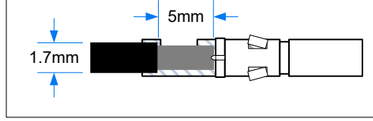


TABLE A1H13: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
2	1	STOCK	STOCK	RJ45 CONNECTOR
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeving
8	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
9	1	STOCK	STOCK	GENERIC BNC SOLDER
10	TBD	TBD	TBD	WET MATE PENETRATOR CONNECTOR

NOTE:
Power Contact (16AWG):
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H13 P6 BULKHEAD
IPS 1 CHB 375V OUTPUT
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 14 OF 41

B8P6
M80-263F202-00-00

To **B8**
IPB 2 J6

CHC_P187_OUT — RED 16 AWG — 9 375V
CHC_N187_OUT — BLK 16 AWG — 10 375R

P7 BULKHEAD
M80-263F202-00-00

B11P3
RJ-45

BI_DA+ 1	WHT/ORG	1 BI_DA+
BI_DA- 2	ORG	2 BI_DA-
BI_DB+ 3	WHT/GRN	3 BI_DB+
BI_DC+ 4	BLU	4 BI_DC+
BI_DC- 5	WHT/BLU	5 BI_DC-
BI_DB- 6	GRN	6 BI_DB-
BI_DD+ 7	WHT/BRN	7 BI_DD+
BI_DD- 8	BRN	8 BI_DD-
		11 PPS+
		12 PPS-

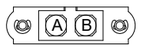
To P7
BULKHEAD

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

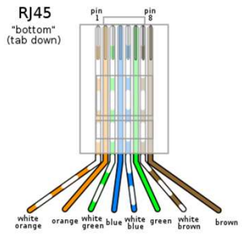
B13P6
TBD

PPS+ C	TBD
PPS- S	TBD

P1
BULKHEAD



FACE VIEW
HARWIN 4MM
M80-263F202-00-00



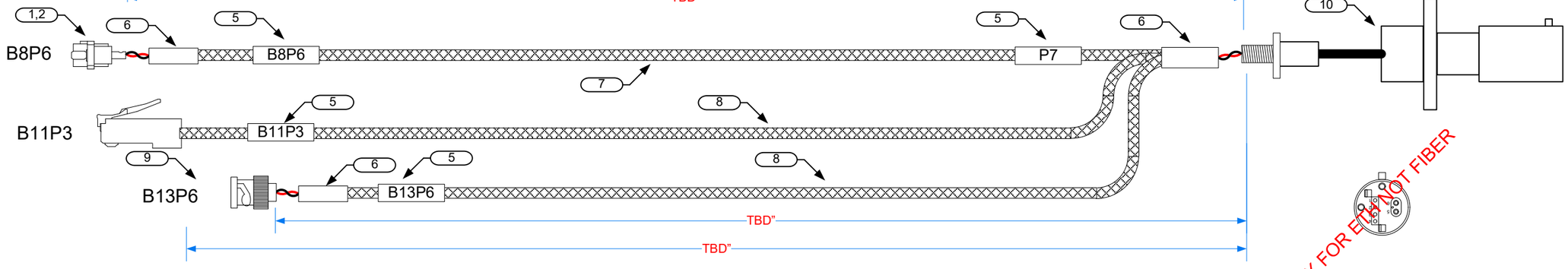
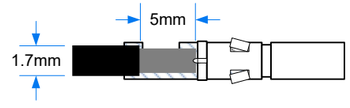


TABLE A1H14: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
2	1	STOCK	STOCK	RJ45 CONNECTOR
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeving
8	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
9	1	STOCK	STOCK	GENERIC BNC SOLDER
10	TBD	TBD	TBD	WET MATE PENETRATOR CONNECTOR

NOTE:
Power Contact (16AWG):
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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TITLE:
H14 P7 BULKHEAD
IPS 2 CHC 375V OUTPUT
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 15 OF 41

H15

B8P7
M80-263F202-00-00

To **B8**
IPB 2 J7

CHC_P187_OUT — RED 16 AWG
CHC_N187_OUT — BLK 16 AWG

P8 BULKHEAD
M80-263F202-00-00

9 375V
10 375R

B11 P4
RJ-45

BI_DA+ 1	WHT/ORG	1 BI_DA+
BI_DA- 2	ORG	2 BI_DA-
BI_DB+ 3	WHT/GRN	3 BI_DB+
BI_DC+ 4	BLU	4 BI_DC+
BI_DC- 5	WHT/BLU	5 BI_DC-
BI_DB- 6	GRN	6 BI_DB-
BI_DD+ 7	WHT/BRN	7 BI_DD+
BI_DD- 8	BRN	8 BI_DD-
		11 PPS+
		12 PPS-

To P8
BULKHEAD

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

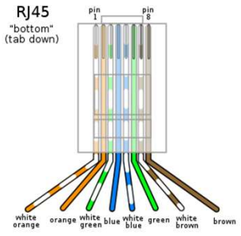
B13 P7
TBD

PPS+ C — TBD
PPS- S — TBD

P1
BULKHEAD

FACE VIEW
HARWIN 4MM
M80-263F202-00-00

RJ45
"bottom"
(tab down)



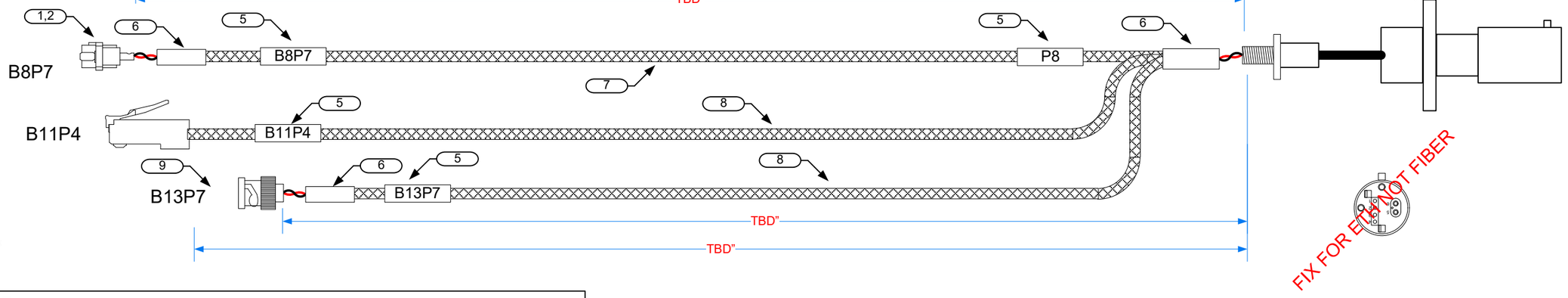
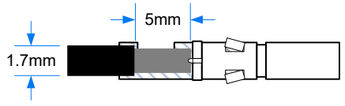


TABLE A1H15: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
2	1	STOCK	STOCK	RJ45 CONNECTOR
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeving
8	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
9	1	STOCK	STOCK	GENERIC BNC SOLDER
10	TBD	TBD	TBD	WET MATE PENETRATOR CONNECTOR

NOTE:
Power Contact (16AWG):
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

APPLIED PHYSICS LABORATORY
UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H15 P8 BULKHEAD
IPS 2 CHD 375V OUTPUT
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx
SHEET 16 OF 41

H16

B4J4
D89140-0031HK

ADC0 SE-CH0 1	1 IPB1_CHA_I
ADC0 SE-CH1 2	2 IPB1_CHB_I
ADC0 SE-CH2 3	3 IPB1_CHC_I
ADC0 SE-CH3 4	4 IPB1_CHD_I
ADC0 SE-CH4 5	5 HPB_MEDIA_CURRENT
ADC0 SE-CH5 6	6 NC
ADC0 SE-CH6 7	7 NC
ADC0 SE-CH7 8	8 NC
GND 9	9 GND
GND 10	10 GND
ADC1SE-CH0 11	11 GF_SIG
ADC1 SE-CH1 12	12 NC
ADC1 SE-CH2 13	13 NC
ADC1 SE-CH3 14	14 NC
ADC1 SE-CH4 15	15 NC
ADC1 SE-CH5 16	16 NC
ADC1 SE-CH6 17	17 NC
ADC1 SE-CH7 18	18 NC
GND 19	19 GND
GND 20	20 GND
ADC2 SE-CH0 21	21 NC
ADC2 SE-CH1 22	22 GF_AMP_TEMP_F
ADC2 SE-CH2 23	23 IGB_TEMP_F
ADC2 SE-CH3 24	24 HPB_VICOR1_TEMP_F
ADC2 SE-CH4 25	25 HPB_VICOR2_TEMP_F
ADC2 SE-CH5 26	26 HPB_VICOR3_TEMP_F
ADC2 SE-CH6 27	27 HPB_TEMP0_F
ADC2 SE-CH7 28	28 HPB_TEMP1_F

B5J1.1
D89140-0031HK

To **B4**
CTI 1 P4

To **B5**
BOB P1.1

CONTINUED ON NEXT PAGE

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H16-PG1 CTI Xtreme I/O 1
ADC
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 17 OF 41

B4J4
D89140-0031HK

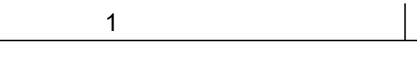
CONTINUED FROM PRIOR PAGE

B5J1.1
D89140-0031HK

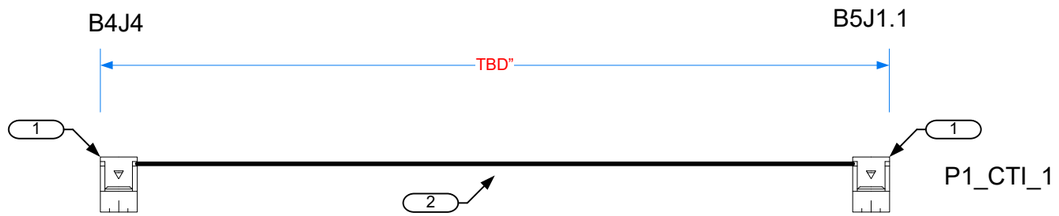
GND	29	29 GND
GND	30	30 GND
ADC3 SE-CH0	31	31 HPB_TEMP2_F
ADC3 SE-CH1	32	32 HPB_TEMP3_F
ADC3 SE-CH2	33	33 HPB_TEMP4_F
ADC3 SE-CH3	34	34 INPUT_FET_LEFT_TEMP_F
ADC3 SE-CH4	35	35 INPUT_FET_RIGHT_TEMP_F
ADC3 SE-CH5	36	36 IPB1_BOARD_TEMP
ADC3 SE-CH6	37	37 IPB2_BOARD_TEMP
ADC3 SE-CH7	38	38 NC
GND	39	39 GND
GND	40	40 GND

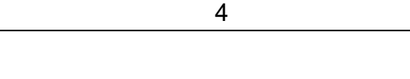
To **B4**
CTI 1 P4

To **B5**
BOB P1.1



FACE VIEW
RIBBON HEADER
40 POSITION
D89140-0031HK





FACE VIEW
RIBBON HEADER
40 POSITION
D89140-0031HK

TABLE A1H16: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	D89140-0031HK	3M	CONN RCPT 40P IDC 26-28AWG GOLD
2	TBD"	3302/40 100	3M	CBL RIBN 40COND 0.05 MULT 100'

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H16-PG2 CTI Xtreme I/O 1
ADC
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

H17

B4J7
D89110-0031HK

B5J3.1
D89110-0031HK

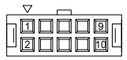
DAC_OUTA	1	1 IPB1_CHA_CURRENT_SET
GND	2	2 GND
DAC_OUTB	3	3 IPB1_CHB_CURRENT_SET
GND	4	4 GND
DAC_OUTC	5	5 IPB1_CHC_CURRENT_SET
GND	6	6 GND
DAC_OUTD	7	7 IPB1_CHD_CURRENT_SET
GND	8	8 GND
GND	9	9 GND
GND	10	10 GND

To **B4**
CTI 1 P7

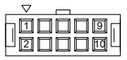
To **B5**
BOB P3.1

B4J7 — TBD" — B5J3.1

P3_CTI_1



FACE VIEW
RIBBON HEADER
10 POSITION
D89110-0031HK



FACE VIEW
RIBBON HEADER
10 POSITION
D89110-0031HK

TABLE A1H17: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	D89110-0031HK	3M	CONN RCPT 10P IDC 26-28AWG GOLD
2	TBD"	3302/10 300SF	3M	CBL RIBN 10COND 0.05 MULT 100'

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

APPLIED PHYSICS LABORATORY
UNIVERSITY OF WASHINGTON
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TITLE:
H17 CTI Xtreme I/O 1
DAC
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

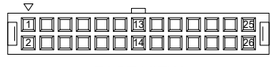
B4J3
D89126-0031HK

B5J2.1
D89126-0031HK

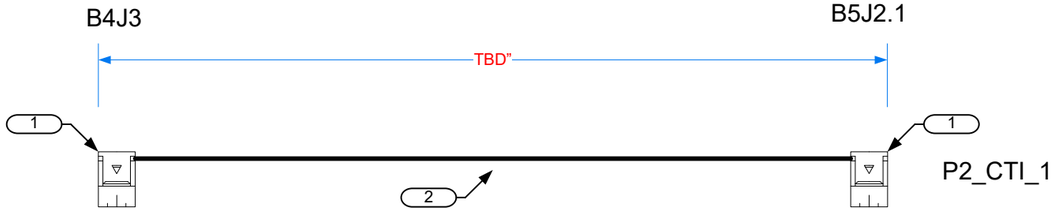
GPIO0 1	1 GF_SOURCE_SEL_A
GPIO1 2	2 GF_SOURCE_SEL_B
GPIO2 3	3 GF_SOURCE_SEL_C
GPIO3 4	4 GF_SOURCE_SEL_EN
GPIO4 5	5 GF_ANNODE_SEL_EN
GPIO5 6	6 GF_CHASSIS_SEL_EN
GPIO6 7	7 IPB1_CHA_RLY_EN
GPIO7 8	8 IPB1_CHA_FET_EN
GPIO8 9	9 IPB1_CHB_RLY_EN
GPIO9 10	10 IPB1_CHB_FET_EN
GPIO10 11	11 IPB1_CHC_RLY_EN
GPIO11 12	12 IPB1_CHC_FET_EN
GPIO12 13	13 IPB1_CHD_RLY_EN
GPIO13 14	14 IPB1_CHD_FET_EN
GPIO14 15	15 IPB1_RESET
GPIO15 16	16 NC
GND 17-26	17-26 GND

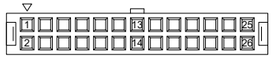
To **B4**
CTI 1 P3

To **B5**
BOB P2.1



FACE VIEW
RIBBON HEADER
26 POSITION
D89126-0031HK





FACE VIEW
RIBBON HEADER
26 POSITION
D89126-0031HK

TABLE A1H18: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	D89126-0031HK	3M	CONN RCPT 26P IDC 26-28AWG GOLD
2	TBD"	3302/26 10	3M	CBL RIBN 26COND 0.05 MULT 100'

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H18 CTI Xtreme I/O 1
GPIO
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

B3J4 D89140-0031HK		B5J1.2 D89140-0031HK
ADC0 SE-CH0 1		1 IPB2_CHA_I
ADC0 SE-CH1 2		2 IPB2_CHB_I
ADC0 SE-CH2 3		3 IPB2_CHC_I
ADC0 SE-CH3 4		4 IPB2_CHD_I
ADC0 SE-CH4 5		5 HPB_CISCO1_CURRENT
ADC0 SE-CH5 6		6 HPB_CISCO2_CURRENT
ADC0 SE-CH6 7		7 HPB_SYNCBOX_CURRENT
ADC0 SE-CH7 8		8 HPB_ISO24V_CURRENT
GND 9		9 GND
GND 10		10 GND
ADC1SE-CH0 11		11 HPB_24V_CURRENT
ADC1 SE-CH1 12		12 HPB_5V_CURRENT
ADC1 SE-CH2 13		13 HPB_24V_VOLTAGE
ADC1 SE-CH3 14		14 HPB_5V_VOLTAGE
ADC1 SE-CH4 15		15 24V_UNSWCH_BUS_CURRENT
ADC1 SE-CH5 16		16 MVC_L_CURRENT
ADC1 SE-CH6 17		17 MVC_R_CURRENT
ADC1 SE-CH7 18		18 MVC_L_VOLTAGE
GND 19		19 GND
GND 20		20 GND
ADC2 SE-CH0 21		21 MVC_R_VOLTAGE
ADC2 SE-CH1 22		22 NC
ADC2 SE-CH2 23		23 NC
ADC2 SE-CH3 24		24 NC
ADC2 SE-CH4 25		25 NC
ADC2 SE-CH5 26		26 NC
ADC2 SE-CH6 27		27 NC
ADC2 SE-CH7 28		28 NC

To **B3** CTI 2 P4

To **B4** BOB P1.2

CONTINUED ON NEXT PAGE

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H19-PG1 CTI Xtreme I/O 2
ADC
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 21 OF 41

B3J4
D89140-0031HK

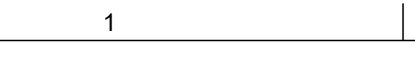
CONTINUED FROM PRIOR PAGE

B5J1.2
D89140-0031HK

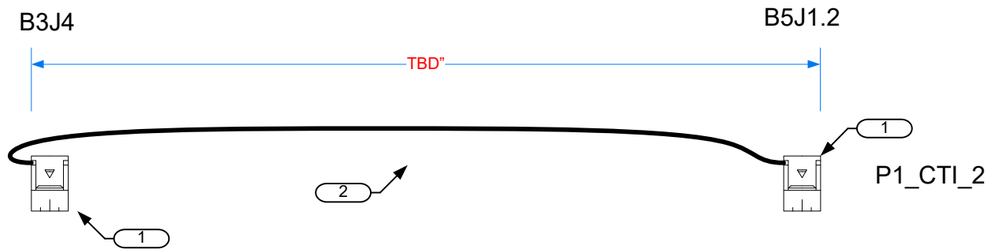
GND 29		29 GND
GND 30		30 GND
ADC3 SE-CH0 31		31 FAULT_SENSE_HCB
ADC3 SE-CH1 32		32 FAULT_SENSE_IPB1
ADC3 SE-CH2 33		33 FAULT_SENSE_IPB2
ADC3 SE-CH3 34		34 NC
ADC3 SE-CH4 35		35 NC
ADC3 SE-CH5 36		36 NC
ADC3 SE-CH6 37		37 NC
ADC3 SE-CH7 38		38 NC
GND 39		39 GND
GND 40		40 GND

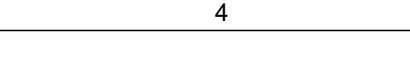
To **B3**
CTI 2 P4

To **B5**
BOB P1.2



FACE VIEW
RIBBON HEADER
40 POSITION
D89140-0031HK





FACE VIEW
RIBBON HEADER
40 POSITION
D89140-0031HK

TABLE A1H19: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	D89140-0031HK	3M	CONN RCPT 40P IDC 26-28AWG GOLD
2	TBD"	3302/40 10	3M	CBL RIBN 40COND 0.05 MULT 100'

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

APPLIED PHYSICS LABORATORY
UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H19-PG2 CTI Xtreme I/O 2
ADC
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

H20

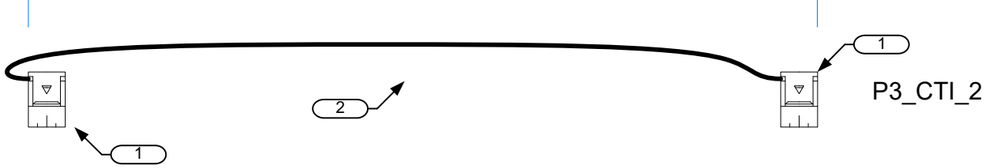
B3J7
D89110-0031HK

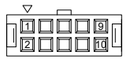
B5J3.2
D89110-0031HK

DAC_OUTA	1	1	IPB2_CHA_CURRENT_SET
GND	2	2	GND
DAC_OUTB	3	3	IPB2_CHB_CURRENT_SET
GND	4	4	GND
DAC_OUTC	5	5	IPB2_CHC_CURRENT_SET
GND	6	6	GND
DAC_OUTD	7	7	IPB2_CHD_CURRENT_SET
GND	8	8	GND
GND	9	9	GND
GND	10	10	GND

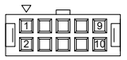
To **B3**
CTI 2 P7

To **B5**
BOB P3.2





FACE VIEW
RIBBON HEADER
10 POSITION
D89110-0031HK



FACE VIEW
RIBBON HEADER
10 POSITION
D89110-0031HK

TABLE A1H20: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	D89110-0031HK	3M	CONN RCPT 10P IDC 26-28AWG GOLD
2	TBD"	3302/10 300SF	3M	CBL RIBN 10COND 0.05 MULT 100'

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H20 CTI Xtreme I/O 2
DAC
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 23 OF 41

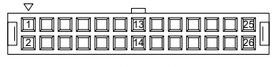
B3J3
D89126-0031HK

B5J2.2
D89126-0031HK

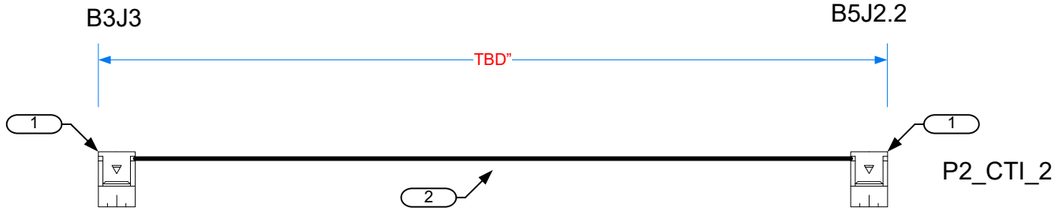
GPIO0 1	1 IPB2_CHA_RLY_EN
GPIO1 2	2 IPB2_CHA_FET_EN
GPIO2 3	3 IPB2_CHB_RLY_EN
GPIO3 4	4 IPB2_CHB_FET_EN
GPIO4 5	5 IPB2_CHC_RLY_EN
GPIO5 6	6 IPB2_CHC_FET_EN
GPIO6 7	7 IPB2_CHD_RLY_EN
GPIO7 8	8 IPB2_CHD_FET_EN
GPIO8 9	9 HPB_CISCO1_EN
GPIO9 10	10 HPB_CISCO2_EN
GPIO10 11	11 HPB_SYNCBOX_EN
GPIO11 12	12 HPB_MEDIA_EN
GPIO12 13	13 FAULT_MUX_A
GPIO13 14	14 FAULT_MUX_B
GPIO14 15	15 FAULT_MUX_C
GPIO15 16	16 IPB2_RESET
GND 17-26	17-26 GND

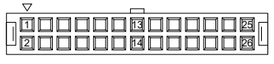
To **B3**
CTI 2 P3

To **B5**
BOB P2.1



FACE VIEW
RIBBON HEADER
26 POSITION
D89126-0031HK





FACE VIEW
RIBBON HEADER
26 POSITION
D89126-0031HK

TABLE A1H21: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	D89126-0031HK	3M	CONN RCPT 26P IDC 26-28AWG GOLD
2	TBD"	3302/26 10	3M	CBL RIBN 26COND 0.05 MULT 100'

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H21 CTI Xtreme I/O 2
GPIO
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

H22

B5P3
M80-4800405

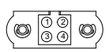
B1P8

To **B5**
BOB J3

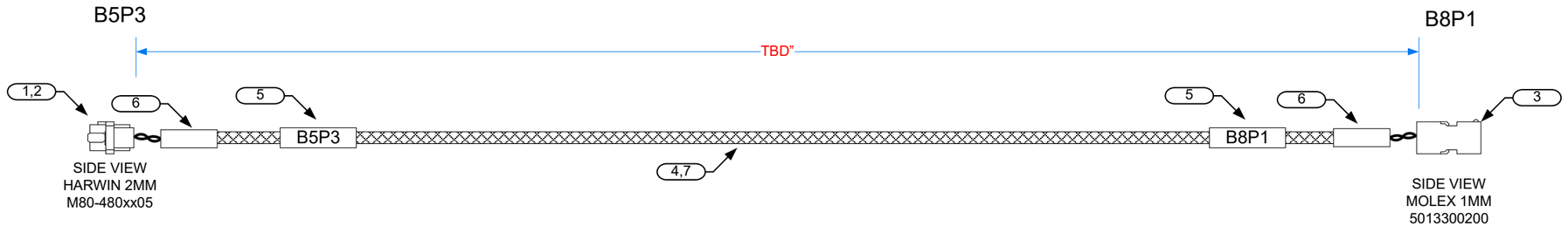
*BAT+ 1 — BLK 28 AWG — TBD BAT+
BAT+ 2 — NC
*BAT- 3 — BLK 28 AWG — TBD BAT-
BAT- 4 — NC

To **B1**
SIC J8

*TOOLING:
USE 28-32 AWG
DATAMATE CRIMP



FACE VIEW
HARWIN 2MM
M80-4800405



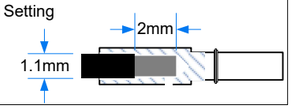
SIDE VIEW
HARWIN 2MM
M80-480xx05

SIDE VIEW
MOLEX 1MM
5013300200

TABLE A1H22: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
2	2	M80-0130005	HARWIN	CONN SOCKET 24-28AWG CRIMP GOLD
3	1	5013300200	Molex	CONN RCPT HSG 2POS 1.00MM
4	2	0797581018	Molex	PICO-CLASP 150MM 28AWG PRE-CRIMP
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.13BK-200	Techflex	Techflex 1/8"Flexo PET General Purpose Sleeving

SMALL Bore Signal Contact:
M22520/2-01 - Hand Crimp Tool
T5747 – Positioner
6 – Crimp Tool Setting



PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H22 BAYCAT BATTERY BACKUP
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 25 OF 41

H23

B6P7
M80-4800405

B2J3

To **B6**
HPB J7

*24V 1 — RED 22 AWG 1.1mm Ø — 1 +9-40VDC In
24V 2 — NC
*GND 3 — BLK 22 AWG 1.1mm Ø — 2 Ground
GND 4 — NC

To **B2**
PSU J3

TOOLING:
*USE T-CONTACT

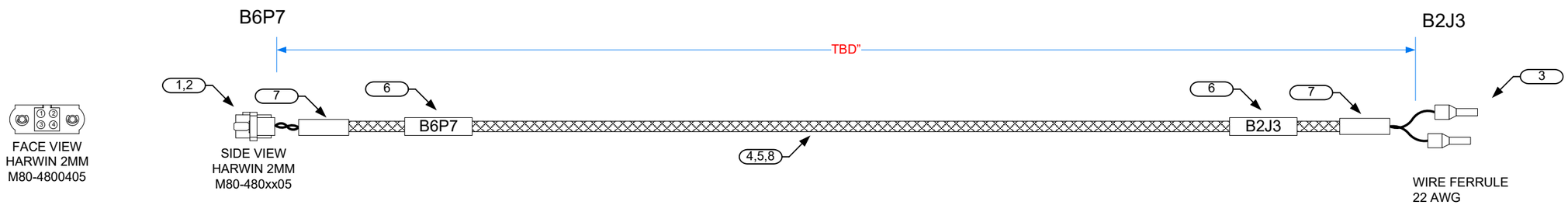
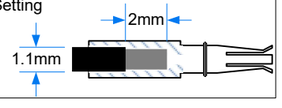


TABLE A1H23: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
2	2	M80-2060005	HARWIN	DATAMATE 22AWG FEMALE CRIMP T-CONTACT
3	2	FSD75-8-D	Panduit Corp	CONN FERRULE DIN 22AWG WHITE
4	TBD	2845/19 BK001	Alpha	22 AWG BLACK WIRE PTFE 1.07mm Ø
5	TBD	2845/19 RD001	Alpha	22 AWG RED WIRE PTFE 1.07mm Ø
6	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
7	2"	STOCK	STOCK	1/4" ADHESIVE HEAT SHRINK
8	TBD	PTN0.13BK-200	Techflex	Techflex 1/8"Flexo PET General Purpose Sleeving

T-Contact:
M22520/2-01 - Hand Crimp Tool
Z80-444 – Positioner
6 – Crimp Tool Setting



PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
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TITLE:
H23 PSU PC104 POWER
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 26 OF 41

H24

B6P13
M80-4800405

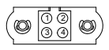
B13P9

To **B6**
HPB J13

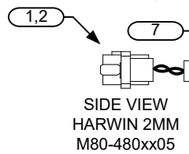
*5V 1 — RED 22 AWG 1.1mm Ø — TBD 5V
5V 2 — NC
*GND 3 — BLK 22 AWG 1.1mm Ø — TBD Ground
GND 4 — NC

To **B13**
PPS J9

TOOLING:
*USE T-CONTACT

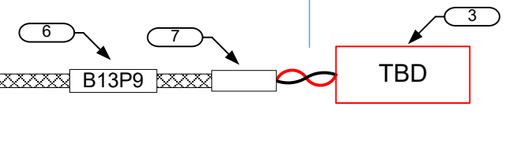


FACE VIEW
HARWIN 2MM
M80-4800405



SIDE VIEW
HARWIN 2MM
M80-480xx05

B6P13 — TBD" — B2J3

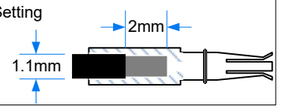


Need info about
MBARI 1PPS
DISTRO

TABLE A1H24: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
2	2	M80-2060005	HARWIN	DATAMATE 22AWG FEMALE CRIMP T-CONTACT
3	1	TBD	TBD	TBD
4	TBD	2845/19 BK001	Alpha	22 AWG BLACK WIRE PTFE 1.07mm Ø
5	TBD	2845/19 RD001	Alpha	22 AWG RED WIRE PTFE 1.07mm Ø
6	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
7	2"	STOCK	STOCK	1/4" ADHESIVE HEAT SHRINK
8	TBD	PTN0.13BK-200	Techflex	Techflex 1/8"Flexo PET General Purpose Sleeving

T-Contact:
M22520/2-01 - Hand Crimp Tool
Z80-444 – Positioner
6 – Crimp Tool Setting



PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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TITLE:
H24 MBARI 1PPS DISTRO POWER
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

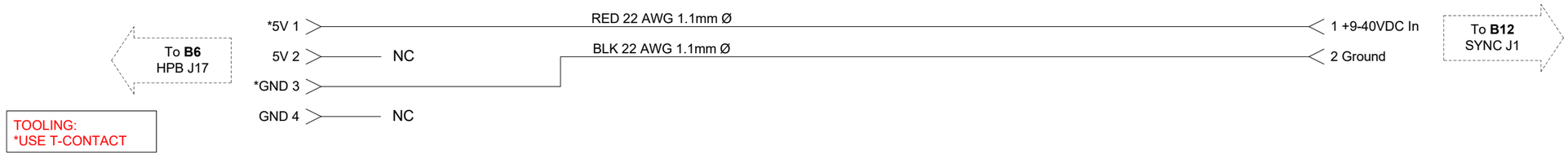
CAD FILE: MARS Harnessing.vsdx

SHEET 27 OF 41

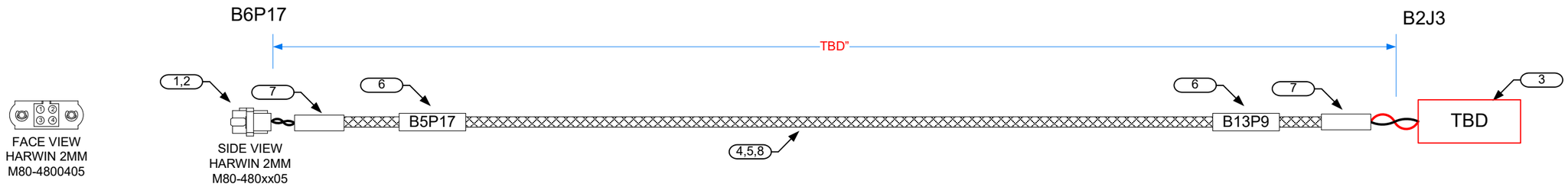
H25

B6P17
M80-4800405

B12P1



TOOLING:
*USE T-CONTACT

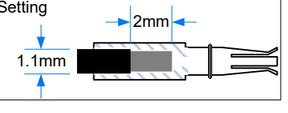


Need info about meinberg

TABLE A1H25: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
2	2	M80-2060005	HARWIN	DATAMATE 22AWG FEMALE CRIMP T-CONTACT
3	1	TBD	TBD	TBD
4	TBD	2845/19 BK001	Alpha	22 AWG BLACK WIRE PTFE 1.07mm Ø
5	TBD	2845/19 RD001	Alpha	22 AWG RED WIRE PTFE 1.07mm Ø
6	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
7	2"	STOCK	STOCK	1/4" ADHESIVE HEAT SHRINK
8	TBD	PTN0.13BK-200	Techflex	Techflex 1/8"Flexo PET General Purpose Sleeving

T-Contact:
M22520/2-01 - Hand Crimp Tool
Z80-444 – Positioner
6 – Crimp Tool Setting



PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
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TITLE:
H25 MEINBERG SYNC 1PPS
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 28 OF 41

B12OUTA
BNC

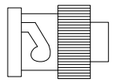
B13P8

To **B12**
SYNC OUTA

SIG C → C SIG
GND S → S GND

To **B12**
SYNC J1

Need info about meinberg and MBARI 1PPS DISTRO



GENERIC BNC END

TABLE A1H26: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
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TITLE:
H26 1PPS SIGNAL
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 29 OF 41

B11P5
RJ45

BI_DA+ 1	WHT/ORG	8 Port 1 BI_DA+
BI_DA- 2	ORG	7 Port 1 BI_DA-
BI_DB+ 3	WHT/GRN	4 Port 1 BI_DB+
BI_DC+ 4	BLU	6 Port 1 BI_DC+
BI_DC- 5	WHT/BLU	5 Port 1 BI_DC-
BI_DB- 6	GRN	3 Port 1 BI_DB-
BI_DD+ 7	WHT/BRN	2 Port 1 BI_DD+
BI_DD- 8	BRN	1 Port 1 BI_DD-

B1P14
503149-1600

To **B11**
SWITCH2 J5

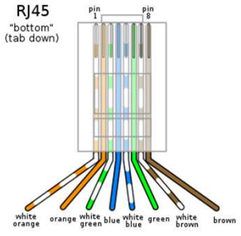
To B1
SIC J14

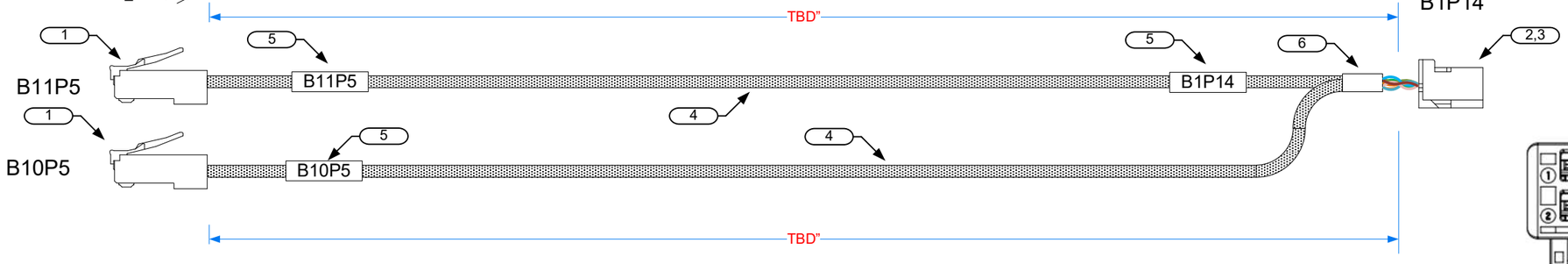
WARNING:
CONTACT ORDER
NOT SEQUENTIAL

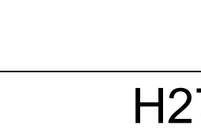
B10P5
RJ45

BI_DA+ 1	WHT/ORG	16 Port 2 BI_DA+
BI_DA- 2	ORG	15 Port 2 BI_DA-
BI_DB+ 3	WHT/GRN	12 Port 2 BI_DB+
BI_DC+ 4	BLU	14 Port 2 BI_DC+
BI_DC- 5	WHT/BLU	13 Port 2 BI_DC-
BI_DB- 6	GRN	11 Port 2 BI_DB-
BI_DD+ 7	WHT/BRN	10 Port 2 BI_DD+
BI_DD- 8	BRN	9 Port 2 BI_DD-

To **B10**
SWITCH1 J5







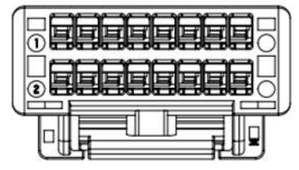


TABLE A1H27: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	STOCK	STOCK	RJ45 CONNECTOR
2	2	503149-1600	Molex	Molex CLIK-Mate 503149 16 Pin
3	16	2130287000	Molex	CRIMP TERM 1.5 #24-26 C AU0.76
4	TBD	74006 BK002	Alpha Wire	CABLE CAT5E 8COND 26AWG BLK 100'
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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TITLE:
H27 SIC ETHERNET
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

H28

B11P6
RJ45

B10P6
RJ45

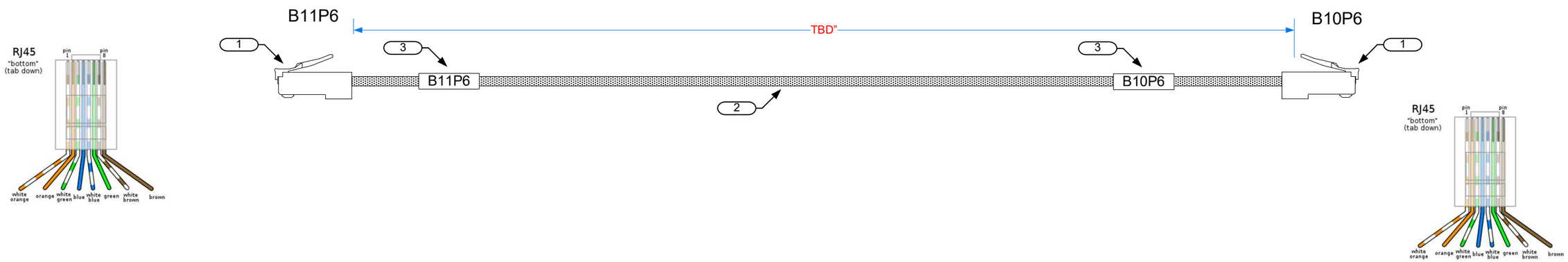

TABLE A1H28: PARTS LIST				
ITEM #	**Qty.**	**Mfg. Part Number**	**Vendor**	**DESCRIPTION**
	2	STOCK	STOCK	RJ45 CONNECTOR
2	TBD	74006 BK002	Alpha Wire	CABLE CAT5E 8COND 26AWG BLK 100'
3	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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TITLE:
H28 SWITCH 1 SWITCH 2 BRIDGE
MARS

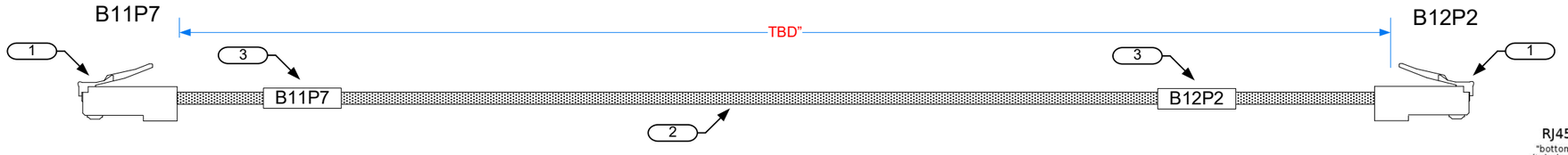
PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

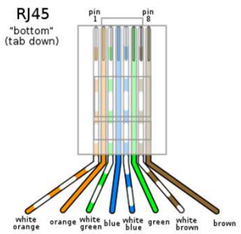
CAD FILE: MARS Harnessing.vsdx

SHEET 31 OF 41

B10P7
RJ45

B12P2
RJ45





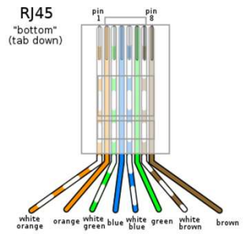


TABLE A1H29: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
	2	STOCK	STOCK	RJ45 CONNECTOR
2	TBD	74006 BK002	Alpha Wire	CABLE CAT5E 8COND 26AWG BLK 100'
3	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H29 Meinberg SyncBox Ethernet
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

*WARNING: USING A 8PIN RJ45 NOT 10 PIN, OK TO DO, BUT PINS NUMBERS OFFSET BY 1

H30

B11P5
RJ45

B1P14
501330-1000

CTS 7	WHT/ORG 26 AWG	BLK 28 AWG	1 RTS1
RXD 5	BRN 26 AWG	BLK 28 AWG	2 TXD1#
RTS 2	WHT/GRN 26 AWG	BLK 28 AWG	3 CTS1
TXD 4	BLU 26 AWG	BLK 28 AWG	4 RXD1#
GND 3	WHT/BLU 26 AWG	BLK 28 AWG	5 GND
DSR 1	ORG 26 AWG	NC	6 RTS2
SG 6	WHT/BRN 26 AWG	BLK 28 AWG	7 TXD2#
DTR 8	GRN 26 AWG	NC	8 CTS2
		BLK 28 AWG	9 RXD2#
		BLK 28 AWG	10 GND

To **B15** DIGI PORT 1

WARNING: CONTACT ORDER NOT SEQUENTIAL

To B1 SIC J14

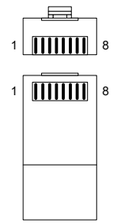
B6P6
M80-4800405

RS232_RX 1	WHT 22 AWG 1.1mm Ø
RS232_TX 3	WHT 22 AWG 1.1mm Ø
GND 2	BLK 22 AWG 1.1mm Ø
GND 4	NC

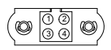
12

To **B6** HPB J6

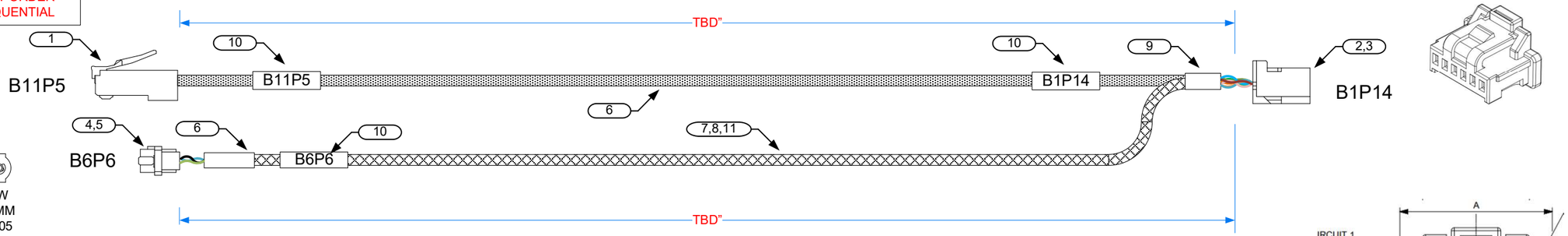
WARNING: CONTACT ORDER NOT SEQUENTIAL



RJ45 PLUG FACE AND BOTTOM VIEWS



FACE VIEW HARWIN 2MM M80-4800405



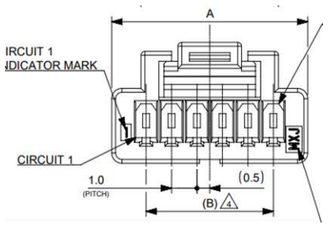


TABLE A1H30: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	STOCK	STOCK	RJ45 CONNECTOR
2	1	501330-1000	Molex	Molex Pico-Clasp 501330 10 POS Connector
3	10	0797581019	Molex	PICO-CLASP 300MM 28AWG PRE-CRIMP
4	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
5	2	M80-0110005	HARWIN	DATAMATE 22AWG FEMALE CRIMP
6	TBD	74006 BK002	Alpha Wire	CABLE CAT5E 8COND 26AWG BLK 100'
7	TBD	2845/19 BK001	HARWIN	22 AWG BLACK WIRE PTFE 1.07mm Ø
8	TBD	2845/19 WH001	HARWIN	22 AWG WHITE WIRE PTFE 1.07mm Ø
9	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
10	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
11	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
12	2"	STOCK	STOCK	1/8" CLEAR HEAT SHRINK

From RJ-45	Signal	Direction	Signal	To DB-9
10	DCD	←	DCD	1
6	RxD	←	RxD	2
5	TxD	→	TxD	3
9	DTR	→	DTR	4
7	SG	↔	SG	5
2	DSR	←	DSR	6
3	RTS	→	RTS	7
8	CTS	←	CTS	8
1	RI	←	RI	9
4	GND	↔	GND	Shell

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H30 SIC SERIAL
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 33 OF 41

H31

TOOLING:
*USE T-CONTACT

To **B6**
HPB J17

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

B6P17
M80-4800405

*MEDIA_OUT 1	RED 22 AWG 1.1mm Ø	TBD 24V
*GND 3	BLK 22 AWG 1.1mm Ø	TBD Ground
*MEDIA_OUT 2	RED 22 AWG 1.1mm Ø	TBD 24V
*GND 4	BLK 22 AWG 1.1mm Ø	TBD Ground

B14POWER24V

To **B14**
FIBER CONV

B15POWER24V

To **B15**
SERIAL CONV

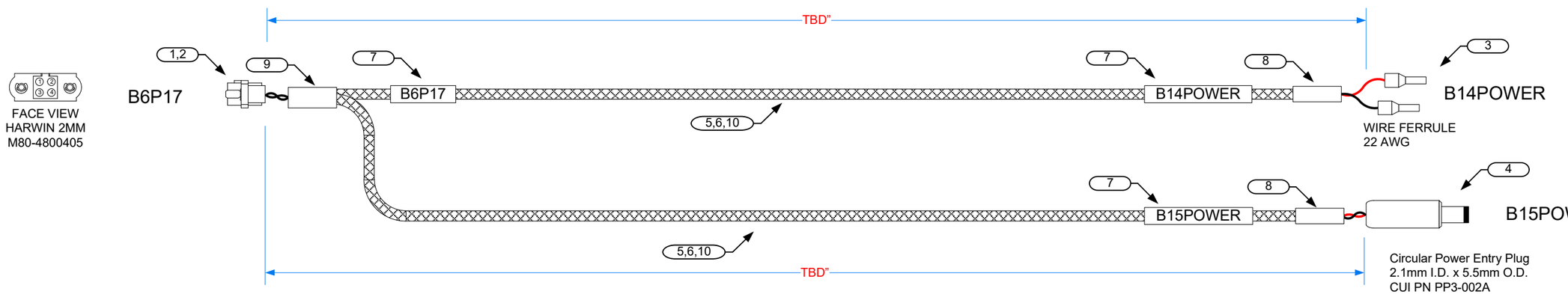
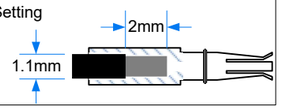


TABLE A1H31: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
2	4	M80-2060005	HARWIN	DATAMATE 22AWG FEMALE CRIMP T-CONTACT
3	2	FSD75-8-D	Panduit Corp	CONN FERRULE DIN 22AWG WHITE
4	1	PP3-002A	CUI Devices	CONN PWR PLUG 2.1X5.5MM SOLDER
5	TBD	2845/19 BK001	Alpha	22 AWG BLACK WIRE PTFE 1.07mm Ø
6	TBD	2845/19 RD001	Alpha	22 AWG RED WIRE PTFE 1.07mm Ø
7	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
8	2"	STOCK	STOCK	1/4" ADHESIVE HEAT SHRINK
9	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
10	TBD	PTN0.13BK-200	Techflex	Techflex 1/8"Flexo PET General Purpose Sleeving

T-Contact:
M22520/2-01 - Hand Crimp Tool
Z80-444 – Positioner
6 – Crimp Tool Setting



PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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TITLE:
H31 FIBER TO ETH TO SERIAL POWER
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 34 OF 41

H32

WARNING:
CONTACT MAY BE WRONG, NON STANDARD LACKING DOCUMENTATION

To **B11** SWITCH 2

WARNING:
CONTACT ORDER NOT SEQUENTIAL

B11CONSOLE
RJ45

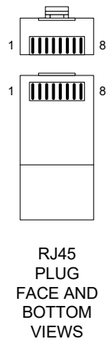
B15P3
RJ45

CTS 7	WHT/ORG 26 AWG	2 RTS
RXD 5	BRN 26 AWG	4 TXD
RTS 1	ORG 26 AWG	7 CTS
TXD 3	BLU 26 AWG	5 RXD
GND 4	WHT/BLU 26 AWG	3 GND
DSR 6	WHT/GRN 26 AWG	8 DTR
NC 8	WHT/BRN 26 AWG	6 SG
DTR 2	GRN 26 AWG	1 DSR

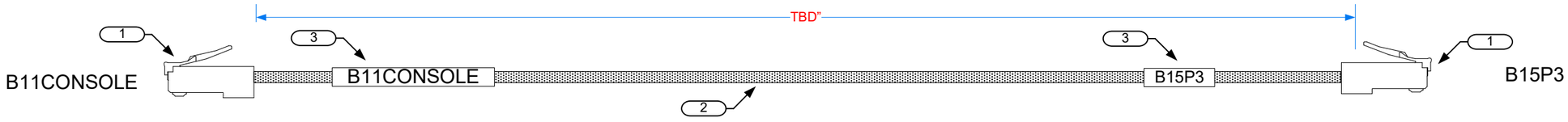
*WARNING: USING A 8PIN RJ45 NOT 10 PIN, OK TO DO, BUT PINS NUMBERS OFFSET BY 1

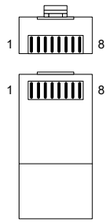
To **B15** DIGI PORT

WARNING:
CONTACT ORDER NOT SEQUENTIAL



RJ45
PLUG
FACE AND
BOTTOM
VIEWS





RJ45
PLUG
FACE AND
BOTTOM
VIEWS

B15P2

From RJ-45	Signal	Direction	Signal	To DB-9
10	DCD	←	DCD	1
6	RxD	←	RxD	2
5	TxD	→	TxD	3
9	DTR	→	DTR	4
7	SG	↔	SG	5
2	DSR	←	DSR	6
3	RTS	→	RTS	7
8	CTS	←	CTS	8
1	RI	←	RI	9
4	GND	↔	GND	Shell

TABLE A1H32: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	STOCK	STOCK	RJ45 CONNECTOR
6	TBD	74006 BK002	Alpha Wire	CABLE CAT5E 8COND 26AWG BLK 100'
9	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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TITLE:
H32 CISCO 2 CONSOLE
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 35 OF 41

WARNING:
CONTACT MAY BE WRONG, NON STANDARD LACKING DOCUMENTATION

To **B10** SWITCH 1

WARNING:
CONTACT ORDER NOT SEQUENTIAL

B10CONSOLE
RJ45

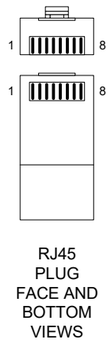
B15P2
RJ45

CTS 7	WHT/ORG 26 AWG	2 RTS
RXD 5	BRN 26 AWG	4 TXD
RTS 1	ORG 26 AWG	7 CTS
TXD 3	BLU 26 AWG	5 RXD
GND 4	WHT/BLU 26 AWG	3 GND
DSR 6	WHT/GRN 26 AWG	8 DTR
NC 8	WHT/BRN 26 AWG	6 SG
DTR 2	GRN 26 AWG	1 DSR

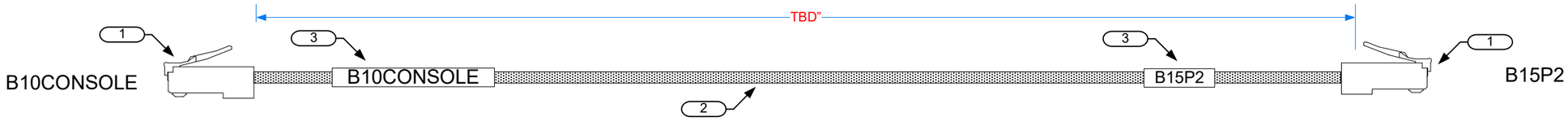
*WARNING: USING A 8PIN RJ45 NOT 10 PIN, OK TO DO, BUT PINS NUMBERS OFFSET BY 1

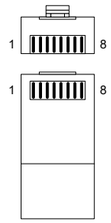
To **B15** DIGI PORT

WARNING:
CONTACT ORDER NOT SEQUENTIAL



RJ45
PLUG
FACE AND
BOTTOM
VIEWS





RJ45
PLUG
FACE AND
BOTTOM
VIEWS

B15P2

From RJ-45	Signal	Direction	Signal	To DB-9
10	DCD	←	DCD	1
6	RxD	←	RxD	2
5	TxD	→	TxD	3
9	DTR	→	DTR	4
7	SG	↔	SG	5
2	DSR	←	DSR	6
3	RTS	→	RTS	7
8	CTS	←	CTS	8
1	RI	←	RI	9
4	GND	↔	GND	Shell

TABLE A1H33: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	STOCK	STOCK	RJ45 CONNECTOR
6	TBD	74006 BK002	Alpha Wire	CABLE CAT5E 8COND 26AWG BLK 100'
9	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H33 CISCO 1 CONSOLE
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 36 OF 41

H34

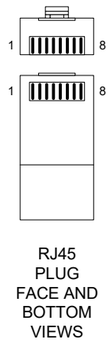
B10ETH0
RJ45

B15ETH0
RJ45

TO **B14**
FIBER CONV

To **B15**
DIGI PORT

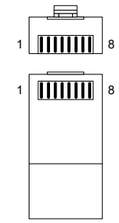
BI_DA+	1	WHT/ORG 26 AWG	1	BI_DA+
BI_DA-	2	ORG 26 AWG	2	BI_DA-
BI_DB+	3	WHT/GRN 26 AWG	3	BI_DB+
BI_DC+	4	BLU 26 AWG	4	BI_DC+
BI_DC-	5	WHT/BLU 26 AWG	5	BI_DC-
BI_DB-	6	GRN 26 AWG	6	BI_DB-
BI_DD+	7	WHT/BRN 26 AWG	7	BI_DD+
BI_DD-	8	BRN 26 AWG	8	BI_DD-



RJ45
PLUG
FACE AND
BOTTOM
VIEWS

B10ETH0

B15ETH0



RJ45
PLUG
FACE AND
BOTTOM
VIEWS

RJ45
"bottom"
(tab down)

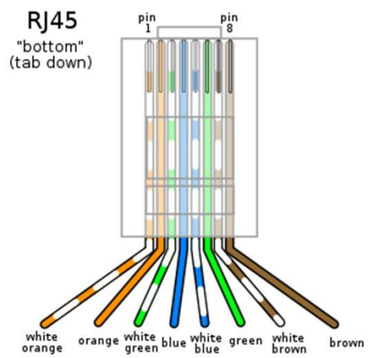


TABLE A1H34: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	STOCK	STOCK	RJ45 CONNECTOR
6	TBD	74006 BK002	Alpha Wire	CABLE CAT5E 8COND 26AWG BLK 100'
9	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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TITLE:
H34 FIBER CONVERTER TO SERIAL CONVERTER PATCH CABLE
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 37 OF 41

H35

B7P10
M80-4800605

To **B7**
IGB J10

GF_AMP_TEMP 1 — WHT 22 AWG 1.1mm Ø
SYS_5V 4 — RED 22 AWG 1.1mm Ø
INPUT_FET_RIGHT_TEMP 2 — WHT 22 AWG 1.1mm Ø
SYS_5V 5 — RED 22 AWG 1.1mm Ø
INPUT_FET_LEFT_TEMP 3 — WHT 22 AWG 1.1mm Ø
SYS_5V 6 — RED 22 AWG 1.1mm Ø

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

TEMP SENSOR GF
AD590
+
-
To GF TEMP

TEMP SENSOR FET_R
AD590
+
-
To FET RIGHT TEMP

TEMP SENSOR FET_L
AD590
+
-
To FET LEFT TEMP

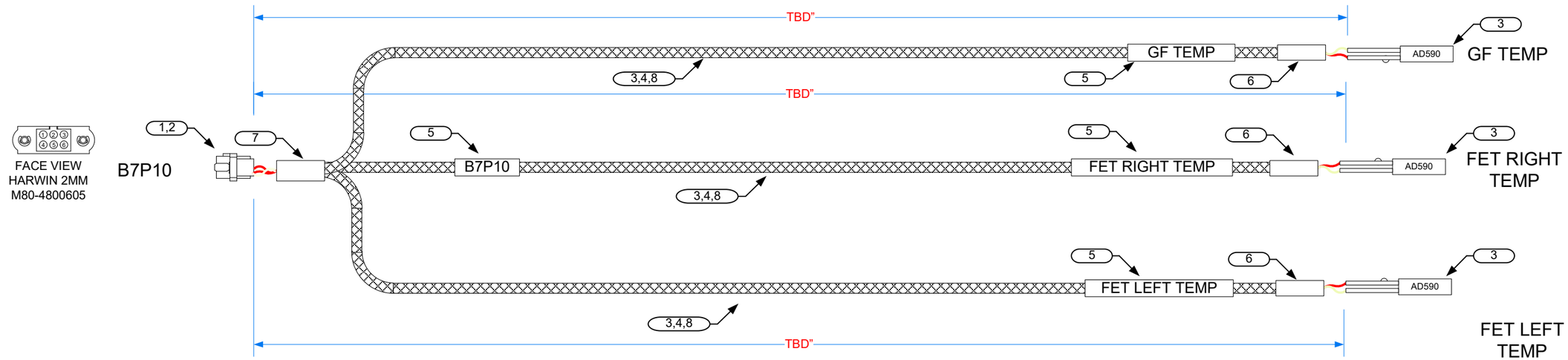
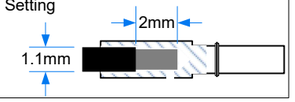


TABLE A1H35: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4800605	HARWIN	DATAMATE FEMALE 6-PIN
2	6	M80-0110005	HARWIN	DATAMATE 22AWG FEMALE CRIMP
3	3	AD590JF	Analog Devices Inc.	SENSOR ANALOG -55C-150C 2FLATPK
3	TBD	2845/19 WH001	Alpha	22 AWG WHITE WIRE PTFE 1.07mm Ø
4	TBD	2845/19 RD001	Alpha	22 AWG RED WIRE PTFE 1.07mm Ø
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/4" ADHESIVE HEAT SHRINK
7	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
8	TBD	PTN0.13BK-200	Techflex	Techflex 1/8"Flexo PET General Purpose Sleeving

Large Bore Signal Contact:
M22520/2-01 - Hand Crimp Tool
T5747 – Positioner
6 – Crimp Tool Setting



PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H35 IGB TEMPERATURE SENSORS
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 38 OF 41

B6P10
M80-4800605

To **B6**
HPB J10

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

HBP_VICOR1_TEMP 1	WHT 22 AWG 1.1mm Ø	TEMP SENSOR VICOR1 AD590 +
SYS_5V 8	RED 22 AWG 1.1mm Ø	- → TO VICOR 1
HPB_VICOR2_TEMP 2	WHT 22 AWG 1.1mm Ø	TEMP SENSOR VICOR2 AD590 +
SYS_5V 9	RED 22 AWG 1.1mm Ø	- → TO VICOR 2
HPB_VICOR3_TEMP 3	WHT 22 AWG 1.1mm Ø	TEMP SENSOR VICOR3 AD590 +
SYS_5V 10	RED 22 AWG 1.1mm Ø	- → TO TBD
HPB_TEMP1 4	WHT 22 AWG 1.1mm Ø	TEMP SENSOR TBD AD590 +
SYS_5V 11	RED 22 AWG 1.1mm Ø	- → TO TBD
HPB_TEMP2 5	WHT 22 AWG 1.1mm Ø	TEMP SENSOR TBD AD590 +
SYS_5V 12	RED 22 AWG 1.1mm Ø	- → TO TBD
HPB_TEMP3 6	WHT 22 AWG 1.1mm Ø	TEMP SENSOR TBD AD590 +
SYS_5V 13	RED 22 AWG 1.1mm Ø	- → TO TBD
HPB_TEMP4 7	WHT 22 AWG 1.1mm Ø	TEMP SENSOR TBD AD590 +
SYS_5V 14	RED 22 AWG 1.1mm Ø	- → TO TBD

PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

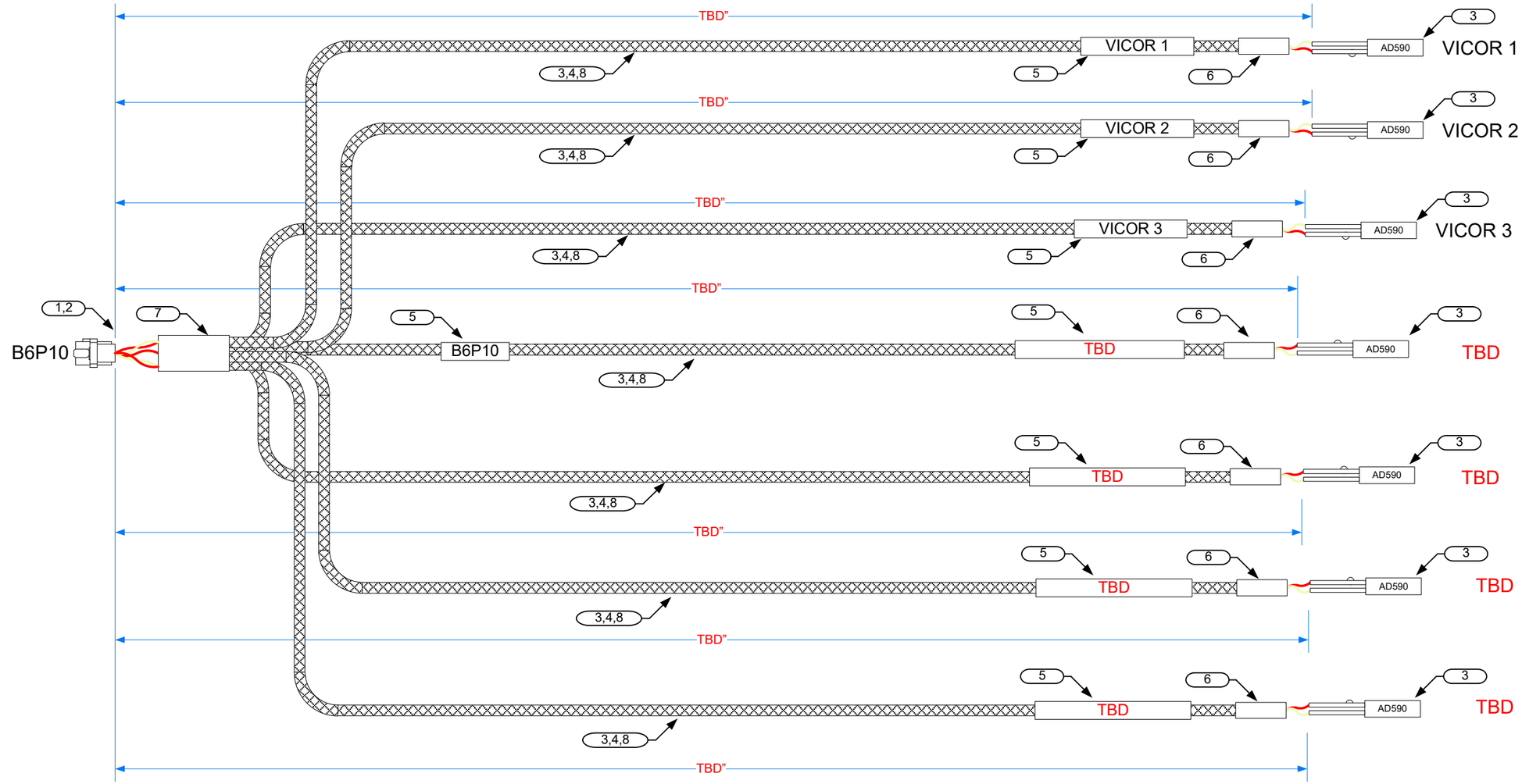
TITLE:
H35 PG1 HPB TEMPERATURE SENSORS
MARS

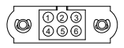
PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

CAD FILE: MARS Harnessing.vsdx

SHEET 39 OF 41

H36



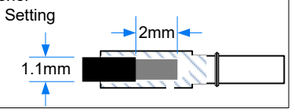


FACE VIEW
HARWIN 2MM
M80-4800605

TABLE A1H36: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4801405	HARWIN	DATAMATE FEMALE 14-PIN
2	14	M80-0110005	HARWIN	DATAMATE 22AWG FEMALE CRIMP
3	3	AD590JF	Analog Devices Inc.	SENSOR ANALOG -55C-150C 2FLATPK
3	TBD	2845/19 WH001	Alpha	22 AWG WHITE WIRE PTFE 1.07mm Ø
4	TBD	2845/19 RD001	Alpha	22 AWG RED WIRE PTFE 1.07mm Ø
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/4" ADHESIVE HEAT SHRINK
7	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
8	TBD	PTN0.13BK-200	Techflex	Techflex 1/8"Flexo PET General Purpose Sleeving

Large Bore Signal Contact:
M22520/2-01 - Hand Crimp Tool
T5747 – Positioner
6 – Crimp Tool Setting



PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

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UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H36 PG2 HPB TEMPERATURE SENSORS
MARS

PAGE CREATION:	SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021	B	98514	86253	1.02

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H37

B5P5
M80-4800405

B1P4
5011894010

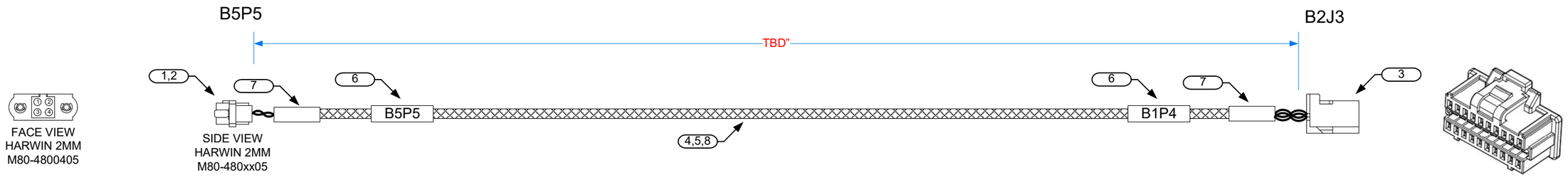
To **B5**
BOB J5

NOTE: BAYCAT 3V3 TURNS OFF IF SIC GOES TO SLEEP

I2C_SCL 1	BLK 28 AWG	21 I2C Clock
I2C_SDA 2	BLK 28 AWG	23 I2C Data
BAYAT_3V3 3	BLK 28 AWG	37 +3V3
GND 4	BLK 28 AWG	25 Ground
		NC — ALL OTHER PINS NC

To **B1**
SIC J4

WARNING:
CONTACT ORDER NOT SEQUENTIAL



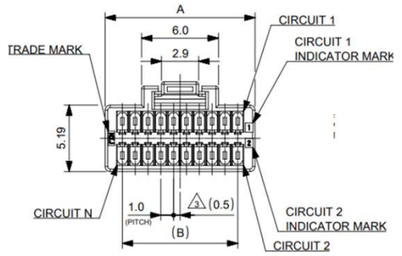
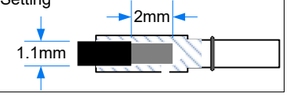


TABLE A1H37: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
2	4	M80-0130005	HARWIN	CONN SOCKET 24-28AWG CRIMP GOLD
3	1	5011894010	Molex	CONN RCPT HSG 40POS 1.00MM
4	4	0797581018	Molex	PICO-CLASP 150MM 28AWG PRE-CRIMP
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.13BK-200	Techflex	Techflex 1/8"Flexo PET General Purpose Sleeving

SMALL Bore Signal Contact:
M22520/2-01 - Hand Crimp Tool
T5747 – Positioner
6 – Crimp Tool Setting



PI:	T. MCGINNIS
MANAGER:	-
ENGINEER:	K. ZACK
DRAWN BY:	K. ZACK
PRINT DATE:	8/15/2023

APPLIED PHYSICS LABORATORY
UNIVERSITY OF WASHINGTON
1013 NE 40TH ST. SEATTLE, WA 98105

TITLE:
H37 SIC TO BOB I2C
MARS

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