



dap4

Zone Control Supplement

Important: These instructions are based on the software in the dap4 being version 2.11 or higher.

Please use an older publication for units that contain earlier software versions.

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Introduction

The Zone Control offers unit lead/lag, rotation and a teamwork control solution for the Dap4 controllers. The Zone Control network consists up to fifteen dap4 control Units. The network is connected in a daisy chain topology using the pLAN communication port. The Zone Control feature requires an activation password for each unit in the network. All units in the network must have the same software version to operate properly. Units manufactured under a different job number may have different software versions. Therefore, a software upgrade should be performed before proceeding with Zone Control activation. The dap4 software version can be found in “F - Information” menu.

The Zone Control provides selectable features of:

- Auto Lead/Lag standby rotation
- Secondary Operating Schedule for economical control
- Activate a standby unit due to specified alarms
- Deactivate a running unit due to specified alarms
- Zone Inhibit function to prevent units from conflicting operations
- Temperature and Airflow Assist requests a standby unit to active

Setting up the features and operation of the Zone Control is not explained in this supplement. Please consult the dap4 User Manual for further information.

Enabling the Zone Control feature

Note: Units with factory installed Zone Control already have the feature enabled and do not require the following steps. Units that are being retrofitted for Zone Control in the field will require an activation password. Please obtain the Controller ID located in the “F - Information” for each controller in the zone. Then contact the Data Aire Parts and Sales department to get the activation password for each unit.

On color touch displays you must change to the Service emulation mode by pressing the tools icon for 2 seconds:



To activate the Zone Control feature, press the Menu key (center left) and enter the Factory level password (default password is 0002).

The procedure to access the Zone Control screen depends on the type of display you are using:

Grayscale Display - Press and hold the MENU key for 10 seconds until the Zone Control screen appears.

Color Touchscreen Display - Touch the two hands icon on bottom left, then touch the Menu key (looks like a target), now press and hold the two hand key on the bottom right for 10 seconds until the Zone Control screen appears.

Enter the Zone Control Activation password (obtained from Data Aire) that is unique for this controller.



If the correct password was entered, this screen should appear:



Select "Yes" to enable Zone Control and then press the ESC key to exit.

Proceed to enable the Zone Control feature on each unit in the zone.

Setting the Address for devices in the network

Each controller and display must have a unique address in the Zone Control network. These devices are all connected via the pLAN port of the controller which are wired together (explained in following section). The table below indicates the address of each control unit and its corresponding display. The units must be addressed sequentially beginning at address 1.

Note: Units with factory installed Zone Control already have their addresses set and do not require you to follow the following steps.

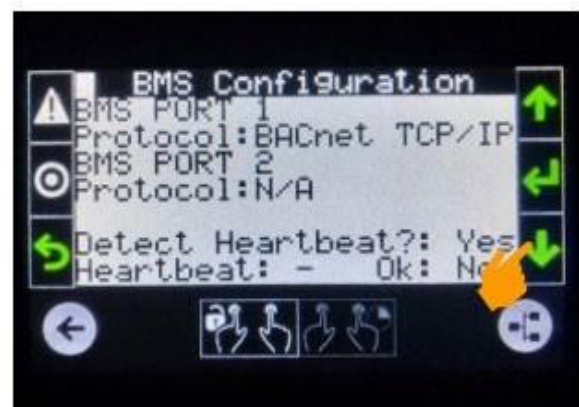
Tip: The address of the dap4 and its display should always add up to be 33.

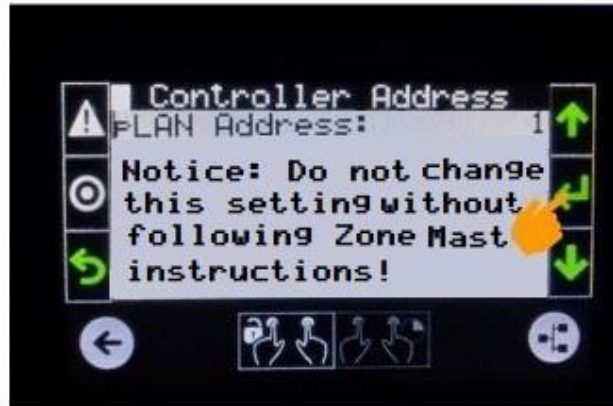
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
Controller Address	1	2	3	4	5	6	7	8
Display Address	32	31	30	29	28	27	26	25

	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	Unit 14	Unit 15	Unit 16
Controller Address	9	10	11	12	13	14	15	168
Display Address	24	23	22	21	20	19	18	17

Important! – The Zone Control network should NOT be connected while setting up the addresses.

Changing the address of the controller (For all dap4 controllers). Choose the Network Config Menu, then move down to the “Controller Address” screen:

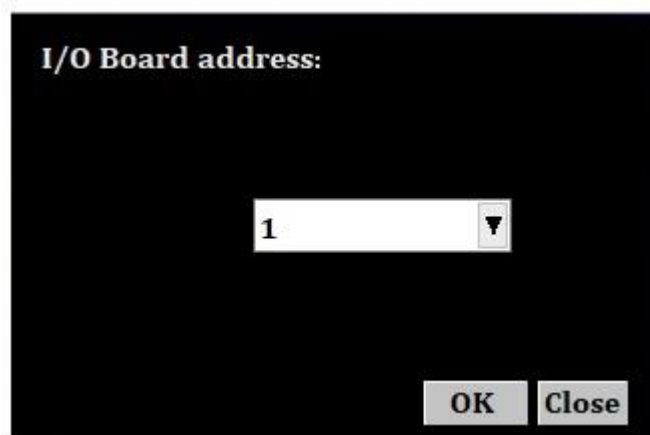




Set the controller's pLAN address, then Press Enter to save new address.



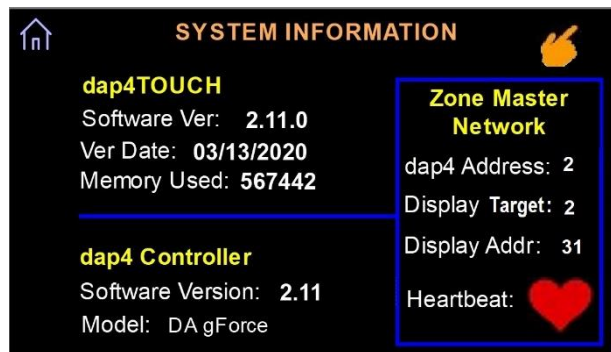
Next, press the network icon, at the bottom right, for approximately 10 seconds, until you see this screen pop-up:



Set the I/O Board Address the same as the controller's address, then Press OK to save new address. Press the bottom left (<-) key to exit service emulation and return to the main status screen.



Press the bottom right icon to open the information screen.



Press and hold the top right corner of the information screen for about 5 seconds and the Zone Control Network window will appear.

First be sure that the Heartbeat shows a heart symbol on/off at a rate of about 2-3 seconds. This indicates that communication between the dap4 and the display is okay. Also be sure that the Zone Control network is disconnected before making any changes to the dap4 address.

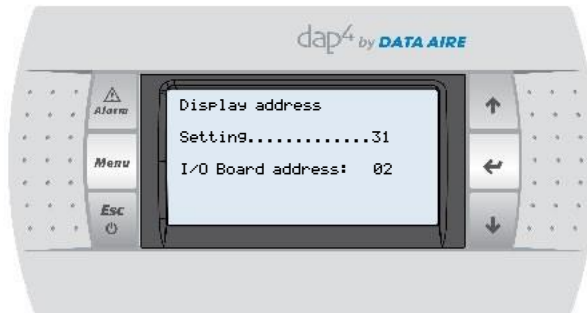
- Set the “dap4 Address” according the Zone Control address table for this unit. After changing the addresses, you may notice that the Heartbeat had stopped, this is normal.
- Set the “Display Target” to the same address as the dap4. This tells the display which dap4 to communicate with.
- Set the Display Address according the Zone Control address table for this unit.

At this point you will need to cycle the power on the dap4 and return to this screen to verify that the heartbeat is working again.

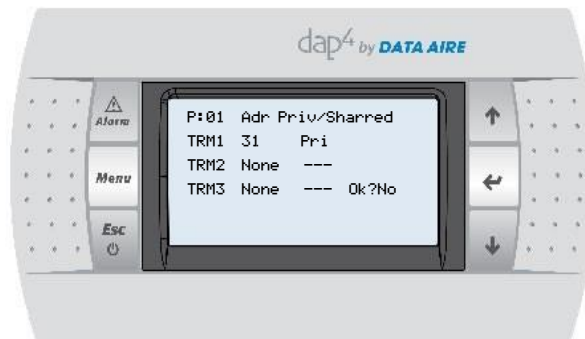
Procedure using grayscale display with side buttons only.

Changing the controller address from the display:

Press and Hold the three right hand side buttons simultaneously (UP+ENTER+DOWN) until you see this screen about 10 seconds later, then release the buttons.



- Set the display to match the address shown in the table.
- Then adjust the I/O Board Address to the same as the controller was set to.
- After you enter these settings, the display should reestablish communications to the controller and terminal configuration screen will now appear.



- The terminal configuration of the dap4 should be automatically set for the terminal's new address. If so, just press Enter until the cursor is at "No" and change it "Yes" and press Enter. Do this for every terminal used in the zone.

Wiring the Zone Control Network

Important: Do not connect the Zone Control wiring until all dap4 controllers and displays have been configured and the Zone Control feature is enabled. Connecting Zone Control network before configuring each units' address will cause irregular operation.

All communication wire must be at least 22 gauge twisted pair with a shielded drain line. Up to 16 dap4 controllers may be connected in a "daisy chain" topology.

Wiring Connection Diagrams:

Figure 1 dap4 Zone Control Wiring Diagram (LCD Display)

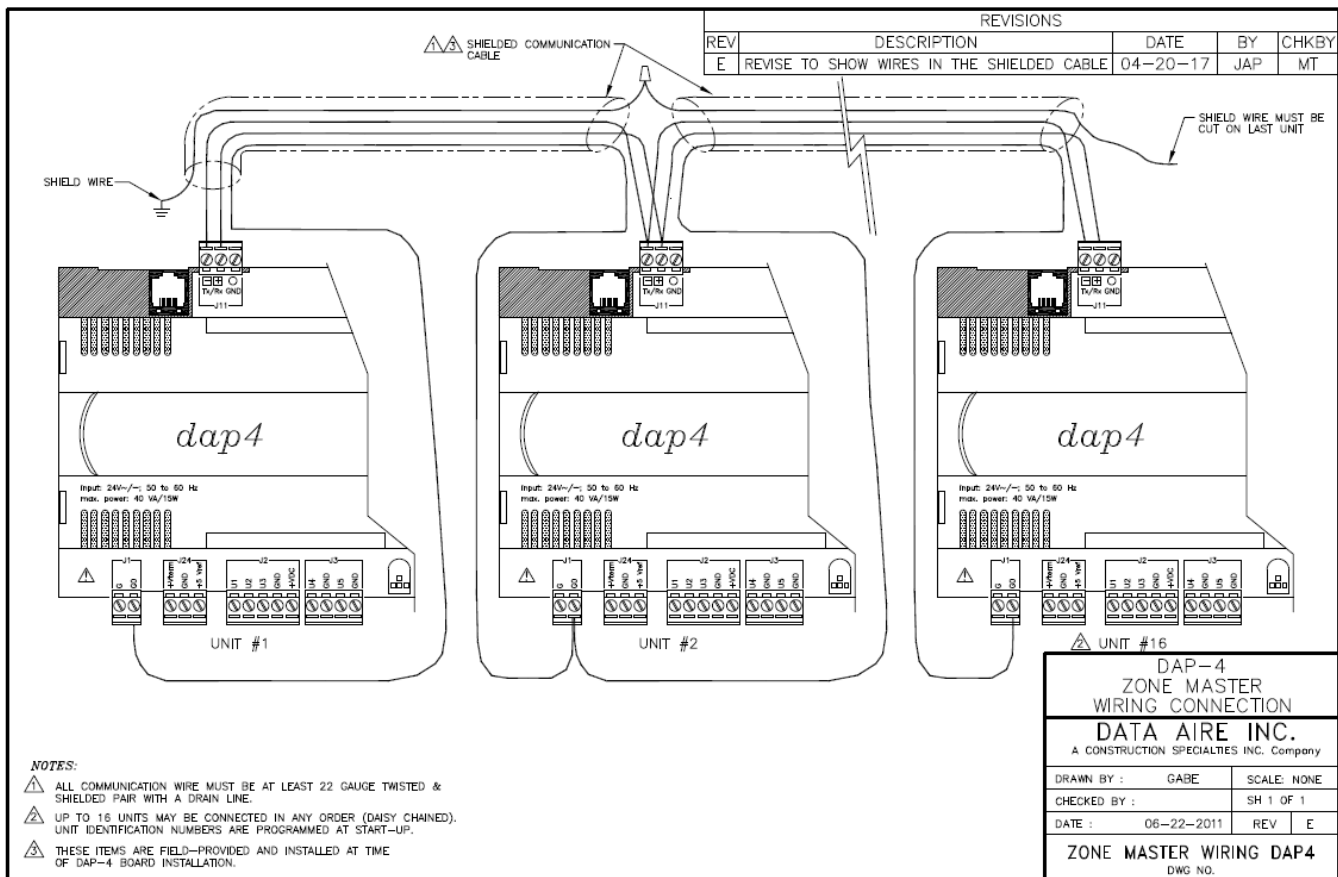


Figure 2 Mini-dap4 Zone Control Wiring Diagram (LCD Display)

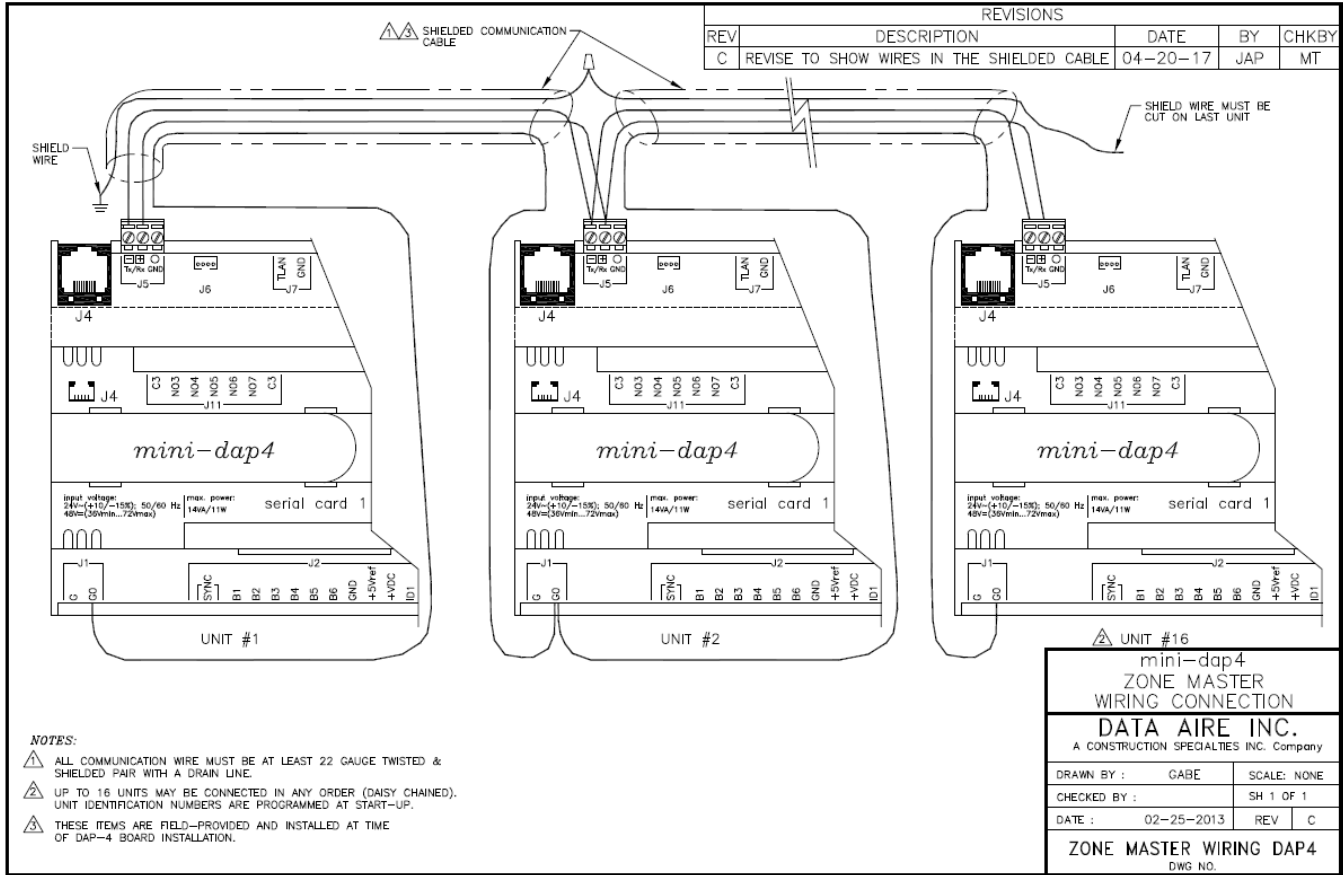


Figure 3 dap4 Zone Control Wiring Diagram (Touch Display)

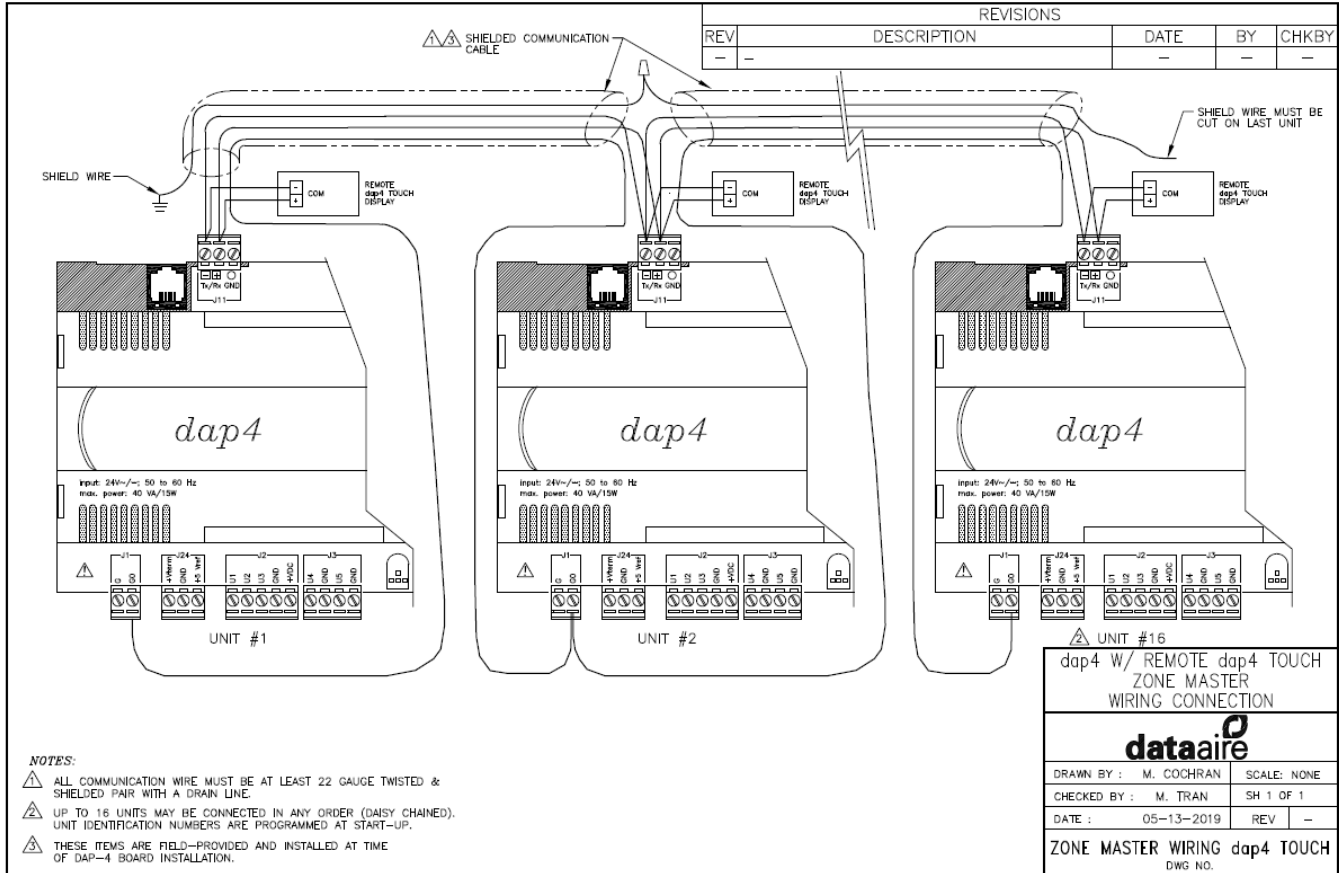
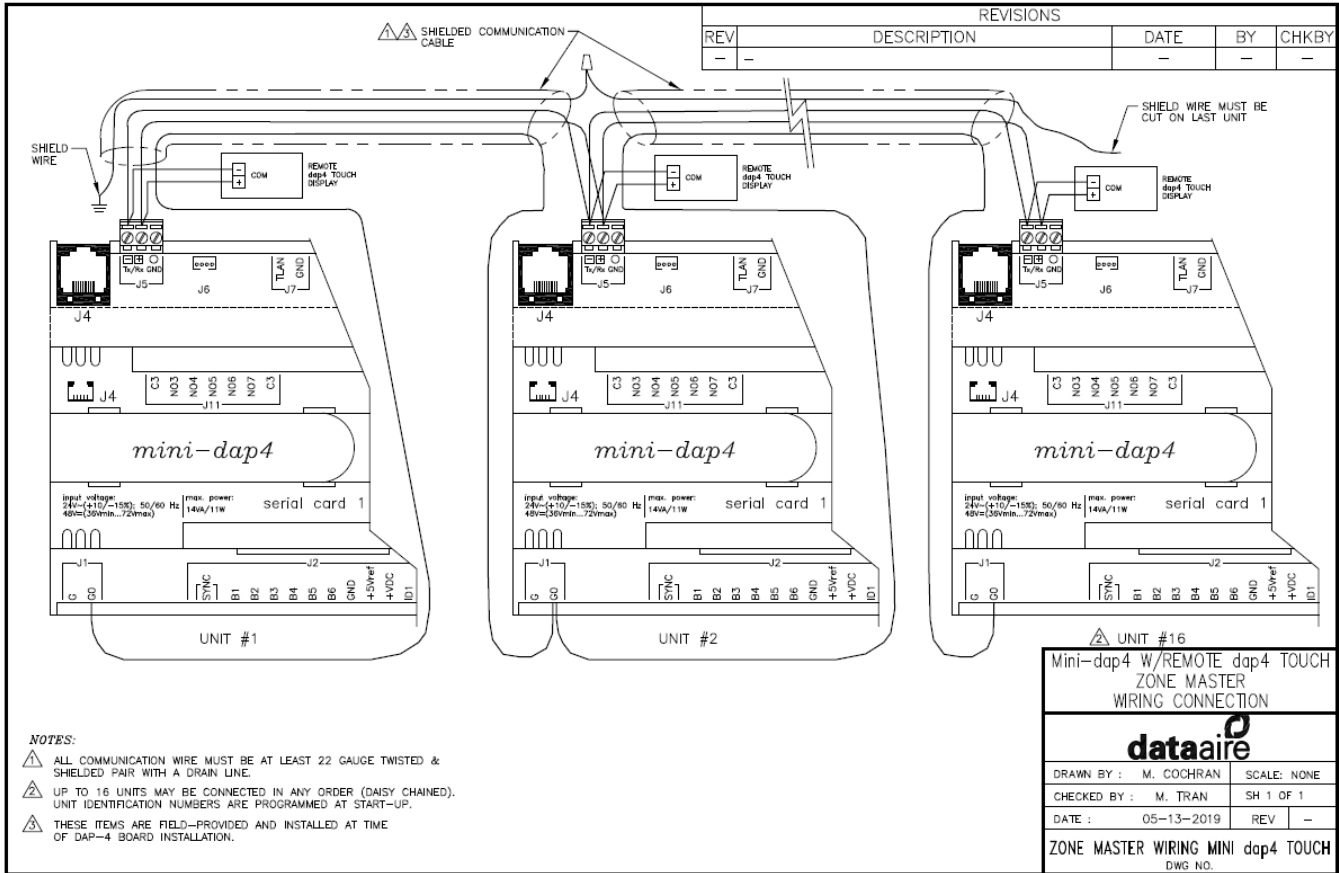


Figure 4 dap4 Zone Control Wiring Diagram (Remote Touch Display)





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