Safety Procedures









Dangerous environment.

Highly flammable/explosive fuels and high voltage are present.

Failure to observe all safety precautions could result in serious injury or death.

Observe all safety precautions as outlined in Gasboy manuals.

Installation Procedures

1. Install a single EMERGENCY POWER CUTOFF control to remove AC power from site dispensing equipment. (The control is an additional safety feature, and not a substitute for National Electrical Codes (NEC®)/National Fire Protection Association (NFPA 30) circuit breaker requirements.) Label the EMERGENCY POWER CUTOFF switch and instruct the owner to keep area clear of obstacles.

Connect an insulated grounding conductor from the dispenser power panel to the site grounding electrode (size per NEC).

Install power breakers to each circuit leading to the dispensing unit and Submersible Turbine Pump (STP). It must be capable of simultaneously disconnecting hot and neutral conductors.

Note: In Canada, switching neutral is contrary to the Canadian Electrical Code, reference part 1, rule 14-014.

Only field wiring connections are shown in the Junction boxes (J-boxes). Cap all unused wires. Local and NEC rules and regulations may apply.

Install conduit per NEC for hazardous locations. Potting is required for conduit that passes through any portion of a hazardous vapor area to ensure vapor barrier integrity.

Wires - All wires are 14 AWG (copper stranded) unless otherwise noted. Dispenser ground wire is 12 AWG (copper stranded).

Power loading and distance run may require larger wire size. Wire all circuits NEC Class 1, except wiring to speaker (intercom) and call button, which must be NEC Class 2. Gasboy two-wire is NEC Class 1 and may share the

- Two-wire communication wiring: For installations with "new" wiring, use Unshielded Twisted-pair (UTP) data wires. Wiring Specification:10-12 twists per foot, 18 AWG up to 1000-foot runs (2000 feet total), or 14 AWG up to 2600-foot runs (5200 feet total) unshielded, 300 V minimum, stranded annealed copper tinned wire, PVC insulation of type TFFN, THHN or MTW, Underwriters' Laboratories (UL®) approved gasoline and oil resistant. Reference C&M Corporation P/N 27525 (18 AWG) or equivalent. See MDE-4333 Atlas Fuel Systems Site Prep Manual, where 14 AWG may be required.
- Consult manufacturer specifications for wire nuts to determine maximum number of wires that may be used per nut.
- STP Isolation Relay Boxes are required by NEC 514-6 to:

main power conduit.

- a. Allow service of one unit safely without removing power from all dispensing equipment.
- b. Prevent damage to equipment from cross-phasing. Damage caused by cross-phasing is not covered by warranty. (Use local supplier for isolation relay boxes).
- Do not provide service loops or leave excess wire in electronics cabinet. Cut all wire lengths to size sufficient to reach termination without stress or excess. Dress all wires neatly along surfaces to not to obstruct access to terminations and devices.

See NIST Handbook 44 to determine which mode of satellite operation is relevant for your application. In many cases, the satellite must be wired so it cannot dispense product while the master remote dispenser is dispensing and vice versa. Use the correct wiring diagram according to your application.

The input line CONTROL/SUBM FEED is comprised of two wires which are tied together at the factory.

> To avoid damage to the CPU PC Board, all unused wires must be individually capped. Before applying power, you must verify that the RESET COMPLETE, FAST FLOW, SUBM. STARTER DRIVE wires are not shorted to conduit or chassis.

SUBM. STARTER DRIVE line can supply 300 mA AC maximum to control submersible starter relays. This line must not be directly connected to a submersible pump.

> External submersible relays are required unless the remote dispenser is equipped with the submersible drive relay option. The submersible drive relay option provides a SUBM PUMP DRIVE line (Blue 14), which can directly drive a submersible pump up to 3/4 HP at 115 VAC or 1-1/2 HP at 230 VAC. The 14 gauge SUBM FEED and SUBM PUMP DRIVE wires are always present. Verify that the submersible drive relay option is installed prior to wiring. The power supplied to the MOTOR FEED must be able to handle the load of the submersible pump.

- RESET COMPLETE (switch detect) line can supply 170 mA AC maximum for connecting to Fuel Management System (FMS) circuitry and in applications where control of a remote slow flow valve (satellite) is required.
- FAST FLOW line can supply 170 mA AC maximum (provided) to allow for control of a satellite along with remote control or monitoring of the fast flow valve found in the
- If the CONTROL/PUMP MOTOR FEED line is controlled by an FMS using solid state relays, a resistor assembly must be installed between the Control Feed line and Feed Neutral to prevent false triggering of the authorization input. The resistor assembly is 8.2K OHM, 10 Watt (P/N C05818) for 115/230 VAC domestic and 30K OHM, 10 Watt (P/N C06683) for 230 VAC international wiring.
- When used with an aboveground tank, the valve mounted at the tank MUST NOT be connected to the RESET COMPLETE or SUBM STARTER DRIVE lines. If the optional internal relay kit is installed AND the valve's current draw will not exceed 1 Amp, the valve can be connected to the SUBM PUMP DRIVE line. Otherwise, it should be driven from the external submersible starter relay. In all cases, the tank valve must operate at the same voltage as the submersible pump.
- When multiple dispensers are used to control a common submersible starter relay or pump, and the Atlas is controlled (authorized) through the "Control/Subm Feed" line (as in the case of some FMS), it is important that the lines from the Atlas to the submersible equipment be isolated from each other. This can be accomplished by running the submersible control lines through a secondary set of relay contacts in the FMS. If a secondary set of contacts is not available, external control relays must be used between the Atlas and the submersible starter relay or pump. Another option is to provide a separate submersible starter relay for each hose outlet. In no case can the submersible drive lines from the Atlas be tied together.
- > When using remote dispensers and submersible starter relays are always recommended when a submersible pump is used. However, the control circuit is capable of directly driving a submersible pump up to 1 HP at 115/230 VAC. Any pump over these ratings will require a submersible starter relay.
- If combining a remote dispenser with a FMS, the maximum HP limitation for directly driving a remote dispenser without the use of an additional relay of submersible starter must be the lower of the two components.
- Internal wiring that is not field terminated may be white in color.
- Wires labeled with two colors signify that the first color is the color of the wire and the second is that of the stripe. For example, BLU/WHT would indicate a blue wire with a
- Connect only when indicator light is present or if Satellite dispensers are to use NON-SIMULTANEOUS operation.
- 25. If there is no entry for an indicator light, terminate SP-1 and SP-2 into J401 and cap SP-3 and SP-4. If a light(s) is required, connect as shown in the diagrams.

Electrical Rating

Electric Reset Motors Control Valves 2.2 AMP @ 120 VAC 0.2 AMP @ 120 VAC 1.0 AMP @ 120 VAC 50/60 Hz 1.1 AMP @ 240 VAC 0.1 AMP @ 240 VAC 0.5 AMP @ 240 VAC 50/60 Hz

Gasboy recommends the use of one 15 AMP breaker per dispenser.

Gasboy requires valance lights be placed on a separate 15 AMP breaker.

Important Note: Sharing conduit to the dispensers with other non-Gasboy devices is contrary to the installation and site preparation manuals and may void warranty.

Active STP Connections

The Atlas	STP1	STP2	
One-Grade	X		
Two-Grade	X	X	

Reference Manuals

MDE-4331 Atlas Fuel Systems Installation Manual MDE-4333 Atlas Fuel Systems Site Prep Manual MDE-4334 Atlas Start-up/Service Manual MDE-4363 Atlas Fuel Systems Owner's Manual

Contents			
Sheet	Description	Models	
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2	Commercial Electronic Unit - Side Load	215Q/9852KX, 9853KX, 216Q/9853KX, 9840KX	
3	Commercial Electronic Unit - Front Load	215Q/9852KX, 9853KX, 216Q/9853KX, 9840KX	
4	Mechanical Unit - Side Load	215Q/9152KX, 9153KX, 216Q/9153KX, 9140KX, 215Q/8752KX, 8753KX, 216Q/8753KX	
5	Mechanical Unit - Front Load	215Q/9152KX, 9153KX, 216Q/9153KX, 9140KX, 215Q/8752KX, 8753KX, 216Q/8753KX.	
6	Commercial Electronic Unit - Side Load	215Q/9850KX, 216Q/9850KX	
7	Commercial Electronic Unit - Front Load	215Q/9850KX, 216Q/9850KX, 9850KTW3/9850K, 9850KXTW3/9850KX	
8	Mechanical Unit - Front Load	9216K/9152KX, 9153KX, 9140KX, 9216K/8752KX, 8753KX	
9	Commercial Electronic Unit	9216K/9852KX, 9853KX, 9840KX	
10	Commercial Ultra-Hi Electronic Unit	9216K/9850KX	
11	Legacy Hi Flow and Ultra-Hi Flow (Before June 1996)	-	
12	Legacy Hi Flow and Ultra-Hi Flow (After June 1996)	-	
13	Encore 500/700 Ultra-Hi (M07555 Power Supply Only), Encore 300 Ultra-Hi	-	

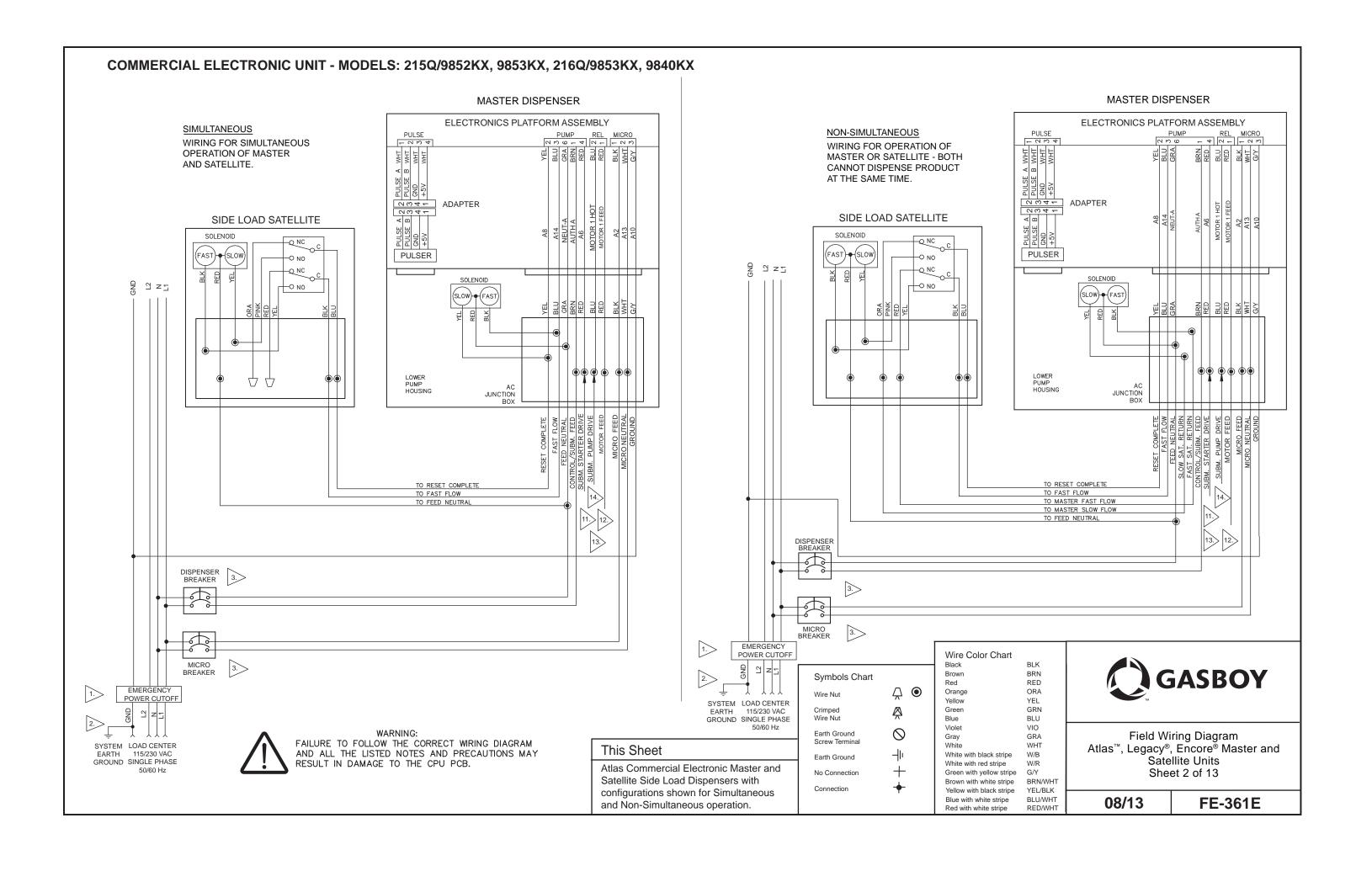
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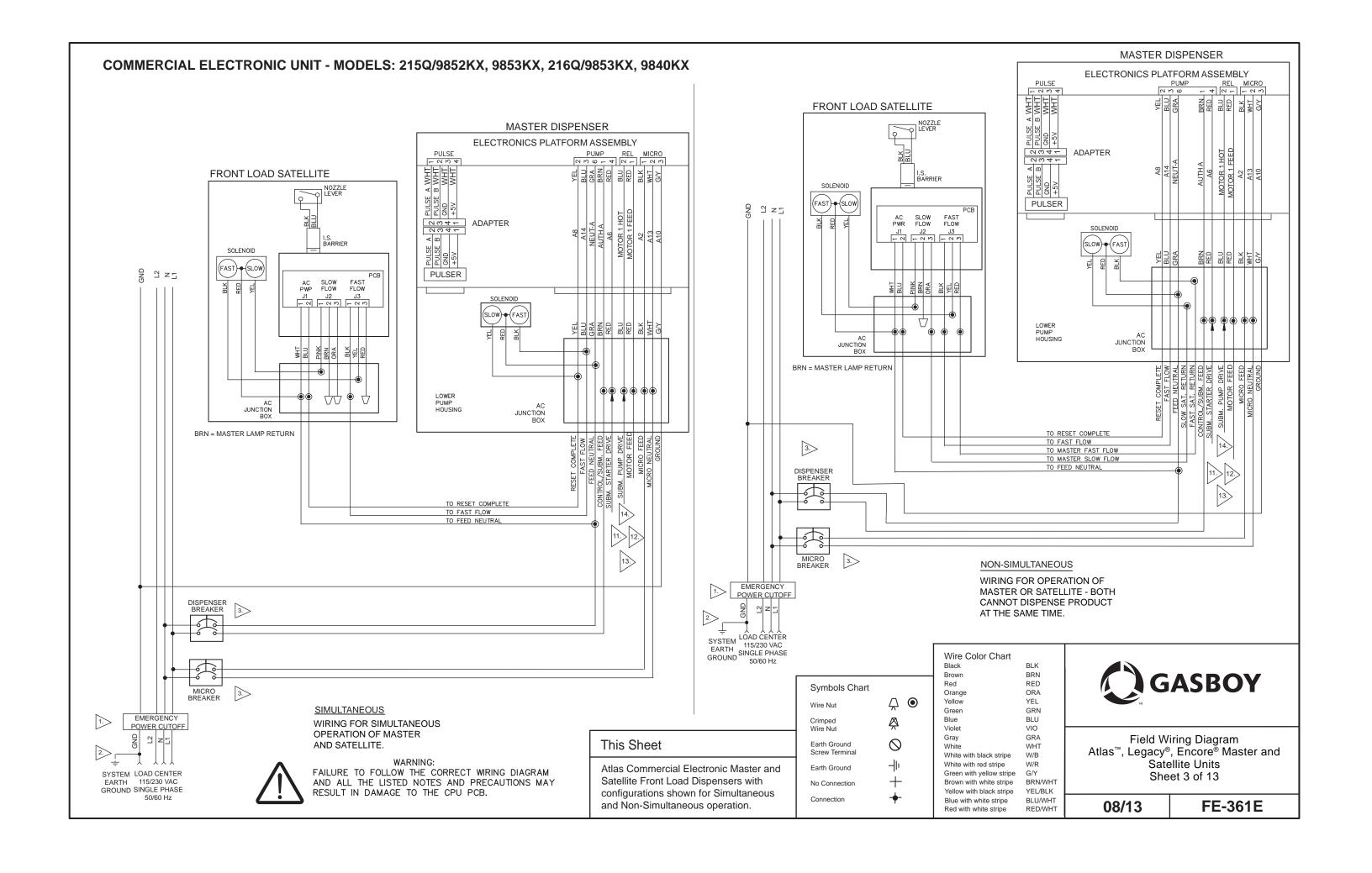
Atlas Master and Satellite, Front/Side Load, Electronic/Mechanical units. Wiring configurations shown for Simultaneous and Non-Simultaneous operation.

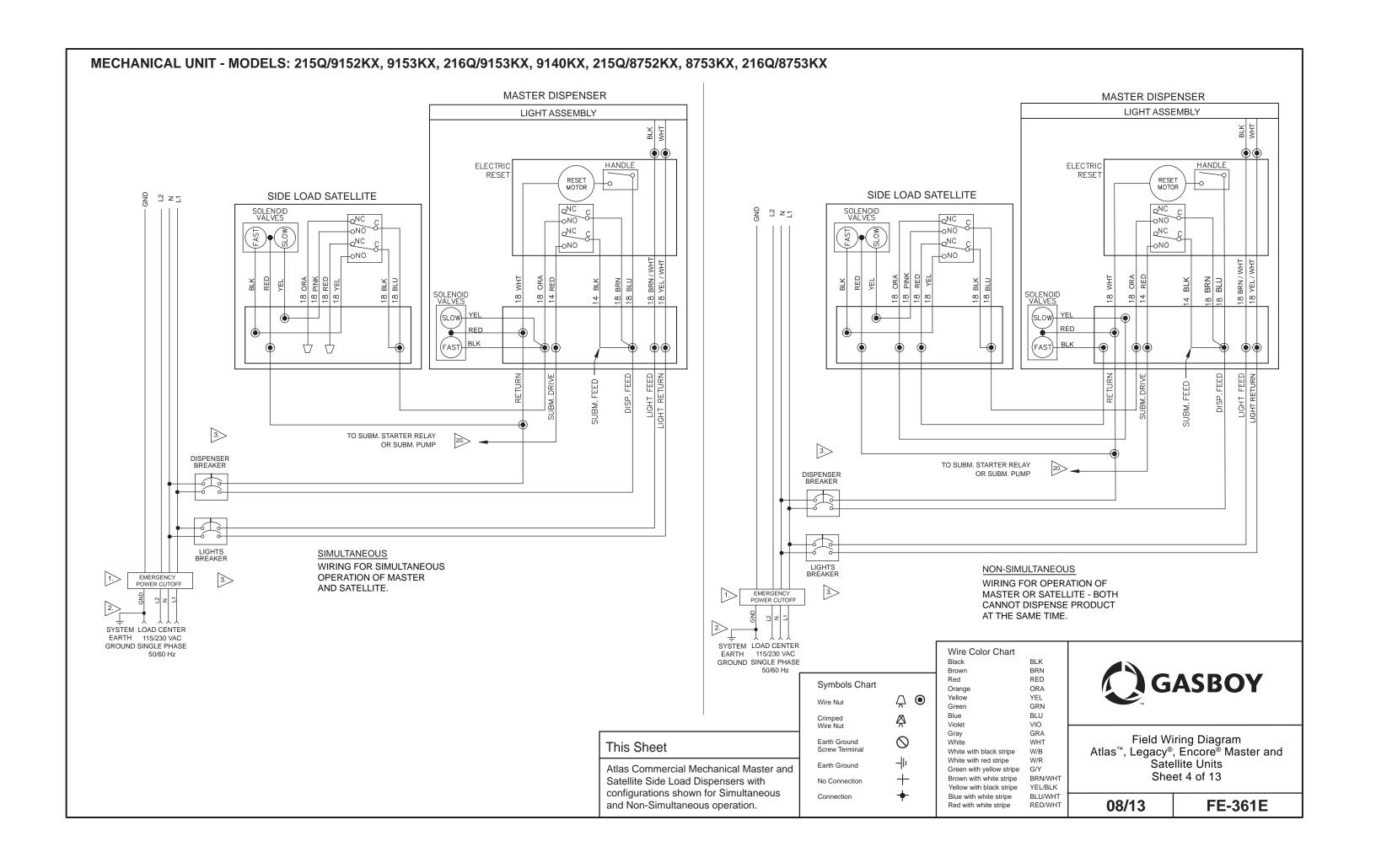


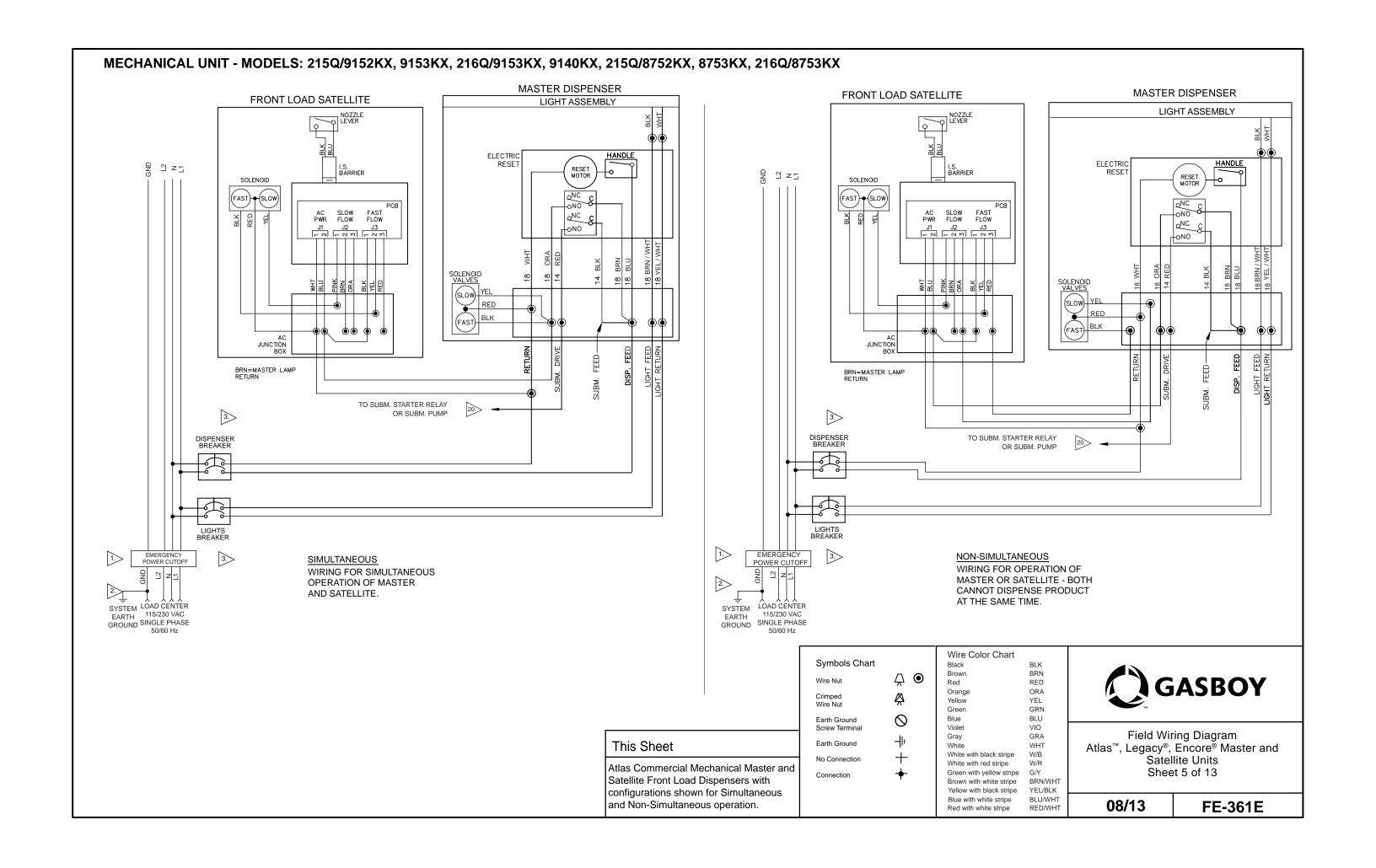
Field Wiring Diagram Atlas™, Legacy®, Encore® Master and Satellite Units Sheet 1 of 13

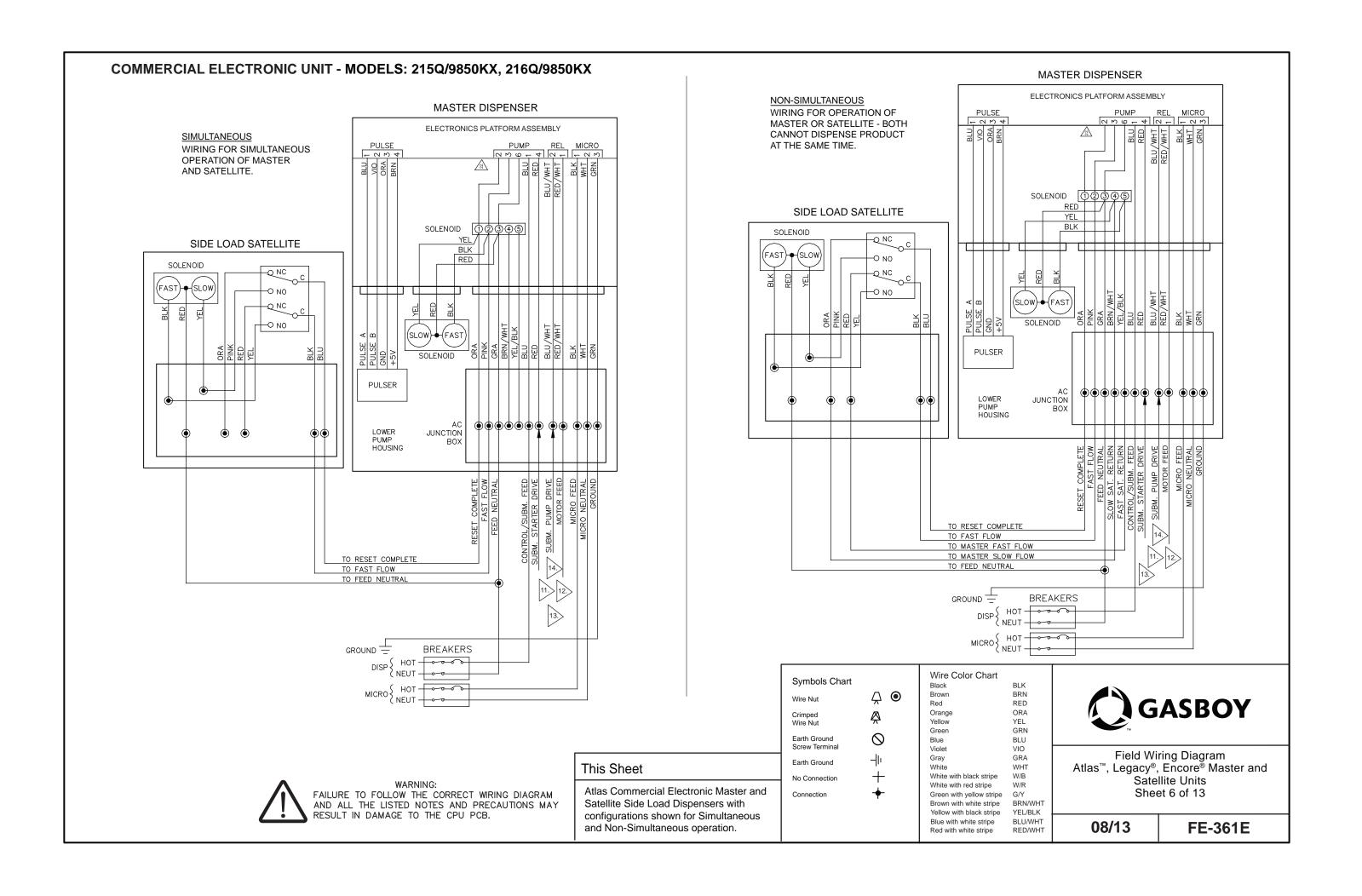
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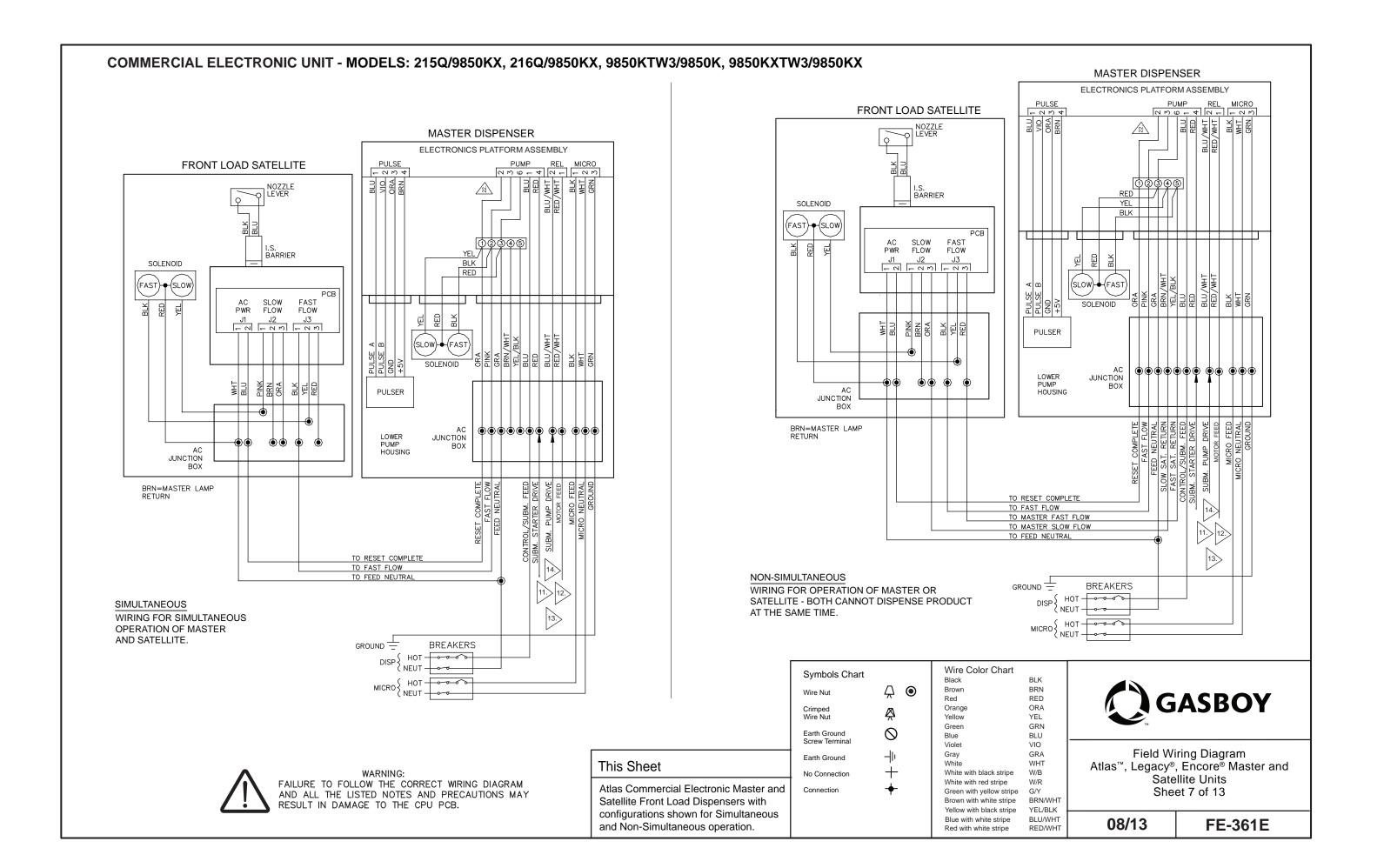








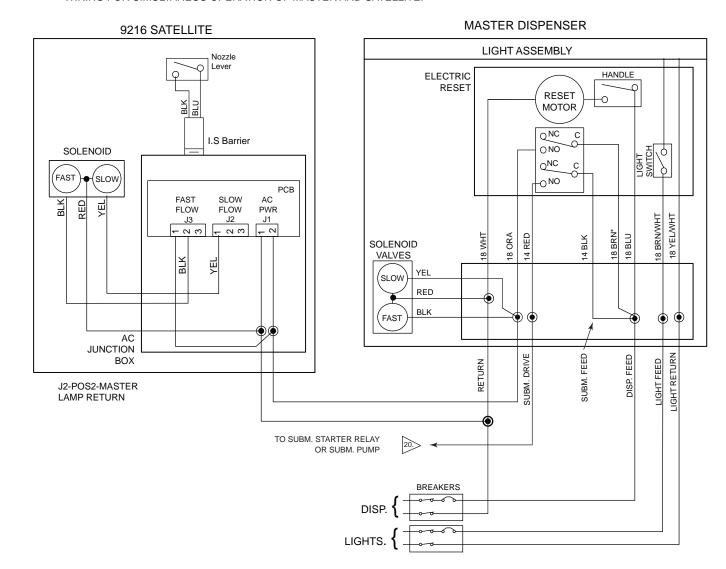




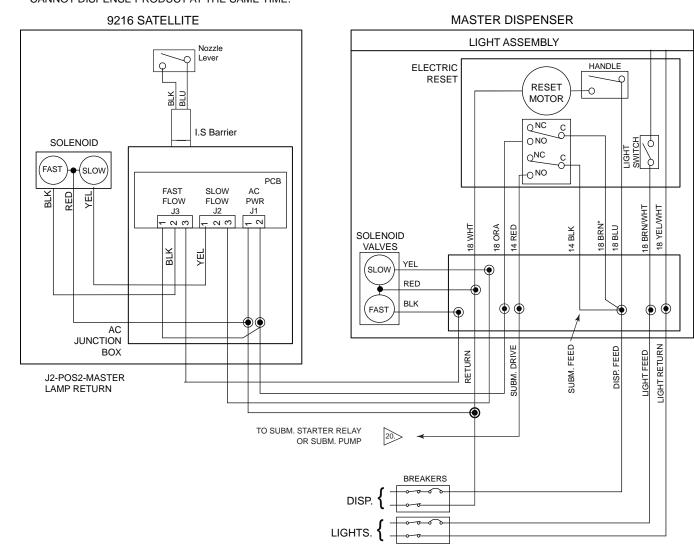
MECHANICAL UNIT - MODELS: 9216K/9152KX, 9153KX, 9140KX 9216K/8752KX, 8753KX

SIMULTANEOUS

WIRING FOR SIMULTANEUS OPERATION OF MASTER AND SATELLITE.



WIRING FOR OPERATION OF MASTER AND SATELLITE, BOTH CANNOT DISPENSE PRODUCT AT THE SAME TIME.



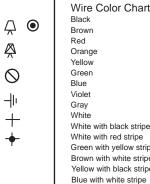
*Note: On some models the brown wire was previously gray.



WARNING: DO NOT USE THESE DIAGRAMS TO WIRE A 9800 UNIT, DOING SO WILL DAMAGE THE CPU PCB.

This Sheet

Atlas Mechanical Master and 9216 Satellite Dispensers with configurations shown for Simultaneous and Non-Simultaneous operation.



Symbols Chart

Crimped

Earth Ground

Earth Ground

No Connection

Wire Color Chart BLK BRN RED ORA Orange YEL GRN BLU VIO GRA WHT White with black stripe W/B White with red stripe W/R Green with yellow stripe G/Y Brown with white stripe BRN/WHT Yellow with black stripe YEL/BLK BLU/WHT

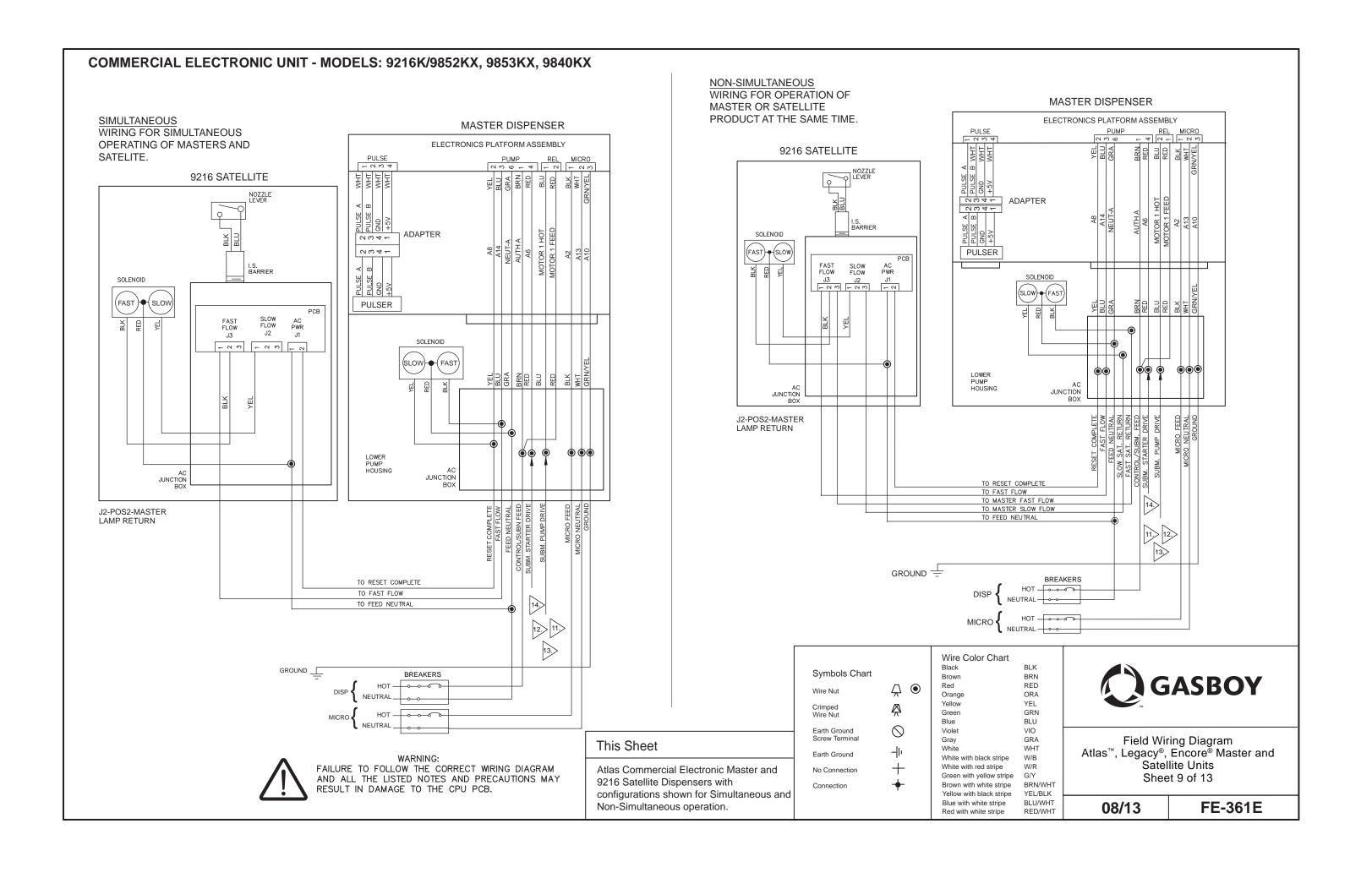
RED/WHT

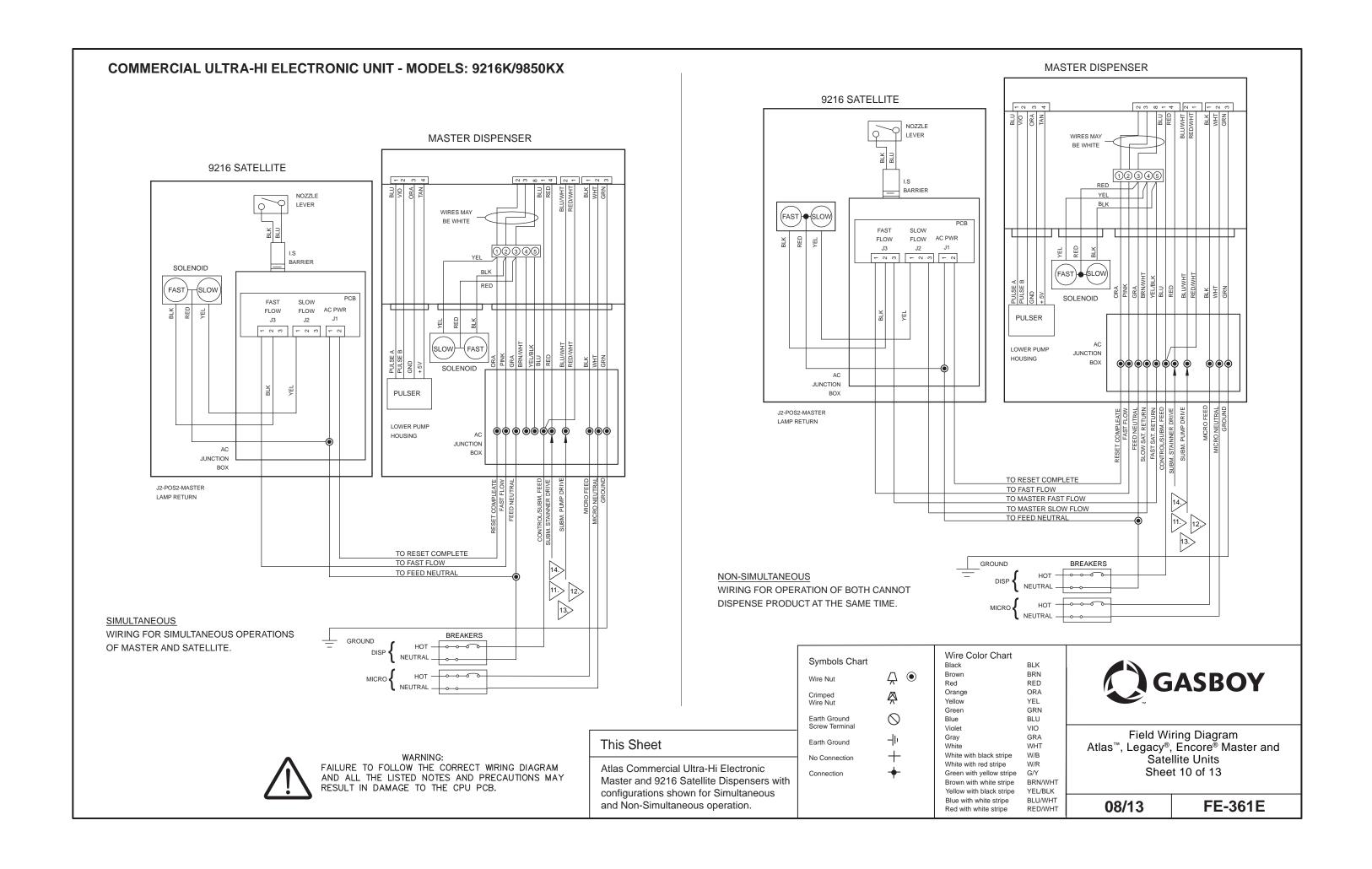
Red with white stripe



Field Wiring Diagram Atlas[™], Legacy[®], Encore[®] Master and Satellite Units Sheet 8 of 13

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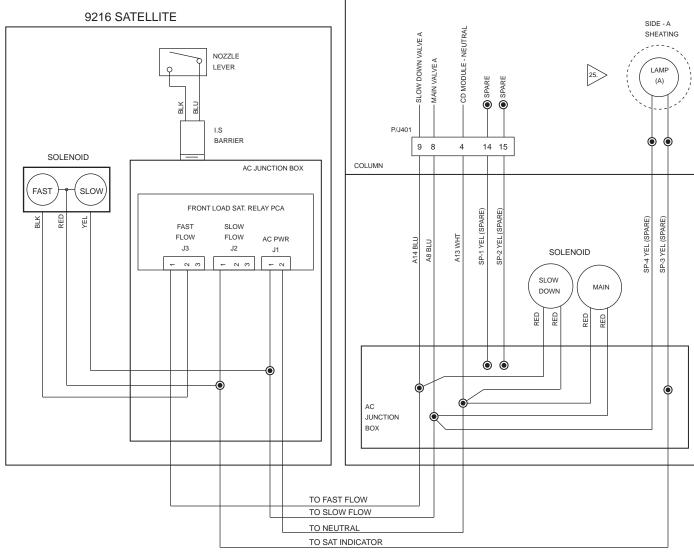




LEGACY HI FLOW AND ULTRA-HI FLOW (BEFORE JUNE 1996)

SIMULTANEOUS WIRING FOR SIMULTANEOUS OPERATION OF MASTER AND SATELLITE.

> LEGACY HI-FLOW OR ULTRA-HI FLOW DISPENSER (MASTER/COMBO)



Note: This diagram shows Master/Satellite wring only. Dispensers must be installed according to manufacturer's specifications. Side B valves are wired the same as Side A valves (use B8 and B14).

This Sheet

Legacy Hi Flow and Ultra-Hi Flow Master and 9216 Satellite Dispensers (before June 1996) with configurations shown for Simultaneous and Non-Simultaneous operation.

NON-SIMULTANEOUS

WIRING FOR NON-SIMULTANEOUS OPERATION OF MASTER AND SATELLITE, BOTH CANNOT DISPENSE PRODUCT AT THE SAME TIME. SATELLITE PUMP HANDLE DETERMINES WHICH UNIT CAN DISPENSE FUEL.

Symbols Chart

Wire Nut

Crimped Wire Nut

Earth Ground

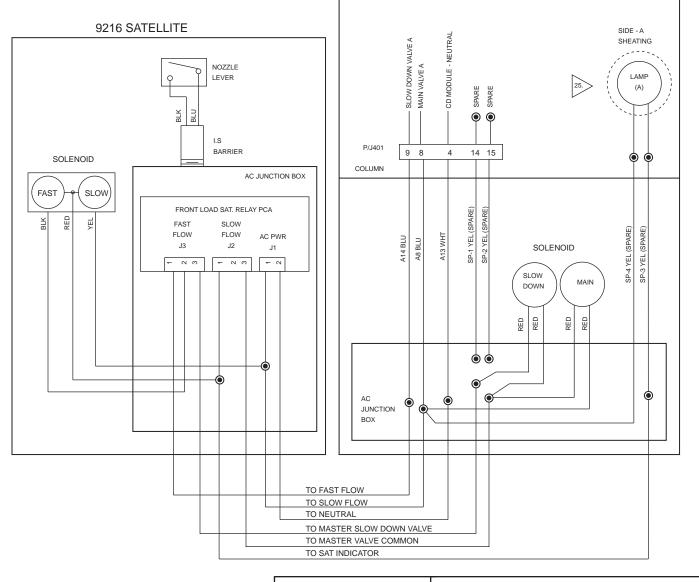
Screw Terminal

Earth Ground

No Connection

Connection

LEGACY HI-FLOW OR ULTRA-HI FLOW DISPENSER (MASTER/COMBO)



Wire Color Chart BRN Brown Orange \triangle Yellow YEL Green GRN \triangle Blue BLU Violet VIO GRA Grav 0 White WHT White with black stripe W/B White with red stripe W/R G/Y Green with yellow stripe BRN/WHT Brown with white stripe YEL/BLK Yellow with black stripe Blue with white stripe BLU/WHT

Red with white stripe

RED

RED/WHT

GASBOY

Field Wiring Diagram Atlas™, Legacy®, Encore® Master and Satellite Units Sheet 11 of 13

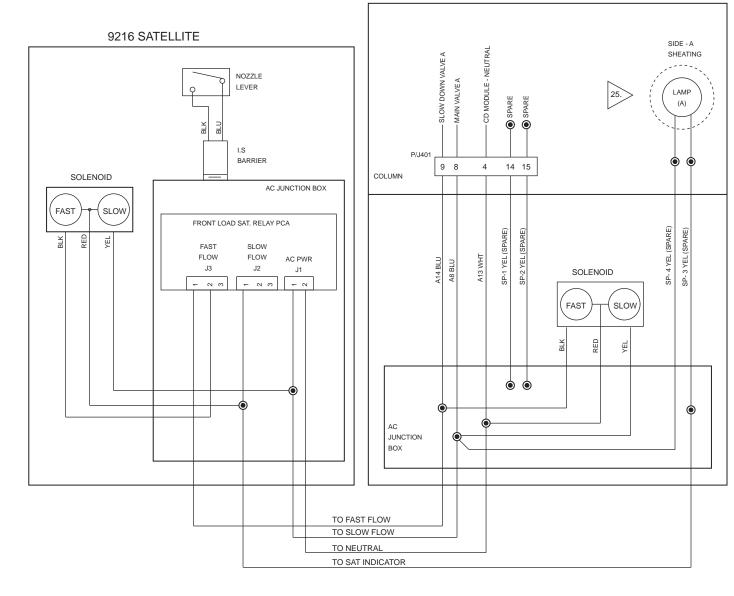
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LEGACY HI FLOW AND ULTRA-HI FLOW (AFTER JUNE 1996)

SIMULTANEOUS

WIRING FOR SIMULTANEOUS OPERATION OF MASTER AND SATELLITE.

LEGACY HI-FLOW OR ULTRA-HI FLOW DISPENSER (MASTER/COMBO)



Note: This diagram shows Master/Satellite wring only.

Dispensers must be installed according to manufacturer's specifications.

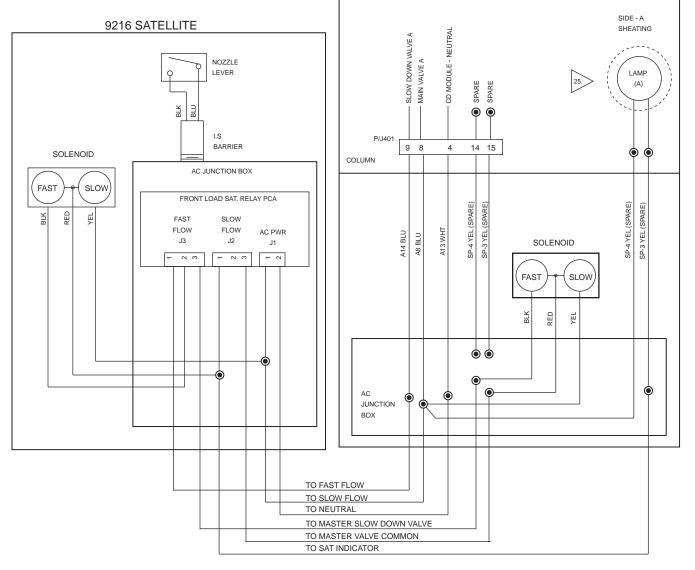
Side B valves are wired the same as Side A valves (use B8 and B14).

NON-SIMULTANEOUS

WIRING FOR NON-SIMULTANEOUS OPERATION OF MASTER AND SATELLITE, BOTH CANNOT DISPENSE PRODUCT AT THE SAME TIME. SATELLITE PUMP HANDLE DETERMINES WHICH UNIT CAN DISPENSE FUEL.

(MASTER/COMBO)

LEGACY HI-FLOW OR ULTRA-HI FLOW DISPENSER



Symbols Chart

Wire Nut

Crimped
Wire Nut

Earth Ground
Screw Terminal

Earth Ground
No Connection

Connection

Wire Color Chart BLK BRN Brown Red RFD Orange ORA Yellow YEL Green GRN Blue BLU Violet VIO GRA White WHT White with black stripe W/B White with red stripe W/R Green with yellow stripe G/Y Brown with white stripe BRN/WHT Yellow with black stripe YEL/BLK

RED/WHT

Blue with white stripe

Red with white stripe



Field Wiring Diagram
Atlas™, Legacy®, Encore® Master and
Satellite Units
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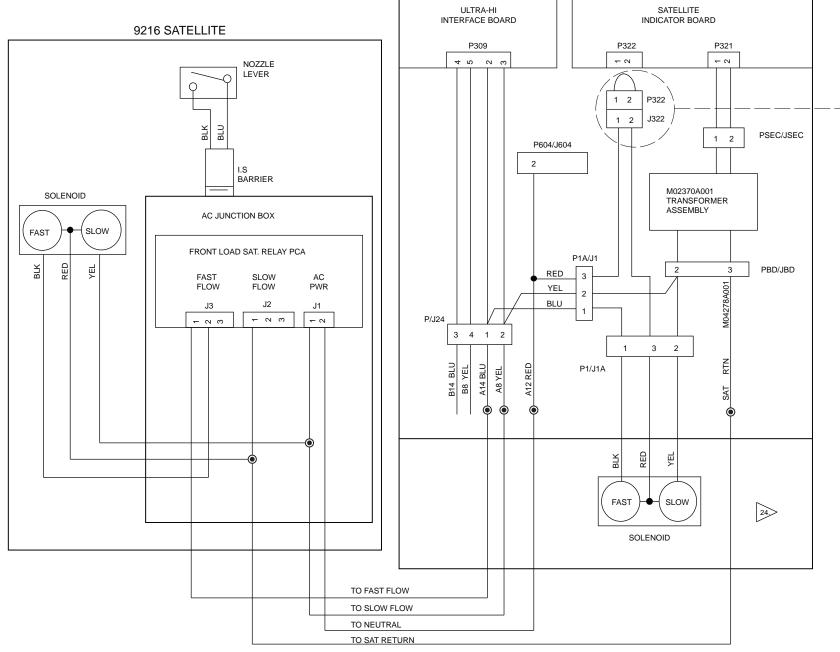
This Sheet

Legacy Hi Flow and Ultra-Hi Flow Master and 9216 Satellite Dispensers (after June 1996) with configurations shown for Simultaneous and Non-Simultaneous operation.

ENCORE 500/700 ULTRA-HI (M07555 POWER SUPPLY ONLY) ENCORE 300 ULTRA-HI

SIMULTANEOUS WIRING FOR SIMULTAEOUS OPERATION OF MASTER AND SATELLITE.

NON-SIMULTANEOUS
WIRING FOR NON-SIMULTAEOUS
OPERATION OF MASTER AND
STAELLITE, BOTH CANNOT
DISPENSE PRODUCT AT THE
SAME TIME. SATELLITE PUMP
HANDLE DETERMINES WHICH
UNIT CAN DISPENSE FUEL.



FOR SIMULTANEOUS OPERATION, LEAVE JUMPER/CONNECTOR P322 INSTALLED.

FOR NON-SIMULTANEOUS OPERATION, REMOVE P322 JUMPER/CONNECTOR AND CONNECT J322 ON M04218A001 CABLE TO P322 ON SATELLITE INDICATOR PCA M04570A011/M02652A011.

Notes: This diagram shows Master/Satellite wring only.

Dispensers must be installed according to Manufacturer's specifications.

Satellite Indicator PCA (M02297A001/Assembly M02652A009) will not support NON-SIMULTANEOUS operation.

Wiring is same for PCA (M04202A001/Assembly M02652A010).

This Sheet

9216 Satellite signal wiring details for Encore Master with Atlas Satellite.

ENCORE ULTRA-HI DISPENSER (MASTER)

Wire Color Chart BLK Brown BRN RFD Orange ORA Yellow YEL Green GRN Blue BLU Violet VIO GRA White WHT White with black stripe W/B White with red stripe W/R Green with yellow stripe Brown with white stripe BRN/WHT Yellow with black stripe YEL/BLK BLU/WHT Blue with white stripe

Red with white stripe



Field Wiring Diagram
Atlas™, Legacy®, Encore® Master and
Satellite Units
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