KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT
ASSEMBLY AND INSTALLATION

SHEET NO.	REV STATUS	FUNCTION CODE	TITLE
1	-	V-1	TITLE, INDEX & GENERAL NOTES
2	-	E-1	PARTS LIST
3	-	E-2	CABINET ASSEMBLY -1, -2
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5	-	E-4	PANEL ASSEMBLY -3
6	-	E-5	PANEL -7 DRILL PLAN
7	-	E-6	PANEL ASSEMBLY -4
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9	-	E-8	ENCLOSURE TERMINAL MARKING DETAILS
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17	-	E-16	ENCLOSURE -1, PLC B CONNECTION LIST 1
18	-	E-17	ENCLOSURE -1, PLC B CONNECTION LIST 2
19	-	E-18	ENCLOSURE -1, PLC B CONNECTION LIST 3
20	-	E-19	ENCLOSURE -2, PLC A CONNECTION LIST 1
21	-	E-20	ENCLOSURE -2, PLC A CONNECTION LIST 2
22	-	E-21	ENCLOSURE -2, PLC A CONNECTION LIST 3
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24	-	E-23	ENCLOSURE -2, PLC A CONNECTION LIST 5
25	-	E-24	ENCLOSURE -2, PLC A CONNECTION LIST 6
26	-	E-25	ENCLOSURE -2, PLC B CONNECTION LIST 1
27	-	E-26	ENCLOSURE -2, PLC B CONNECTION LIST 2
28	-	E-27	ENCLOSURE -2, PLC B CONNECTION LIST 3
29	-	E-28	INSTALLATION FLOOR PLAN
30	-	E-29	CABLE ASSEMBLY

GENERAL NOTES:

1. ASSEMBLY AND FABRICATION SHALL FOLLOW THIS TEMPLATE BUT MAY VARY BASED ON ACTUAL EQUIPMENT FIT. CONTACT GOVERNMENT IF VARIANCES ARE SIGNIFICANT.

2. BOND GROUND CONNECTION PER KSC-STD-E-0012. APPLY SEALING COMPOUND SAE AS8660 TO ENTIRE CONNECTION AREA AFTER TIGHTENING.

3. PAINTING NEW CARBON STEEL

   A. ALL PREPARATION AND PAINTING SHALL BE FOR ZONE 4C EXPOSURE AS DEFINED BY NASA-STD-5008.

   PREPARATION:

   ABRASIVE BLAST TO "NEAR WHITE METAL" PER SSPC-SP-10 TO ACHIEVE A 1.5 TO 3 MIL ANCHOR PROFILE. REMOVE ABRASIVE RESIDUE. CLEAN AND DRY SURFACES.

   COATINGS:

   A GREY INORGANIC ZINC COATING FROM NASA-STD-5008 APPENDIX B SHALL BE APPLIED TO THE MANUFACTURE'S RECOMMENDED THICKNESS. COLOR OF THE FINISH COAT TO BE GREY, NO. 16473 FOR THE EXTERIOR AND WHITE, NO. 17925 FOR THE INTERIOR PER FED-STD-595.

   ALL COATINGS TO BE FROM THE SAME MANUFACTURER.

   B. CERTIFIED NACE INSPECTION IS REQUIRED FOR PREPARATION OF SURFACES AND APPLICATION OF ALL COATINGS. REPORTS SHALL BE SUBMITTED WEEKLY TO THE CONTRACTING OFFICER OR MODIFICATION MANAGEMENT (AS APPROPRIATE) DURING THE COATING PROCESS.

4. SOLDER PER KSC-STD-E-0010.

5. DIE STAMP PER KSC-STD-E-0015 WITH .100 CHARACTERS IN APPROPRIATE BLOCKS, THE INFORMATION CALLED FOR ON DRAWING NUMBER 75M50393, NOTE #7 A THRU N.

6. MATERIAL IS PLASTIC SHEET, LAMINATED, CONFORMING TO ASTM D 709. TYPE NDP, OPAQUE, WHITE-BLACK.

7. USING ELECTRICAL COMPONENTS TO BE MOUNTED ON PANEL AS TEMPLATES, VERIFY ALL DIMENSIONS FOR ACCURACY PRIOR TO DRILLING.

8. REFERENCE VAB FIREX EQUIPMENT GIS 734E1100001.

9. LOCATE PLASTIC LAMINATE REFERENCE DESIGNATION PLATES AS SHOWN AND ADHERE USING RTV-732, ITEM 69.

10. PHOTOETCH PER 603E0300001-7 USING .003 THICK ALUMINUM.

    ASSEMBLY AND FABRICATION SHALL FOLLOW THIS TEMPLATE BUT MAY VARY BASED ON ACTUAL EQUIPMENT FIT. CONTACT GOVERNMENT IF VARIANCES ARE SIGNIFICANT.

11 REFER TO 734E1100001 FOR THE ELECTRICAL SCHEMATIC DRAWING.

NASA KSC Export Control Office (ECO)
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KSC FORM 7-657V2 NS (REV. 01/10)
PREVIOUS EDITIONS ARE OBSELETE.

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J.EATON	10.1.2010
CHECKED	J. BROWN	10-15-2010
ENGINEER	J.EATON	10.15.2010
SUBMITTED	[signature]	10/15/10
APPROVED	[signature]	10/18/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY & INSTALLATION
TITLE, INDEX
& GENERAL NOTES

SIZE F | DWG. NO. 410E1500001 | REV -
TITLE TA-03B | PROJ. NO. NONE | SHEET 1 OF 30

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E0300001s001

V-1

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-7	-6	-5	-4	-3	-2	-1	ZONE	FIND NO OR ITEM NO	MFR CODE	PART OR STOCK NO	DESCRIPTION	STOCK SIZE	MATERIAL SPEC	FINISH CODE	UNIT WT
ASSY DASH NO AND NO REQ															
			AR	AR				69		30BJ250-56K	RESISTOR, 56 K OHM, 1/4 WATT, XICON				
			5	5				68	5Y407	3005073	TERMINAL BLOCK, GND,UK 10N				
			2	2				67		250T-V3-DIN-NCR	VOLT TO MILLIAMP TRANSMITTER, 0-100 VDC, 4-20 MA, ACROMAG				
			2	2				66	1L5U8	C50A1P-80VDC	CIRCUIT BREAKER, D.C. 50 A				
				1				65		140AVI03000	QUANTUM ANALOG 8 CH. INPUT				
			AR	AR	2	2		64		MS90725-34	SCREW, CAP, HEX HD	5/16-18UNC X 1.00 LG			
					3	3		63		MS27183-12	WASHER, FLAT	5/16			
					3	3		62		TBD	FUSE, 10A				
					12	11		61		TBD	FUSE, 5A				
						1		60		TBD	FUSE, 3A				
					3			59		TBD	FUSE, 2A				
					8	8		58		MS35333-41	WASHER, LOCK INTERNAL TOOTH	5/16			
					4	4		57		MS51922-9	NUT, SELF-LOCKING	5/16-18 UNC			
					4	4		56		MS35649-2312	NUT, HEX	5/16-18 UNC			
			AR	AR	AR	AR		55		RTV-732	ADHESIVE				
					2	2		54		10 AWG-THHN-STR-GRN	WIRE, STRANDED	#10 AWG 4 FT			
					3	3		53		SAE-AS-20659-131	LUG, TERMINAL	#6 AWG 5/16			
			64	77				52		MS35338-43	WASHER, LOCK	NO. 10			
			64	77				51		MS27183-8	WASHER, FLAT	NO. 10			
			64	77				50		MS351958-65	SCREW, PAN HEAD	10-32 UNF X .75 LG			
			4	2				49		52-0402-000	TAP PORT TERMINATOR, 75 \				
			3	3				48		140CPS21400	QUANTUM DC POWER SUPPLY				
			2	3				47		TBD	FUSE, 1A				
			AR	AR	AR	AR		46	1VWQ1	422-402	ENGRAVEABLE PLASTIC				
					1	1		45		800T-X639	LEGEND PLATE, "PLC A ONLINE"				
					1	1		44		800T-X639	LEGEND PLATE, "PLC B ONLINE"				
					2	2		43	83330	800L-30C24G	PILOT LIGHT, GREEN LENS				
				13				42	63590	46N7410	TERMINAL BLOCK END BRACKET, BICHROMATED STEEL				
			28	20				41	5Y407	1202577	TERMINAL BLOCK END BRACKET				
			12	13				40	5Y407	2770024	TERMINAL BLOCK END COVER				
			21	22				39	5Y407	3004171	FUSE HOLDER BLOCK UK6-HESI				
			2	2				38		0803650	ZBFM 6:SO/CMS	401 TO 500			
			2	2				37		0803650	ZBFM 6:SO/CMS	301 TO 400			
			2	2				36		0803650	ZBFM 6:SO/CMS	201 TO 300			
			2	2				35		0803650	ZBFM 6:SO/CMS	101 TO 200			
			2	2				34		0803650	ZBFM 6:SO/CMS	1 TO 100			
			AR	AR				33	01121	199-DRI	DIN RAIL				
			4	4				32		52-0411-000	F-ADAPTER, SELF TERMINATING				
			4	6				31		MA-0185-100	RIO DROP TAP				
			2	2				30	77342	27E895	RELAY BASE				
			2	2				29		K10P-11D15-24	RELAY, DPDT, 24VDC, TYCO, INC				
			AR	AR				28		97-5750-00	RG-6 QUAD SHIELDED CABLE	100 FT			

PARTS LIST

-7	-6	-5	-4	-3	-2	-1	ZONE	FIND NO OR ITEM NO	MFR CODE	PART OR STOCK NO	DESCRIPTION	STOCK SIZE	MATERIAL SPEC	FINISH CODE	UNIT WT
ASSY DASH NO AND NO REQ															
			6	6				27		MA-0329-001F	F CONNECTOR FOR RG-6 QUAD				
			485	620				26	5Y407	2774017	UKK5 TERMINAL 2 LEVEL GREY				
			1	3				25		140XBP01000	QUANTUM 10 SLOT BACKPLANE				
			1					24		140XBP01600	QUANTUM 16 SLOT BACKPLANE				
			2	2				23	5Y407	QUNIT-BAT/24VDC/12AH	DC UPS BATTERY				
			2	2				22	5Y407	QUINT-DC-UPS/24DC/40	DC UPS				
			2	2				21	5Y407	QUINT-PS-100-240AC/24V	POWER SUPPLY				
			AR	AR				20	06383	C4LG6	WIRING DUCT COVER	4.00 X 72.00 LG			
			AR	AR				19	06383	G4X4LG6	WIRING DUCT	4.00 X 4.00 X 72.00 LG			
			51					18	5Y407	0203250	FBI 10-6 JUMPER				
			AR	AR				17	06383	NR1-C	PLASTIC RIVNUT	PKG. OF 100			
			AR	AR				16	06383	C3LG6	WIRING DUCT COVER	3.00 X 72.00 LG			
			AR	AR				15	06383	F3X3LG6	WIRING DUCT	3.00 X 3.00 X 72.00 LG			
			2	1				14		140CRA93200	QUANTUM DISCRETE RELAY 16 OUTPUT				
			6	7				13		140DRA84000	QUANTUM REMOTE I/O HEAD				
				2				12		140CRP93200	QUANTUM REMOTE I/O HEAD				
				2				11		140CPU11303	QUANTUM CPU CARD				
			10	9				10		140DSI35300	QUANTUM DISCRETE 32 INPUT				
				2				9		140NOE77111	QUANTUM ETHERNET I/F				
					1			8		410E1500001-10	IDENTIFICATION PLATE, ADHESIVE BACKED, (MAKE FROM 75M50393-3)				
						1		7		410E1500001-9	IDENTIFICATION PLATE, ADHESIVE BACKED, (MAKE FROM 75M50393-3)				
			1					6	00843	410E1500001-8	PANEL, HOFFMAN A72P72 (MODIFIED)				
				1				5	00843	410E1500001-7	PANEL, HOFFMAN A72P72 (MODIFIED)				
					1	1		4	00843	410E1500001-6	ENCLOSURE, HOFFMAN A727212ULP (MODIFIED)				
								3		NOT USED					
			-		1			2		410E1500001-4	PANEL ASSEMBLY				
				-		1		1		410E1500001-3	PANEL ASSEMBLY				
					-					410E1500001-2	ENCLOSURE ASSEMBLY				
						-		-		410E1500001-1	ENCLOSURE ASSEMBLY				

PARTS LIST

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E-1

SYM	ZONE	DESCRIPTION	DATE	APPROVED
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SIGNATURES		DATE
DRAWN	J. EATON	9/25/10
CHECKED	S. BROWN	9/24/10
ENGINEER	J. EATON	9/24/10
SUBMITTED		10/4/10
APPROVED		DATE 10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION

PARTS LIST

SIZE F | DWG. NO. 410E1500001 | REV -

TITLE TA-03B | PROJ. NO. NONE | SHEET 2 OF

KSC FORM 1-11 (REV. 3/76)
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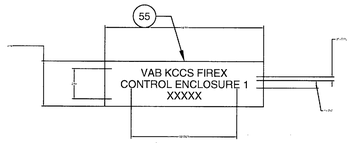

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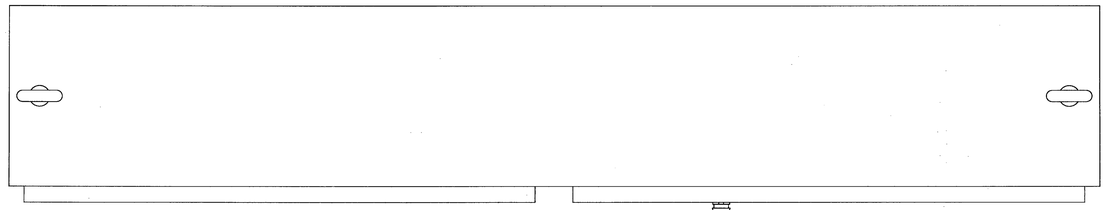

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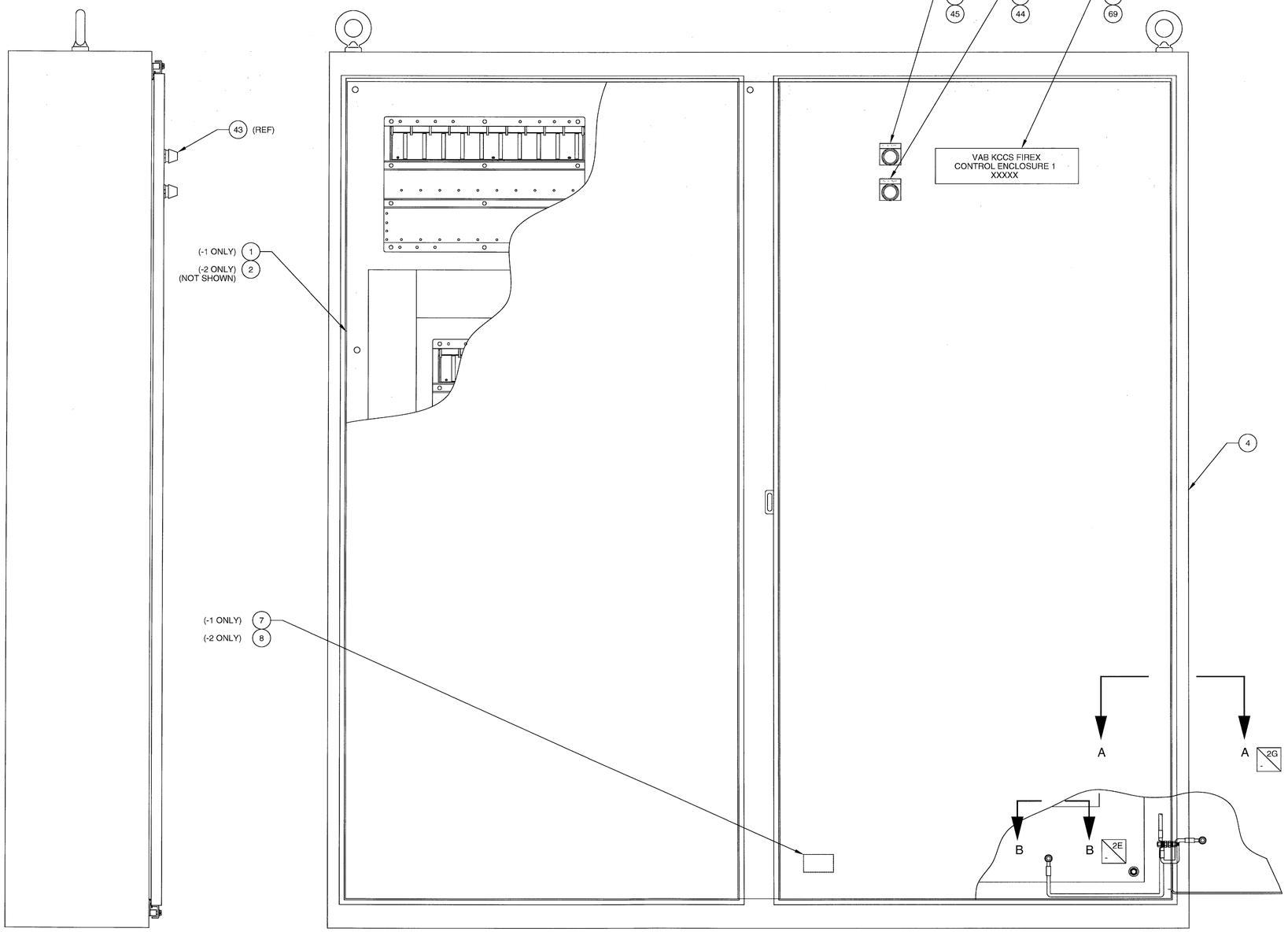
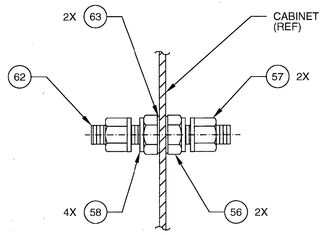
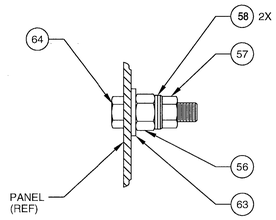


CABINET ASSEMBLY -1 (SHOWN AND NOTED), -2 (SHOWN AND NOTED)
SCALE: 1/4



3B SECTION A-A 2
SCALE: NONE

(TERMINAL LUGS REMOVED FOR CLARITY)



3B SECTION B-B 2
SCALE: NONE

VAB KCCS FIREX ENCLOSURE 1
NASA P/N 410E1500001-1 MFR P/N N/A
REF DES XXXXX ACCEPT DATE N/A
CONTR NO. NAS10-03006 WT LBS N/A
SERIAL NO. N/A MODEL NO. N/A
MFD FOR JOHN F. KENNEDY SPACE CENTER
OFFICE SYMBOL NASA-NE/ASRC
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
BY ASRC AEROSPACE

7 IDENTIFICATION PLATE -9 10
SCALE: NONE

VAB KCCS FIREX ENCLOSURE 2
NASA P/N 410E1500001-2 MFR P/N N/A
REF DES XXXXX ACCEPT DATE N/A
CONTR NO. NAS10-03006 WT LBS N/A
SERIAL NO. N/A MODEL NO. N/A
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8 IDENTIFICATION PLATE -10 10
SCALE: NONE

SYM	ZONE	DESCRIPTION	DATE	APPROVED

REVISIONS

SIGNATURES		DATE
DRAWN	J. EATON	9/25/10
CHECKED	S. BROWN	10/14/10
ENGINEER	J. EATON	9/25/10
SUBMITTED		10/4/10
APPROVED		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION

ENCLOSURE ASSEMBLY -1, -2

SIZE F | DWG. NO. 410E1500001 | REV -
TITLE TA-038 | PROJ. NO. NONE | SHEET 3 OF

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FILENAME: 410E1500001s003

E-2

KSC FORM 1-11 (REV. 3/76)
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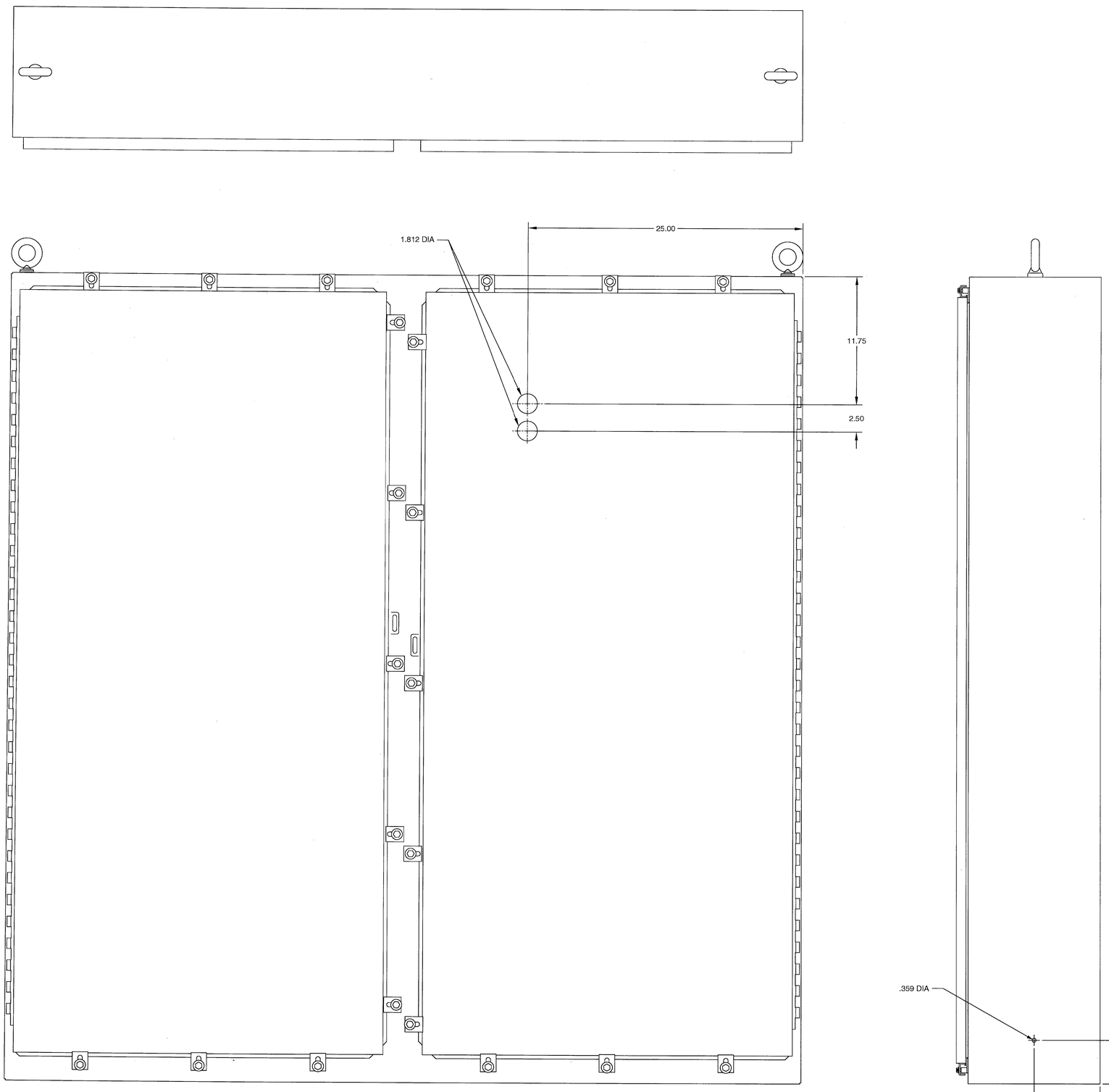

4 ENCLOSURE -6
SCALE: .25

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FILENAME: 410E1500001s004

E-3

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
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ENGINEER	J.EATON	9/29/10
SUBMITTED		10/4/10
APPROVED		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION

ENCLOSURE DETAILS

SIZE F | DWG. NO. 410E1500001 | REV -

TITLE TA-63B | PROJ. NO. NONE | SHEET 4 OF

KSC FORM 1-11 (REV. 3/78)
(CIG 12/92)

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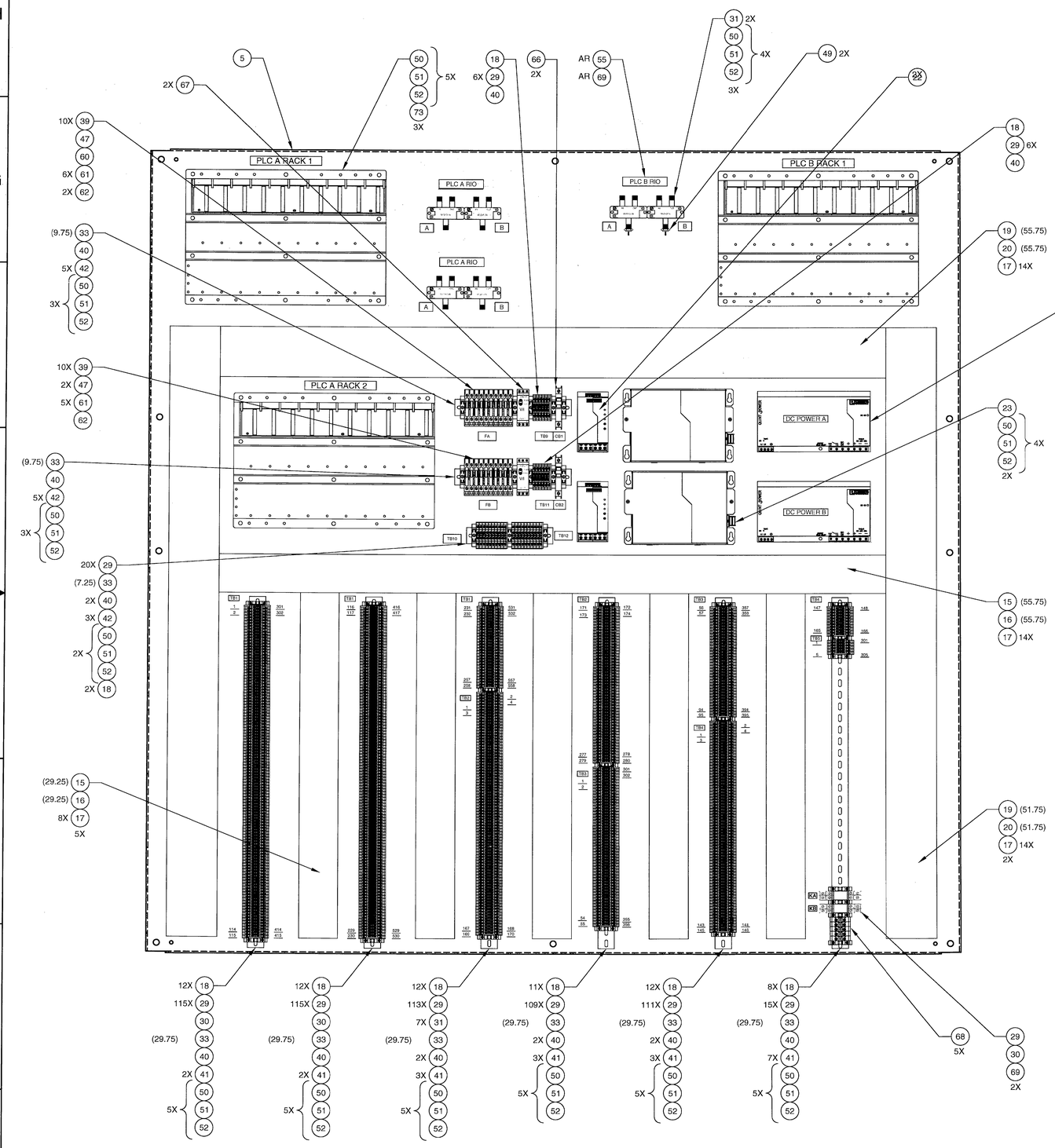

1 PANEL ASSEMBLY -3
SCALE: 1/4

PLC A RACK 1 TABLE

SLOT NO.	DESCRIPTION	FIND NO.	PART NO.	FIND NO.	RTB PART NO.
1	POWER SUPPLY (24VDC)	48	140CPS21400	-	-
2	ETHERNET I/F	9	140NOE77111	-	-
3	DISCRETE INPUT	10	140DSI35300	-	-
4	DISCRETE INPUT	10	140DSI35300	-	-
5	DISCRETE INPUT	10	140DSI35300	-	-
6	DISCRETE INPUT	10	140DSI35300	-	-
7	DISCRETE INPUT	10	140DSI35300	-	-
8	DISCRETE INPUT	10	140DSI35300	-	-
9	CPU	11	140CPU11303	-	-
10	REMOTE I/O HEAD RED.	12	140CRP93200	-	-

PLC B RACK 1 TABLE

SLOT NO.	DESCRIPTION	FIND NO.	PART NO.	FIND NO.	RTB PART NO.
1	POWER SUPPLY (24VDC)	48	140CPS21400	-	-
2	ETHERNET I/F	9	140NOE77111	-	-
3	DISCRETE RELAY OUT	13	140DRA84000	-	-
4	DISCRETE RELAY OUT	13	140DRA84000	-	-
5	DISCRETE RELAY OUT	13	140DRA84000	-	-
6	DISCRETE INPUT	10	140DSI35300	-	-
7	DISCRETE INPUT	10	140DSI35300	-	-
8	DISCRETE INPUT	10	140DSI35300	-	-
9	CPU	11	140CPU11303	-	-
10	REMOTE I/O HEAD RED.	12	140CRP93200	-	-

PLC A RACK 2 TABLE

SLOT NO.	DESCRIPTION	FIND NO.	PART NO.	FIND NO.	RTB PART NO.
1	POWER SUPPLY (24VDC)	48	140CPS21400	-	-
2	DISCRETE RELAY OUT	13	140DRA84000	-	-
3	DISCRETE RELAY OUT	13	140DRA84000	-	-
4	DISCRETE RELAY OUT	13	140DRA84000	-	-
5	DISCRETE RELAY OUT	13	140DRA84000	-	-
6	SPARE	-	-	-	-
7	SPARE	-	-	-	-
8	SPARE	-	-	-	-
9	ANALOG INPUT	65	140AVI03000	-	-
10	REMOTE I/O DROP RED.	14	140CRA93200	-	-

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s005

E-4

SYM	ZONE	DESCRIPTION	DATE	APPROVED

REVISIONS

SIGNATURES		DATE
DRAWN	J.EATON	9/29/10
CHECKED	S. BROWN	10/29/10
ENGINEER	J.EATON	7/27/10
SUBMITTED		10/4/10
APPROVED		10/4/10
TITLE	TA-B3B	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION

PANEL ASSEMBLY -3

SIZE F | DWG. NO. 410E1500001 | REV -
PROJ. NO. NONE | SHEET 5 OF

KSC FORM 1-11 (REV. 3/78)
(CIG 12/92)

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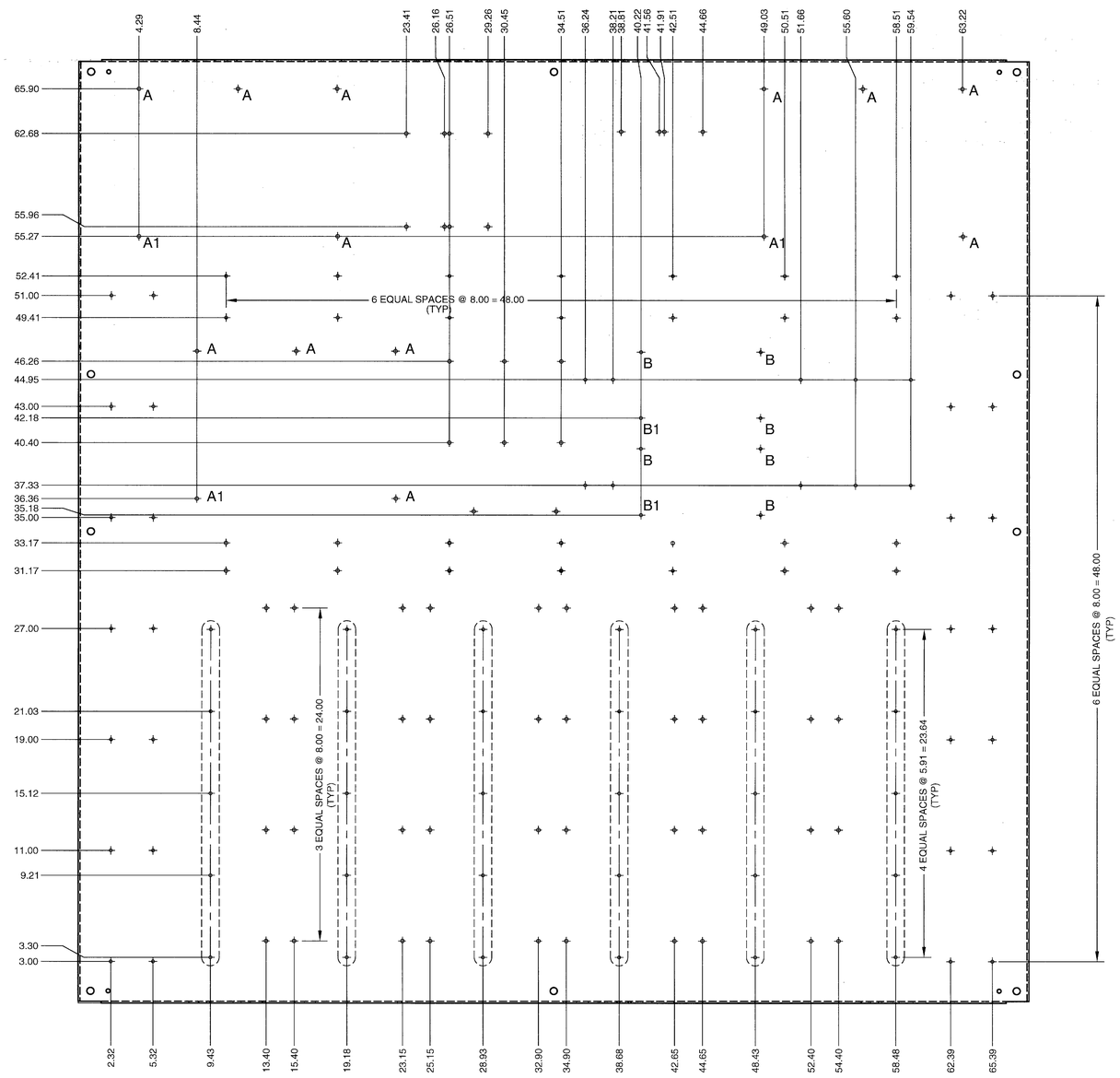


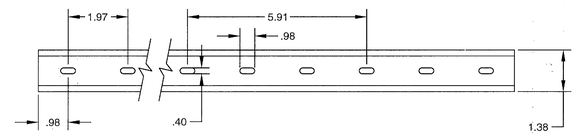
5 PANEL-7 DRILL PATTERN
SCALE: 1/4

SPECIFIC NOTES:

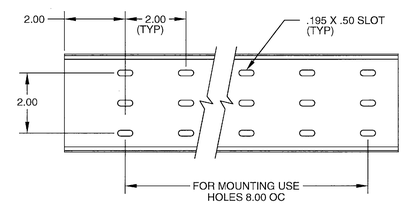
A. ALL HOLES MARKED "B" SHALL BE 10-32 UNF. MATCH DRILL HOLES MARKED "B" USING ITEM 23 AS A TEMPLATE STARTING WITH HOLE MARKED "B1".

B. ALL HOLES TO BE 10-32 UNF UNLESS OTHERWISE SPECIFIED.

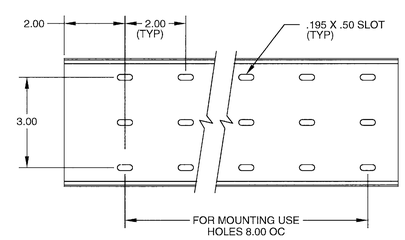
C. ALL HOLES MARKED "A" SHALL BE 10-32 UNF. MATCH DRILL HOLES MARKED "A" USING ITEM 73 AS A TEMPLATE STARTING WITH HOLE MARKED "A1".



33 TYP DIN RAIL HOLE PATTERN
SCALE: 1:2
(REF ONLY)



15 TYP 3X3 WIRING DUCT HOLE PATTERN
SCALE: 1:2
(REF ONLY)



19 TYP 4X4 WIRING DUCT HOLE PATTERN
SCALE: 1:2
(REF ONLY)

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s006

E-5

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J. EATON	5/29/10
CHECKED	S. BROWN	5/30/10
ENGINEER	J. EATON	5/25/10
SUBMITTED		10/4/10
APPROVED		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION

PANEL ASSEMBLY -7

SIZE F | DWG. NO. 410E1500001 | REV -
TITLE TA-833 | PROJ. NO. NONE | SHEET 6 OF

KSC FORM 1-11 (REV. 3/76)
(CIG 12/92)

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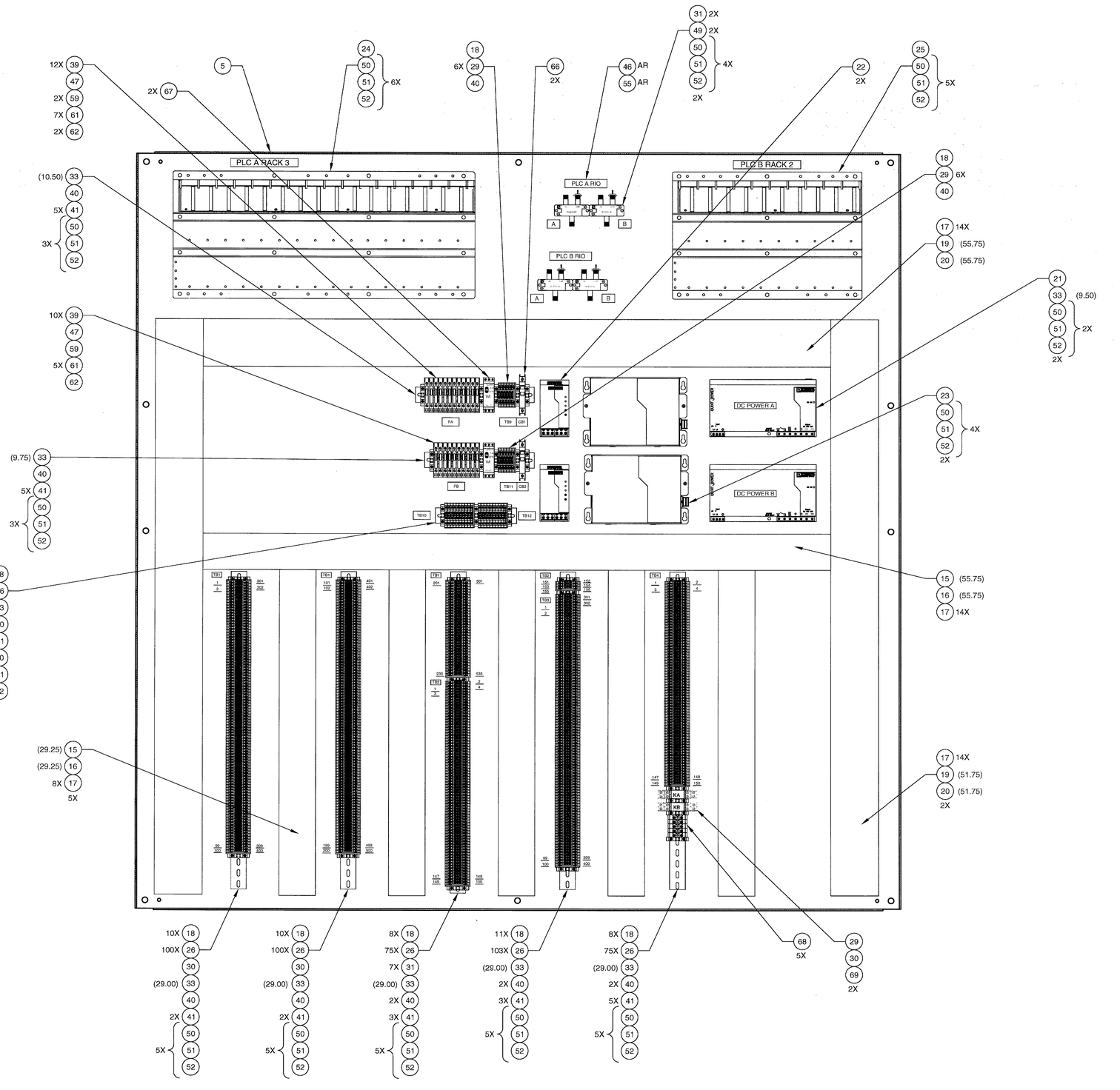

2 PANEL ASSEMBLY -4
SCALE: .25

PLC A RACK 3 TABLE

SLOT NO.	DESCRIPTION	FIND NO.	PART NO.	FIND NO.	RTB PART NO.
1	POWER SUPPLY (24VDC)	48	140CPS21400	-	-
2	POWER SUPPLY (24VDC)	48	140CPS21400	-	-
3	DISCRETE INPUT	10	140DSI35300	-	-
4	DISCRETE INPUT	10	140DSI35300	-	-
5	DISCRETE INPUT	10	140DSI35300	-	-
6	DISCRETE INPUT	10	140DSI35300	-	-
7	DISCRETE INPUT	10	140DSI35300	-	-
8	DISCRETE INPUT	10	140DSI35300	-	-
9	DISCRETE INPUT	10	140DSI35300	-	-
10	SPARE	-	-	-	-
11	DISCRETE RELAY OUT	13	140DRA84000	-	-
12	DISCRETE RELAY OUT	13	140DRA84000	-	-
13	DISCRETE RELAY OUT	13	140DRA84000	-	-
14	SPARE	-	-	-	-
15	SPARE	-	-	-	-
16	REMOTE I/O DROP RED.	14	140CRA93200	-	-

PLC B RACK 2 TABLE

SLOT NO.	DESCRIPTION	FIND NO.	PART NO.	FIND NO.	RTB PART NO.
1	POWER SUPPLY (24VDC)	48	140CPS21400	-	-
2	SPARE	-	-	-	-
3	DISCRETE RELAY OUT	13	140DRA84000	-	-
4	DISCRETE RELAY OUT	13	140DRA84000	-	-
5	DISCRETE RELAY OUT	13	140DRA84000	-	-
6	DISCRETE INPUT	10	140DSI35300	-	-
7	DISCRETE INPUT	10	140DSI35300	-	-
8	DISCRETE INPUT	10	140DSI35300	-	-
9	SPARE	-	-	-	-
10	REMOTE I/O DROP RED.	14	140CRA93200	-	-

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J. EATON	9/29/10
CHECKED	S. BROWN	9/29/10
ENGINEER	J. EATON	9/29/10
SUBMITTED		10/4/10
APPROVED		10/4/10
TITLE	TA-83D	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION

PANEL ASSEMBLY -4

SIZE	DWG. NO.	REV
F	410E1500001	-
PROJ. NO. NONE	SHEET 7 OF	

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s007

E-6

KSC FORM 1-11 (REV. 3/76)
(CFG 12/82)

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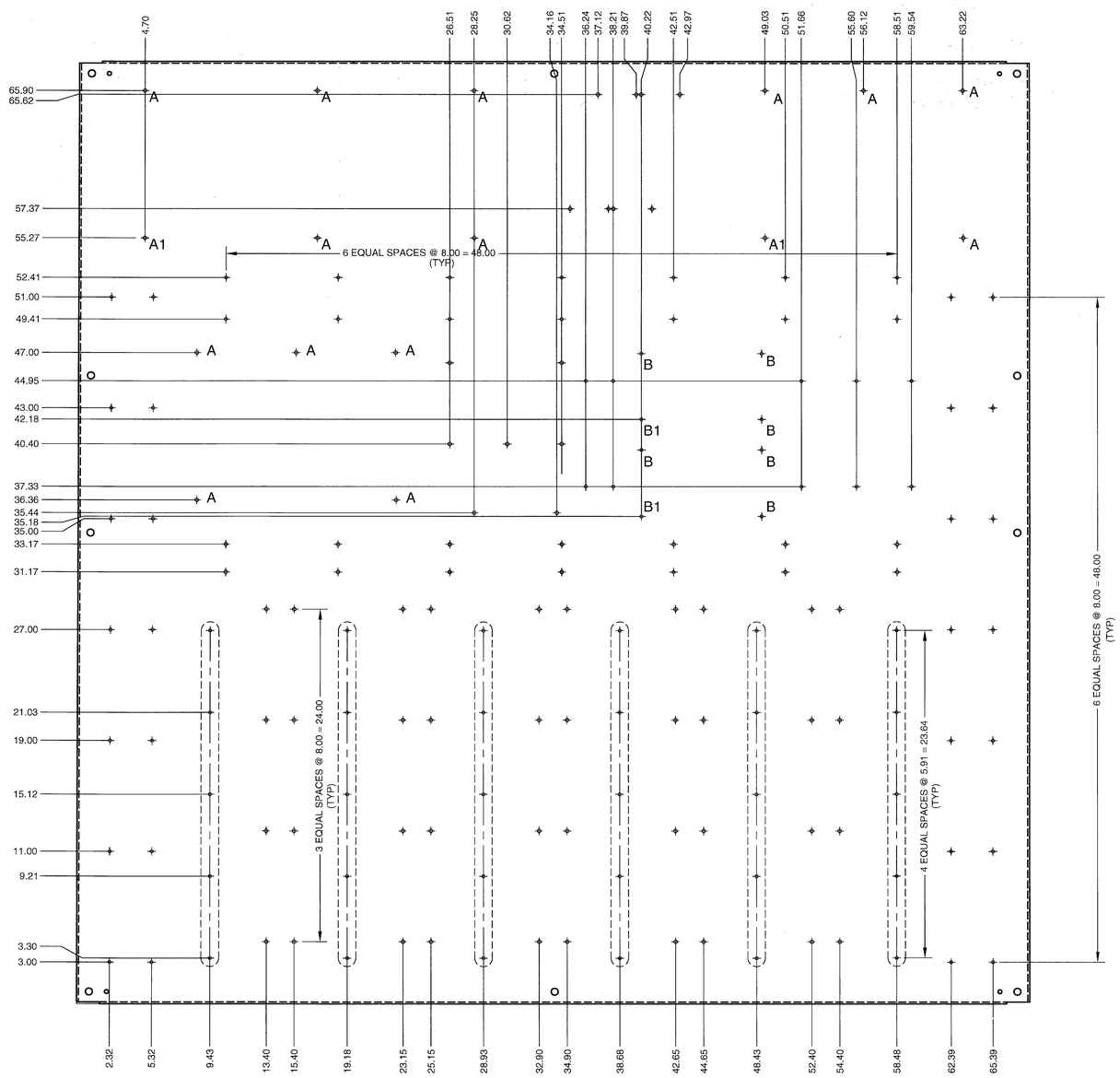


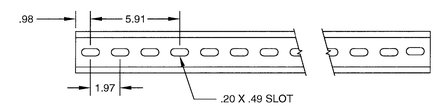
6 PANEL-8 DRILL PATTERN
SCALE: 1/4

SPECIFIC NOTES:

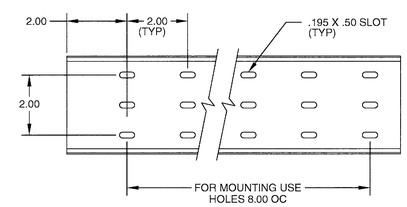
A. ALL HOLES MARKED "B" SHALL BE 10-32 UNF. MATCH DRILL HOLES MARKED "B" USING ITEM 23 AS A TEMPLATE STARTING WITH HOLE MARKED "B1".

B. ALL HOLES TO BE 1032 UNF UNLESS OTHERWISE SPECIFIED.

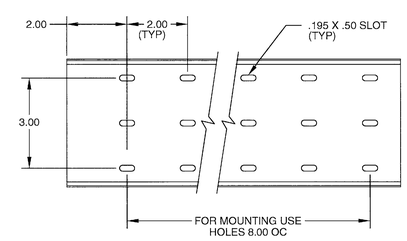
C. ALL HOLES MARKED "A" SHALL BE 10-32 UNF. MATCH DRILL HOLES MARKED "A" USING ITEM 73 AS A TEMPLATE STARTING WITH HOLE MARKED "A1".



33 TYP DIN RAIL HOLE PATTERN
SCALE: 1:2
(REF ONLY)



15 TYP 3X3 WIRING DUCT HOLE PATTERN
SCALE: 1:2
(REF ONLY)



19 TYP 4X4 WIRING DUCT HOLE PATTERN
SCALE: 1:2
(REF ONLY)

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J.EATON	9/28/10
CHECKED	S. BROWN	9/28/10
ENGINEER	J.EATON	9/28/10
SUBMITTED		10/4/10
APPROVED		DATE 10/4/10
TITLE	TA-831	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION

PANEL -8 DRILL PLAN

SIZE	DWG. NO.	REV
F	410E1500001	-
PROJ. NO. NONE	SHEET 8 OF	

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s008

E-7

KSC FORM 1-11 (REV. 3/96)
(CG 12/92)

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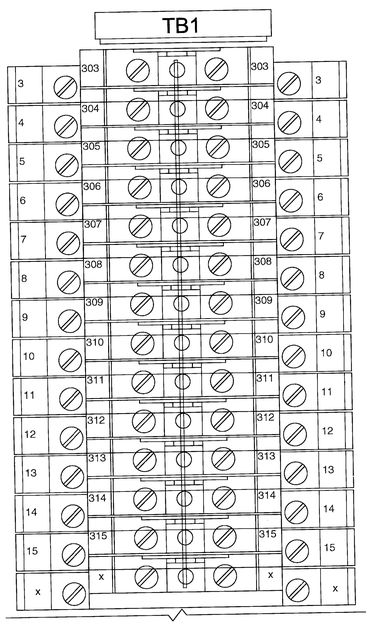
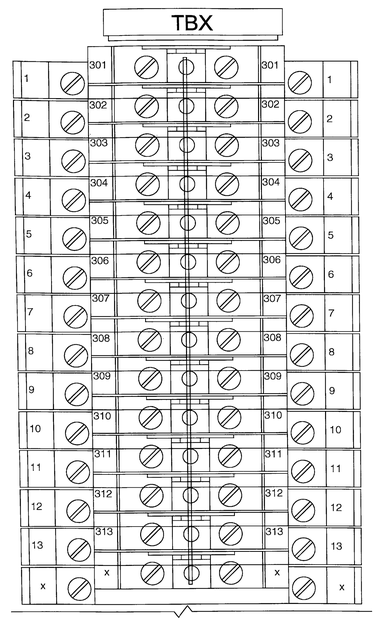
SPECIFIC NOTES:

A. MARK DOUBLE STACK TERMINAL BLOCKS AS SHOWN USING MANUFACTURER PRINTED MARKING. INSTALL BUS BARS ON CENTER TO PROVIDE +24 VDC PER POWER DISTRIBUTION DRAWING. BREAK BUS BAR FOR I/O CARD GROUPS AS DEFINED.

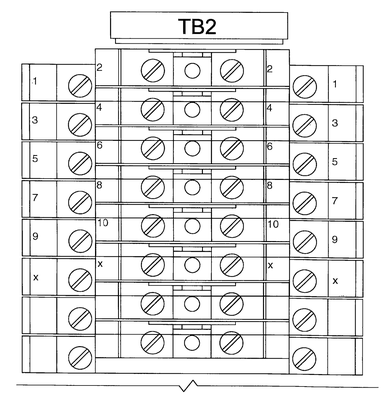
B. MARK DOUBLE STACK TERMINAL BLOCKS AS SHOWN USING MANUFACTURER PRINTED MARKING. THIS DETAIL ILLUSTRATES THE LABELING METHOD FOR DISCRETE OUTPUTS AND ANALOG INPUTS.



TYPICAL TERMINAL BLOCK MARKING DETAIL
(PANEL -3, TB-1)
A



TYPICAL TERMINAL BLOCK MARKING DETAIL
(PANEL -3, TB-3)
(PANEL -4, TB-1, TB-3)
A



TYPICAL TERMINAL BLOCK MARKING DETAIL
(PANEL -3, TB-2)
(PANEL -4, TB-2)
B

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J. EATON	7/27/10
CHECKED	S. BROWN	9/29/10
ENGINEER	J. EATON	7/27/10
SUBMITTED		10/4/10
APPROVED		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE TERMINAL
MARKING DETAILS

SIZE F | DWG. NO. 410E1500001 | REV -
PROJ. NO. NONE | SHEET 9 OF

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E15000001s009

E-8

KSC FORM 1-11 (REV. 3/76)
(CIG 12/92)

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COMPONENT	MANUFACTURER	MODEL / PART	TOTAL QUANTITY		HEAT DISSIPATION PER COMPONENT	UNITS OF MEASURE			
CPU	MODICON	140CPU11303	2		4.0	WATTS			
NOE	MODICON	140NOE77111	2		3.8	WATTS			
POWER SUPPLY	MODICON	140CPS21400	6		20.0	WATTS			
RIO HEAD	MODICON	140CRP93200	2		3.8	WATTS			
RIO DROP	MODICON	140CRA93200	3		3.8	WATTS			
A.I. MODULE	MODICON	140AVI03000	1		2.2	WATTS			
DI MODULE	MODICON	140DSI35300	20		9.0	WATTS			
RELAY MODULE	MODICON	140DRA84000	12		13.5	WATTS			
D.C. UPS	PHEONIX CONTACT	QUINT-DC-UPS/24DC/40	4		30.0	WATTS			
D.C POWER SUPPLY	PHEONIX CONTACT	QUINT-PS-100-240AC/24DC/40	4		80.0	WATTS			
								ENCLOSURE	
							WATTS TOTAL	WATTS	BTU /HR
ENCLOSURE 1		140CPU11303	2		4.0		7.9		
		140NOE77111	2		3.8		7.6		
		140CPS21400	3		20.0		60.0		
		140CRP93200	2		3.8		7.6		
		140CRA93200	1		3.8		3.8		
		140AVI03000	1		2.2		2.2		
		140DSI35300	6		9.0		54.0		
		140DRA84000	10		13.5		135.0		
		QUINT-DC-UPS/24DC/40	2		30.0		60.0		
		QUINT-PS-100-240AC/24DC/40	2		80.0		160.0		
								498.1	1700.0
		WATTS/SQ. FT	5.2						
ENCLOSURE 2		140CPU11303	0		4.0		0.0		
		140NOE77111	0		3.8		0.0		
		140CPS21400	4		20.0		80.0		
		140CRP93200	0		3.8		0.0		
		140CRA93200	2		3.8		7.6		
		140AVI03000	0		2.2		0.0		
		140DSI35300	10		9.0		90.0		
		140DRA84000	6		13.5		81.0		
		QUINT-DC-UPS/24DC/40	2		30.0		60.0		
		QUINT-PS-100-240AC/24DC/40	2		80.0		160.0		
								478.6	1633.5
		WATTS/SQ. FT	5.2						
		DIMENSIONS OF ENCLOSURE.	72.0	72.0	12.0	INCHES			
		SURFACE AREA CALC. SQ FT	96.0						
		TEMPERATURE RISE VS. AMBIENT APPROX.							
		STAINLESS UNPAINTED	10 DEGREES F						
		STAINLESS PAINTED	20 DEGREES F						

SPECIFIC NOTE:

A. THE CALCULATIONS FOR THERMAL DISSIPATION ARE BASED ON THE HOFFMAN, INC. ENGINEERING PROCEDURES. DATA IS BASED ON A GENERIC STAINLESS STEEL ENCLOSURE. THE ESTIMATED TEMPERATURE RISE INSIDE THE CABINET IS MINIMAL.

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s010

E-9

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J.EATON	9/29/10
CHECKER	S. BROWN	11/09/10
ENGINEER	J.EATON	9/29/10
SUBMITTED		10/4/10
APPROVED		DATE 10/4/10
TITLE	TA-933	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURES THERMAL
DISSIPATION TABLE

SIZE F | DWG. NO. 410E1500001 | REV -

PROJ. NO. NONE | SHEET 10 OF

KSC FORM 1-11 (REV. 3/76)
(CFG 12/93)

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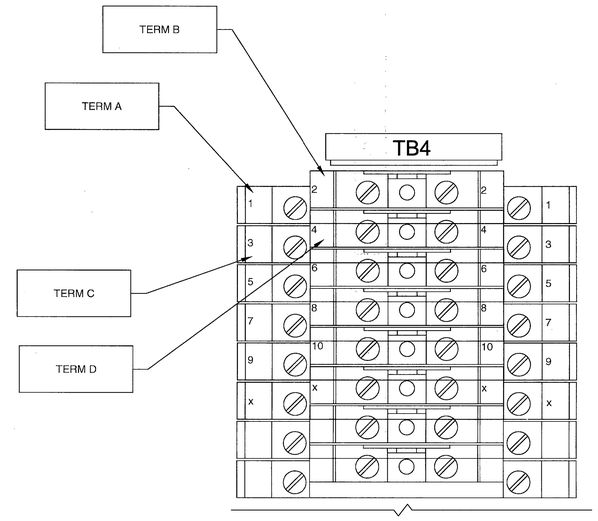
SPECIFIC NOTE:

A. THESE DETAILS AND EXAMPLES ARE PROVIDED AS ADDITIONAL GUIDANCE TO THE FABRICATION AND INSTALLATION TEAM. ALSO SEE ALL GENERAL NOTES AND DETAILS SHOWN ON OTHER SHEETS.

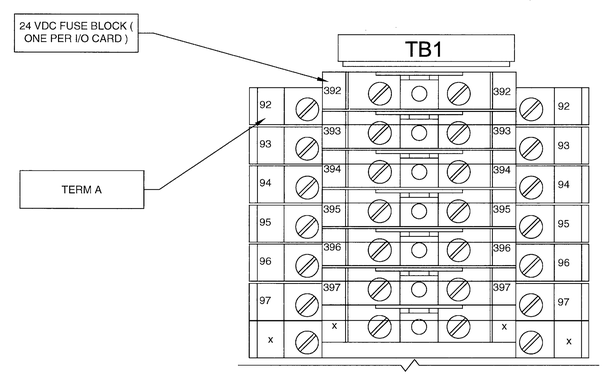
FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	OUTPUT	PLC OUTPUT TERM	TERM A	TERM B	TERM C	TERM D
PLC ARM COMMAND	ZONE INPUT 25	LAS, A & B	2	3	1	1,2	TB4-1	TB4-2	TB4-3	TB4-4
PLC ARM CLOSE COMMAND	ZONE INPUT 28	LAS, A & B	2	3	2	3,4	TB4-5	TB4-6	TB4-7	TB4-8
PLC ARM COMMAND	ZONE INPUT 30	C & E	2	3	3	5,6	TB4-9	TB4-10	TB4-11	TB4-12
PLC ARM CLOSE COMMAND	ZONE INPUT 33	C & E	2	3	4	7,8	TB4-13	TB4-14	TB4-15	TB4-16
PLC ARM COMMAND	ZONE INPUT 35	F1, G & H	2	3	5	11,12	TB4-17	TB4-18	TB4-19	TB4-20
PLC ARM CLOSE COMMAND	ZONE INPUT 38	F1, G & H	2	3	6	13,14	TB4-21	TB4-22	TB4-23	TB4-24
PLC ARM COMMAND	ZONE INPUT 40	I, J & K	2	3	7	15,16	TB4-25	TB4-26	TB4-27	TB4-28
PLC ARM CLOSE COMMAND	ZONE INPUT 43	I, J & K	2	3	8	17,18	TB4-29	TB4-30	TB4-31	TB4-32

OUTPUT TERMINAL CONNECTION DETAILS AND EXAMPLE



FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	PLC INPUT TERM	24 VDC FUSE BLOCK	TERM A	TERM B
PLATFORM E 3IR DETECTOR	OUTPUT 5-5	C & E	3	5	17	21,29	FA-5	TB1-92	TB1-392
NAC POWER TO QUAD ARM VALVES ON	OUTPUT 5-6	C & E	3	5	18	22,29	FA-5	TB1-93	TB1-393
OPEN QUAD ARM VALVE COMMANDS ON	OUTPUT 5-7	C & E	3	5	19	23,29	FA-5	TB1-94	TB1-394
CLOSE QUAD ARM VALVE COMMANDS ON	OUTPUT 5-8	C & E	3	5	20	24,29	FA-5	TB1-95	TB1-395
ARM VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 7-1	C & E	3	5	21	25,29	FA-5	TB1-96	TB1-396
ARM VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 7-2	C & E	3	5	22	26,29	FA-5	TB1-97	TB1-397

INPUT TERMINAL CONNECTION DETAILS AND EXAMPLE



SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J. EATON	7/27/10
CHECKED	S. BROWN	7/29/10
ENGINEER	J. EATON	7/28/10
SUBMITTED		8/4/10
APPROVED		DATE 8/4/10
TITLE	TA-833	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURES TERMINAL
CONNECTION DETAIL

SIZE F | DWG. NO. 410E1500001 | REV -
PROJ. NO. NONE | SHEET 11 OF

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s011

E-10

KSC FORM 1-11 (REV. 3/78)
(CXS 10/92)

NOTICE - WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS, OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOVERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSOEVER; AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS OR OTHER DATA IS NOT TO BE REGARDED BY IMPLICATION OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	PLC INPUT TERM	24 V DC FUSE	TERM A	TERM B	GIS 734E1100001 SHEET NUMBER
LAS-AUX - ARM STATION	OUTPUT 1-1	LAS, A & B	1	3	1	1,9	FA-3	TB1-3	TB1-303	17
PLATFORM A - ARM STATION	OUTPUT 1-2	LAS, A & B	1	3	2	2,9	FA-3	TB1-4	TB1-304	17
PLATFORM B - ARM STATION	OUTPUT 1-3	LAS, A & B	1	3	3	3,9	FA-3	TB1-5	TB1-305	17
PLATFORM C - ARM STATION	OUTPUT 5-2	C & E	1	3	4	4,9	FA-3	TB1-6	TB1-306	26
PLATFORM E - ARM STATION	OUTPUT 5-3	C & E	1	3	5	5,9	FA-3	TB1-7	TB1-307	26
LEVEL 1 - ARM STATION	OUTPUT 9-1	F1, G & H	1	3	6	6,9	FA-3	TB1-8	TB1-308	35
LEVEL 2 - ARM STATION	OUTPUT 9-2	F1, G & H	1	3	7	7,9	FA-3	TB1-9	TB1-309	35
LEVEL 3 - ARM STATION	OUTPUT 9-3	F1, G & H	1	3	8	8,9	FA-3	TB1-10	TB1-310	35
LEVEL 1 - ARM STATION	OUTPUT 13-2	I, J & K	1	3	9	11,19	FA-3	TB1-11	TB1-311	44
LEVEL 2 - ARM STATION	OUTPUT 13-3	I, J & K	1	3	10	12,19	FA-3	TB1-12	TB1-312	44
LEVEL 3 - ARM STATION	OUTPUT 13-4	I, J & K	1	3	11	13,19	FA-3	TB1-13	TB1-313	44
PLATFORM LAS-AUX - MANUAL PULL STATION	OUTPUT 17-4	LAS, A & B	1	3	12	14,19	FA-3	TB1-14	TB1-314	54
PLATFORM B - MANUAL PULL STATION	OUTPUT 17-6	LAS, A & B	1	3	13	15,19	FA-3	TB1-15	TB1-315	54
PLATFORM E - MANUAL PULL STATION	OUTPUT 17-8	C & E	1	3	14	16,19	FA-3	TB1-16	TB1-316	55
PLATFORM G - MANUAL PULL STATION	OUTPUT 18-7	F1, G & H	1	3	15	17,19	FA-3	TB1-17	TB1-317	55
PLATFORM I - MANUAL PULL STATION	OUTPUT 28-4	I, J & K	1	3	16	18,19	FA-3	TB1-18	TB1-318	56
PLATFORM K - MANUAL PULL STATION	OUTPUT 28-6	I, J & K	1	3	17	21,29	FA-3	TB1-19	TB1-319	56
NAC POWER TO QUAD ARM VALVES ON	OUTPUT 29-1 (225)	LAS, AUX Q VLV	1	3	18	22,29	FA-3	TB1-20	TB1-320	101
OPEN QUAD ARM VALVE COMMANDS ON	OUTPUT 29-2 (226)	LAS, AUX Q VLV	1	3	19	23,29	FA-3	TB1-21	TB1-321	101
CLOSE QUAD ARM VALVE COMMANDS ON	OUTPUT 29-3 (227)	LAS, AUX Q VLV	1	3	20	24,29	FA-3	TB1-22	TB1-322	101
ARM VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 29-4 (228)	LAS, AUX Q VLV	1	3	21	25,29	FA-3	TB1-23	TB1-323	101
ARM VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 29-5 (229)	LAS, AUX Q VLV	1	3	22	26,29	FA-3	TB1-24	TB1-324	101
ACTIVATE VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 29-6 (230)	LAS, AUX Q VLV	1	3	23	27,29	FA-3	TB1-25	TB1-325	101
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 29-7 (231)	LAS, AUX Q VLV	1	3	24	28,29	FA-3	TB1-26	TB1-326	102
PLATFORM 1, 2, 3 FLOW SWITCH	OUTPUT 29-8 (232)	LAS, AUX Q VLV	1	3	25	31,39	FA-3	TB1-27	TB1-327	102
PLATFORM 1, 2, 3 TAMPER SWITCH - OS&Y	OUTPUT 31-1 (241)	LAS, AUX Q VLV	1	3	26	32,39	FA-3	TB1-28	TB1-328	102
PLATFORM 1, 2, 3 TAMPER SWITCH - RISER	OUTPUT 31-2 (242)	LAS, AUX Q VLV	1	3	27	33,39	FA-3	TB1-29	TB1-329	102
PLATFORM 1, 2, 3 TAMPER SWITCH - TEST HEADER	OUTPUT 31-3 (243)	LAS, AUX Q VLV	1	3	28	34,39	FA-3	TB1-30	TB1-330	102
DELUGE VALVE OPEN COMMAND LOCKOUT	OUTPUT 31-4 (244)	LAS, AUX Q VLV	1	3	29	35,39	FA-3	TB1-31	TB1-331	102
LAS-AUX - ACTIVATE STATION	OUTPUT 2-1	LAS, A & B	1	4	1	1,9	FA-4	TB1-49	TB1-349	17
PLATFORM A - ACTIVATE STATION	OUTPUT 2-2	LAS, A & B	1	4	2	2,9	FA-4	TB1-50	TB1-350	18
PLATFORM B - ACTIVATE STATION	OUTPUT 2-3	LAS, A & B	1	4	3	3,9	FA-4	TB1-51	TB1-351	18
PLATFORM C - ACTIVATE STATION	OUTPUT 6-2	C & E	1	4	4	4,9	FA-4	TB1-52	TB1-352	26
PLATFORM E - ACTIVATE STATION	OUTPUT 6-3	C & E	1	4	5	5,9	FA-4	TB1-53	TB1-353	26
LEVEL 1 - ACTIVATE STATION	OUTPUT 10-1	F1, G & H	1	4	6	6,9	FA-4	TB1-54	TB1-354	35
LEVEL 2 - ACTIVATE STATION	OUTPUT 10-2	F1, G & H	1	4	7	7,9	FA-4	TB1-55	TB1-355	36
LEVEL 3 - ACTIVATE STATION	OUTPUT 10-3	F1, G & H	1	4	8	8,9	FA-4	TB1-56	TB1-356	36
LEVEL 1 - ACTIVATE STATION	OUTPUT 14-2	I, J & K	1	4	9	11,19	FA-4	TB1-57	TB1-357	44
LEVEL 2 - ACTIVATE STATION	OUTPUT 14-3	I, J & K	1	4	10	12,19	FA-4	TB1-58	TB1-358	45
LEVEL 3 - ACTIVATE STATION	OUTPUT 14-4	I, J & K	1	4	11	13,19	FA-4	TB1-59	TB1-359	45
PLATFORM A - MANUAL PULL STATION	OUTPUT 17-5	LAS, A & B	1	4	12	14,19	FA-4	TB1-60	TB1-360	54
PLATFORM C - MANUAL PULL STATION	OUTPUT 17-7	C & E	1	4	13	15,19	FA-4	TB1-61	TB1-361	54
PLATFORM F-1 - MANUAL PULL STATION	OUTPUT 18-6	F1, G & H	1	4	14	16,19	FA-4	TB1-62	TB1-362	55
PLATFORM H - MANUAL PULL STATION	OUTPUT 18-8	F1, G & H	1	4	15	17,19	FA-4	TB1-63	TB1-363	55
PLATFORM J - MANUAL PULL STATION	OUTPUT 28-5	I, J & K	1	4	16	18,19	FA-4	TB1-64	TB1-364	56

SPECIFIC NOTES:

A. ALL TERMINALS ARE ALSO SHOWN IN ELECTRICAL SCHEMATIC SHEETS.

B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s012

E-11

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J. EATON	9/29/10
CHECKED	S. BROWN	9/29/10
ENGINEER	J. EATON	9/29/10
SUBMITTED		10/4/10
APPROVED		DATE 10/4/10
TITLE TA-03B		

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -1, PLC A
CONNECTION LIST 1

SIZE F | DWG. NO. 410E1500001 | REV -
PROJ. NO. NONE | SHEET 12 OF

KSC FORM 1-11 (REV. 3/76) (CIG 12/92)

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FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	PLC INPUT TERM	24 V DC FUSE	TERM A	TERM B	GIS 734E1100001 SHEET NUMBER
NAC POWER TO QUAD ACTIVATE VALVES ON	OUTPUT 30-1 (233)	LAS, AUX Q VLV	1	4	17	21,29	FA-4	TB1-65	TB1-365	103
OPEN QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 30-2 (234)	LAS, AUX Q VLV	1	4	18	22,29	FA-4	TB1-66	TB1-366	103
CLOSE QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 30-3 (235)	LAS, AUX Q VLV	1	4	19	23,29	FA-4	TB1-67	TB1-367	103
ARM VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 30-4 (236)	LAS, AUX Q VLV	1	4	20	24,29	FA-4	TB1-68	TB1-368	103
ARM VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 30-5 (237)	LAS, AUX Q VLV	1	4	21	25,29	FA-4	TB1-69	TB1-369	103
ACTIVATE VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 30-6 (238)	LAS, AUX Q VLV	1	4	22	26,29	FA-4	TB1-70	TB1-370	103
ACTIVATE VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 30-7 (239)	LAS, AUX Q VLV	1	4	23	27,29	FA-4	TB1-71	TB1-371	103
CONTROL AIR PRESSURE	OUTPUT 30-8 (240)	LAS, AUX Q VLV	1	4	24	28,29	FA-4	TB1-72	TB1-372	103
DELUGE VALVE CONTROL CIRCUIT DISABLE- PER QUAD VALVE ASSEMBLY NOTE 11	OUTPUT 31-5 (245)		1	4	25	31,39	FA-4	TB1-73	TB1-373	104
3IR TEST FUNCTION PER QUAD VALVE ASSEMBLY	OUTPUT 31-6 (246)		1	4	26	32,39	FA-4	TB1-74	TB1-374	104
LAS-AUX 3IR DETECTOR EAST	OUTPUT 1-4	LAS, A & B	1	5	1	1,9	FA-5	TB1-97	TB1-397	18
PLATFORM A 3IR DETECTOR	OUTPUT 1-5	LAS, A & B	1	5	2	2,9	FA-5	TB1-98	TB1-398	19
PLATFORM B 3IR DETECTOR	OUTPUT 1-6	LAS, A & B	1	5	3	3,9	FA-5	TB1-99	TB1-399	19
NAC POWER TO QUAD ARM VALVES ON	OUTPUT 1-7	LAS, A & B	1	5	4	4,9	FA-5	TB1-100	TB1-400	19
OPEN QUAD ARM VALVE COMMANDS ON	OUTPUT 1-8	LAS, A & B	1	5	5	5,9	FA-5	TB1-101	TB1-401	20
CLOSE QUAD ARM VALVE COMMANDS ON	OUTPUT 3-1	LAS, A & B	1	5	6	6,9	FA-5	TB1-102	TB1-402	20
ARM VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 3-2	LAS, A & B	1	5	7	7,9	FA-5	TB1-103	TB1-403	20
ARM VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 3-3	LAS, A & B	1	5	8	8,9	FA-5	TB1-104	TB1-404	21
ACTIVATE VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 3-4	LAS, A & B	1	5	9	11,19	FA-5	TB1-105	TB1-405	21
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 3-5	LAS, A & B	1	5	10	12,19	FA-5	TB1-106	TB1-406	21
PLATFORM LAS-AUX, A, B FLOW SWITCH	OUTPUT 3-6	LAS, A & B	1	5	11	13,19	FA-5	TB1-107	TB1-407	22
PLATFORM LAS-AUX, A, B TAMPER SWITCH - OS&Y	OUTPUT 3-7	LAS, A & B	1	5	12	14,19	FA-5	TB1-108	TB1-408	22
PLATFORM LAS-AUX, A, B TAMPER SWITCH - RISER	OUTPUT 3-8	LAS, A & B	1	5	13	15,19	FA-5	TB1-109	TB1-409	22
PLATFORM LAS-AUX, A, B TAMPER SWITCH - TEST HEADER	OUTPUT 5-1	LAS, A & B	1	5	14	16,19	FA-5	TB1-110	TB1-410	22
PLATFORM C 3IR DETECTOR EAST	OUTPUT 5-4	C & E	1	5	15	17,19	FA-5	TB1-111	TB1-411	27
SPARE			1	5	16	18,19	FA-5	TB1-112	TB1-412	

SPECIFIC NOTES:

A. ALL TERMINALS ARE ALSO SHOWN IN ELECTRICAL SCHEMATIC SHEETS.

B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s013

E-12

SYM	ZONE	DESCRIPTION	DATE	APPROVED

REVISIONS

SIGNATURES		DATE
DRAWN	J.EATON	7/27/10
CHECKED	S. BROWN	7/29/10
ENGINEER	J.EATON	7/29/10
SUBMITTED		10/4/10
APPROVED		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE-1, PLC A
CONNECTION LIST 2

SIZE F | DWG. NO. 410E1500001 | REV -
TITLE 7A-B3B | PROJ. NO. NONE | SHEET 13 OF

KSC FORM 1-11 (REV. 3/10)
(CIG 12/92)

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FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	PLC INPUT TERM	24 V DC FUSE	TERM A	TERM B	GIS 734E1100001 SHEET NUMBER
PLATFORM E 3IR DETECTOR	OUTPUT 5-5	C & E	1	5	17	21,29	FA-5	TB1-113	TB1-413	27
NAC POWER TO QUAD ARM VALVES ON	OUTPUT 5-6	C & E	1	5	18	22,29	FA-5	TB1-114	TB1-414	28
OPEN QUAD ARM VALVE COMMANDS ON	OUTPUT 5-7	C & E	1	5	19	23,29	FA-5	TB1-115	TB1-415	29
CLOSE QUAD ARM VALVE COMMANDS ON	OUTPUT 5-8	C & E	1	5	20	24,29	FA-5	TB1-116	TB1-416	29
ARM VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 7-1	C & E	1	5	21	25,29	FA-5	TB1-117	TB1-417	29
ARM VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 7-2	C & E	1	5	22	26,29	FA-5	TB1-118	TB1-418	30
ACTIVATE VALVE OPEN LIMIT SWITCH (A) VAVE	OUTPUT 7-3	C & E	1	5	23	27,29	FA-5	TB1-119	TB1-419	30
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 7-4	C & E	1	5	24	28,29	FA-5	TB1-120	TB1-420	30
PLATFORM C, 2, E FLOW SWITCH	OUTPUT 7-5	C & E	1	5	25	31,39	FA-5	TB1-121	TB1-421	31
PLATFORM C, 2, E TAMPER SWITCH - OS&Y	OUTPUT 7-6	C & E	1	5	26	32,39	FA-5	TB1-122	TB1-422	31
PLATFORM C, 2, E TAMPER SWITCH - RISER	OUTPUT 7-7	C & E	1	5	27	33,39	FA-5	TB1-123	TB1-423	31
PLATFORM C, 2, E TAMPER SWITCH - TEST HEADER	OUTPUT 7-8	C & E	1	5	28	34,39	FA-5	TB1-124	TB1-424	31
LAS-AUX 3IR DETECTOR WEST	OUTPUT 2-4	LAS, A & B	1	6	1	1,9	FA-6	TB1-133	TB1-455	18
PLATFORM A 3IR DETECTOR WEST	OUTPUT 2-5	LAS, A & B	1	6	2	2,9	FA-6	TB1-134	TB1-456	19
PLATFORM B 3IR DETECTOR WEST	OUTPUT 2-6	LAS, A & B	1	6	3	3,9	FA-6	TB1-135	TB1-457	19
NAC POWER TO QUAD ACTIVATE VALVES ON	OUTPUT 2-7	LAS, A & B	1	6	4	4,9	FA-6	TB1-136	TB1-458	19
OPEN QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 2-8	LAS, A & B	1	6	5	5,9	FA-6	TB1-137	TB1-459	20
CLOSE QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 4-1	LAS, A & B	1	6	6	6,9	FA-6	TB1-138	TB1-460	20
ARM VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 4-2	LAS, A & B	1	6	7	7,9	FA-6	TB1-139	TB1-461	20
ARM VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 4-3	LAS, A & B	1	6	8	8,9	FA-6	TB1-140	TB1-462	21
ACTIVATE VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 4-4	LAS, A & B	1	6	9	11,19	FA-6	TB1-141	TB1-463	21
ACTIVATE VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 4-5	LAS, A & B	1	6	10	12,19	FA-6	TB1-142	TB1-464	22
CONTROL AIR PRESSURE	OUTPUT 4-6	LAS, A & B	1	6	11	13,19	FA-6	TB1-143	TB1-465	22
DELUGE VALVE CONTROL CIRCUIT KEY SWITCH DISCONNECT PER QUAD VALVE ASSEMBLY	OUTPUT 4-7	LAS, A & B	1	6	12	14,19	FA-6	TB1-144	TB1-466	23
DELUGE VALVE CONTROL CIRCUIT DISABLE PER QUAD VALVE ASSEMBLY	OUTPUT 4-8	LAS, A & B	1	6	13	15,19	FA-6	TB1-145	TB1-467	23
3IR TEST FUNCTION PER QUAD VALVE ASSEMBLY	OUTPUT 6-1	LAS, A & B	1	6	14	16,19	FA-6	TB1-146	TB1-468	23
PLATFORM C 3IR DETECTOR WEST	OUTPUT 6-4	C & E	1	6	15	17,19	FA-6	TB1-147	TB1-469	27
SPARE			1	6	16	18,19	FA-6	TB1-148	TB1-470	
PLATFORM E 3IR DETECTOR WEST	OUTPUT 6-5	C & E	1	6	17	21,29	FA-6	TB1-149	TB1-471	27
NAC POWER TO QUAD ACTIVATE VALVES ON	OUTPUT 6-6	C & E	1	6	18	22,29	FA-6	TB1-150	TB1-472	28
OPEN QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 6-7	C & E	1	6	19	23,29	FA-6	TB1-151	TB1-473	29
CLOSE QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 6-8	C & E	1	6	20	24,29	FA-6	TB1-152	TB1-474	29
ARM VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 8-1	C & E	1	6	21	25,29	FA-6	TB1-153	TB1-475	29
ARM VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 8-2	C & E	1	6	22	26,29	FA-6	TB1-154	TB1-476	30
ACTIVATE VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 8-3	C & E	1	6	23	27,29	FA-6	TB1-155	TB1-477	30
ACTIVATE VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 8-4	C & E	1	6	24	28,29	FA-6	TB1-156	TB1-478	31
CONTROL AIR PRESSURE	OUTPUT 8-5	C & E	1	6	25	31,39	FA-6	TB1-157	TB1-479	31
"DELUGE VALVE CONTROL CIRCUIT KEY SWITCH DISCONNECT - PER QUAD VALVE ASSEMBLY "	OUTPUT 8-6	C & E	1	6	26	32,39	FA-6	TB1-158	TB1-480	32
"DELUGE VALVE CONTROL CIRCUIT DISABLE - PER QUAD VALVE ASSEMBLY"	OUTPUT 8-7	C & E	1	6	27	33,39	FA-6	TB1-159	TB1-481	32
3IR TEST FUNCTION PER QUAD VALVE ASSEMBLY	OUTPUT 8-8	C & E	1	6	28	34,39	FA-6	TB1-160	TB1-482	32

SPECIFIC NOTES:

A. ALL TERMINALS ARE ALSO SHOWN IN ELECTRICAL SCHEMATIC SHEETS.

B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s014

E-13

SYM	ZONE	DESCRIPTION	DATE	APPROVED

REVISIONS

SIGNATURES		DATE
DRAWN	J. LEATON	9/29/10
CHECKED	S. BROWN	9/29/10
ENGINEER	J. LEATON	9/29/10
SUBMITTED		10/4/10
APPROVED		DATE 10-8-10
TITLE		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -1, PLC A
CONNECTION LIST 3

SIZE F | DWG. NO. 410E1500001 | REV -

PROJ. NO. NONE | SHEET 14 OF

KSC FORM 1-11 (REV. 3/76)
(CYS 10/92)

NOTICE - WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS, OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOVERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSOEVER, AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS, OR OTHER DATA IS NOT TO BE REGARDED BY IMPLICATION OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	PLC INPUT TERM	24 V DC FUSE	TERM A	TERM B	GIS 734E1100001 SHEET NUMBER
LEVEL 1 3IR DETECTOR EAST	OUTPUT 9-4	F1, G & H	1	7	1	1,9	FA-7	TB1-171	TB1-493	36
LEVEL 2 3IR DETECTOR	OUTPUT 9-5	F1, G & H	1	7	2	2,9	FA-7	TB1-172	TB1-494	37
LEVEL 3 3IR DETECTOR	OUTPUT 9-6	F1, G & H	1	7	3	3,9	FA-7	TB1-173	TB1-495	37
NAC POWER TO QUAD ARM VALVES ON	OUTPUT 9-7	F1, G & H	1	7	4	4,9	FA-7	TB1-174	TB1-496	37
OPEN QUAD ARM VALVE COMMANDS ON	OUTPUT 9-8	F1, G & H	1	7	5	5,9	FA-7	TB1-175	TB1-497	38
CLOSE QUAD ARM VALVE COMMANDS ON	OUTPUT 11-1	F1, G & H	1	7	6	6,9	FA-7	TB1-176	TB1-498	38
ARM VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 11-2	F1, G & H	1	7	7	7,9	FA-7	TB1-177	TB1-499	38
ARM VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 11-3	F1, G & H	1	7	8	8,9	FA-7	TB1-178	TB1-500	39
ACTIVATE VALVE OPEN LIMIT SWITCH (A) VAVE	OUTPUT 11-4	F1, G & H	1	7	9	11,19	FA-7	TB1-179	TB1-501	39
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 11-5	F1, G & H	1	7	10	12,19	FA-7	TB1-180	TB1-502	39
PLATFORM 1, 2, 3 FLOW SWITCH	OUTPUT 11-6	F1, G & H	1	7	11	13,19	FA-7	TB1-181	TB1-503	40
PLATFORM 1, 2, 3 TAMPER SWITCH - OS&Y	OUTPUT 11-7	F1, G & H	1	7	12	14,19	FA-7	TB1-182	TB1-504	40
PLATFORM 1, 2, 3 TAMPER SWITCH - RISER	OUTPUT 11-8	F1, G & H	1	7	13	15,19	FA-7	TB1-183	TB1-505	40
PLATFORM 1, 2, 3 TAMPER SWITCH - TEST HEADER	OUTPUT 13-1	F1, G & H	1	7	14	16,19	FA-7	TB1-184	TB1-506	40
LEVEL 1 3IR DETECTOR EAST	OUTPUT 13-5	I, J & K	1	7	15	17,19	FA-7	TB1-185	TB1-507	45
LEVEL 2 3IR DETECTOR	OUTPUT 13-6	I, J & K	1	7	16	18,19	FA-7	TB1-186	TB1-508	46
LEVEL 3 3IR DETECTOR	OUTPUT 13-7	I, J & K	1	7	17	21,29	FA-7	TB1-187	TB1-509	46
NAC POWER TO QUAD ARM VALVES ON	OUTPUT 13-8	I, J & K	1	7	18	22,29	FA-7	TB1-188	TB1-510	46
OPEN QUAD ARM VALVE COMMANDS ON	OUTPUT 15-1	I, J & K	1	7	19	23,29	FA-7	TB1-189	TB1-511	47
CLOSE QUAD ARM VALVE COMMANDS ON	OUTPUT 15-2	I, J & K	1	7	20	24,29	FA-7	TB1-190	TB1-512	47
ARM VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 15-3	I, J & K	1	7	21	25,29	FA-7	TB1-191	TB1-513	47
ARM VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 15-4	I, J & K	1	7	22	26,29	FA-7	TB1-192	TB1-514	48
ACTIVATE VALVE OPEN LIMIT SWITCH (A) VAVE	OUTPUT 15-5	I, J & K	1	7	23	27,29	FA-7	TB1-193	TB1-515	48
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 15-6	I, J & K	1	7	24	28,29	FA-7	TB1-194	TB1-516	48
PLATFORM 1, 2, 3 FLOW SWITCH	OUTPUT 15-7	I, J & K	1	7	25	31,39	FA-7	TB1-195	TB1-517	49
PLATFORM 1, 2, 3 TAMPER SWITCH - OS&Y	OUTPUT 15-8	I, J & K	1	7	26	32,39	FA-7	TB1-196	TB1-518	49
PLATFORM 1, 2, 3 TAMPER SWITCH - RISER	OUTPUT 16-8	I, J & K	1	7	27	33,39	FA-7	TB1-197	TB1-519	49
PLATFORM 1, 2, 3 TAMPER SWITCH - TEST HEADER	OUTPUT 17-1	I, J & K	1	7	28	34,39	FA-7	TB1-198	TB1-520	49
DELUGE VALVE OPEN COMMAND LOCKOUT	OUTPUT 17-2	I, J & K	1	7	29	35,39	FA-7	TB1-199	TB1-521	50
LEVEL 1 3IR DETECTOR WEST	OUTPUT 10-4	F1, G & H	1	8	1	1,9	FA-8	TB1-206	TB1-528	36
LEVEL 2 3IR DETECTOR WEST	OUTPUT 10-5	F1, G & H	1	8	2	2,9	FA-8	TB1-207	TB1-529	37
LEVEL 3 3IR DETECTOR WEST	OUTPUT 10-6	F1, G & H	1	8	3	3,9	FA-8	TB1-208	TB1-530	37
NAC POWER TO QUAD ACTIVATE VALVES ON	OUTPUT 10-7	F1, G & H	1	8	4	4,9	FA-8	TB1-209	TB1-531	37
OPEN QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 10-8	F1, G & H	1	8	5	5,9	FA-8	TB1-210	TB1-532	38
CLOSE QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 12-1	F1, G & H	1	8	6	6,9	FA-8	TB1-211	TB1-533	38
ARM VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 12-2	F1, G & H	1	8	7	7,9	FA-8	TB1-212	TB1-534	38
ARM VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 12-3	F1, G & H	1	8	8	8,9	FA-8	TB1-213	TB1-535	39
ACTIVATE VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 12-4	F1, G & H	1	8	9	11,19	FA-8	TB1-214	TB1-536	39
ACTIVATE VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 12-5	F1, G & H	1	8	10	12,19	FA-8	TB1-215	TB1-537	40
CONTROL AIR PRESSURE	OUTPUT 12-6	F1, G & H	1	8	11	13,19	FA-8	TB1-216	TB1-538	40
"DELUGE VALVE CONTROL CIRCUIT KEY SWITCH DISCONNECT - PER QUAD VALVE ASSEMBLY "	OUTPUT 12-7	F1, G & H	1	8	12	14,19	FA-8	TB1-217	TB1-539	41
"DELUGE VALVE CONTROL CIRCUIT DISABLE - PER QUAD VALVE ASSEMBLY"	OUTPUT 12-8	F1, G & H	1	8	13	15,19	FA-8	TB1-218	TB1-540	41
3IR TEST FUNCTION PER QUAD VALVE ASSEMBLY	OUTPUT 14-1	F1, G & H	1	8	14	16,19	FA-8	TB1-219	TB1-541	41
LEVEL 1 3IR DETECTOR WEST	OUTPUT 14-5	I, J & K	1	8	15	17,19	FA-8	TB1-220	TB1-542	45
LEVEL 2 3IR DETECTOR WEST	OUTPUT 14-6	I, J & K	1	8	16	18,19	FA-8	TB1-221	TB1-543	46
LEVEL 3 3IR DETECTOR WEST	OUTPUT 14-7	I, J & K	1	8	17	21,29	FA-8	TB1-222	TB1-544	46
NAC POWER TO QUAD ACTIVATE VALVES ON	OUTPUT 14-8	I, J & K	1	8	18	22,29	FA-8	TB1-223	TB1-545	46
OPEN QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 16-1	I, J & K	1	8	19	23,29	FA-8	TB1-224	TB1-546	47
CLOSE QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 16-2	I, J & K	1	8	20	24,29	FA-8	TB1-225	TB1-547	47
ARM VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 16-3	I, J & K	1	8	21	25,29	FA-8	TB1-226	TB1-548	47

SPECIFIC NOTES:

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B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s015

E-14

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J. EATON	9/20/10
CHECKED	S. BROWN	9/24/10
ENGINEER	J. EATON	9/24/10
SUBMITTED		10/4/10
APPROVED		DATE 10/4/10
TITLE	SA-830	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION ENCLOSURE -1, PLC A CONNECTION LIST 4

SIZE F | DWG. NO. 410E1500001 | REV -

PROJ. NO. NONE | SHEET 15 OF

KSC FORM 1-11 (REV. 3/78) (O/G 12/90)

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FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	OUTPUT	PLC INPUT TERM	PLC OUTPUT TERM	24 V DC FUSE	TERM A	TERM B	TERM C	TERM D	GIS 734E1100001 SHEET NUMBER
ARM VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 16-4	I, J & K	1	8	22		26,29		FA-8	TB1-227	TB1-549			48
ACTIVATE VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 16-5	I, J & K	1	8	23		27,29		FA-8	TB1-228	TB1-550			48
ACTIVATE VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 16-6	I, J & K	1	8	24		28,29		FA-8	TB1-229	TB1-551			49
CONTROL AIR PRESSURE	OUTPUT 16-7	I, J & K	1	8	25		31,39		FA-8	TB1-230	TB1-552			49
"DELUGE VALVE CONTROL CIRCUIT KEY SWITCH DISCONNECT - PER QUAD VALVE ASSEMBLY "	OUTPUT 17-3	I, J & K	1	8	26		32,39		FA-8	TB1-231	TB1-553			50
"DELUGE VALVE CONTROL CIRCUIT DISABLE - PER QUAD VALVE ASSEMBLY"	OUTPUT 18-1	I, J & K	1	8	27		33,39		FA-8	TB1-232	TB1-554			50
3IR TEST FUNCTION PER QUAD VALVE ASSEMBLY	OUTPUT 18-2	I, J & K	1	8	28		34,39		FA-8	TB1-233	TB1-555			50
KCCS INTERFACE BYPASS	OUTPUT 18-3	#N/A	1	8	29		35,39		FA-8	TB1-234	TB1-556			57
DELUGE CONTROL PANEL SUMMARY SUPERVISORY	OUTPUT 18-4	#N/A	1	8	30		36,39		FA-8	TB1-235	TB1-557			57
ANY DELUGE CONTROL PANEL TROUBLE	OUTPUT 18-5	#N/A	1	8	31		37,39		FA-8	TB1-236	TB1-558			57
PLC ARM COMMAND	ZONE INPUT 1	LAS, A & B	2	2		1		1,2		TB2-1	TB2-2	TB2-3	TB2-4	15
PLC ARM CLOSE COMMAND	ZONE INPUTS 4	LAS, A & B	2	2		2		3,4		TB2-5	TB2-6	TB2-7	TB2-8	15
PLC ARM COMMAND	ZONE INPUT 6	C & E	2	2		3		5,6		TB2-9	TB2-10	TB2-11	TB2-12	24
PLC ARM CLOSE COMMAND	ZONE INPUT 9	C & E	2	2		4		7,8		TB2-13	TB2-14	TB2-15	TB2-16	24
PLC ARM COMMAND	ZONE INPUT 11	F1, G & H	2	2		5		11,12		TB2-17	TB2-18	TB2-19	TB2-20	33
PLC ARM CLOSE COMMAND	ZONE INPUT 14	F1, G & H	2	2		6		13,14		TB2-21	TB2-22	TB2-23	TB2-24	33
PLC ARM COMMAND	ZONE INPUT 16	I, J & K	2	2		7		15,16		TB2-25	TB2-26	TB2-27	TB2-28	42
PLC ARM CLOSE COMMAND	ZONE INPUT 19	I, J & K	2	2		8		17,18		TB2-29	TB2-30	TB2-31	TB2-32	42
PLC ARM COMMAND	ZONE INPUT 21	LAS, AUX Q VLV	2	2		9		21,22		TB2-33	TB2-34	TB2-35	TB2-36	104
PLC ARM CLOSE COMMAND	ZONE INPUT 24	LAS, AUX Q VLV	2	2		10		23,24		TB2-37	TB2-38	TB2-39	TB2-40	104
PLC ACTIVATE COMMAND	ZONE INPUT 2	LAS, A & B	2	3		1		1,2		TB2-49	TB2-50	TB2-51	TB2-52	15
PLC ACTIVATE CLOSE COMMAND	ZONE INPUTS 5	LAS, A & B	2	3		2		3,4		TB2-53	TB2-54	TB2-55	TB2-56	16
PLC ACTIVATE COMMAND	ZONE INPUT 7	C & E	2	3		3		5,6		TB2-57	TB2-58	TB2-59	TB2-60	24
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 10	C & E	2	3		4		7,8		TB2-61	TB2-62	TB2-63	TB2-64	25
PLC ACTIVATE COMMAND	ZONE INPUT 12	F1, G & H	2	3		5		11,12		TB2-65	TB2-66	TB2-67	TB2-68	33
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 15	F1, G & H	2	3		6		13,14		TB2-69	TB2-70	TB2-71	TB2-72	34
PLC ACTIVATE COMMAND	ZONE INPUT 17	I, J & K	2	3		7		15,16		TB2-73	TB2-74	TB2-75	TB2-76	42
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 20	I, J & K	2	3		8		17,18		TB2-77	TB2-78	TB2-79	TB2-80	43
PLC ACTIVATE COMMAND	ZONE INPUT 22	LAS, AUX Q VLV	2	3		9		21,22		TB2-81	TB2-82	TB2-83	TB2-84	104
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 25	LAS, AUX Q VLV	2	3		10		23,24		TB2-85	TB2-86	TB2-87	TB2-88	104
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 3	LAS, A & B	2	4		1		1,2		TB2-97	TB2-98	TB2-99	TB2-100	15
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 8	C & E	2	4		2		3,4		TB2-101	TB2-102	TB2-103	TB2-104	24
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 13	F1, G & H	2	4		3		5,6		TB2-105	TB2-106	TB2-107	TB2-108	33
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 18	I, J & K	2	4		4		7,8		TB2-109	TB2-110	TB2-111	TB2-112	42
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 23	LAS, AUX Q VLV	2	4		5		11,12		TB2-113	TB2-114	TB2-115	TB2-116	104
E TOWER ALARM ALARM PLATFORM LEVEL LAS-AUX	OTV I/F OUTPUT 1	#N/A	2	5		1		1,2		TB2-237	TB2-238	TB2-239	TB2-240	51
E TOWER ALARM ALARM PLATFORM LEVEL A	OTV I/F OUTPUT 2	#N/A	2	5		2		3,4		TB2-241	TB2-242	TB2-243	TB2-244	51
E TOWER ALARM ALARM PLATFORM LEVEL B	OTV I/F OUTPUT 3	#N/A	2	5		3		5,6		TB2-245	TB2-246	TB2-247	TB2-248	51
E TOWER ALARM ALARM PLATFORM LEVEL C	OTV I/F OUTPUT 4	#N/A	2	5		4		7,8		TB2-249	TB2-250	TB2-251	TB2-252	51
E TOWER ALARM ALARM PLATFORM LEVEL E	OTV I/F OUTPUT 5	#N/A	2	5		5		11,12		TB2-253	TB2-254	TB2-255	TB2-256	52
E TOWER ALARM ALARM PLATFORM LEVEL F-1	OTV I/F OUTPUT 6	#N/A	2	5		6		13,14		TB2-257	TB2-258	TB2-259	TB2-260	52
E TOWER ALARM ALARM PLATFORM LEVEL G	OTV I/F OUTPUT 7	#N/A	2	5		7		15,16		TB2-261	TB2-262	TB2-263	TB2-264	52
E TOWER ALARM ALARM PLATFORM LEVEL H	OTV I/F OUTPUT 8	#N/A	2	5		8		17,18		TB2-265	TB2-266	TB2-267	TB2-268	52
E TOWER ALARM ALARM PLATFORM LEVEL I	OTV I/F OUTPUT 9	#N/A	2	5		9		21,22		TB2-269	TB2-270	TB2-271	TB2-272	53
E TOWER ALARM ALARM PLATFORM LEVEL J	OTV I/F OUTPUT 10	#N/A	2	5		10		23,24		TB2-273	TB2-274	TB2-275	TB2-276	53
E TOWER ALARM ALARM PLATFORM LEVEL K	OTV I/F OUTPUT 11	#N/A	2	5		11		25,26		TB2-277	TB2-278	TB2-279	TB2-280	53

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SYM	ZONE	DESCRIPTION	DATE	APPROVED

REVISIONS

SIGNATURES		DATE
DRAWN	J. EATON	3/29/10
CHECKED	S. BROWN	4/29/10
ENGINEER	J. EATON	5/20/10
SUBMITTED		10/4/10
APPROVED		DATE 10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -1, PLC A
CONNECTION LIST 5

SIZE F | DWG. NO. 410E1500001 | REV -

TITLE ~~TA-83B~~ TA-83B | PROJ. NO. NONE | SHEET 16 OF

E-15

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s016

KSC FORM 1-11 (REV. 3/78)
(CIS 19/92)

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FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	OUTPUT	PLC OUTPUT TERM	TERM A	TERM B	TERM C	TERM D	GIS 734E1100001 SHEET NUMBER
PLC ARM COMMAND	ZONE INPUT 25	LAS, A & B	1	3	1	1,2	TB4-1	TB4-2	TB4-3	TB4-4	15
PLC ARM CLOSE COMMAND	ZONE INPUT 28	LAS, A & B	1	3	2	3,4	TB4-5	TB4-6	TB4-7	TB4-8	15
PLC ARM COMMAND	ZONE INPUT 30	C & E	1	3	3	5,6	TB4-9	TB4-10	TB4-11	TB4-12	24
PLC ARM CLOSE COMMAND	ZONE INPUT 33	C & E	1	3	4	7,8	TB4-13	TB4-14	TB4-15	TB4-16	24
PLC ARM COMMAND	ZONE INPUT 35	F1, G & H	1	3	5	11,12	TB4-17	TB4-18	TB4-19	TB4-20	33
PLC ARM CLOSE COMMAND	ZONE INPUT 38	F1, G & H	1	3	6	13,14	TB4-21	TB4-22	TB4-23	TB4-24	33
PLC ARM COMMAND	ZONE INPUT 40	I, J & K	1	3	7	15,16	TB4-25	TB4-26	TB4-27	TB4-28	42
PLC ARM CLOSE COMMAND	ZONE INPUT 43	I, J & K	1	3	8	17,18	TB4-29	TB4-30	TB4-31	TB4-32	42
E TOWER ALARM ALARM PLATFORM LEVEL LAS-AUX	OTV I/F OUTPUT 1	#N/A	1	3	9	21,22	TB4-33	TB4-34			51
E TOWER ALARM ALARM PLATFORM LEVEL A	OTV I/F OUTPUT 2	#N/A	1	3	10	23,24	TB4-37	TB4-38			51
E TOWER ALARM ALARM PLATFORM LEVEL B	OTV I/F OUTPUT 3	#N/A	1	3	12	27,28	TB4-41	TB4-42			51
E TOWER ALARM ALARM PLATFORM LEVEL C	OTV I/F OUTPUT 4	#N/A	1	3	13	31,32	TB4-45	TB4-46			51
E TOWER ALARM ALARM PLATFORM LEVEL E	OTV I/F OUTPUT 5	#N/A	1	3	14	33,34	TB4-49	TB4-50			52
E TOWER ALARM ALARM PLATFORM LEVEL F-1	OTV I/F OUTPUT 6	#N/A	1	3	15	35,36	TB4-53	TB4-54			52
PLC ACTIVATE COMMAND	ZONE INPUT 26	LAS, A & B	1	4	1	1,2	TB4-59	TB4-60	TB4-61	TB4-62	15
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 29	LAS, A & B	1	4	2	3,4	TB4-63	TB4-64	TB4-65	TB4-66	16
PLC ACTIVATE COMMAND	ZONE INPUT 31	C & E	1	4	3	5,6	TB4-67	TB4-68	TB4-69	TB4-70	24
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 34	C & E	1	4	4	7,8	TB4-71	TB4-72	TB4-73	TB4-74	25
PLC ACTIVATE COMMAND	ZONE INPUT 36	F1, G & H	1	4	5	11,12	TB4-75	TB4-76	TB4-77	TB4-78	33
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 39	F1, G & H	1	4	6	13,14	TB4-79	TB4-80	TB4-81	TB4-82	34
PLC ACTIVATE COMMAND	ZONE INPUT 41	I, J & K	1	4	7	15,16	TB4-83	TB4-84	TB4-85	TB4-86	42
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 44	I, J & K	1	4	8	17,18	TB4-87	TB4-88	TB4-89	TB4-90	43
E TOWER ALARM ALARM PLATFORM LEVEL G	OTV I/F OUTPUT 7	#N/A	1	4	9	21,22	TB4-91	TB4-92			52
E TOWER ALARM ALARM PLATFORM LEVEL H	OTV I/F OUTPUT 8	#N/A	1	4	10	23,24	TB4-95	TB4-96			52
E TOWER ALARM ALARM PLATFORM LEVEL I	OTV I/F OUTPUT 9	#N/A	1	4	11	25,26	TB4-99	TB4-100			53
E TOWER ALARM ALARM PLATFORM LEVEL J	OTV I/F OUTPUT 10	#N/A	1	4	12	27,28	TB4-103	TB4-104			53
E TOWER ALARM ALARM PLATFORM LEVEL K	OTV I/F OUTPUT 11	#N/A	1	4	13	31,32	TB4-107	TB4-108			53
PLC ARM COMMAND	ZONE INPUT 45	#N/A	1	4	14	33,34	TB4-111	TB4-112	TB4-113	TB4-114	105
PLC ARM CLOSE COMMAND	ZONE INPUT 48	#N/A	1	4	15	35,36	TB4-115	TB4-116	TB4-117	TB4-118	105
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 27	LAS, A & B	1	5	1	1,2	TB4-119	TB4-120	TB4-121	TB4-122	15
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 32	C & E	1	5	2	3,4	TB4-123	TB4-124	TB4-125	TB4-126	24
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 37	F1, G & H	1	5	3	5,6	TB4-127	TB4-128	TB4-129	TB4-130	33
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 42	I, J & K	1	5	4	7,8	TB4-131	TB4-132	TB4-133	TB4-134	42
PLC ACTIVATE COMMAND	ZONE INPUT 46		1	5	5	11,12	TB4-135	TB4-136	TB4-137	TB4-138	105
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 47		1	5	6	13,14	TB4-139	TB4-140	TB4-141	TB4-142	105
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 49		1	5	7	15,16	TB4-143	TB4-144	TB4-145	TB4-146	105

SPECIFIC NOTES:

A. ALL TERMINALS ARE ALSO SHOWN IN ELECTRICAL SCHEMATIC SHEETS.

B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s017

E-16

SYM	ZONE	DESCRIPTION	DATE	APPROVED

REVISIONS

SIGNATURES		DATE
DRAWN	J. EATON	7/27/10
CHECKED	S. BROWN	7/27/10
ENGINEER	J. EATON	7/27/10
SUBMITTED		10/4/10
APPROVED		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -1, PLC B
CONNECTION LIST 1

SIZE F | DWG. NO. 410E1500001 | REV

TITLE TA-83B | PROJ. NO. NONE | SHEET 17 OF

KSC FORM 1-11 (REV. 3/76)
(CIS 12/92)

NOTICE: "WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS, OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOVERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSOEVER; AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS OR OTHER DATA IS NOT TO BE REGARDED BY IMPLICATION, OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO."

FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	PLC INPUT TERM	24 V DC FUSE	TERM A	TERM B	GIS 734E1100001 SHEET NUMBER
LAS-AUX - ARM STATION	OUTPUT 19-1	LAS, A & B	1	6	1	1,9	FB-2	TB3-1	TB3-301	17
PLATFORM A - ARM STATION	OUTPUT 19-2	LAS, A & B	1	6	2	2,9	FB-2	TB3-2	TB3-302	17
PLATFORM B - ARM STATION	OUTPUT 19-3	LAS, A & B	1	6	3	3,9	FB-2	TB3-3	TB3-303	17
LAS-AUX - ACTIVATE STATION	OUTPUT 19-4	LAS, A & B	1	6	4	4,9	FB-2	TB3-4	TB3-304	17
PLATFORM A - ACTIVATE STATION	OUTPUT 19-5	LAS, A & B	1	6	5	5,9	FB-2	TB3-5	TB3-305	18
PLATFORM B - ACTIVATE STATION	OUTPUT 19-6	LAS, A & B	1	6	6	6,9	FB-2	TB3-6	TB3-306	18
LAS-AUX 3IR DETECTOR EAST OR WEST	OUTPUT 19-7	LAS, A & B	1	6	7	7,9	FB-2	TB3-7	TB3-307	18
PLATFORM A 3IR DETECTOR EAST OR WEST	OUTPUT 19-8	LAS, A & B	1	6	8	8,9	FB-2	TB3-8	TB3-308	19
PLATFORM B 3IR DETECTOR EAST OR WEST	OUTPUT 20-1	LAS, A & B	1	6	9	11,19	FB-2	TB3-9	TB3-309	19
SUMMARY QUAD VALVE OPEN COMMAND ON	OUTPUT 20-2	LAS, A & B	1	6	10	12,19	FB-2	TB3-10	TB3-310	20
SUMMARY QUAD VALVE CLOSE COMMAND ON	OUTPUT 20-3	LAS, A & B	1	6	12	14,19	FB-2	TB3-11	TB3-311	20
ARM VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 20-4	LAS, A & B	1	6	13	15,19	FB-2	TB3-12	TB3-312	21
ARM VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 20-5	LAS, A & B	1	6	14	16,19	FB-2	TB3-13	TB3-313	21
ACTIVATE VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 20-6	LAS, A & B	1	6	15	17,19	FB-2	TB3-14	TB3-314	21
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 20-7	LAS, A & B	1	6	16	18,19	FB-2	TB3-15	TB3-315	22
PLATFORM LAS-AUX, A, B FLOW SWITCH	OUTPUT 20-8	LAS, A & B	1	6	17	21,29	FB-2	TB3-16	TB3-316	22
PLATFORM C - ARM STATION	OUTPUT 21-1	C & E	1	6	18	22,29	FB-2	TB3-17	TB3-317	26
PLATFORM E - ARM STATION	OUTPUT 21-2	C & E	1	6	19	23,29	FB-2	TB3-18	TB3-318	26
PLATFORM C - ACTIVATE STATION	OUTPUT 21-3	C & E	1	6	20	24,29	FB-2	TB3-19	TB3-319	26
PLATFORM E - ACTIVATE STATION	OUTPUT 21-4	C & E	1	6	21	25,29	FB-2	TB3-20	TB3-320	26
PLATFORM C 3IR DETECTOR EAST OR WEST	OUTPUT 21-5	C & E	1	6	22	26,29	FB-2	TB3-21	TB3-321	27
PLATFORM E 3IR DETECTOR EAST OR WEST	OUTPUT 21-6	C & E	1	6	23	27,29	FB-2	TB3-22	TB3-322	27
SUMMARY QUAD VALVE OPEN COMMAND ON	OUTPUT 21-7	C & E	1	6	24	28,29	FB-2	TB3-23	TB3-323	29
SUMMARY QUAD VALVE CLOSE COMMAND ON	OUTPUT 21-8	C & E	1	6	25	31,39	FB-2	TB3-24	TB3-324	29
ARM VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 22-1	C & E	1	6	26	32,39	FB-2	TB3-25	TB3-325	30
ARM VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 22-2	C & E	1	6	27	33,39	FB-2	TB3-26	TB3-326	30
ACTIVATE VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 22-3	C & E	1	6	28	34,39	FB-2	TB3-27	TB3-327	30
"ACTIVATE VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES -NOTE 9"	OUTPUT 22-4	C & E	1	6	29	35,39	FB-2	TB3-28	TB3-328	31
PLATFORM C, 2, E FLOW SWITCH	OUTPUT 22-5	C & E	1	6	30	36,39	FB-2	TB3-29	TB3-329	31
LEVEL 1 - ARM STATION	OUTPUT 22-6	F1, G & H	1	7	1	1,9	FB-3	TB3-32	TB3-332	35
LEVEL 2 - ARM STATION	OUTPUT 22-7	F1, G & H	1	7	2	2,9	FB-3	TB3-33	TB3-333	35
LEVEL 3 - ARM STATION	OUTPUT 22-8	F1, G & H	1	7	3	3,9	FB-3	TB3-34	TB3-334	35
LEVEL 1 - ACTIVATE STATION	OUTPUT 23-1	F1, G & H	1	7	4	4,9	FB-3	TB3-35	TB3-335	35
LEVEL 2 - ACTIVATE STATION	OUTPUT 23-2	F1, G & H	1	7	5	5,9	FB-3	TB3-36	TB3-336	36
LEVEL 3 - ACTIVATE STATION	OUTPUT 23-3	F1, G & H	1	7	6	6,9	FB-3	TB3-37	TB3-337	36
LEVEL 1 3IR DETECTOR EAST OR WEST	OUTPUT 23-4	F1, G & H	1	7	7	7,9	FB-3	TB3-38	TB3-338	36
LEVEL 2 3IR DETECTOR EAST OR WEST	OUTPUT 23-5	F1, G & H	1	7	8	8,9	FB-3	TB3-39	TB3-339	37
LEVEL 3 3IR DETECTOR EAST OR WEST	OUTPUT 23-6	F1, G & H	1	7	9	11,19	FB-3	TB3-40	TB3-340	37
SUMMARY QUAD VALVE OPEN COMMAND ON	OUTPUT 23-7	F1, G & H	1	7	10	12,19	FB-3	TB3-41	TB3-341	38
SUMMARY QUAD VALVE CLOSE COMMAND ON	OUTPUT 23-8	F1, G & H	1	7	12	14,19	FB-3	TB3-42	TB3-342	38
ARM VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 24-1	F1, G & H	1	7	13	15,19	FB-3	TB3-43	TB3-343	39
ARM VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 24-2	F1, G & H	1	7	14	16,19	FB-3	TB3-44	TB3-344	39

SPECIFIC NOTES:

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B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
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E-17

SYM	ZONE	DESCRIPTION	DATE	APPROVED

REVISIONS

SIGNATURES		DATE
DRAWN	J.EATON	9/23/10
CHECKED	S. BROWN	9/29/10
ENGINEER	J.EATON	9/23/10
SUBMITTED		10/4/10
APPROVED		10/6/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -1, PLC B
CONNECTION LIST 2

TITLE TA- 839

SIZE F | DWG. NO. 410E1500001 | REV -

PROJ. NO. NONE | SHEET 18 OF

KSC FORM 1-11 (REV. 3/76) (CIG 12/92)

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FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	PLC INPUT TERM	24 V DC FUSE	TERM A	TERM B	GIS 734E1100001 SHEET NUMBER
ACTIVATE VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 24-3	F1, G & H	1	7	15	17,19	FB-3	TB3-45	TB3-345	39
"ACTIVATE VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES -NOTE 9"	OUTPUT 24-4	F1, G & H	1	7	16	18,19	FB-3	TB3-46	TB3-346	40
PLATFORM 1, 2, 3 FLOW SWITCH	OUTPUT 24-5	F1, G & H	1	7	17	21,29	FB-3	TB3-47	TB3-347	40
LEVEL 1 - ARM STATION	OUTPUT 24-6	I, J & K	1	7	18	22,29	FB-3	TB3-48	TB3-348	44
LEVEL 2 - ARM STATION	OUTPUT 24-7	I, J & K	1	7	19	23,29	FB-3	TB3-49	TB3-349	44
LEVEL 3 - ARM STATION	OUTPUT 24-8	I, J & K	1	7	20	24,29	FB-3	TB3-50	TB3-350	44
LEVEL 1 - ACTIVATE STATION	OUTPUT 25-1	I, J & K	1	7	21	25,29	FB-3	TB3-51	TB3-351	44
LEVEL 2 - ACTIVATE STATION	OUTPUT 25-2	I, J & K	1	7	22	26,29	FB-3	TB3-52	TB3-352	45
LEVEL 3 - ACTIVATE STATION	OUTPUT 25-3	I, J & K	1	7	23	27,29	FB-3	TB3-53	TB3-353	45
LEVEL 1 3IR DETECTOR EAST OR WEST	OUTPUT 25-4	I, J & K	1	7	24	28,29	FB-3	TB3-54	TB3-354	45
LEVEL 2 3IR DETECTOR EAST OR WEST	OUTPUT 25-5	I, J & K	1	7	25	31,39	FB-3	TB3-55	TB3-355	46
LEVEL 3 3IR DETECTOR EAST OR WEST	OUTPUT 25-6	I, J & K	1	7	26	32,39	FB-3	TB3-56	TB3-356	46
SUMMARY QUAD VALVE OPEN COMMAND ON	OUTPUT 25-7	I, J & K	1	7	27	33,39	FB-3	TB3-57	TB3-357	47
SUMMARY QUAD VALVE CLOSE COMMAND ON	OUTPUT 25-8	I, J & K	1	7	28	34,39	FB-3	TB3-58	TB3-358	47
ARM VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 26-1	I, J & K	1	7	29	35,39	FB-3	TB3-59	TB3-359	48
ARM VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 26-2	I, J & K	1	7	30	36,39	FB-3	TB3-60	TB3-360	48
ACTIVATE VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 26-3	I, J & K	1	7	31	37,39	FB-3	TB3-61	TB3-361	48
"ACTIVATE VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES -NOTE 9"	OUTPUT 26-4	I, J & K	1	8	1	1,9	FB-4	TB3-63	TB3-363	49
PLATFORM 1, 2, 3 FLOW SWITCH	OUTPUT 26-5	I, J & K	1	8	2	2,9	FB-4	TB3-64	TB3-364	49
DELUGE VALVE OPEN COMMAND LOCKOUT	OUTPUT 26-6	I, J & K	1	8	3	3,9	FB-4	TB3-65	TB3-365	50
SPARE							FB-4	TB3-66	TB3-366	
ANY DELUGE CONTROL PANEL TROUBLE	OUTPUT 26-8	#N/A	1	8	4	4,9	FB-4	TB3-67	TB3-367	57
PLATFORM LAS-AUX - MANUAL PULL STATION	OUTPUT 27-1	LAS, A & B	1	8	5	5,9	FB-4	TB3-68	TB3-368	54
PLATFORM A - MANUAL PULL STATION	OUTPUT 27-2	LAS, A & B	1	8	6	6,9	FB-4	TB3-69	TB3-369	54
PLATFORM B - MANUAL PULL STATION	OUTPUT 27-3	LAS, A & B	1	8	7	7,9	FB-4	TB3-70	TB3-370	54
PLATFORM C - MANUAL PULL STATION	OUTPUT 27-4	C & E	1	8	8	8,9	FB-4	TB3-71	TB3-371	54
PLATFORM E - MANUAL PULL STATION	OUTPUT 27-5	C & E	1	8	9	11,19	FB-4	TB3-72	TB3-372	55
PLATFORM F-1 - MANUAL PULL STATION	OUTPUT 27-6	F1, G & H	1	8	10	12,19	FB-4	TB3-73	TB3-373	55
PLATFORM G - MANUAL PULL STATION	OUTPUT 27-7	F1, G & H	1	8	11	13,19	FB-4	TB3-74	TB3-374	55
PLATFORM H - MANUAL PULL STATION	OUTPUT 27-8	F1, G & H	1	8	12	14,19	FB-4	TB3-75	TB3-375	55
PLATFORM I - MANUAL PULL STATION	OUTPUT 28-1	I, J & K	1	8	13	15,19	FB-4	TB3-76	TB3-376	56
PLATFORM J - MANUAL PULL STATION	OUTPUT 28-2	I, J & K	1	8	14	16,19	FB-4	TB3-77	TB3-377	56
PLATFORM K - MANUAL PULL STATION	OUTPUT 28-3	I, J & K	1	8	15	17,19	FB-4	TB3-78	TB3-378	56
DELUGE CONTROL PANEL SUMMARY SUPERVISORY	OUTPUT 26-7	#N/A	1	8	16	18,19	FB-4	TB3-79	TB3-379	57
SUMMARY QUAD VALVE OPEN COMMAND ON	OUTPUT 31-5 (245)		1	8	17	21,29	FB-4	TB3-80	TB3-380	106
SUMMARY QUAD VALVE CLOSE COMMAND ON	OUTPUT 31-6 (246)		1	8	18	22,29	FB-4	TB3-81	TB3-381	106
ARM VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 31-7 (247)		1	8	19	23,29	FB-4	TB3-82	TB3-382	106
ARM VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 31-8 (248)		1	8	20	24,29	FB-4	TB3-83	TB3-383	106
ACTIVATE VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 32-1 (249)		1	8	21	25,29	FB-4	TB3-84	TB3-384	106
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 32-2 (250)		1	8	22	26,29	FB-4	TB3-85	TB3-385	106
PLATFORM 1, 2, 3 FLOW SWITCH	OUTPUT 32-3 (251)		1	8	23	27,29	FB-4	TB3-86	TB3-386	106
DELUGE VALVE OPEN COMMAND LOCKOUT	OUTPUT 32-4 (252)		1	8	24	28,29	FB-4	TB3-87	TB3-387	106

SPECIFIC NOTES:

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B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s019

E-18

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J.EATON	9/29/10
CHECKED	S. BROWN	9/29/10
ENGINEER	J.EATON	9/29/10
SUBMITTED		10/4/10
APPROVED		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -1, PLC B
CONNECTION LIST 3

SIZE F | DWG. NO. 410E1500001 | REV -

TITLE TA-838 | PROJ. NO. NONE | SHEET 19 OF

KSC FORM 1-11 (REV. 3/76) (CIG 12/92)

NOTICE - WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS, OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOVERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSOEVER; AND THE FACT THAT GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS OR OTHER DATA IS NOT TO BE REGARDED BY IMPLICATION OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	PLC INPUT TERM	24 VDC FUSE BLOCK	TERM A	TERM B	GIS 734E1100001 SHEET NUMBER
LAS-AUX - ARM STATION	OUTPUT 1-1	LAS, A & B	3	3	1	1,9	FA-3	TB1-1	TB1-301	60
PLATFORM A - ARM STATION	OUTPUT 1-2	LAS, A & B	3	3	2	2,9	FA-3	TB1-2	TB1-302	60
PLATFORM B - ARM STATION	OUTPUT 1-3	LAS, A & B	3	3	3	3,9	FA-3	TB1-3	TB1-303	60
PLATFORM C - ARM STATION	OUTPUT 5-2	C & E	3	3	4	4,9	FA-3	TB1-4	TB1-304	69
PLATFORM E - ARM STATION	OUTPUT 5-3	C & E	3	3	5	5,9	FA-3	TB1-5	TB1-305	69
LEVEL 1 - ARM STATION	OUTPUT 9-1	F1, G & H	3	3	6	6,9	FA-3	TB1-6	TB1-306	78
LEVEL 2 - ARM STATION	OUTPUT 9-2	F1, G & H	3	3	7	7,9	FA-3	TB1-7	TB1-307	78
LEVEL 3 - ARM STATION	OUTPUT 9-3	F1, G & H	3	3	8	8,9	FA-3	TB1-8	TB1-308	78
LEVEL 1 - ARM STATION	OUTPUT 13-2	I, J & K	3	3	9	11,19	FA-3	TB1-9	TB1-309	87
LEVEL 2 - ARM STATION	OUTPUT 13-3	I, J & K	3	3	10	12,19	FA-3	TB1-10	TB1-310	87
LEVEL 3 - ARM STATION	OUTPUT 13-4	I, J & K	3	3	11	13,19	FA-3	TB1-11	TB1-311	87
NAC POWER TO QUAD ARM VALVES ON - NOTE 3	OUTPUT 29-1 (225)		3	3	12	14,19	FA-3	TB1-12	TB1-312	107
OPEN QUAD ARM VALVE COMMANDS ON - NOTE 4	OUTPUT 29-2 (226)		3	3	13	15,19	FA-3	TB1-13	TB1-313	107
CLOSE QUAD ARM VALVE COMMANDS ON - NOTE 6	OUTPUT 29-3 (227)		3	3	14	16,19	FA-3	TB1-14	TB1-314	107
ARM VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 29-4 (228)		3	3	15	17,19	FA-3	TB1-15	TB1-315	107
ARM VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 29-5 (229)		3	3	16	18,19	FA-3	TB1-16	TB1-316	107
ACTIVATE VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 29-6 (230)		3	3	17	21,29	FA-3	TB1-17	TB1-317	107
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 29-7 (231)		3	3	18	22,29	FA-3	TB1-18	TB1-318	107
PLATFORM 1, 2, 3 FLOW SWITCH	OUTPUT 29-8 (232)		3	3	19	23,29	FA-3	TB1-19	TB1-319	107
PLATFORM 1, 2, 3 TAMPER SWITCH - OS&Y	OUTPUT 31-1 (241)		3	3	20	24,29	FA-3	TB1-20	TB1-320	108
PLATFORM 1, 2, 3 TAMPER SWITCH - TEST HEADER	OUTPUT 31-3 (243)		3	3	21	25,29	FA-3	TB1-21	TB1-321	108
LAS-AUX - ACTIVATE STATION	OUTPUT 2-1	LAS, A & B	3	4	1	1,9	FA-4	TB1-33	TB1-333	60
PLATFORM A - ACTIVATE STATION	OUTPUT 2-2	LAS, A & B	3	4	2	2,9	FA-4	TB1-34	TB1-334	61
PLATFORM B - ACTIVATE STATION	OUTPUT 2-3	LAS, A & B	3	4	3	3,9	FA-4	TB1-35	TB1-335	61
PLATFORM C - ACTIVATE STATION	OUTPUT 6-2	C & E	3	4	4	4,9	FA-4	TB1-36	TB1-336	69
PLATFORM E - ACTIVATE STATION	OUTPUT 6-3	C & E	3	4	5	5,9	FA-4	TB1-37	TB1-337	69
LEVEL 1 - ACTIVATE STATION	OUTPUT 10-1	F1, G & H	3	4	6	6,9	FA-4	TB1-38	TB1-338	78
LEVEL 2 - ACTIVATE STATION	OUTPUT 10-2	F1, G & H	3	4	7	7,9	FA-4	TB1-39	TB1-339	79
LEVEL 3 - ACTIVATE STATION	OUTPUT 10-3	F1, G & H	3	4	8	8,9	FA-4	TB1-40	TB1-340	79
LEVEL 1 - ACTIVATE STATION	OUTPUT 14-2	I, J & K	3	4	9	11,19	FA-4	TB1-41	TB1-341	87
LEVEL 2 - ACTIVATE STATION	OUTPUT 14-3	I, J & K	3	4	10	12,19	FA-4	TB1-42	TB1-342	88
LEVEL 3 - ACTIVATE STATION	OUTPUT 14-4	I, J & K	3	4	11	13,19	FA-4	TB1-43	TB1-343	88

SPECIFIC NOTES:

A. ALL TERMINALS ARE ALSO SHOWN IN ELECTRICAL SCHEMATIC SHEETS.

B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s020

E-19

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J.EATON	9/29/10
CHECKED	S. BROWN	9/29/10
ENGINEER	J.EATON	9/29/10
SUBMITTED		10/4/10
APPROVED		DATE 10/4/10
TITLE	IA-93B	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -2, PLC A
CONNECTION LIST 1

SIZE F | DWG. NO. 410E1500001 | REV -
PROJ. NO. NONE | SHEET 20 OF

KSC FORM 1-11 (REV. 3/76) (CIS 12/92)

NOTICE - WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS, OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOVERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSOEVER; AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS OR OTHER DATA IS NOT TO BE REGARDED BY IMPLICATION OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	PLC INPUT TERM	24 VDC FUSE BLOCK	TERM A	TERM B	GIS 734E1100001 SHEET NUMBER
NAC POWER TO QUAD ARM VALVES ON - NOTE 3	OUTPUT 30-1 (233)		3	4	12	14,19	FA-4	TB1-44	TB1-344	108
OPEN QUAD ARM VALVE COMMANDS ON - NOTE 4	OUTPUT 30-2 (234)		3	4	13	15,19	FA-4	TB1-45	TB1-345	108
CLOSE QUAD ARM VALVE COMMANDS ON - NOTE 6	OUTPUT 30-3 (235)		3	4	14	16,19	FA-4	TB1-46	TB1-346	108
ARM VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 30-4 (236)		3	4	15	17,19	FA-4	TB1-47	TB1-347	108
ARM VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 30-5 (237)		3	4	16	18,19	FA-4	TB1-48	TB1-348	108
ACTIVATE VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 30-6 (238)		3	4	17	21,29	FA-4	TB1-49	TB1-349	108
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 30-7 (239)		3	4	18	22,29	FA-4	TB1-50	TB1-350	109
PLATFORM 1, 2, 3 FLOW SWITCH	OUTPUT 30-8 (240)		3	4	19	23,29	FA-4	TB1-51	TB1-351	109
PLATFORM 1, 2, 3 TAMPER SWITCH - OS&Y	OUTPUT 31-2 (242)		3	4	20	24,29	FA-4	TB1-52	TB1-352	109
PLATFORM 1, 2, 3 TAMPER SWITCH - TEST HEADER	OUTPUT 31-4 (244)		3	4	21	25,29	FA-4	TB1-53	TB1-353	109
DELUGE VALVE CONTROL CIRCUIT DISABLE - PER QUAD VALVE ASSEMBLY NOTE 11	OUTPUT 31-5 (245)		3	4	22	26,29	FA-4	TB1-54	TB1-354	109
3IR TEST FUNCTION PER QUAD VALVE ASSEMBLY	OUTPUT 31-6 (246)		3	4	23	27,29	FA-4	TB1-55	TB1-355	109
LAS-AUX 3IR DETECTOR EAST	OUTPUT 1-4	LAS, A & B	3	5	1	1,9	FA-5	TB1-76	TB1-376	61
PLATFORM A 3IR DETECTOR	OUTPUT 1-5	LAS, A & B	3	5	2	2,9	FA-5	TB1-77	TB1-377	62
PLATFORM B 3IR DETECTOR	OUTPUT 1-6	LAS, A & B	3	5	3	3,9	FA-5	TB1-78	TB1-378	62
NAC POWER TO QUAD ARM VALVES ON	OUTPUT 1-7	LAS, A & B	3	5	4	4,9	FA-5	TB1-79	TB1-379	62
OPEN QUAD ARM VALVE COMMANDS ON	OUTPUT 1-8	LAS, A & B	3	5	5	5,9	FA-5	TB1-80	TB1-380	63
CLOSE QUAD ARM VALVE COMMANDS ON	OUTPUT 3-1	LAS, A & B	3	5	6	6,9	FA-5	TB1-81	TB1-381	63
ARM VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 3-2	LAS, A & B	3	5	7	7,9	FA-5	TB1-82	TB1-382	63
ARM VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 3-3	LAS, A & B	3	5	8	8,9	FA-5	TB1-83	TB1-383	64
ACTIVATE VALVE OPEN LIMIT SWITCH (A) VAVE	OUTPUT 3-4	LAS, A & B	3	5	9	11,19	FA-5	TB1-84	TB1-384	64
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 3-5	LAS, A & B	3	5	10	12,19	FA-5	TB1-85	TB1-385	64
PLATFORM LAS-AUX, A, B FLOW SWITCH	OUTPUT 3-6	LAS, A & B	3	5	11	13,19	FA-5	TB1-86	TB1-386	65
PLATFORM LAS-AUX, A, B TAMPER SWITCH - OS&Y	OUTPUT 3-7	LAS, A & B	3	5	12	14,19	FA-5	TB1-87	TB1-387	65
PLATFORM LAS-AUX, A, B TAMPER SWITCH - RISER	OUTPUT 3-8	LAS, A & B	3	5	13	15,19	FA-5	TB1-88	TB1-388	65
PLATFORM LAS-AUX, A, B TAMPER SWITCH - TEST HEADER	OUTPUT 5-1	LAS, A & B	3	5	14	16,19	FA-5	TB1-89	TB1-389	65
PLATFORM C 3IR DETECTOR EAST	OUTPUT 5-4	C & E	3	5	15	17,19	FA-5	TB1-90	TB1-390	70
LEVEL 2 3IR DETECTOR	NA	#N/A	3	5	16	18,19	FA-5	TB1-91	TB1-391	

SPECIFIC NOTES:

A. ALL TERMINALS ARE ALSO SHOWN IN ELECTRICAL SCHEMATIC SHEETS.

B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s021

E-20

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J.EATON	9/29/10
CHECKED	S. BROWN	9/29/10
ENGINEER	J.EATON	9/29/10
SUBMITTED		10/4/10
APPROVED		DATE 10/4/10
TITLE TA-838		

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -2, PLC A
CONNECTION LIST 2

SIZE F | DWG. NO. 410E1500001 | REV -
PROJ. NO. NONE | SHEET 21 OF

KSC FORM 1-11 (REV. 3/78)
(DG 13/92)

NOTICE: WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS, OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOVERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSOEVER; AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS OR OTHER DATA IS NOT TO BE REGARDED BY IMPLICATION OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONFERRING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	PLC INPUT TERM	24 VDC FUSE BLOCK	TERM A	TERM B	GIS 734E1100001 SHEET NUMBER
PLATFORM E 3IR DETECTOR	OUTPUT 5-5	C & E	3	5	17	21,29	FA-5	TB1-92	TB1-392	70
NAC POWER TO QUAD ARM VALVES ON	OUTPUT 5-6	C & E	3	5	18	22,29	FA-5	TB1-93	TB1-393	71
OPEN QUAD ARM VALVE COMMANDS ON	OUTPUT 5-7	C & E	3	5	19	23,29	FA-5	TB1-94	TB1-394	72
CLOSE QUAD ARM VALVE COMMANDS ON	OUTPUT 5-8	C & E	3	5	20	24,29	FA-5	TB1-95	TB1-395	72
ARM VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 7-1	C & E	3	5	21	25,29	FA-5	TB1-96	TB1-396	72
ARM VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 7-2	C & E	3	5	22	26,29	FA-5	TB1-97	TB1-397	73
ACTIVATE VALVE OPEN LIMIT SWITCH (A) VAVE	OUTPUT 7-3	C & E	3	5	23	27,29	FA-5	TB1-98	TB1-398	73
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 7-4	C & E	3	5	24	28,29	FA-5	TB1-99	TB1-399	73
PLATFORM C, 2, E FLOW SWITCH	OUTPUT 7-5	C & E	3	5	25	31,39	FA-5	TB1-100	TB1-400	74
PLATFORM C, 2, E TAMPER SWITCH - OS&Y	OUTPUT 7-6	C & E	3	5	26	32,39	FA-5	TB1-101	TB1-401	74
PLATFORM C, 2, E TAMPER SWITCH - RISER	OUTPUT 7-7	C & E	3	5	27	33,39	FA-5	TB1-102	TB1-402	74
PLATFORM C, 2, E TAMPER SWITCH - TEST HEADER	OUTPUT 7-8	C & E	3	5	28	34,39	FA-5	TB1-103	TB1-403	74
LAS-AUX 3IR DETECTOR WEST	OUTPUT 2-4	LAS, A & B	3	6	1	1,9	FA-6	TB1-108	TB1-408	61
PLATFORM A 3IR DETECTOR WEST	OUTPUT 2-5	LAS, A & B	3	6	2	2,9	FA-6	TB1-109	TB1-409	62
PLATFORM B 3IR DETECTOR WEST	OUTPUT 2-6	LAS, A & B	3	6	3	3,9	FA-6	TB1-110	TB1-410	62
NAC POWER TO QUAD ACTIVATE VALVES ON	OUTPUT 2-7	LAS, A & B	3	6	4	4,9	FA-6	TB1-111	TB1-411	62
OPEN QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 2-8	LAS, A & B	3	6	5	5,9	FA-6	TB1-112	TB1-412	63
CLOSE QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 4-1	LAS, A & B	3	6	6	6,9	FA-6	TB1-113	TB1-413	63
ARM VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 4-2	LAS, A & B	3	6	7	7,9	FA-6	TB1-114	TB1-414	63
ARM VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 4-3	LAS, A & B	3	6	8	8,9	FA-6	TB1-115	TB1-415	64
ACTIVATE VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 4-4	LAS, A & B	3	6	9	11,19	FA-6	TB1-116	TB1-416	64
ACTIVATE VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 4-5	LAS, A & B	3	6	10	12,19	FA-6	TB1-117	TB1-417	65
CONTROL AIR PRESSURE	OUTPUT 4-6	LAS, A & B	3	6	11	13,19	FA-6	TB1-118	TB1-418	65
"DELUGE VALVE CONTROL CIRCUIT KEY SWITCH DISCONNECT - PER QUAD VALVE ASSEMBLY "	OUTPUT 4-7	LAS, A & B	3	6	12	14,19	FA-6	TB1-119	TB1-419	66
"DELUGE VALVE CONTROL CIRCUIT DISABLE - PER QUAD VALVE ASSEMBLY "	OUTPUT 4-8	LAS, A & B	3	6	13	15,19	FA-6	TB1-120	TB1-420	66
3IR TEST FUNCTION PER QUAD VALVE ASSEMBLY	OUTPUT 6-1	LAS, A & B	3	6	14	16,19	FA-6	TB1-121	TB1-421	66
PLATFORM C 3IR DETECTOR WEST	OUTPUT 6-4	C & E	3	6	15	17,19	FA-6	TB1-122	TB1-422	70
LEVEL 2 3IR DETECTOR WEST	NA	#N/A	3	6	16	18,19	FA-6	TB1-123	TB1-423	
PLATFORM E 3IR DETECTOR WEST	OUTPUT 6-5	C & E	3	6	17	21,29	FA-6	TB1-124	TB1-424	70
NAC POWER TO QUAD ACTIVATE VALVES ON	OUTPUT 6-6	C & E	3	6	18	22,29	FA-6	TB1-125	TB1-425	71
OPEN QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 6-7	C & E	3	6	19	23,29	FA-6	TB1-126	TB1-426	72
CLOSE QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 6-8	C & E	3	6	20	24,29	FA-6	TB1-127	TB1-427	72
ARM VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 8-1	C & E	3	6	21	25,29	FA-6	TB1-128	TB1-428	72
ARM VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 8-2	C & E	3	6	22	26,29	FA-6	TB1-129	TB1-429	73
ACTIVATE VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 8-3	C & E	3	6	23	27,29	FA-6	TB1-130	TB1-430	73
ACTIVATE VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 8-4	C & E	3	6	24	28,29	FA-6	TB1-131	TB1-431	74
CONTROL AIR PRESSURE	OUTPUT 8-5	C & E	3	6	25	31,39	FA-6	TB1-132	TB1-432	74
"DELUGE VALVE CONTROL CIRCUIT KEY SWITCH DISCONNECT - PER QUAD VALVE ASSEMBLY "	OUTPUT 8-6	C & E	3	6	26	32,39	FA-6	TB1-133	TB1-433	75
"DELUGE VALVE CONTROL CIRCUIT DISABLE - PER QUAD VALVE ASSEMBLY"	OUTPUT 8-7	C & E	3	6	27	33,39	FA-6	TB1-134	TB1-434	75
3IR TEST FUNCTION PER QUAD VALVE ASSEMBLY	OUTPUT 8-8	C & E	3	6	28	34,39	FA-6	TB1-135	TB1-435	75

SPECIFIC NOTES:

A. ALL TERMINALS ARE ALSO SHOWN IN ELECTRICAL SCHEMATIC SHEETS.

B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

SYM	ZONE	DESCRIPTION	DATE	APPROVED

REVISIONS

SIGNATURES		DATE
DRAWN	J.EATON	9/29/10
CHECKED	S. BROWN	9/29/10
ENGINEER	J.EATON	9/29/10
SUBMITTED		10/4/10
APPROVED		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -2, PLC A
CONNECTION LIST 3

SIZE F | DWG. NO. 410E1500001 | REV -

TITLE TA-83B | PROJ. NO. NONE | SHEET 22 OF

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s022

E-21

KSC FORM 1-11 (REV. 3/76) (O/G 12/92)

NOTICE - WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS, OR OTHER DATA, ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOVERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSOEVER; AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS,OR OTHER DATA IS NOT TO BE REGARDED BY IMPLICATION OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	PLC INPUT TERM	24 VDC FUSE BLOCK	TERM A	TERM B	GIS 734E1100001 SHEET NUMBER
LEVEL 1 3IR DETECTOR EAST	OUTPUT 9-4	F1, G & H	3	7	1	1,9	FA-7	TB1-140	TB1-440	79
LEVEL 2 3IR DETECTOR	OUTPUT 9-5	F1, G & H	3	7	2	2,9	FA-7	TB1-141	TB1-441	80
LEVEL 3 3IR DETECTOR	OUTPUT 9-6	F1, G & H	3	7	3	3,9	FA-7	TB1-142	TB1-442	80
NAC POWER TO QUAD ARM VALVES ON	OUTPUT 9-7	F1, G & H	3	7	4	4,9	FA-7	TB1-143	TB1-443	80
OPEN QUAD ARM VALVE COMMANDS ON	OUTPUT 9-8	F1, G & H	3	7	5	5,9	FA-7	TB1-144	TB1-444	81
CLOSE QUAD ARM VALVE COMMANDS ON	OUTPUT 11-1	F1, G & H	3	7	6	6,9	FA-7	TB1-145	TB1-445	81
ARM VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 11-2	F1, G & H	3	7	7	7,9	FA-7	TB1-146	TB1-446	81
ARM VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 11-3	F1, G & H	3	7	8	8,9	FA-7	TB1-147	TB1-447	82
ACTIVATE VALVE OPEN LIMIT SWITCH (A) VAVE	OUTPUT 11-4	F1, G & H	3	7	9	11,19	FA-7	TB1-148	TB1-448	82
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 11-5	F1, G & H	3	7	10	12,19	FA-7	TB1-149	TB1-449	82
PLATFORM 1, 2, 3 FLOW SWITCH	OUTPUT 11-6	F1, G & H	3	7	11	13,19	FA-7	TB1-150	TB1-450	83
PLATFORM 1, 2, 3 TAMPER SWITCH - OS&Y	OUTPUT 11-7	F1, G & H	3	7	12	14,19	FA-7	TB1-151	TB1-451	83
PLATFORM 1, 2, 3 TAMPER SWITCH - RISER	OUTPUT 11-8	F1, G & H	3	7	13	15,19	FA-7	TB1-152	TB1-452	83
PLATFORM 1, 2, 3 TAMPER SWITCH - TEST HEADER	OUTPUT 13-1	F1, G & H	3	7	14	16,19	FA-7	TB1-153	TB1-453	83
LEVEL 1 3IR DETECTOR EAST	OUTPUT 13-5	I, J & K	3	7	15	17,19	FA-7	TB1-154	TB1-454	88
LEVEL 2 3IR DETECTOR	OUTPUT 13-6	I, J & K	3	7	16	18,19	FA-7	TB1-155	TB1-455	89
LEVEL 3 3IR DETECTOR	OUTPUT 13-7	I, J & K	3	7	17	21,29	FA-7	TB1-156	TB1-456	89
NAC POWER TO QUAD ARM VALVES ON	OUTPUT 13-8	I, J & K	3	7	18	22,29	FA-7	TB1-157	TB1-457	89
OPEN QUAD ARM VALVE COMMANDS ON	OUTPUT 15-1	I, J & K	3	7	19	23,29	FA-7	TB1-158	TB1-458	90
CLOSE QUAD ARM VALVE COMMANDS ON	OUTPUT 15-2	I, J & K	3	7	20	24,29	FA-7	TB1-159	TB1-459	90
ARM VALVE OPEN LIMIT SWITCH (A) VALVE	OUTPUT 15-3	I, J & K	3	7	21	25,29	FA-7	TB1-160	TB1-460	90
ARM VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 15-4	I, J & K	3	7	22	26,29	FA-7	TB1-161	TB1-461	91
ACTIVATE VALVE OPEN LIMIT SWITCH (A) VAVE	OUTPUT 15-5	I, J & K	3	7	23	27,29	FA-7	TB1-162	TB1-462	91
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) VALVE	OUTPUT 15-6	I, J & K	3	7	24	28,29	FA-7	TB1-163	TB1-463	91
PLATFORM 1, 2, 3 FLOW SWITCH	OUTPUT 15-7	I, J & K	3	7	25	31,39	FA-7	TB1-164	TB1-464	92
PLATFORM 1, 2, 3 TAMPER SWITCH - OS&Y	OUTPUT 15-8	I, J & K	3	7	26	32,39	FA-7	TB1-165	TB1-465	92
PLATFORM 1, 2, 3 TAMPER SWITCH - RISER	OUTPUT 16-8	I, J & K	3	7	27	33,39	FA-7	TB1-166	TB1-466	92
PLATFORM 1, 2, 3 TAMPER SWITCH - TEST HEADER	OUTPUT 17-1	I, J & K	3	7	28	34,39	FA-7	TB1-167	TB1-467	92
DELUGE VALVE OPEN COMMAND LOCKOUT	OUTPUT 17-2	I, J & K	3	7	29	35,39	FA-7	TB1-168	TB1-468	93
LEVEL 1 3IR DETECTOR WEST	OUTPUT 10-4	F1, G & H	3	8	1	1,9	FA-8	TB1-172	TB1-472	79
LEVEL 2 3IR DETECTOR WEST	OUTPUT 10-5	F1, G & H	3	8	2	2,9	FA-8	TB1-173	TB1-473	80
LEVEL 3 3IR DETECTOR WEST	OUTPUT 10-6	F1, G & H	3	8	3	3,9	FA-8	TB1-174	TB1-474	80
NAC POWER TO QUAD ACTIVATE VALVES ON	OUTPUT 10-7	F1, G & H	3	8	4	4,9	FA-8	TB1-175	TB1-475	80
OPEN QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 10-8	F1, G & H	3	8	5	5,9	FA-8	TB1-176	TB1-476	81
CLOSE QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 12-1	F1, G & H	3	8	6	6,9	FA-8	TB1-177	TB1-477	81
ARM VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 12-2	F1, G & H	3	8	7	7,9	FA-8	TB1-178	TB1-478	81
ARM VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 12-3	F1, G & H	3	8	8	8,9	FA-8	TB1-179	TB1-479	82
ACTIVATE VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 12-4	F1, G & H	3	8	9	11,19	FA-8	TB1-180	TB1-480	82
ACTIVATE VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 12-5	F1, G & H	3	8	10	12,19	FA-8	TB1-181	TB1-481	83
CONTROL AIR PRESSURE	OUTPUT 12-6	F1, G & H	3	8	11	13,19	FA-8	TB1-182	TB1-482	83
DELUGE VALVE CONTROL CIRCUIT KEY SWITCH DISCONNECT PER QUAD VALVE ASSEMBLY	OUTPUT 12-7	F1, G & H	3	8	12	14,19	FA-8	TB1-183	TB1-483	84

SPECIFIC NOTES:

A. ALL TERMINALS ARE ALSO SHOWN IN ELECTRICAL SCHEMATIC SHEETS.

B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s023

E-22

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J.EATON	9/29/10
CHECKED	S. BROWN	9/29/10
ENGINEER	J.EATON	9/29/10
SUBMITTED		10/4/10
APPROVED		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -2, PLC A
CONNECTION LIST 4

SIZE F | DWG. NO. 410E1500001 | REV -

TITLE TA-B3B | PROJ. NO. NONE | SHEET 23 OF

NOTICE - WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS, OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOVERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSOEVER; AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS OR OTHER DATA IS NOT TO BE REGARDED BY IMPLICATION OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	PLC INPUT TERM	24 VDC FUSE BLOCK	TERM A	TERM B	GIS 734E1100001 SHEET NUMBER
DELUGE VALVE CONTROL CIRCUIT DISABLE PER QUAD VALVE ASSEMBLY	OUTPUT 12-8	F1, G & H	3	8	13	15,19	FA-8	TB1-184	TB1-484	84
3IR TEST FUNCTION PER QUAD VALVE ASSEMBLY	OUTPUT 14-1	F1, G & H	3	8	14	16,19	FA-8	TB1-185	TB1-485	84
LEVEL 1 3IR DETECTOR WEST	OUTPUT 14-5	I, J & K	3	8	15	17,19	FA-8	TB1-186	TB1-486	88
LEVEL 2 3IR DETECTOR WEST	OUTPUT 14-6	I, J & K	3	8	16	18,19	FA-8	TB1-187	TB1-487	89
LEVEL 3 3IR DETECTOR WEST	OUTPUT 14-7	I, J & K	3	8	17	21,29	FA-8	TB1-188	TB1-488	89
NAC POWER TO QUAD ACTIVATE VALVES ON	OUTPUT 14-8	I, J & K	3	8	18	22,29	FA-8	TB1-189	TB1-489	89
OPEN QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 16-1	I, J & K	3	8	19	23,29	FA-8	TB1-190	TB1-490	90
CLOSE QUAD ACTIVATE VALVE COMMANDS ON	OUTPUT 16-2	I, J & K	3	8	20	24,29	FA-8	TB1-191	TB1-491	90
ARM VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 16-3	I, J & K	3	8	21	25,29	FA-8	TB1-192	TB1-492	90
ARM VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 16-4	I, J & K	3	8	22	26,29	FA-8	TB1-193	TB1-493	91
ACTIVATE VALVE OPEN LIMIT SWITCH (B) VALVE	OUTPUT 16-5	I, J & K	3	8	23	27,29	FA-8	TB1-194	TB1-494	91
ACTIVATE VALVE CLOSED LIMIT SWITCH (B) VALVE	OUTPUT 16-6	I, J & K	3	8	24	28,29	FA-8	TB1-195	TB1-495	92
CONTROL AIR PRESSURE	OUTPUT 16-7	I, J & K	3	8	25	31,39	FA-8	TB1-196	TB1-496	92
"DELUGE VALVE CONTROL CIRCUIT KEY SWITCH DISCONNECT - PER QUAD VALVE ASSEMBLY "	OUTPUT 17-3	I, J & K	3	8	26	32,39	FA-8	TB1-197	TB1-497	93
"DELUGE VALVE CONTROL CIRCUIT DISABLE - PER QUAD VALVE ASSEMBLY"	OUTPUT 18-1	I, J & K	3	8	27	33,39	FA-8	TB1-198	TB1-498	93
3IR TEST FUNCTION PER QUAD VALVE ASSEMBLY	OUTPUT 18-2	I, J & K	3	8	28	34,39	FA-8	TB1-199	TB1-499	93
KCCS INTERFACE BYPASS	OUTPUT 18-3	#N/A	3	8	29	35,39	FA-8	TB1-200	TB1-500	97
DELUGE CONTROL PANEL SUMMARY SUPERVISORY	OUTPUT 18-4	#N/A	3	8	30	36,39	FA-8	TB1-201	TB1-501	97
ANY DELUGE CONTROL PANEL TROUBLE	OUTPUT 18-5	#N/A	3	8	31	37,39	FA-8	TB1-202	TB1-502	97
PLATFORM LAS-AUX - MANUAL PULL STATION	OUTPUT 17-4	LAS, A & B	3	9	1	1,9	FA-9	TB1-204	TB1-504	94
PLATFORM A - MANUAL PULL STATION	OUTPUT 17-5	LAS, A & B	3	9	2	2,9	FA-9	TB1-205	TB1-505	94
PLATFORM B - MANUAL PULL STATION	OUTPUT 17-6	LAS, A & B	3	9	3	3,9	FA-9	TB1-206	TB1-506	94
PLATFORM C - MANUAL PULL STATION	OUTPUT 17-7	C & E	3	9	4	4,9	FA-9	TB1-207	TB1-507	94
PLATFORM E - MANUAL PULL STATION	OUTPUT 17-8	C & E	3	9	5	5,9	FA-9	TB1-208	TB1-508	95
PLATFORM F-1 - MANUAL PULL STATION	OUTPUT 18-6	F1, G & H	3	9	6	6,9	FA-9	TB1-209	TB1-509	95
PLATFORM G - MANUAL PULL STATION	OUTPUT 18-7	F1, G & H	3	9	7	7,9	FA-9	TB1-210	TB1-510	95
PLATFORM H - MANUAL PULL STATION	OUTPUT 18-8	F1, G & H	3	9	8	8,9	FA-9	TB1-211	TB1-511	95
PLATFORM I - MANUAL PULL STATION	OUTPUT 28-4	I, J & K	3	9	9	11,19	FA-9	TB1-212	TB1-512	96
PLATFORM J - MANUAL PULL STATION	OUTPUT 28-5	I, J & K	3	9	10	12,19	FA-9	TB1-213	TB1-513	96
PLATFORM K - MANUAL PULL STATION	OUTPUT 28-6	I, J & K	3	9	11	13,19	FA-9	TB1-214	TB1-514	96

SPECIFIC NOTES:

A. ALL TERMINALS ARE ALSO SHOWN IN ELECTRICAL SCHEMATIC SHEETS.

B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s024

E-23

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J.EATON	9/15/10
CHECKED	S. BROWN	9/20/10
ENGINEER	J.EATON	9/29/10
SUBMITTED		10/1/10
APPROVED		DATE 10/4/10
TITLE		

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -2, PLC A
CONNECTION LIST 5

SIZE F | DWG. NO. 410E1500001 | REV -

PROJ. NO. NONE | SHEET 24 OF

KSC FORM 1-11 (REV. 3/76)
(CIG 12/92)

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FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	OUTPUT	PLC OUTPUT TERM	TERM A	TERM B	TERM C	TERM D	GIS 734E1100001 SHEET NUMBER
PLC ARM COMMAND	ZONE INPUT 1	LAS, A & B	3	11	1	1,2	TB2-1	TB2-2	TB2-3	TB2-4	58
PLC ARM CLOSE COMMAND	ZONE INPUTS 4	LAS, A & B	3	11	2	3,4	TB2-5	TB2-6	TB2-7	TB2-8	58
PLC ARM COMMAND	ZONE INPUT 6	C & E	3	11	3	5,6	TB2-9	TB2-10	TB2-11	TB2-12	67
PLC ARM CLOSE COMMAND	ZONE INPUT 9	C & E	3	11	4	7,8	TB2-13	TB2-14	TB2-15	TB2-16	67
PLC ARM COMMAND	ZONE INPUT 11	F1, G & H	3	11	5	11,12	TB2-17	TB2-18	TB2-19	TB2-20	76
PLC ARM CLOSE COMMAND	ZONE INPUT 14	F1, G & H	3	11	6	13,14	TB2-21	TB2-22	TB2-23	TB2-24	76
PLC ARM COMMAND	ZONE INPUT 16	I, J & K	3	11	7	15,16	TB2-25	TB2-26	TB2-27	TB2-28	85
PLC ARM CLOSE COMMAND	ZONE INPUT 19	I, J & K	3	11	8	17,18	TB2-29	TB2-30	TB2-31	TB2-32	85
PLC ARM COMMAND	ZONE INPUT 21		3	11	9	21,22	TB2-33	TB2-34	TB2-35	TB2-36	110
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 23		3	11	10	23,24	TB2-37	TB2-38	TB2-39	TB2-40	110
PLC ARM CLOSE COMMAND	ZONE INPUT 24		3	11	11	25,26	TB2-41	TB2-42	TB2-43	TB2-44	110
PLC ACTIVATE COMMAND	ZONE INPUT 2	LAS, A & B	3	12	1	1,2	TB2-49	TB2-50	TB2-51	TB2-52	58
PLC ACTIVATE CLOSE COMMAND	ZONE INPUTS 5	LAS, A & B	3	12	2	3,4	TB2-53	TB2-54	TB2-55	TB2-56	59
PLC ACTIVATE COMMAND	ZONE INPUT 7	C & E	3	12	3	5,6	TB2-57	TB2-58	TB2-59	TB2-60	67
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 10	C & E	3	12	4	7,8	TB2-61	TB2-62	TB2-63	TB2-64	68
PLC ACTIVATE COMMAND	ZONE INPUT 12	F1, G & H	3	12	5	11,12	TB2-65	TB2-66	TB2-67	TB2-68	76
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 15	F1, G & H	3	12	6	13,14	TB2-69	TB2-70	TB2-71	TB2-72	77
PLC ACTIVATE COMMAND	ZONE INPUT 17	I, J & K	3	12	7	15,16	TB2-73	TB2-74	TB2-75	TB2-76	85
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 20	I, J & K	3	12	8	17,18	TB2-77	TB2-78	TB2-79	TB2-80	86
PLC ACTIVATE COMMAND	ZONE INPUT 22		3	12	9	21,22	TB2-81	TB2-82	TB2-83	TB2-84	110
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 25		3	12	10	23,24	TB2-85	TB2-86	TB2-87	TB2-88	110
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 3	LAS, A & B	3	13	1	1,2	TB2-97	TB2-98	TB2-99	TB2-100	58
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 8	C & E	3	13	2	3,4	TB2-101	TB2-102	TB2-103	TB2-104	67
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 13	F1, G & H	3	13	3	5,6	TB2-105	TB2-106	TB2-107	TB2-108	76
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 18	I, J & K	3	13	4	7,8	TB2-109	TB2-110	TB2-111	TB2-112	85
F TOWER ALARM ALARM PLATFORM LEVEL LAS-AUX	OTV I/F OUTPUT 1	#N/A	3	13	5	11,12	TB2-113	TB2-114			98
F TOWER ALARM ALARM PLATFORM LEVEL A	OTV I/F OUTPUT 2	#N/A	3	13	6	13,14	TB2-117	TB2-118			98
F TOWER ALARM ALARM PLATFORM LEVEL B	OTV I/F OUTPUT 3	#N/A	3	13	7	15,16	TB2-121	TB2-122			98
F TOWER ALARM ALARM PLATFORM LEVEL C	OTV I/F OUTPUT 4	#N/A	3	13	8	17,18	TB2-125	TB2-126			98
F TOWER ALARM ALARM PLATFORM LEVEL E	OTV I/F OUTPUT 5	#N/A	3	13	9	21,22	TB2-129	TB2-130			99
F TOWER ALARM ALARM PLATFORM LEVEL F-1	OTV I/F OUTPUT 6	#N/A	3	13	10	23,24	TB2-133	TB2-134			99
F TOWER ALARM ALARM PLATFORM LEVEL G	OTV I/F OUTPUT 7	#N/A	3	13	11	25,26	TB2-137	TB2-138			99
F TOWER ALARM ALARM PLATFORM LEVEL H	OTV I/F OUTPUT 8	#N/A	3	13	12	27,28	TB2-141	TB2-142			99
F TOWER ALARM ALARM PLATFORM LEVEL I	OTV I/F OUTPUT 9	#N/A	3	13	13	31,32	TB2-145	TB2-146			100
F TOWER ALARM ALARM PLATFORM LEVEL J	OTV I/F OUTPUT 10	#N/A	3	13	14	33,34	TB2-149	TB2-150			100
F TOWER ALARM ALARM PLATFORM LEVEL K	OTV I/F OUTPUT 11	#N/A	3	13	15	35,36	TB2-153	TB2-154			100

SPECIFIC NOTES:

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B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

SYM	ZONE	DESCRIPTION	DATE	APPROVED

REVISIONS

SIGNATURES		DATE
DRAWN	J.EATON	9/29/10
CHECKED	S. BROWN	9/29/10
ENGINEER	J.EATON	9/29/10
SUBMITTED		10/4/10
APPROVED		10/4/10

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KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -2, PLC A
CONNECTION LIST 6

SIZE F | DWG. NO. 410E1500001 | REV -

TITLE TA-83B | PROJ. NO. NONE | SHEET 25 OF

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s025

E-24

KSC FORM 1-11 (REV. 3/76)
(CIS 19/92)

NOTICE - WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS, OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOVERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSOEVER; AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS OR OTHER DATA IS NOT TO BE REGARDED BY IMPLICATION OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	OUTPUT	PLC OUTPUT TERM	TERM A	TERM B	TERM C	TERM D	GIS 734E1100001 SHEET NUMBER
PLC ARM COMMAND	ZONE INPUT 25	LAS, A & B	2	3	1	1,2	TB4-1	TB4-2	TB4-3	TB4-4	58
PLC ARM CLOSE COMMAND	ZONE INPUT 28	LAS, A & B	2	3	2	3,4	TB4-5	TB4-6	TB4-7	TB4-8	58
PLC ARM COMMAND	ZONE INPUT 30	C & E	2	3	3	5,6	TB4-9	TB4-10	TB4-11	TB4-12	67
PLC ARM CLOSE COMMAND	ZONE INPUT 33	C & E	2	3	4	7,8	TB4-13	TB4-14	TB4-15	TB4-16	67
PLC ARM COMMAND	ZONE INPUT 35	F1, G & H	2	3	5	11,12	TB4-17	TB4-18	TB4-19	TB4-20	76
PLC ARM CLOSE COMMAND	ZONE INPUT 38	F1, G & H	2	3	6	13,14	TB4-21	TB4-22	TB4-23	TB4-24	76
PLC ARM COMMAND	ZONE INPUT 40	I, J & K	2	3	7	15,16	TB4-25	TB4-26	TB4-27	TB4-28	85
PLC ARM CLOSE COMMAND	ZONE INPUT 43	I, J & K	2	3	8	17,18	TB4-29	TB4-30	TB4-31	TB4-32	85
F TOWER ALARM ALARM PLATFORM LEVEL A	OTV I/F OUTPUT 2	#N/A	2	3	9	21,22	TB4-37	TB4-38			98
F TOWER ALARM ALARM PLATFORM LEVEL B	OTV I/F OUTPUT 3	#N/A	2	3	10	23,24	TB4-41	TB4-42			98
F TOWER ALARM ALARM PLATFORM LEVEL C	OTV I/F OUTPUT 4	#N/A	2	3	12	27,28	TB4-45	TB4-46			98
F TOWER ALARM ALARM PLATFORM LEVEL E	OTV I/F OUTPUT 5	#N/A	2	3	13	31,32	TB4-49	TB4-50			99
F TOWER ALARM ALARM PLATFORM LEVEL F-1	OTV I/F OUTPUT 6	#N/A	2	3	14	33,34	TB4-53	TB4-54			99
F TOWER ALARM ALARM PLATFORM LEVEL G	OTV I/F OUTPUT 7	#N/A	2	3	15	35,36	TB4-57	TB4-58			99
PLC ACTIVATE COMMAND	ZONE INPUT 26	LAS, A & B	2	4	1	1,2	TB4-63	TB4-64	TB4-65	TB4-66	58
PLC ACTIVATE CLOSE COMMAND	ZONE INPUTS 29	LAS, A & B	2	4	2	3,4	TB4-67	TB4-68	TB4-69	TB4-70	59
PLC ACTIVATE COMMAND	ZONE INPUT 31	C & E	2	4	3	5,6	TB4-71	TB4-72	TB4-73	TB4-74	67
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 34	C & E	2	4	4	7,8	TB4-75	TB4-76	TB4-77	TB4-78	68
PLC ACTIVATE COMMAND	ZONE INPUT 36	F1, G & H	2	4	5	11,12	TB4-79	TB4-80	TB4-81	TB4-82	76
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 39	F1, G & H	2	4	6	13,14	TB4-83	TB4-84	TB4-85	TB4-86	77
PLC ACTIVATE COMMAND	ZONE INPUT 41	I, J & K	2	4	7	15,16	TB4-87	TB4-88	TB4-89	TB4-90	85
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 44	I, J & K	2	4	8	17,18	TB4-91	TB4-92	TB4-93	TB4-94	86
F TOWER ALARM ALARM PLATFORM LEVEL H	OTV I/F OUTPUT 8	#N/A	2	4	9	21,22	TB4-95	TB4-96	TB4-97	TB4-98	99
F TOWER ALARM ALARM PLATFORM LEVEL I	OTV I/F OUTPUT 9	#N/A	2	4	10	23,24	TB4-99	TB4-100	TB4-101	TB4-102	100
F TOWER ALARM ALARM PLATFORM LEVEL J	OTV I/F OUTPUT 10	#N/A	2	4	11	25,26	TB4-103	TB4-104	TB4-105	TB4-106	100
F TOWER ALARM ALARM PLATFORM LEVEL K	OTV I/F OUTPUT 11	#N/A	2	4	12	27,28	TB4-107	TB4-108	TB4-109	TB4-110	100
PLC ARM COMMAND	ZONE INPUT 45		2	4	13	31,32	TB4-111	TB4-112	TB4-113	TB4-114	111
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 47		2	4	14	33,34	TB4-115	TB4-116	TB4-117	TB4-118	111
PLC ACTIVATE CLOSE COMMAND	ZONE INPUT 49		2	4	15	35,36	TB4-119	TB4-120	TB4-121	TB4-122	111
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 27	LAS, A & B	2	5	1	1,2	TB4-123	TB4-124	TB4-125	TB4-126	58
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 32	C & E	2	5	2	3,4	TB4-127	TB4-128	TB4-129	TB4-130	67
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 37	F1, G & H	2	5	3	5,6	TB4-131	TB4-132	TB4-133	TB4-134	76
PLC 3IR OVERRIDE COMMAND	ZONE INPUT 42	I, J & K	2	5	4	7,8	TB4-135	TB4-136	TB4-137	TB4-138	85
PLC ACTIVATE COMMAND	ZONE INPUT 46		2	5	5	11,12	TB4-139	TB4-140	TB4-141	TB4-142	111
PLC ARM CLOSE COMMAND	ZONE INPUT 48		2	5	6	13,14	TB4-143	TB4-144	TB4-145	TB4-146	111
F TOWER ALARM ALARM PLATFORM LEVEL LAS-AUX	OTV I/F OUTPUT 1	#N/A	2	5	7	15,16	TB4-147	TB4-148	TB4-149	TB4-150	111

SPECIFIC NOTES:

A. ALL TERMINALS ARE ALSO SHOWN IN ELECTRICAL SCHEMATIC SHEETS.

B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s026

E-25

SYM	ZONE	DESCRIPTION	DATE	APPROVED

REVISIONS

SIGNATURES		DATE
DRAWN	J.EATON	9/25/10
CHECKED	S. BROWN	9/28/10
ENGINEER	J.EATON	9/28/10
SUBMITTED		10/4/10
APPROVED		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
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KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -2, PLC B
CONNECTION LIST 1

SIZE F | DWG. NO. 410E1500001 | REV -

TITLE TA-039 | PROJ. NO. NONE | SHEET 26 OF

KSC FORM 1-11 (REV. 3/76)
(OG 12/92)

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FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	PLC OUTPUT TERM	24 VDC FUSE BLOCK	TERM A	TERM B	TERM C	TERM D	GIS 734E1100001 SHEET NUMBER
LAS-AUX - ARM STATION	OUTPUT 19-1	LAS, A & B	2	6	1	1,9	FB-3	TB3-1	TB3-301			60
PLATFORM A - ARM STATION	OUTPUT 19-2	LAS, A & B	2	6	2	2,9	FB-3	TB3-2	TB3-302			60
PLATFORM B - ARM STATION	OUTPUT 19-3	LAS, A & B	2	6	3	3,9	FB-3	TB3-3	TB3-303			60
LAS-AUX - ACTIVATE STATION	OUTPUT 19-4	LAS, A & B	2	6	4	4,9	FB-3	TB3-4	TB3-304			60
PLATFORM A - ACTIVATE STATION	OUTPUT 19-5	LAS, A & B	2	6	5	5,9	FB-3	TB3-5	TB3-305			61
PLATFORM B - ACTIVATE STATION	OUTPUT 19-6	LAS, A & B	2	6	6	6,9	FB-3	TB3-6	TB3-306			61
LAS-AUX 3IR DETECTOR EAST OR WEST	OUTPUT 19-7	LAS, A & B	2	6	7	7,9	FB-3	TB3-7	TB3-307			61
PLATFORM A 3IR DETECTOR EAST OR WEST	OUTPUT 19-8	LAS, A & B	2	6	8	8,9	FB-3	TB3-8	TB3-308			62
PLATFORM B 3IR DETECTOR EAST OR WEST	OUTPUT 20-1	LAS, A & B	2	6	9	11,19	FB-3	TB3-9	TB3-309			62
SUMMARY QUAD VALVE OPEN COMMAND ON	OUTPUT 20-2	LAS, A & B	2	6	10	12,19	FB-3	TB3-10	TB3-310			63
SUMMARY QUAD VALVE CLOSE COMMAND ON	OUTPUT 20-3	LAS, A & B	2	6	12	14,19	FB-3	TB3-11	TB3-311			63
ARM VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 20-4	LAS, A & B	2	6	13	15,19	FB-3	TB3-12	TB3-312			64
ARM VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 20-5	LAS, A & B	2	6	14	16,19	FB-3	TB3-13	TB3-313			64
ACTIVATE VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 20-6	LAS, A & B	2	6	15	17,19	FB-3	TB3-14	TB3-314			64
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 20-7	LAS, A & B	2	6	16	18,19	FB-3	TB3-15	TB3-315			65
PLATFORM LAS-AUX, A, B FLOW SWITCH	OUTPUT 20-8	LAS, A & B	2	6	17	21,29	FB-3	TB3-16	TB3-316			65
PLATFORM C - ARM STATION	OUTPUT 21-1	C & E	2	6	18	22,29	FB-3	TB3-17	TB3-317			69
PLATFORM E - ARM STATION	OUTPUT 21-2	C & E	2	6	19	23,29	FB-3	TB3-18	TB3-318			69
PLATFORM C - ACTIVATE STATION	OUTPUT 21-3	C & E	2	6	20	24,29	FB-3	TB3-19	TB3-319			69
PLATFORM E - ACTIVATE STATION	OUTPUT 21-4	C & E	2	6	21	25,29	FB-3	TB3-20	TB3-320			69
PLATFORM C 3IR DETECTOR EAST OR WEST	OUTPUT 21-5	C & E	2	6	22	26,29	FB-3	TB3-21	TB3-321			70
PLATFORM E 3IR DETECTOR EAST OR WEST	OUTPUT 21-6	C & E	2	6	23	27,29	FB-3	TB3-22	TB3-322			70
SUMMARY QUAD VALVE OPEN COMMAND ON	OUTPUT 21-7	C & E	2	6	24	28,29	FB-3	TB3-23	TB3-323			72
SUMMARY QUAD VALVE CLOSE COMMAND ON	OUTPUT 21-8	C & E	2	6	25	31,39	FB-3	TB3-24	TB3-324			72
ARM VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 22-1	C & E	2	6	26	32,39	FB-3	TB3-25	TB3-325			73
ARM VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 22-2	C & E	2	6	27	33,39	FB-3	TB3-26	TB3-326			73
ACTIVATE VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 22-3	C & E	2	6	28	34,39	FB-3	TB3-27	TB3-327			73
"ACTIVATE VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES -NOTE 9"	OUTPUT 22-4	C & E	2	6	29	35,39	FB-3	TB3-28	TB3-328			74
PLATFORM C, 2, E FLOW SWITCH	OUTPUT 22-5	C & E	2	6	30	36,39	FB-3	TB3-29	TB3-329			74
LEVEL 1 - ARM STATION	OUTPUT 22-6	F1, G & H	2	7	1	1,9	FB-4	TB3-34	TB3-334			78
LEVEL 2 - ARM STATION	OUTPUT 22-7	F1, G & H	2	7	2	2,9	FB-4	TB3-35	TB3-335			78
LEVEL 3 - ARM STATION	OUTPUT 22-8	F1, G & H	2	7	3	3,9	FB-4	TB3-36	TB3-336			78
LEVEL 1 - ACTIVATE STATION	OUTPUT 23-1	F1, G & H	2	7	4	4,9	FB-4	TB3-37	TB3-337			78
LEVEL 2 - ACTIVATE STATION	OUTPUT 23-2	F1, G & H	2	7	5	5,9	FB-4	TB3-38	TB3-338			79
LEVEL 3 - ACTIVATE STATION	OUTPUT 23-3	F1, G & H	2	7	6	6,9	FB-4	TB3-39	TB3-339			79
LEVEL 1 3IR DETECTOR EAST OR WEST	OUTPUT 23-4	F1, G & H	2	7	7	7,9	FB-4	TB3-40	TB3-340			79
LEVEL 2 3IR DETECTOR EAST OR WEST	OUTPUT 23-5	F1, G & H	2	7	8	8,9	FB-4	TB3-41	TB3-341			80
LEVEL 3 3IR DETECTOR EAST OR WEST	OUTPUT 23-6	F1, G & H	2	7	9	11,19	FB-4	TB3-42	TB3-342			80
SUMMARY QUAD VALVE OPEN COMMAND ON	OUTPUT 23-7	F1, G & H	2	7	10	12,19	FB-4	TB3-43	TB3-343			81
SUMMARY QUAD VALVE CLOSE COMMAND ON	OUTPUT 23-8	F1, G & H	2	7	12	14,19	FB-4	TB3-44	TB3-344			81
ARM VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 24-1	F1, G & H	2	7	13	15,19	FB-4	TB3-45	TB3-345			82

SPECIFIC NOTES:

A. ALL TERMINALS ARE ALSO SHOWN IN ELECTRICAL SCHEMATIC SHEETS.

B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s027

E-26

SYM	ZONE	DESCRIPTION	DATE	APPROVED

REVISIONS

SIGNATURES		DATE
DRAWN	J.EATON	9/28/10
CHECKED	S. BROWN	9/28/10
ENGINEER	J.EATON	9/28/10
SUBMITTED		10/4/10
APPROVED		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -2, PLC B
CONNECTION LIST 2

SIZE F | DWG. NO. 410E1500001 | REV -

TITLE TA-038 | PROJ. NO. NONE | SHEET 27 OF

KSC FORM 1-11 (REV. 3/78) (CFG 13/92)

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FUNCTION	DELUGE CONTROL PANEL	PLATFORM AREAS	RACK	CARD	INPUT	PLC OUTPUT TERM	24 VDC FUSE BLOCK	TERM A	TERM B	GIS 734E1100001 SHEET NUMBER
ARM VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 24-2	F1, G & H	2	7	14	16,19	FB-4	TB3-46	TB3-346	82
ACTIVATE VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 24-3	F1, G & H	2	7	15	17,19	FB-4	TB3-47	TB3-347	82
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 24-4	F1, G & H	2	7	16	18,19	FB-4	TB3-48	TB3-348	83
PLATFORM 1, 2, 3 FLOW SWITCH	OUTPUT 24-5	F1, G & H	2	7	17	21,29	FB-4	TB3-49	TB3-349	83
LEVEL 1 - ARM STATION	OUTPUT 24-6	I, J & K	2	7	18	22,29	FB-4	TB3-50	TB3-350	87
LEVEL 2 - ARM STATION	OUTPUT 24-7	I, J & K	2	7	19	23,29	FB-4	TB3-51	TB3-351	87
LEVEL 3 - ARM STATION	OUTPUT 24-8	I, J & K	2	7	20	24,29	FB-4	TB3-52	TB3-352	87
LEVEL 1 - ACTIVATE STATION	OUTPUT 25-1	I, J & K	2	7	21	25,29	FB-4	TB3-53	TB3-353	87
LEVEL 2 - ACTIVATE STATION	OUTPUT 25-2	I, J & K	2	7	22	26,29	FB-4	TB3-54	TB3-354	88
LEVEL 3 - ACTIVATE STATION	OUTPUT 25-3	I, J & K	2	7	23	27,29	FB-4	TB3-55	TB3-355	88
LEVEL 1 3IR DETECTOR EAST OR WEST	OUTPUT 25-4	I, J & K	2	7	24	28,29	FB-4	TB3-56	TB3-356	88
LEVEL 2 3IR DETECTOR EAST OR WEST	OUTPUT 25-5	I, J & K	2	7	25	31,39	FB-4	TB3-57	TB3-357	89
LEVEL 3 3IR DETECTOR EAST OR WEST	OUTPUT 25-6	I, J & K	2	7	26	32,39	FB-4	TB3-58	TB3-358	89
SUMMARY QUAD VALVE OPEN COMMAND ON	OUTPUT 25-7	I, J & K	2	7	27	33,39	FB-4	TB3-59	TB3-359	90
SUMMARY QUAD VALVE CLOSE COMMAND ON	OUTPUT 25-8	I, J & K	2	7	28	34,39	FB-4	TB3-60	TB3-360	90
ARM VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 26-1	I, J & K	2	7	29	35,39	FB-4	TB3-61	TB3-361	90
ARM VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 26-2	I, J & K	2	7	30	36,39	FB-4	TB3-62	TB3-362	90
ACTIVATE VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 26-3	I, J & K	2	7	31	37,39	FB-4	TB3-63	TB3-363	90
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 26-4	I, J & K	2	8	1	1,9	FB-5	TB3-66	TB3-366	92
PLATFORM 1, 2, 3 FLOW SWITCH	OUTPUT 26-5	I, J & K	2	8	2	2,9	FB-5	TB3-67	TB3-367	92
DELUGE VALVE OPEN COMMAND LOCKOUT	OUTPUT 26-6	I, J & K	2	8	3	3,9	FB-5	TB3-68	TB3-368	93
SPARE							FB-5	TB3-69	TB3-369	
ANY DELUGE CONTROL PANEL TROUBLE	OUTPUT 26-8	#N/A	2	8	4	4,9	FB-5	TB3-70	TB3-370	97
PLATFORM LAS-AUX - MANUAL PULL STATION	OUTPUT 27-1	LAS, A & B	2	8	5	5,9	FB-5	TB3-71	TB3-371	94
PLATFORM A - MANUAL PULL STATION	OUTPUT 27-2	LAS, A & B	2	8	6	6,9	FB-5	TB3-72	TB3-372	94
PLATFORM B - MANUAL PULL STATION	OUTPUT 27-3	LAS, A & B	2	8	7	7,9	FB-5	TB3-73	TB3-373	94
PLATFORM C - MANUAL PULL STATION	OUTPUT 27-4	C & E	2	8	8	8,9	FB-5	TB3-74	TB3-374	94
PLATFORM E - MANUAL PULL STATION	OUTPUT 27-5	C & E	2	8	9	11,19	FB-5	TB3-75	TB3-375	95
PLATFORM F-1 - MANUAL PULL STATION	OUTPUT 27-6	F1, G & H	2	8	10	12,19	FB-5	TB3-76	TB3-376	95
PLATFORM G - MANUAL PULL STATION	OUTPUT 27-7	F1, G & H	2	8	11	13,19	FB-5	TB3-77	TB3-377	95
PLATFORM H - MANUAL PULL STATION	OUTPUT 27-8	F1, G & H	2	8	12	14,19	FB-5	TB3-78	TB3-378	95
PLATFORM I - MANUAL PULL STATION	OUTPUT 28-1	I, J & K	2	8	13	15,19	FB-5	TB3-79	TB3-379	96
PLATFORM J - MANUAL PULL STATION	OUTPUT 28-2	I, J & K	2	8	14	16,19	FB-5	TB3-80	TB3-380	96
PLATFORM K - MANUAL PULL STATION	OUTPUT 28-3	I, J & K	2	8	15	17,19	FB-5	TB3-81	TB3-381	96
SUMMARY QUAD VALVE OPEN COMMAND ON - NOTE 5	OUTPUT 31-5 (245)		2	8	16	18,19	FB-5	TB3-82	TB3-382	112
SUMMARY QUAD VALVE CLOSE COMMAND ON - NOTE 7	OUTPUT 31-6 (246)		2	8	17	21,29	FB-5	TB3-83	TB3-383	112
ARM VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 31-7 (247)		2	8	18	22,29	FB-5	TB3-84	TB3-384	112
ARM VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 31-8 (248)		2	8	19	23,29	FB-5	TB3-85	TB3-385	112
ACTIVATE VALVE OPEN LIMIT SWITCH (A) OR (B) VALVE	OUTPUT 32-1 (249)		2	8	20	24,29	FB-5	TB3-86	TB3-386	112
ACTIVATE VALVE CLOSED LIMIT SWITCH (A) AND (B) VALVES	OUTPUT 32-2 (250)		2	8	21	25,29	FB-5	TB3-87	TB3-387	112
PLATFORM 1, 2, 3 FLOW SWITCH	OUTPUT 32-3 (251)		2	8	22	26,29	FB-5	TB3-88	TB3-388	112
DELUGE VALVE OPEN COMMAND LOCKOUT	OUTPUT 32-4 (252)		2	8	23	27,29	FB-5	TB3-89	TB3-389	112
DELUGE CONTROL PANEL SUMMARY SUPERVISORY	OUTPUT 26-7	#N/A	2	8	24	28,29	FB-5	TB3-90	TB3-391	97

SPECIFIC NOTES:

A. ALL TERMINALS ARE ALSO SHOWN IN ELECTRICAL SCHEMATIC SHEETS.

B. TERMINATIONS ARE CONNECTED BY I/O CARD. SEE TERMINAL DETAIL SHEET FOR MORE INFORMATION.

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J.EATON	9/28/10
CHECKED	S. BROWN	10/04/10
ENGINEER	J.EATON	9/28/10
SUBMITTED		10/4/10
APPROVED		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION
ENCLOSURE -2, PLC B
CONNECTION LIST 3

SIZE F | DWG. NO. 410E1500001 | REV -
TITLE 14-83B | PROJ. NO. NONE | SHEET 28 OF

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s028

E-27

KSC FORM 1-11 (REV. 3/78) (CIG 12/92)

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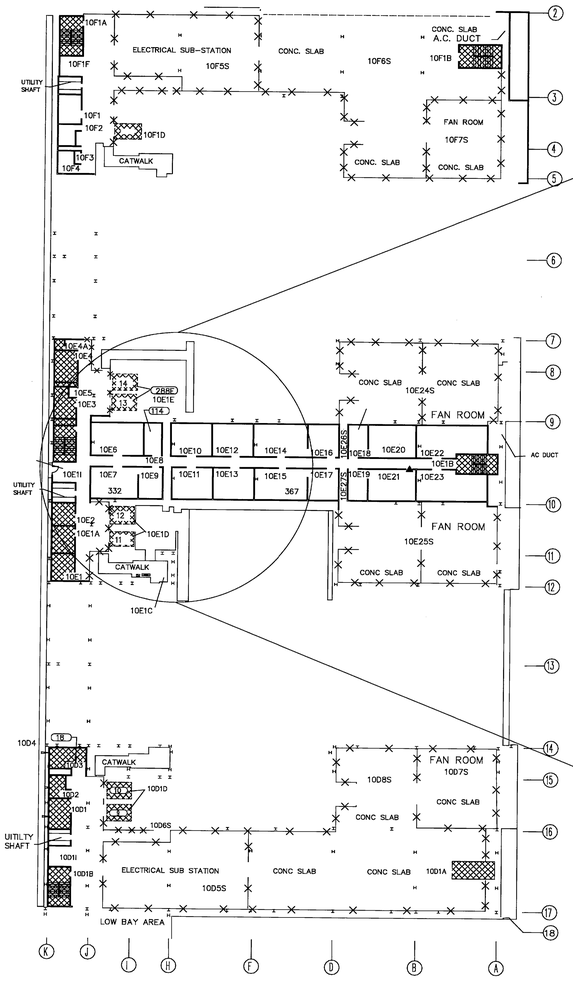
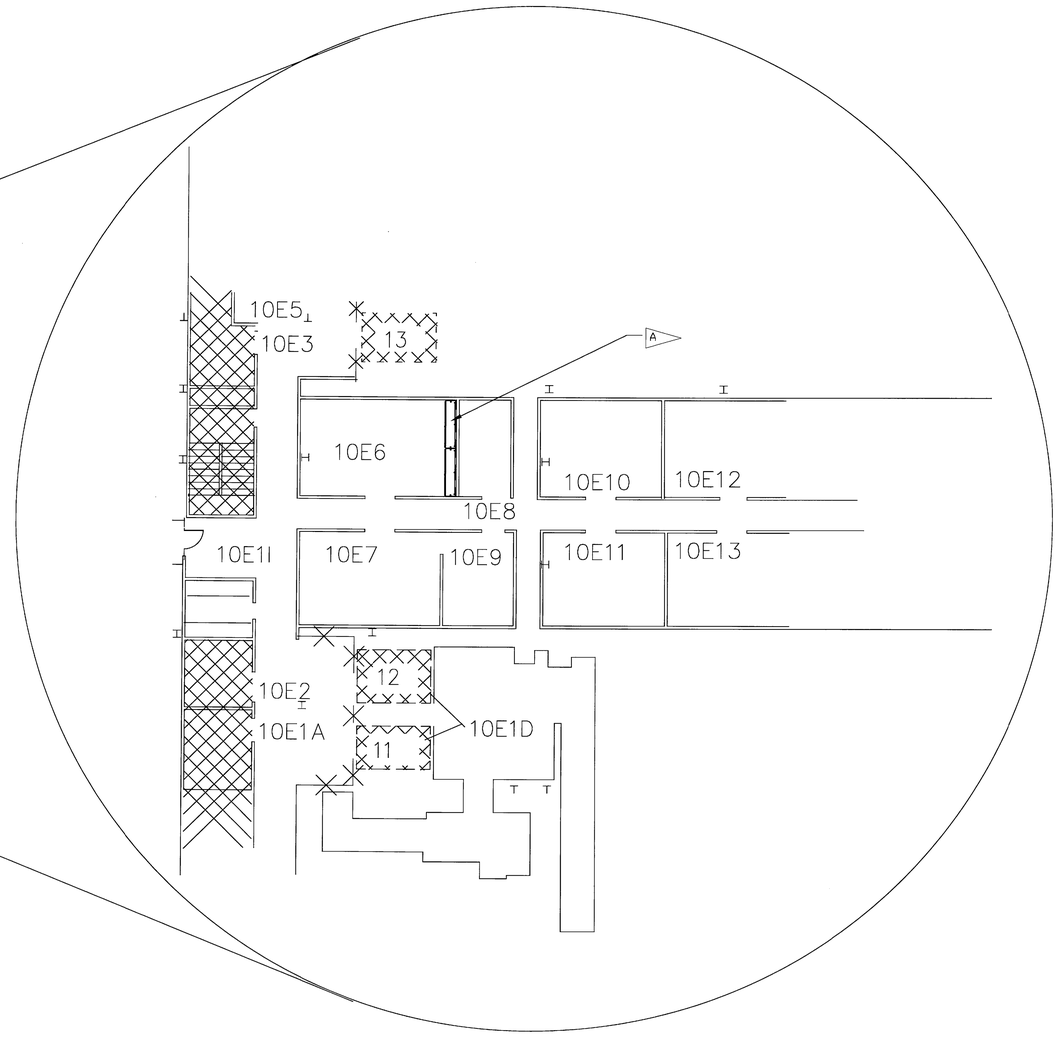


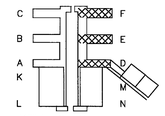


SPECIFIC NOTES:

A. INSTALL ENCLOSURES 1 AND 2 IN THIS AREA OR AS DEFINED BY INSTALLATION CONTRACT. REFER TO VAB HIGH BAY 3 PLATFORMS FOR CONSTELLATION DESIGN AND INSTALLATION PROJECT.

B. EACH ENCLOSURE IS APPROX. 6 FT WIDE BY 6 FT TALL. THE DEPTH WILL BE 12 OR 24 INCHES.

C. THE ENCLOSURES SHALL BE MODIFIED OR PURCHASED TO BE EMC COMPLIANT AS REQUIRED BY THE PROGRAM. THE GOVERNMENT MAY CHOOSE TO PROVIDE THE ENCLOSURES AS GFE.



KEY PLAN

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s029

E-28

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J.EATON	9/28/10
CHECKED	S. BROWN	9/28/10
ENGINEER	J.EATON	9/28/10
SUBMITTED		10/4/10
APPROVED		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION

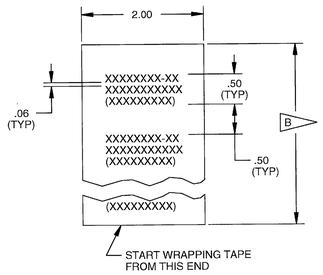
INSTALLATION FLOOR PLAN

SIZE F | DWG. NO. 410E1500001 | REV -

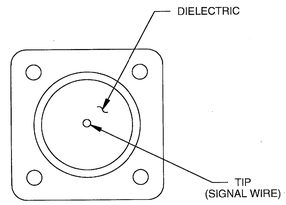
TITLE TA-83B | PROJ. NO. NONE | SHEET 29 OF

KSC FORM 1-11 (REV. 3/76) (CFS 13192)

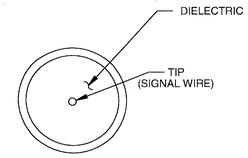
NOTICE - WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS, OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOVERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSOEVER; AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS, OR OTHER DATA IS NOT TO BE REGARDED BY IMPLICATION OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.



LABEL MARKING DETAIL



COAX CABLE RECEPTACLE
(END VIEW)

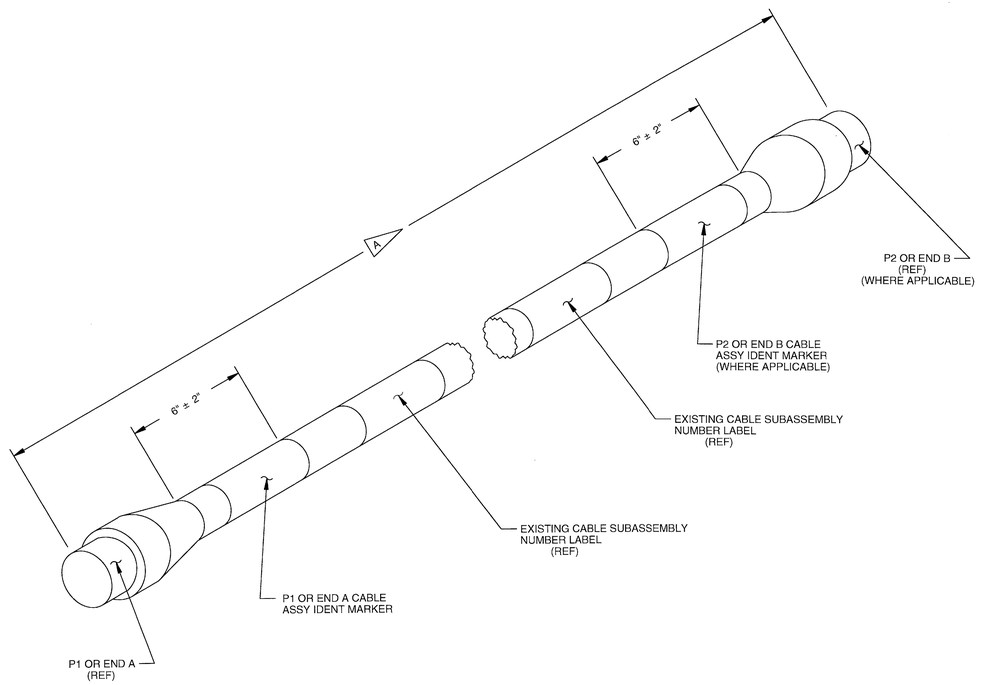


COAX CABLE PLUG
(END VIEW)

GENERAL NOTES:

A. CABLE SHALL BE ASSEMBLED USING RG-11 QUAD SHIELDED WIRE. CABLE FABRICATION SHALL FOLLOW THE MODICON GUIDE 890 USE 101 00 REMOTE I/O CABLE SYSTEM PLANNING AND INSTALLATION.

B. HOT STAMP REQUIRED IDENTIFICATION PER KSC-STD-E-0015 USING .12 INCH WHITE UPPER CASE GOTHIC CHARACTERS OVER ENTIRE LENGTH OF MARKER TAPE (APPROX 10 TIMES THE CABLE DIAMETER) AND INSTALL AS SHOWN.



TYPICAL CABLE MARKING DETAIL

XXXXXW3 401E1500001-3	120E3400021-XXDX	TBD	401E1500001-4 XXXXW4P1 PLC B SEC RIO NET	401E1500001-4 XXXXW4P2 PLC B SEC RIO NET	M17/6-RG11 (MODICON 97-5951-000)	52-0401-000	52-0401-000
XXXXXW3 401E1500001-3	120E3400021-XXDX	TBD	401E1500001-3 XXXXW3P1 PLC B PRIMARY RIO NET	401E1500001-3 XXXXW3P2 PLC B PRIMARY RIO NET	M17/6-RG11 (MODICON 97-5951-000)	52-0401-000	52-0401-000
XXXXXW2 401E1500001-2	120E3400021-XXDX	TBD	401E1500001-2 XXXXW2P1 PLC A SEC RIO NET	401E1500001-2 XXXXW2P2 PLC A SEC RIO NET	M17/6-RG11 (MODICON 97-5951-000)	52-0401-000	52-0401-000
XXXXXW1 401E1500001-1	120E3400021-XXDX	TBD	401E1500001-1 XXXXW1P1 PLC A PRIMARY RIO NET	401E1500001-1 XXXXW1P2 PLC A PRIMARY RIO NET	M17/6-RG11 (MODICON 97-5951-000)	52-0401-000	52-0401-000
REFERENCE DESIGNATION AND ASSEMBLY NUMBER	SUBASSEMBLY PART NUMBER	LENGTH IN FEET	CABLE LABEL MARKING PER 75M11300-1 P1 END	CABLE LABEL MARKING PER 75M11300-1 P2 END	BULK CABLE & CODE	P1 OR END A CONNECTOR	P2 OR END B CONNECTOR
CABLE ASSY	LIST OF MATERIAL				REFERENCE INFORMATION		

THIS DRAWING CREATED USING AUTOCAD ELECTRICAL
FILENAME: 410E1500001s030

E-29

SYM	ZONE	DESCRIPTION	DATE	APPROVED
		REVISIONS		

SIGNATURES		DATE
DRAWN	J.EATON	9/28/10
CHECKED	S. BROWN	9/29/10
ENGINEER	J.EATON	9/29/10
SUBMITTED		10/4/10
APPROVED		10/4/10

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY COMPLEX CONTROL SYSTEM
VAB FIREX EQUIPMENT

ASSEMBLY AND INSTALLATION

CABLE ASSEMBLY

TITLE TA-83B

SIZE	DWG. NO.	REV
F	410E1500001	-
PROJ. NO. NONE	SHEET 30 OF 30	

KSC FORM 1-11 (REV. 3/78)
(CFG 12/92)