StreamNet

Manual

Thiele Technologies
A Barry-Wehmiller Company

Streamfeeder®

Part Number: 00900464

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1. Before You Begin

Safety

Make sure to thoroughly read this product reference guide to become familiar with setup, operation, and maintenance of this product. Failure to do so may result in personal injury and/or damage to the product.

Equipment interior contains incoming 110-230vac electrical power. Bodily contact with these high voltages can cause electrocution, which can result in serious injury or death.

2. Product Components

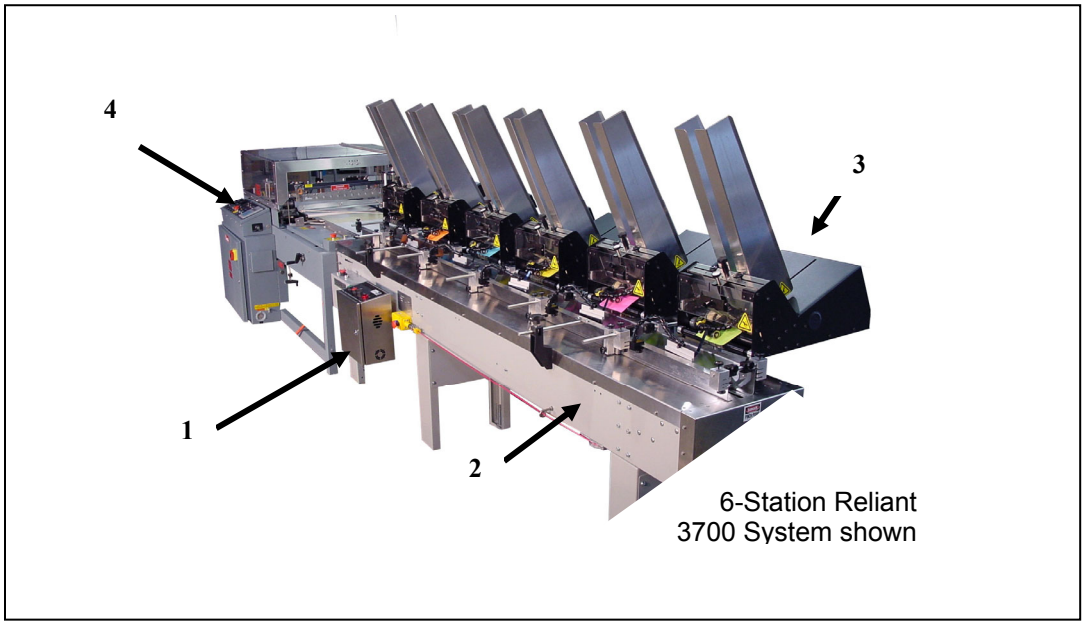


Figure 1. Main Components of a StreamNet Universal Collator System

Table 1. Main Components Assemblies

COMPONENT	DESCRIPTION
1. StreamNet Enclosure	Houses the control intelligence necessary to support the system communications.
2. Collator Base	Flighted infeed conveyor integrated with material control and feeder mounting / docking.
3. Streamfeeder Universal Feeding Solution	Product Feeding Solutions mounted 90-degree (as shown) or inline on the collator base feed the product according to their own configuration settings and to the stored data received from StreamNet.
4. Finishing Equipment (shown for illustration purposes only)	Typical finishing equipment would be L-Sealers, shrink wrappers, collection trays, etc.

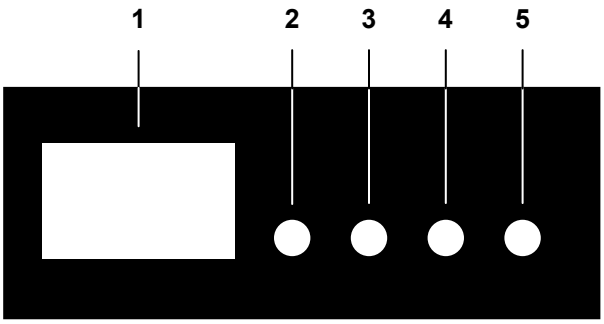


Figure 2A. StreamNet Enclosure, Top

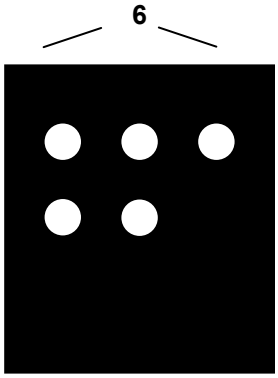


Figure 2B. StreamNet Enclosure, Feeder Interface Side

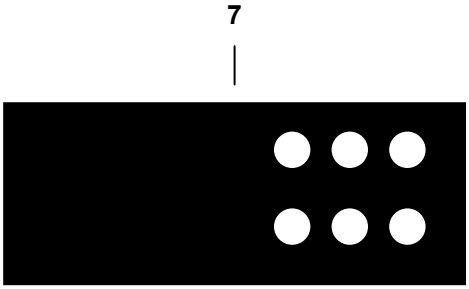


Figure 2C. Feeder Interface Station

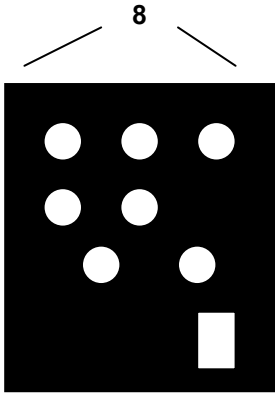


Figure 2D. StreamNet Enclosure, System Interface Side

Table 2. StreamNet Controller Components

COMPONENT	DESCRIPTION
1. Operator Interface Screen	Contains menus for system setup, and configurations.
2. Start / Resume Push Button	Prepares and starts the system in motion.
3. Stop / Pause Push Button	Stops the system.
4. Sequence On / Off Switch	Begins or terminates the collating sequence.
5. Fault Light	Indicates a fault with a feed station. Display on screen.
6. Feeder Interface Station Connectors	Interface point for feeder communication.
7. Feeder Interface Station	Provides feeder connection to StreamNet Enclosure.
8. System Connectors	Interface points for system communication.

3. Setup Instructions

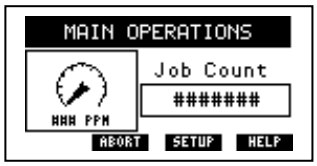
Feeding Solutions

Refer to the Product Guide for the appropriate feeder for complete setup instructions.

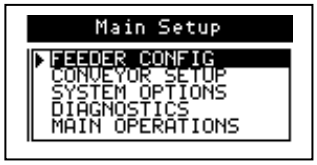
StreamNet

Once the system and components are installed, power up the StreamNet controller by placing the ON/OFF rocker switch to the ON (I) position. Upon power up, the StreamNet logo and program version screen will appear.

Press **F1** to advance to the **Main Operations** screen

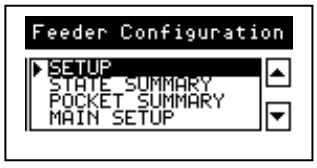


Press **F3** to enter **Main Setup** menu.

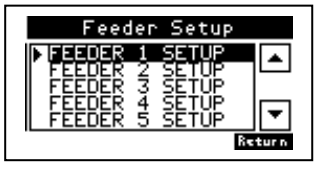


1. Use the UP/DOWN arrow keys to select **Feeder Configuration** and press **Enter.**

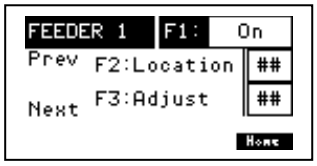
Feeder Configuration



2. Use the UP/DOWN arrow keys to select **Setup** and press **Enter.**



3. Use the UP/DOWN arrow keys to select **FEEDER 1 SETUP** and press **Enter.**



4. Press **F1** to enable feeder (On) or disable feeder (Off). If Off is selected, proceed to step 7.

5. Press **F2** to enter the pocket location. Note: Feeder 1 must be pocket # 1. Use the UP / DOWN arrow keys to set the location value.

6. If your system is equipped with **Line Synchronization**, press **F3**. The default value is *5*. If the product needs to feed earlier, press the UP arrow key. If the product needs to feed later, press the DOWN arrow key. The offset range is 0-10.

NOTE: Left / Right Arrow Keys
- Used to navigate through feeder menus

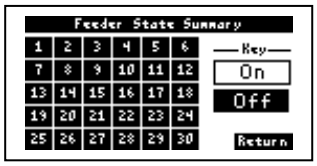
◄ Advances to next feeder menu

► Returns to previous screen

7. Press **F4** to return to **Feeder Setup** menu.

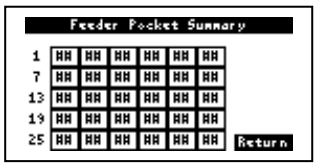
Repeat steps 3-6 for all feeders in the network.

From the **Feeder Setup** menu, press **F4** to return to **Feeder Configuration** menu.



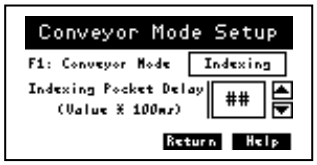
Once all feeders are configured, you can view the configuration summary for setup verification.

Use the UP/DOWN arrow keys to select **STATE SUMMARY** and press **Enter.** This screen displays the Enabled / Disabled state.



Repeat the same steps to view **POCKET SUMMARY.** This screen displays the feeder location information.

Conveyor Setup, Indexing



Return to the **Main Setup** screen and using the UP/DOWN arrow keys, select **CONVEYOR SETUP** and press **Enter.**

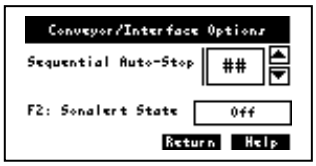
These steps are only performed if you intend to use the INDEXING option.

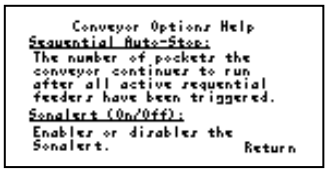
1. Press **F1** to select conveyor motion profile.

2. Using the UP/DOWN arrow keys, select the time delay between index cycles.

Note: The system comes standard with an interface cable that can be integrated into the host device that will provide the index signal. The system can be upgraded to utilize a photo-electric sensor to provide the index signal. Order part number 63011038.

System Setup





Return to the **Main Setup** screen and using the UP/DOWN arrow keys, select **SYSTEM OPTIONS** and press **Enter.**

1. Using the UP/DOWN arrow keys, enter the total number of full conveyor pockets after the last enabled feeder. This will allow the conveyor to fully clear itself upon initializing the Sequence Off routine.

2. Audible Alarm, Press **F2** to either turn it on or off.

Setup is now complete. Return to **Main Setup** menu and select **Main Operations**.

4. Operation Instructions

Operation can take place once all setup has been completed and verified. There are two modes of operation (1) Stand-Alone Operation and (2) Host System Operation. Prior to operating, verify that all feeders you have enabled are in "ready" mode and have product loaded in them.

For conveyors controlled by StreamNet (Stand-Alone)

To start the line sequentially, turn the **Sequence On/Off** switch to the On position and press the green **Start** push button. The conveyor will start and the collating process will initiate.

Once running, the collator system can be stopped/paused for any reason at the StreamNet Controller or at any optional Remote Pause/Resume station. Pressing the Stop/Pause button will immediately stop the conveyor. Pressing the Start/Resume button will immediately start the conveyor back up. The pause and resume buttons do not initiate the Sequence On/Off routines after the system is running.

For conveyors controlled by a finishing-device (Host System)

The collator system as a whole is ready. Start the finishing-device according to the guidelines set forth in the appropriate operation manual supplied with your host machine.

Once the host-controlled conveyor is in motion, turn the **Sequence On/Off** switch to the On position and press the green **Start** push button.

Once running, the collator system can be stopped/paused for any reason at the StreamNet Controller or at any optional Remote Pause/Resume station. Pressing the Stop/Pause button will immediately change the state of the inhibit circuit to the host system causing the conveyor to stop. To resume, first restart the host system and then press the start/resume button at the StreamNet enclosure or at any optional remote pause/resume station.

System Shut Down

To suspend the collating process, simply move the Sequence On/Off Switch to the OFF position.

Job Count

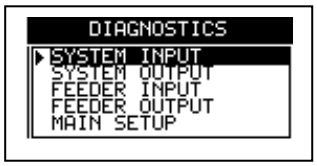
This feature provides a visual indication on the operator screen of the incremental count of processed pieces. To reset the count displayed, press **F1**.

5. Troubleshooting

StreamNet is designed with built-in troubleshooting via the Diagnostics menus. This feature will assist diagnosing system inputs / outputs and feeder inputs / outputs. The Diagnostics menu is accessed through the **Main Setup** menu.

Note: Entering Diagnostics menus will cancel any job in process. Ensure the job is complete or perform a Sequence Off routine prior to entering Diagnostics.

To access, select **DIAGNOSTICS** using the UP/DOWN arrow keys and then press **Enter**.



Using the UP/DOWN arrow keys and pressing Enter will advance you into the four Diagnostics sub-menus.

System Input

Test the Start and Stop buttons and Sequence switch to verify proper operation. When activated, notice the color change in the status boxes from dark to light.

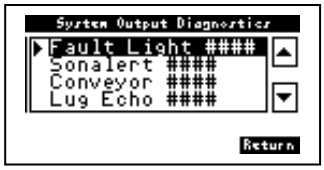
To test the sensors, have a helper pass product by the sensors while you observe the change in the status boxes.

To test the Pause-AutoResume input, the signal needs to be sent from the host equipment.

To test the Encoder, return to the DIAGNOSTICS menu, select SYSTEM OUTPUT, select Conveyor and press Enter. For stand-alone systems, this will start the conveyor. If the conveyor is controlled by the Host System, the conveyor will need to be started at the host controls. Once the conveyor is running, return to the DIAGNOSTICS menu and select SYSTEM INPUT. Observe the encoder pulses in the Encoder Box.

Press **F4** to return to the DIAGNOSTICS menu.

System Output



Fault Light: With Fault Light selected, pressing the Enter key will illuminate the Fault Light on the enclosure. Pressing it again will turn it off.

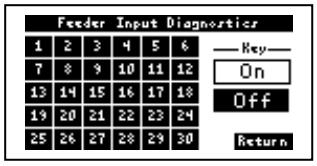
Sonalert: With Sonalert selected, pressing the Enter key will turn on the alarm. Pressing it again will turn it off.

Conveyor: With Conveyor selected, pressing the Enter key will immediately start the conveyor. Pressing it again will immediately stop it.

Lug Echo: This is an output normally sent to a finishing-device. With Lug Echo selected, pressing the enter key will cause the signal to go “high”. Pressing it again will cause it to go “low”.

Press **F4** to return to the DIAGNOSTICS menu.

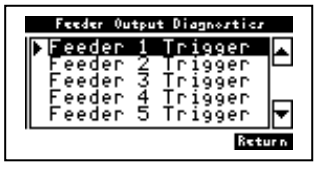
Feeder Input



Feeder Input Diagnostics will display all feeders that are sending a “ready” signal to the StreamNet controller. In comparing this screen with the Feeder Configuration Summary, you can verify that all feeders enabled from your configuration setup are “ready” within the network.

Press **F4** to return to the DIAGNOSTICS menu.

Feeder Output



This menu allows you to verify trigger signals to the feeders are present. It can also assist in setup by allowing you to remotely trigger each feeder.

Select the feeder using the UP/DOWN arrows that you wish to trigger and then press the Enter key.

Press **F4** to return to the DIAGNOSTICS menu.

Abort Job

From the MAIN OPERATIONS screen, you can access this menu by selecting **F2** ABORT. By selecting **F1** YES, all feeding is suspended and the conveyor will be cleared of product.

Error Message

This error message will be displayed on the Operator Interface screen during two conditions.
Condition1: At the start of a Sequence On routine when a feeder is turned ON in the Feeder Setup menu but the feeder itself is not “ready”.
Condition 2: The feeder had experienced a fault but was not returned to “ready” mode upon correcting the fault.
In either condition, return the feeder to “ready” mode and resume.

6. Inspection and Care

Feeding Solutions

Refer to the appropriate feeder operator guide for instructions regarding maintenance.

StreamNet

Use a non-abrasive dry cloth to wipe operator screen and enclosure.

Periodically check to make sure all interface cables are secured.

Refrain from setting items on the enclosure to help prevent accidental damage or spillage.

7. Optional Components

Remote Pause/Resume Station: This is a two-button enclosure used by the operator to pause or restart the collator base from a pause condition.

If you are interested in adding this option to your StreamNet Universal Collator System, please contact your local Streamfeeder representative 763-502-0000.

8. Parts Detail

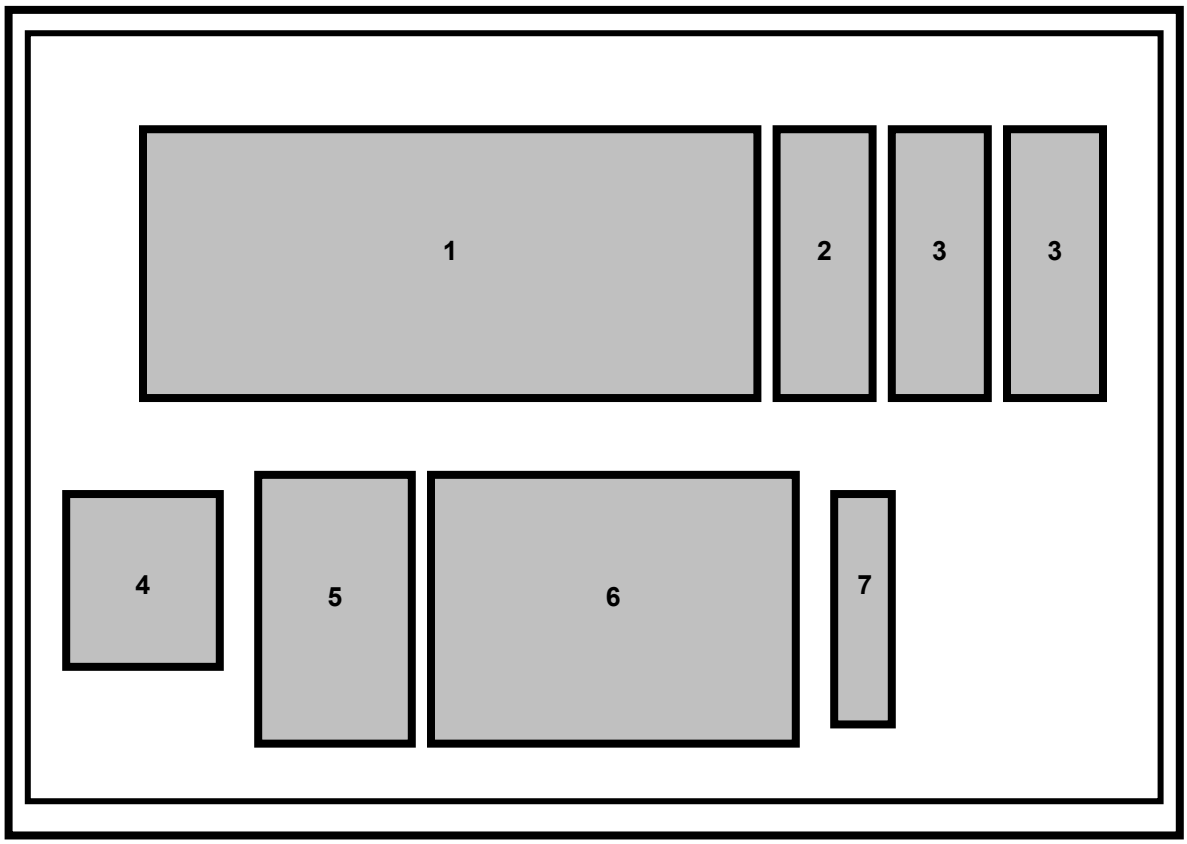


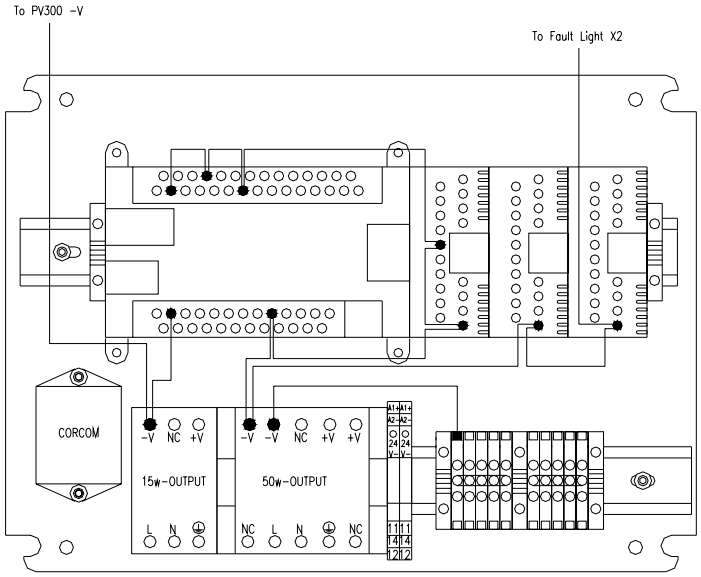
Figure 3. StreamNet Enclosure, Internal Components

Table 3. StreamNet Parts Detail

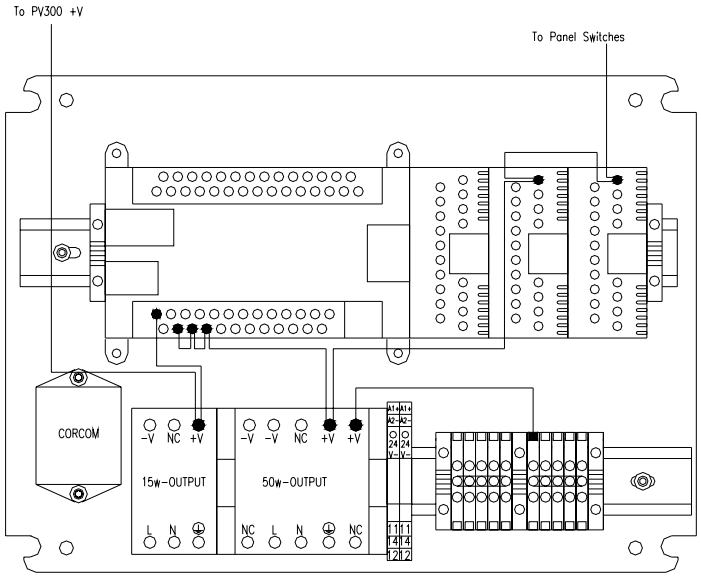
ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Micrologix 1200 CPU	51434005
2	1	Micrologix DC Input Module	51434006
3	2	Micrologix DC Output Module	51434007
4	1	Corcom AC Filter	51434010
5	1	15W Power Supply	51241002
6	1	50W Power Supply	53500598
7	1	Form C PLC Relay	51241005
NS	1	AC Power Input Entry Module	44649034
NS	1	Fuse 3.15A 250V	53500006
NS	1	Panelview 300 screen	51434008
NS	1	PV300 to Micrologix 1200 cable	51434009
NS	1	Sequence on / off switch, 2-position	53500522
NS	1	Start / resume green push button	53500519
NS	1	Stop / pause red push button	53500521
NS	1	Fault lamp	53500548
NS	1	Sonalert buzzer	53500571

9. Electrical Detail

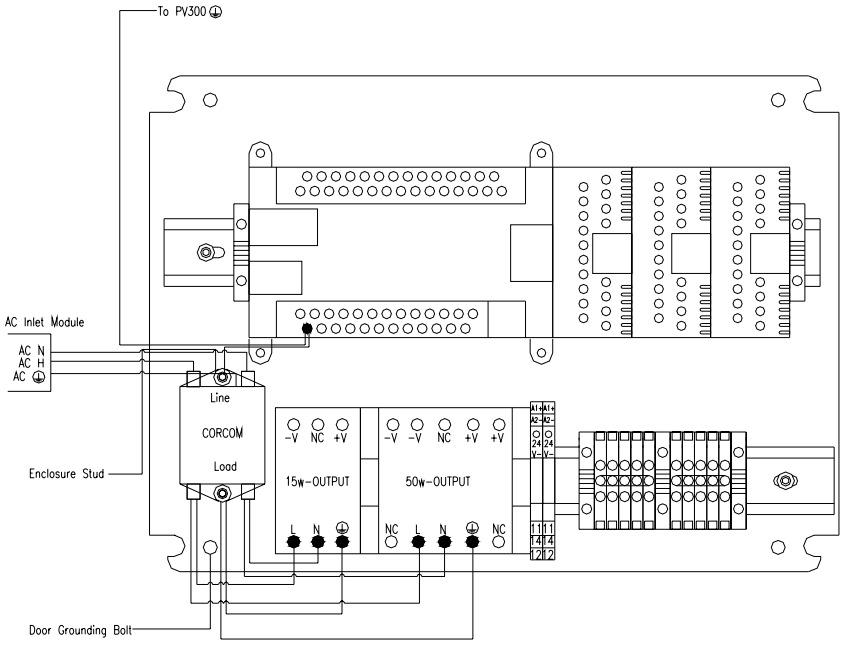
--V Distribution



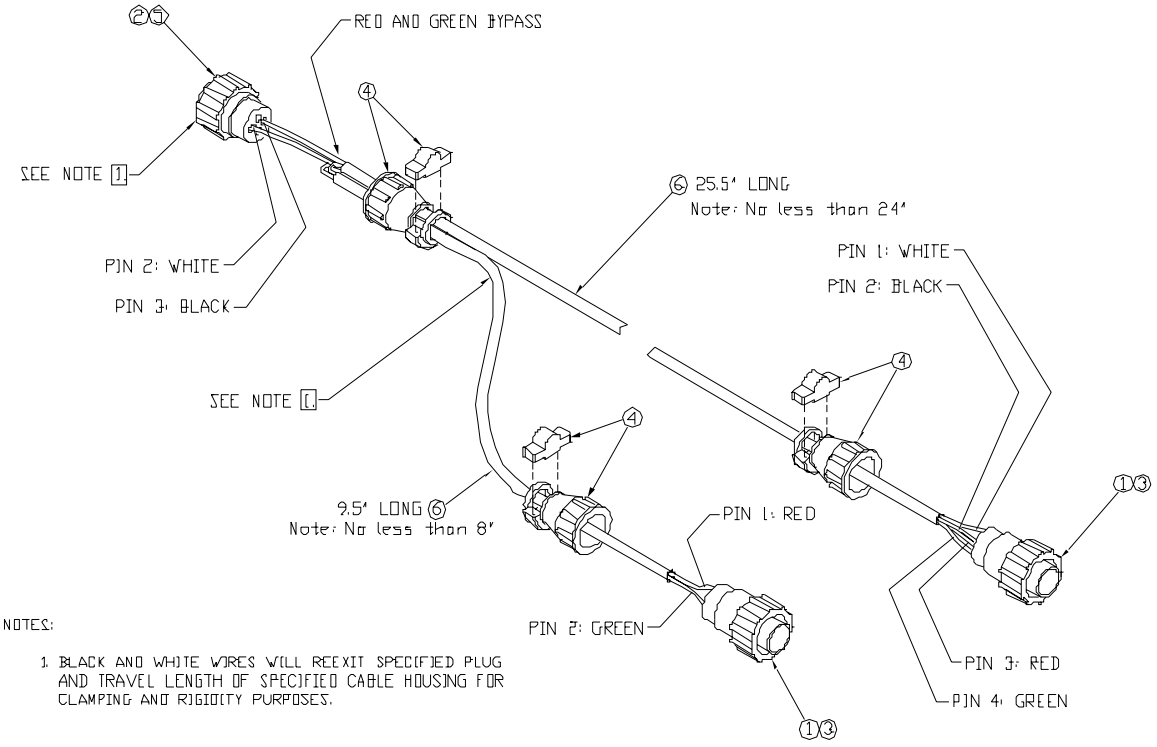
--V Distribution



AC Ground Distribution



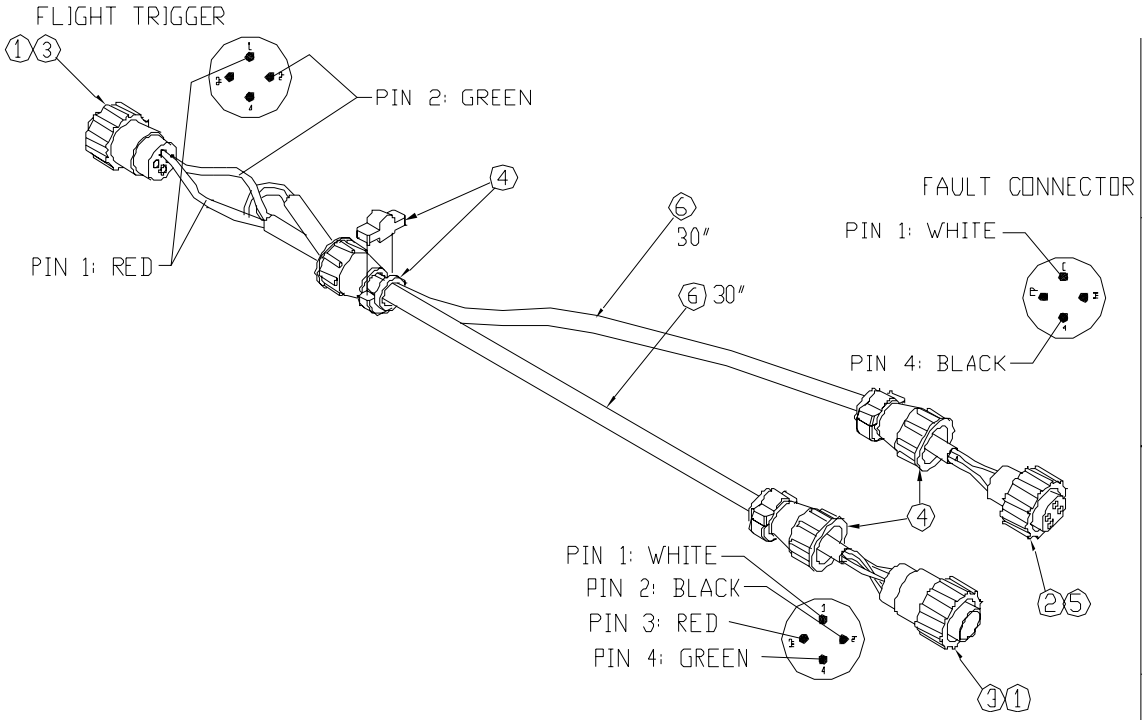
I/O Cable, Reliant 3700
12411102



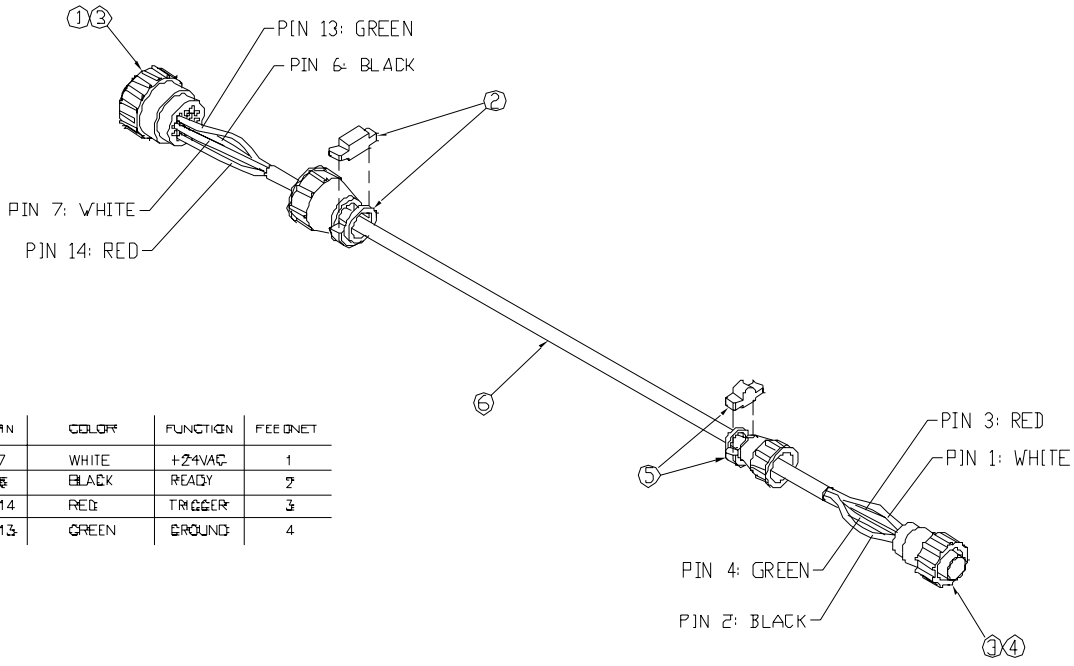
NOTES:

1. BLACK AND WHITE WIRES WILL REEXIT SPECIFIED PLUG AND TRAVEL LENGTH OF SPECIFIED CABLE HOUSING FOR CLAMPING AND RIGIDITY PURPOSES.

I/O Cable, V-710BC and V-755
13900018

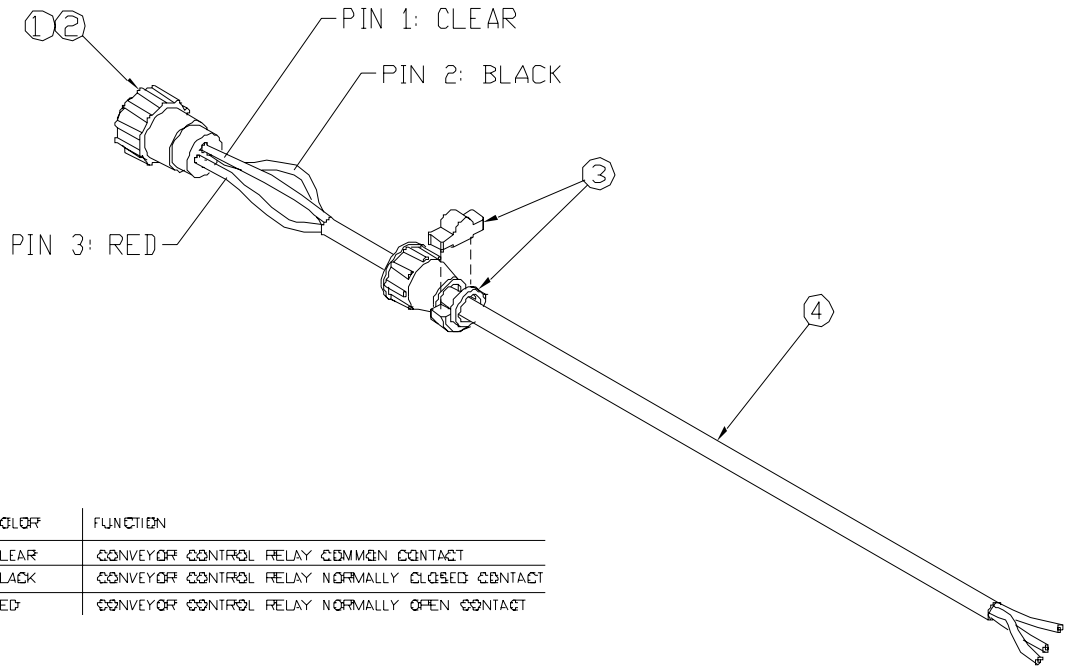


I/O Cable, ST, and XTR Series
13391157



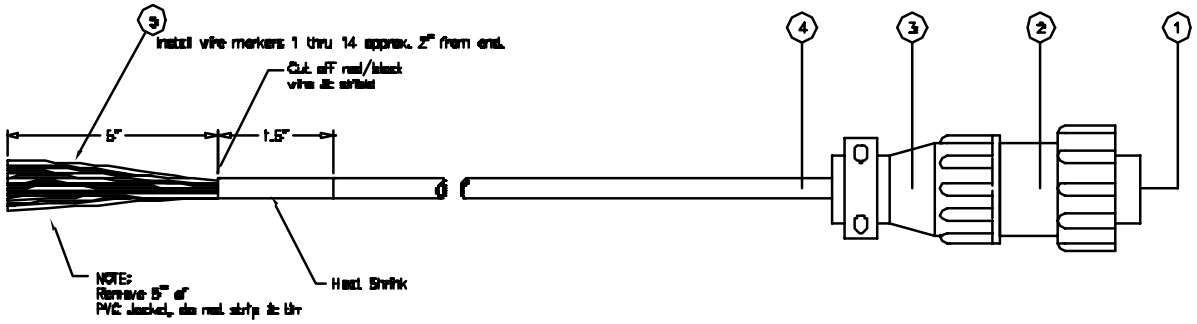
ST PIN	COLOR	FUNCTION	FEEDNET
7	WHITE	+24VAC	1
6	BLACK	READY	2
14	RED	TRIGGER	3
13	GREEN	GROUND	4

I/O Cable, Conveyor Control
13391154



ITEM	COLOR	FUNCTION
1	CLEAR	CONVEYOR CONTROL RELAY COMMON CONTACT
2	BLACK	CONVEYOR CONTROL RELAY NORMALLY CLOSED CONTACT
3	RED	CONVEYOR CONTROL RELAY NORMALLY OPEN CONTACT

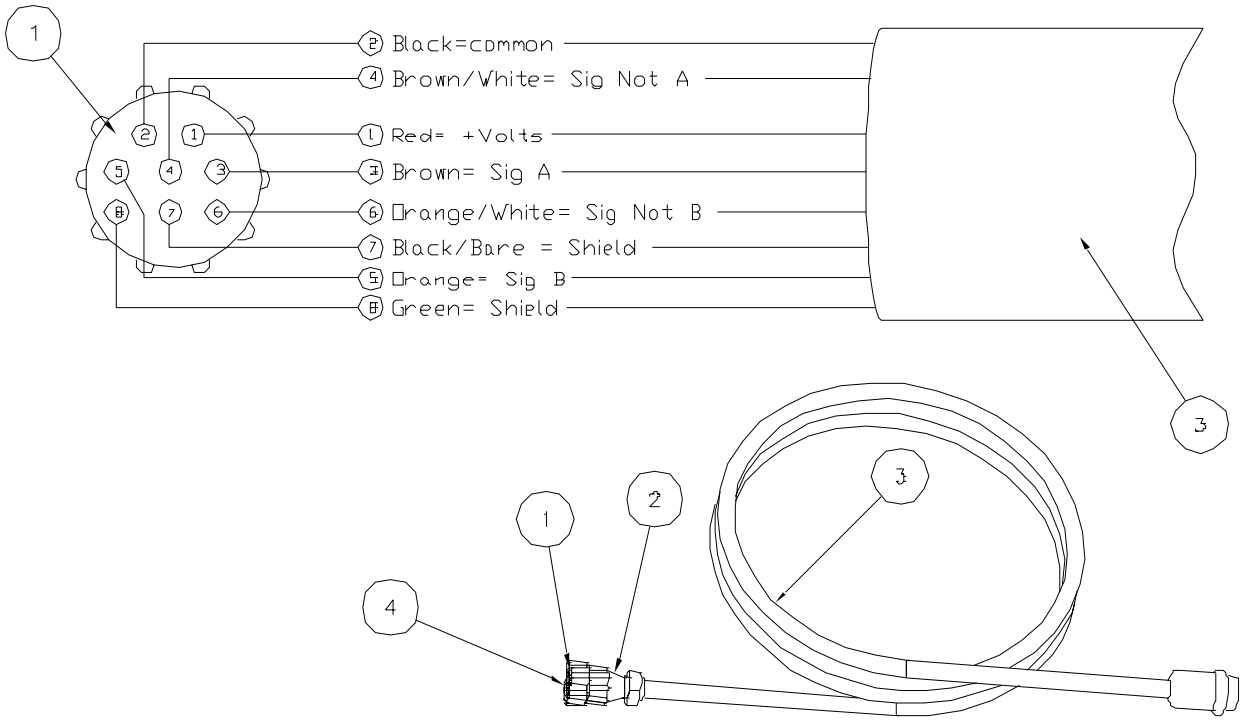
I/O Cable, Host System Interface
13391156



Pin #	Color	Function
1	Brown	
2	Red	
3	Orange	
4	Yellow	Pause Auto-Resume Input
5	Green	+24VDC
6	Blue	Lug Echo Output
7	Violet	Ground
8	Gray	In Phase Stop Input
9	White	
10	Black & Shield	
11	Tan	
12	Pink	Fault Output Relay N.C.
13	Red & Yellow	Fault Output Relay Common
14	Red & Green	Fault Output Relay N.O.

Item	Qty	Part #	Description
1	14	53500502	Contact Pin Male
2	1	44649028	Plug Amp 14 Pin
3	1	44649029	Clamp 16 Pin
4		53500127	Cable 15 Conductor
5	1	53500282	Label Kit

I/O Cable, Encoder
13391125



Parts List			
Item	Qty	Part #	Name
1	1	51277124	CONNECTOR
2	1	53500506	CONNECTOR SHELL
3	1	51339013	ENCODER CABLE
4	8	51277125	Pin

StreamNet I/O table

1762 Controller L40BXB

function	input
Encoder Input	0
conveyor lug sensor	1
sequence on / off switch	2
start / resume pushbutton	3
stop / pause pushbutton	4
Remote Fault	5
Index mode product sensor	6
Pause/ auto-resume	7
	8
	9
feeder 1 ready	10
feeder 2 ready	11
feeder 3 ready	12
feeder 4 ready	13
feeder 5 ready	14
feeder 6 ready	15
feeder 7 ready	16
feeder 8 ready	17
feeder 9 ready	18
feeder 10 ready	19
feeder 11 ready	20
feeder 12 ready	21
feeder 13 ready	22
feeder 14 ready	23

Input module 1 IQ16

feeder 15 ready	0
feeder 16 ready	1
feeder 17 ready	2
feeder 18 ready	3
feeder 19 ready	4
feeder 20 ready	5
feeder 21 ready	6
feeder 22 ready	7
feeder 23 ready	8
feeder 24 ready	9
feeder 25 ready	10
feeder 26 ready	11
feeder 27 ready	12
feeder 28 ready	13
feeder 29 ready	14
feeder 30 ready	15

1762 Controller L40BXB

output	function
0(RELAY)	fault light
1(RELAY)	sonalert
2 (FET)	conveyor lug sensor echo
3 (FET)	conveyor control relay
4 (FET)	N/C
5 (FET)	N/C
6 (FET)	N/C
7 (FET)	N/C
8 (FET)	N/C
9 (FET)	N/C
10(RELAY)	Pulse Start (100ms)
11(RELAY)	Pulse Stop (100ms)
12(RELAY)	N/C
13(RELAY)	N/C
14(RELAY)	N/C
15(RELAY)	N/C

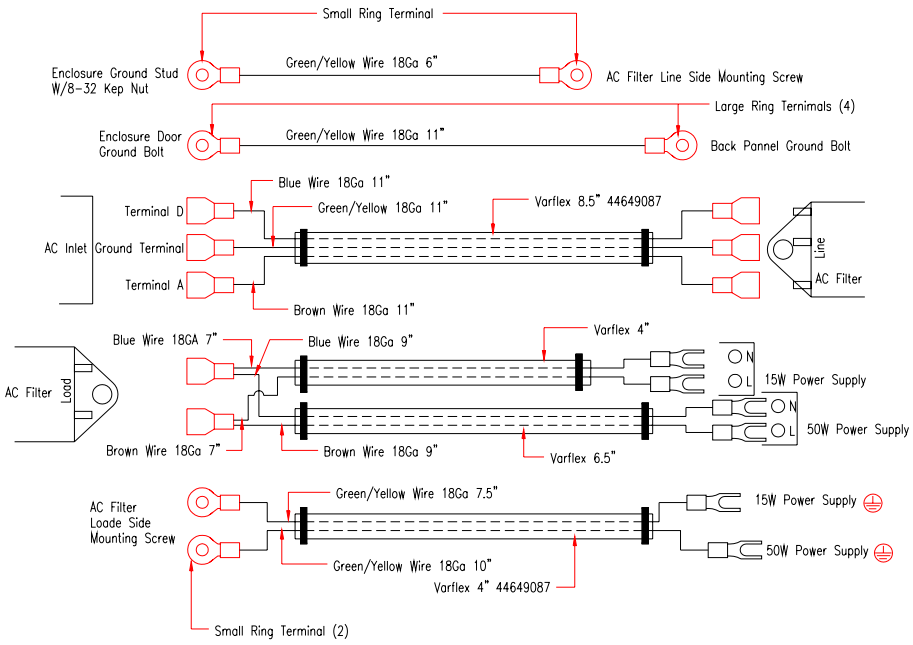
Output module 1 OB16

0	N/C
1	N/C
2	feeder 1 trigger
3	feeder 2 trigger
4	feeder 3 trigger
5	feeder 4 trigger
6	feeder 5 trigger
7	feeder 6 trigger
8	feeder 7 trigger
9	feeder 8 trigger
10	feeder 9 trigger
11	feeder 10 trigger
12	feeder 11 trigger
13	feeder 12 trigger
14	feeder 13 trigger
15	feeder 14 trigger

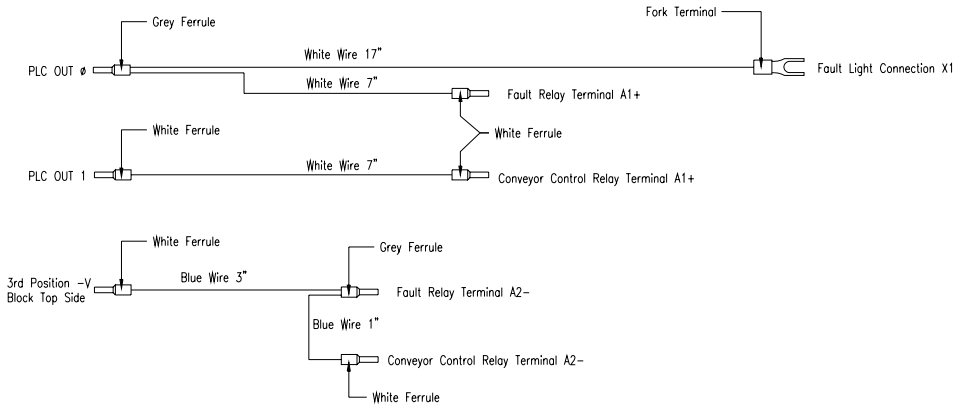
Output module 2 OB16

0	feeder 15 trigger
1	feeder 16 trigger
2	feeder 17 trigger
3	feeder 18 trigger
4	feeder 19 trigger
5	feeder 20 trigger
6	feeder 21 trigger
7	feeder 22 trigger
8	feeder 23 trigger
9	feeder 24 trigger
10	feeder 25 trigger
11	feeder 26 trigger
12	feeder 27 trigger
13	feeder 28 trigger
14	feeder 29 trigger
15	feeder 30 trigger

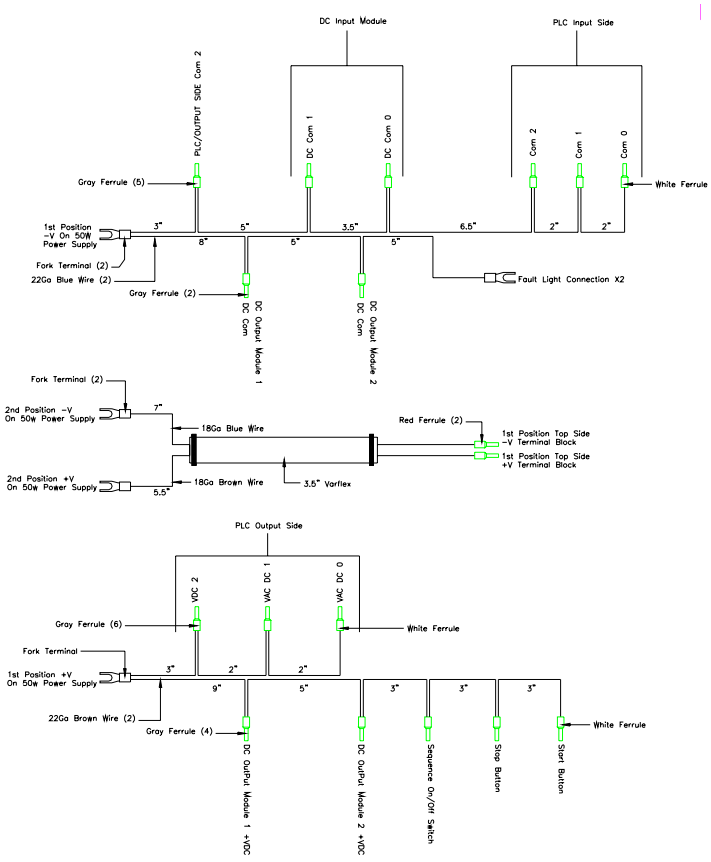
AC Ground Harness Set
14341108



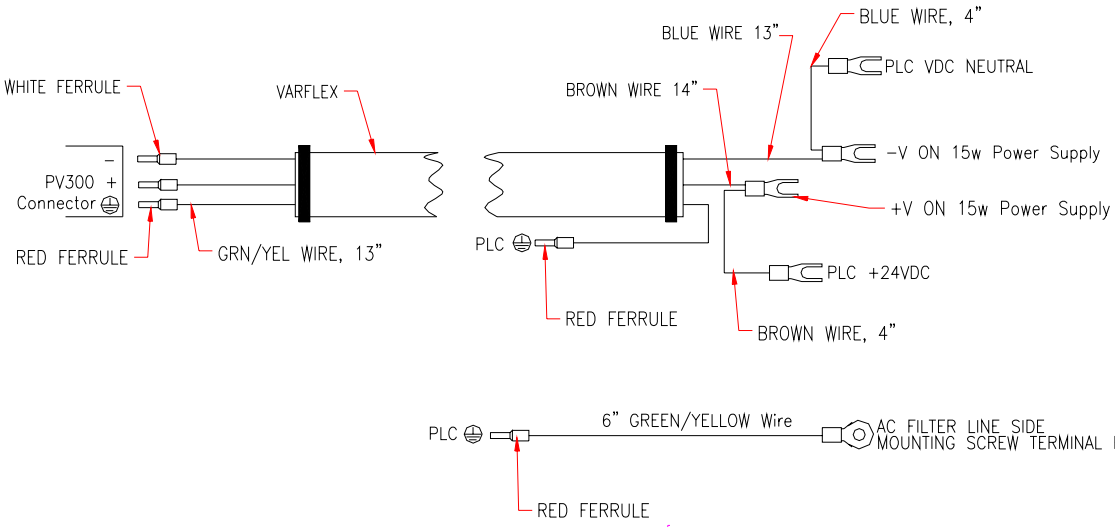
Relay Harness Set
14341109



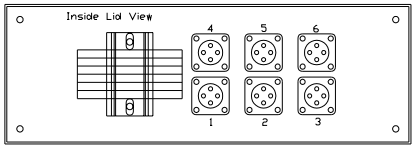
(+V / --V) Harness Set
14341112

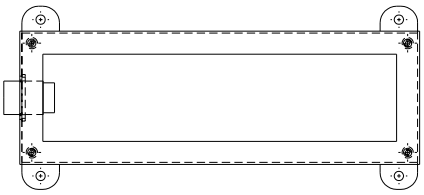


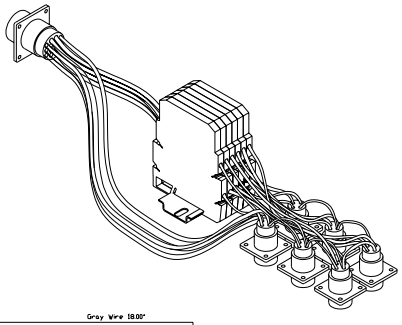
PLC and Screen Power Harness Set
14341114

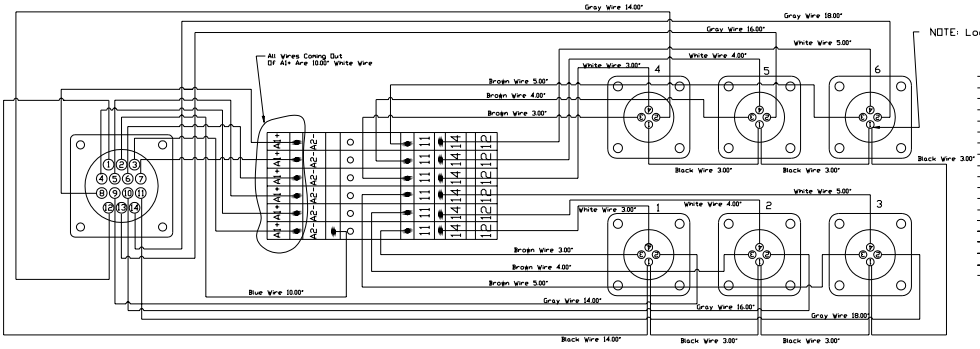


Feeder Interface Box and Wiring
14341126









QTY	Description	Part Number
19	White Ferrules	53500235
06	4 Pin Connector	53500505
38	Crimp Pins	53500503
6	Relays	51241006
1	Din Rail	51434015
1	14 Pin Connector	44649027
29.00	Black 22Ga Wire	53500111
64.00	White 22Ga Wire	53500113
96.00	Gray 22Ga Wire	53500123
24.00	Brown 22Ga Wire	53500213
10.00	Blue 22 Ga Wire	53500114
1	Enclosure	51434004
7	Wire Ties	43550263
38mm	Bar Bridge	51241013
2	BHCS 10-32 X 3/8"	00002305
2	Nut Kep 10-32	00003361
24	BHCS 6-32 X 1/4"	00003305
4	BHCS 8-32 X 3/8"	00002306
4	BHCS 10-32 X 1/2"	00002334

Thiele Technologies
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