CONAIR
www.conairnet.com

USERGUIDE
IMB-104-394

Sentral Loader Control
BASIC

Version 1.0

⚠ **WARNING - Reliance on this Manual Could Result in Severe Bodily Injury or Death!**
This manual is out-of-date and is provided only for its technical information, data and capacities. Portions of this manual detailing procedures or precautions in the operation, inspection, maintenance and repair of the product forming the subject matter of this manual may be inadequate, inaccurate, and/or incomplete and cannot be used, followed, or relied upon. Contact Conair at info@conairgroup.com or 1-800-654-6661 for more current information, warnings, and materials about more recent product manuals containing warnings, information, precautions, and procedures that may be more adequate than those contained in this out-of-date manual.

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SENTRAL LOADER CONTROL
BASIC SYSTEM
VERSION 1.0

SYSTEM OVERVIEW

The system is designed to control 10 loader stations fed by a system pump. The control comes equipped as standard with 24 VDC demand input and a 24 VAC vacuum valve output for each loader. One pump, 24 VDC overload input is supplied, and two 120 VAC outputs; one for the pump starter and the other for the alarm. The system looks at each loader station in sequence for a material demand. If the station has a demand and no other stations are loading, it will begin a load cycle. No other loader is permitted to load during this time. The station will load until the load time is reached, at which time they will begin an unload cycle. The next station with demand will then begin loading at this time. All load and unload times may be changed through the operator interface provided on the front panel. The LED status lights are included to provide a graphic display loader status. Operation of this interface will be discussed in a later section. Material alarms are incorporated in all loaders. An alarm acknowledge button is provided to silence all alarms.

Control

The system utilizes an Allen-Bradley SLC-500 30 I/O fixed programmable controller. Operator changes are accomplished through the front panel. The control requires 120 VAC power.

Material Alarms

A material alarm occurs on a loader if the loader has loaded more than five times without satisfying the demand sensor. This value may be changed with the interface. See Section 4, Page 12 for more details on changing data. When this alarm occurs, the alarm horn will sound and the enable light will begin to blink. To acknowledge an alarm, press the "Alarm" button, this will also silence the alarm. If the demand has not been satisfied in five additional loads, the audio portion of the alarm will again be enabled. The alarm is reset when the demand sensor is satisfied for 30 seconds or longer.

Overload Fault

If the vacuum pump motor overload is tripped, the alarm horn will sound and the pump will no longer continue to operate, even if a piece of equipment demands a load. If this occurs, shut off all equipment to avoid cycling the starter while servicing and to prevent nuisance material alarms.

CONTROL FEATURES

1. Proven Allen-Bradley SLC-500 Fixed Controller.

2. 20 character 2-Line LCD display with push buttons used for operator input.

3. Loader and pump status represented with graphic LED status panel.

4. All loader settings changeable through operator interface.

5. Battery-backed computer memory.

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SEQUENCE OF OPERATION

Insure that all power connections are properly made to and from the control panel. Turn on control power switch. Each loader has its own load timer. These values are set to five seconds at the factory. These values will need set during start-up, along with dump time and any option values being used. Once these values have been entered, they are retained in computer memory, even during loss of power. Also, each loader may be enabled or disabled individually through the operator interface. Reference Section 4, Page 5 on changing PLC data with the operator interface for further information.

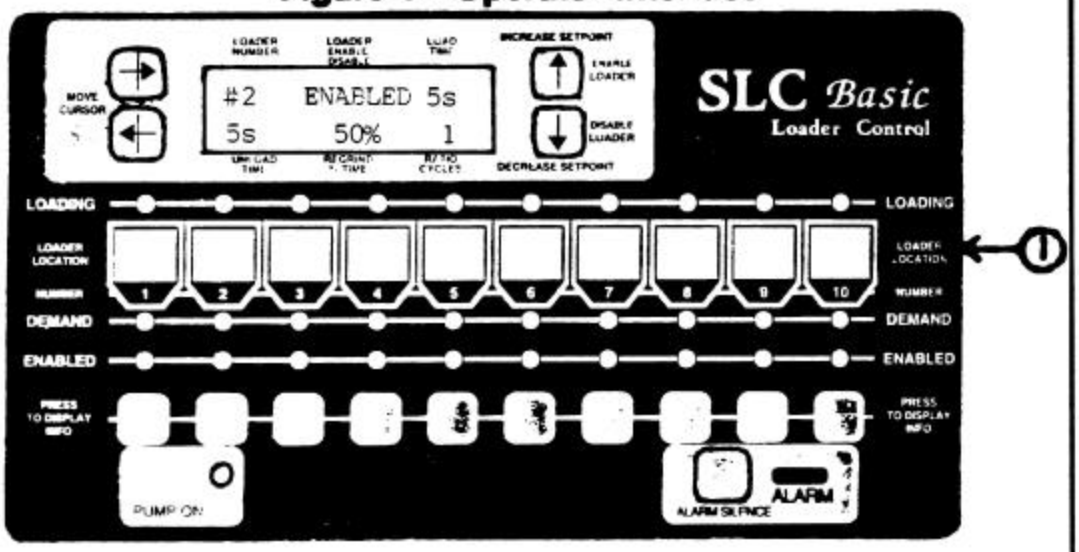
Once all loader information has been entered, you can enable the desired loaders by going to the loader screen and pressing the "Enable" button for each loader station desired. The green enable LED for the loader should now be energized. Demand LED's should be active for loaders needing material. The first loader in sequence enabled with a material demand will begin to load. Once that loader has finished loading, all other loaders enabled with a demand will load in sequence.

OPERATOR FUNCTIONS

INTRODUCTION

All operator entry for the system is accomplished via the operator interface shown in Figure 1. This 2-line display with push buttons is used to access and change all data stored in the PLC. A simple menu system allows changes to be made to any loader with just a few keystrokes. Included along with the actual interface, is the graphic LED panel indicating loader status. LED's for each loader include demand, loading, and enabled. LED's are also included to represent pump and alarm status. All LED's are on continuously when its corresponding function is energized.

Figure 1 - Operator Interface



1 Loader Location

This is a customer-defined white identification label which can be used to write a description of each piece of equipment being supplied by the system. This label also contains the station number for each loader corresponding to the 2 Line LCD screens.

SECTION

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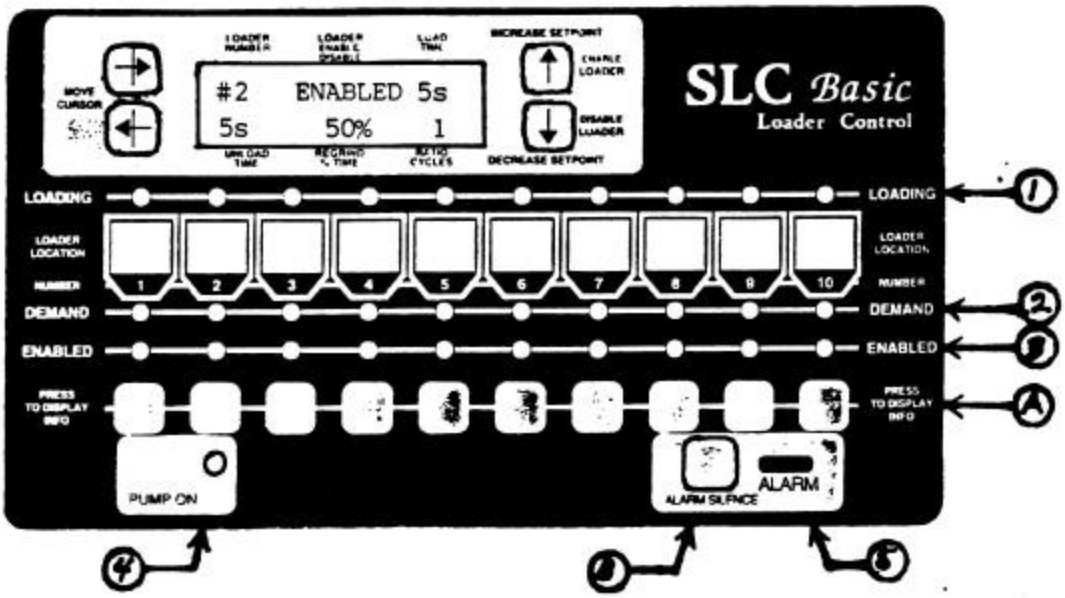
OPERATOR FUNCTIONS

Figure 2 - Operator Interface Functions



1. Loading LED

This LED will be on (Red) while a station is loading.

2. Demand LED

This LED will remain on (Red) while a station has demand.

3. Enabled LED

This LED will remain on continuously (Green) while a station is enabled if this LED blinks it is indicating a material alarm has occurred on that loader.

4. Pump On LED

This LED will remain on (Amber) whenever the pump is running. If a pump overload occurs, this LED will blink, indicating the pump overload has tripped. Refer to Page 11.

5. Alarm LED's

This light will light indicating that an alarm condition is currently present.

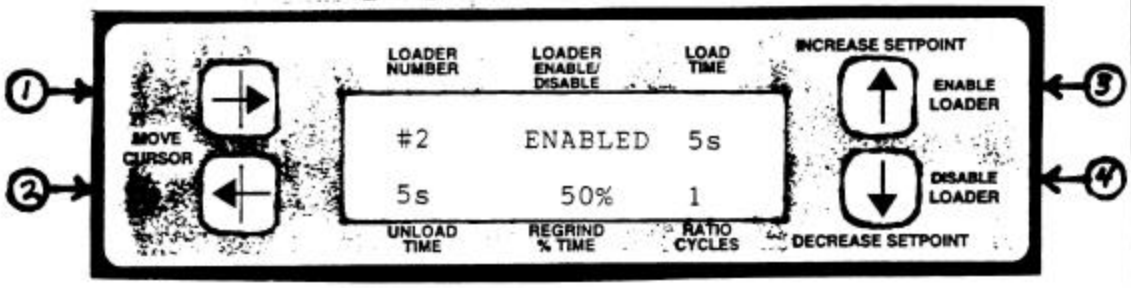
A. Press to Display Info Button

Loader selection is accomplished by pressing the button under the desired loader. This push button will cause the operator interface to display the loader screen corresponding to that station number.

B. Alarm Silence Button

Pressing this button will silence the alarm horn, but the alarm light will stay lit until the alarm condition is taken care of.

Figure 3 - Change Field Functions



1. Move Cursor Right

Moves the cursor to the right from one field to the next.

2. Move Cursor Left

Moves the cursor to teh left from one field to the next. When the cursor is on "Loader Enable/Disable" and the left cursor is pressed, the cursor will move to Ratio Cycles.

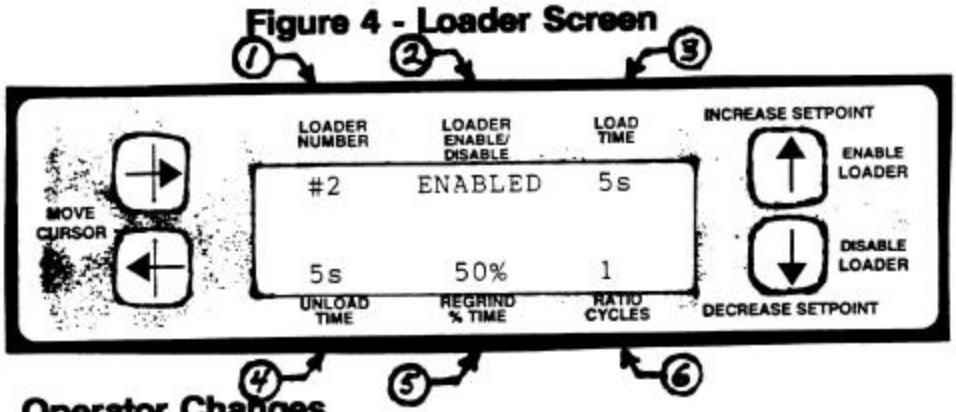
3. Enable Loader/Increase Setpoint

When the cursor is on the "Loader Enable/Disable" field pressing this button enables the loader that is selected. When the cursor is on the other fields, the button will increase the set points.

4. Disable Loader/Decrease Setpoint

When the cursor is on the "Loader Enable/Disable" field pressing this button disables the loader that is selected. When the cursor is on the other fields, the button will decrease the set points.

Figure 4 - Loader Screen



Operator Changes

Once the loader screen is displayed, changes may be made very easily. To change a value, use the cursor buttons to move to the desired field. Data is changed by either pressing the "Increase Setpoint" or "Decrease Setpoint" to the desired setting.

1. Loader Number

This field shows the number of the loader that the setpoints on the screen are for. To change to another loader screen press the "Press to Display Info" button for the desired loader. Whenerver you select another loader, the cursor comes up on the "Loader Enable/Disable" field.

2. Enable/Disable Loader

This field shows the state of the loader selected, enabled or disabled. the state may be changed by pressing the "Enable" loader or "Disable" laoder buttons. The screen message will change to the appropriate state. In addition, the green LED on the LED status panel will change state. When enabled the LED will be illuminated.

3. Load TM - Range: 1-327

This field is used to set the time the vacuum valve will be energized, so material can be conveyed to the loader. To change the value, use the right "Move Cursor" arrow button to select this field, then use the "Increase Setpoint" or "Decrease Setpoint" buttons to enter the number desired for this loader.

4. Unload TM - Range: 2-327

This field is used to set the discharge time or pump off time for the selected loader. To change the value, use the right "Move Cursor" buttons select this field, then enter the number desired by using the "Decrease Setpoint" or the "Increase Setpoint" buttons.

5. % Regrind

Use this field to set the percentage of time that regrind material will be loaded during the load time. This function does not need to be set on loaders that do not have ratio valves. To change the value, use the "Move Cursor" buttons to select this field, then enter the number desired by using the "Decrease Setpoint" or the "Increase Setpoint" buttons.

6. Ratio Cycl - Range: 1-5 (Calculated)

Ratio Cycle is a value that is divided into the load time to create "Mini-Loads" which better distribute regrind material among the virgin pellets. One ratio cycle consists of one shot of virgin material and one shot of regrind material. This value is calculated by the program based on load time and will be updated automatically every load unless this function is disabled in the loader setup mode. Once disabled, to change the value, use the "Move Cursor" button to select this field, then enter the number desired.

Load Time	Ratio Cycles
0 - 20 Seconds	One
21 - 30 Seconds	Two
31 - 300 Seconds	Three

Alarms

Two types of alarms are included in the unit. The first is a material alarm which is caused by a loader which loads more times than the preset "Mat Alm Chk", without satisfying the demand sensor. The "Mat Alm Chk" is preset to 5 in the setup screens. When this alarm occurs, the loader enabled green LED will blink on and off continuously until the loader is disabled or the alarm is corrected. A second alarm that can occur is caused by a pump overload condition. The pump running LED will blink on and off if the pump does has a tripped overload. In either of these two alarm situations, the alarm light on the LED status panel will light and the audio horn will sound. Pressing the "Alarm Silence" button will silence the audio portion of the alarm, but the light will stay lit until the alarm is taken care of, or the loader is disabled. If another alarm occurs or the loader again loads without satisfying demand, the audio portion of the alarm will be re-energized.

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SETUP

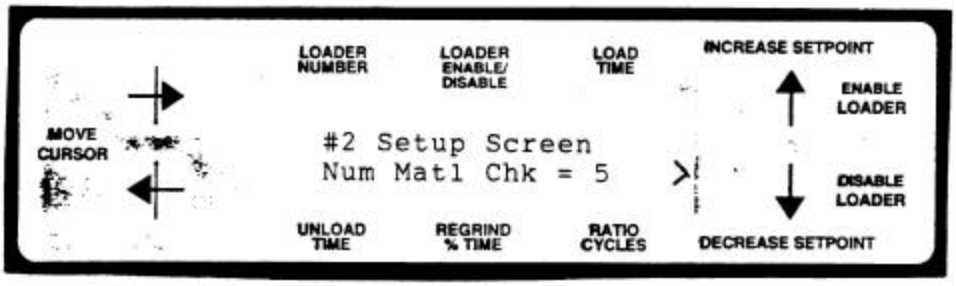
The setup mode may be accessed pressing the "Alarm Silence" button and holding, while pressing the "Increase Setpoint" button. You will now be on the setup loader screen for the loader you had selected as shown in Figure 5. Example using loader #2. this controls setup screens are already preset before shipment.

SYSTEM OPERATION CAN BE DRAMATICALLY ALTERED WHEN CHANGING VALUES IN THIS SECTION OF SCREENS. AUTHORIZED PERSONNEL ONLY!!

Mat Alm Chk - Range: 1-20

The material alarm check is the number of times that a loader will load without satisfying the demand switch before flagging an alarm condition.

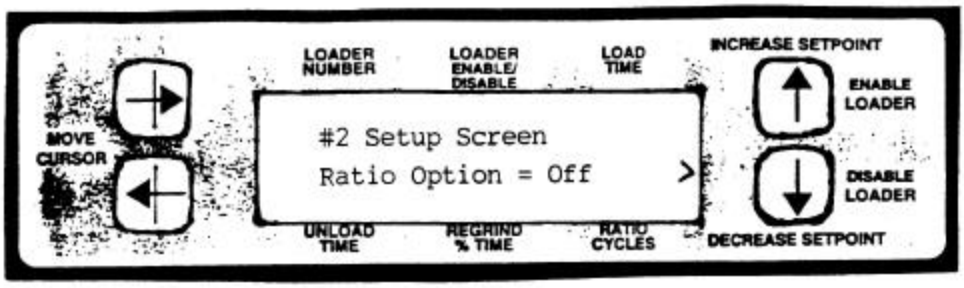
Figure 5 - Setup Screen 1



Num Matl Chk - Range: 1-20

This is the setup screen that you set how many times the loader will load before a material alarm. To change the setting of 5, first push the left "Move Cursor" button. This should move the cursor off the change screen arrow ">" over to the setpoint area which has a 5 in Figure 5. Now you can use the "Increase Setpoint" or "Decrease Setpoint" buttons to change to the desired setting. To move to the next setup screen for loader #2, push the right "Move Cursor" button to move the cursor to the change screen arrow ">". You can now push the right "Move Cursor" button to scroll to the next setup screen shown in Figure 6.

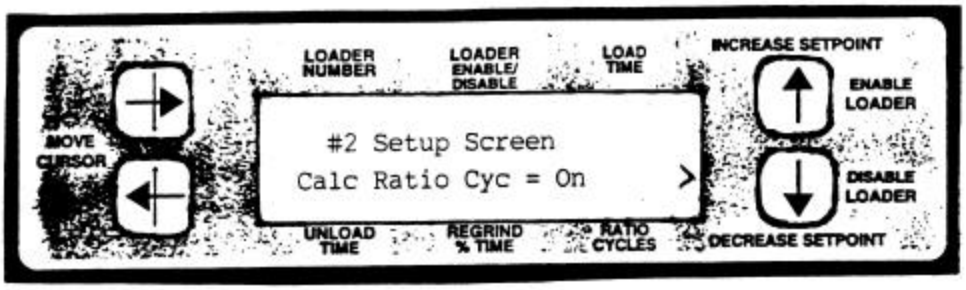
Figure 6 - Setup Screen 2



Ratio Option (On/Off)

Turning this screen on will enable the ratio function. Off will disable the ratio function. To change the setting, first push the left "Move Cursor" button. This should move the cursor to the setpoint area which shows OFF in Figure 6. Now use the "Enable Loader" button to turn this option ON at loader #2. Use the "Disable Loader" to turn this option off.

Figure 7 - Setup Screen 3

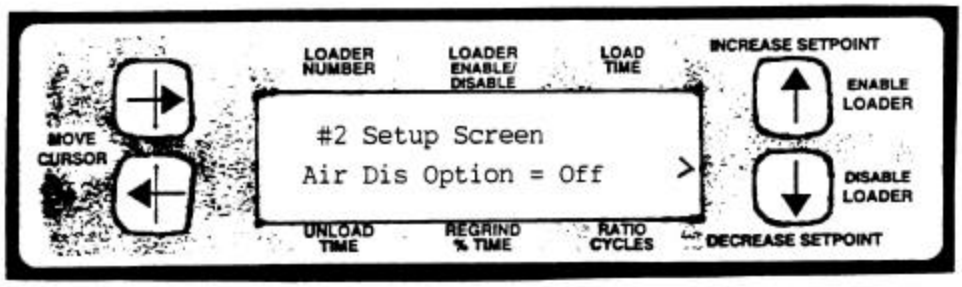


Calculated Ratio Cycle (On/Off)

(Auto-Calculation for Ratio loaders)
Ratio cycle is a value that is divided into the load time to create "Mini-Loads" which better distribute regrind material among the virgin pellets. One ratio cycle consists of one shot of virgin material and one shot of regrind material. Turning this screen on allows the program to automatically calculate the ratio cycles based on load time and will be updated automatically every load. Turning this screen off means that the operator must change the number of ratio cycles manually depending on the application. All controls have this option set leaving testing. The calculated ratio cycles are as follows:

Load Time	Ratio Cycles
0 - 20 Seconds	One
21 - 30 Seconds	Two
31 - 300 Seconds	Three

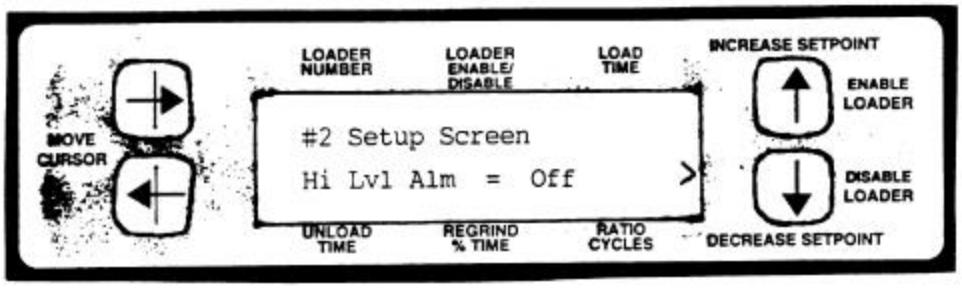
Figure 8 - Setup Screen 4



Air Discharge Option (On/Off)

Air discharge valve present option. Turning this screen off disables the air discharge function. On will enable the air discharge function.

Figure 9 - Setup Screen 5



Hi-Level Alarm (On/Off)

Turning this setup screen on enables the hi-level sensor alarm. A material alarm will be generated when the load timer times out before the hi-level sensor is made. Turning this screen off ignores the hi-level sensor when determining material alarms.

Changing Loaders

By using the "Display Info" buttons, you can change from #2 Setup Screens to any desired loader and still be on the same setup option screen. Example Figure 9, if we pushed the "Display Info" button under loader #5, the #5 Setup Screen for loader #5's "Hi Lvl Alm" appears.

SECTION

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INSTALLATION

The system is very easy to install. Insure that the Basic Loader control box is fastened tightly to a stationary object. The panel should be placed as closely as possible to the loaders to minimize loader connection wiring. Also insure all mechanical connections on the loaders and pumps are secure. The control box can be plugged into any 120 VAC wall socket. The loader connections are to be made directly to the terminal strip on the SLC-500. Connect the appropriate loader wires to the terminals using the electrical schematic and the loader schematic as a reference. Next wire the pumps and alarm horn to the appropriate place on the Allen-Bradley terminal strip. Insure that all electrical connections are secure.

We're Here to Help

Conair has made the largest investment in customer support in the plastics industry. Our service experts are available to help with any problem you might have installing and operating your equipment. Your Conair sales representative also can help analyze the nature of your problem, assuring that it did not result from misapplication or improper use.

How to Contact Customer Service

To contact Customer Service personnel, call:

From outside the United States, call: 814-437-6861

You can commission Conair service personnel to provide on-site service by contacting the Customer Service Department. Standard rates include an on-site hourly rate, with a one-day minimum plus expenses.

Before You Call ...

If you do have a problem, please complete the following checklist before calling Conair:

- ❒ Make sure you have all model, serial and parts list numbers for your particular equipment. Service personnel will need this information to assist you.
- ❒ Make sure power is supplied to the equipment.
- ❒ Make sure that all connectors and wires within and between loading control and related components have been installed correctly.
- ❒ Check the troubleshooting guide of this manual for a solution.
- ❒ Thoroughly examine the instruction manual(s) for associated equipment, especially controls. Each manual may have its own troubleshooting guide to help you.
- ❒ Check that the equipment has been operated as described in this manual.
- ❒ Check accompanying schematic drawings for information on special considerations.

Additional manuals and prints for your Conair equipment may be ordered through the Customer Service or Parts Departments for a nominal fee.

EQUIPMENT GUARANTEE

Conair guarantees the machinery and equipment on this order, for a period as defined in the quotation from date of shipment, against defects in material and workmanship under the normal use and service for which it was recommended (except for parts that are typically replaced after normal usage, such as filters, liner plates, etc.). Conair's guarantee is limited to replacing, at our option, the part or parts determined by us to be defective after examination. The customer assumes the cost of transportation of the part or parts to and from the factory.

PERFORMANCE WARRANTY

Conair warrants that this equipment will perform at or above the ratings stated in specific quotations covering the equipment or as detailed in engineering specifications, provided the equipment is applied, installed, operated and maintained in the recommended manner as outlined in our quotation or specifications.

Should performance not meet warranted levels, Conair at its discretion will exercise one of the following options:

- Inspect the equipment and perform alterations or adjustments to satisfy performance claims. (Charges for such inspections and corrections will be waived unless failure to meet warranty is due to misapplication, improper installation, poor maintenance practices or improper operation.)
- Replace the original equipment with other Conair equipment that will meet original performance claims at no extra cost to the customer.
- Refund the invoiced cost to the customer. Credit is subject to prior notice by the customer at which time a Return Goods Authorization Number (RGA) will be issued by Conair's Service Department. Returned equipment must be well crated and in proper operating condition, including all parts. Returns must be prepaid.

Purchaser must notify Conair in writing of any claim and provide a customer receipt and other evidence that a claim is being made.

WARRANTY LIMITATIONS

Except for the Equipment Guarantee and Performance Warranty stated above, Conair disclaims all other warranties with respect to the equipment, express or implied, arising by operation of law, course of dealing, usage of trade or otherwise, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.

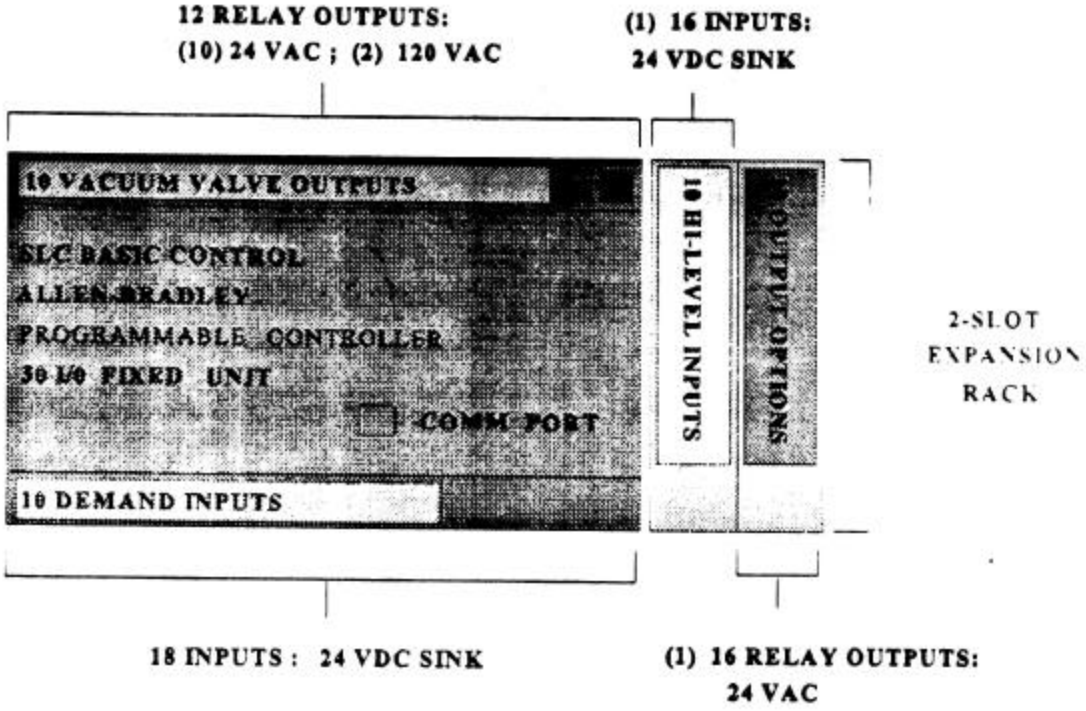
LIST OF CONAIR DRAWINGS

107-432-01 PANEL LAYOUT
(PAGE 1)

107-433-01 SLC SCHEMATIC
(PAGE 2)

(SEE DRAWINGS ON FOLLOWING PAGES)

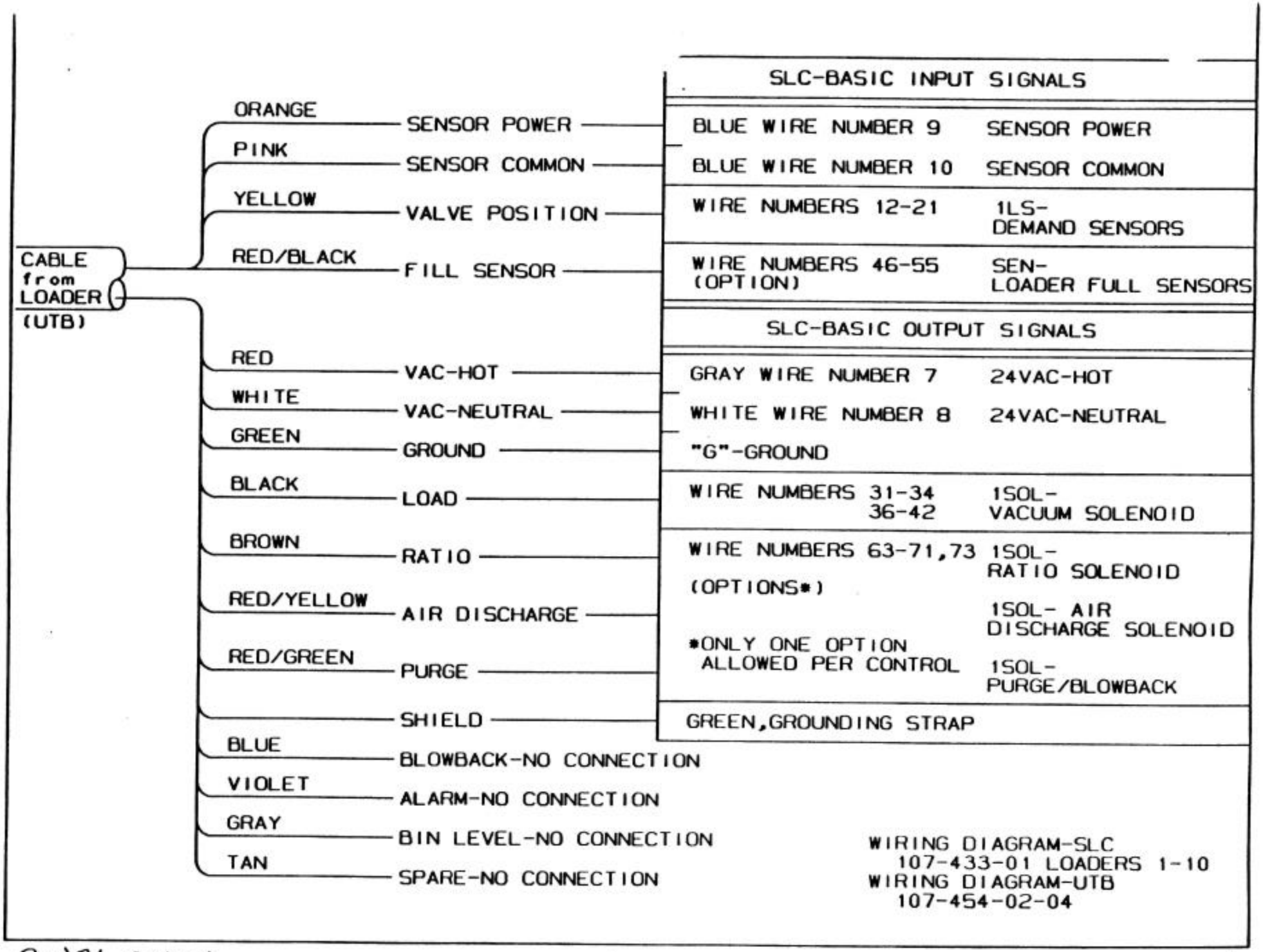
SENTRAL LOADER CONTROL
BASIC CONFIGURATION



LEGEND

- STANDARD 10-STATION SINGLE TUBE CONTROL HARDWARE
- OUTPUT OPTION HARDWARE
- DEMAND INPUTS: 24 VDC SINK
- HI-LEVEL INPUTS (OPTIONAL): 24 VDC SINK
- VACUUM VALVE OUTPUTS: 24 VAC
- *OUTPUT OPTIONS: 24 VAC
- PUMP OUTPUT: 120 VAC
- ALARM OUTPUT: 120 VAC

*OUTPUT OPTIONS= RATIO OR AIR DISCHG PER EACH LOADER

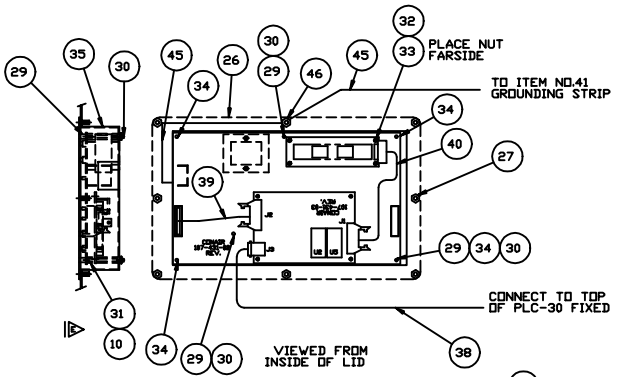

CABLE from LOADER (UTB)
ORANGE
SENSOR POWER
PINK
SENSOR COMMON
YELLOW
VALVE POSITION
RED/BLACK
FILL SENSOR
RED
VAC-HOT
WHITE
VAC-NEUTRAL
GREEN
GROUND
BLACK
LOAD
BROWN
RATIO
RED/YELLOW
AIR DISCHARGE
RED/GREEN
PURGE
SHIELD
BLUE
BLOWBACK-NO CONNECTION
VIOLET
ALARM-NO CONNECTION
GRAY
BIN LEVEL-NO CONNECTION
TAN
SPARE-NO CONNECTION
SLC-BASIC INPUT SIGNALS
BLUE WIRE NUMBER 9 SENSOR POWER
BLUE WIRE NUMBER 10 SENSOR COMMON
WIRE NUMBERS 12-21 1LS- DEMAND SENSORS
WIRE NUMBERS 46-55 (OPTION) SEN- LOADER FULL SENSORS
SLC-BASIC OUTPUT SIGNALS
GRAY WIRE NUMBER 7 24VAC-HOT
WHITE WIRE NUMBER 8 24VAC-NEUTRAL
"G"-GROUND
WIRE NUMBERS 31-34 36-42 1SOL- VACUUM SOLENOID
WIRE NUMBERS 63-71,73 1SOL- RATIO SOLENOID
(OPTIONS*)
1SOL- AIR DISCHARGE SOLENOID
*ONLY ONE OPTION ALLOWED PER CONTROL
1SOL- PURGE/BLOWBACK
GREEN, GROUNDING STRAP
WIRING DIAGRAM-SLC 107-433-01 LOADERS 1-10
WIRING DIAGRAM-UTB 107-454-02-04

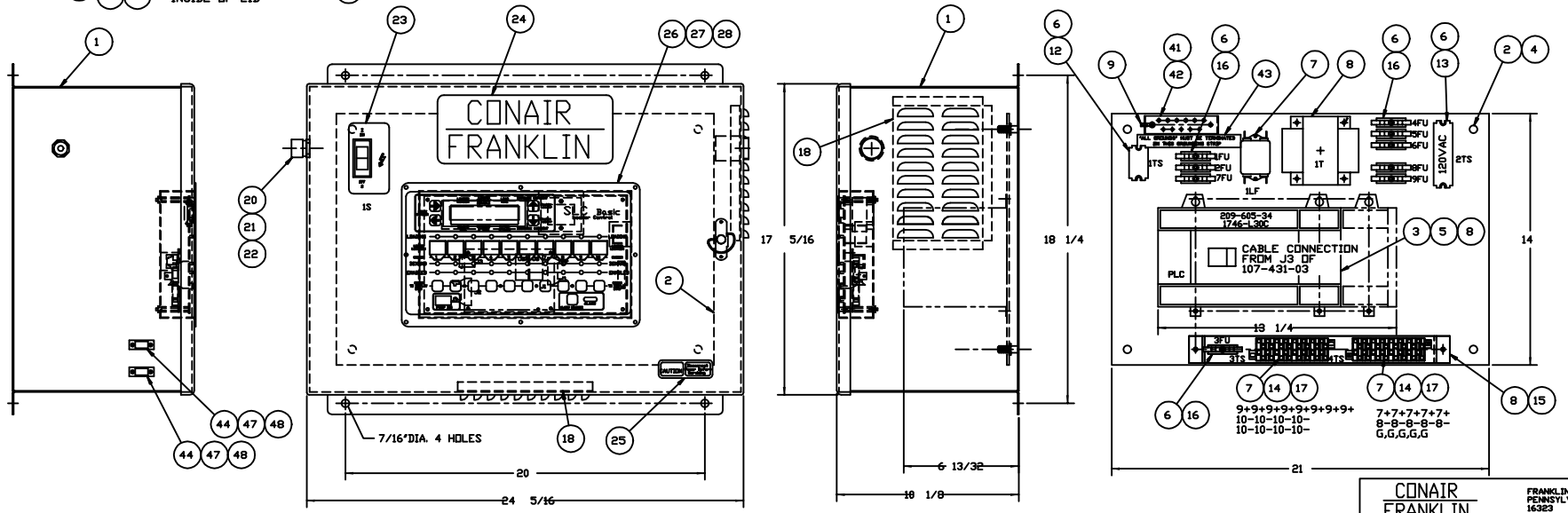
REV. 'B' 3-14-94

ITEM NO	NUMBER REQUIRED	PART NUMBER	DESCRIPTION
41	1	104-117-26	GROUNDING STRIP
42	2	210-059-02	RD.HD.SCREW NO.10-32 x 3/4"LG
43	1	104-117-27	LABEL GROUNDING STRIP
44	2	104-117-29	COVER PANEL
45	3 FT	205-007-18-05	WIRE 18 GA GREEN P.C.GROUND
46	1	209-080-46	RING TERMINAL T&B# 14RS-6
47	4	210-150-02	RD.HD.SCREW NO.4-40 x 3/8"LG
48	4	221-021-02	HEX NUT 4-40

ITEM NO	NUMBER REQUIRED	PART NUMBER	DESCRIPTION
21	1	205-005-02	POWER CORD 16-3 x 10'LG
22	1	209-001-01	1/2"CONDUIT LOCKNUT
23	1	299-153-98	LABEL - POWER
24	1	299-216-35-03	CONAIR LOGO
25	1	299-216-58-01	LABEL DISCONNECT POWER
26	1	105-203-04	PANEL P.C.BD. MOUNT TO LID
27	8	223-004-04	WHIZ NUT NO.10-32NF
28	1	299-216-112	SLC BASIC LABEL
29	10	209-026-02-02	NO.6P.C.BD.SPACER x 3/16"HIGH
30	10	221-001-02	HEX NUT NO.6-32NC
31	4	209-027-07-06	P.C.BD STANDOFF x 1/2"HIGH
32	4	210-148-02	RD.HD.SCREW NO.4-40NC x 1/4"LG
33	4	221-021-02	HEX NUT NO.4-40NC
34	4	209-027-18-07	NO.6-32NC HEX STANDOFF x 1-1/2"
35	1	105-203-02	SHIELD - P.C.BOARD
36	1	105-203-03	FIXED 30 SLC TERM.LABEL
37	1	105-203-06	LABELS - TERMINAL STRIPS
38	1	107-495-01	CABLE ASSEMBLY B/BD TO PLC
39	1	107-495-02	CABLE ASSEMBLY PB/LED TO B/BD
40	1	107-495-03	CABLE ASSEMBLY LCD TO B/BD

ITEM NO	NUMBER REQUIRED	PART NUMBER	DESCRIPTION
1	1	102-913-01	ENCLOSURE WELDMENT
2	1	104-117-07	ELECTRICAL PANEL DETAIL
3	1	107-433-01	ELECTRICAL PARTS
4	4	223-009-04	WHIZ NUT 3/8"-16NC
5	1	209-605-14	BATTERY A/B#1747-BA
6	11	210-005-02	RD.HD.SCREW NO.6-32NC x 3/8"LG
7	7	210-020-02	RD.HD.SCREW NO.8-32NC x 3/8"LG
8	10	210-057-02	RD.HD.SCREW NO.10-32NF x 3/8"LG
9	1	209-080-31	RING TERMINAL AMP# 34123
10	8	210-018-02	RD.HD.SCREW NO.8-32NC x 1/4"LG
11			
12	1	209-008-03	TERMINAL STRIP 3 LUG
13	1	209-008-07	TERMINAL STRIP 7 LUG
14	8	209-375-02-01	TERMINAL BLOCK CONNECTRON NO.KT4
15	1	104-117-09	TERMINAL STRIP MOUNT
16	7	209-022-17	FUSE BLOCK
17	2	209-377-07	MARKING STRIP
18	2	107-432-01-51	FILTER 1/2"x5"x7-1/2",2590070402
19			
20	1	207-001-05	CORD GRIP





FOR WIRING DIAGRAM SEE 107-433-01

NO	DATE	REVISIONS	BY	CKD.	APP.
E	05-17-94	SEE ECN NO.94078	ELB		
D	4-08-94	SEE ECN NO.94064	ELB		

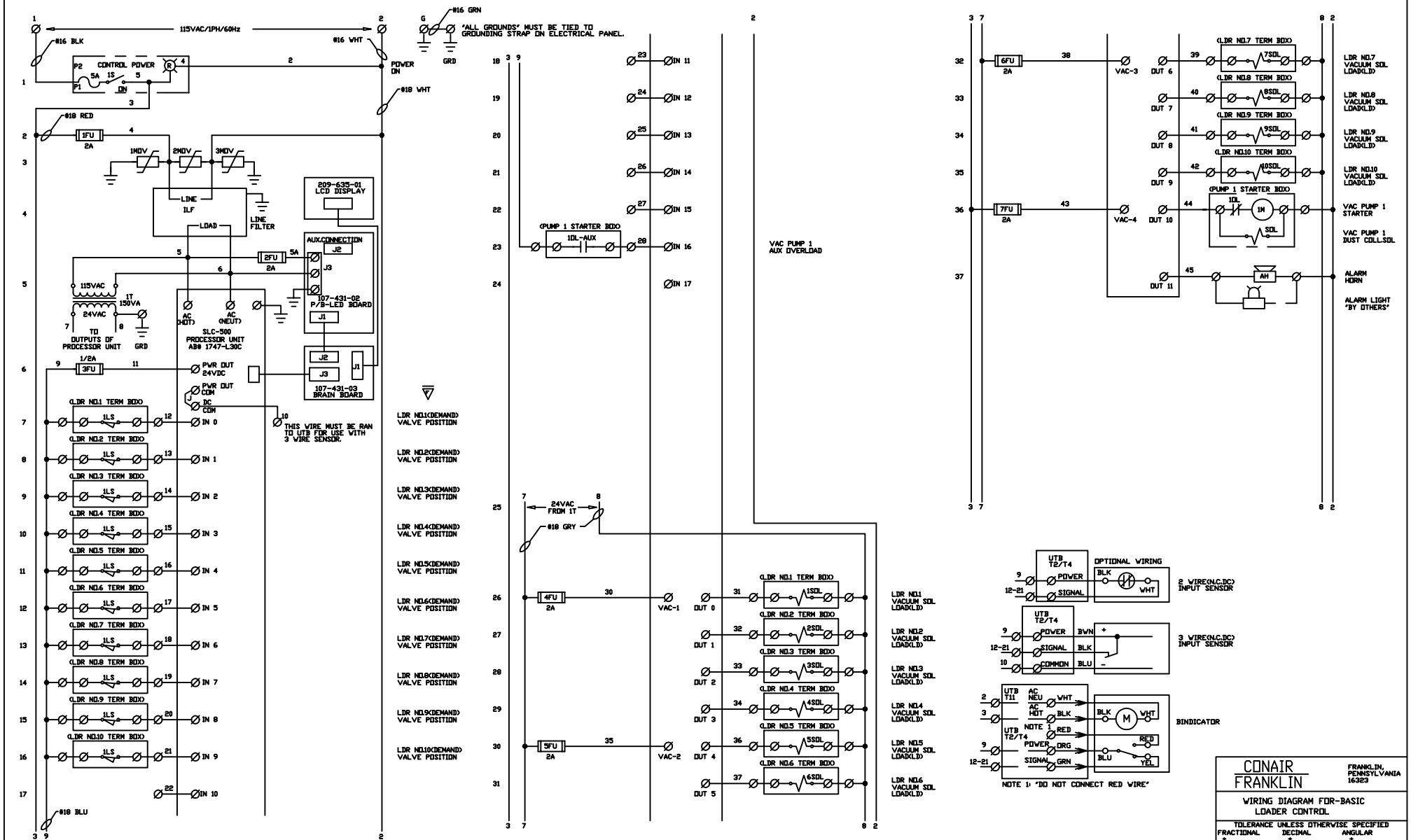
CONAIR FRANKLIN
FRANKLIN, PENNSYLVANIA 16323

BASIC LOADER CONTROL
SLC - FIXED 30

TOLERANCE UNLESS OTHERVISE SPECIFIED
FRACTIONAL ± 1/64 DECIMAL ± .005 ANGULAR ± 1/2°

DWN. ELB CKD. APP.
DATE 11-09-93 DATE DATE

SHT. 1 OF 1 SHTS. 107-432-01 E



NO	DATE	REVISIONS	BY	CKD.	APP.
F	06-28-95	REMOVED 'LEVEL SWITCH' NOTES	MAJ		
E	05-17-94	SEE ECN NO.94078	ELB		

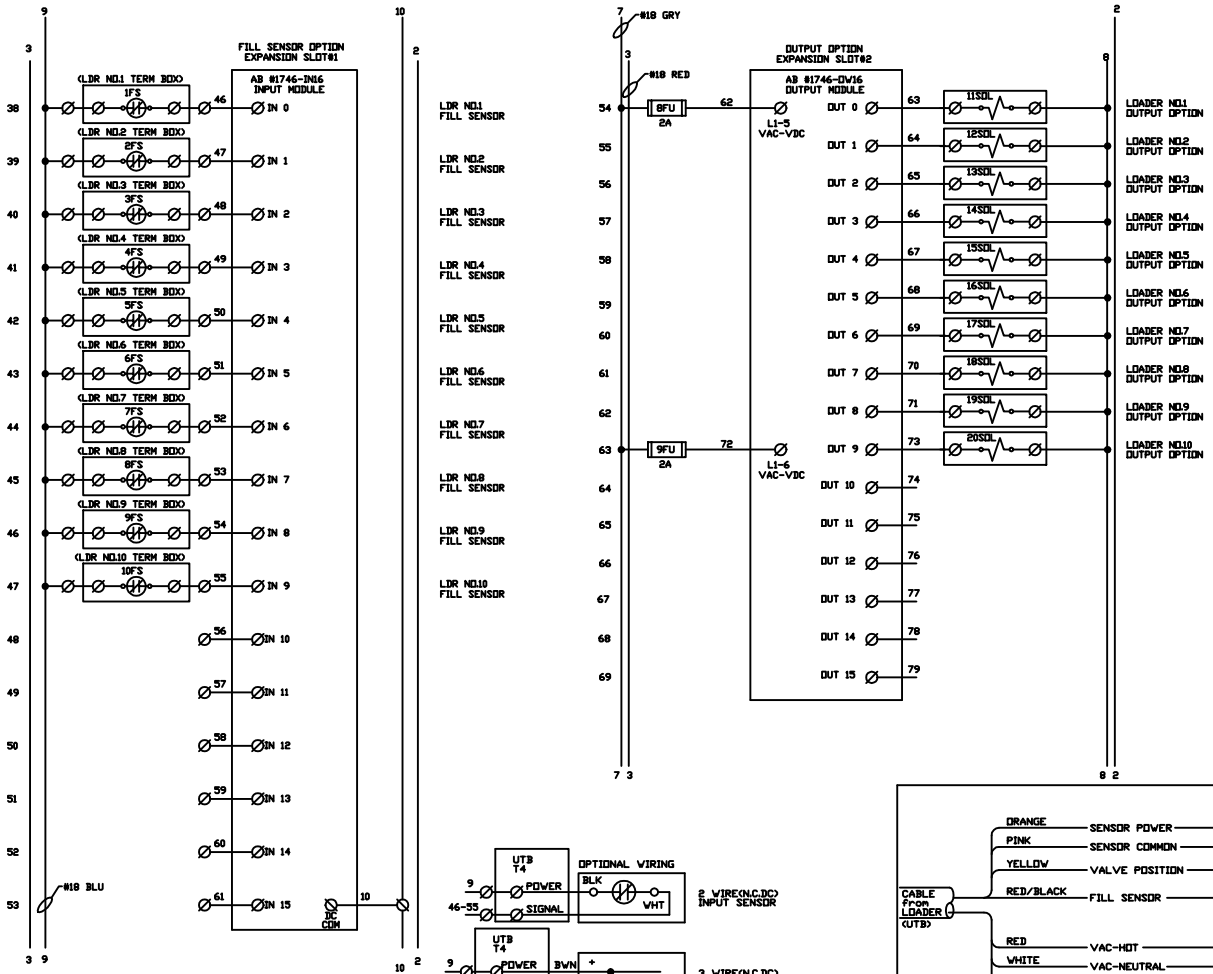
CONAIR FRANKLIN
FRANKLIN, PENNSYLVANIA 16323

WIRING DIAGRAM FOR-BASIC LOADER CONTROL

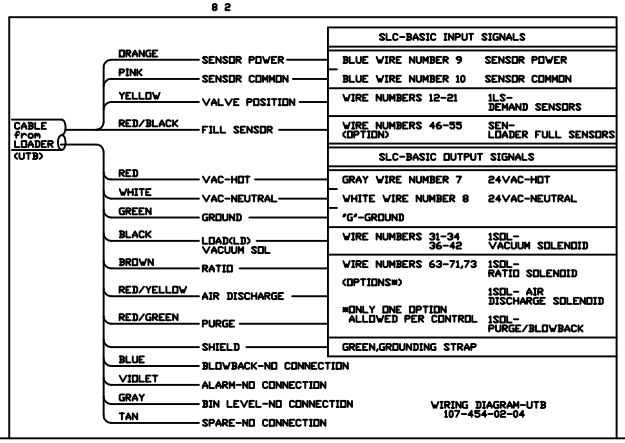
TOLERANCE UNLESS OTHERWISE SPECIFIED
FRACTIONAL ± | DECIMAL ± | ANGULAR ±

DWN. ELB	CKD.	APP.
DATE 10-22-93	DATE	DATE

SHT. 1 OF 2 SHTS. | 107-433-01 | F



SYMBOL	ITEM NO	NUMBER REQUIRED	PART NUMBER	DESCRIPTION
1SW	1	1	203-056-01	5A CIRCUIT BREAKER SWITCH
1-2FU 4-7FU	2	6	206-066-02	FUSE BUSS MDA-2 AMP
1MOV	3	1	188-406-05	POWER FILTER ASSEMBLY
3FU	4	1	206-103-16	FUSE BUSS AGC-1/2 AMP
1T	5	1	209-620-04	150VA TRANSFORMER 120VAC-24VAC
1LCD	6	1	209-635-01	LCD DISPLAY IEE#LCM2220-L STYLE
1PC-LED	7	1	107-501-01	LCD-PUSHBUTTON P.C.BOARD
2PC-BR.	8	1	107-502-01	BRAIN P.C.BOARD
1PLC	9	1	209-605-34	PRO.CONTROLLER A/B#1747-L30C
1AH	10	1	209-089-03	ALARM HORN AUDIOLARM#XC-19-201-Q
	11			
	12	25 FT	205-007-18-02	WIRE NO.18 120VAC CONTROL RED
	13	50 FT	205-007-18-06	WIRE NO.18 24VDC CONTROL L-BLU
	14	50 FT	205-007-18-08	WIRE NO.18 24VAC CONTROL GRAY
	15	50 FT	205-007-18-09	WIRE NO.18 NEUTRAL WHITE
	16	1 FT	205-007-18-05	WIRE NO.18 GROUND GREEN
8-9FU	17	REF	206-066-02	FUSE BUSS MDA-2 AMP
1MOD	18	REF	209-605-26	IN.MODULE A/B#1746-IB16 24VAC/DC
2MOD	19	REF	209-605-09	OUT.MODULE A/B#1746-OW16 115VAC
1EXP	20	REF	209-605-32	EXPANSION RACK A/B#1746-A2
1CAB	21	REF	107-495-01	CABLE LCD TO BRAIN BOARD
2CAB	22	REF	107-495-02	CABLE PB/LED TO BRAIN BOARD
3CAB	23	REF	107-495-03	CABLE BRAIN BD. TO PLC



WIRING DIAGRAM-UTB
107-454-02-04

NOTES:
1. WIRING COLOR CODE
   BLACK -POWER
   RED #18 -CONTROL,120VAC
   BLU #18 -CONTROL, 24VDC
   GRY #18 -CONTROL, 24VAC
   WHITE #18 -NEUTRAL
   GREEN #18 -GROUND
2. USE WIRE MARKERS ON ALL WIRE ENDS.
3. WIRING TO BE IN ACCORDANCE WITH ALL NATIONAL AND LOCAL ELECTRICAL CODES.

NO	DATE	REVISIONS	BY	CKD.	APP.
		SEE SHEET 1 of 2 FOR REVISIONS			
A	10-X-93	RELEASED	ELB		

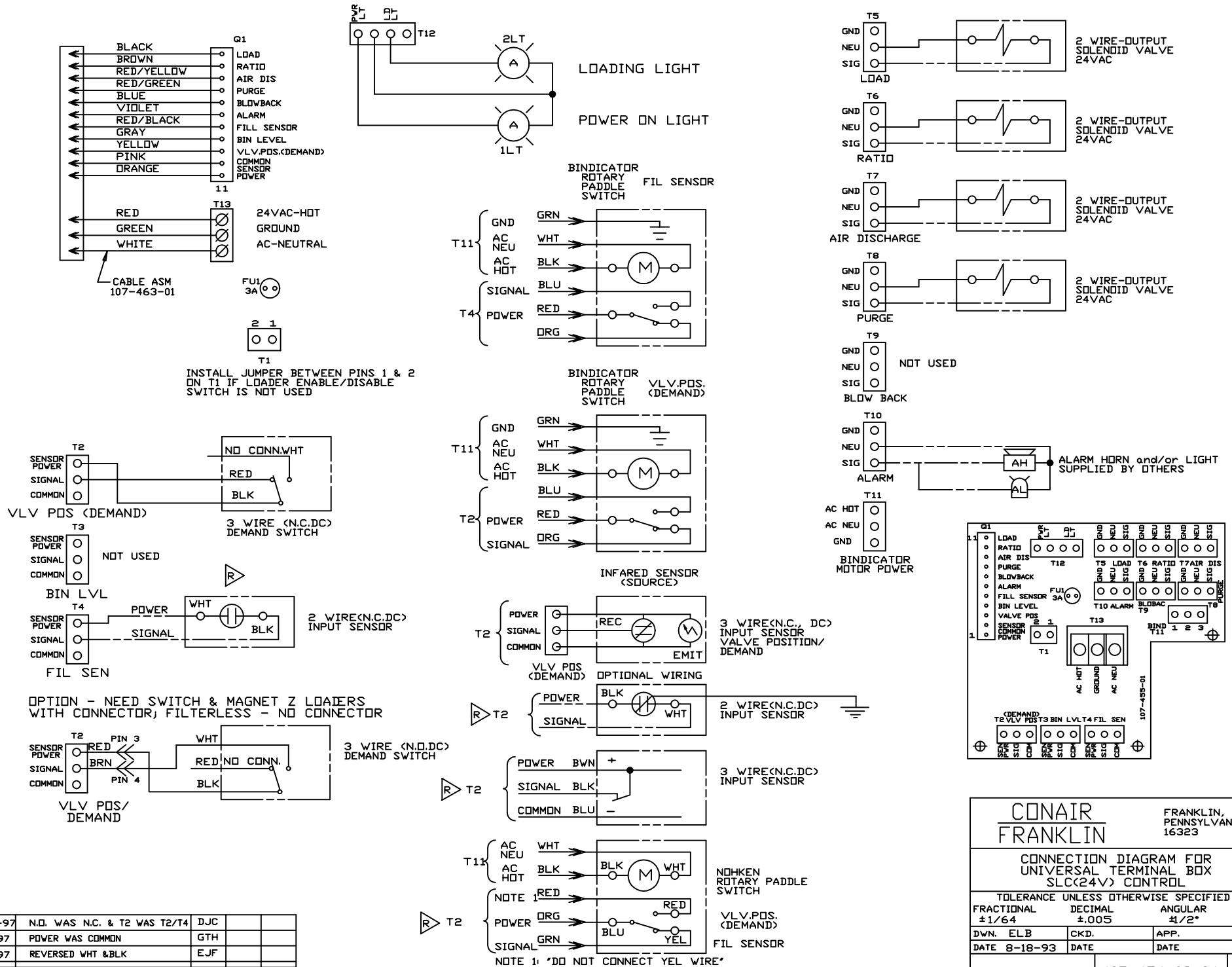
CONAIR FRANKLIN
FRANKLIN, PENNSYLVANIA 16323

OPTIONS - EXPANSION SLOT
WIRING DIAGRAM FOR LOADER CONTROL

TOLERANCE UNLESS OTHERWISE SPECIFIED
FRACTIONAL ± DECIMAL ± ANGULAR ±

DWN. ELB	CKD.	APP.
DATE 10-23-93	DATE	DATE

SHT. 2 OF 2 SHTS. 107-433-01 F



NO	DATE	REVISIONS	BY	CKD.	APP.
R	10-27-97	N.O. WAS N.C. & T2 WAS T2/T4	DJC		
Q	9-25-97	POWER WAS COMMON	GTH		
P	8-20-97	REVERSED WHT &BLK	EJF		

CONAIR
FRANKLIN

FRANKLIN, PENNSYLVANIA 16323

CONNECTION DIAGRAM FOR
UNIVERSAL TERMINAL BOX
SLC(24V) CONTROL

TOLERANCE UNLESS OTHERWISE SPECIFIED

FRACTIONAL	DECIMAL	ANGULAR
±1/64	±.005	±1/2°

DWN. ELB	CKD.	APP.
DATE 8-18-93	DATE	DATE

SHT. 1 OF 1 SHTS. | 107-454-02-04 | R