

Olsen's Packaging

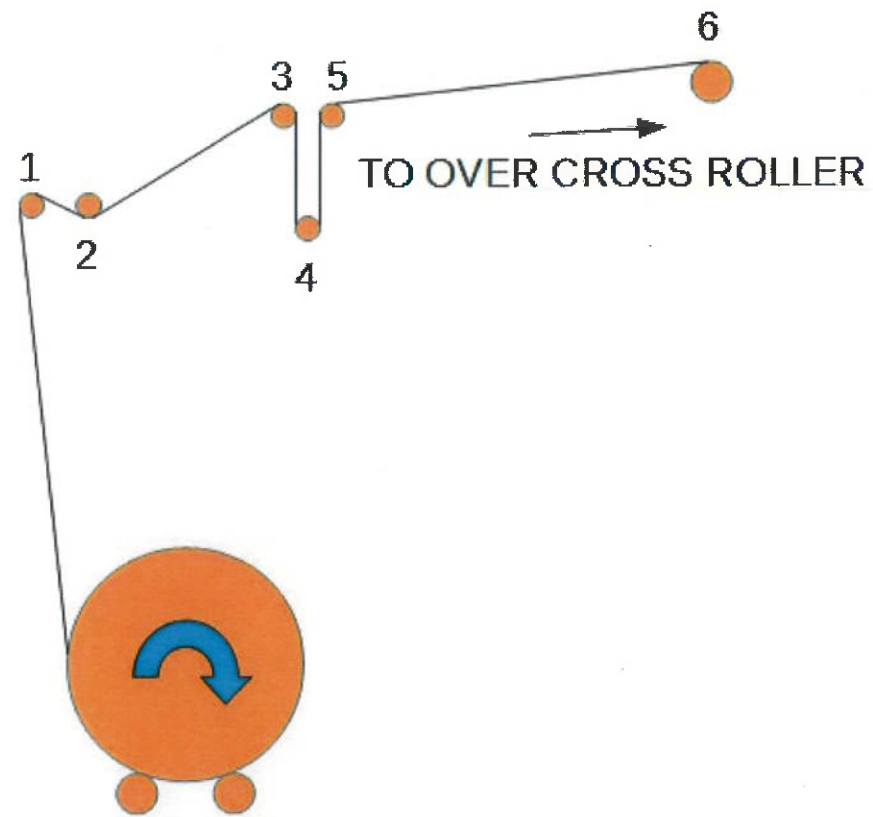
1209 OP Box Frame AIR HEIGHT ADJUSTABLE BUNDLER

Operator's User Manual

PASSWORDS

USER/SUPERVISOR PASSWORD - 6318

MAINTENANCE PASSWORD - 6761



TOP FILM UNWIND

PINCH ROLLERS

8



9



10



12



14



11



13

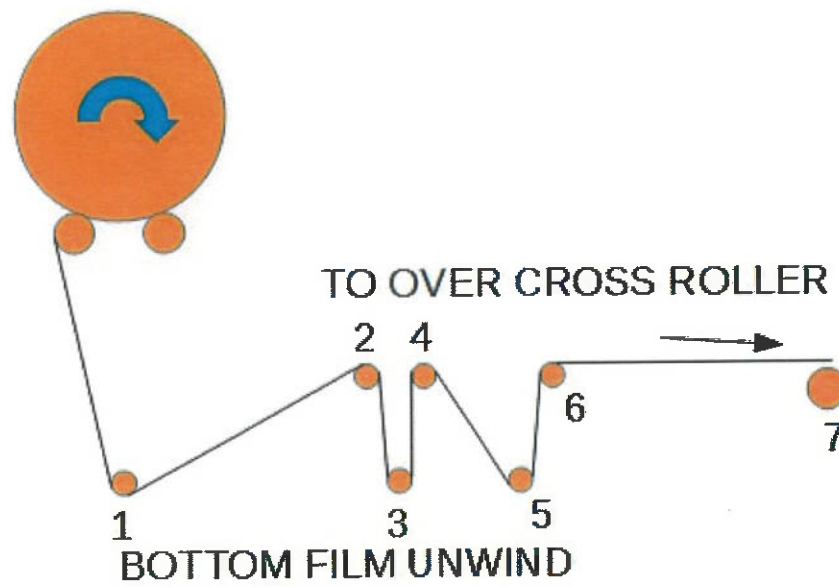


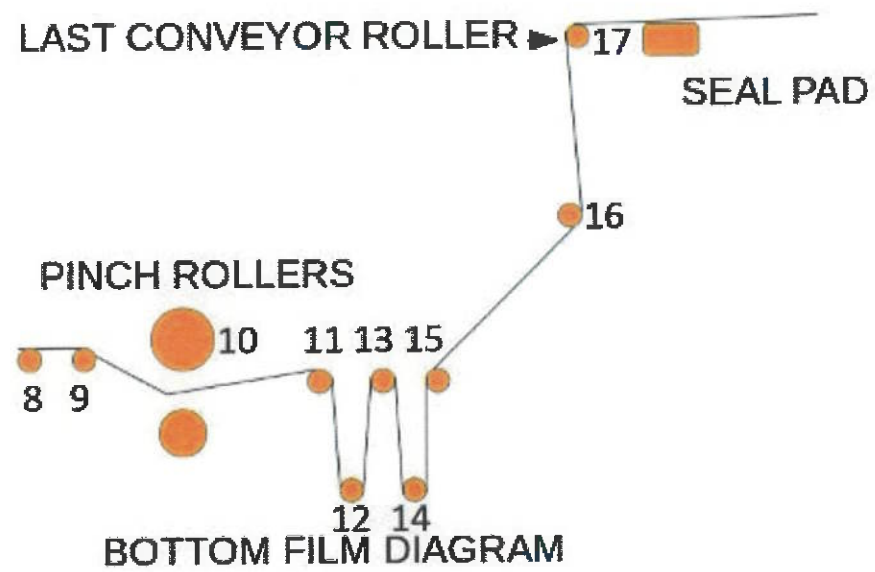
TOP FILM DIAGRAM

15



SEAL PAD





OLSEN'S PACKAGING

1209 OP Box Frame AIR
HEIGHT ADJUSTABLE BUNDLER

SPECIFICATIONS

Overall Dimensions : 110.00" Inches length
95.00" Inches width
105.00" Inches Height required

Electrical Requirements : 115 Volt Alternating current
1 Phase
50/60 Cycles
15 Amperes

Air Requirements : 3/4 Inch feed line
Moisture and oil free

Maximum Film Width : 31.00 Inches

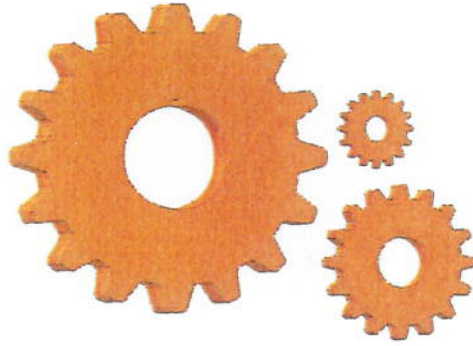
Maximum Package Height : 15.00 Inches

Maximum package width depends on amount of film required to lock in ends of product.

Controls:

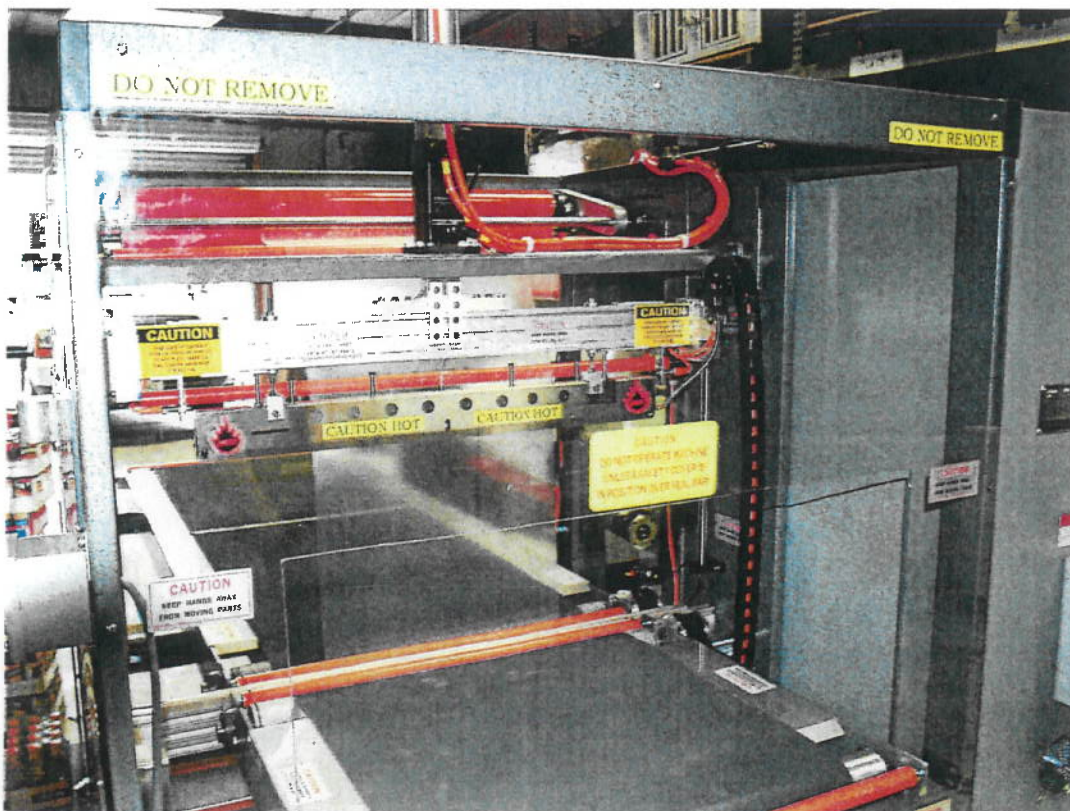
Main Disconnect Switch- Electrical
8" Resistive Touch Panel
Emergency Stops (Seven lighted push buttons)
Reset (Lighted white button on main control panel)
Speed Controls (Drive speed button located on HMI screen)





OLSEN'S PACKAGING

Operation and Maintenance Manual Model 1209 OP Box Frame Air Bundler



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Part Number 1724-103A

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Welcome to the Olsen Family!

Olsen's Packaging & Parts, Inc. is a recognized leader in the industrial packaging industry. Whether you own or lease your Olsen's packaging system, you are assured the highest quality in design, workmanship and performance of any packaging system available.

The purpose of this manual is to familiarize you with the Model 1209OP Air operated Bundler and to provide instructions for the operation, maintenance and repair of the system. This manual may also include parts lists, assembly drawings, electrical schematics and computer programs for reference to facilitate maintenance and repair.

If certain unique installation requirements arise or if there are any questions concerning your Olsen's Packaging system which are not answered in this manual, one of our courteous Customer Service Representatives will be happy to assist you.

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Olsen's Packaging & Parts, Inc. Founded in 1981 and based in Woodbury Tennessee for over 20 years, prides itself on providing unmatched customer service in each and every area of industry operation. Olsen's Packaging & Parts, Inc. procures, produces, stocks and supplies thousands of repair and replacement parts to the shrink packaging industry on a global scale with special emphasis on its own replacement parts. Olsen's Packaging & Parts, Inc. wholly own several well-known brands of shrink packaging equipment used throughout the world including C-PAK, J&D and of course, Olsen's Packaging & Parts, Inc.



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- b) The equipment is misused, abused or neglected in any way;
- c) The equipment is altered, modified or changed, or any additional part is installed, unless OLSEN'S PACKAGING & PARTS, INC. shall have previously consented in writing to such alteration, modification, change or installation;
- d) The equipment is operated with any additional accessory or part, whether or not OLSEN'S PACKAGING & PARTS, INC. is the manufacturer thereof unless OLSEN'S PACKAGING & PARTS, INC. shall have previously consented in writing to the operation of the equipment with such accessory or part;
- e) Any materials, packages, containers, pallets or loads which are to be conveyed and/or wrapped are not in a condition to permit their being properly handled by the equipment;
- f) The equipment is serviced or repaired by any person not previously approved by OLSEN'S PACKAGING & PARTS, INC. in writing or;
- g) The Buyer fails to notify OLSEN'S PACKAGING AND PARTS, INC. in writing of any defect, breakdown, accident or malfunction of the equipment within (7) days of the discovery of such defect or the occurrence of such breakdown, accident or malfunction.

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Under no circumstances shall OLSEN'S PACKAGING & PARTS, INC. have any liability for any type of incidental or consequential damages arising from the use of, loss of use or defective performance of the equipment. OLSEN'S PACKAGING & PARTS, INC.'S Liability is expressly limited to the repair or replacement of defective parts.

The limited warranty extends only to the original buyer and is not transferable to subsequent owners, purchasers or possessors of the equipment.

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PLEASE!

**THINK
SAFETY
FIRST**

ATTENTION!

HOT surfaces



The seal bar becomes very hot during operation and remains hot enough to burn skin and product for up to two (2) hours after removing power.

Dangerous Moving Parts



Although every attempt has been made to build the machine to be as safe as possible to operate and maintain, there are naturally many dangerous areas that can cause harm to personnel and product.

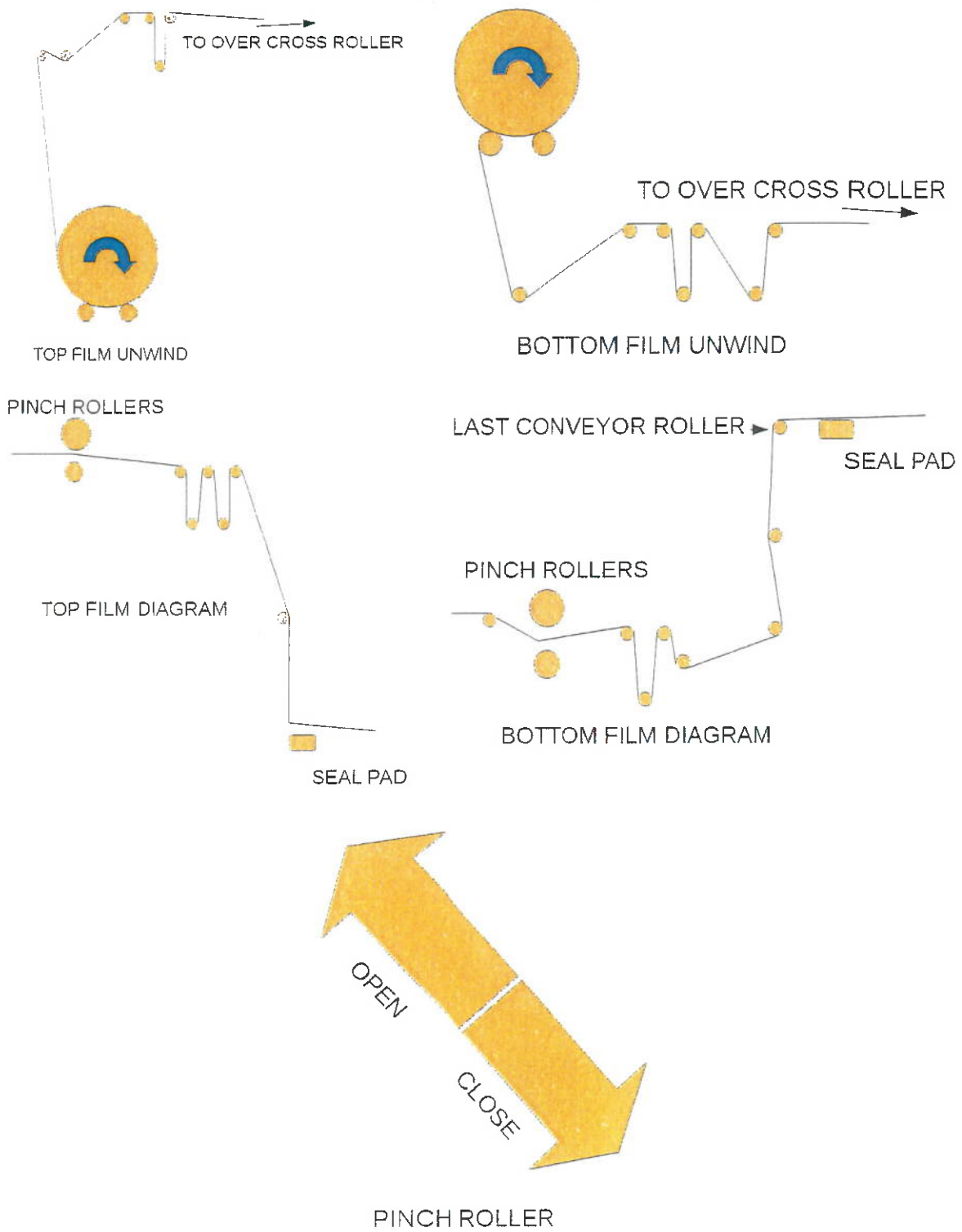
Standard Preparation

- 1** **Inspect the area around the entry and exit ports of the machine as well as the entire path through the machine, especially the area above and below the sealing head in the center of the machine and remove any possible obstructions.**

- 2** **Inspect all wiring, controls, guides, cables and belts and report any broken, worn or loose items to qualified maintenance personnel before attempting to use machine.**

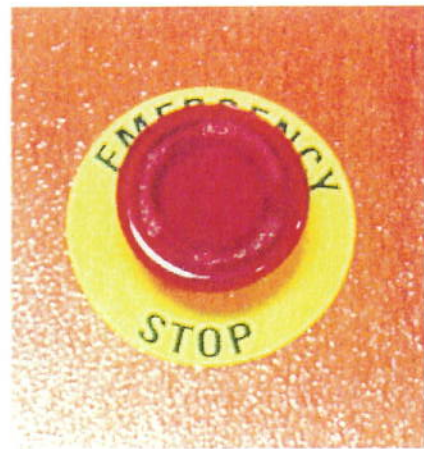
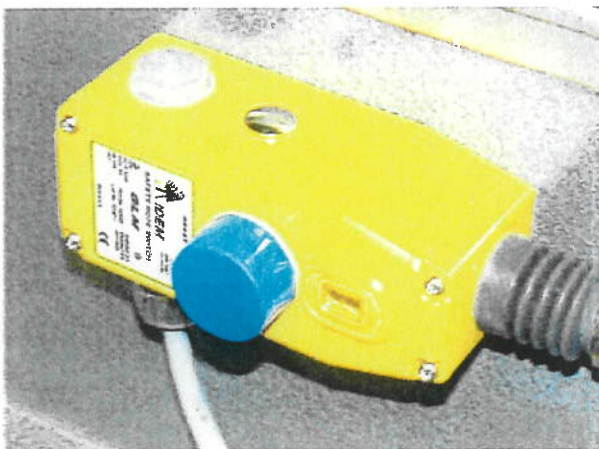
- 3** **Place rolls of film on the top and bottom film carriages and thread the film according to the Film Threading Diagram as shown on the following page (a placard showing the film threading diagram is also attached to the bundler on the side of the unwind and machine).**

FILM DIAGRAMS



INITIAL POWER UP!

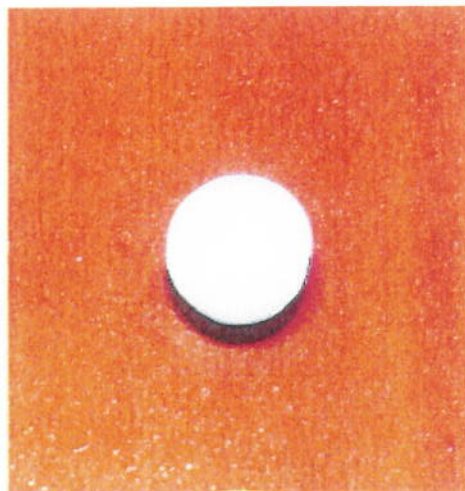
1. The machine must be wired by qualified personnel before use.
2. A source of clean oil free air must also be supplied to the machine.
3. After the power and air source have been supplied be sure that all electrical cabinet doors are safely closed. Switch the breaker to the on position. Take precautions when doing this because the machine will start it initializing sequence and the seal head will move to it upward most position. Once this process has taken place the machine will now be ready to setup for production.
4. At this point be sure that all of the emergency stops are reset and that the guard doors are closed If so equipped. The red emergency stops must be slightly turned clockwise to reset them after being depressed and machines with rope style emergency stops must have the blue reset button pushed to complete the reset sequence.



5. At this point you will see that the screen is flashing a warning sign.

One or more Emergency Stop buttons are currently locked in a depressed position. Clear the problem and rotate each Emergency Stop button CLOCKWISE to release it then press white Reset button to reset.

6. To clear the warning and ready the machine for operation you must now press the white manual machine reset button on the main control panel.



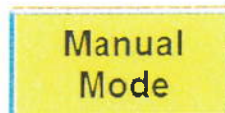
7. You will now see the HMI main screen.

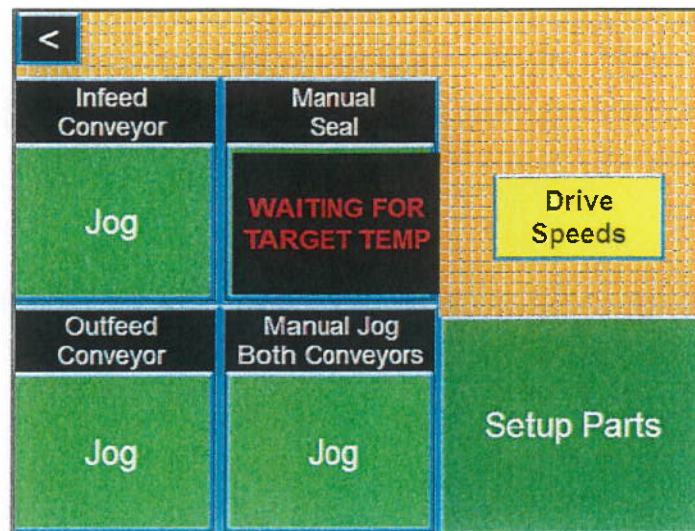


8. We will now cover the selections given here.

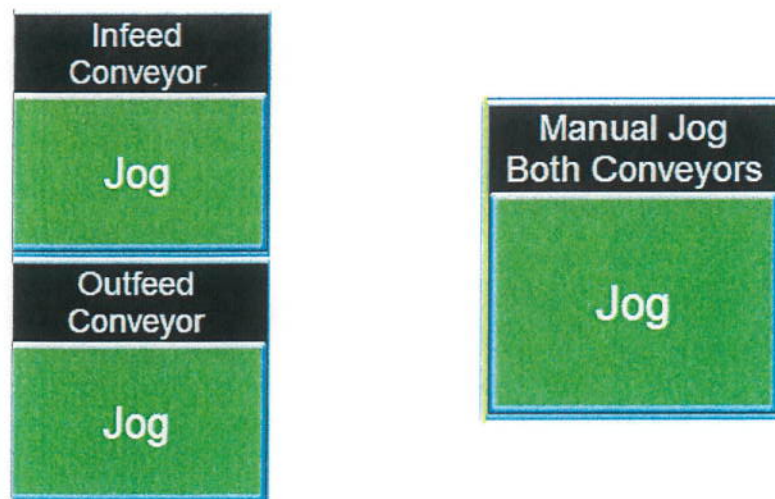
Manual Mode

1. Touch the yellow Manual Mode button. The Manual operation screen will be displayed.





2. Remember safety comes first! Be sure of the machine is clear. The following actions will cause the machine to move. By touching and holding either of the conveyor jog buttons the respective conveyor will jog at set speed.



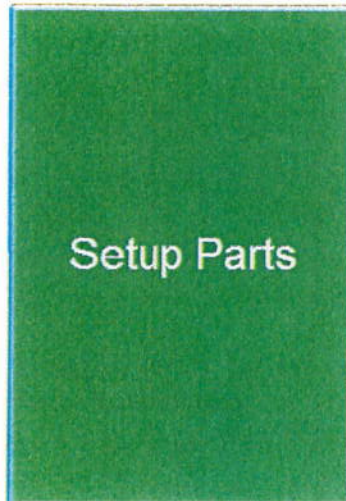
3. Once you have properly threaded film you can now complete an initial seal to finish film setup. You must touch and hold the Manual Seal button through the entire seal process. If at any time you let go of the button the head will stop the seal process and return to the full open position. If a situation occurs during the process that requires the process to stop simply remove your finger from the button.



4. If the seal head encounters an obstacle at any time during operation. The seal head will automatically return to the up most position and the heater will be turned off until the obstruction is cleared. Depress the clear alarm button to reset.



5. Lastly this screen gives you access to the setup parts screen.
touch the setup parts button to move to the setup parts screen



6. This machine has been designed with the ability to setup, store and recall production parameters for wrapping various size and weight product bundles. This affords rapid change-over from one production run to another without having to re-measure and experiment to find proper machine settings. There is room provisioned for fifty (50) different part setups and this number can be increased by manufacturer programming.

RECORD	MOLD NUMBER	HEIGHT	LENGTH TIME	PREFEED_EN
1 SETUP1	0	0	0	Off
2 SETUP2	2487	5	150	On
3 SETUP3	2488	5	125	On
4 SETUP4	2500	9	150	Off
5 SETUP5	2503	7	250	Off
6 SETUP6	2547	8	250	On
7 SETUP7	0	0	0	Off
8 SETUP8	0	0	0	Off
9 SETUP9	0	0	0	Off
10 SETUP10	0	0	0	Off
Close 0				

7. Notice that a few parts have been stored. Also notice that the first part starts on the second row labeled SETUP 2 and not the first. It is recommended to leave the first row “all zeros” so that this setup (SETUP 1) can always be used for new product experimentation or short runs of uncommon products.

RECORD	MOLD NUMBER	HEIGHT	LENGTH	TIME	PREFEED	EM
1	SETUP1	0	0	0	Off	
2	SETUP2	2487	5	150	On	
3	SETUP3	2488	5	125	On	
4	SETUP4	2500	9	150	Off	
5	SETUP5	2503	7	250	Off	
6	SETUP6	2547	8	250	On	
7	SETUP7	0	0	0	Off	
8	SETUP8	0	0	0	Off	
9	SETUP9	0	0	0	Off	
10	SETUP10	0				

Q

Q

□

.

↶

↷

↵

↶

↷

↵

Load

Edit

Close 0

8. Touch the graphic button in the lower right-hand corner of the display in order to reveal the editing functions as shown.



9. Notice that the Edit function button has a black background. This means that actual editing of parameters is **DISABLED**. In order to allow editing, touch the edit button which will toggle it to a light gray color.



10. An operator may now select any adjustable parameter for editing by touching the respective on-screen parameter and entering the new values using the keypads that appear.

11. Touch the Close button once all desired additions and changes have been made. Confirm saving the changes.

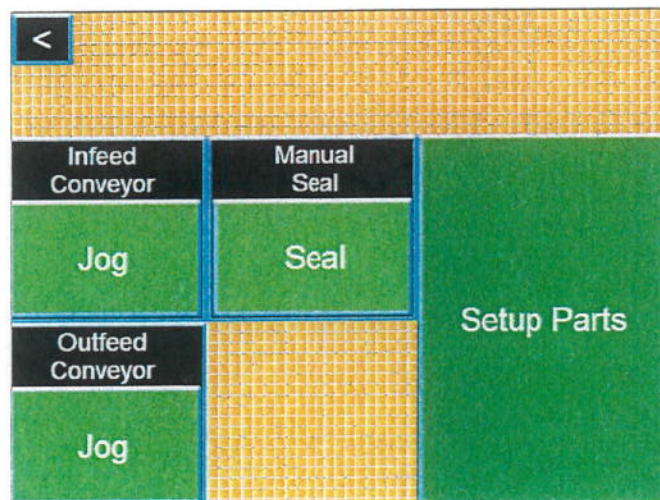
RECORD	MOLD NUMBER	HEIGHT	LENGTH TIME	PREFEED EN		
1	SETUP1	0	0	Off		
2	SETUP2	2487	5	150	On	
3	SETUP3	C	5	125	On	
4	SETUP4	<div>Recipe Sheet</div> <div>Do you want to save the changes?</div> <div><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Cancel"/></div>			50	Off
5	SETUP5				50	Off
6	SETUP6				50	On
7	SETUP7				0	Off
8	SETUP8	0	0	0	Off	
9	SETUP9	0	0	0	Off	
10	SETUP10	0	0	0	Off	

Close

Load

Edit

12. The display reverts back to the Manual Option Screen:



13. Locate and touch the graphic button in the upper left corner of the current screen. This will change the screen back to the Main Operation Display. This button is available on many of the screens and always acts as a back button.



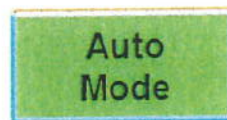
14. On later model machines you adjust conveyor and film feed speeds by pressing the yellow drive speeds button. Select which speed you need to adjust. Select 0 to 100%.

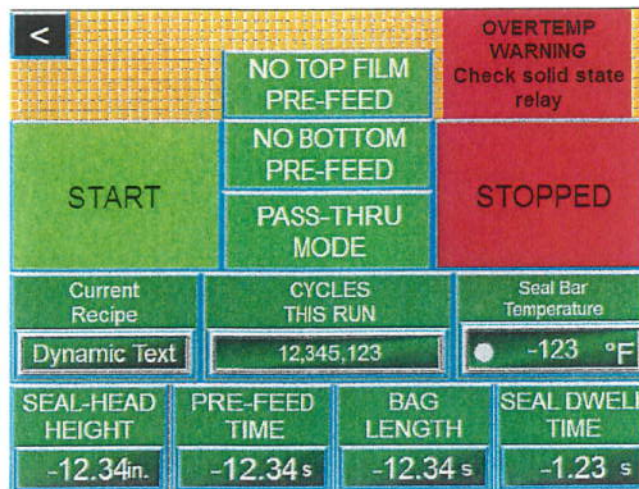


AUTOMATIC MODE



1. Touch the green automatic button. The Automatic Run screen will be displayed.



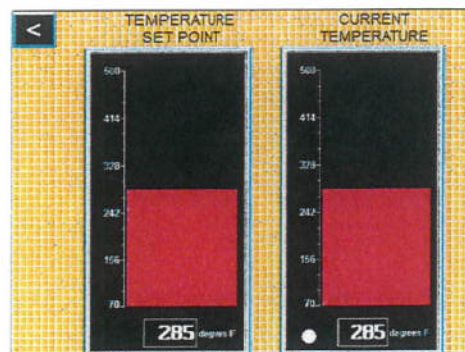


2. This section will explain how to input values needed for machine operation. This is also the information once determined that will be required to fill in the recipe information on the setup parts screen. Once determined it needs to be recorded from this screen and input to the respective values there.

3. We will start with seal bar temperature. Start by touching the Seal Bar temperature button.



4. The seal temperature screen will be displayed at this time.



5. Locate and touch the temperature scale displayed on the left side of the screen; this scale displays the seal bar Temperature Set point or the desired temperature of the hot knife inside the seal bar. The following screen is displayed:

The screenshot shows a 'Numeric Entry' screen. On the left is a numeric keypad with buttons for digits 0-9, a 'Clear' button, and a '+/-' button. On the right is a display area with four rows: a top row for the current value (0), a row for 'Minimum' (70), a row for 'Maximum' (500), and a row for 'Current' (0). At the bottom are 'Cancel' and 'Enter' buttons.

Numeric Entry		
7	8	9
4	5	6
1	2	3
0	Clear	
+/-		

0
Minimum 70
Maximum 500
Current 0

Cancel Enter

6. Using the keypad displayed, enter the desired hot knife temperature in degrees F, then touch the Enter button to store your setting. The panel will return to the display of the Temperature Set Point and the Current Temperature scales. Within a few moments, A Red dot should indicate Set temp is being sought. Attempting to run the machine before set temp is reached is prohibited and is displayed on the main run screen in place of the START button in the form of a warning. The MANUAL sealing option is also prohibited but the warning is not displayed on the Manual screen. The warning displayed is shown here.

A black rectangular box with the text 'WAITING FOR TARGET TEMP' in red, bold, capital letters.

**WAITING FOR
TARGET TEMP**

7. The next button will be the Seal-Head Height button. Touch the button to display the setting screen shown here.

SEAL-HEAD HEIGHT
-12.34in.

Numeric Entry		
7	8	9
4	5	6
1	2	3
0	Clear	
+/-		

SEAL-HEAD

0.00
Minimum 4.00
Maximum 9.00
Current 0.00

Cancel Enter

8. The allowable input will be predetermined by Initial manufacturer setup and may slightly differ on you machine. This setting determines the height the seal bar will stop above the seal pad. Depending on machine capabilities you can set this height from 4" inches to whatever your machine's maximum is. Because this is an air operated cylinder and brake you may need to use an input setting slightly larger than anticipated. Height will repeat each time the seal bar cycles. This is only affected by obstructions, Guard Doors being opened or Emergency stop activation. Once the machine is reset it will return to the set height after the first seal. Sometimes it is best to manual seal the machine the first time after an incident to prep for automatic operation. Touch Enter when set.

9. The next button will be the Pre-feed time button. Touch the button to display the setting screen shown on the next page.

PRE-FEED TIME
-12.34 s

Numeric Entry			
7	8	9	PRE-FEED <div>0.00</div> <div>Minimum 0.00</div> <div>Maximum 20.00</div> <div>Current 0.00</div>
4	5	6	
1	2	3	
0	Clear		
+/-			
<div>Cancel</div> <div>Enter</div>			

10. This setting is used more for very light products. It allows for the machine to feed a predetermined amount of film by timing the pinch feed rollers to begin feeding film without the requirement of picking up the dancer film feed rollers. This allows the small product to transfer with the least amount of resistance possible. Be careful not to set the timer to high or backlash will occur. Meaning film will back roll onto the feeding system and retreading will be required. Pre-feed only needs to be long enough for the product to clear bag length settings. There should not be excess film present in the feeding system when one product has finished the cycle. There is no magic formula involved with this process. It may only be achieved with trial and error. Touch the Enter key when you have input your desired numbers. To activate you must touch one of the Pre-Feed buttons and enter the password. This will activate Pre-Feed.

NO TOP FILM
PRE-FEED

NO BOTTOM
PRE-FEED

11. Next will be Bag Length settings. Touch the bag length Button.

BAG
LENGTH
-12.34 s

12. The Settings window will be shown.

The screenshot shows a 'Numeric Entry' window titled 'BAG LENGTH'. On the left is a numeric keypad with buttons for digits 0-9, a 'Clear' button, and a '+/-' button. On the right is a table with four rows: the first row shows the current value '0.00'; the second row shows 'Minimum' as '0.50'; the third row shows 'Maximum' as '20.00'; and the fourth row shows 'Current' as '0.00'. At the bottom are 'Cancel' and 'Enter' buttons.

Numeric Entry		
BAG LENGTH		
7	8	9
4	5	6
1	2	3
0	Clear	
+/-		

0.00
Minimum 0.50
Maximum 20.00
Current 0.00

Cancel Enter

13. This setting will allow you to determine how much extra film is presented on the back of the product. Use this setting to set your excess for shrink. This timer starts when the trailing edge of the product passes the sensing eye before the seal head. It must be set to allow enough time for the product to pass seal bar and obtain desired extra film or bag length. Touch the Enter button after you have set desired time in seconds.

14. Next and final main setting is Seal Dwell Time. Touch the Seal Dwell button.

The screenshot shows a green rectangular button with the text 'SEAL DWELL TIME' in white. Below this text, the value '-1.23 s' is displayed in white.

SEAL DWELL
TIME
-1.23 s

15. The seal dwell setting window will appear as shown on next page.

Numeric Entry			
7	8	9	SEAL DWELL <div>0.00</div> <div>Minimum 0.25</div> <div>Maximum 5.00</div> <div>Current 0.00</div>
4	5	6	
1	2	3	
0	Clear		
+/-			
<div>Cancel</div> <div>Enter</div>			

16. This setting allows you to set the length of time the seal bar stays in the seal position. Optimum time depends on film type and manufacturer of the film you are using. Usually you can achieve a 1.00 second dwell or less.

17. This machine is also capable of Pass-Thru Mode. Activate by touching Pass-Thru Mode button.

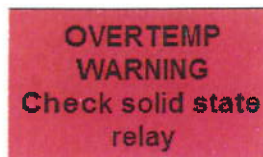
**PASS-THRU
MODE**

18. By activating this button the conveyors will run but the seal head will not operate. This will allow you to run product thru the machine without film. The threaded film must be removed for this process.

19. To reset the cycles this run window touch the cycles this run button. Enter the code to reset.



20. This machine is also supplied with an over temp warning system. There has been a maximum temp set for the seal bar. If this temp is reached or exceeded at any time the control will automatically shut power off tho the seal bar. This will occur if the temperature is set to high or the solid state relay fails. You will receive the following warning on the auto screen.



21. If the over temp warning is displayed and the seal bar temp is not set over 500 degrees have qualified personnel inspect the machine for solid state relay failure.

22. One all settings have been input and the machine is clear of all door and e-stop warnings, seal temp has been reached now the machine may be started in automatic mode by touching the START button. Simply touch the STOP button to stop automatic mode. STOP button will show STOPPED when not in automatic mode.



23. Finally you have the ability to load a preset saved recipe. This will set all parameters according to what were pre set in the setup parts section of this manual. To begin press the Current Recipe button.

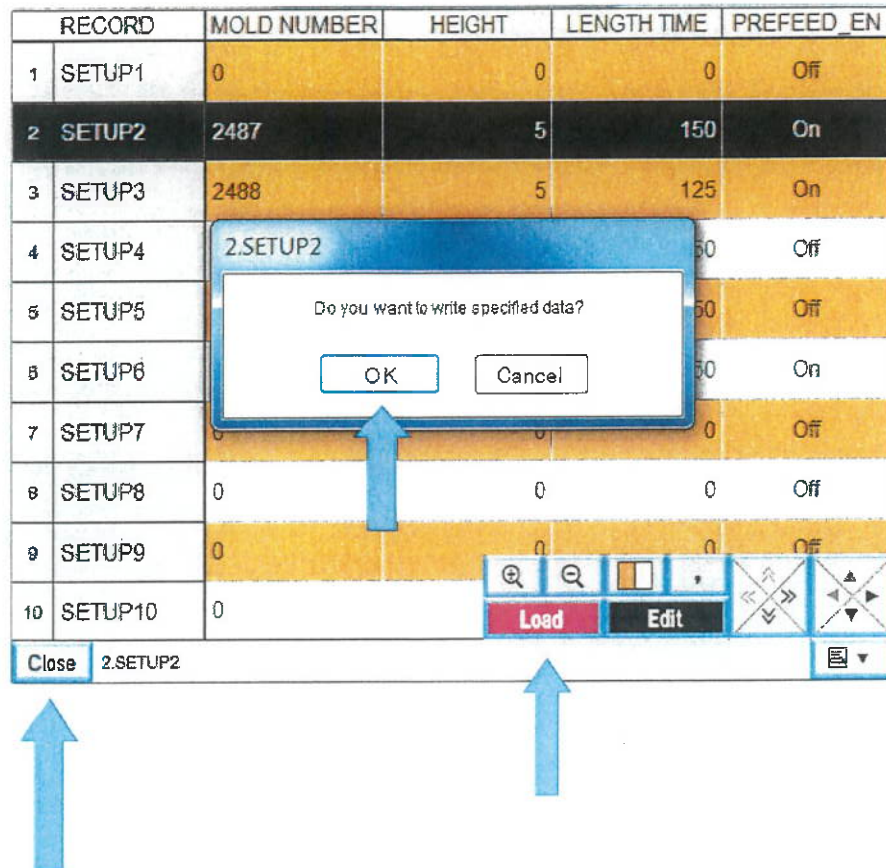


24. The following screen will be displayed.

	RECORD	MOLD NUMBER	HEIGHT	LENGTH TIME	PREFEED_EN
1	SETUP1	0	0	0	Off
2	SETUP2	2487	5	150	On
3	SETUP3	2488	5	125	On
4	SETUP4	2500	9	150	Off
5	SETUP5	2503	7	250	Off
6	SETUP6	2547	8	250	On
7	SETUP7	0	0	0	Off
8	SETUP8	0	0	0	Off
9	SETUP9	0	0	0	Off
10	SETUP10	0	0	0	Off
Close					



25. Now touch the small button on the bottom right. This will allow you to select and load the saved information. Do this by selecting the setup you choose to use and touch the LOAD button. A write screen will appear. Touch the OK button to proceed. When finished touch the close button in the bottom left corner.



26. When it becomes necessary to thread the film into the bundler main frame you must release the upper and lower pinch rollers. This is accomplished by actuating the air levers found on the frame of the machine near the infeed conveyor. Actuating the lever will open the pinch roller allowing you to thread film. Be sure and close the rollers before operation or film will not be feed into the machine properly. Film must be flat and even before closing the rollers. It will not straighten on it own. The levers are pictured on the next page.



Maintenance button normally has no function for end user.
This is used for Manufacturer setup.

FILM ALIGNMENT

To adjust the center seal placement, move either the upper or lower roll of film left or right (depending on which needs adjustment). IE...if the upper seal needs to move to the right, adjust the upper roll to the right.

FILM TRACKING

If the film begins to bunch to the left of the seal, adjust the Inverting Roller 1 Right (1R) to the right or 1 Left (1L) to the left. If the bunching occurs to the right, adjustments can be made in reverse. If the film bunches to one side on the rollers beneath the Infeed Conveyor, do the same as above using 2R and 2L under the conveyor to make adjustments to the film.

OLSEN PACKAGING


MODEL: 12090P-1

SERIAL: 0220

DRAWING INDEX

DRAWING NUMBER	DESCRIPTION
11378-01	DRAWING INDEX
11378-02	CONTROLS WIRING
11378-03	CONTROLS WIRING
11378-04	SAFETY CONTROLS WIRING
11378-05	PLC LAYOUT
11378-06	PLC CONTROLS WIRING
11378-07	PLC CONTROLS WIRING
11378-08	PLC CONTROLS WIRING
11378-09	PLC CONTROLS WIRING

*NOTE

	=	AA-SHEET NUMBER
		BB-LINE NUMBER

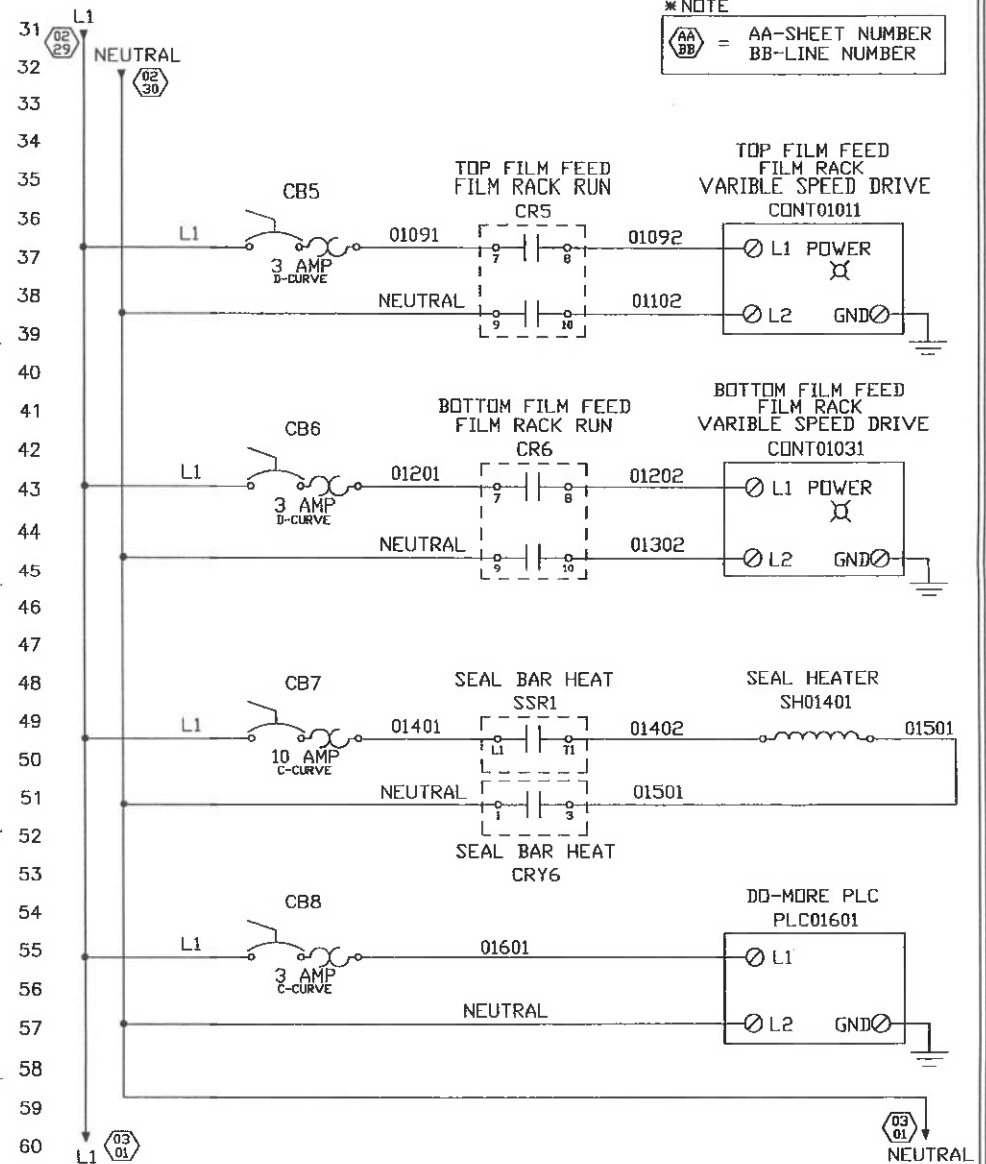
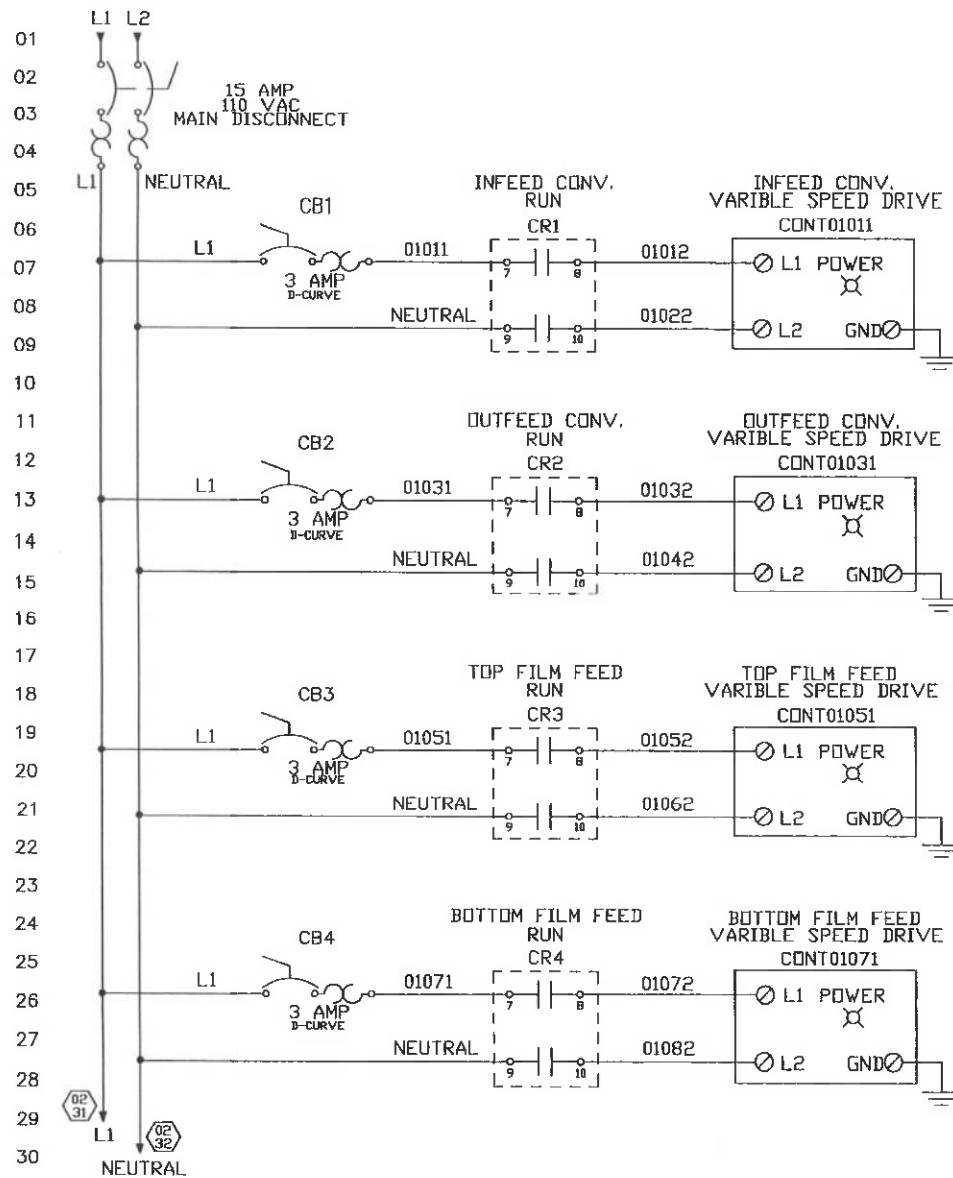
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OLSEN PACKAGING
MODEL: 12090P-1
SERIAL: 0220

DRAWN BY:	DATE:	Project Code
SCL	04/14/2016	11378
SCALE:	DRAWING NO:	SHEET NO:
NONE	11378	01 OF 09
		REV: 0



*NOTE

AA = AA-SHEET NUMBER
BB = BB-LINE NUMBER

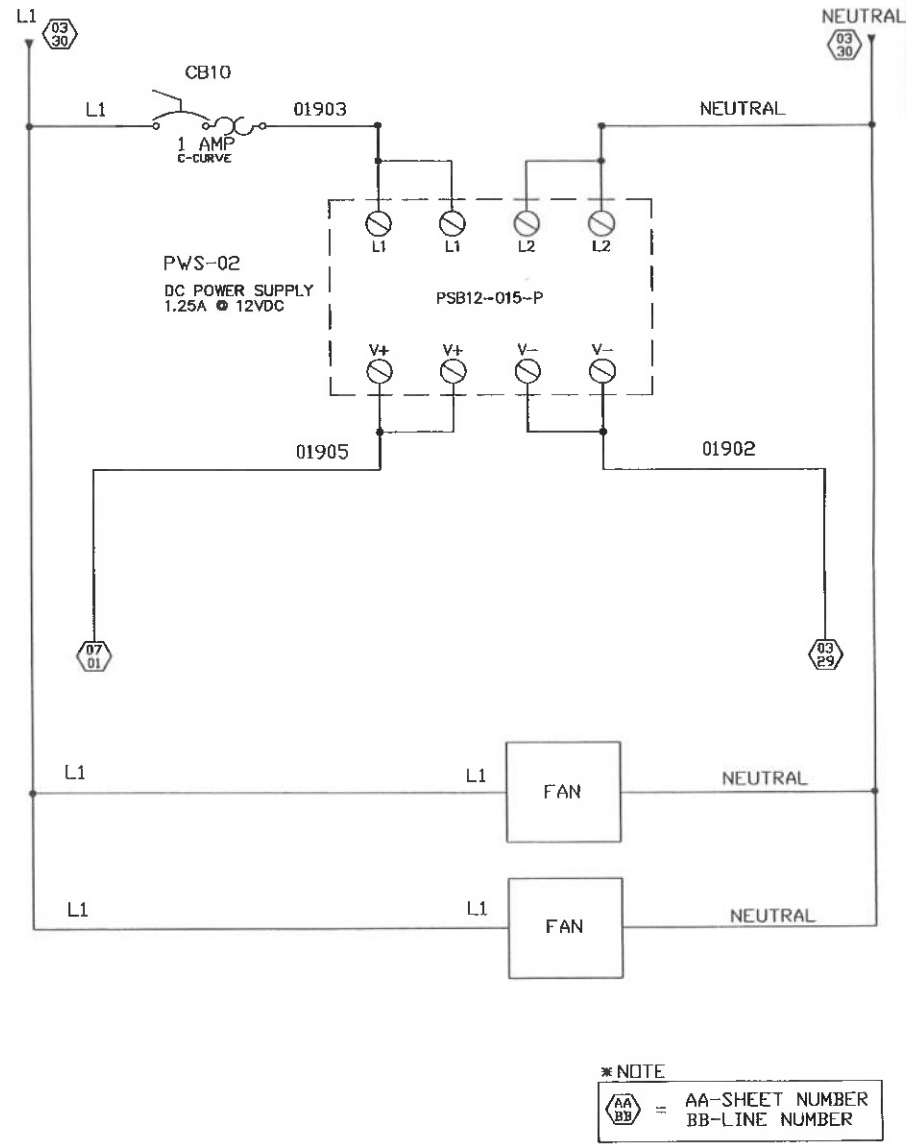
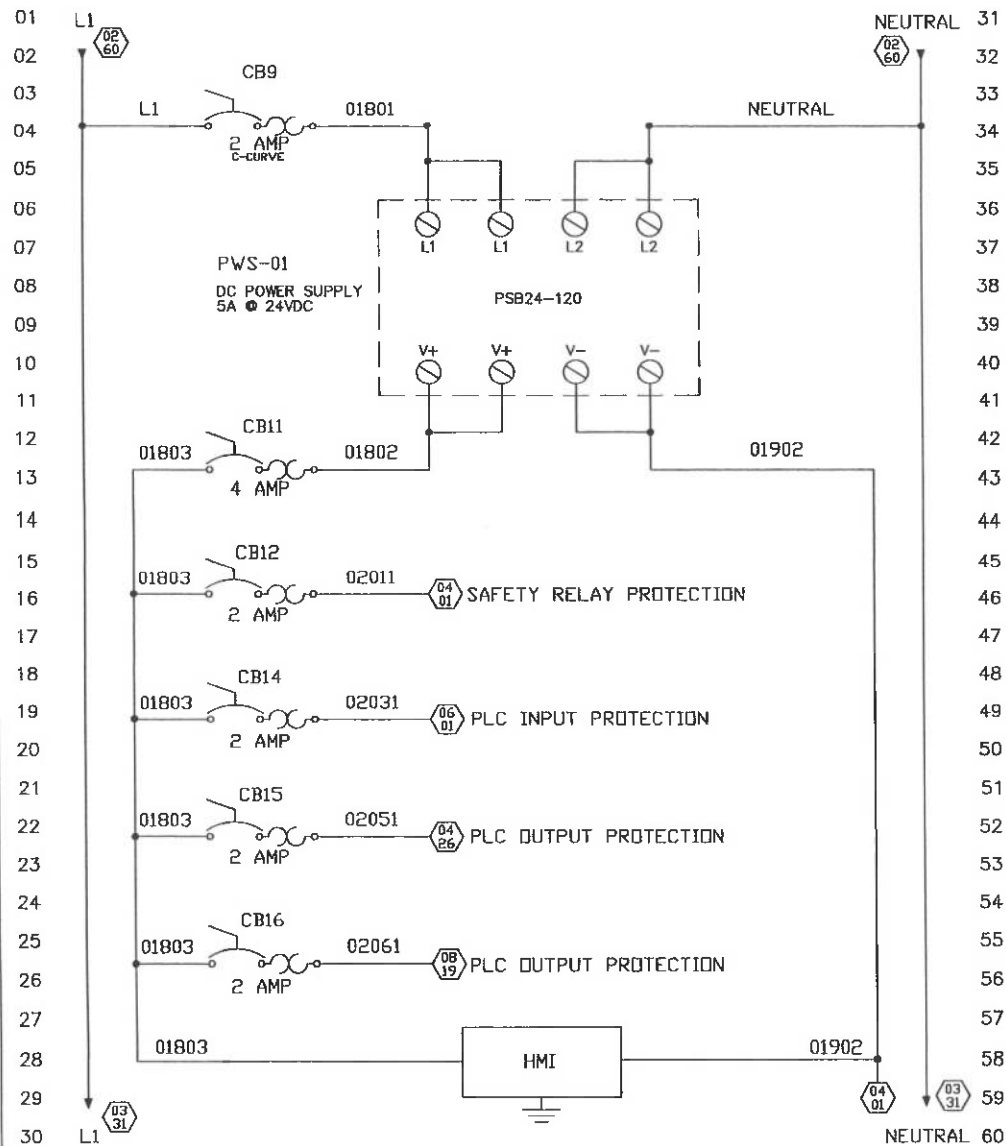
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NASHVILLE, TN 37210

ADVANCED
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SERVICES

OLSEN PACKAGING
MODEL: 12090P-1
SERIAL: 0220

DRAWN BY:	DATE:	Project Code
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SCALE:	DRAWING NO:	SHEET NO:
NONE	11378	02 OF 09
		REV:
		0



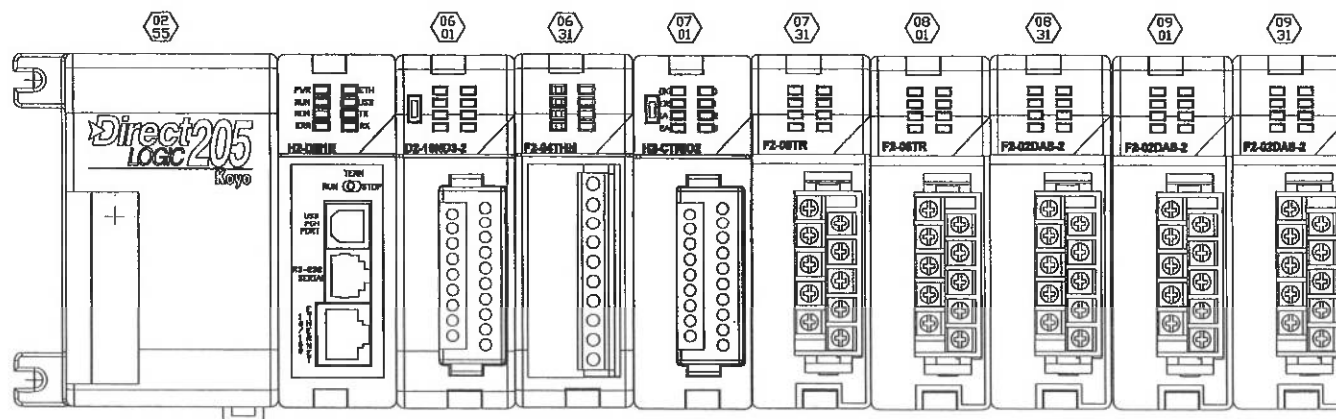
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921 TWIN ELMS COURT
NASHVILLE, TN 37210



OLSEN PACKAGING
MODEL: 12090P-1
SERIAL: 0220

DRAWN BY:	DATE:	Project Code
SCL	04/14/2016	11378
SCALE:	DRAWING NO:	SHEET NO:
NONE	11378	03 OF 08
		REV: 0



* NOTE

AA BB = AA-SHEET NUMBER
BB-LINE NUMBER

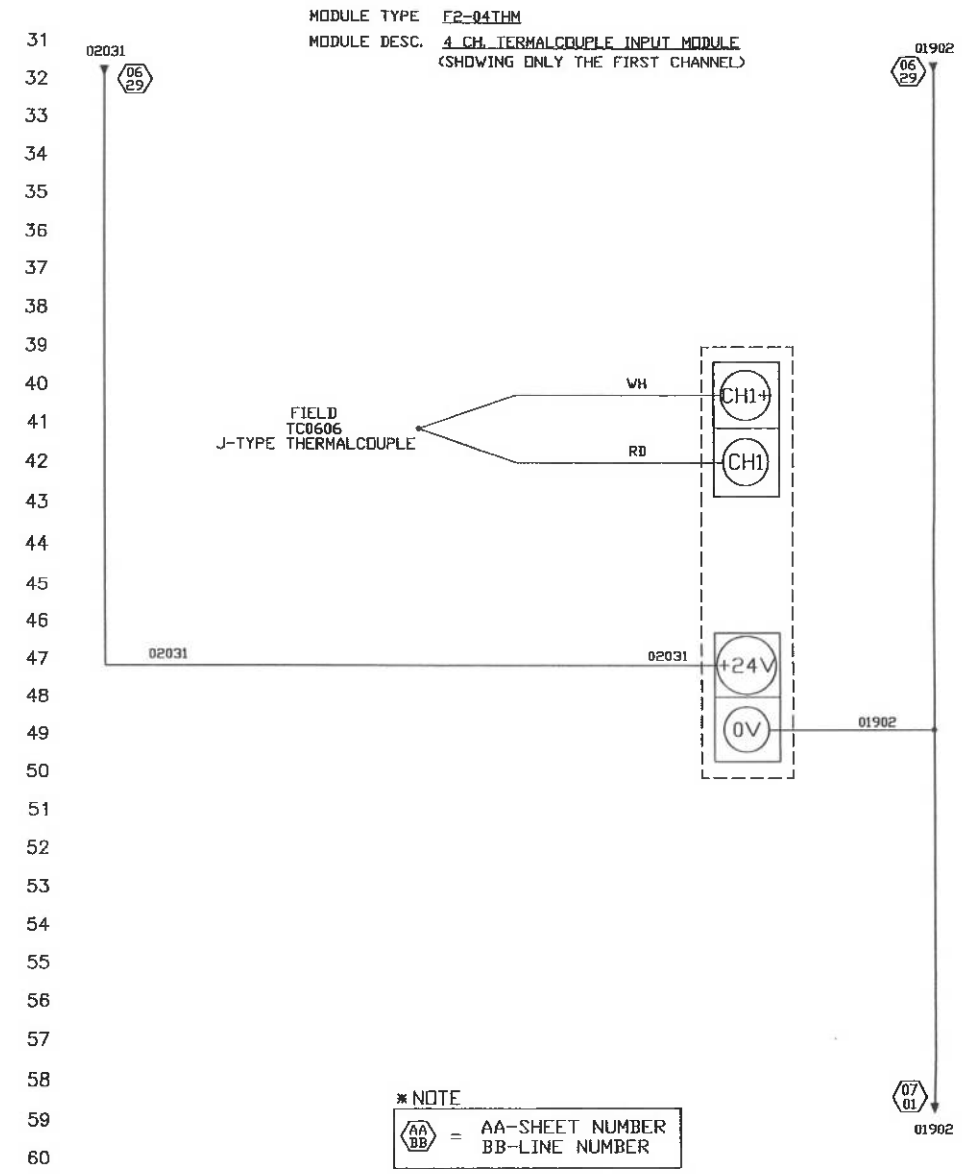
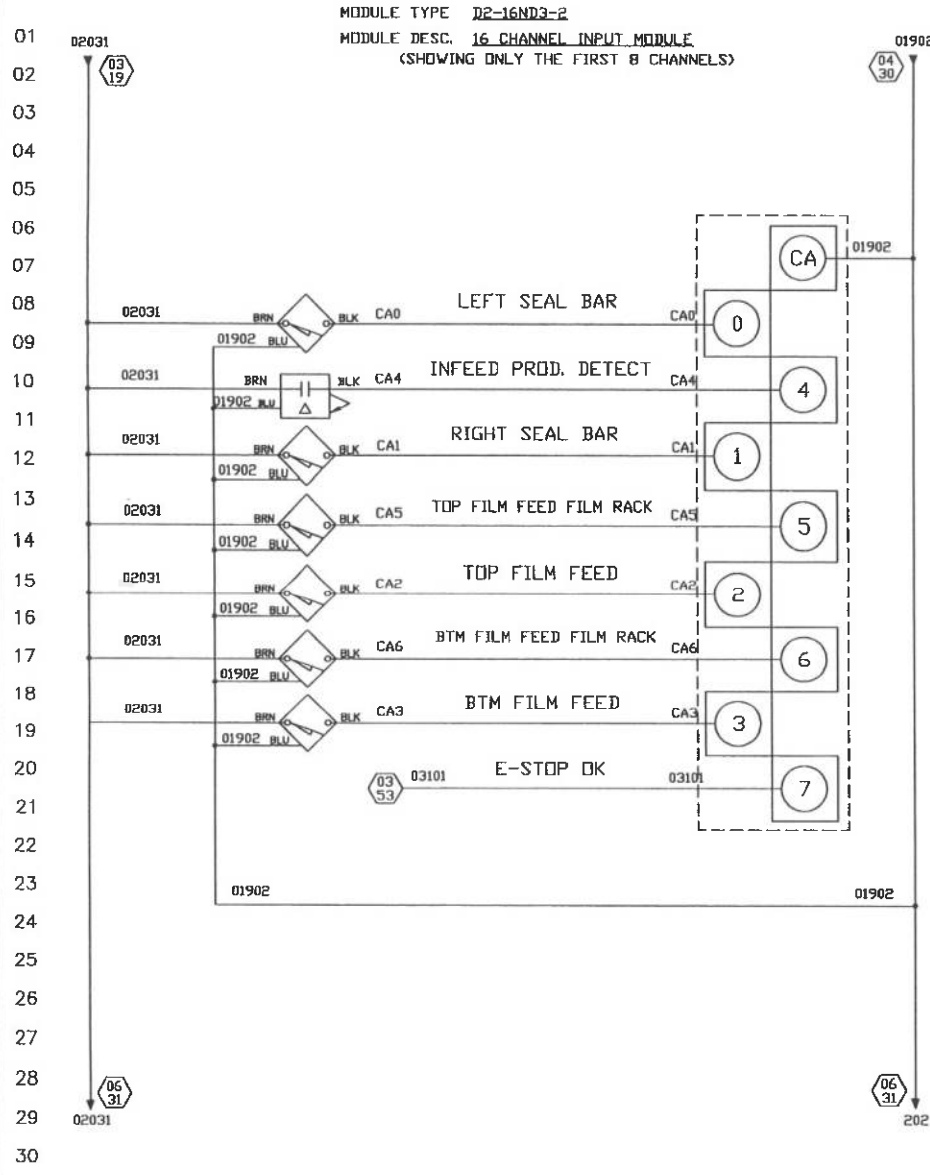
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NASHVILLE, TN 37210

ADVANCED
TECHNICAL
SERVICES

OLSEN PACKAGING
MODEL: 12090P-1
SERIAL: 0220

DRAWN BY:	DATE:	Project Code
SCL	04/14/2016	11378
SCALE:	DRAWING NO:	SHEET NO:
NONE	11378	05 OF 09 0



* NOTE
 AA-SHEET NUMBER
 BB-LINE NUMBER

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03101

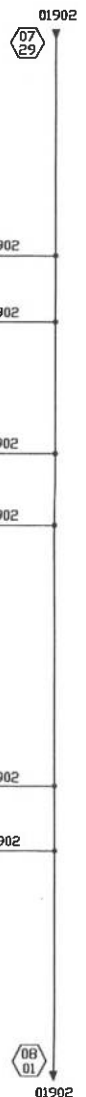
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03101

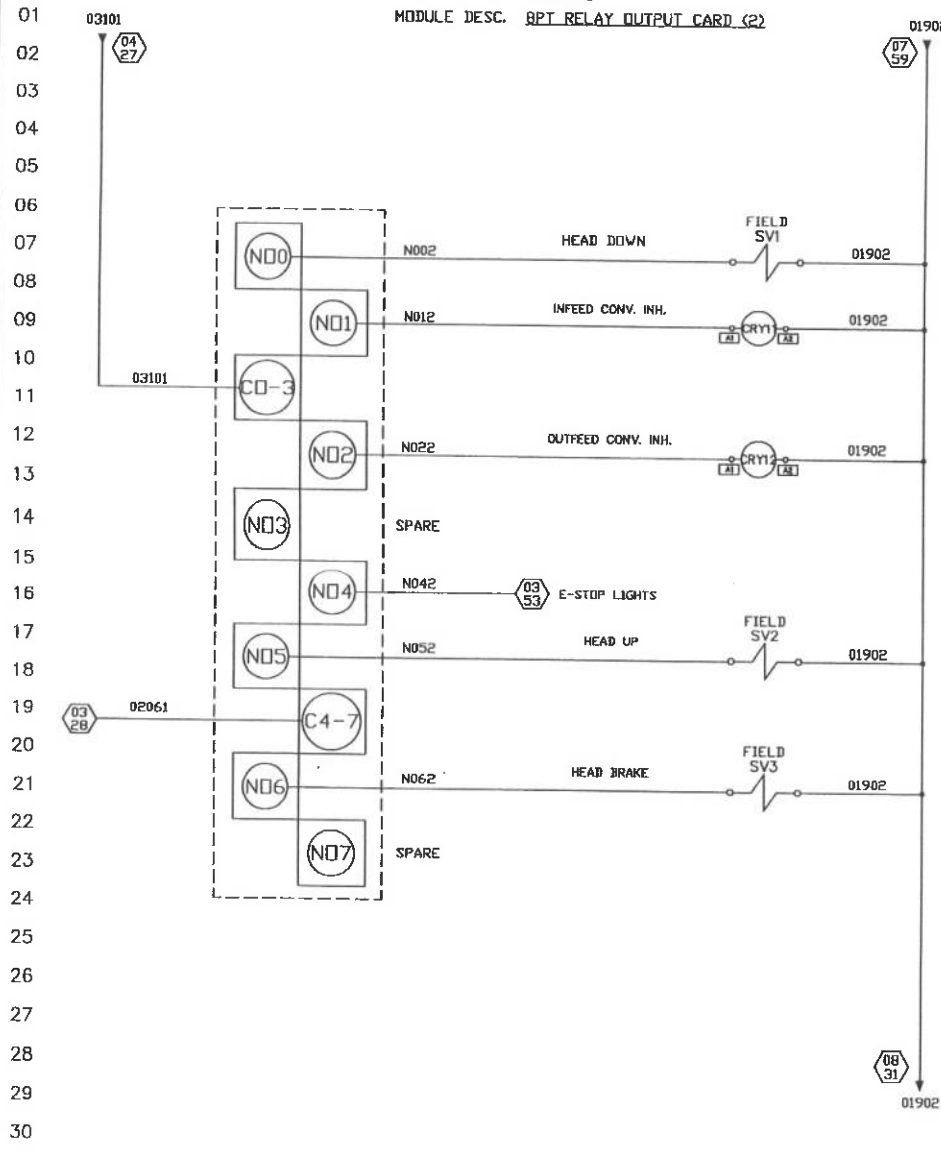
08
31



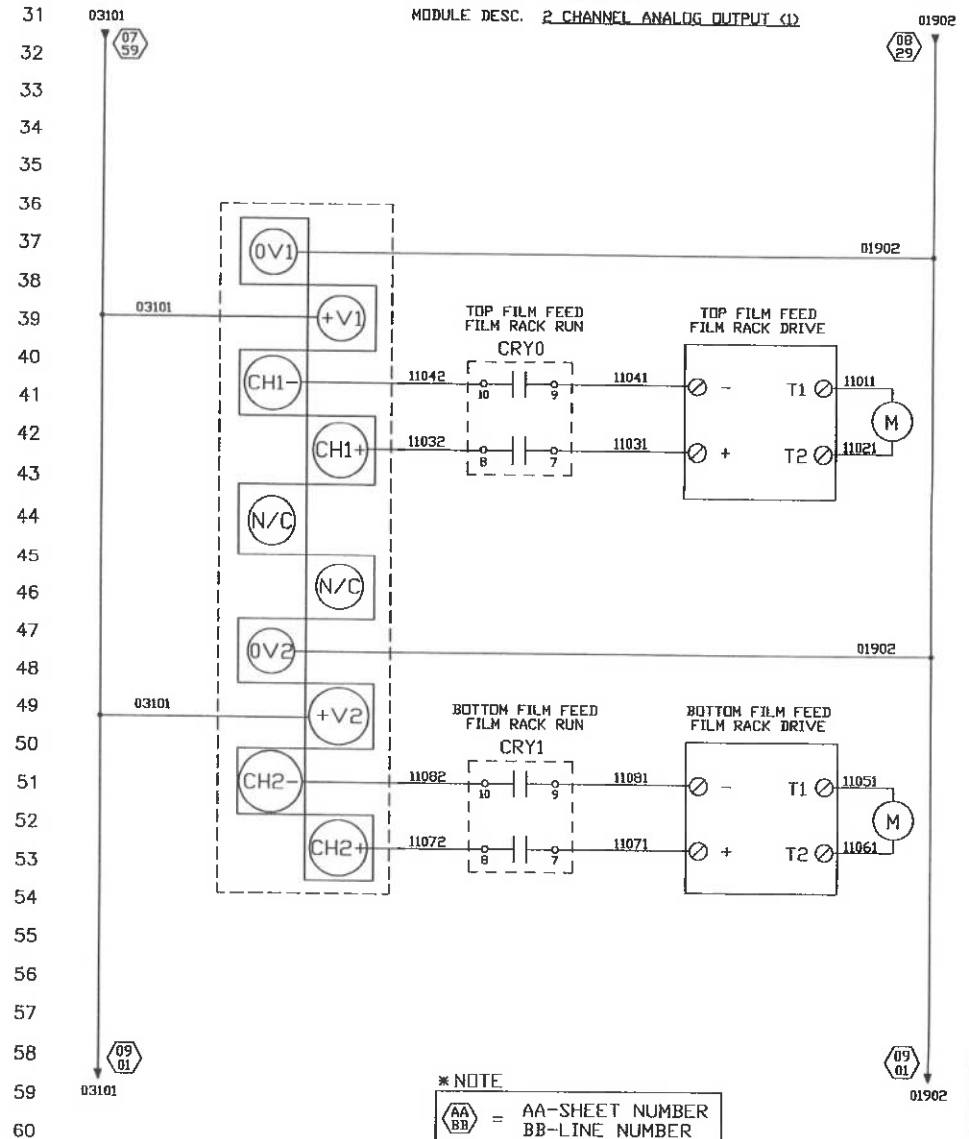
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BB-LINE NUMBER

DRAWN BY: SCL	DATE: 04/14/2016	Project Code 11378	
SCALE: NONE	DRAWING NO: 11378	SHEET NO: 07 OF 09	REV: 0

MODULE TYPE F2-08TR
MODULE DESC. RPT RELAY OUTPUT CARD (2)



MODULE TYPE F2-02DAS-2
MODULE DESC. 2 CHANNEL ANALOG OUTPUT (1)



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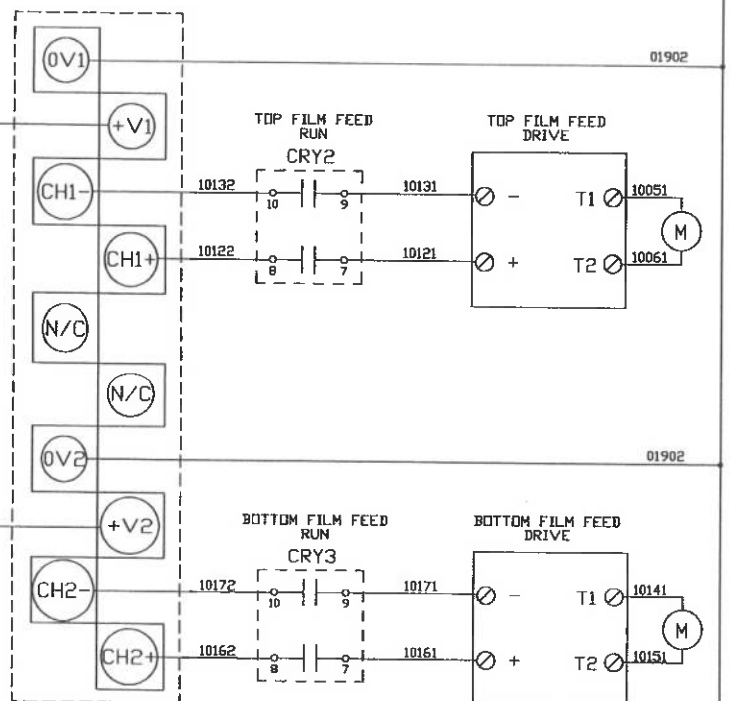
ADVANCED TECHNICAL SERVICES
921 TWIN ELMS COURT
NASHVILLE, TN 37210

ADVANCED
TECHNICAL
SERVICES

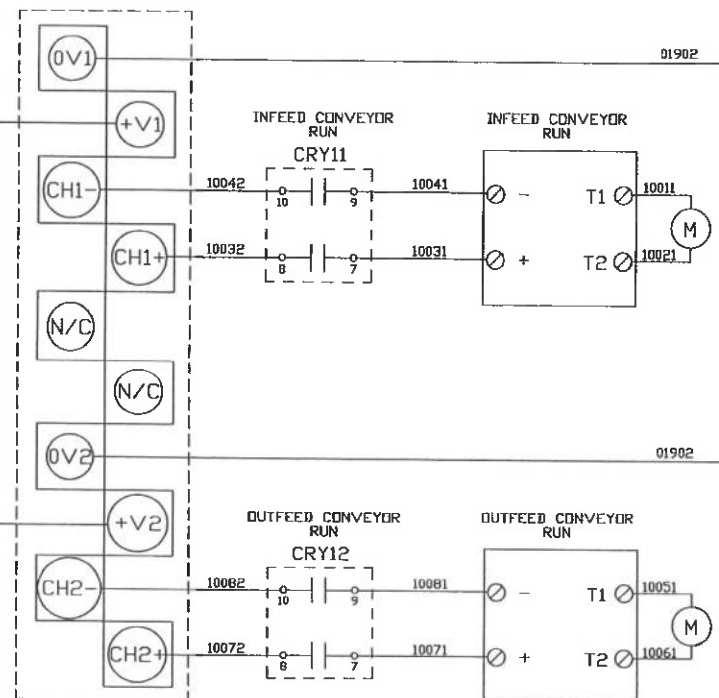
OLSEN PACKAGING
MODEL: 12090P-1
SERIAL: 0220

DRAWN BY:	DATE:	Project Code
SCL	04/14/2016	11378
SCALE:	DRAWING NO:	SHEET NO:
NONE	11378	08 OF 09 0


Diagram illustrating a vertical line with arrows at both ends, labeled with '03101' at the top and bottom. The line is divided into segments by horizontal bars, with numbers 01 through 30 on the left side. The top segment is labeled '08 59' and the bottom segment is labeled '09 30'.



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* NOTE

 = AA-SHEET NUMBER
BB-LINE NUMBER


**ADVANCED
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SERVICES**

DRAWN BY: SCL	DATE: 04/14/2016	Project Code 11378	
SCALE: NONE	DRAWING NO: 11378	SHEET NO: 08 OF 08	REV: 0

OLSEN PACKAGING


MODEL: 12090P-1

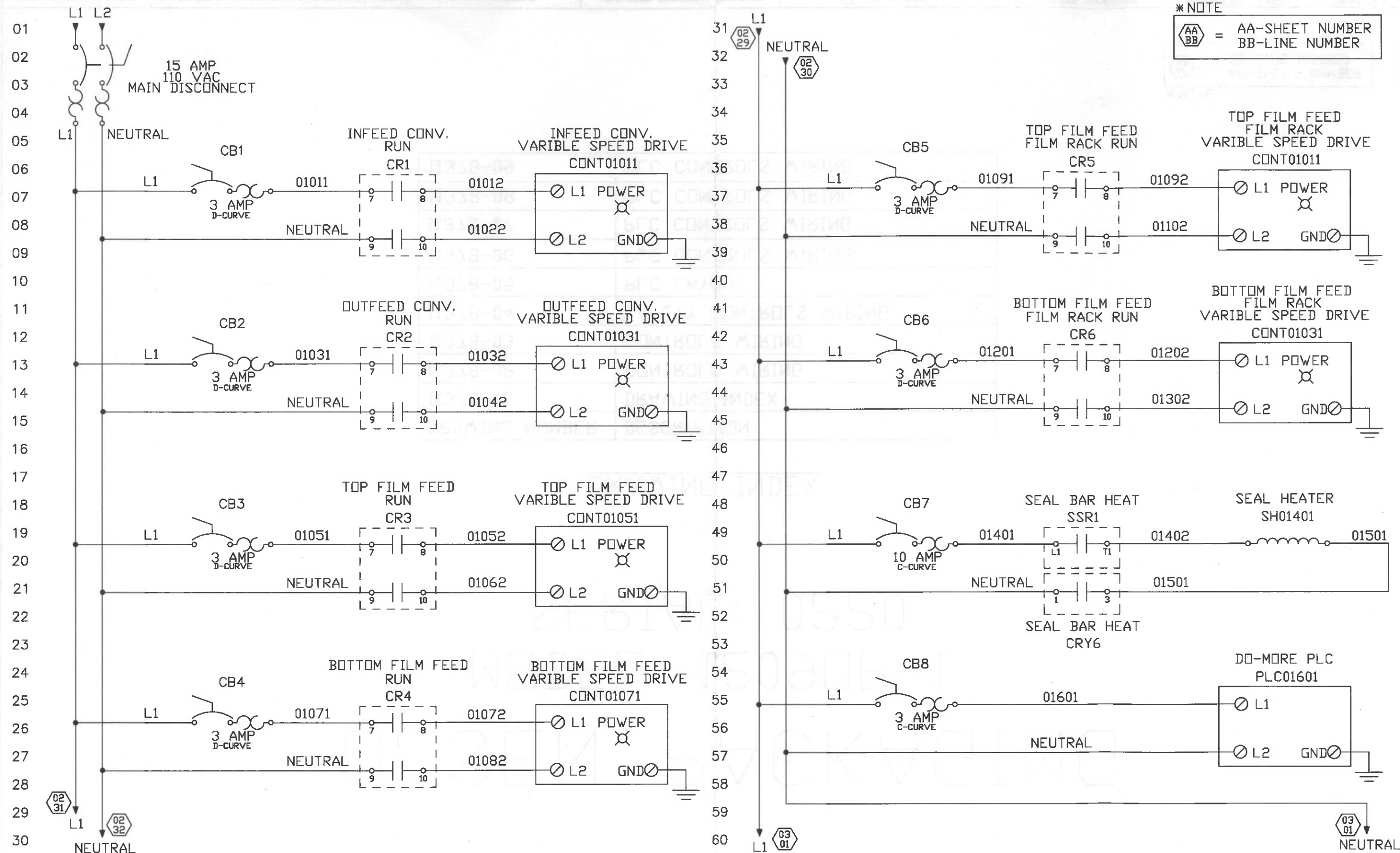
SERIAL: 0220

DRAWING INDEX

DRAWING NUMBER	DESCRIPTION
11378-01	DRAWING INDEX
11378-02	CONTROLS WIRING
11378-03	CONTROLS WIRING
11378-04	SAFETY CONTROLS WIRING
11378-05	PLC LAYOUT
11378-06	PLC CONTROLS WIRING
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11378-08	PLC CONTROLS WIRING
11378-09	PLC CONTROLS WIRING

* NOTE

 = AA-SHEET NUMBER
BB-LINE NUMBER



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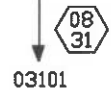
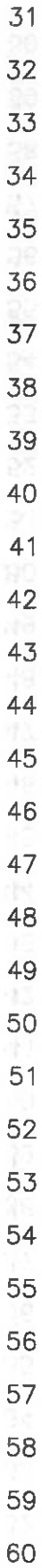
ADVANCED TECHNICAL SERVICES
 921 TWIN ELMS COURT
 NASHVILLE, TN 37210



OLSEN PACKAGING
 MODEL: 12090P-1
 SERIAL: 0220

DRAWN BY: SCL	DATE: 04/14/2016	Project Code 11378
SCALE: NONE	DRAWING NO: 11378	SHEET NO: 02 OF 09
		REV: 0

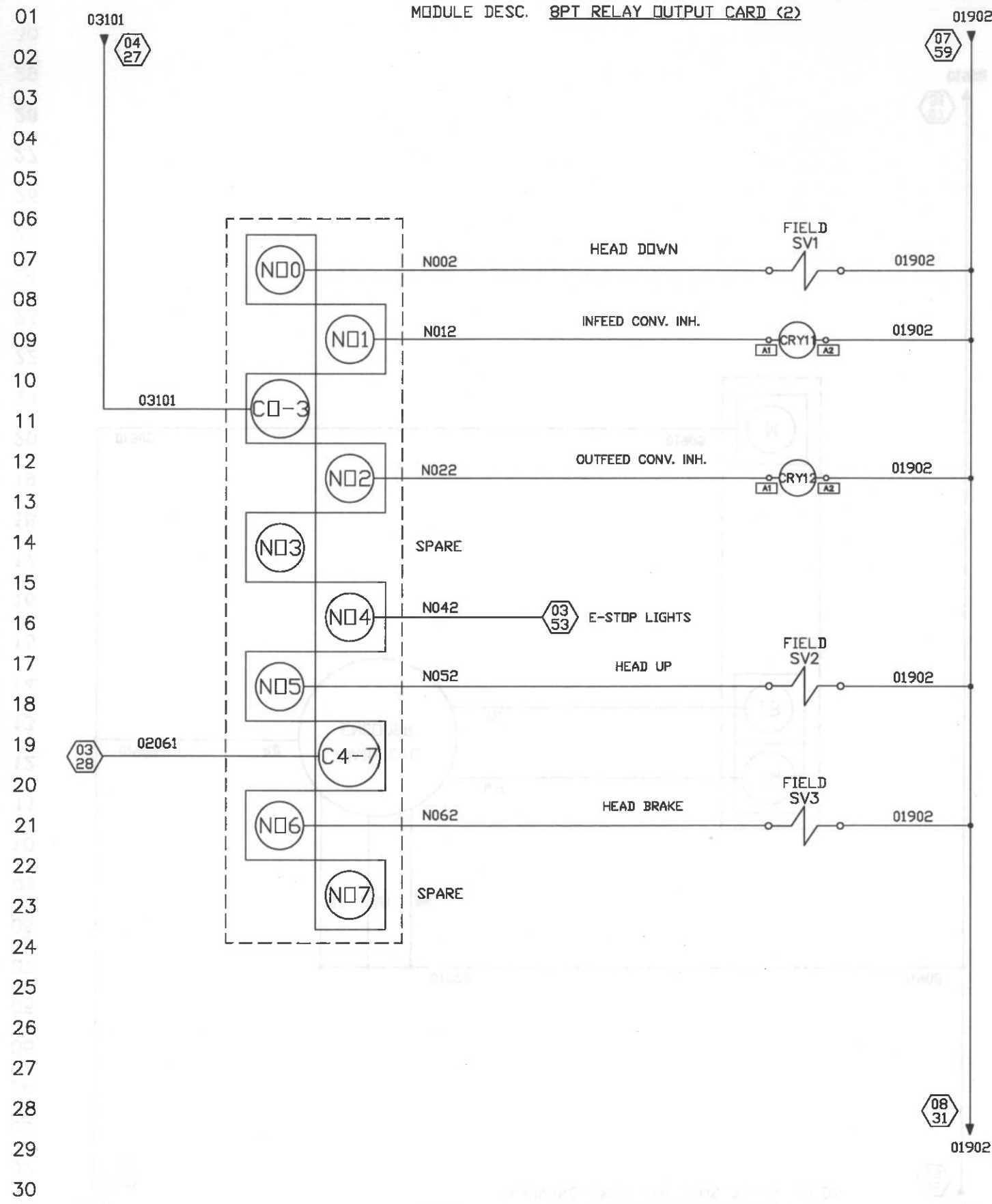
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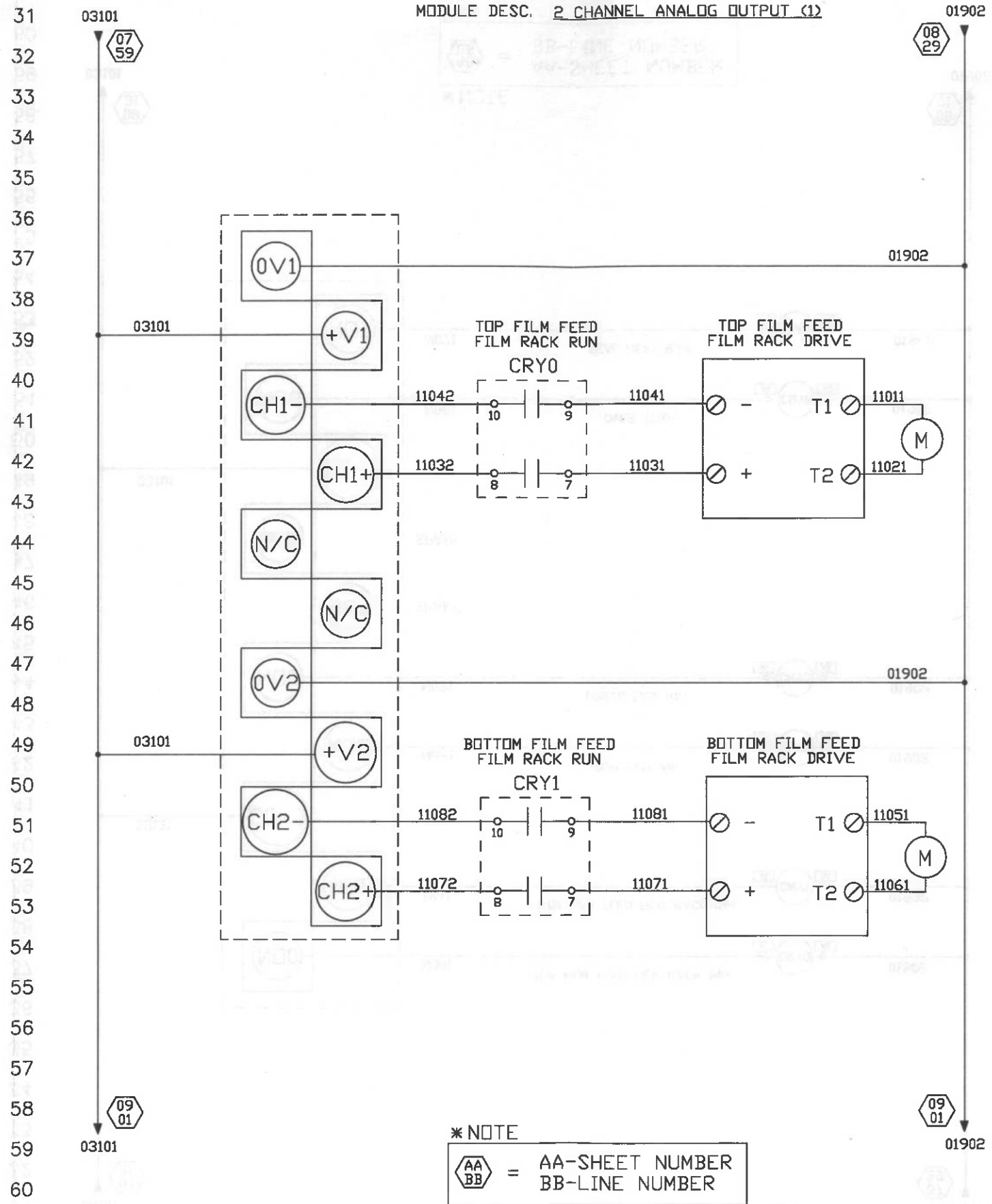
AA-SHEET NUMBER
BB-LINE NUMBER

DATE: 04/14/2016	Project Code 11378		
DRAWING NO: 11378	SHEET NO: 07 OF 09	REV: 0	

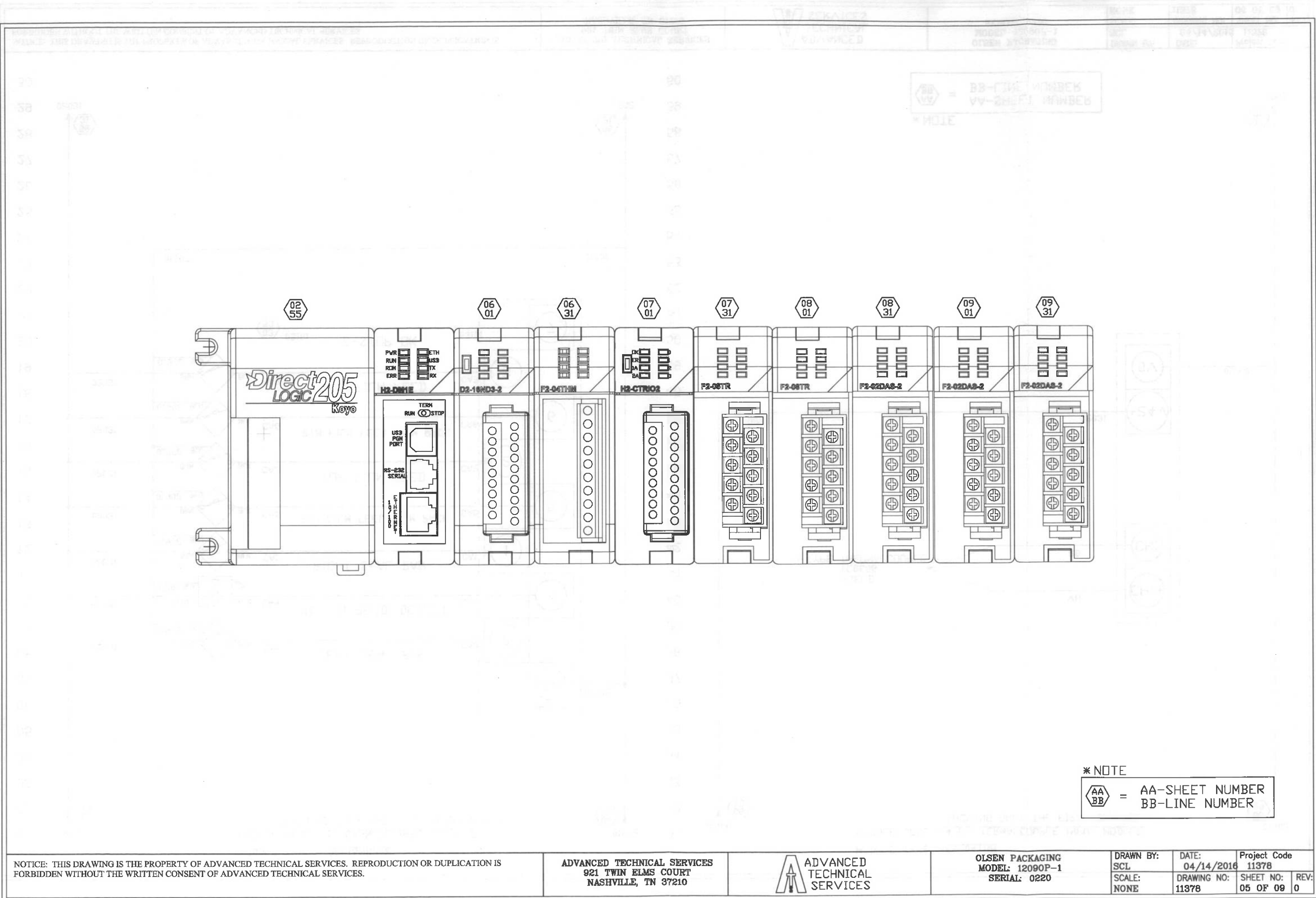
MODULE TYPE F2-08TR
MODULE DESC. 8PT RELAY OUTPUT CARD (2)

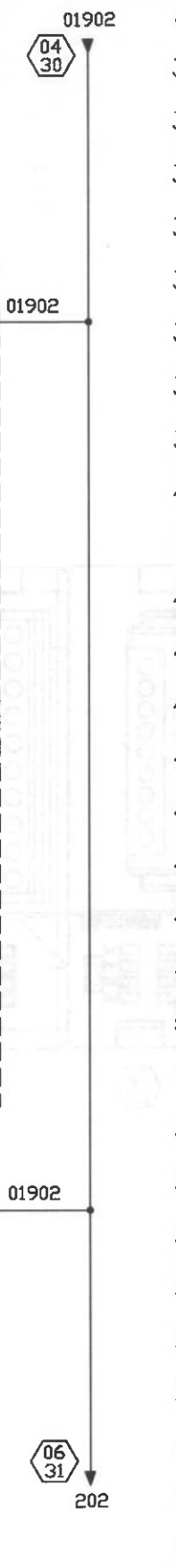


MODULE TYPE F2-02DAS-2
MODULE DESC. 2 CHANNEL ANALOG OUTPUT (1)

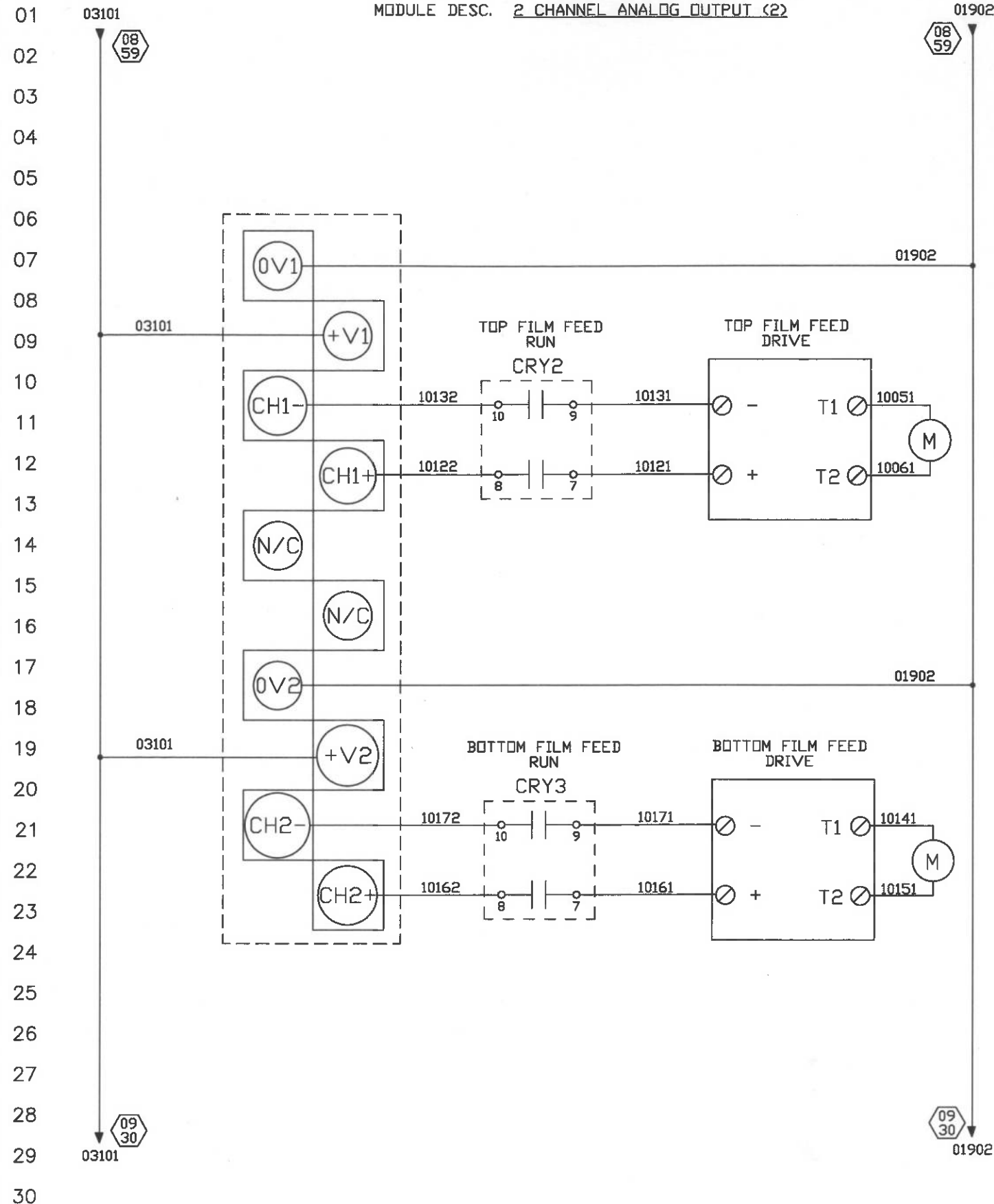


* NOTE
AA-BB = AA-SHEET NUMBER
BB-LINE NUMBER

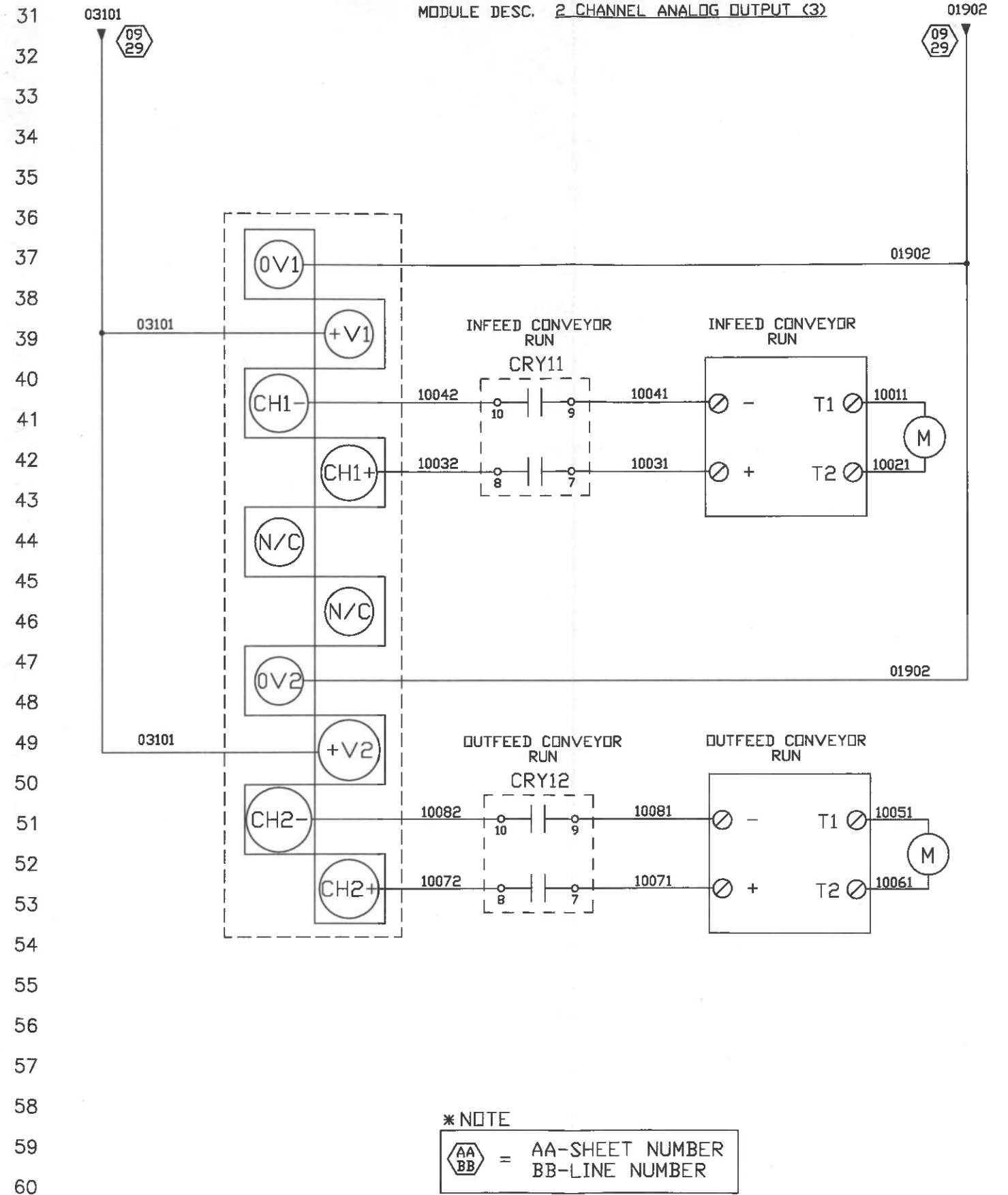




MODULE TYPE F2-02DAS-2
MODULE DESC. 2 CHANNEL ANALOG OUTPUT (2)



MODULE TYPE F2-02DAS-2
MODULE DESC. 2 CHANNEL ANALOG OUTPUT (3)



* NOTE

AA-BB = AA-SHEET NUMBER
BB-LINE NUMBER