13-17-615
Version: 02
April 09th, 2018

Gardner Denver

ENERGY STAR PARTNER

Multi-Machine Sequencing

AirSmart™ G2 Controller

Compressor Application

INSTALLATION MANUAL

MAINTAIN COMPRESSOR RELIABILITY AND PERFORMANCE WITH GENUINE GARDNER DENVER® COMPRESSOR PARTS AND SUPPORT SERVICES

Gardner Denver® Compressor genuine parts, manufactured to design tolerances, are developed for optimum dependability – specifically for Gardner Denver compressor systems. Design and material innovations are the result of years of experience with hundreds of different compressor applications. Reliability in materials and quality assurance is incorporated in our genuine replacement parts.

Your authorized Gardner Denver Compressor distributor offers the entire backup you'll need. A network of authorized distributors provides the finest product support in the air compressor industry.

Your authorized distributor can support your Gardner Denver air compressor with these services:

1. Trained parts specialists to assist you in selecting the correct replacement parts.
2. Factory warranted new and remanufactured rotary screw airends. Most popular model remanufactured airends are maintained in stock at the factory, for purchase on an exchange basis with liberal core credit available for the replacement unit.
3. A full line of factory tested AEON™ compressor lubricants specifically formulated for use in Gardner Denver compressors.
4. Repair and maintenance kits designed with the necessary parts to simplify servicing your compressor.

Authorized distributor service technicians are factory trained and skilled in compressor maintenance and repair. They are ready to respond and assist you by providing fast, expert maintenance and repair services.

To Contact Gardner Denver or locate your local distributor:

Visit: www.contactgd.com/compressors

Or

Call: (217)222-5400

INSTRUCTIONS FOR ORDERING REPAIR PARTS

When ordering parts, specify Compressor MODEL, Method of Cooling, HORSEPOWER and SERIAL NUMBER (see nameplate on unit). The Airend Serial Number is also stamped on top of the discharge bearing carrier casting.

All orders for Parts should be placed with the nearest authorized distributor.

Where NOT specified, quantity of parts required per compressor or unit is one (1); where more than one is required per unit, quantity is indicated in parenthesis. SPECIFY EXACTLY THE NUMBER OF PARTS REQUIRED.

DO NOT ORDER BY SETS OR GROUPS.

To determine the Right-Hand and Left-Hand side of a compressor, stand at the motor end and look toward the compressor. Right-Hand and Left- Hand are indicated in parenthesis following the part name, i.e. (RH) and (LH), when appropriate.

WARNING – PROHIBITION – MANDATORY LABEL INFORMATION

Gardner Denver Rotary Screw compressors are the result of advanced engineering and skilled manufacturing. To be assured of receiving maximum service from this machine, the owner must exercise care in its operation and maintenance. This book is written to give the operator and maintenance department essential information for day-to-day operation, maintenance and adjustment. Careful adherence to these instructions will result in economical operation and minimum downtime.

Boxed text formats are used, within this manual, to alert users of the following conditions:

Safety Labels are used, within this manual and affixed to the appropriate areas of the compressor package, to alert users of the following conditions:

⚠ DANGER

Indicates a hazard with a high level of risk, which if not avoided, WILL result in death or serious injury.

Equipment Starts Automatically

Health Hazard – Explosive Release of Pressure

Cutting of Finger or Hand Hazard – Rotating Impeller Blade

High Voltage – Hazard of Shock, Burn, or Death Present until Electrical Power is Removed

Cutting of Finger or Hand Hazard – Rotating Fan Blade

Entanglement of Fingers or Hand/Rotating Shaft

⚠WARNING

Indicates a hazard with a medium level of risk which, if not avoided, <u>COULD</u> result in death or serious injury.

Asphyxiation Hazard – Poisonous Fumes or Toxic Gases in Compressed Air

⚠CAUTION

Indicates a hazard with a low level of risk which, if not avoided, <u>MAY</u> result in a minor or moderate injury.

Burn Hazard – Hot surface

PROHIBITION/MANDATORY ACTION REQUIREMENTS

Do not Operate Compressor with Guard Removed

Lockout Electrical Equipment in De-Energized State

Do Not Lift Equipment with Hook – No Lift Point

Loud Noise Hazard – Wear Ear Protection

Handle Package at Forklift Points Only

Read the Operator's Manual Before Proceeding with Task

SAFETY PRECAUTIONS

Safety is everybody's business and is based on your use of good common sense. All situations or circumstances cannot always be predicted and covered by established rules. Therefore, use your past experience, watch out for safety hazards and be cautious. Some general safety precautions are given below:

Failure to observe these notices will result in injury to or death of personnel.

- **Keep fingers and clothing away from rotating fan, drive coupling, etc.**
- **Disconnect the compressor unit from its power source, lockout and tagout before working on the unit – this machine is automatically controlled and may start at any time.**
- **Do not loosen or remove the oil filler plug, drain plugs, covers, the thermostatic mixing valve or break any connections, etc., in the compressor air or oil system until the unit is shut down and the air pressure has been relieved.**
- **Electrical shock can and may be fatal.**
- **Perform all wiring in accordance with the National Electrical Code (NFPA-70) and any applicable local electrical codes. Wiring and electrical service must be performed only by qualified electricians.**
- **Open main disconnect switch, lockout and tagout and check for voltage before working on the control.**

Failure to observe these notices could result in damage to equipment.

- **Stop the unit if any repairs or adjustments on or around the compressor are required.**
- **Do not use the air discharge from this unit for breathing – not suitable for human consumption.**
- **An Excess Flow Valve should be on all compressed air supply hoses exceeding 1/2 inch inside diameter (OSHA Regulation, Section 1926.302).**
- **Do not exceed the rated maximum pressure values shown on the nameplate.**
- **Do not operate unit if safety devices are not operating properly. Check periodically. Never bypass safety devices.**

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LIST OF ILLUSTRATIONS

PARTS LIST

KIT: 313ETK6028 (Package with 2 Pressure Transducers)

GD P/N	Quantity	Description
24CA2865	2	Cable gland
64EB368	1	1/4 FPT 3/J-16 Coupling
88H369	1	Pressure sensor, 4-20mA, 1/4" NPT, Danfoss
64AC2	1	Plug 1/4" NPT Hex socket head
TEN005275	1	DIN Rail Mod
VP1033693	1	Pressure sensor wiring cable
24CA5987	2	Terminal block end anchor
97J110	1	100FT shielded CAT5e cable, terminated, 24AWG, UL/CSA
97J111	1	7FT shielded CAT5e cable, terminated, 24AWG, UL/CSA
24CA7400	1	RJ45 splitter interface module, DIN mount
24CA7401	2	RJ45 IDC connector, 8 position
24CA7402	1	Screw terminal RJ-45 connector, 8 position
75LM302	2	1/4"-20 Hex Self Tapping Screw 1/2"L
24A77	2	Locknut – Conduit
24A383	2	O-RING Sealing 1/2"

KIT: 314ETK6028 (Package with 3 Pressure Transducers)

GD P/N	Quantity	Description
24CA2865	2	Cable gland
64AC2	1	Plug 1/4" NPT Hex socket head
24CA5987	2	Terminal block end anchor
97J110	1	100FT shielded CAT5e cable, terminated, 24AWG, UL/CSA
97J111	1	7FT shielded CAT5e cable, terminated, 24AWG, UL/CSA
24CA7400	1	RJ45 splitter interface module, DIN mount
24CA7401	2	RJ45 IDC connector, 8 position
24CA7402	1	Screw terminal RJ-45 connector, 8 position
75LM302	2	1/4"-20 Hex Self Tapping Screw 1/2"L
24A77	2	Locknut – Conduit
24A383	2	O-RING Sealing 1/2"
86E244	1	Fitting Tube 1/4T x 1/4T, Brass

Revision History

Version	Date	Notes
01	May 18th, 2017	Added Kit 314ETK6028 for packages with 3 pressure transducers. Added information in section 2 for new kit and updated the parts lists for both kits.
02	April 09th, 2018	Corrected Appendix B to show accurate wiring information for RJ45 connection

SECTION 1
GENERAL INFORMATION

Compressor sequencing on the AirSmart G2 allows up to 8 compressors to work together to meet plant demand without the need for an external controller. While under sequence control one compressor will assume the role of “Leader” and will force other compressors into a “Lag” mode. The leader will be the first compressor to load if system pressure drops below the load pressure, and will command Lag compressors to load if it cannot meet plant demand alone.

Note: The minimum firmware version supporting sequencing on the AirSmart G2 is **Firmware Version 1.4** or higher. To check the current firmware version installed on the compressor, enter a maintenance level or higher password and navigate to the following path.

PATH: Machine Configuration->AirSmart Controller->Controller Firmware Version(s)

If the version is less than 1.4, contact Gardner Denver for the most recent version of the firmware along with update instructions.

In order to be capable of acting as the Leader of the sequencing group, the compressor must have a system pressure transducer installed and be set to **Sequenced** mode. The system pressure transducer is a pressure sensor typically installed in the control box and plumbed to the system receiver. When running in sequence mode, the leader uses only this transducer to modulate all sequenced machines. The system pressure transducer should take a pressure reading from the receiver that all sequenced machines are connected to, as shown in **Figure 1-1 - Sequencing Pressure Connections.**

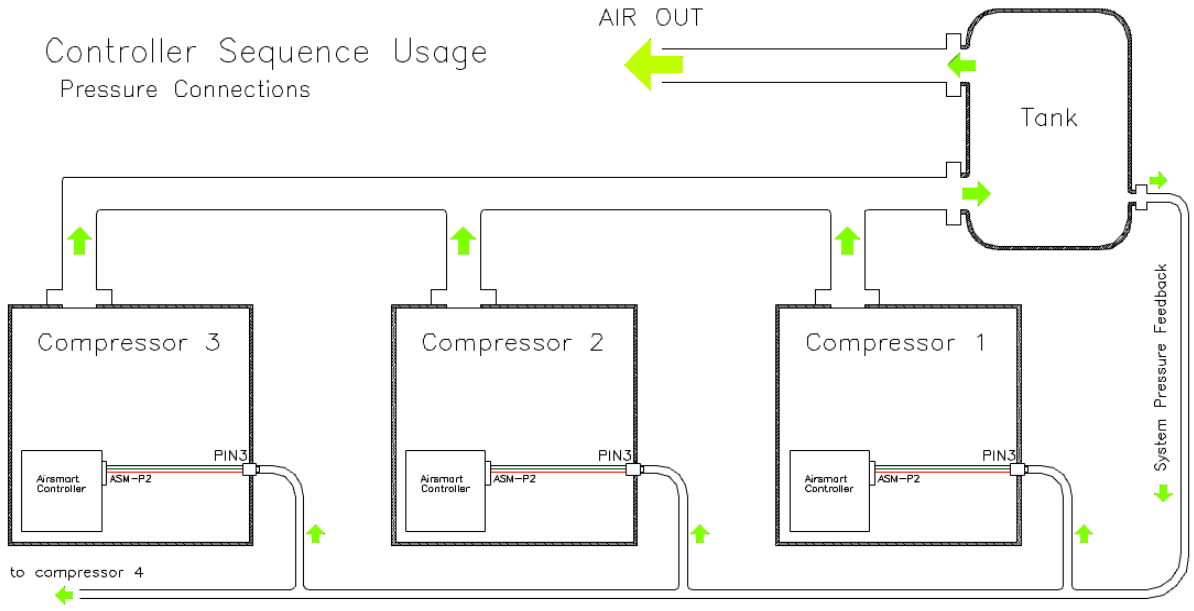

Figure 1-1 - Sequencing Pressure Connections

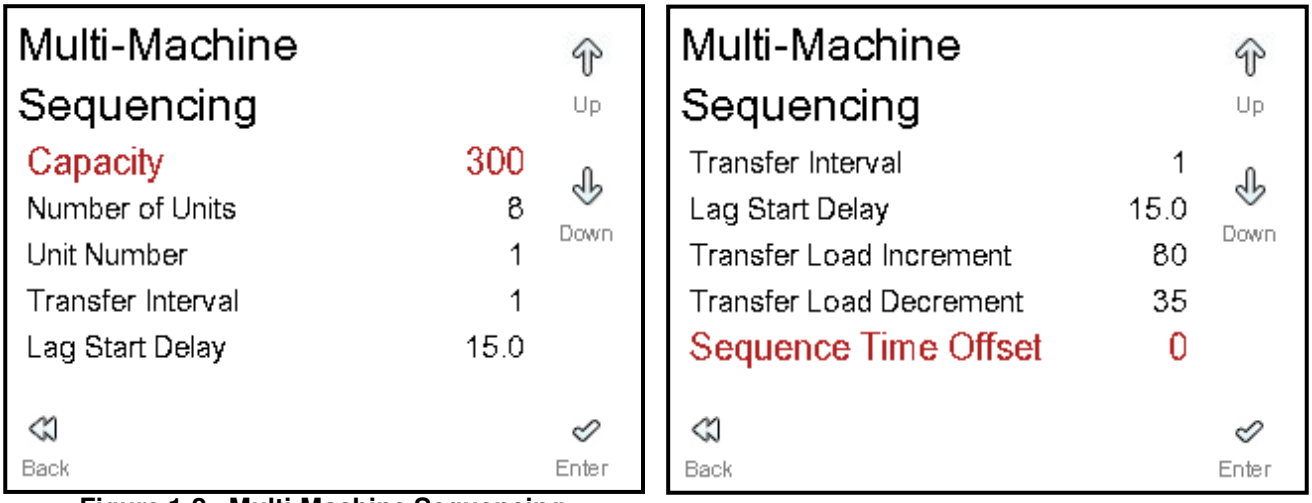

Figure 1-2– Multi-Machine Sequencing

The Leader of the network is determined by the capacity. The largest machine becomes the Leader and all smaller machines act as Lag compressors. If multiple machines have the same capacity, the machine with the lowest total hours will assume the role of Leader, which allows total hours across sequenced machines to equalize. Finally if multiple machines on the sequencing network are of the same size, total hours, and capacity, the machine with the lowest unit number will become the Leader. The controllers will trade the Leader role periodically as determined by the settings described below.

Path: Machine Configuration -> Multi-Machine Sequencing

Under the **Multi-Machine Sequencing** menu of the AirSmart G2 Controller, there are eight user-configurable parameters that control sequencing behavior. A distributor level or higher password must be entered to view and make changes to these settings. Some of these values must be identical across all machines in the sequence while others are dependent on the size of the unit or the operator preference.

Capacity – Units: Cubic Feet per Minute (CFM) – Default Value: Factory Set – Capacity is used to decide which compressor will become the Leader in the sequence. Normally the largest compressor will be the Leader unless multiple compressors of the same capacity are present in the network, in which the compressors will use total hours to decide and trade Leader control.

Number of Units – Default Value: 8 – This value should not be changed.

Unit Number – The Unit Number is a number between one and eight that is assigned to each compressor in the sequence. This value is used to identify compressors on the network. No two compressors can share the same unit number.

Transfer Interval – Units: Hours – Default Value: 1 Hour – The transfer interval is used to control how frequently the Leader role is transferred on the sequencing network. This value specifies how many more total hours a machine needs before it should release Leader control and become a Lag compressor. This parameter must be the same for all machines that are going to be sequenced together.

The transfer logic operates as follows. Machine A and Machine B are sequenced and both have 100 hours. They will use the unit number to decide who becomes leader. The transfer interval for both of these machines will be set to 1 hour. We will assume Machine A becomes the leader and begins running which will increase its total hours. Machine A will allow Machine B to become leader only when it accumulates 101 hours of runtime, then Machine B will become leader, and only allow Machine A to become leader when it has 1 more hour than Machine A, or 102 hours in this example.

Lag Start Delay – Units: Seconds – Default Value: 10 Seconds – The Lag Start Delay sets the amount of time the leader will wait before asking another compressor to come online. This takes into account the amount of time it takes a compressor to startup and begin producing air after it is asked to start.

Transfer Load Increment – Units: Percentage – Default Value: 80% - Transfer Load Increment sets the maximum speed a compressor will run at before asking another compressor to come online to meet plant demand. This value must be the same across all compressors in the sequence.

Transfer Load Decrement – Units: Percentage – Default Value: 50% - Transfer Load Decrement sets the minimum speed a compressor will run at before asking another compressor in the sequence to go offline to meet plant demand. This value must be the same across all compressors in the sequence.

Sequence Time Offset – Units: Hours – Default Value: 0 Hours – Sequence Time Offset increases the number of hours a compressor will report it has to other compressors in the network. This can be used to synchronize maintenance schedules between multiple machines.

SECTION 2
INSTALLATION

INSPECTION – Inspect all parts are present and undamaged in the sequencing kit before removing the compressor from operation.

Air/oil under pressure will cause severe personal injury or death. Shut down compressor, relieve system of all pressure, disconnect, lockout and tagout power supply to the starter before removing valves, caps, plugs, fittings, bolts and filters.

Install Sequencing Pressure Connections

Note: One kit is required per machine being sequenced

When using kit 313ETK6028 for a package with 2 pressure transducers:

1. Remove knockout on control cabinet and install the bulkhead fitting (GDI Part No. 64EB368) included in the sequencing kit. Refer to the Operators Manual of the machine being sequenced for the proper location. If no knockout exists, a new hole will need to be made.
2. Connect bulkhead fitting to the ¼" system pressure feedback tube from the plant receiver tank, as shown in **Figure 1-1 - Sequencing Pressure Connections**.
3. Install system pressure transducer (GDI Part No. 88H369) in the bulkhead fitting inside the control cabinet.
4. Using the pressure transducer harness (GDI Part No. VP1033693), connect pressure transducer to AirSmart G2 controller. Connect the red wire to pin 5 on connector P2, and the white wire to pin 6 on connector P2, as shown in **Figure 2-1 – Sequencing Electrical Connections**. Do nothing with the black wire.

When using kit 314ETK6028 for a package with 3 pressure transducers:

1. The above steps should already be finished and no new knockouts need to be made in the electrical panel, and no new wiring needs to be added in the panel other than the sequencing communication cables. A small tubing modification will need to be made to connect the system pressure to the package.
2. Locate the connection for the plant pressure sensor. This is right next to the moisture trap.
3. Remove the tubing from the 90˚ fitting. Then remove the 90˚ fitting.
4. Install a ¼" pipe plug (GDI Part No. 64AC2) into the port where the 90˚ fitting was removed.
5. Install a ¼ x ¼ tubing fitting (GDI Part No. 86E244) on the tubing that was just removed.
6. Install the tubing that is coming from the location sensing the system pressure to the ¼ x ¼ tubing union.

Sequencing Network Connections

1. If there is not enough existing empty DIN rail available in the control cabinet cut the supplied DIN rail (GDI Part No. 24CA5991) to a reasonable length and attach to back panel using the supplied self tapping screws (GDI Part No. 75LM302) or a suitable replacement.
   The RJ-45 Splitter must be installed in the low voltage section of the control panel to avoid

interference from drives or other high voltage devices.

⚠WARNING

Cutting or drilling may introduce metal shavings into the control cabinet. Before attaching DIN rail to back panel ensure that any metal shavings will not fall onto VFDs, power supplies or other electronics in the control cabinet. Cover the top of any sensitive equipment with a rag to catch potentially harmful debris.

2. Mount RJ-45 Splitter (GDI Part No. 24CA7400) to DIN rail using the terminal block end anchors (GDI Part No. 24CA5987) to anchor it in place

3. Connect port J6 of the AirSmart G2 Controller to any port of the RJ-45 splitter using the supplied 7 foot CAT5e patch cable (GDI Part No. 97J111), coiling up any excess length in an organized fashion. A shorter or longer RJ-45 EIA/TIA 568B terminated shielded CAT5e 24AWG patch cable may be used if the supplied cable will not fit the application.

4. Remove knockout on control cabinet and install supplied cable gland (GDI Part No. 24CA2865) included in the sequencing kit. Refer to the Operators Manual of the machine being sequenced for the proper location.

5. Plug the supplied 100 foot CAT5e patch cable (GDI Part No. 97J110) into the RJ-45 splitter.

6. Cut the RJ-45 connector off of the opposite end of the installed 100 ft patch cable and neatly route it through the control cabinet to the installed cable gland. Feed the cable though the installed cable gland to the exterior of the cabinet.

7. Tighten the cable gland to ensure an adequate seal against contaminants.

8. Route cable to the next compressor in the sequence and feed through the installed cable gland if present. If no open cable gland is present follow the above procedure to install a cable gland in the control cabinet.

9. Route the cable inside the cabinet to the installed RJ-45 splitter. Trim any excess cable leaving enough slack to make connections.

10. Terminate the cable in EIA/TIA 586B using the supplied RJ-45 IDC connector (GDI Part No. 24CA7401) or using standard RJ-45 termination tools if preferred. Follow **Appendix A** for IDC termination instructions. Alternatively use the supplied screw terminal RJ-45 connector (GDI Part No. 24CA7402) to terminate the cable using the EIA/TIA 586B standard. Follow **Appendix B** for wire termination instructions.

11. Reference the above steps as needed to connect multiple compressors in sequence configuration. Overall electrical sequenced connections should resemble those described in **Figure 2-1 - Sequencing Electrical Connections**

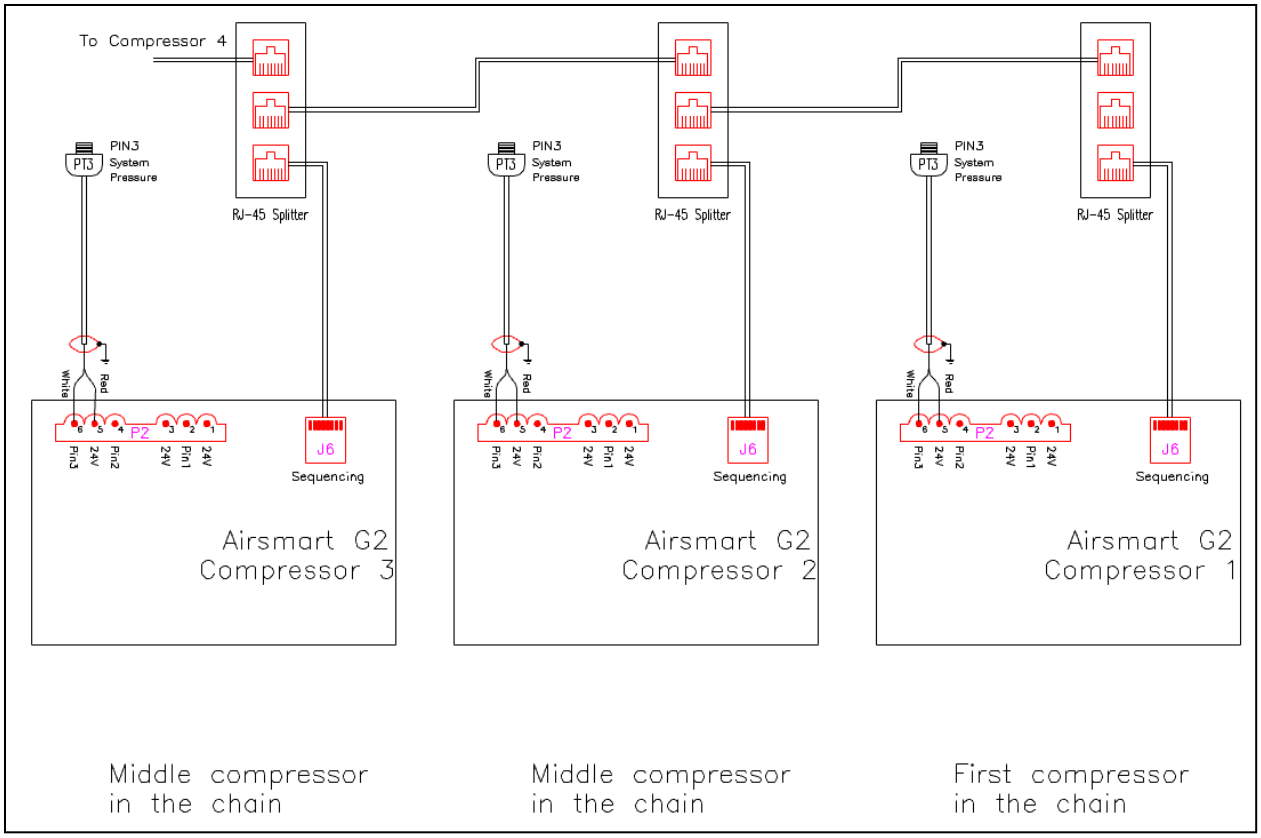

Figure 2-1- Sequencing Electrical Connections

Configuration of AirSmart G2 Controller

Once the required hardware is installed for sequencing operation, the AirSmart G2 Controller can be configured for sequencing. A distributor level password is required for assigning the pressure input on the controller to the system pressure transducer. To navigate through the menus, use the navigation soft keys Up Down to highlight a menu item, then use the enter soft key Enter to select the menu item. Refer to the AirSmart G2 Controller Manual, document number 13-17-613, for more information.

1. Press the menu button Menu soft key while at the home screen to enter the settings menu.
2. If the distributor level password has not been entered, press the unlock button soft key and enter a distributor level or higher password using the onscreen number pad.
3. Navigate to and select **Machine Configuration**.
4. Navigate to and select **I/O Mapping + Diagnostics**.
5. Navigate to and select **I/O Mapping**.
6. Navigate to and select **Ain Addresses 1**.
7. Under this screen scroll down to **System Pressure** and press enter to bring up the onscreen number pad.

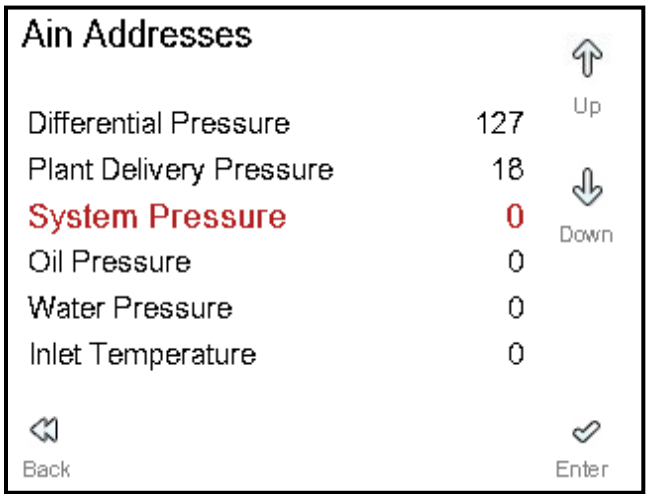

Figure 2-2 – Analog Input Mapping

8. Using the number pad enter **19** as the **System Pressure** address and press enter. The numbers should turn GREEN to show they have been accepted. If an invalid value has been entered the numbers will turn RED.

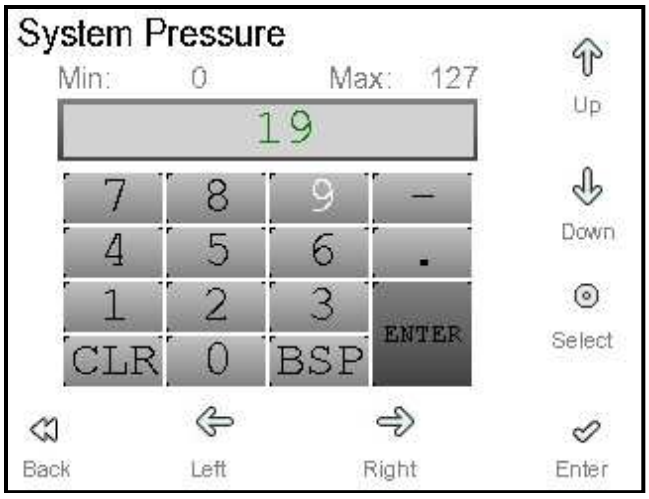

Figure 2-3 - System Pressure Address

NOTE: Steps 9 &10 are only necessary for kit 314ETK6028 for packages with 3 pressure transducers. If using kit 313ETK6028 continue to step 11.

9. Scroll down to **Separator Pressure** and press enter to bring up the onscreen number pad. Using the number pad enter **0** as the **Separator Pressure** address and press enter. The numbers should turn GREEN to show they have been accepted. If an invalid value has been entered the numbers will turn RED.
10. Next, scroll down to the **Plant Pressure** and press enter to bring up the onscreen number pad. Using the number pad enter **18** as the **Plant Pressure** address and press enter. The numbers should turn GREEN to show they have been accepted. If an invalid value has been entered the numbers will turn RED.
11. Exit to the main menu using the back soft key.
12. While at the home screen press the stop button  to reload I/O Mapping to apply the new configuration.

Now that the pressure transducer is mapped the AirSmart G2 Controller needs to be programmed for sequencing operation. The operating mode must be changed to **Sequenced** under **Operational Settings** for the controller to listen for communication on the sequencing interface.

1. Press the menu button 

soft key while at the home screen to enter the settings menu.
2. If the distributor level password has not been entered, press the unlock button  soft key and enter a distributor level or higher password using the onscreen number pad.
3. Navigate to and select **Operational Settings**.
4. Navigate to and select **Operating Mode**.
5. Under the **Operating Mode** menu navigate to and select **Sequenced** and press enter.

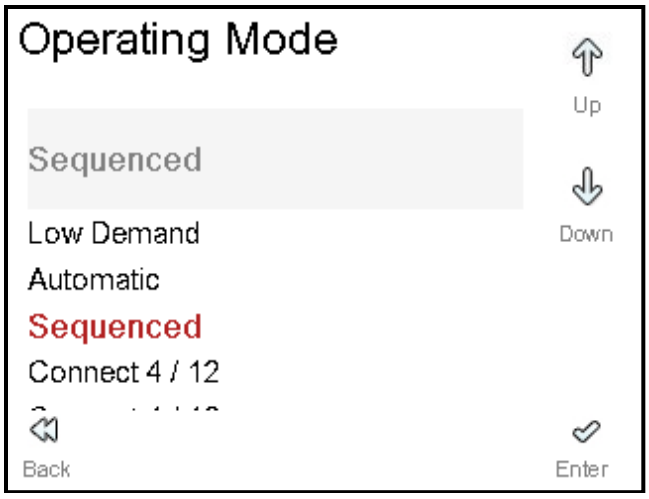

Figure 2-4 - Changing Operating Mode

6. Exit to the main menu using the back soft key.
7. While at the home screen press the stop button  to reload I/O Mapping to apply the new configuration. The mode “Sequenced” should be displayed above the machine hours timer.

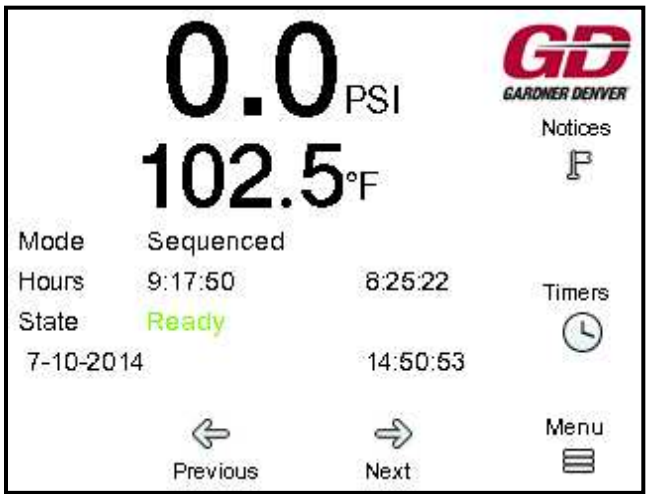

Figure 2-5 - Sequenced Home Screen

Now that sequencing is enabled the correct settings need to be entered to for sequencing to work properly.

1. Press the menu button  soft key while at the home screen to enter the settings menu.
2. If the distributor level password has not been entered, press the unlock button  soft key and enter a distributor level or higher password using the onscreen number pad.
3. Navigate to and select **Machine Configuration**.
4. Navigate to and select **Multi-Machine Sequencing**.
5. Select **Unit Number** and enter the desired unit number. ***Note:*** The unit number must be unique to each unit in the sequence. Multiple machines cannot share the same unit number.
6. The remaining parameters must be the same across all machines in the sequence. These parameters should be left at their default values, but may be adjusted to optimize machine performance by experienced personnel.

APPENDIX A – RJ45 IDC TERMINATION INSTRUCTIONS

GENERAL DESCRIPTION - The supplied RJ45 IDC connector (GDI Part No. 24CA7401) allows field termination of RJ45 connections by using insulation displacement connection (IDC) technology. Instructions for terminating the IDC connector can be found by unfolding the package that the connector is shipped in. Video assembly instructions can also be found on the manufacturer's website at www.HARTING.com/RJIndustrial10G. The following illustrations provide an overview of termination using this connector.

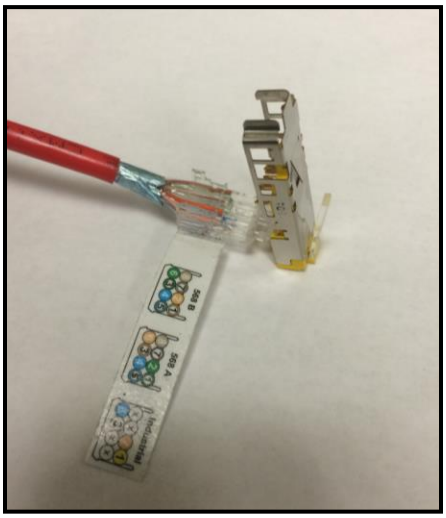

Figure 2-6 – Slide the black plastic body over the cable before beginning. Strip 24-26mm of outer sheathing. Trim shielding foil, leaving 14-16 mm of wire exposed. Insert wires following 568B as indicated on the label.

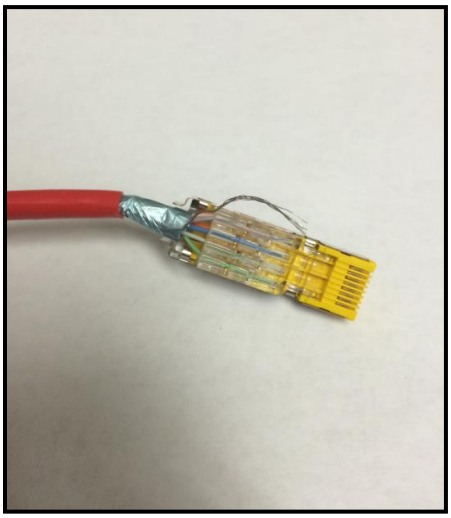

Figure 2-7 – Trim upper 4 wires flush with end of slots. Carefully fold down the connector to terminate the wires. While folding ensure that each wire is terminated and punctured by the gold connector pins.

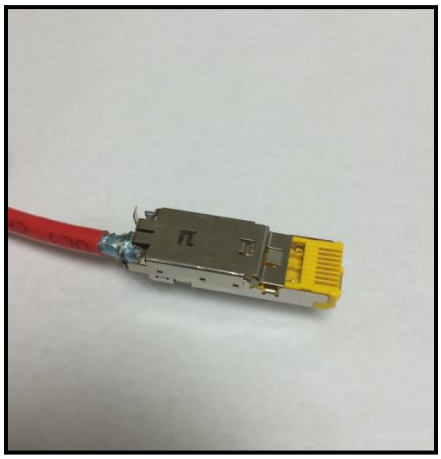

Figure 2-8 – Place body clamp over the terminated connection until it clicks. If shield wire is present, wrap around shield foil or mesh to ensure proper shielding.

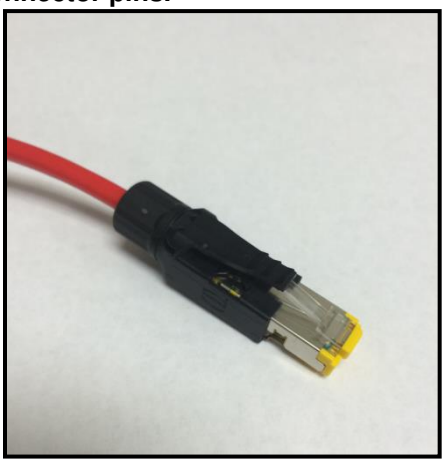

Figure 2-9 - Slide the plastic body forward until it clicks onto the connector. Slide the plastic nut forward and tighten it to provide strain relief.

APPENDIX B – RJ45 SCREW TERMINATION

GENERAL DESCRIPTION - The supplied Screw Terminal RJ-45 connector (GDI Part No. 24CA7402) can be used to terminate existing sequencing connections that may exist when replacing an older machine with a new one equipped with the AirSmart G2 controller. If Belden 3106A cable is used, follow the termination as shown in the illustration below. Terminate RS485 GND on terminal 8, RS485 A(+) on terminal 2, and RS485 B(-) on terminal 1. With the RJ-45 pins facing upwards as shown in the illustration, the topmost terminal is referred to as terminal 1.

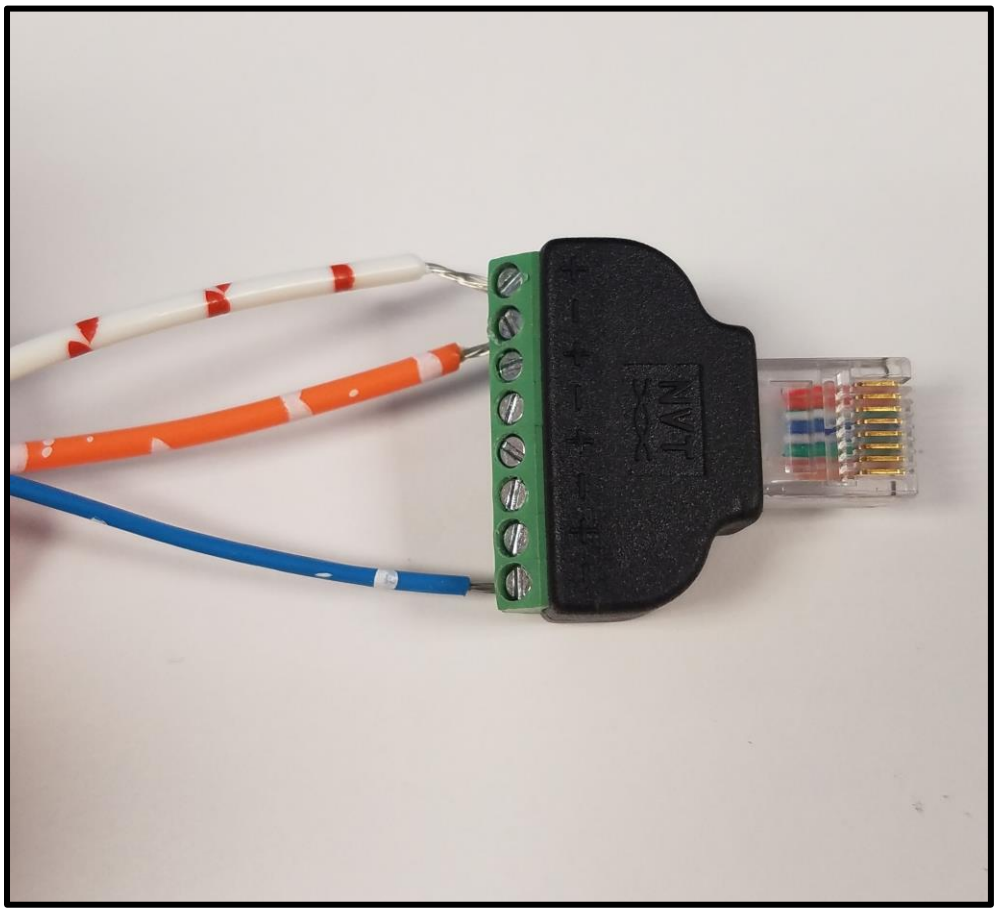

Figure 2-10 – Screw Termination – Blue = RS485 GND – Orange = RS485 A(+) - Orange/White = RS485 B(-)

APPENDIX C – SEQUENCING WITH CONNNECT 12 OR AIRSMART

GENERAL DESCRIPTION - The AirSmart G2 is backwards compatible with the AirSmart G1 for sequencing installations. To replace an AirSmart G1 controlled compressor with an AirSmart G2 controlled compressor minimal modification must be made. On the AirSmart G1, sequencing network connections are terminated at terminal block P19 on the controller. On the AirSmart G2, sequencing network connections are terminated via RJ-45 connector J6. When connecting an AirSmart G2 controlled compressor to an existing sequence of AirSmart G1 controlled compressors, follow the instructions in this manual for the pressure, electrical, and programming directions. Install the RJ-45 Splitter in the control cabinet of the AirSmart G2 controlled machine and connect the controller to the splitter. Then, use the included Screw Terminal RJ-45 (GDI Part No. 24CA7402) to terminate existing Belkin 3106A or similar industrial RS-485 cable and connect to the RJ-45 Splitter. Follow **Appendix B** for wire termination instructions.

The AirSmart G2 can also interface with the Connect 12 for sequencing operation. The Connect 12 controllers interface with compressors using a Modbus RS-485 interface. Follow the instructions in this manual for the electrical connections. The Connect 12 will broadcast system pressure to all compressors it is controlling, so pressure connections and transducer installation detailed in this manual can be ignored. Install the RJ-45 Splitter in the G2 control cabinet and connect the G2 controller to the splitter. Then use the included Screw Terminal RJ-45 (GDI Part No. 24CA7402) to terminate existing Belkin 3106A or similar industrial RS-485 cable and connect to the RJ-45 Splitter. Follow **Appendix B** for wire termination instructions. When programming the G2 for sequence operation, the **Operating Mode** must be set to **Connect 12** instead of **Sequenced**. When being controlled by a Connect 12, only **Capacity** and **Unit Number** are used for sequencing decisions and all other parameters under **Multi-Machine Sequencing** can be left at their default values. Once the compressor operating mode is set to **Connect 12,** start the commissioning wizard on the Connect 12 controller to add the new compressor to the network.

Gardner Denver®

For additional information, contact your local representative or visit:
www.contactgd.com/compressors

 Printed in U.S.A.

ENERGY STAR PARTNER

CERTIFIED QUALITY MANAGEMENT SYSTEM ISO 9001:2008 ANAB DNV

MEMBER OF CAGI Compressed Air & Gas Institute

KNOW PRESSURE COMPRESSED AIR CHALLENGE

Please recycle after use.