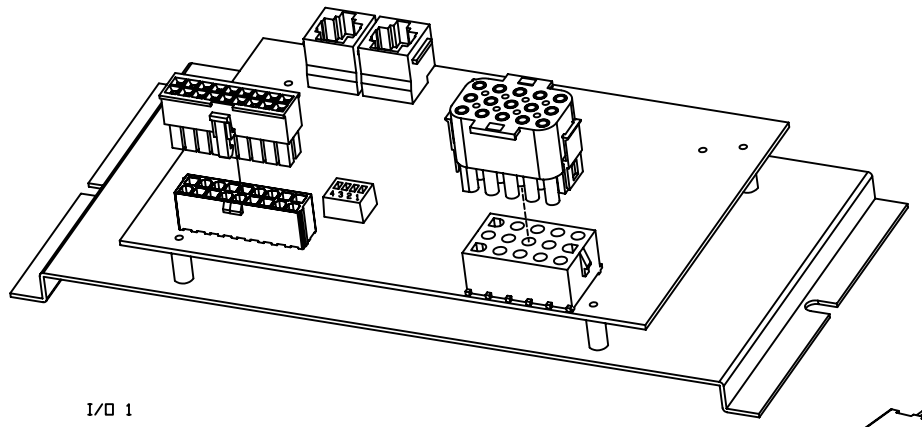
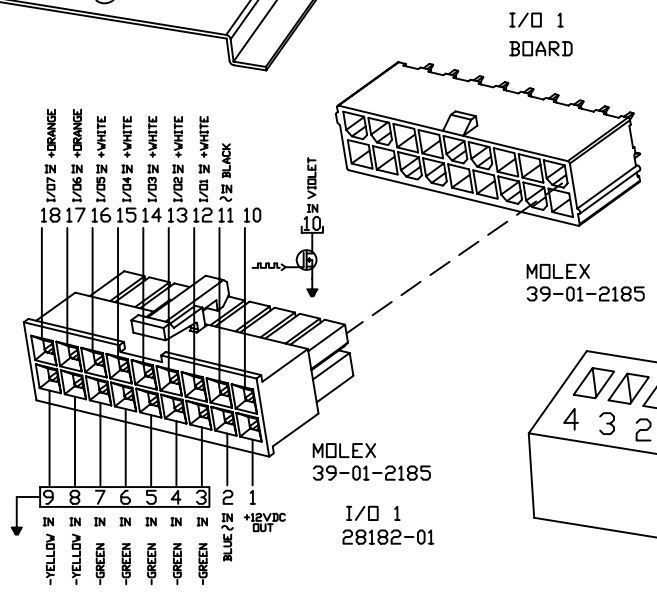
I/O-1 BOARD



I/O 1
PIN FUNCTION

1. +12VDC OUT
2. CURRENT DONUT 2~
3. GND FOR I/01, COL 1 SS TEMP
4. GND FOR I/02, COL 2 SS TEMP
5. GND FOR I/03, COL 3 SS TEMP
6. GND FOR I/04, COL 3 SS TEMP
7. GND FOR I/05, FRONT TRAY SS TEMP
8. GND FOR I/06, HEAD END FILTER SWITCH
9. GND FOR I/07, INPUT VOLTAGE SENSE
10. PWM GND
11. CURRENT DONUT 1~
12. +5 FOR I/01, COL 1 SS TEMP
13. +5 FOR I/02, COL 2 SS TEMP
14. +5 FOR I/03, COL 3 SS TEMP
15. +5 FOR I/04, COL 3 SS TEMP
16. +5 FOR I/05, FRONT TRAY SS TEMP
17. +5 FOR I/06, HEAD END FILTER SWITCH
18. +5 FOR I/07, INPUT VOLTAGE SENSE

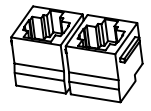


ALL DIP SWITCHES SHOULD BE SET TO OFF
FOR I/O-1 BOARD

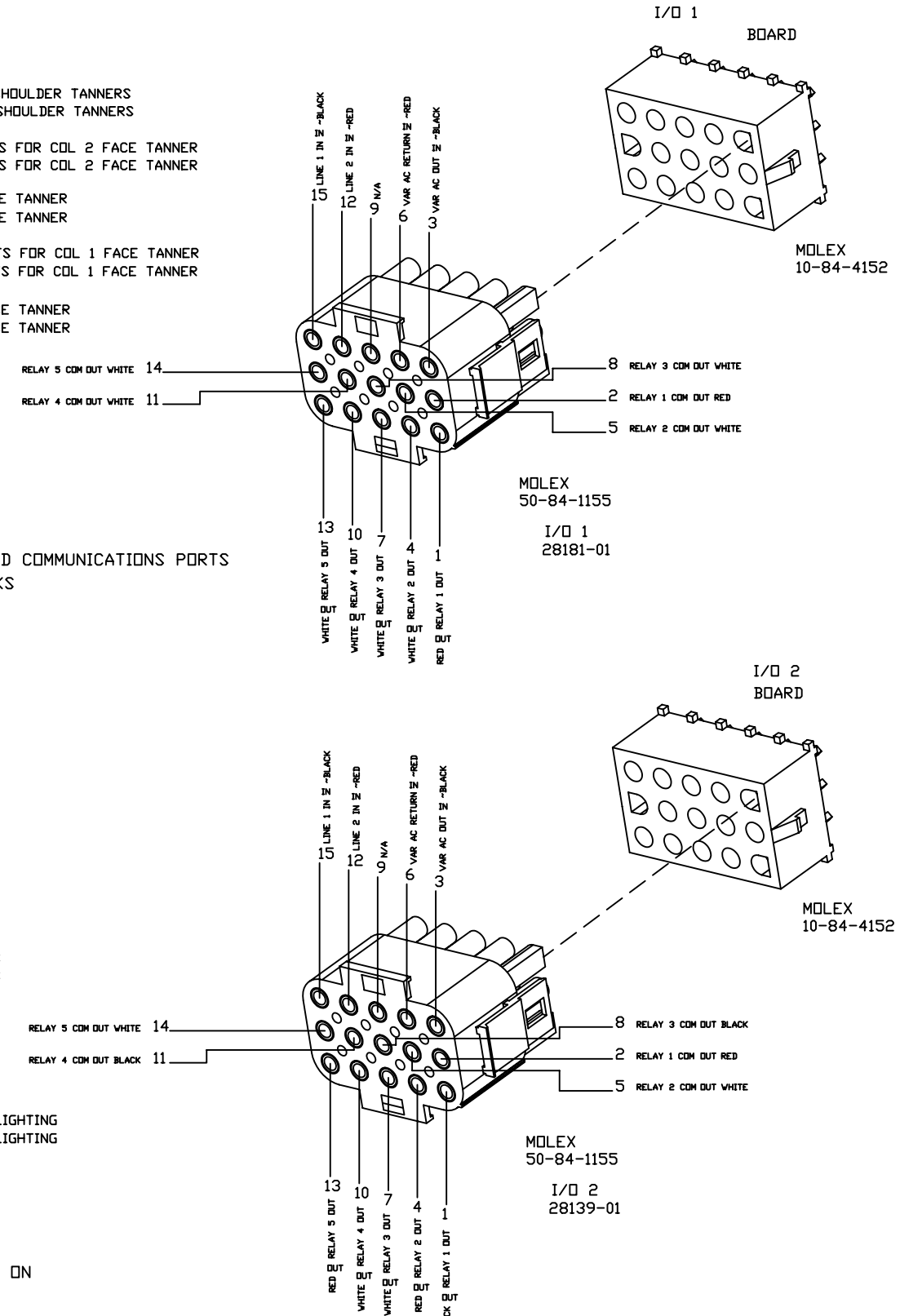
DIP SWITCHES

I/O 1
PIN FUNCTION

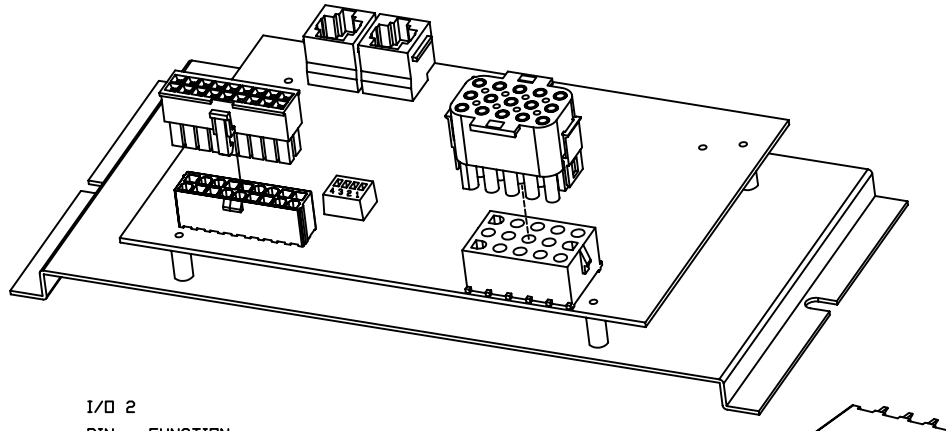
1. RELAY 1 OUTPUT FOR RELAY 1 COIL FOR ALL FACE/HEAD LAMPS AND SHOULDER TANNERS
2. RELAY 1 COMMON FOR RELAY 1 COIL FOR ALL FACE/HEAD LAMPS AND SHOULDER TANNERS
3. VARIABLE AC OUT FEED TO F6 BODY COOLING FAN
4. RELAY 2 OUTPUT FOR RELAY 2 COIL FOR ADDING IN 600W MORE WATTS FOR COL 2 FACE TANNER
5. RELAY 2 COMMON FOR RELAY 2 COIL FOR ADDING IN 600W MORE WATTS FOR COL 2 FACE TANNER
6. VARIABLE AC IN RETURN TO F6 BODY COOLING FAN
7. RELAY 3 OUTPUT FOR RELAY 3 COIL FOR TURNING ON/OFF COL 2 FACE TANNER
8. RELAY 3 COMMON FOR RELAY 3 COIL FOR TURNING ON/OFF COL 2 FACE TANNER
9. NO INTERNAL CONNECTION
10. RELAY 4 OUTPUT FOR RELAY 4 COIL FOR ADDING IN 600W MORE WATTS FOR COL 1 FACE TANNER
11. RELAY 4 COMMON FOR RELAY 4 COIL FOR ADDING IN 600W MORE WATTS FOR COL 1 FACE TANNER
12. LINE 2 IN AC RETURN POWER FOR I/O-1 BOARD
13. RELAY 5 OUTPUT FOR RELAY 5 COIL FOR TURNING ON/OFF COL 1 FACE TANNER
14. RELAY 5 COMMON FOR RELAY 5 COIL FOR TURNING ON/OFF COL 1 FACE TANNER
15. LINE 1 IN AC FEED POWER FOR I/O-1 BOARD



INTER BOARD COMMUNICATIONS PORTS
RJ-45 JACKS
RS-485

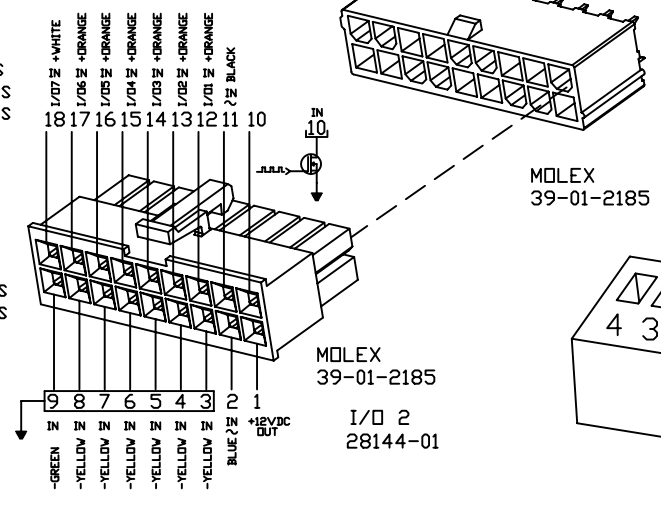


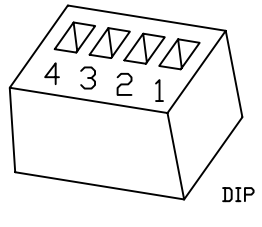
I/O-2 BOARD



I/O 2
PIN FUNCTION

1. +12VDC OUT
2. CURRENT DONUT 4~
3. GND FOR I/01, COL 1 GLASS SENSORS
4. GND FOR I/02, COL 2 GLASS SENSORS
5. GND FOR I/03, COL 3 GLASS SENSORS
6. GND FOR I/04, COL 1 AIR SWITCH
7. GND FOR I/05, COL 2 AIR SWITCH
8. GND FOR I/06, COL 3 AIR SWITCH
9. GND FOR I/07, TIME RESISTOR
10. PWM GND
11. CURRENT DONUT 3~
12. +5 FOR I/01, COL 1 GLASS SENSORS
13. +5 FOR I/02, COL 2 GLASS SENSORS
14. +5 FOR I/03, COL 3 GLASS SENSORS
15. +5 FOR I/04, COL 1 AIR SWITCH
16. +5 FOR I/05, COL 2 AIR SWITCH
17. +5 FOR I/06, COL 3 AIR SWITCH
18. +5 FOR I/07, TIME RESISTOR



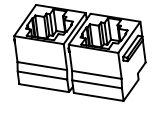


ALL DIP SWITCHES SHOULD BE SET TO OFF
EXECPT FOR DIP SWITCH 1. IT SHOULD BE SET TO ON
FOR I/O-2 BOARD

DIP SWITCHS

I/O 2
PIN FUNCTION

1. RELAY 1 OUTPUT FOR RELAY 6 COIL FOR BOTH SHOULDER TANNERS
2. RELAY 1 COMMON FOR RELAY 6 COIL FOR BOTH SHOULDER TANNERS
3. VARIABLE AC OUT FEED TO F7 BODY COOLING FAN
4. RELAY 2 OUTPUT FOR RELAY 7 COIL FOR ALL CHEST AND BUTT LAMPS
5. RELAY 2 COMMON FOR RELAY 7 COIL FOR ALL CHEST AND BUTT LAMPS
6. VARIABLE AC IN RETURN TO F7 BODY COOLING FAN
7. RELAY 3 OUTPUT FOR RELAY 8 COIL FOR ALL FEET AND HEAL LAMPS
8. RELAY 3 COMMON FOR RELAY 8 COIL FOR ALL FEET AND HEAL LAMPS
9. NO INTERNAL CONNECTION
10. RELAY 4 OUTPUT FOR RELAY 9 COIL FOR ALL UNIT COOLING FANS
11. RELAY 4 COMMON FOR RELAY 9 COIL FOR ALL UNIT COOLING FANS
12. LINE 2 IN AC RETURN POWER FOR I/O-2 BOARD
13. RELAY 5 OUTPUT FOR RELAY 10 COIL FOR ALL COULMN DECORATIVE LIGHTING
14. RELAY 5 COMMON FOR RELAY 10 COIL FOR ALL COULMN DECORATIVE LIGHTING
15. LINE 1 IN AC FEED POWER FOR I/O-2 BOARD

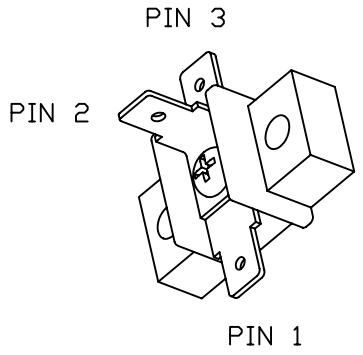


INTER BOARD COMMUNICATIONS PORTS
RJ-45 JACKS
RS-485

AC COLOR SCHEME

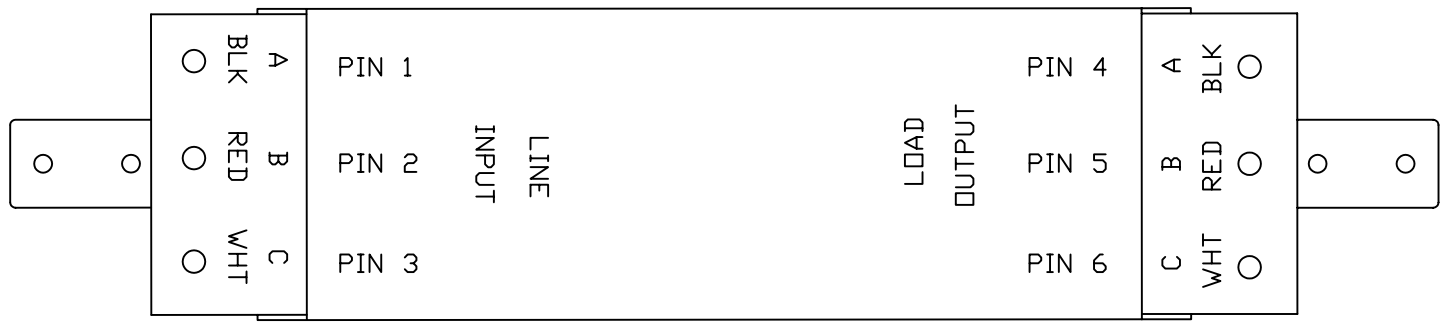
	FEED/RETURN AB	FEED/RETURN CA	FEED/RETURN BC
INPUT	BLACK/RED	WHITE/BLACK	RED/WHITE
OUTPUT	BLACK/WHITE	BROWN/GRAY	RED/BLUE

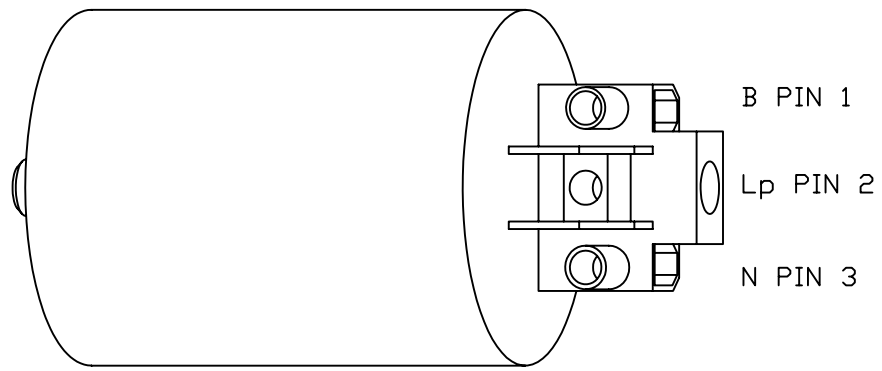
CURRENT DONUTS
BLACK/BLUE

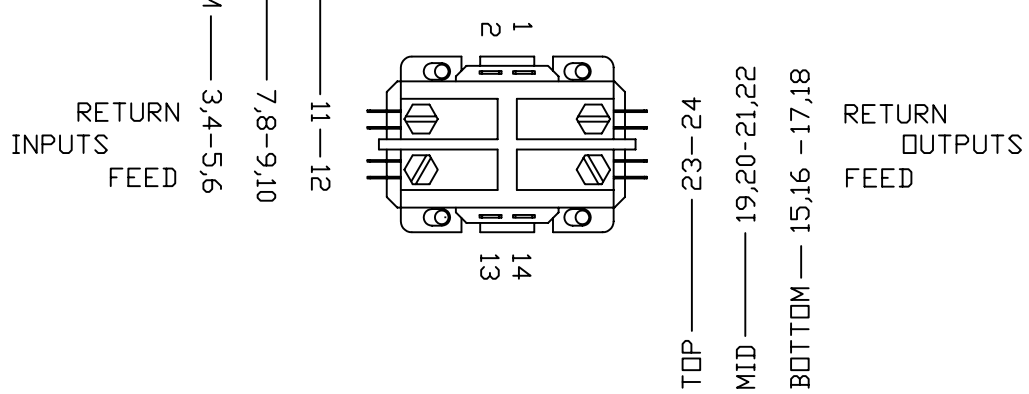


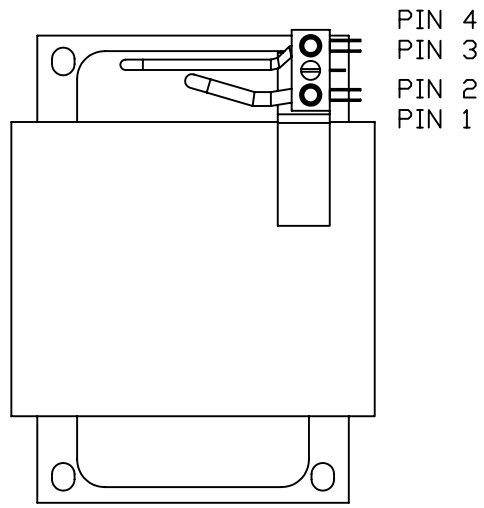
DC COLOR SCHEME

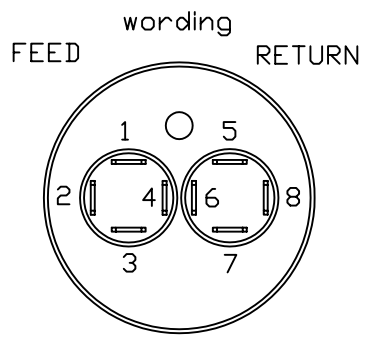
+5VDC	-5VDC	
ORANGE, WHITE, RED	YELLOW, GREEN, BLACK	VIOLET

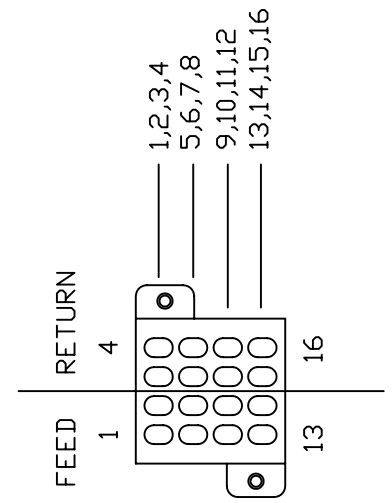


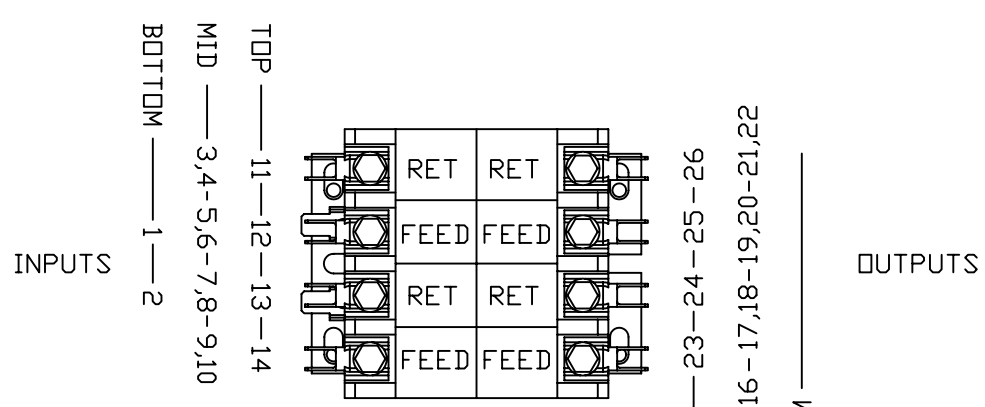


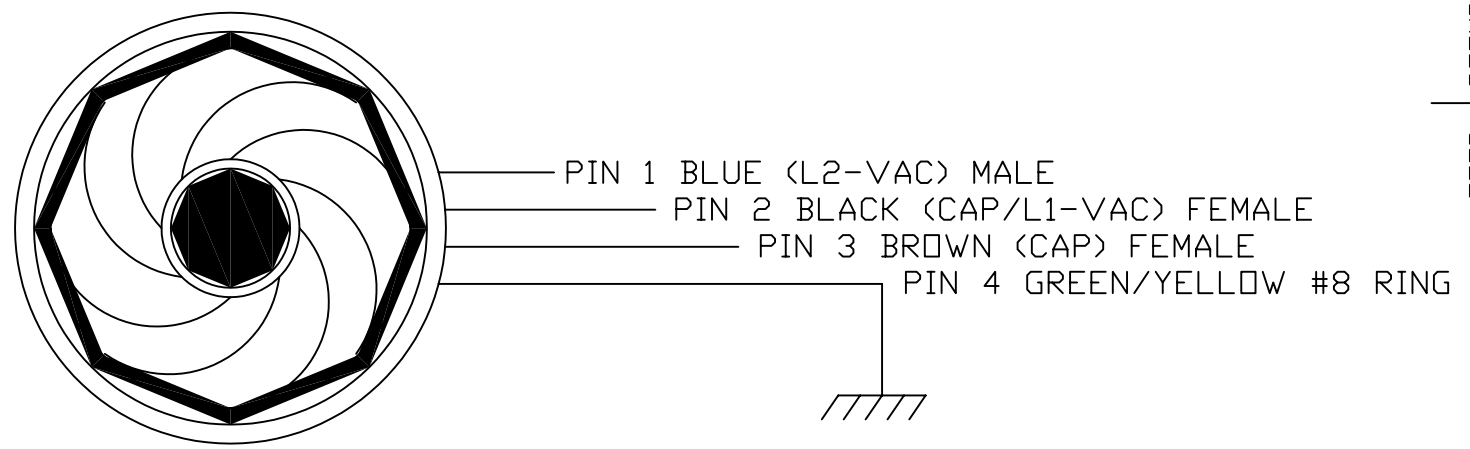












Shoulder Tanners
Head End
Tower

A B

LP19

IG19

250W IGNITER N Lp B

TP19

THERMO 150F

250W

LP20

IG20

250W IGNITER N Lp B

TP20

THERMO 150F

250W

250W BALLAST LEFT HEAD END TOWER

L9

250W BALLAST RIGHT HEAD END TOWER

L10

42uF C5

AB CAP

30 FLA CONTACTOR
2-SHOULDER TANNERS
AB LOAD
250W

5A->3A Load

L1A L2B R6

R6

14 AWG

Head End
Column 1

LP1

IG1

1000W IGNITER N Lp B

TP1

THERMO 210F

1000W

L1A L2B R5

R5

30 FLA CONTACTOR
FACE TANNER

14 AWG

FACE

400W BALLAST L1 COLUMN1

L8

30 FLA CONTACTOR
FACE TANNERS
400W

A B

L1A L1A

FACE

600W BALLAST L1.5 COLUMN1

L6

A B

LP2

IG2

1000W IGNITER N Lp B

TP2

THERMO 210F

1000W

FACE

1000W BALLAST L2 COLUMN1

L4

LP3

IG3

1000W IGNITER N Lp B

TP3

1000W

CHEST

1000W BALLAST

40 FLA CONTACTOR
COLUMN 1 - 1 FACE
COLUMN 1 - 1 NECK
COLUMN 2 - 1 FACE
COLUMN 2 - 1 NECK
COLUMN 3 - 2 HEAD
1000W-600W/1000W
(1)
1000W-600W/1000W
(1) (1)
1000W
(2)

8 AWG

3-Lamps
Per 2 Poles
30A->15A Load

10A->5A Load
Per Lamp

L1A L2B L1A L2B R1

R1

2-Lamps
Per Column
6-Lamps
Total
60A->30A Load

113uF C1

C2 AB CAP COLUMN3

TOP

113uF C2

C1 AB CAP COLUMN3

BOTTOM

113uF C3

C2 AB CAP COLUMN1 COLUMN2

TOP

113uF C4

C1 AB CAP COLUMN1 COLUMN2

BOTTOM

Distribution Block

3-Phase
91A -> 56A
1-Phase

J1

L1A L2B L3C

* AT CUSTOMER LOCATION *

3 PHASE WYE SYSTEM

C A B A
B C
C A

40 FLA CONTACTOR
COLUMN 1 - 2 CHEST
COLUMN 2 - 2 CHEST
COLUMN 3 - 2 BUTT
1000W/1000W/1000W
(2) (2) (2)

8 AWG

L2B L3C L2B L3C R7

R7

2-Lamps
Per Column
6-Lamps
Total
60A->30A Load

3-Lamps
Per 2 Poles
30A->15A Load

10A->5A Load
Per Lamp

113uF C10

C4 BC CAP

113uF C11

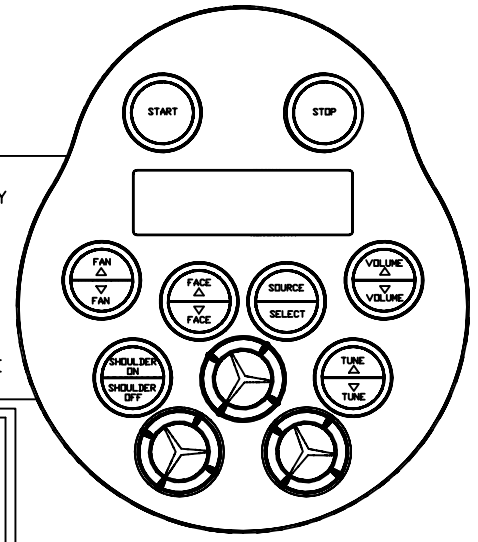
30 FLA CONTACTOR
FACE TANNER

DATE	DWG REV.	DESCRIPTION	ECN #	DR.	APPROVED
–	DA	ORIGINAL RELEASE	–	MIS	

Head End
Column 2

TTL PC Link
9-pin DB9
WIRELESS
RJ-11 6P4C
T-MAX
RJ-22 4P4C
RJ-22 4P4C
CPU
ADI BCM
TEMPERATURE SENSOR
RJ-45 8P8C
RJ-45 8P8C
REAR TRAY
RS-485
8

ADI
TIMER DISPLAY
RJ-45 8P8C
RJ-45 8P8C
TEMPERATURE SENSOR



1 IS UNUSED
3,4,5,6 7,8,9
ADI I/O Module 1
Input 1
Input 2
Input 3
Input 4
Input 5
Input 6
Input 7
Input 8
COIL~D1
Power
Relay 1 — R1
Relay 2 — R2
Relay 3 — R3
Relay 4 — R4
Relay 5 — R5
CENTER TRAY
+12V
0.3A Fuse
100mA
MAX
Var. AC Speed Fan
Var. DC PWM Led 1
TEMPERATURE SENSOR
RJ-45 8P8C
RJ-45 8P8C
RS-485
8

1,10 IS UNUSED
3,4,5,6 7,8,9
ADI I/O Module 2
Input 1
Input 2
Input 3
Input 4
Input 5
Input 6
Input 7
Input 8
RESISTOR
COIL~D2
Power
Relay 1 — R6
Relay 2 — R7
Relay 3 — R8
Relay 4 — R9
Relay 5 — R10
CENTER TRAY
+12V
0.3A Fuse
100mA
MAX
Var. AC Speed Fan
Var. DC PWM Led 1
TEMPERATURE SENSOR
RJ-45 8P8C
RJ-45 8P8C
RS-485
8

AB LOAD
3A Load

CA LOAD
1A Load

FEED THROUGH BOARD

TOWER
TOWER FILTER SENSOR
COM
NO
SW19
Head End

SOLID STATE TEMPERATURE SENSORS
1(+)
3(-)
COLUMN 1 — TP21 — Center
COLUMN 2 — TP22 — Center
COLUMN 3 — TP23 — Head End
COLUMN 3 — TP24 — Foot End
FRONT TRAY — TP25 — Center

18 GLASS BREAKAGE SENSORS
COLUMN 1
Head End
Foot End
SW1 SW2 SW3 SW4 SW5 SW6
COLUMN 2
SW7 SW8 SW9 SW10 SW11 SW12
COLUMN 3
SW13 SW14 SW15 SW16 SW17 SW18
1 2 COM 1 2 NO
COM NO

NO = NORMALLY OPEN
COM = COMMON

COLUMN 1 HEAD END
COLUMN 2 HEAD END
COLUMN 3 HEAD END
SW20 SW21 SW22
+COM 1 3 NO–
AIR FLOW SENSORS

LP13 IG13 1000W IGNITER N Lp B
1000W
TP13
THERMO 210F
FACE
400W BALLAST L1 COLUMN2
L7
R3
14 AWG

30 FLA CONTACTOR
FACE TANNERS
400W
A B
FACE
600W BALLAST L1.5 COLUMN2
L5

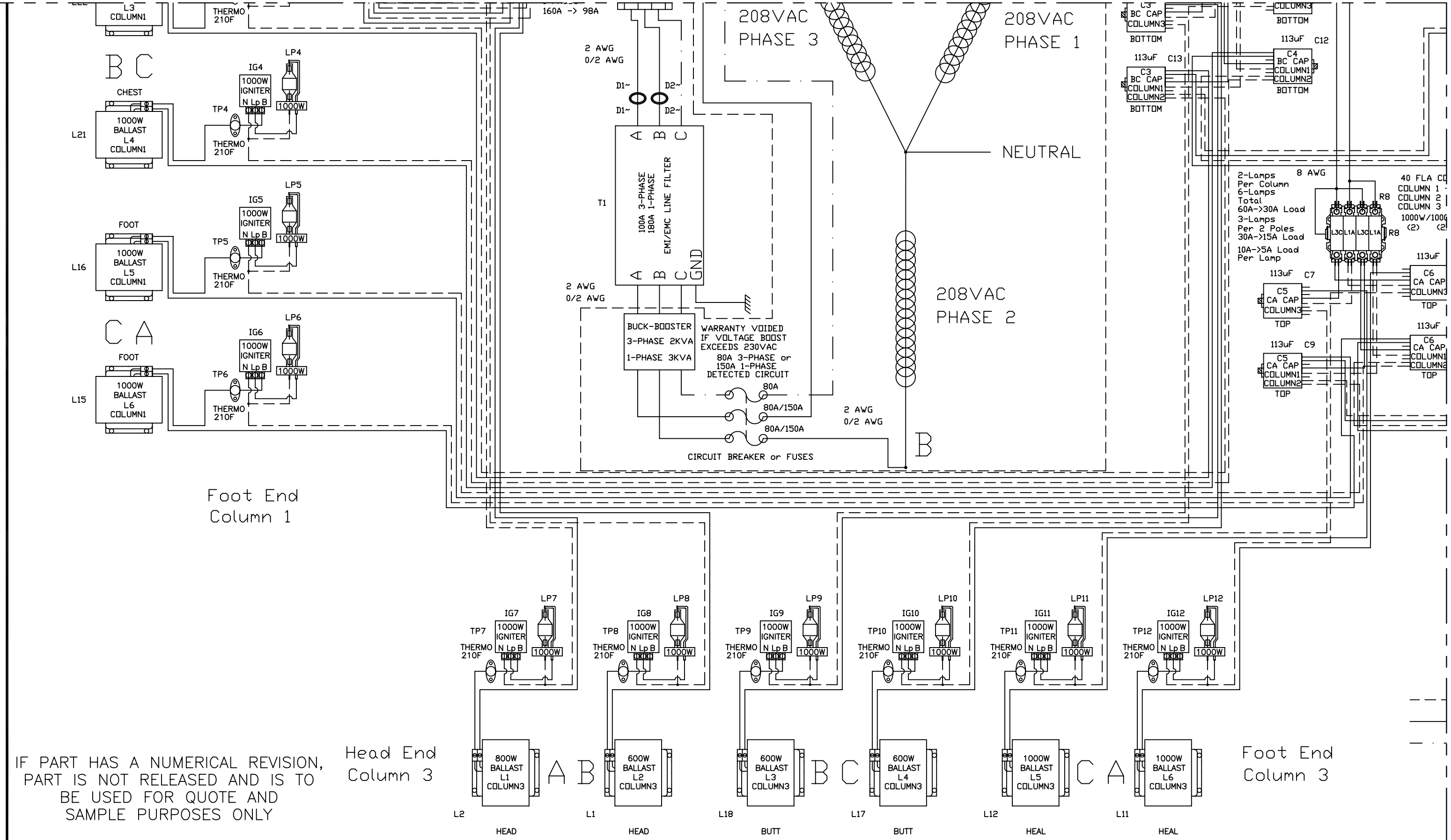
LP14 IG14 1000W IGNITER N Lp B
1000W
TP14
THERMO 210F
A B
FACE
1000W BALLAST L2 COLUMN2
L3

LP15 IG15 1000W IGNITER N Lp B
1000W
TP15
CHEST
1000W BALLAST
L20

LR-CH SP1 25 WATTS
RF-CH SP3 25 WATTS
LF-CH SP2 25 WATTS
RR-CH SP4 25 WATTS
4 DISCRETE 6X9 SPEAKERS 4 OHMS
8

U1
U3
12V DC 2.1A
-GND +12VDC
ACRYLIC LEDS
+12VDC

HEAD END
80WATT BALLAST
L23
LP21
H1-1
H3-
FOOT END
70WATT T8 LAMP
IOP HEAD END



IF PART HAS A NUMERICAL REVISION, PART IS NOT RELEASED AND IS TO BE USED FOR QUOTE AND SAMPLE PURPOSES ONLY

28250-01	A	TB
PART NO.	PART REV	PROJ. CODE

THERMO 210F
L3 COLUMN2
LP16
IG16
1000W IGNITER N Lp B
1000W
TP16
THERMO 210F
B C
CHEST
1000W BALLAST L4 COLUMN2
L19
NTACTOR
- 2 FOOT
2 FOOT
2 HEAL
W/1000W
(2)
LP17
IG17
1000W IGNITER N Lp B
1000W
TP17
THERMO 210F
FOOT
1000W BALLAST L5 COLUMN2
L14
C6
C8
LP18
IG18
1000W IGNITER N Lp B
1000W
TP18
THERMO 210F
C A
FOOT
1000W BALLAST L6 COLUMN2
L13
Foot End
Column 2
RETURN
FEED
REMOVABLE
BC LOAD 2A Load
BC LOAD 2A Load
24V DC 4.5A
U2
REAR TRAY
ADI
24V AUDIO AMP
RS-485
RS-485
75 OHM Antenna
F connector
1 DISCRETE SUBWOOFER 8 INCH 4 OHM
50 WATTS
SP5
HEAD END
Patch Panel
1234
GHRL
MPCC
DS
L
R
3-conductor Head Phones
3-conductor MP3 / Cell Phone
3.5MM
3.5MM
BLUE LEDS HEAD END
PWM IN 2
-GND 1
BODY COOLING FANS
Variable Speed
1.8A Load
F6
BROWN
BLACK
BLUE
YELLOW/ GREEN
AB CAP
C15
4uF
Variable Speed
1.8A Load
F7
C16
30 FLA CONTACTOR
DECORATIVE LIGHTING
8 LAMPS
BC LOAD
14 AWG
R10
L2B L3C
R10
4A Load
BC LOAD 4A Load
CA LOAD 6A Load
14 AWG
R9
L3C L1A
R9
30 FLA CONTACTOR
UNIT COOLING
7 FANS
CA LOAD
J3
4 8 12 16
1 5 9 13
7.2A Load
FOOT END BODY COOLING
1.8A Load
F10
C20
65uF C14
BC CAP
COLUMN1
COLUMN2
COLUMN3
J2
4 8 12 16
1 5 9 13
COLUMN 3 OR A COOLING
1.8A Load
F5
C19
COLUMN 2 OR B COOLING
1.8A Load
F8
C18
COLUMN 1 OR C COOLING
1.8A Load
F9
C17
0.5A Load
F1
F2
F3
F4
Distribution Block
MAIN
POWER BUS
H3- S1 H1- STARTER
80WATT BALLAST L24
FOOT END
H4- LP22 H2-1
70WATT T8 LAMP
H4- S2 H2- STARTER
BOTTOM
Column 1
HEAD END
80WATT BALLAST L25
H7- LP23 H5-1
70WATT T8 LAMP
H7- S3 H5- STARTER
TOP HEAD END
80WATT BALLAST L26
H8- LP24 H6-1
70WATT T8 LAMP
H8- S4 H6- STARTER
BOTTOM
Column 2
HEAD END
80WATT BALLAST L27
H11- LP25 H9-1
70WATT T8 LAMP
H11- S5 H9- STARTER
TOP HEAD END
80WATT BALLAST L28
H12- LP26 H10-1
70WATT T8 LAMP
H12- S6 H10- STARTER
BOTTOM
Column 3
HEAD END

TOLERANCES EXCEPT AS SHOWN 2 PLACE ± 0.03 3 PLACE ± 0.015 ANGULAR ± 1°	SIGNATURE	DATE
	DWN M. SEGURA	11/30/06
	CHK'D	
DIMENSIONS ARE IN INCHES	APP'D	
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INDIANAPOLIS, IN 46237

TITLE
VELOCITY HP1000V
WIRING DIAGRAM

DEVELOPED FROM: —	DRAWING NO. SEE CHART 28250
D NO MANUAL REVISIONS	CAD NO. 28250A
	SHEET 1 OF 1