Installation, Operation and Maintenance Instructions

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SAFETY CONSIDERATIONS

Installing and servicing air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install and service air-conditioning equipment. See Fig. 1 for Proposition 65 warning label. To assist in installation see Table 1 for conversion factors.

Untrained personnel can perform basic maintenance such as cleaning and replacing filters. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe safety precautions in literature and on tags and labels attached to the unit.

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

The equipment has been designed and manufactured to meet international safety standards but, like any mechanical/electrical equipment, care must be taken to obtain the best results.

Service and maintenance of this equipment should only be carried out by skilled personnel.

When working with any air-conditioning unit, ensure that the electrical disconnect supplying the unit is switched off prior to servicing or repair work and that there is no power to any part of the equipment.

Also ensure that there are no other power feeds to the unit such as fire alarm circuits, building management system (BMS) circuits, etc.

Electrical installation, start-up and maintenance work on this equipment should be undertaken by competent and trained personnel in accordance with local relevant standards and codes of practice.

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death, and could cause exposure to substances which have been determined by various state agencies to cause cancer, birth defects or other reproductive harm. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

⚠ AVERTISSEMENT

Une installation, un réglage, une altération, une réparation ou une maintenance impropre risque de causer des dommages, des blessures ou la mort, et d'engendrer une exposition à des substances dont certains États ont déterminé qu'elles étaient cancérogènes ou pouvaient causer des malformations à la naissance et des problèmes de reproduction. Lisez bien les instructions d'installation, d'utilisation et de maintenance avant d'installer ou de réparer cet appareil.

IMPORTANT: The use of this manual is specifically intended for a qualified installation and service agency. A qualified installation and service agency must perform all installation and service of these appliances.

IMPORTANT: Ce manuel est spécifiquement destiné au personnel d'une entreprise qualifiée d'installation et d'entretien. Toutes les opérations d'installation et d'entretien doivent être confiées à une entreprise qualifiée.

IMPORTANT:

- This appliance is not intended to be operated or serviced by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.

IMPORTANT:

- Cet appareil n'est pas conçu pour être utilisé ou entretenu par des personnes (y compris des enfants) dont les capacités physiques, sensorielles ou mentales sont réduites, ou qui n'ont pas l'expérience et les connaissances suffisantes, à moins d'être supervisées ou d'avoir obtenu des directives concernant l'utilisation de l'appareil par une personne responsable de leur sécurité.
- Les enfants doivent être supervisés pour s'assurer qu'ils ne jouent pas avec l'appareil.

SPECIAL PRECAUTIONS

Special Precautions

The installation and maintenance instructions in this manual must be followed to provide safe, efficient, and trouble-free operation. In addition, particular care must be exercised regarding the special precautions listed below. Failure to properly address these critical areas could result in property damage or loss, personal injury, or death. These instructions are subject to any more restrictive local or national codes.

Précautions Particulières

Les instructions d'installation et d'entretien de ce manuel doivent être observées pour assurer un fonctionnement sécuritaire, efficace et fiable. De plus, les précautions particulières ciaprès doivent être rigoureusement respectées. Sinon, il y aurait risque de dégâts matériels ou de perte, de blessure personnelle ou de mort d'homme. Ces instructions sont sujettes à toute disposition plus restrictive des codes provincial ou national.

Hazard Intensity Levels

DANGER: Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

WARNING: Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

CAUTION: Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.

IMPORTANT: Indicates a situation which, if not avoided, MAY result in a potential safety concern.

Hiérarchie Des Niveaux De Risques

DANGER: Indique un danger imminent qui, s'il n'est pas évité, entraînera INÉVITABLEMENT des blessures graves, voire mortelles.

AVERTISSEMENT: Indique un danger potentiel qui, s'il n'est pas évité, RISQUE d'entraîner des blessures graves, voire mortelles.

ATTENTION: Indique un danger potentiel qui, s'il n'est pas évité, PEUT entraîner des blessures mineures ou modérées.

IMPORTANT: Indique une situation qui, si elle se matérialise, PEUT entraîner des risques pour la sécurité des personnes.

⚠ DANGER

Appliances must not be installed where they may be exposed to potentially explosive or flammable atmosphere.

⚠ DANGER

Les appareils ne doivent pas être installés à un endroit où ils risquent d'être exposés à une atmosphère potentiellement explosive ou inflammable.

⚠ WARNING

- Disconnect power supply before making wiring connections or working on this equipment. Follow all applicable safety procedures to prevent accidental power up. Failure to do so can result in injury or death from electrical shock or moving parts and may cause equipment damage.
- All appliances must be wired strictly in accordance with the wiring diagram furnished with the appliance. Any wiring different from the wiring diagram could result in a hazard to persons and property.
- Any original factory wiring that requires replacement must be replaced with wiring material having a temperature rating of at least 221°F (105°C).
- Ensure that the supply voltage to the appliance, as indicated on the serial plate, is not 5% greater than rated voltage.
- When servicing or repairing this equipment, use only factory-approved service replacement parts. Refer to the rating plate on the appliance for complete appliance model number, serial number, and company address. Any substitution of parts or controls not approved by the factory will be at the owner's risk.

⚠ AVERTISSEMENT

- Débranchez l'alimentation électrique avant d'effectuer des connexions ou de travailler sur l'appareil. Respectez toutes les procédures de sécurité qui s'appliquent pour éviter toute mise en marche accidentelle. Le non-respect de cette directive peut entraîner des blessures ou la mort causées par un choc électrique ou des pièces mobiles, en plus d'endommager l'appareil.
- Tous les appareils doivent être branchés de manière strictement conforme au diagramme fourni. Tout câblage différent de celui du schéma peut créer des risques de dommages matériels ou de blessures.
- Tout câblage usine d'origine exigeant un remplacement doit être remplacé par un câble d'indice thermique nominal de 221°F (105 °C).
- Assurez-vous que la tension d'alimentation de l'appareil, comme indiqué sur la plaque de série, n'est pas de 5% supérieure à la tension nominale.
- Pour l'entretien et les réparations de cet appareil, utilisez uniquement des pièces d'origine certifiées. Le numéro de modèle complet, le numéro de série et l'adresse du fabricant figurent sur la plaque signalétique fixée à l'appareil. Toute substitution de pièce ou decommande non approuvée par le fabricant sera aux risques du propriétaire.

⚠ CAUTION

- Units not approved for use in potable water systems.
- Hot water supplied to the hot water heating option must not exceed 200ºF (93°C) temperature or 125 PSIG (862 kPa) pressure.
- Ensure that the supply voltage to the appliance, as indicated on the serial plate, is not 5% less than the rated voltage.
- In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.
- Do not attempt to reuse any mechanical or electrical component which has been wet. Such component must be replaced.
- When servicing the unit, some components may be hot enough to cause pain or injury. Allow time for cooling of hot components before servicing.

⚠ ATTENTION

- Ces unités ne sont pas approuvées pour l'usage dans des systèmes à eau potable.
- La température de l'eau chaude alimentée en vertu de l'option de chauffage de l'eau chaude ne doit pas dépasser 200°F (93°C) ou une pression de 125 lb/po² (862 kPa).
- Vérifiez que la tension d'alimentation de l'appareil n'est pas inférieure de plus de 5% à la tension nominale inscrite sur la plaque de série.
- Afin d'éviter tout danger causé par la réinitialisation involontaire du coupe-circuit thermique, cet appareil ne doit pas être alimenté par l'entremise d'un dispositif de commutation externe, comme une minuterie, ou relié à un circuit qui est régulièrement mis en marche et coupé par le service public.
- Ne tentez pas de réutiliser un composant mécanique ou électrique qui a été mouillé. Ces composants doivent être remplacés.
- Durant l'entretien de l'unité, certains composants peuvent être assez chauds pour causer de la douleur ou une blessure. Laissez les composants chauds se refroidir avant de procéder à tout entretien.

IMPORTANT:

- Unit performance will be significantly reduced at or above 7215 ft (2200 m) and should not be operated above this altitude.
- For ceiling mounted units, check that the ceiling is capable of supporting the weight of the unit. If used within a ceiling grid, the ceiling grid is to be supported separately from the unit.
- No water-flow can cause a freeze condition resulting in damage to the coil.
- Never leave the unit filled with water in a building without heat unless antifreeze has been added.
- Start up and adjustment procedures, installation, and service of these appliances must be performed by a qualified installation and service agency.
- To check most of the Possible Remedies in the Troubleshooting guide, refer to the applicable sections of the manual.

IMPORTANT:

- La performance de l'unité sera grandement réduite à une altitude de 7215 pieds (2200 m) et elle ne doit pas être utilisée au-delà de cette hauteur.
- Pour les unités installées au plafond, vérifiez que le plafond peut soutenir le poids de l'unité. En cas d'utilisation au sein d'un support de plafond, ce dernier doit être soutenu séparément de l'unité.
- L'absence d'écoulement d'eau risque de causer une condition de gel et d'endommager le serpentin.
- Ne laissez jamais l'appareil rempli d'eau dans un immeuble non chauffé sans lui ajouter de l'antigel.
- Les procédures de démarrage et de réglage, l'installation et le service de ces appareils doivent être confiés à un centre d'installation et de service qualifié.
- Pour vérifier la plupart des remèdes possibles dans le guide de dépannage, reportez-vous aux sections applicables du manuel.

⚠ CAUTION

Any original factory wiring that requires replacement must be replaced with wiring material having a temperature rating of at least 105°C.

Ensure that the supply voltage to the appliance, as indicated on the serial plate, is not more than 5% over rated voltage or less than 5% under the rated voltage.

When servicing or repairing of this equipment, use only factory-approved service replacement parts. Refer to the rating plate on the appliance for complete appliance model number, serial number and company address. Any substitution of parts or controls not approved by the factory will be at the owner's risk.

Do not attempt to reuse any mechanical or electrical controllers which have been wet. Replace defective controller.

Units not approved for use in potable water systems.

IMPORTANT: Make sure the ceiling grid is supported separately from the appliance. The ceiling must not be supported by any part of the appliance, fascia or any associated wiring or pipe work.

Start-up and adjustment procedures should be performed by a qualified service agency.

Fig. 1 — Proposition 65 Warning Label

Table 1 — SI (Metric) Conversion Factors

TO CONVERT	MULTIPLY BY	TO OBTAIN
in. wc	0.24	kPa
psig	6.893	kPa
°F	(°F-32) x 0.555	°C
inches	25.4	mm
feet	0.305	meters
cfm	0.028	m^3/min
Btu/ft^3	0.0374	MJ/m^3
pound	0.453	kg
Btu/hr	0.000293	kW
gallons	3.785	liters
psig	27.7	in. wc

INSPECTION

1. Inspect unit upon arrival. In case of damage, report immediately to transportation company and your local factory sales representative.
2. Check rating plate on unit to verify that the power supply meets available electric power at the point of installation.
3. Inspect unit received for conformance with description of product ordered (including specifications where applicable).

GENERAL

The 42WKN ceiling cassette units effectively make each area served an independently controlled temperature zone. Through thermostatic control of operations, conditions can be varied to suit diverse requirements or activities. Optional controls, plus outside and return-air connections, are available to provide for ventilation and recirculation of room air.

The 42WKN hydronic fan coil unit water connections are fixed to the unit body to avoid breaks when the pipes are connected. The upper coil connection is supplied with an air purge valve; the lower connection is supplied with a water purge valve. Minimum entering water temperature for the water circuit is 39°F (3.9°C); maximum is 180°F (82.2°C). If room temperature goes down to 32°F (0°C) or lower, it is advisable to empty the water circuit to avoid the potential for ice breaks.

Refer to Tables 2 and 3 and for unit physical data and Fig. 2-4 for unit dimensional data.

Table 2 — 42WKN Physical Data — English

42WKN UNIT SIZE		08	12	18	36
COOLING CAPACITY					
At Normal High Speed Airflow[a]	**BTU/hr**	7,800	11,200	18,600	34,300
CONSTRUCTION					
Material: Fascia		High Impact Polystyrene (Light Grey color), UL 94 VO Fire Rating			
Material: Chassis		Galvanized Steel			
CHILLED WATER COIL					
Type		Finned Tube			
Quantity		1			
Face Area	**ft²**	1.8		2.8	5.2
Nominal Airflow - H/M/L[b]	**cfm**	330 / 300 / 260	360 / 330 / 300	620 / 540 / 460	1080 / 940 / 740
Discharge		4-Way			
Unit Water Volume	**gal**	0.29		0.45	0.79
Maximum Inlet Water Pressure	**psi**	125			
FAN					
Type		Backward Curved with EC Motor			
Quantity		1			2
Diameter	**in.**	11		14	
Horsepower (per fan)	**hp**	1/10		1/5	
WEIGHTS					
Weight - Chassis with Fascia	**lb**	57	60	93	119
CONNECTIONS					
Chilled Water Inlet (OD)	**in.**	0.625		0.875	
Chilled Water Outlet (OD)	**in.**	0.625		0.875	
Condensate (ID)	**in.**	0.375			
FILTRATION					
Type		Washable Polyester Foam (Standard)			
Size	**in.**	14.5 x 13.5 x 0.2		11.6 x 23.2 x 0.2	
Type		MERV 10 or MERV 13			
Size	**in.**	13.0 x 13.0 x 1.0		12.0 x 25.0 x 1.0	
Quantity		1		2	3
CONDENSATE PUMP					
Maximum Head	**in.**	30			
Nominal Flow-Rate	**gpm**	0.1			
OPTIONS					
Electric Heating Capacity	**kW**	N/A		N/A	N/A
HW Heating Capacity [c]	**BTU/hr**	17,100	N/A	28,000	45,200
HW Coil Connection (OD)	**in.**	0.625	N/A	0.625	0.750
Max Supply Air Branch Duct	**qty**	2			
Supply Air Branch Duct Diameter	**in.**	5			6
Ducted Supply Air Volume [d]	**cfm**	80		125	220
Fresh Air Connections	**qty**	2		6	
Fresh Air Duct Diameter	**in.**	3			
Fresh Air Volume [e]	**cfm**	40		65	95

NOTE(S):

a. Nominal cooling capacity based on 80/67°F (26.7/19.4°C) DB/WB, water temperature of 45ºF (7.2°C) inlet / 55ºF (12.8°C) outlet, 208v/1Ph/60Hz supply voltage, and Standard filters.
b. Nominal airflow based on 208v/1Ph/60Hz supply voltage.
c. Nominal heating capacity based on 70/60°F (21.1/15.6°C) DB/WB, water temperature of 180ºF (82.2°C) inlet / 160ºF (71.1°C) outlet, 208v/1Ph/60Hz supply voltage, and Standard filters.
d. Maximum air volume available through one branch duct 6 ft (1.8 m) long, with Cassette fan(s) at high speed and corresponding fascia aperture closed.
e. Maximum fresh air through all knockouts connected to one 10 ft (3.1 m) long duct with fan at high speed. Fresh air volume will depend on duct configuration, fan speed, and filter type.

LEGEND

DB/WB — Dry Bulb / Wet Bulb
ID — Inside Diameter
OD — Outside Diameter

Table 3 — 42WKN Physical Data — SI

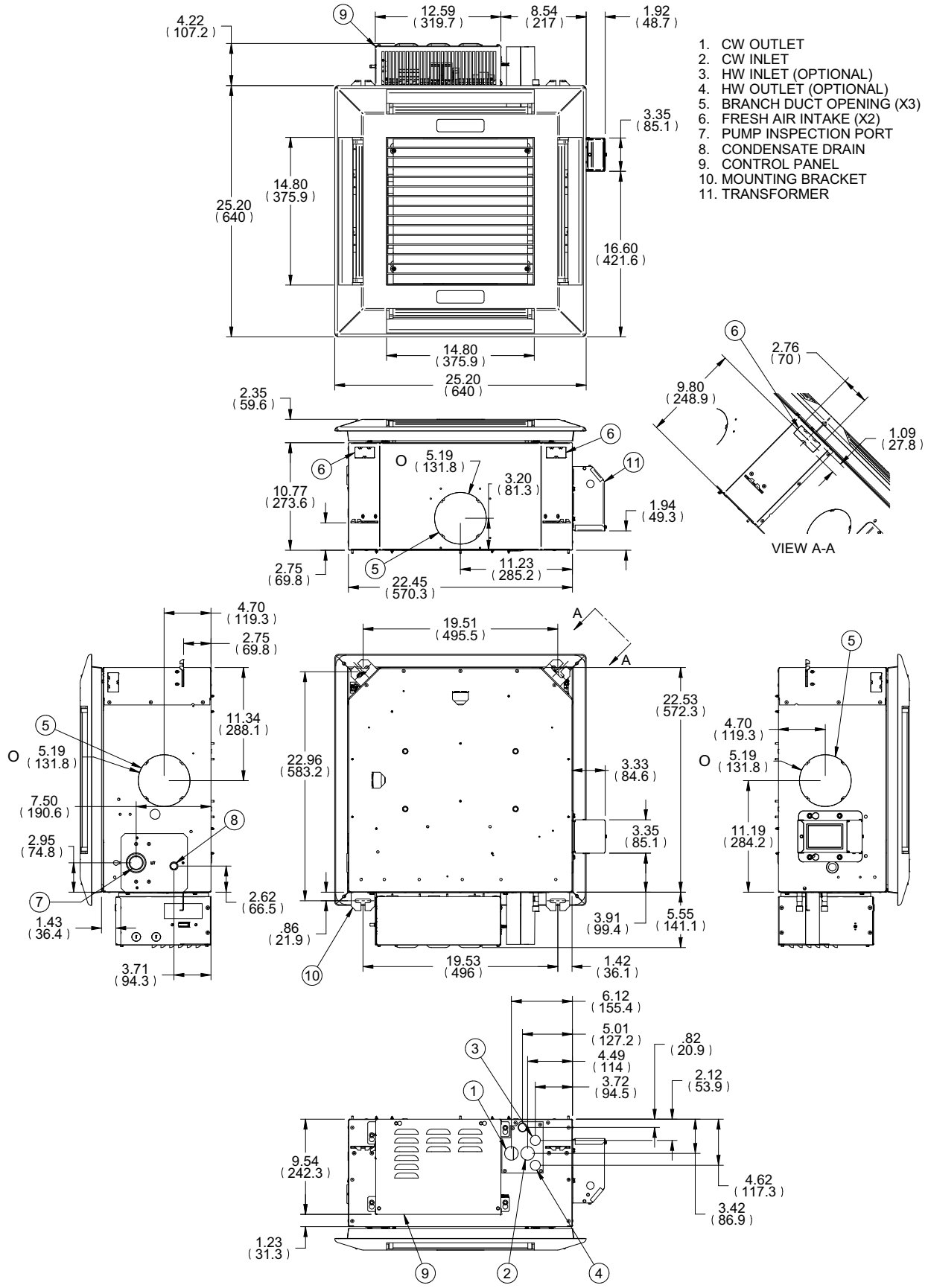
42WKN UNIT SIZE		08	12	18	36
COOLING CAPACITY					
At Normal High Speed Airflow[a]	**kW**	2.3	3.3	5.5	10.1
CONSTRUCTION					
Material: Fascia		High Impact Polystyrene (Light Grey color), UL 94 VO Fire Rating			
Material: Chassis		Galvanized Steel			
CHILLED WATER COIL					
Type		Finned Tube			
Quantity		1			
Face Area	**m²**	0.17		0.26	0.48
Nominal Airflow - H/M/L [b]	**m³/min**	9.3 / 8.5 / 7.4	10.2 / 9.3 / 8.5	17.6 / 15.3 / 13.0	30.6 / 26.6 / 21.0
Discharge		4-Way			
Unit Water Volume	**L**	1.1		1.7	3.0
Maximum Inlet Water Pressure	**Pa**	861,845			
FAN					
Type		Backward Curved with EC Motor			
Quantity		1		2	
Diameter	**cm**	28.0		35.5	
Horsepower (per fan)	**W**	74.6		149.1	
WEIGHTS					
Weight - Chassis with Fascia	**kg**	25.9	27.2	42.2	54.0
CONNECTIONS					
Chilled Water Inlet (OD)	**cm**	1.6		2.2	
Chilled Water Outlet (OD)	**cm**	1.6		2.2	
Condensate (ID)	**cm**	0.95			
FILTRATION					
Type		Washable Polyester Foam (Standard)			
Size	**cm**	36.8 x 34.2 x 0.5		29.5 x 58.9 x 0.5	
Type		MERV 10 or MERV 13			
Size	**cm**	33.0 x 33.0 x 2.5		30.5 x 63.5 x 2.5	
Quantity		1		2	3
CONDENSATE PUMP					
Maximum Head	**cm**	76.2			
Nominal Flow-Rate	**l/m**	0.38			
OPTIONS					
Electric Heating Capacity	**kW**	N/A		N/A	N/A
HW Heating Capacity[c]	**kW**	5.0	N/A	8.2	13.2
HW Coil Connection (OD)	**cm**	1.6	N/A	1.6	1.9
Max Supply Air Branch Duct	**qty**	2			
Supply Air Branch Duct Diameter	**cm**	12.7			15.2
Ducted Supply Air Volume[d]	**m³/min**	2.3		3.5	6.2
Fresh Air Connections	**qty**	2		3	
Fresh Air Duct Diameter	**cm**	7.6			
Fresh Air Volume [e]	**m³/min**	1.1		1.8	2.7

NOTE(S):

a. Nominal cooling capacity based on 80/67°F (26.7/19.4°C) DB/WB, water temperature of 45ºF (7.2°C) inlet / 55ºF (12.8°C) outlet, 208v/1Ph/60Hz supply voltage, and Standard filters.
b. Nominal airflow based on 208v/1Ph/60Hz supply voltage.
c. Nominal heating capacity based on 70/60°F (21.1/15.6°C) DB/WB, water temperature of 180ºF (82.2°C) inlet / 160ºF (71.1°C) outlet, 208v/1Ph/60Hz supply voltage, and Standard filters.
d. Maximum air volume available through one branch duct 6 ft (1.8 m) long, with Cassette fan(s) at high speed and corresponding fascia aperture closed.
e. Maximum fresh air through all knockouts connected to one 10 ft (3.1 m) long duct with fan at high speed. Fresh air volume will depend on duct configuration, fan speed, and filter type.

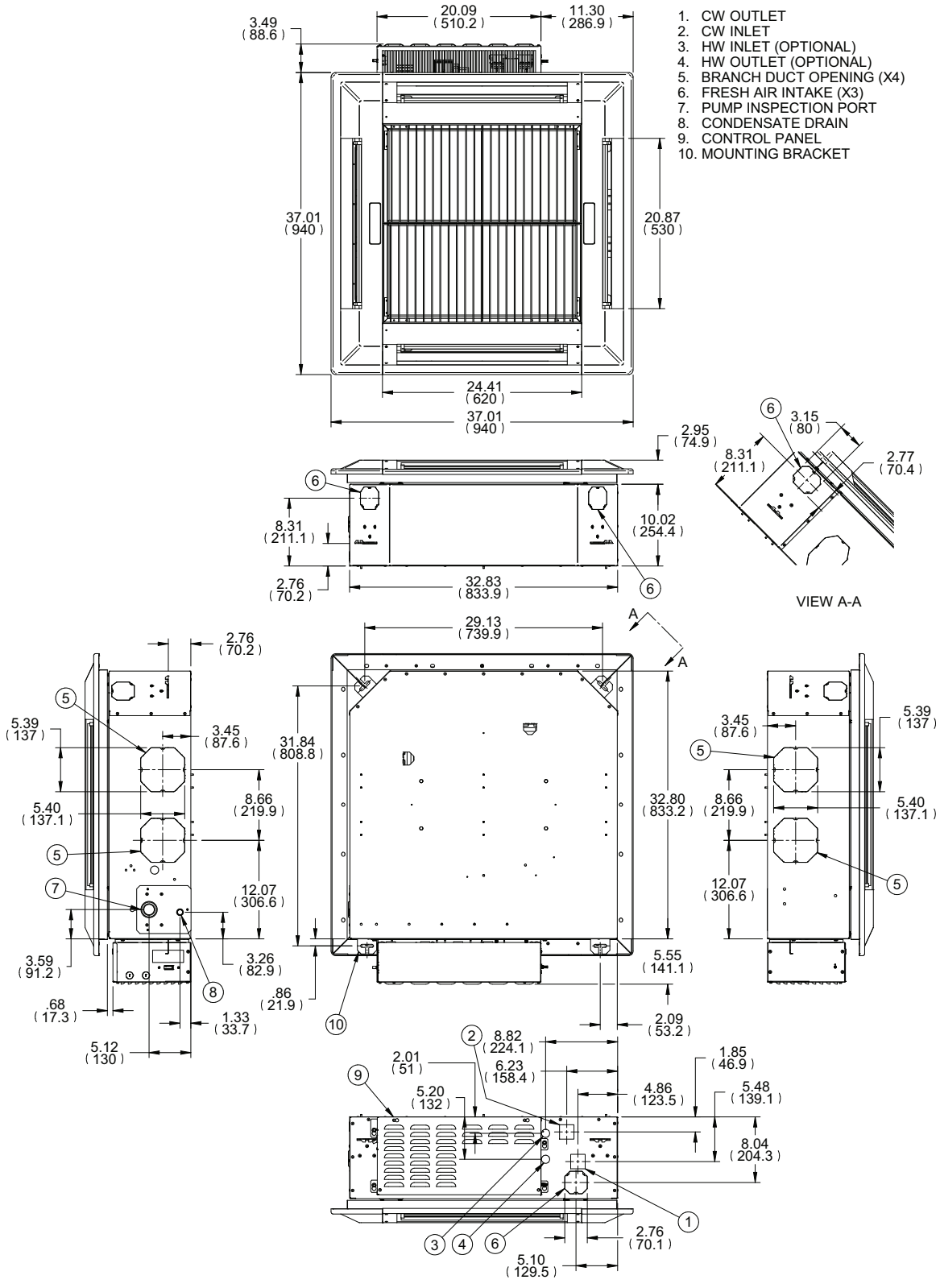
LEGEND

DB/WB — Dry Bulb / Wet Bulb
ID — Inside Diameter
OD — Outside Diameter



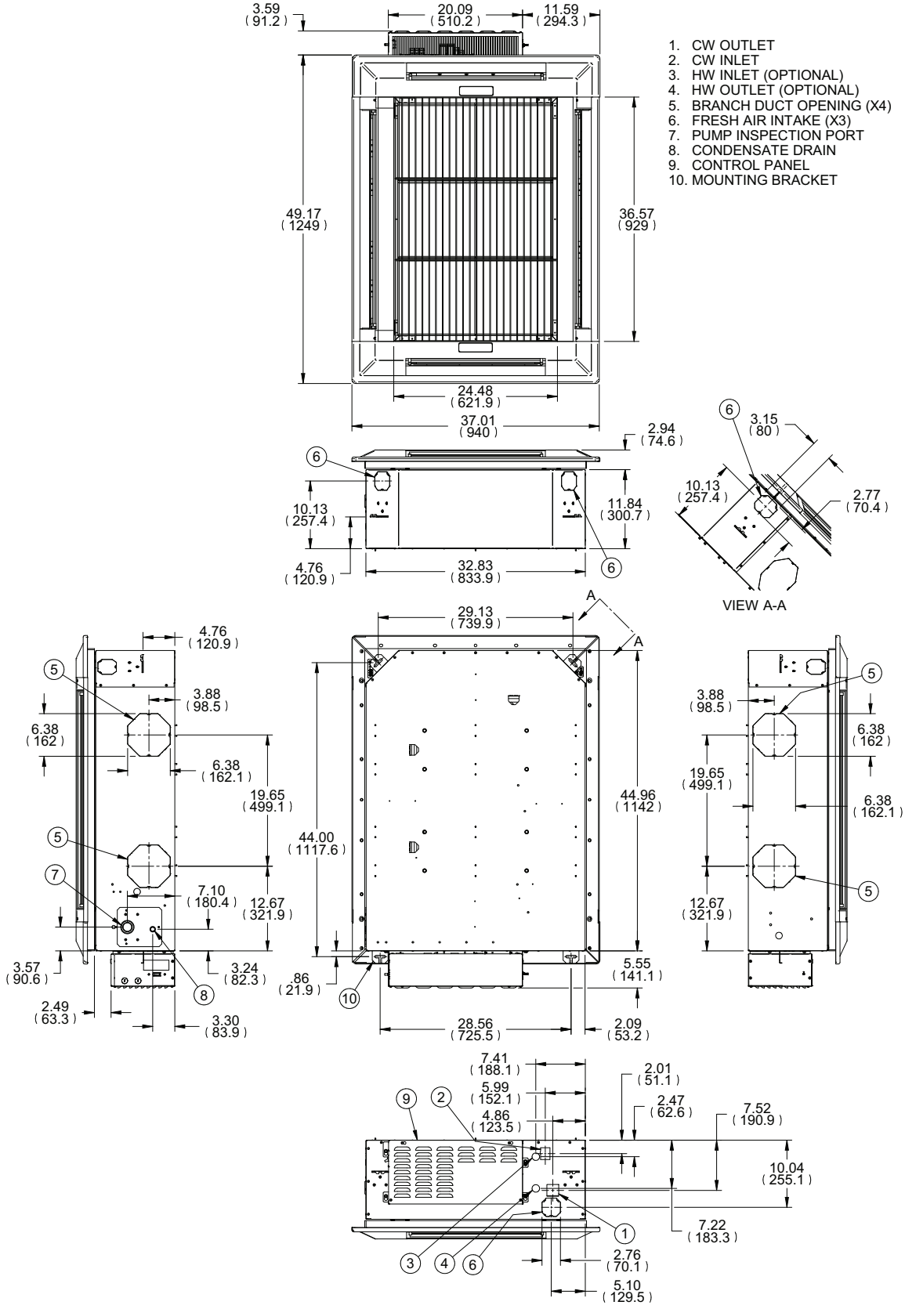
NOTE: Dimensions shown are inches (mm)

Fig. 2 — 42WKN08 and 42WKN12 Unit Dimensions



NOTE: Dimensions show are inches (mm).

Fig. 3 — 42WKN18 Unit Dimensions (Medium Chassis)



NOTE: Dimensions show are inches (mm).

Fig. 4 — 42WKN36 Unit Dimensions (Large Chassis)

CONTROLS DESCRIPTION

Microprocessor Control Board

The PCB (printed circuit board) control board relays control the operation of the indoor-fan motor, outdoor-fan motor, compressor and electric heater (if fitted), to maintain room conditions at a user-defined set point. Temperature settings, fan speeds and other control functions can be changed by the infrared (IR) transmitter or optional pendant. The controller PCB provides the following input/output facilities:

Inputs

- T1 Return Air Temperature Sensor: 50K at 77°F (25°C)
- T2 Changeover Temperature Sensor: 50K at 77°F (25°C)

Outputs

INDOOR FAN MOTOR

The controller will change the 3-10 VDC control signal to deliver the selected indoor fan speed.

CONDENSATE PUMP

The condensate pump will activate when unit is in cooling mode.

ELECTRIC HEAT

A 30 amp, 230-vac resistive rated relay switches the electric heater on when required.

External Connections

- Power input - Nominal 230-vac, 50/60 Hz
- Network connection - Twisted pair shielded cable

Refer to Fig. 5-34 for typical 42WKN unit wiring diagrams.

Controller

Before using the infrared transmitters, please read this handbook fully and ensure the batteries (supplied loose) are fitted into the IR transmitter.

A microprocessor mounted in a metal control box enclosure is used to control the entire unit operating functions with adjustments and settings being made from a hand-held IR transmitter or optional touchscreen thermostat.

The controls include the following basic components:

- PCB control board
- Infrared transmitter or optional touchscreen thermostat
- Infrared receiver (fascia)

See Fig. 35 on page 41 for controller button and icon information.

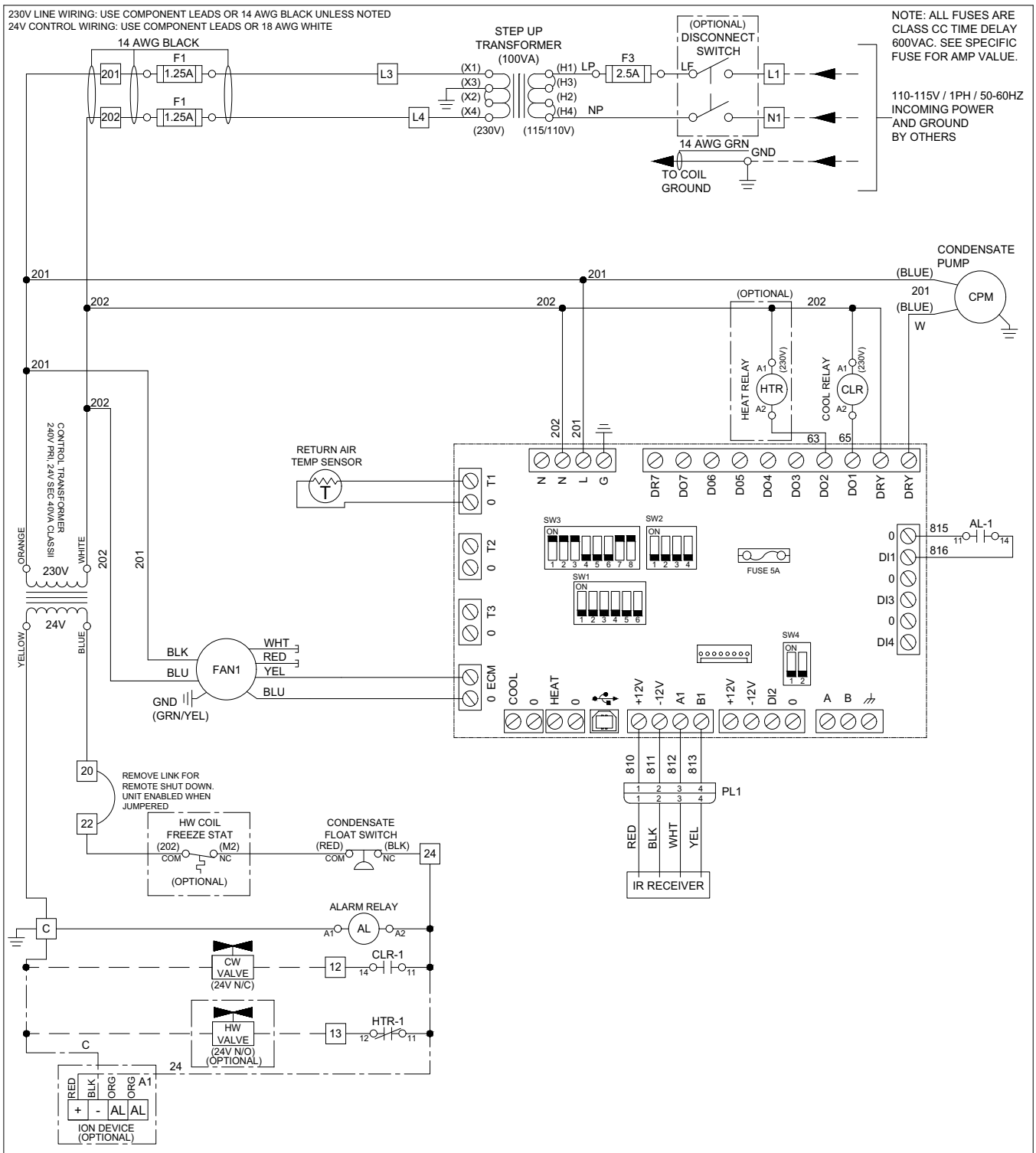
Infrared Receiver

The IR receiver (see Fig. 36 on page 41) is an extension of the control board and is located on the fascia of the unit, connected by a 7-pin plug and socket.

The green on/off indicator will be illuminated when the unit is running.

Receiver Indicators

See Fig. 36 on page 41 and “Operation” on page 62 for an explanation of receiver indicators.



WARNING

1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.

IMPORTANT

INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.

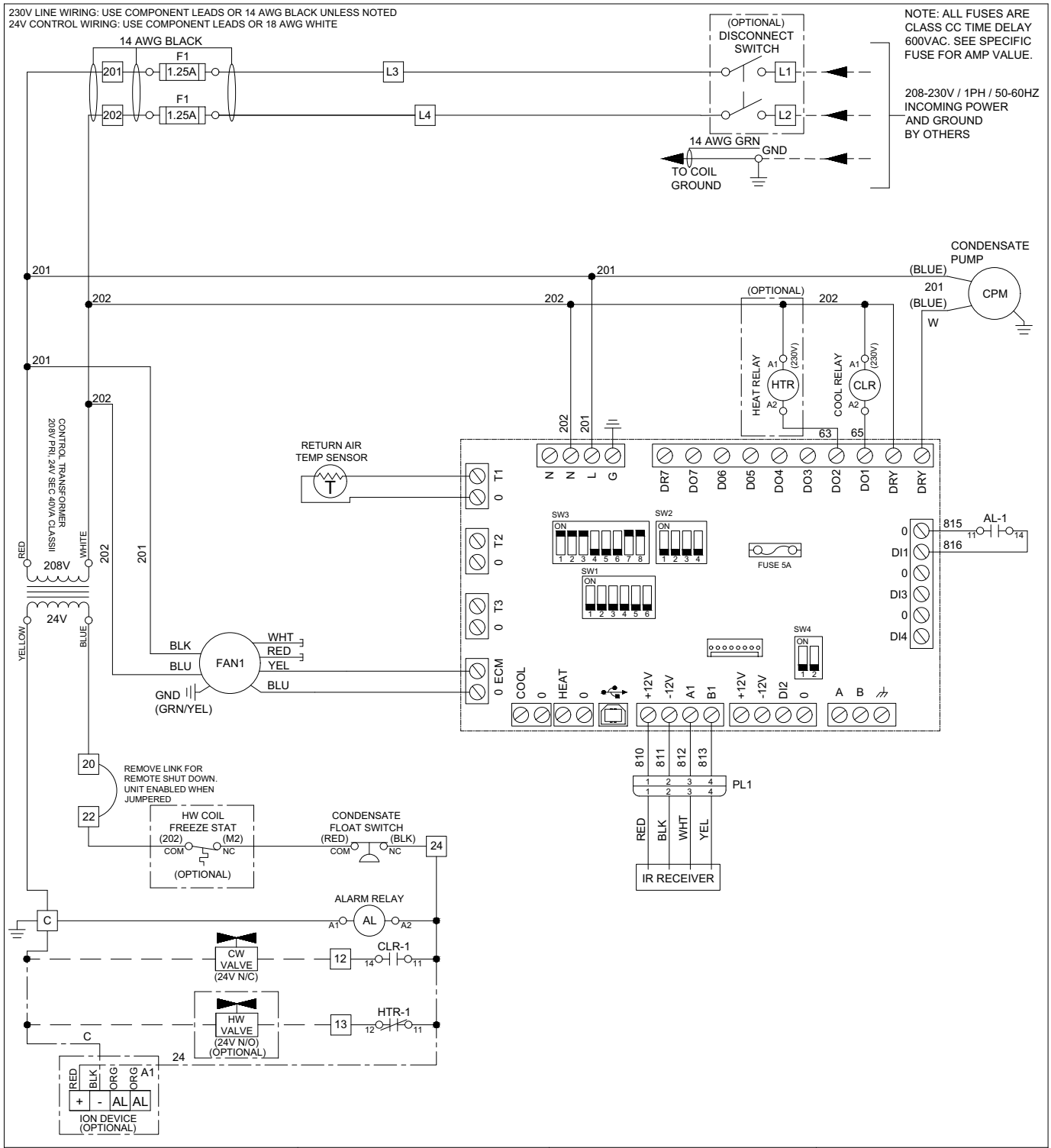
WIRING LEGEND

- FACTORY INSTALLED
- FIELD INSTALLED
- TERMINAL BLOCK
- COMPONENT TERMINAL
- CONNECTED PATH
- OPTIONAL COMPONENT
- PLUG AND SOCKET

CHILLED WATER 2 POSITION SMALL CASSETTE MICROPROCESSOR CONTROLS WITH OPTIONAL HOT WATER

WIRING DIAGRAM	REV
5H1065711201	-

Fig. 5 — 42WKN Unit 2-Pipe Cooling Only or 4-Pipe System with Microprocessor Control Wiring Diagram, 115-v, Sizes 08 and 12 (for reference only)



WARNING

1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.

IMPORTANT

INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.

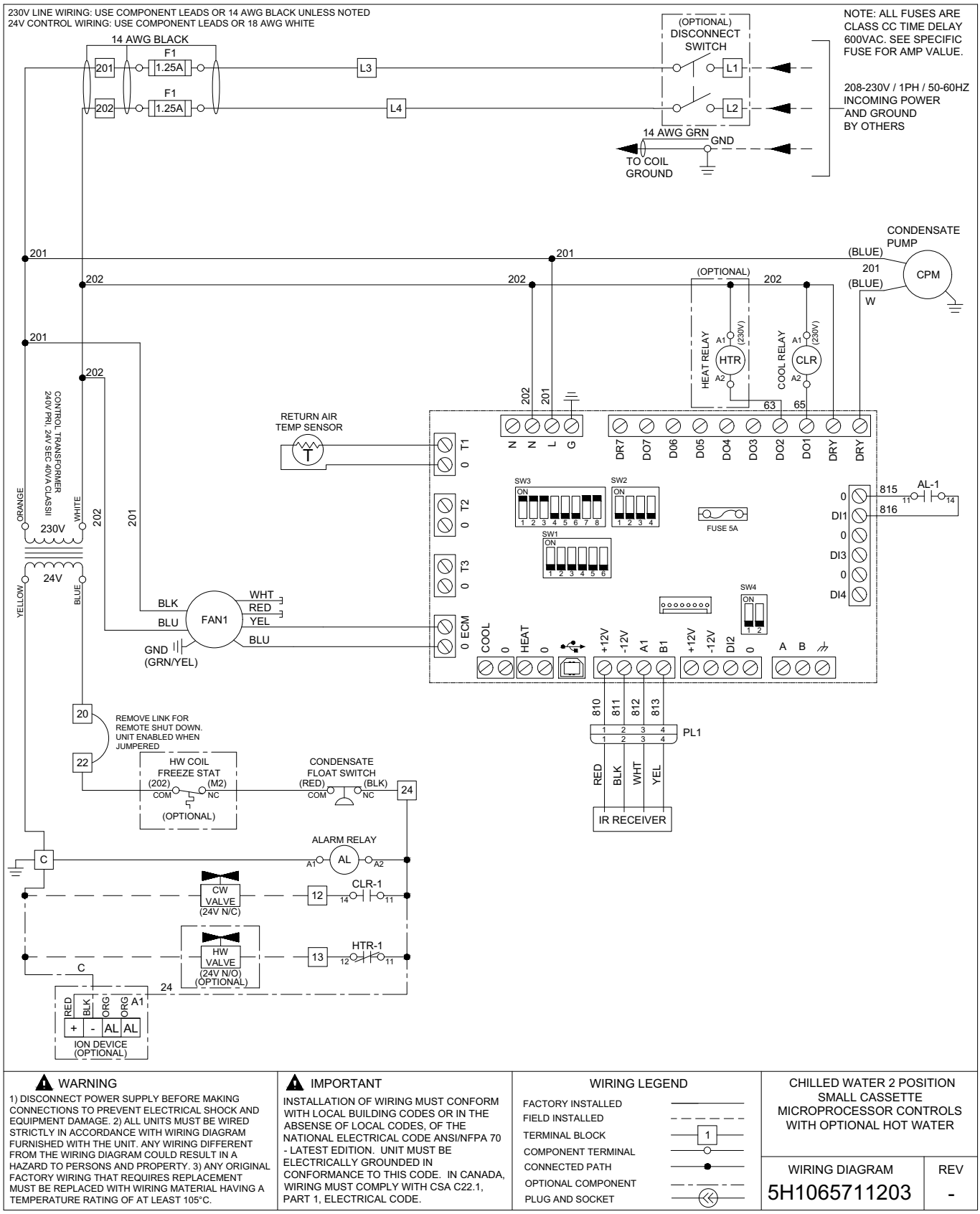
WIRING LEGEND

- FACTORY INSTALLED
- FIELD INSTALLED
- TERMINAL BLOCK
- COMPONENT TERMINAL
- CONNECTED PATH
- OPTIONAL COMPONENT
- PLUG AND SOCKET

CHILLED WATER 2 POSITION SMALL CASSETTE MICROPROCESSOR CONTROLS WITH OPTIONAL HOT WATER

WIRING DIAGRAM	REV
5H1065711202	-

Fig. 6 — 42WKN Unit 2-Pipe Cooling Only or 4-Pipe System with Microprocessor Control Wiring Diagram, 208-v, Sizes 08 and 12 (for reference only)



WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION SMALL CASSETTE MICROPROCESSOR CONTROLS WITH OPTIONAL HOT WATER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065711203 — REV -

Fig. 7 — 42WKN Unit 2-Pipe Cooling Only or 4-Pipe System with Microprocessor Control Wiring Diagram, 230-v, Sizes 08 and 12 (for reference only)

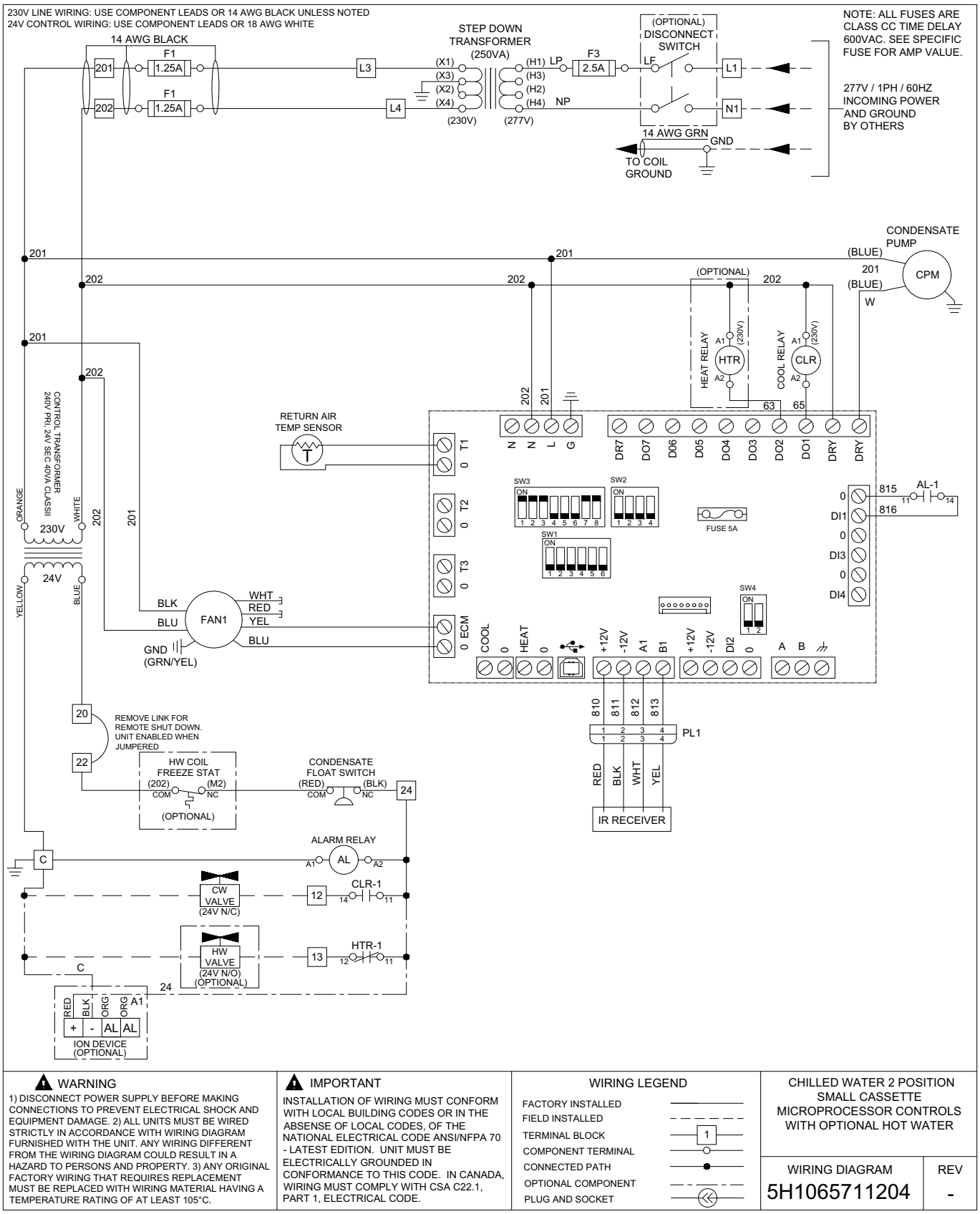
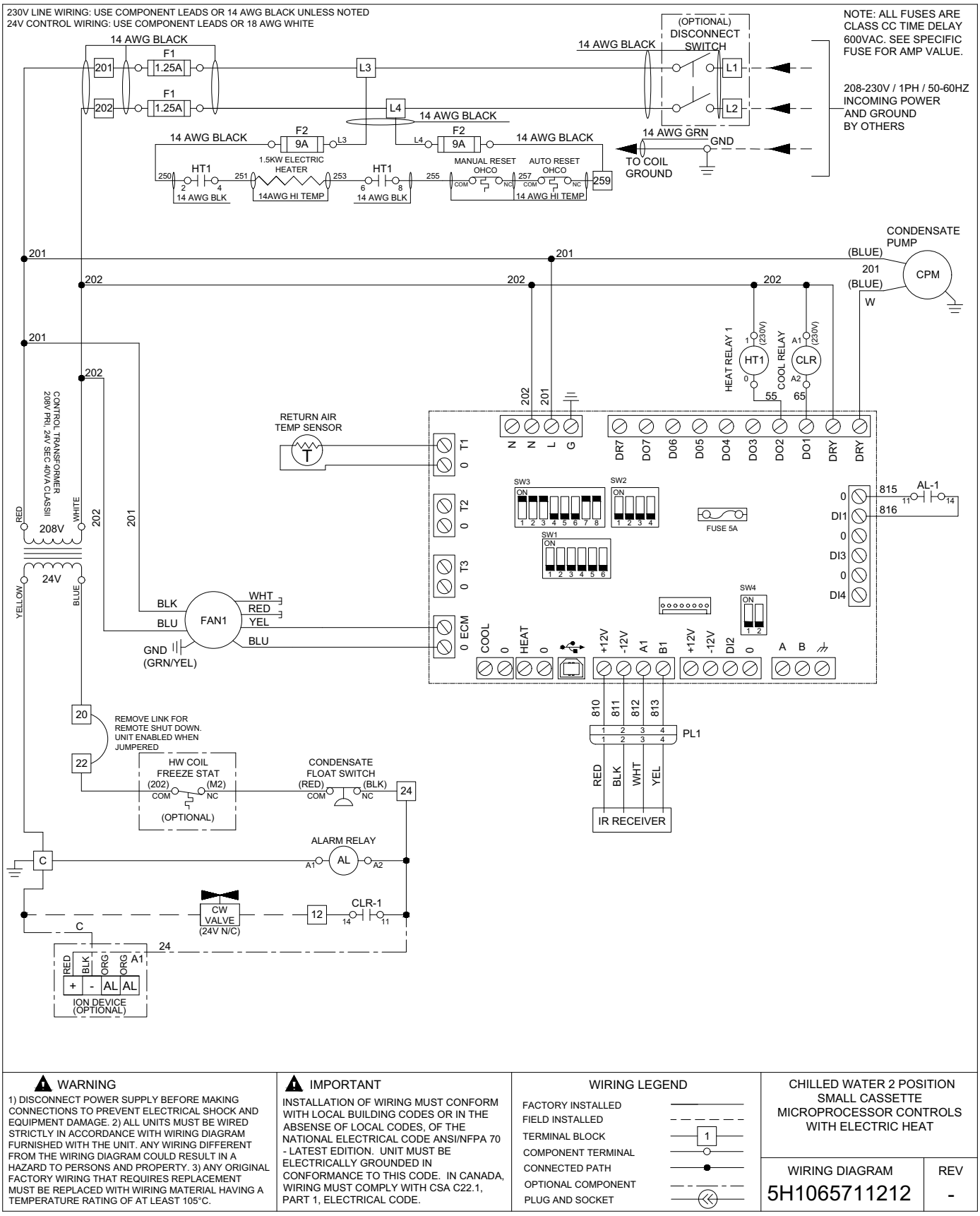


Fig. 8 — 42WKN Unit 2-Pipe Cooling Only or 4-Pipe System with Microprocessor Control Wiring Diagram, 277-v, Sizes 08 and 12 (for reference only)



WARNING

1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.

IMPORTANT

INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.

WIRING LEGEND

- FACTORY INSTALLED
- FIELD INSTALLED
- TERMINAL BLOCK
- COMPONENT TERMINAL
- CONNECTED PATH
- OPTIONAL COMPONENT
- PLUG AND SOCKET

CHILLED WATER 2 POSITION SMALL CASSETTE MICROPROCESSOR CONTROLS WITH ELECTRIC HEAT

WIRING DIAGRAM	REV
5H1065711212	-

Fig. 9 — 42WKN Unit 2-Pipe Cooling with Electric Heat, Microprocessor Control Wiring Diagram, 208-v, Sizes 08 and 12 (for reference only)

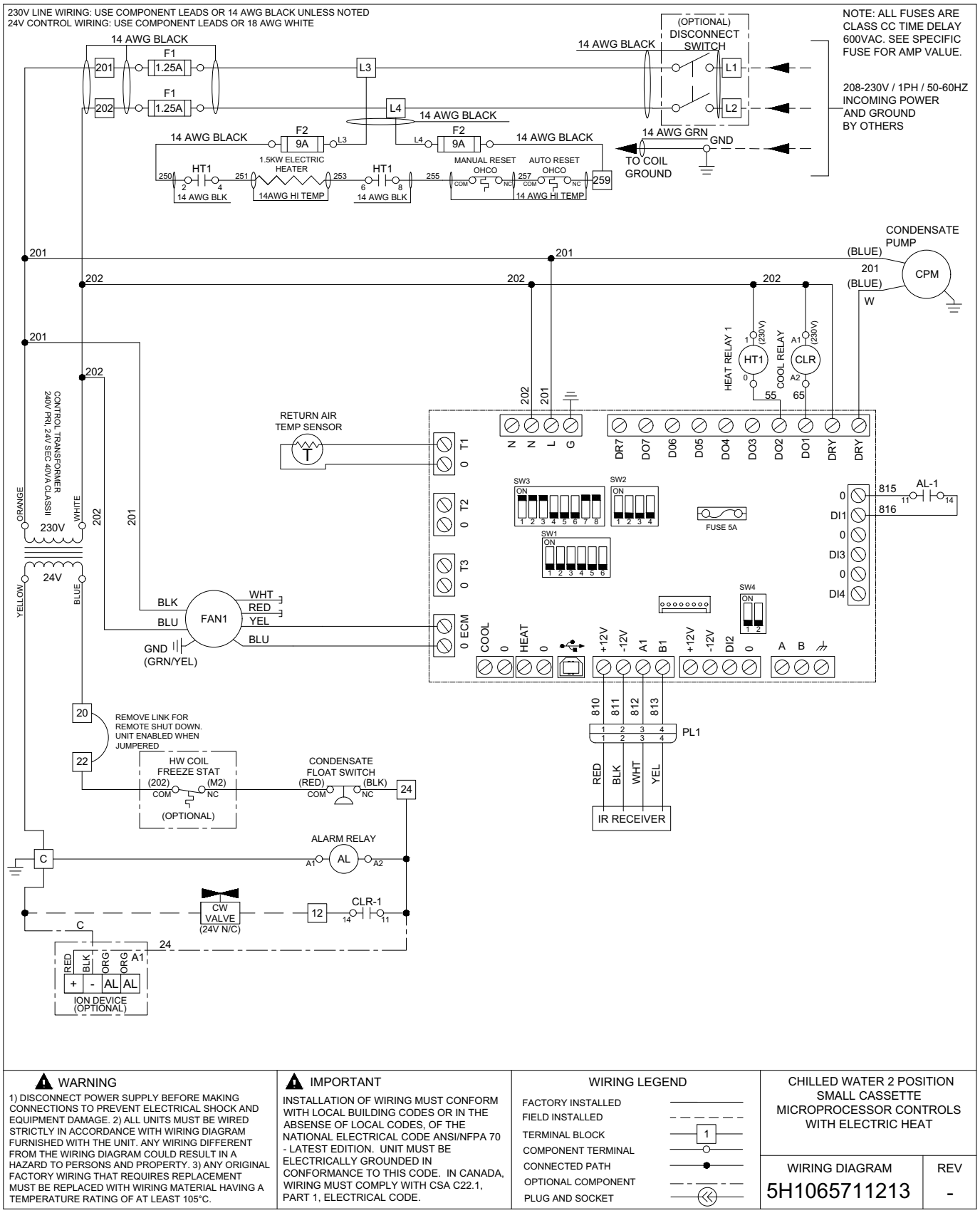


Fig. 10 — 42WKN Unit 2-Pipe Cooling with Electric Heat, Microprocessor Control Wiring Diagram, 230-v, Sizes 08 and 12 (for reference only)

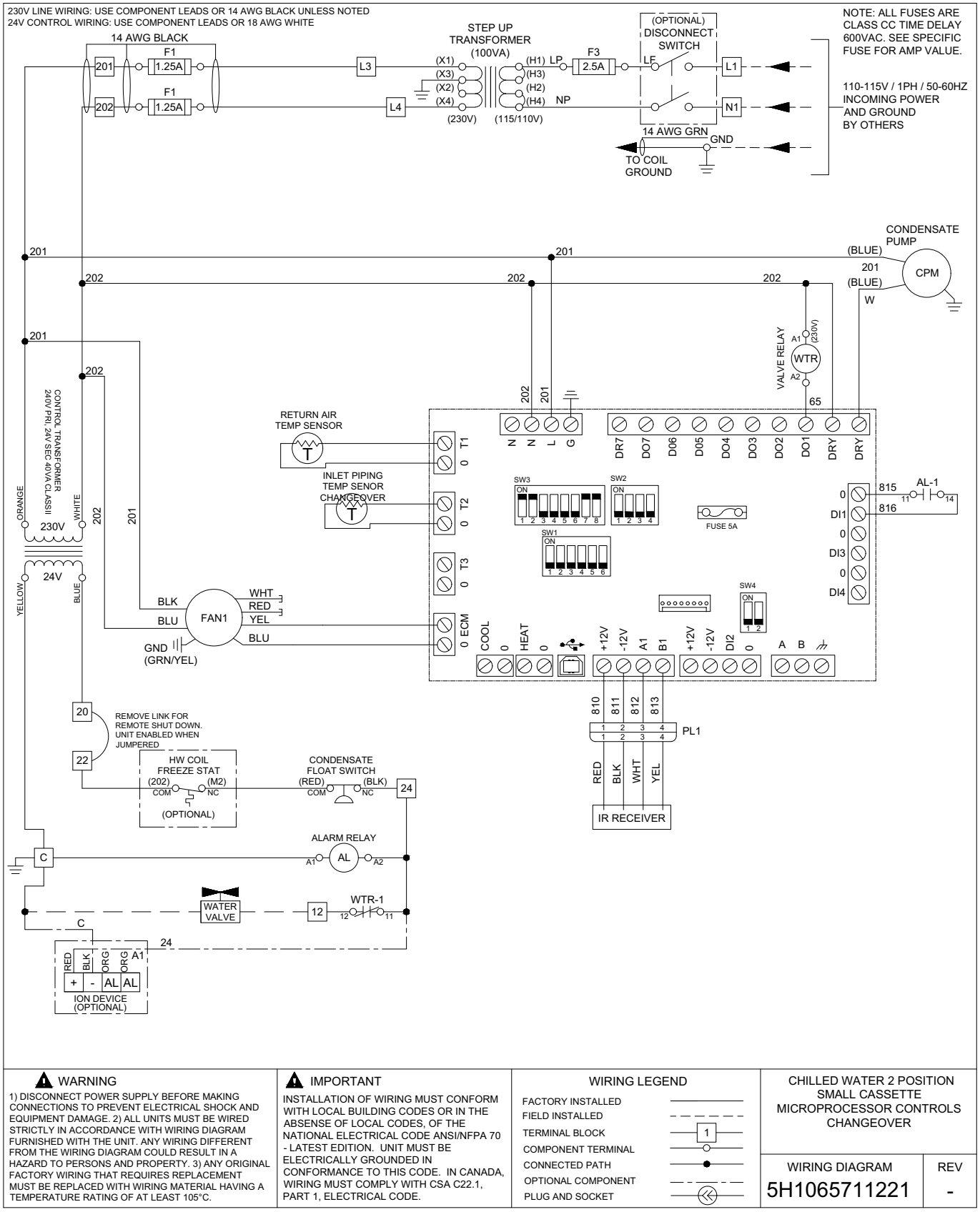
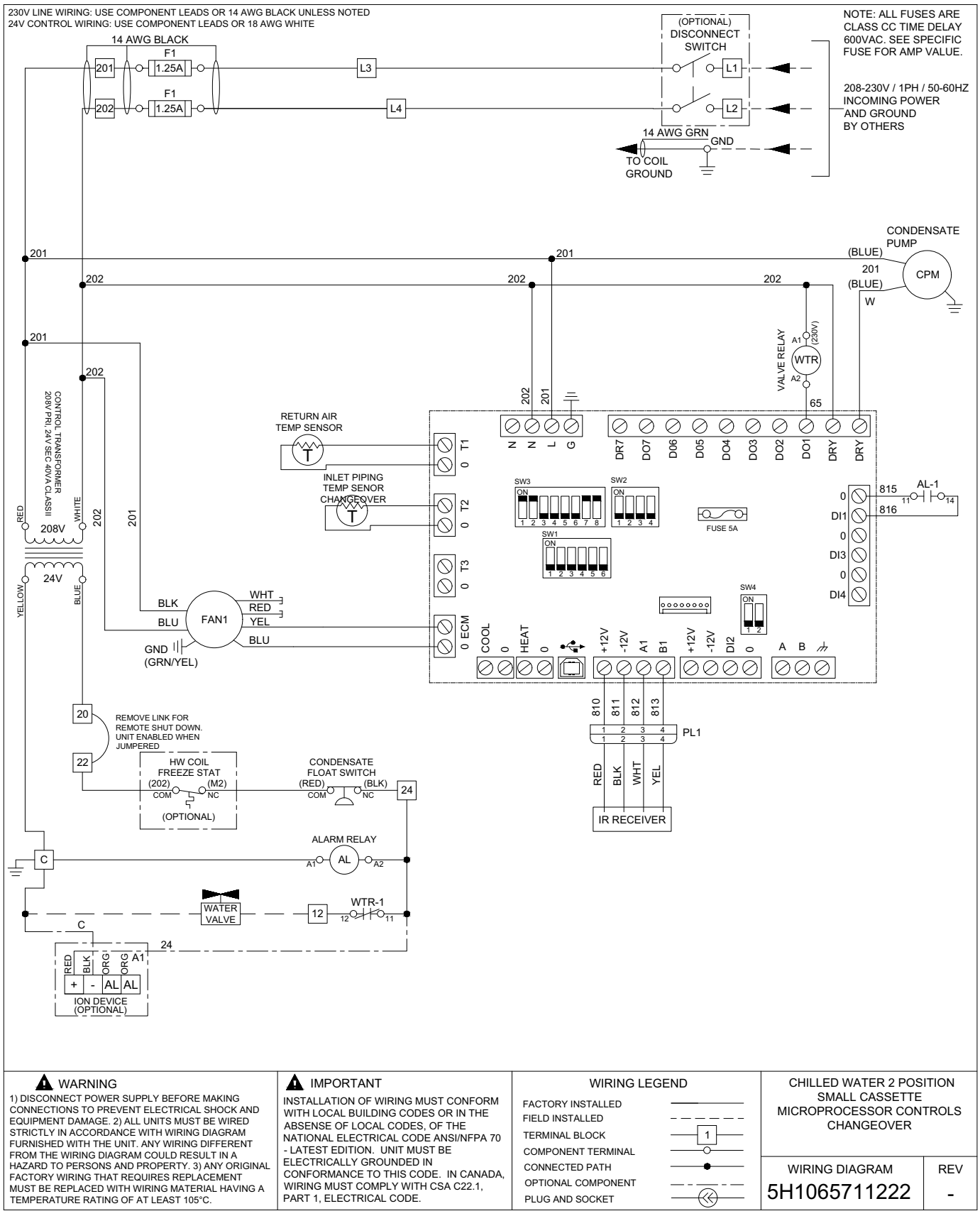
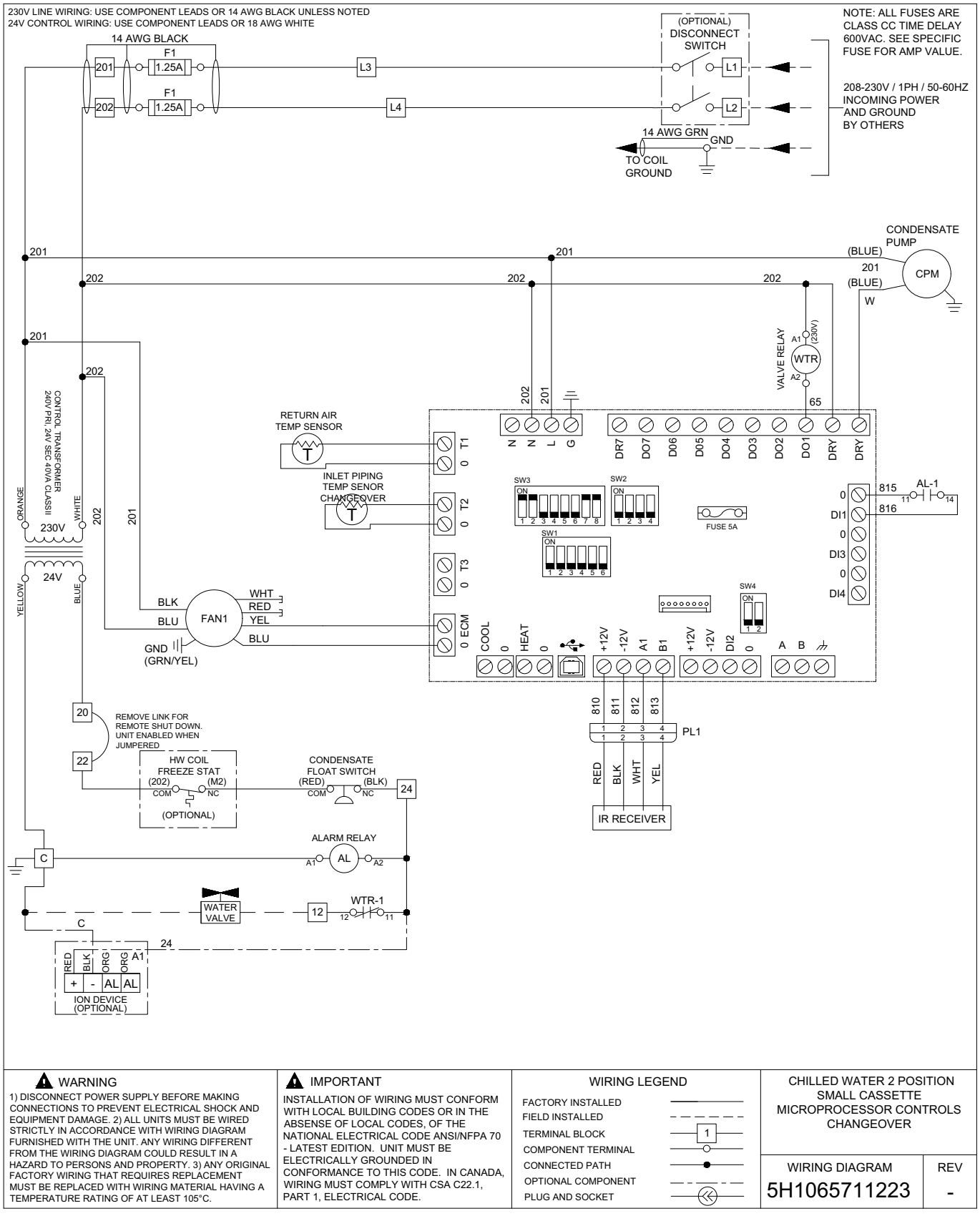


Fig. 11 — 42WKN Unit 2-Pipe Heating/Cooling Changeover with Microprocessor Control Wiring Diagram, 115-v, Sizes 08 and 12 (for reference only)



WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION SMALL CASSETTE MICROPROCESSOR CONTROLS CHANGEOVER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065711222 — REV -

Fig. 12 — 42WKN Unit 2-Pipe Heating/Cooling Changeover with Microprocessor Control Wiring Diagram, 208-v, Sizes 08 and 12 (for reference only)



WARNING

1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.

IMPORTANT

INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.

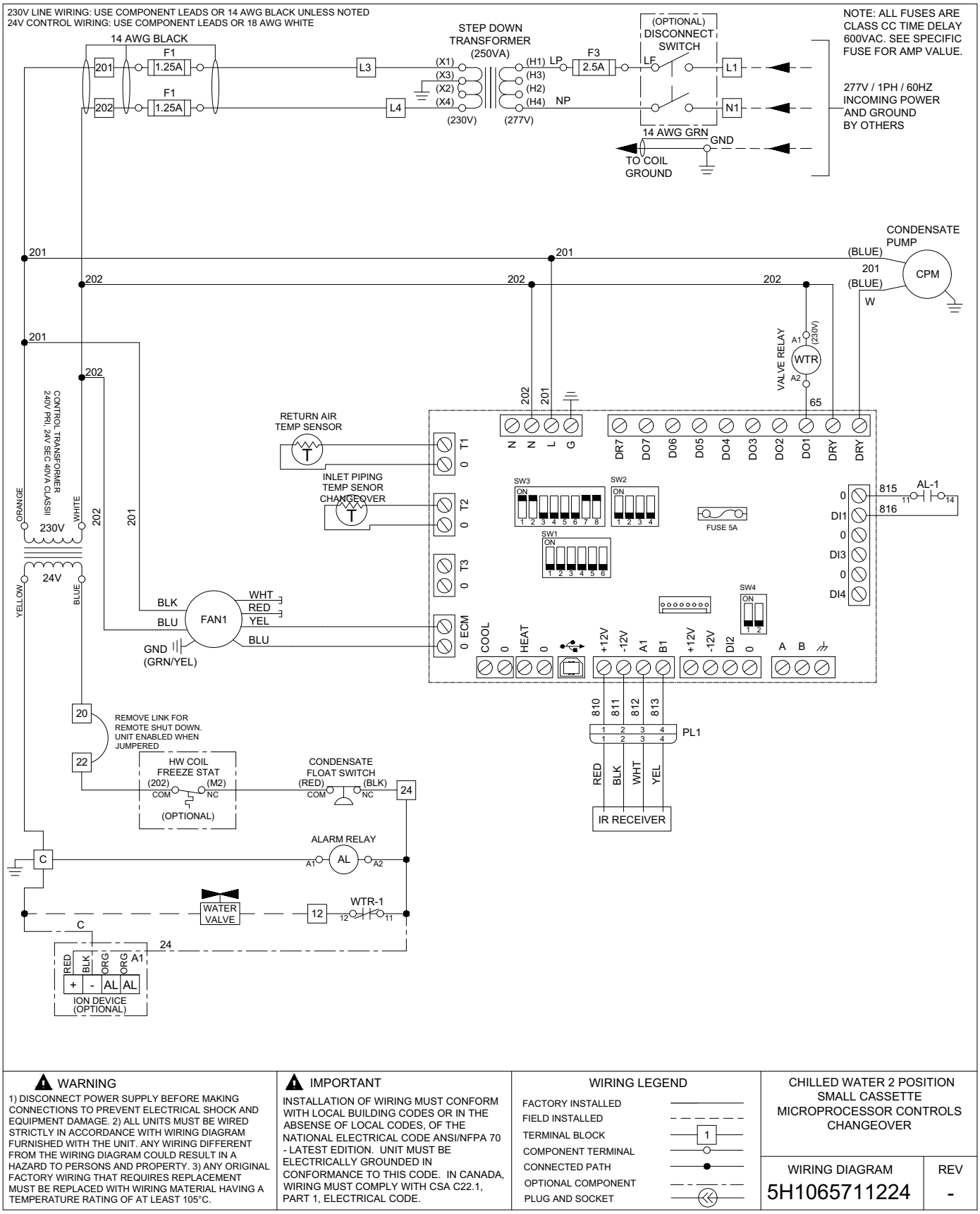
WIRING LEGEND

- FACTORY INSTALLED
- FIELD INSTALLED
- TERMINAL BLOCK
- COMPONENT TERMINAL
- CONNECTED PATH
- OPTIONAL COMPONENT
- PLUG AND SOCKET

CHILLED WATER 2 POSITION SMALL CASSETTE MICROPROCESSOR CONTROLS CHANGEOVER

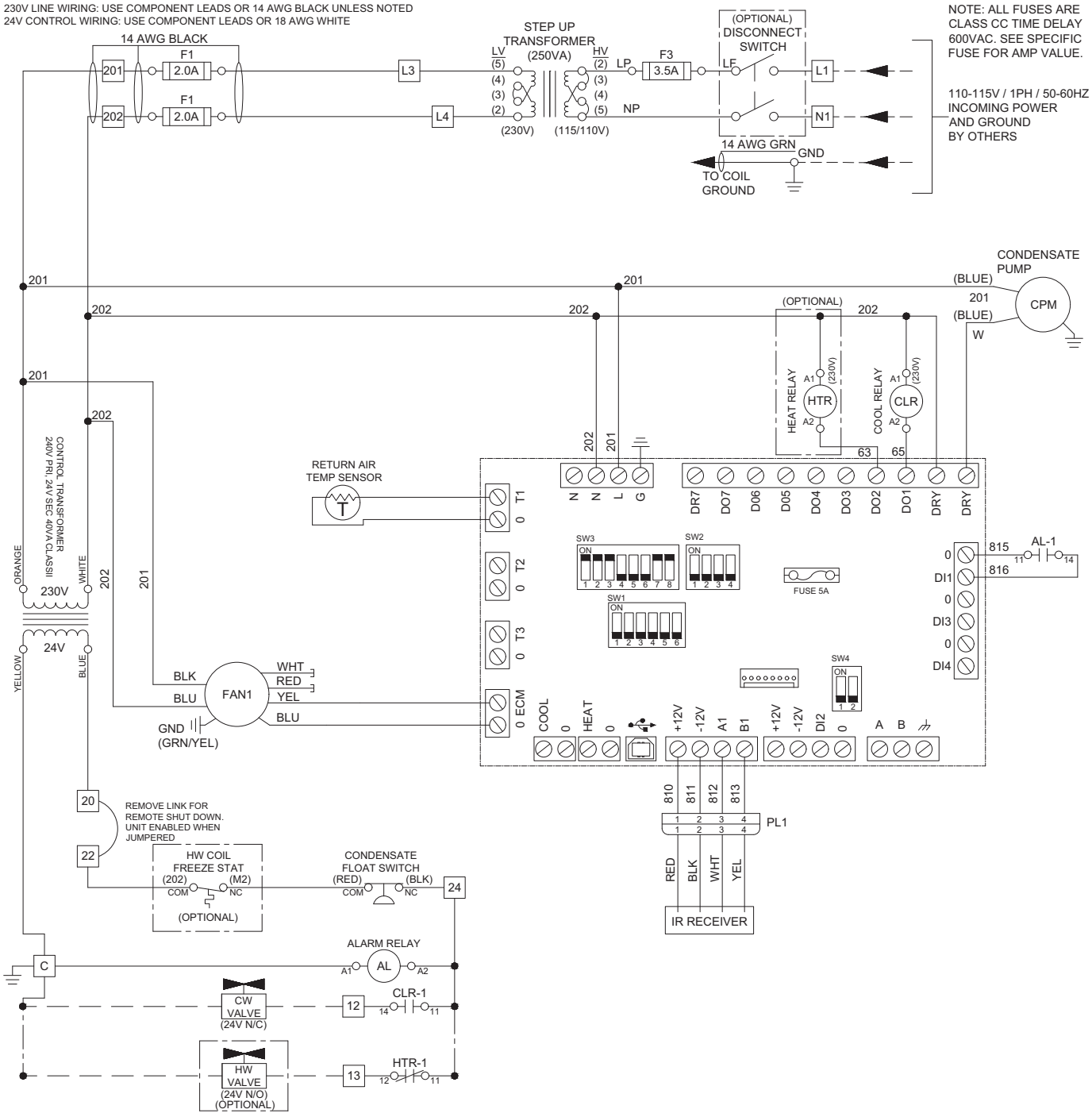
WIRING DIAGRAM	REV
5H1065711223	-

Fig. 13 — 42WKN Unit 2-Pipe Heating/Cooling Changeover with Microprocessor Control Wiring Diagram, 230-v, Sizes 08 and 12 (for reference only)



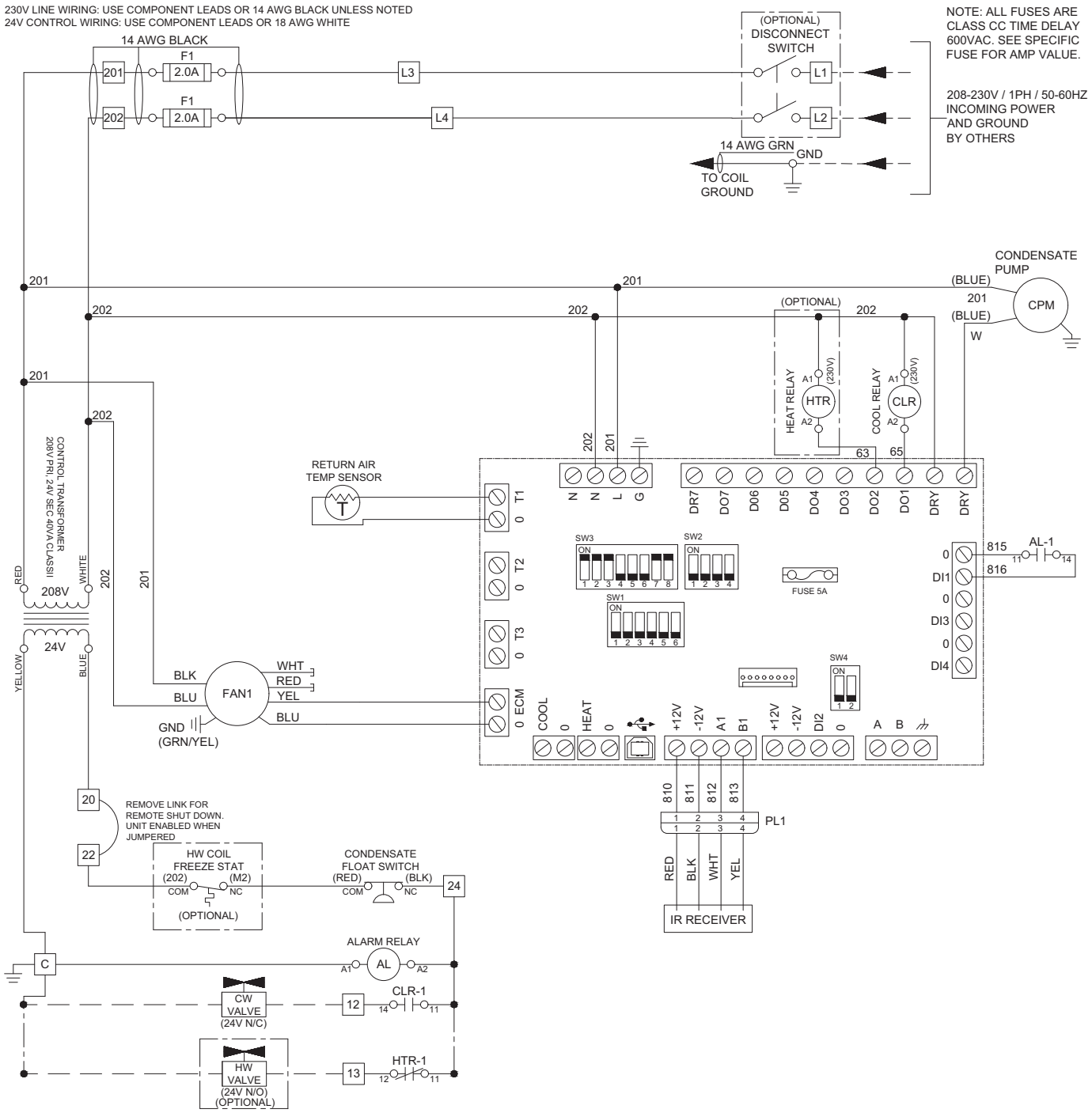
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION SMALL CASSETTE MICROPROCESSOR CONTROLS CHANGEOVER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065711224 — REV -

Fig. 14 — 42WKN Unit 2-Pipe Heating/Cooling Changeover with Microprocessor Control Wiring Diagram, 277-v, Sizes 08 and 12 (for reference only)



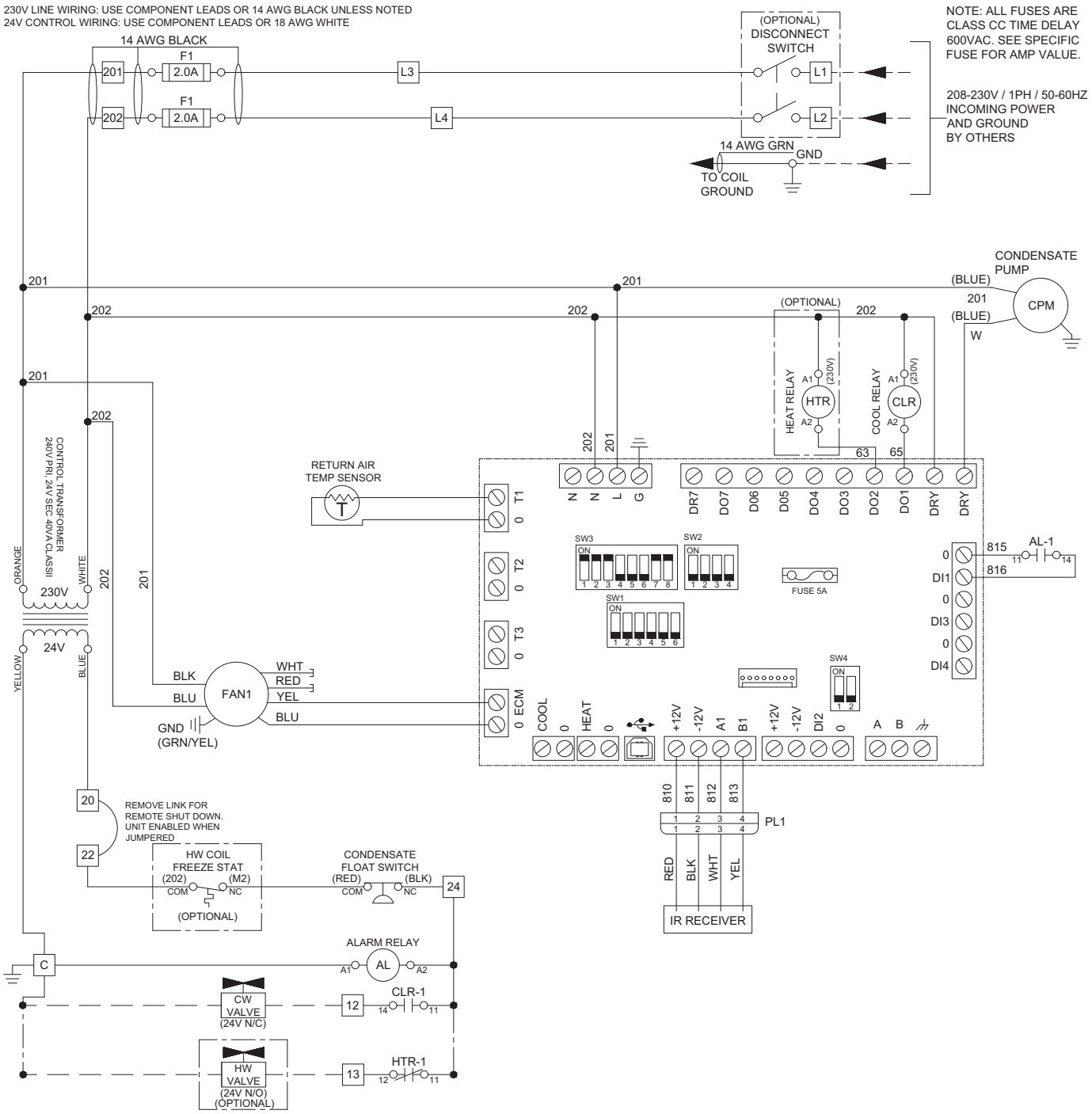
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION MEDIUM CASSETTE MICROPROCESSOR CONTROLS WITH OPTIONAL HOT WATER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065721201 — REV -

Fig. 15 — 42WKN Unit 2-Pipe Cooling Only or 4-Pipe System with Microprocessor Control Wiring Diagram, 115-v, Size 18 (for reference only)



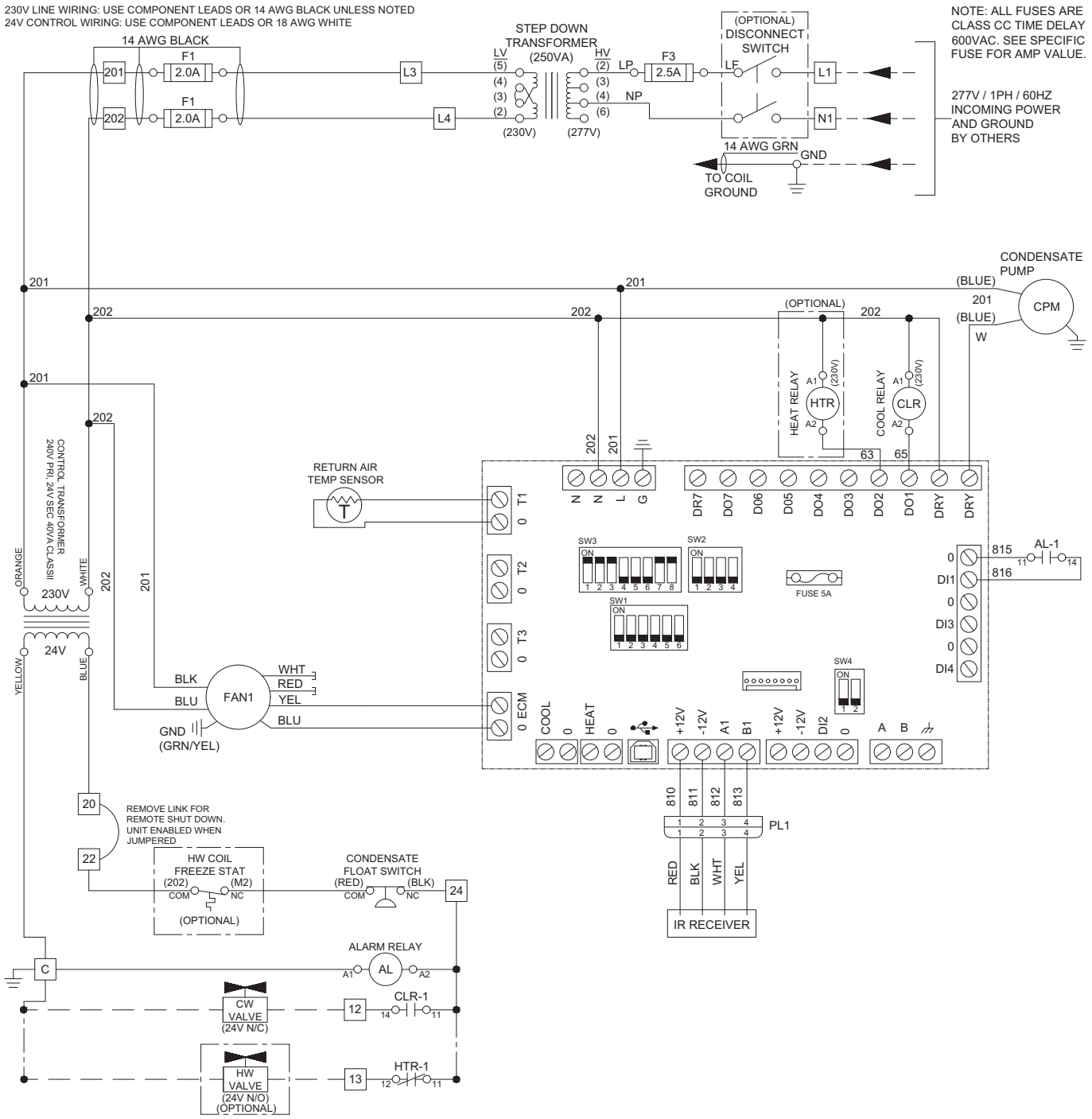
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION MEDIUM CASSETTE MICROPROCESSOR CONTROLS WITH OPTIONAL HOT WATER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065721202 — REV -

Fig. 16 — 42WKN Unit 2-Pipe Cooling Only or 4-Pipe System with Microprocessor Control Wiring Diagram, 208-v, Size 18 (for reference only)



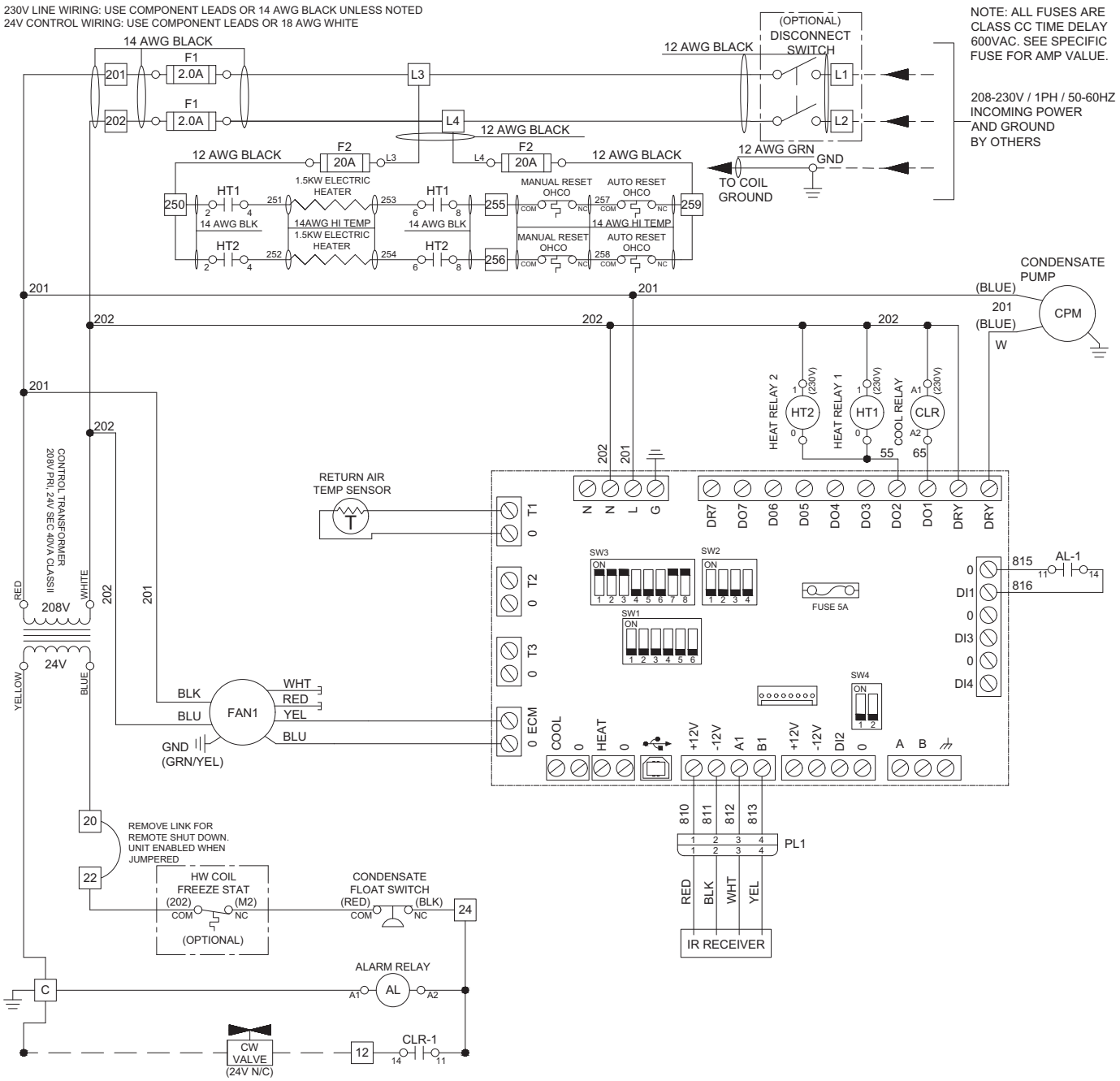
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION MEDIUM CASSETTE MICROPROCESSOR CONTROLS WITH OPTIONAL HOT WATER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065721203 — REV -

Fig. 17 — 42WKN Unit 2-Pipe Cooling Only or 4-Pipe System with Microprocessor Control Wiring Diagram, 230-v, Size 18 (for reference only)



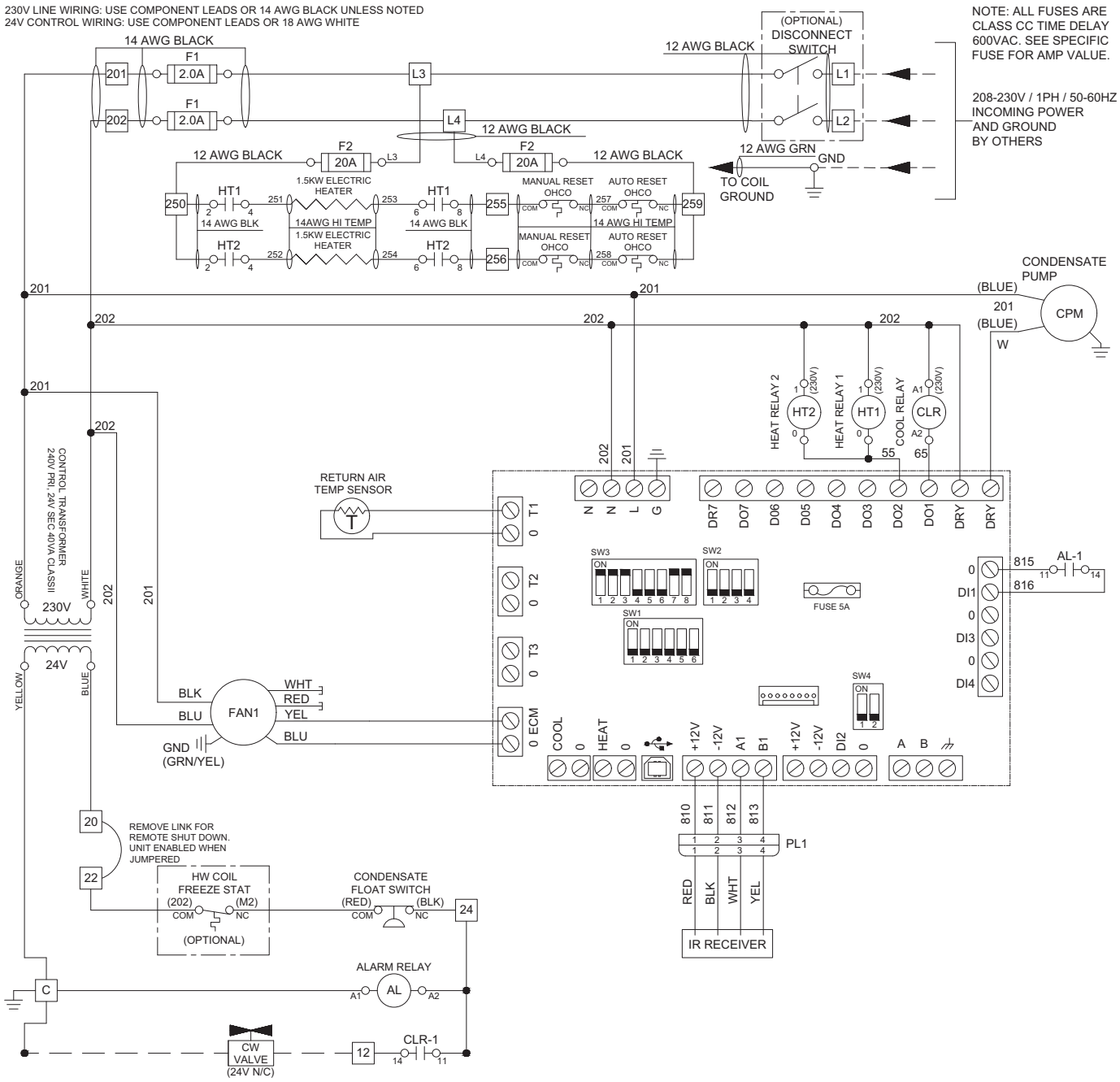
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION MEDIUM CASSETTE MICROPROCESSOR CONTROLS WITH OPTIONAL HOT WATER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065721204 — REV -

Fig. 18 — 42WKN Unit 2-Pipe Cooling Only or 4-Pipe System with Microprocessor Control Wiring Diagram, 277-v, Size 18 (for reference only)



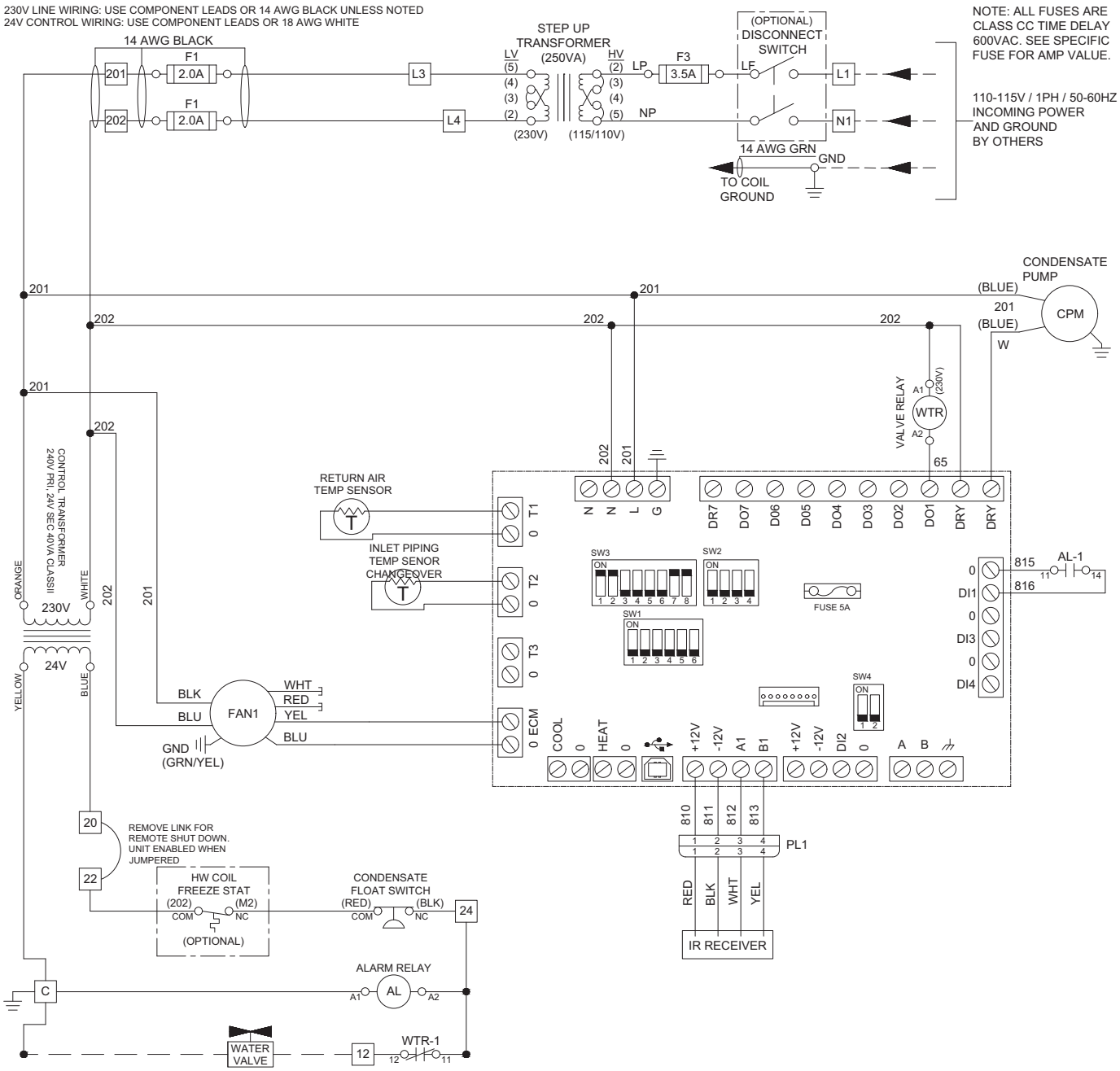
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION MEDIUM CASSETTE MICROPROCESSOR CONTROLS WITH ELECTRIC HEAT
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065721212 — REV -

Fig. 19 — 42WKN Unit 2-Pipe Cooling Only with Electric Heat, Microprocessor Control Wiring Diagram, 208-v, Size 18 (for reference only)



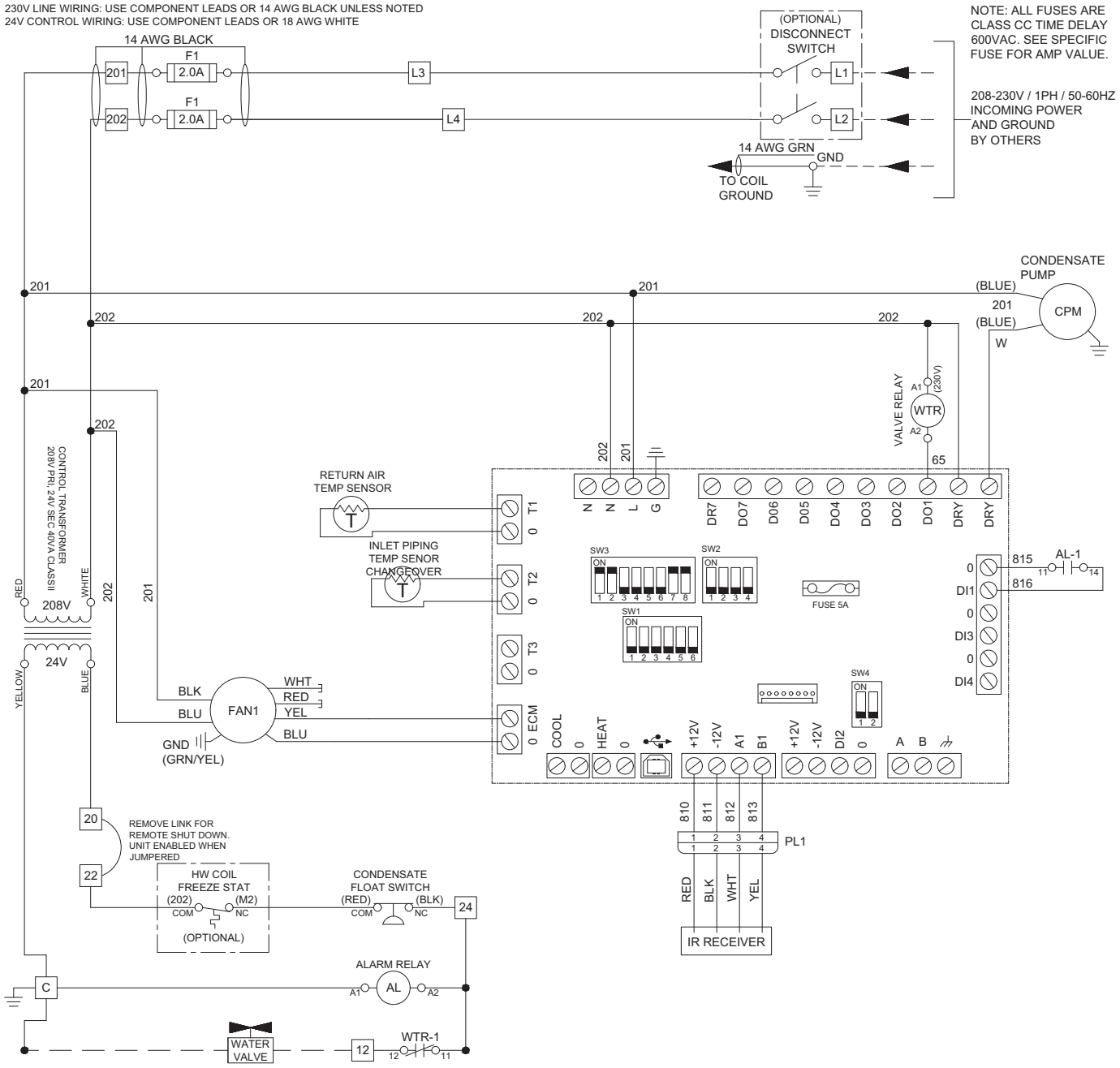
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION MEDIUM CASSETTE MICROPROCESSOR CONTROLS WITH ELECTRIC HEAT
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065721213 — REV -

Fig. 20 — 42WKN Unit 2-Pipe Cooling Only with Electric Heat, Microprocessor Control Wiring Diagram, 230-v, Size 18 (for reference only)



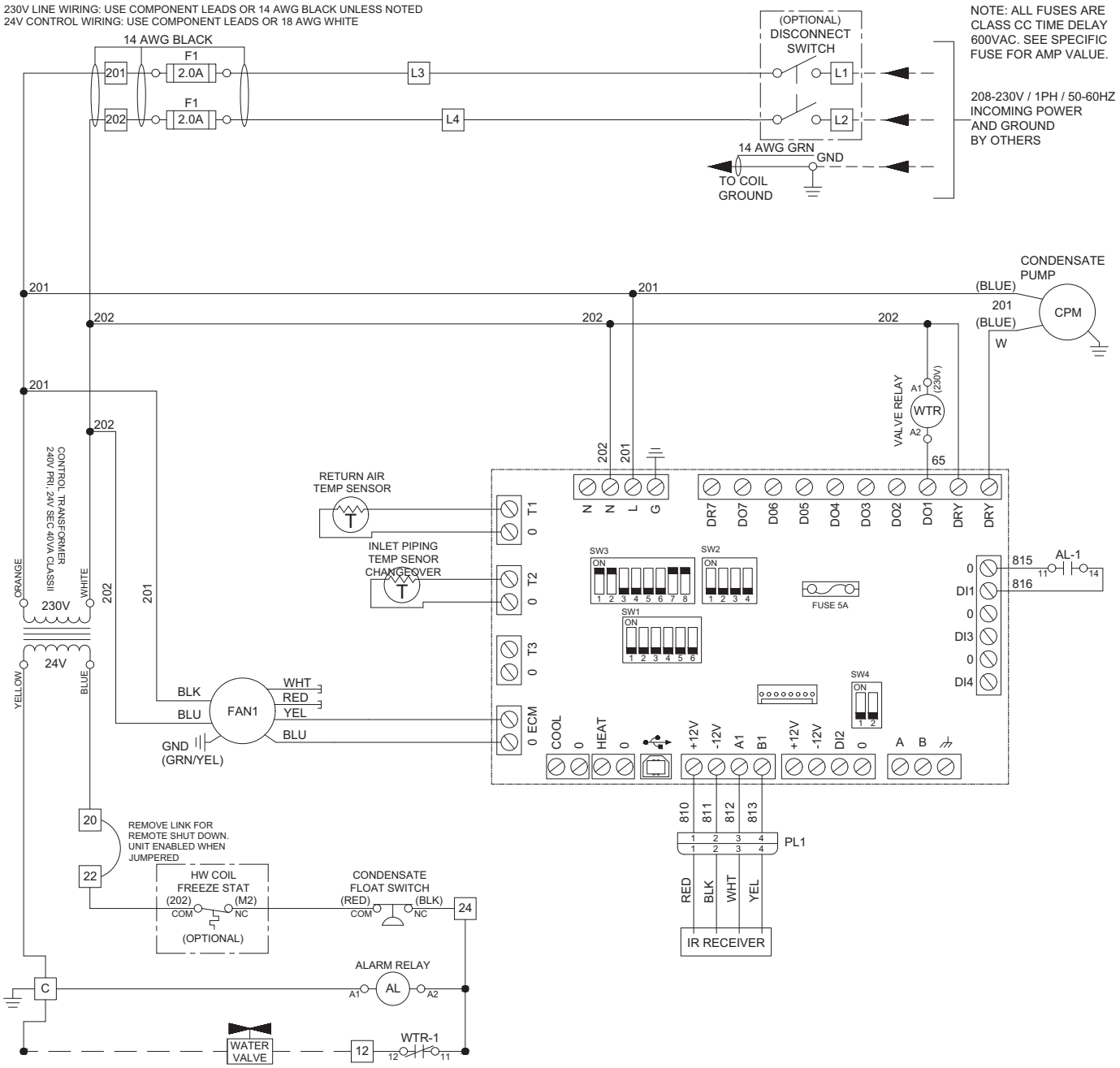
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION MEDIUM CASSETTE MICROPROCESSOR CONTROLS CHANGEOVER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065721221 — REV -

Fig. 21 — 42WKN Unit 2-Pipe Heating/Cooling Changeover with Microprocessor Control Wiring Diagram, 115-v, Size 18 (for reference only)



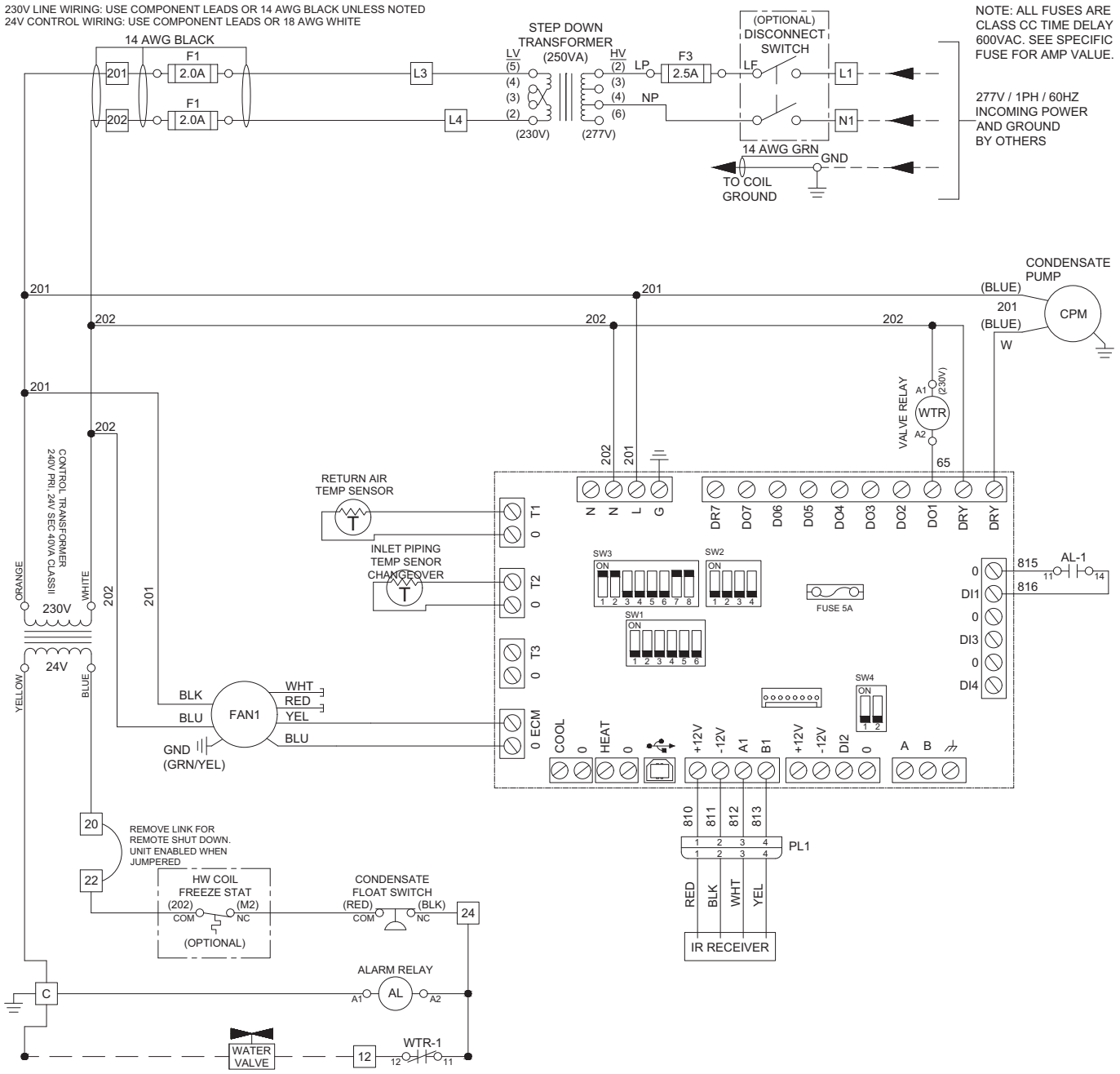
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION MEDIUM CASSETTE MICROPROCESSOR CONTROLS CHANGEOVER	
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065721222	REV -

Fig. 22 — 42WKN Unit 2-Pipe Heating/Cooling Changeover with Microprocessor Control Wiring Diagram, 208-v, Size 18 (for reference only)



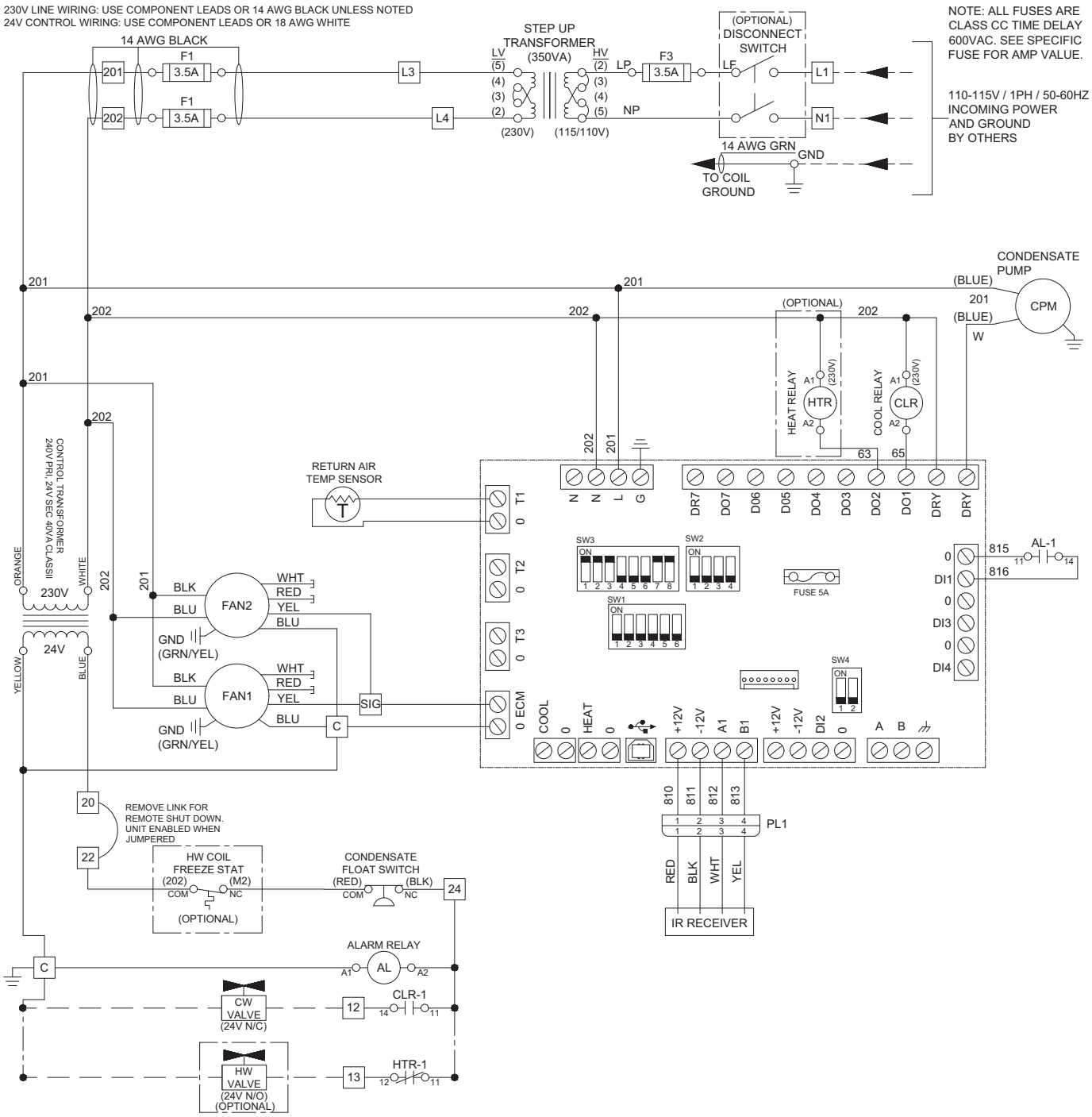
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION MEDIUM CASSETTE MICROPROCESSOR CONTROLS CHANGEOVER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065721223 — REV -

Fig. 23 — 42WKN Unit 2-Pipe Heating/Cooling Changeover with Microprocessor Control Wiring Diagram, 230-v, Size 18 (for reference only)



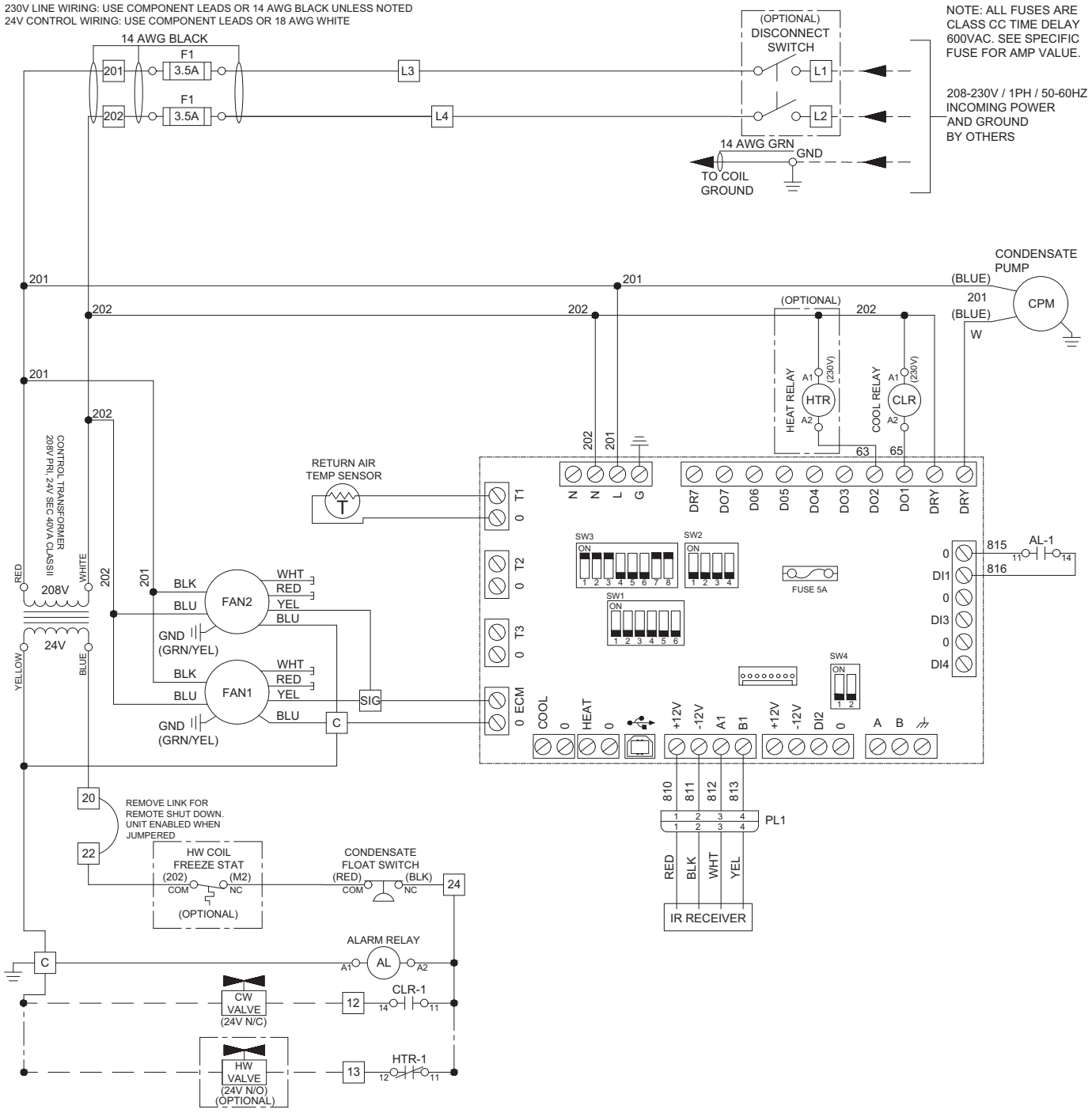
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION MEDIUM CASSETTE MICROPROCESSOR CONTROLS CHANGEOVER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065721224 — REV -

Fig. 24 — 42WKN Unit 2-Pipe Heating/Cooling Changeover with Microprocessor Control Wiring Diagram, 277-v, Size 18 (for reference only)



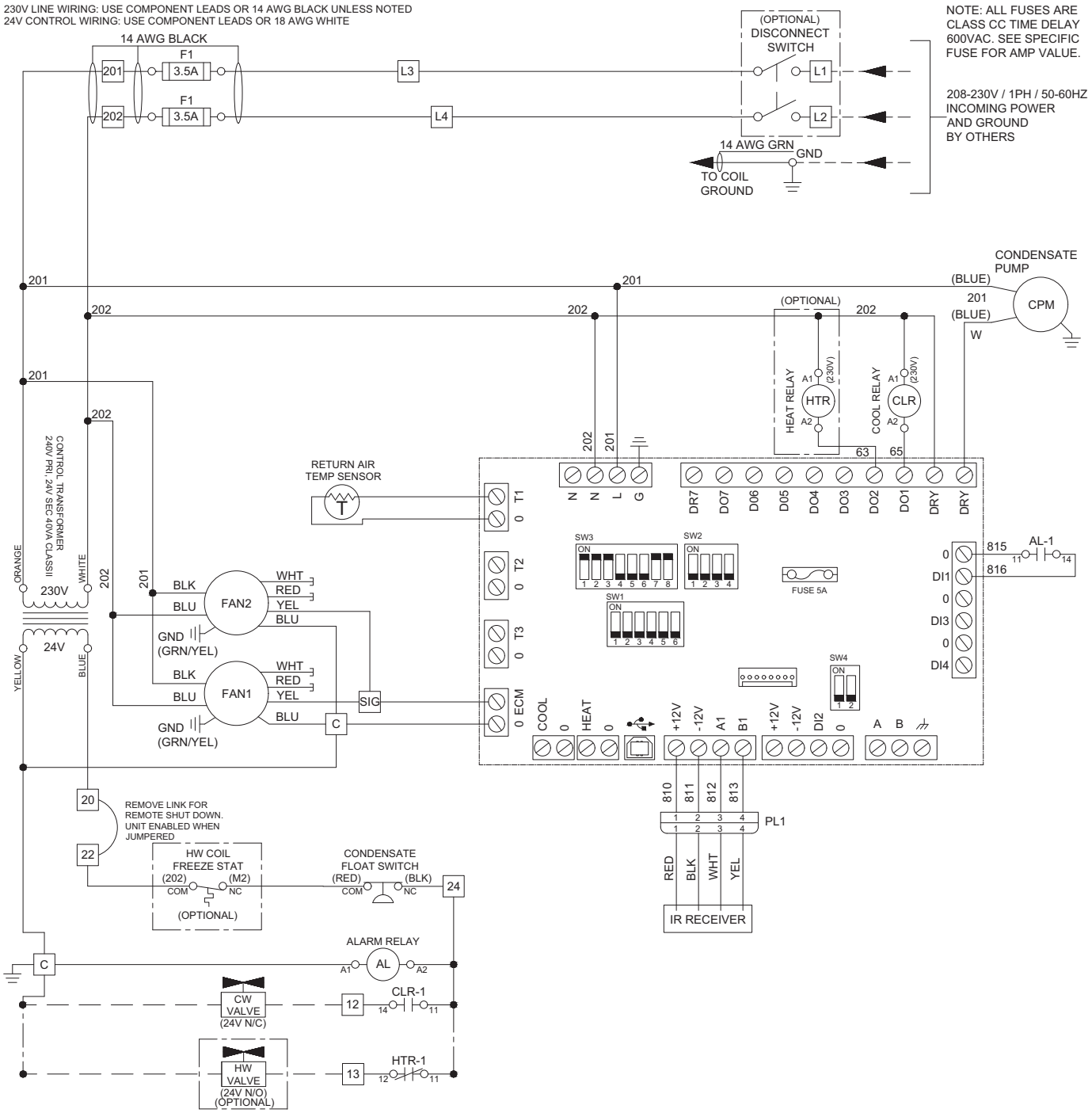
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION LARGE CASSETTE MICROPROCESSOR CONTROLS WITH OPTIONAL HOT WATER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065731201 — REV -

Fig. 25 — 42WKN Unit 2-Pipe Cooling Only or 4-Pipe System with Microprocessor Control Wiring Diagram, 115-v, Size 36 (for reference only)



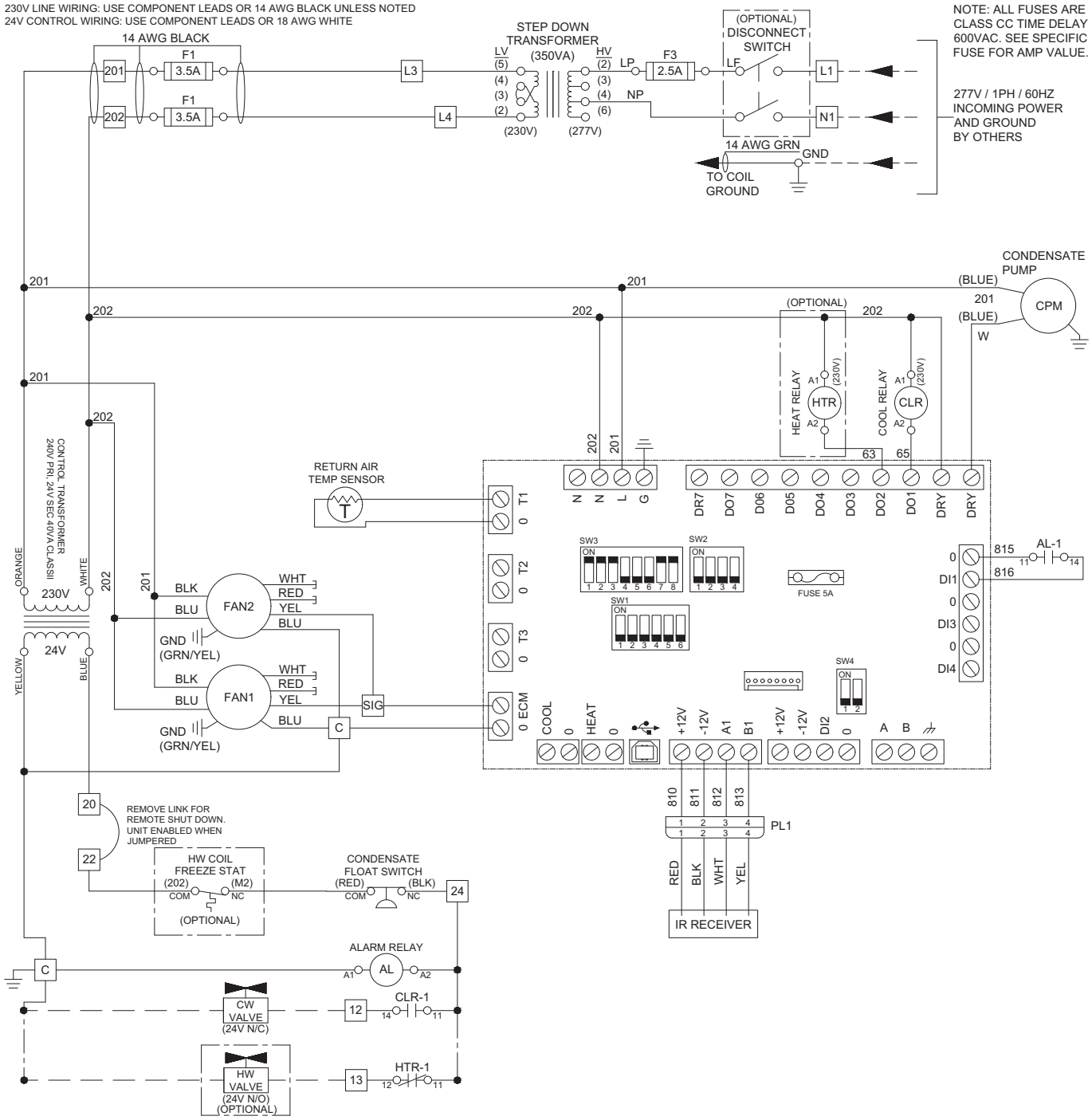
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION LARGE CASSETTE MICROPROCESSOR CONTROLS WITH OPTIONAL HOT WATER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065731202 — REV -

Fig. 26 — 42WKN Unit 2-Pipe Cooling Only or 4-Pipe System with Microprocessor Control Wiring Diagram, 208-v, Size 36 (for reference only)



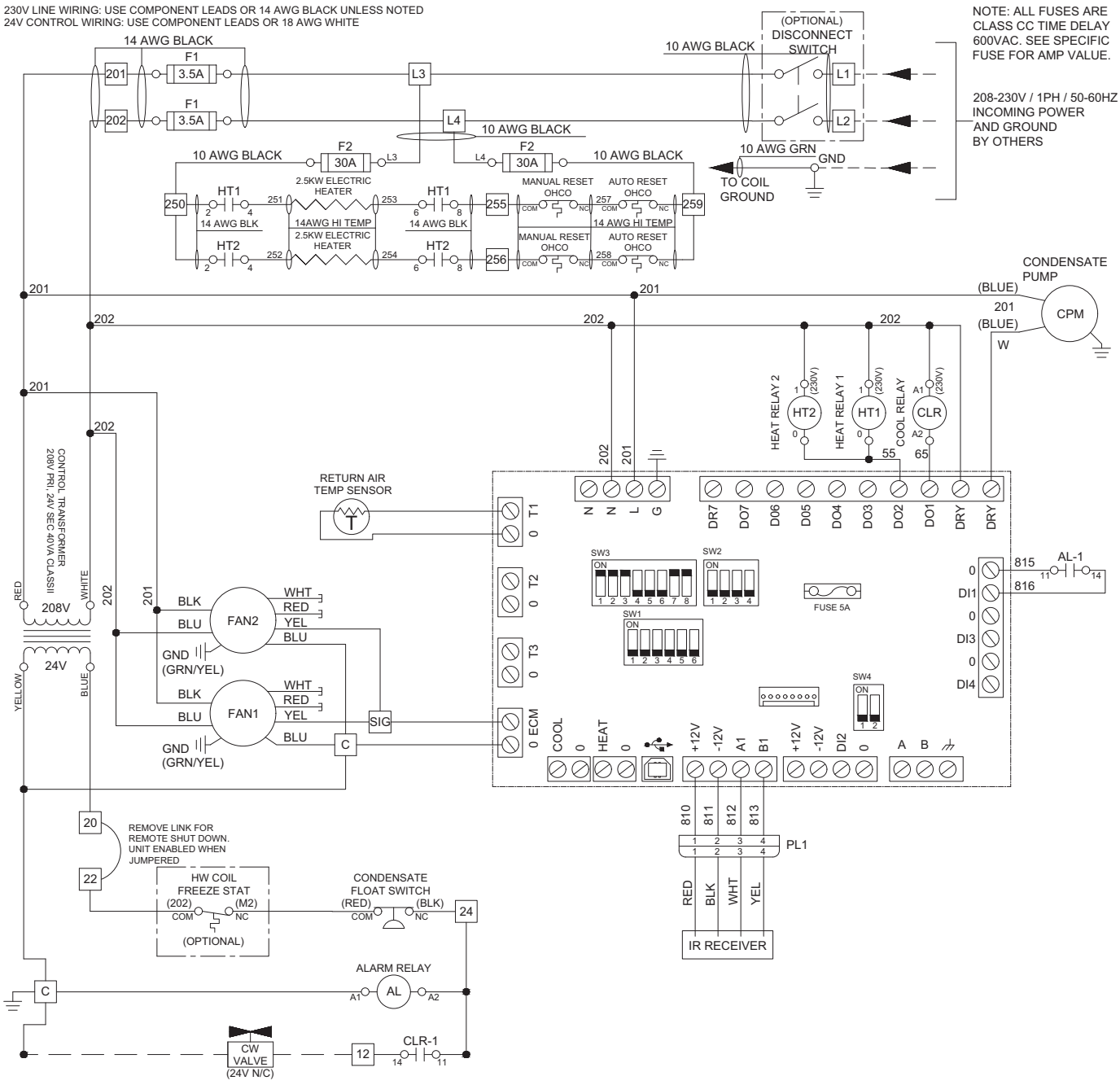
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION LARGE CASSETTE MICROPROCESSOR CONTROLS WITH OPTIONAL HOT WATER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065731203 — REV -

Fig. 27 — 42WKN Unit 2-Pipe Cooling Only or 4-Pipe System with Microprocessor Control Wiring Diagram, 230-v, Size 36 (for reference only)



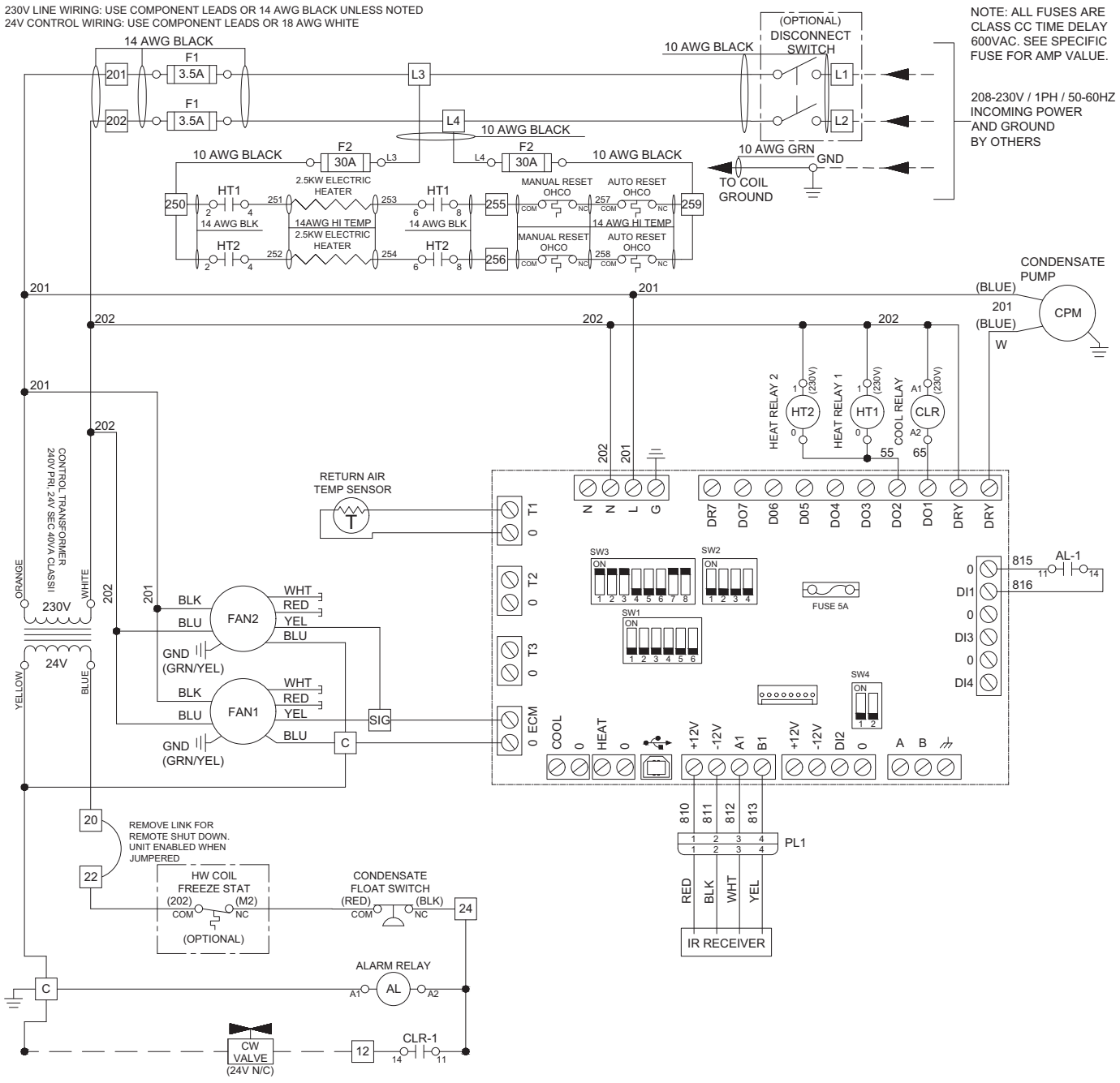
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION LARGE CASSETTE MICROPROCESSOR CONTROLS WITH OPTIONAL HOT WATER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065731204 — REV -

Fig. 28 — 42WKN Unit 2-Pipe Cooling Only or 4-Pipe System with Microprocessor Control Wiring Diagram, 277-v, Size 36 (for reference only)



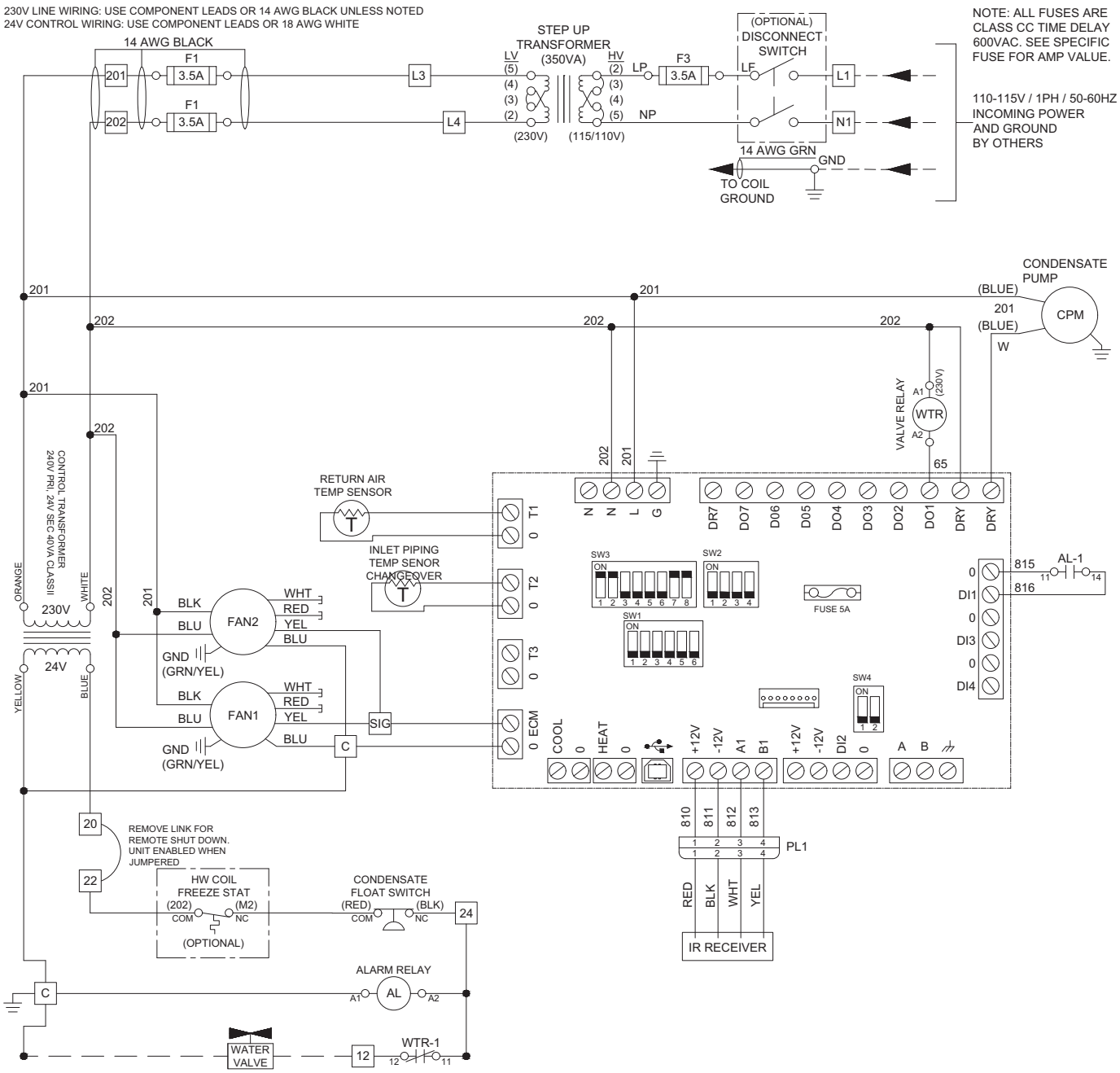
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION LARGE CASSETTE MICROPROCESSOR CONTROLS WITH ELECTRIC HEAT
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065731212 — REV -

Fig. 29 — 42WKN Unit 2-Pipe Cooling Only with Electric Heat, Microprocessor Control Wiring Diagram, 208-v, Size 36 (for reference only)



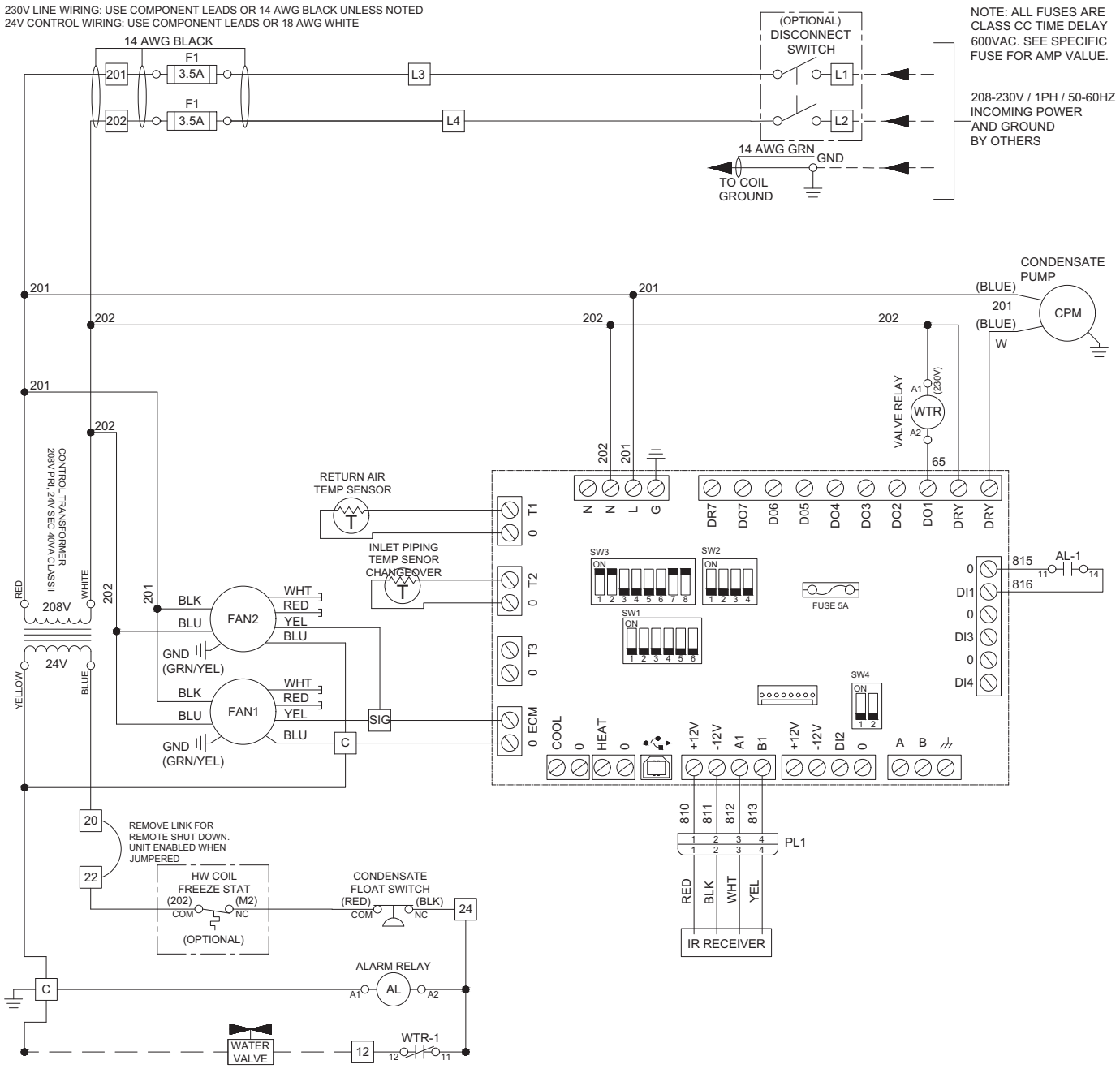
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION LARGE CASSETTE MICROPROCESSOR CONTROLS WITH ELECTRIC HEAT
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065731213 — REV -

Fig. 30 — 42WKN Unit 2-Pipe Cooling Only with Electric Heat, Microprocessor Control Wiring Diagram, 230-v, Size 36 (for reference only)



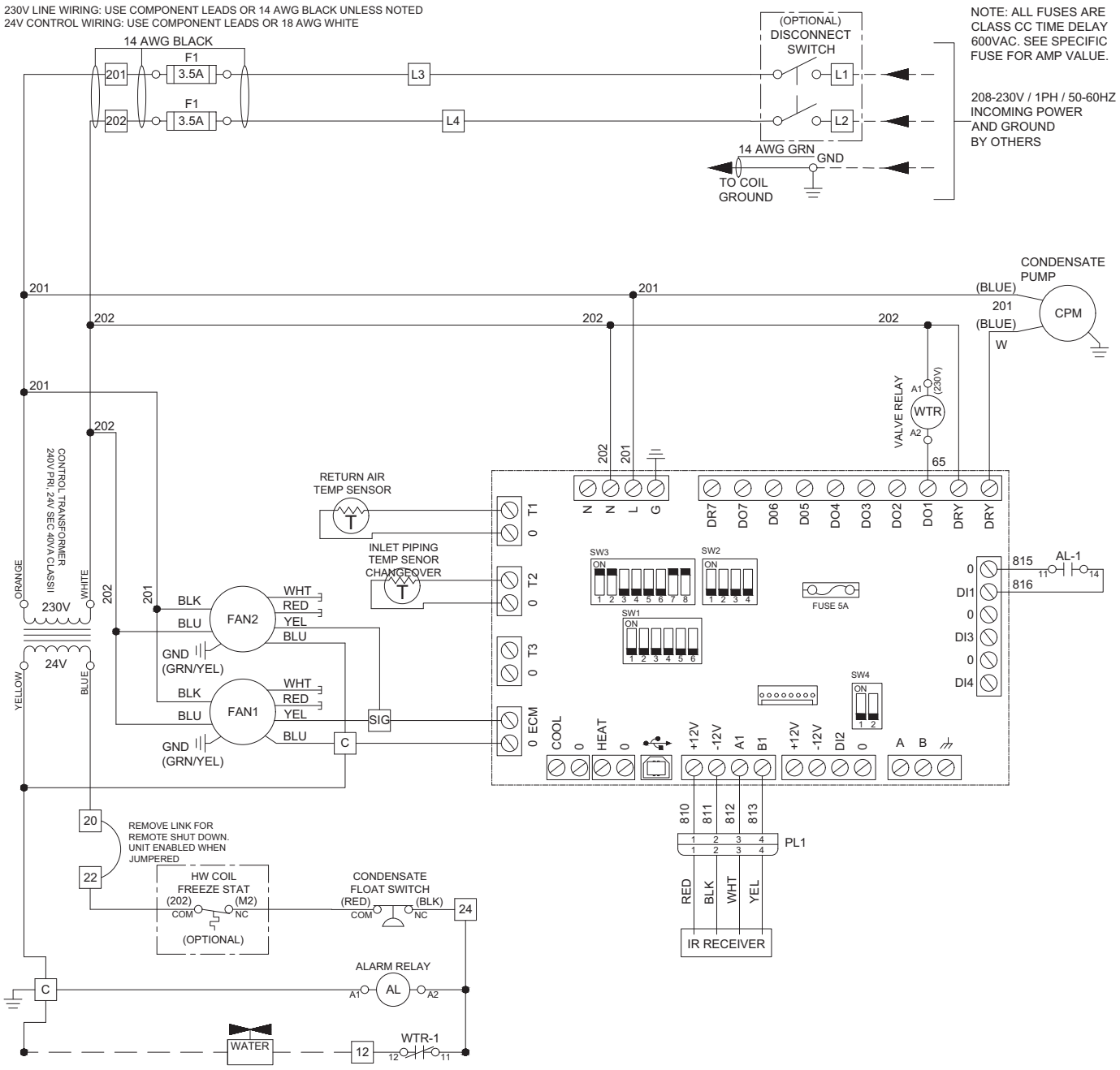
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION LARGE CASSETTE MICROPROCESSOR CONTROLS CHANGEOVER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065731221 — REV -

Fig. 31 — 42WKN Unit 2-Pipe Heating/Cooling Changeover with Microprocessor Control Wiring Diagram, 115-v, Size 36 (for reference only)



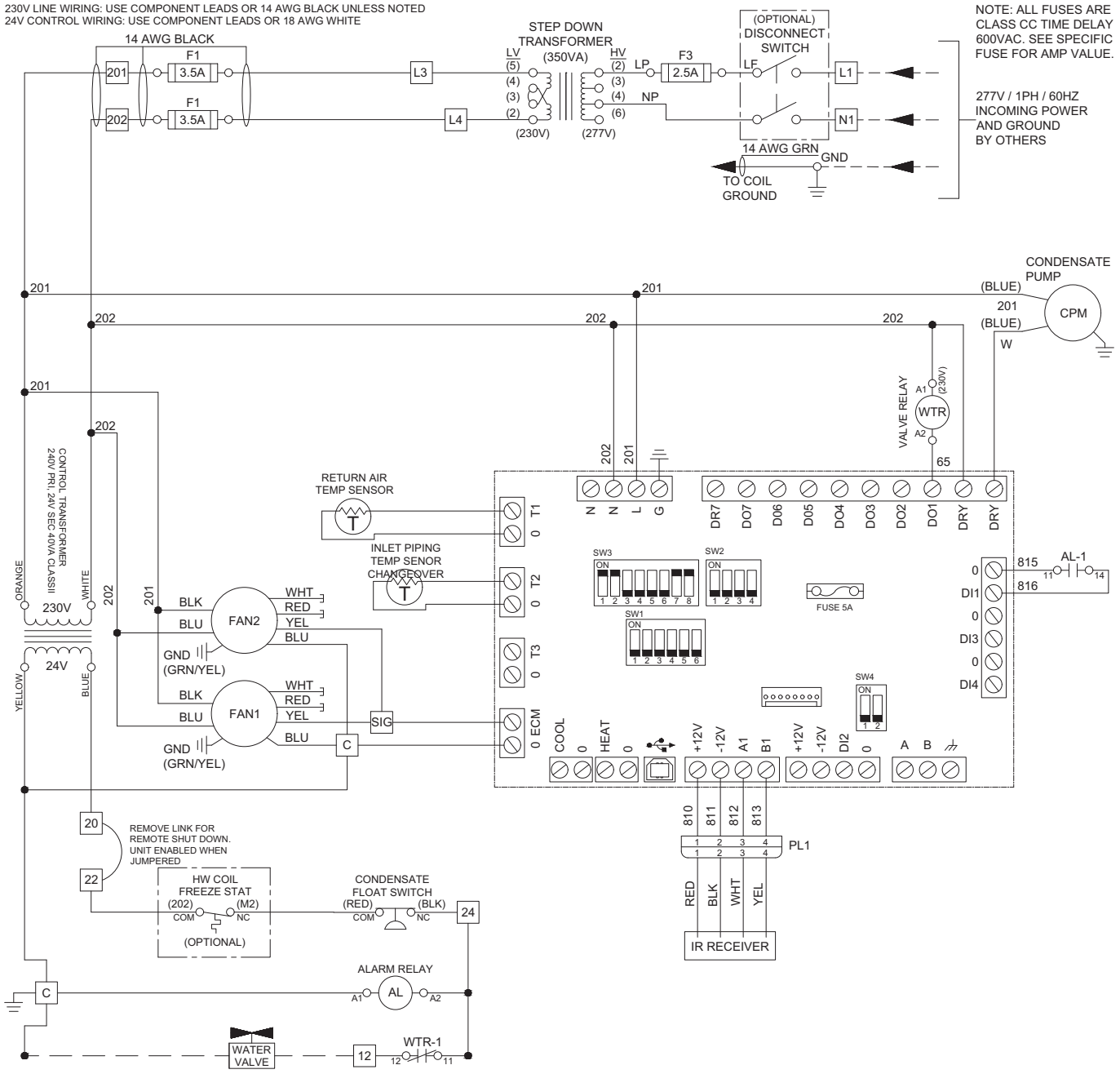
WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION LARGE CASSETTE MICROPROCESSOR CONTROLS CHANGEOVER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065731222 — REV -

Fig. 32 — 42WKN Unit 2-Pipe Heating/Cooling Changeover with Microprocessor Control Wiring Diagram, 208-v, Size 36 (for reference only)



WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION LARGE CASSETTE MICROPROCESSOR CONTROLS CHANGEOVER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065731223 — REV -

Fig. 33 — 42WKN Unit 2-Pipe Heating/Cooling Changeover with Microprocessor Control Wiring Diagram, 230-v, Size 36 (for reference only)



WARNING	IMPORTANT	WIRING LEGEND	CHILLED WATER 2 POSITION LARGE CASSETTE MICROPROCESSOR CONTROLS CHANGEOVER
1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.	INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.	FACTORY INSTALLED FIELD INSTALLED TERMINAL BLOCK COMPONENT TERMINAL CONNECTED PATH OPTIONAL COMPONENT PLUG AND SOCKET	WIRING DIAGRAM 5H1065731224 — REV -

Fig. 34 — 42WKN Unit 2-Pipe Heating/Cooling Changeover with Microprocessor Control Wiring Diagram, 277-v (for reference only)

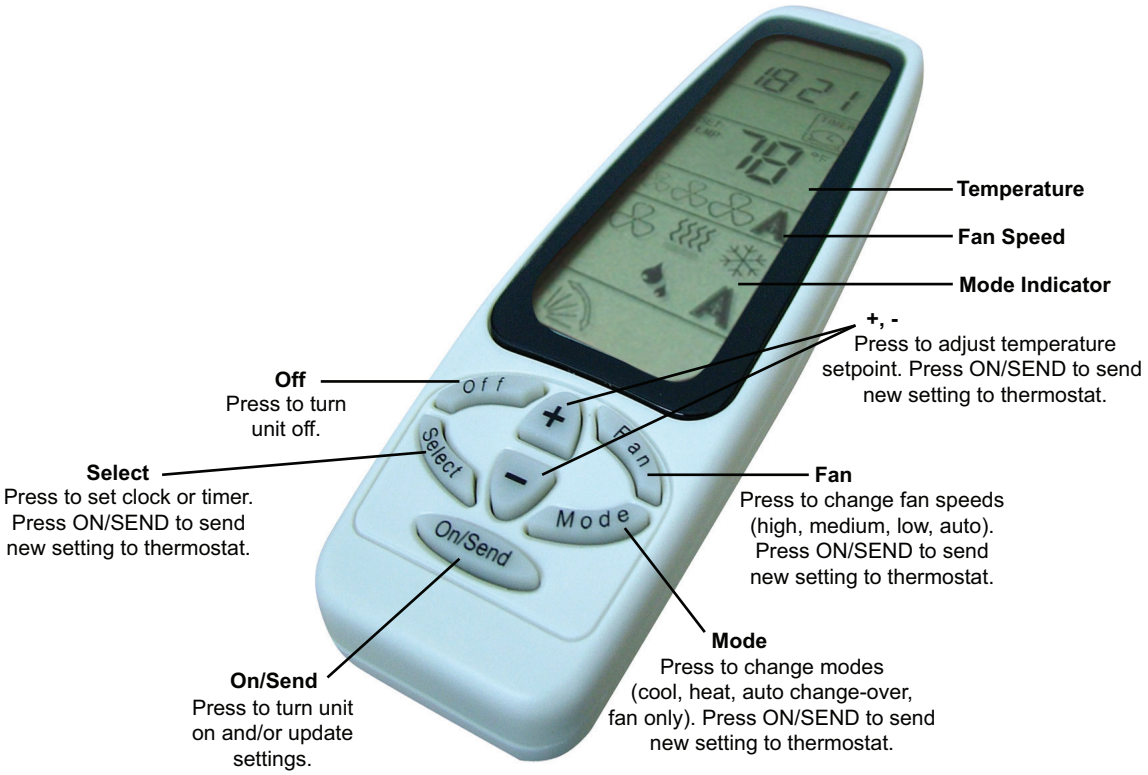
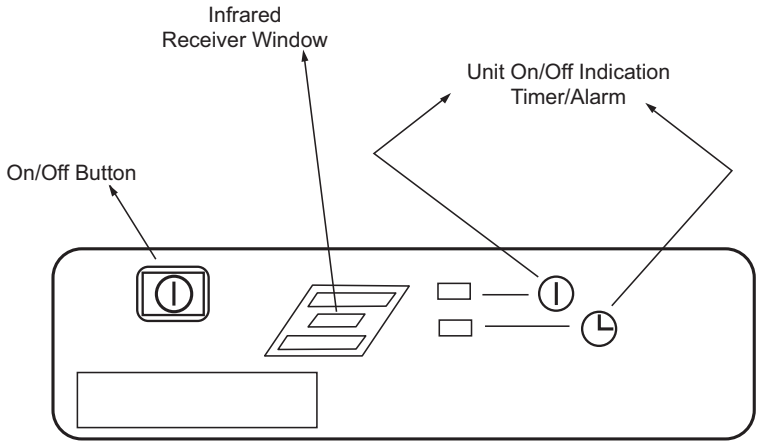


Fig. 35 — Infrared Transmitter



LED NAME	LED STATE	SYSTEM STATE
On	ON	ON
On	OFF	OFF
Timer and On	Blinking synchronous	Fault F1 indication — error with unit mounted return air sensor Fault on DI1,0 input (input was opened for more than 10 seconds) — Condensate high level — Freeze stat alarm

Fig. 36 — Infrared Receiver

PRE-INSTALLATION

Unpack Unit

Remove the banding straps and lift the cardboard lid. Remove the fascia, packed in bubble wrap, and polystyrene packing pieces to expose the unit.

When removing the unit chassis from the box, the four corner brackets should be utilized for lifting. In order to protect the fascia from dirt and damage, it should be returned to the box until it is ready to be installed.

Blank Off Pieces

When branch ducting is to be used, polystyrene pieces for blanking off fascia openings are included with the fascia packing. Up to two opposing sides may be blanked off. See "Duct Collars" in Installation section, page 43.

Positioning

⚠ DANGER

Appliances must not be installed where they may be exposed to potentially explosive or flammable atmosphere.

⚠ DANGER

Les appareils ne doivent pas être installés à un endroit où ils risquent d'être exposés à une atmosphère potentiellement explosive ou inflammable.

IMPORTANT: Unit performance will be significantly reduced at or above 7215 ft (2200 m) and should not be operated above this altitude.

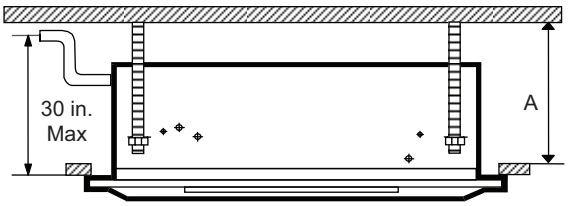
IMPORTANT: La performance de l'unité sera grandement réduite à une altitude de 7215 pieds (2200 m) et elle ne doit pas être utilisée au-delà de cette hauteur.

The unit installation position should be selected with the following points in mind:

1. The appliance must be installed on a structure that is suitable to support the total weight of the appliance, piping, and condensate.
2. Piping, electrical panel and condensate pump access panel should be readily accessible for maintenance purposes. A 2 ft (0.61 m) clearance is recommended around the electrical panel and condensate pump access panel.
3. The unit should not be positioned less than 5 ft (1.5 m) from a wall or similar obstruction, or in a position where the discharge air could blow directly on to the thermostat. A 5 ft (1.5 m) clearance is required below the unit for service access.
4. The unit should not be positioned directly above any obstructions.
5. The unit must be installed square and level.
6. The condensate drain should have sufficient downward slope, 1 in. per 100 in. (2.5 cm per 254 cm), in any horizontal run between unit and drain. Maximum condensate pump lift is 30 inches (76.2 cm).
7. There should be sufficient room above the false ceiling for installing the unit. Minimum distance as shown in Fig. 37.
8. In case of high humidity, clogged or damaged condensate piping, incorrect installation or faulty condensate pump, water may drip from the unit. Do not install the appliance where dripping water can cause damage.

Ceiling Opening Sizes

An opening in the false ceiling will then have to be cut to the size shown in Table 4.



42WKN UNIT SIZE	DIMENSION A
08,12	12-3/4 in. (32.40 cm)
18	11-1/2 in. (29.20 cm)
36	13-1/2 in. (34.30 cm)

Fig. 37 — Minimum Distance to Ceiling

Table 4 — Ceiling Opening Dimensions

42WKN UNIT SIZE	DIMENSIONS
08,12	23 in. x 23 in. (58.42 cm x 58.42 cm)
18	34 in. x 34 in. (86.63 cm x 86.36 cm)
36	46 in. x 34 in. (116.8 cm x 86.36 cm)

A cardboard template for ceiling cutout and rod positions is included with the unit.

Positioning the Electro-Mechanical Thermostat

In addition to positioning the unit correctly, it is very important to locate the wall-mounted thermostat in the optimum position to ensure good temperature control. Therefore, the installation should be selected with the following points in mind:

1. Position the thermostat approximately 48 in. (122 cm) above floor level.
2. Do not position thermostat where it can be directly affected by the unit's discharge airstream.
3. Avoid external walls and drafts from windows and doors.
4. Avoid positioning near shelves and curtains as these restrict air movement.
5. Avoid heat sources e.g., direct sunlight, heaters, dimmer switches and other electrical devices.

INSTALLATION

IMPORTANT: Make sure the ceiling grid is supported separately from the appliance. The ceiling must not be supported by any part of the appliance, fascia or any associated wiring or pipe work.

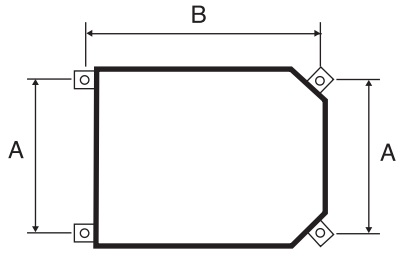
IMPORTANT: For ceiling mounted units, check that the ceiling is capable of supporting the weight of the unit. If used within a ceiling grid, the ceiling grid is to be supported separately from the unit.

IMPORTANT: Pour les unités installées au plafond, vérifiez que le plafond peut soutenir le poids de l'unité. En cas d'utilisation au sein d'un support de plafond, ce dernier doit être soutenu séparément de l'unité.

Step 1 — Hanger Bolts

The hanger bolts can now be installed at the centers shown in Fig. 38. Use 3/8 in. all thread rod.

Check the strength of the unit mounting hanger bolts. Refer to Tables 2 and 3 for unit weights.



42WKN UNIT SIZE	DIMENSIONS (in.)	
	A	B
08,12	19-1/2 (49.5 cm)	23 (58.4 cm)
18	28-1/2 (72.4 cm)	31-1/2 (80.0 cm)
36	28-1/2 (72.4 cm)	43-1/2 (110.5 cm)

Fig. 38 — Hanger Bolt Mounting Dimensions

Step 2 — Installation Guide

An installation guide is included in the Carrier Owner Information packet provided with the unit. Prepare the installation guide by folding the flat metal piece, by hand, along the perforations as shown in Fig. 39.

INSTALLATION GUIDE SETUP

Use an adequate number of personnel when moving the unit. A lifting device or at least two personnel should be used to lift the unit. The unit can be lifted onto the hanging rods and leveled at the correct distance from the ceiling with the aid of the installation guide.

1. Hold the tab on the installation guide against the bottom of the cassette case with the guide pointing away from the cassette. See Fig. 40. Adjust the height of the cassette until the guide is level with the bottom of the false ceiling.
2. Secure the unit in position with locknuts and washers on both sides of the unit bracket. Ensure the threaded rod does not protrude more than 2 in. (5 cm) below the mounting bracket as shown in Fig. 41.

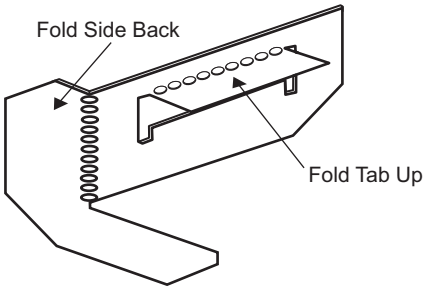


Fig. 39 — Setting Up Installation Guide

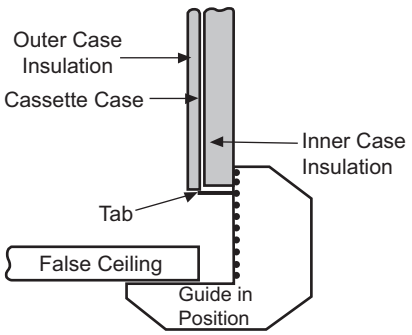


Fig. 40 — Positioning Installation Guide

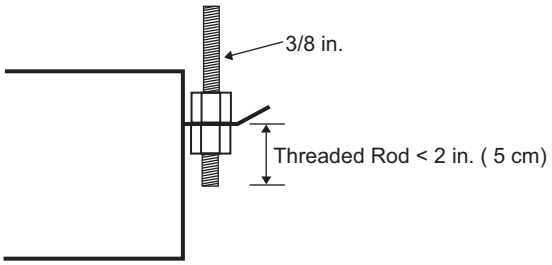


Fig. 41 — Threaded Rod Dimension

Step 3 — Condensate Piping

The unit is supplied with a 3/8 in. ID flexible hose for connection to copper or plastic drain piping.

When installing the unit, the following points should be remembered:

1. Maximum pump lift is 30 inches (76.2 cm).
2. The highest point in the condensate piping should be as close to the unit as possible.
3. Condensate piping should slope downwards in the direction of water flow with a minimum gradient of 1 inch in 100 inches (2.54 cm in 254 cm). There must not be any uphill gradients other than in the first 30 in. (76.2 cm) of piping from the unit. Once the piping begins the downward gradient, the piping must continue to be in a downward gradient. See Fig. 42.
4. When multiple units are connected to a common condensate drain, ensure the drain is large enough to cope with the volume of condensate from all units. It is also recommended to have an air vent in the condensate piping to prevent any air locks.
5. Condensate piping must not be installed where it may be exposed to freezing temperatures.

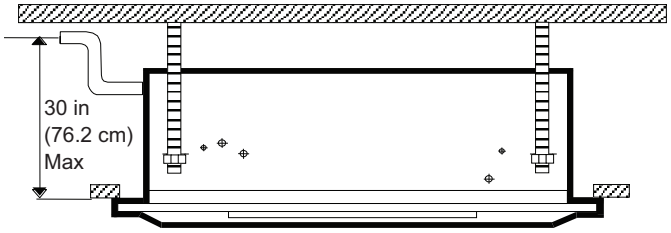


Fig. 42 — Condensate Piping

Step 4 — Duct Collars

DUCT COLLARS

Supply air branch duct and outside air duct collars can be attached to the unit chassis by following the below steps:

SUPPLY AIR DUCT COLLARS

1. Up to two supply air ducts can be attached per unit.
2. Place the polystyrene blanking strip in the fascia supply air opening on the same side where the supply duct collar is to be installed.

OUTSIDE AIR DUCT COLLARS

1. Two outside air openings are available on small casing sizes (size 08 and 12). Three outside air openings are available on medium and large casing sizes (sizes 18 and 36).
2. To maximize the amount of outside air through the knockouts, use all available fresh air openings, the pleated filter, and high fan speed.

INSTALLING SUPPLY AIR DUCT COLLARS

1. Refer to the dimensional drawings (Fig. 2-4 to for knockout hole locations).
2. The insulation is pre-cut to aid location and removal of the relevant section. Rub hand across surface of insulation to reveal exact location of knockout.
3. Remove the metal knockout from the chassis.
4. Place the duct collar's tabs inside the duct collar flange's opening. Bend the tabs around the duct collar flange's opening.
5. Using field provided self-tapping screws, attach the duct flange and collar to the chassis with the bent tabs being sealed in between the unit chassis and duct collar flange.

NOTE: See Fig. 2-4 for branch duct and fresh air duct locations and dimensions.

INSTALLING FRESH AIR KIT

⚠ WARNING

Disconnect power supply before making wiring connections or working on this equipment. Follow all applicable safety procedures to prevent accidental power up. Failure to do so can result in injury or death from electrical shock or moving parts and may cause equipment damage.

Application

Fresh air kit with duct collars for fastening to the unit to allow connection of 3 in. flexible duct to the cassette for fresh air intake.

Components

Before you start, confirm the contents of your shipment, match the components listed in Table 5. If any components are missing, please contact the factory.

See Fig. 43 for fresh air kit location.

Table 5 — Fresh Air Kit Components[a]

DESCRIPTION	QTY IN KIT BY MODEL SIZE		
	08, 12	18	36
Foam Seal (1)	1	1	1
Duct Collar Flange - 3 in.	2	3	3
Duct Collar - 3 in.	2	3	3

NOTE(S):

a. Length of foam varies by model size.

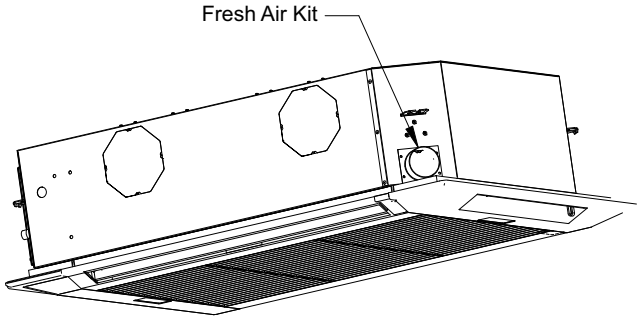
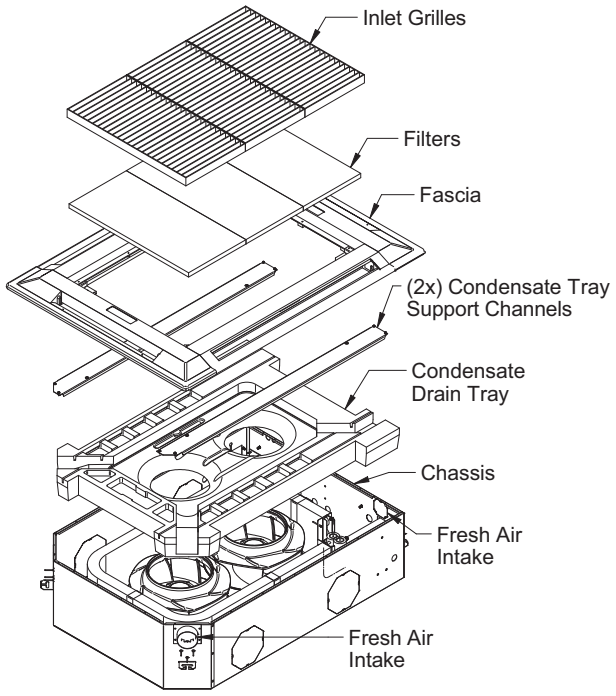


Fig. 43 — Cassette Fresh Air Kit

1. Turn off power to the unit before installation of the fresh air kit. Verify power is off.
2. Unclip the grille catches and remove the inlet grille(s) and filters from the fascia. See Fig. 44.
3. Remove the fascia by loosening the four (4) fascia mounting bolts and then slide the fascia horizontally until it releases from the chassis.
4. Remove the eight (8) self-tapping screws securing the two insulated metal condensate tray support channels and pull the channels away from the condensate tray. Pull the condensate tray, complete with inlet ring (inlet ring on model size 18 to 36 only), downwards away from the chassis.
5. Refer to the applicable model size's dimensional drawing found in the Fig. 2-4 for the location of the fresh air intake openings. On the chassis, identify the fresh air intake knockouts that will be utilized. Remove the sheet metal knockouts to expose the fresh air intake opening(s).



NOTE: View is shown before the unit is installed in the ceiling.

Fig. 44 — Exploded View of the Cassette

6. The drain tray has fresh air channels that match up to fresh air openings on the chassis. Identify the fresh air channels on the drain tray. See Fig. 45 for the fresh air channels on the corners of the drain tray. See Fig. 47 for the fresh air channel that would be adjacent to the control panel (only for model sizes 18 through 36).
7. Adhere the foam seal to the condensate drain tray as shown in Fig. 46 and 48.
8. Allow chilled water to enter the unit and vent air from the unit by opening the 1/4 inch air bleed. Re-tighten the bleed screw once all air has been removed.

NOTE: For models with digits 6,7 = 08 or 36, the HW coil is in reheat position. For models with digits 6,7 = 18, the HW coil is in the preheat position Hot water heating is not available for models with digit 6,7 = 12.

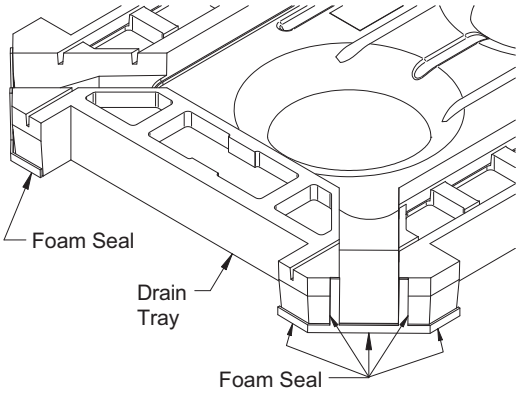


Fig. 45 — Foam Seal on Drain Tray Corners

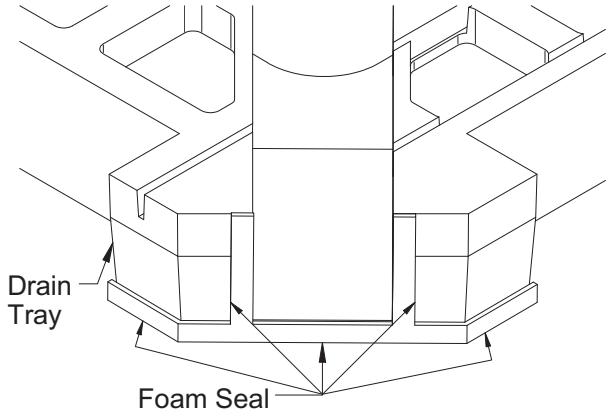


Fig. 46 — Close up of Foam Seal

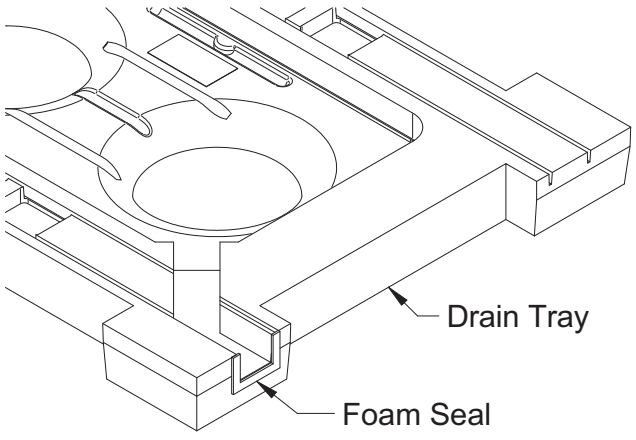


Fig. 47 — Foam Seal on Drain Tray (Control Panel Side)

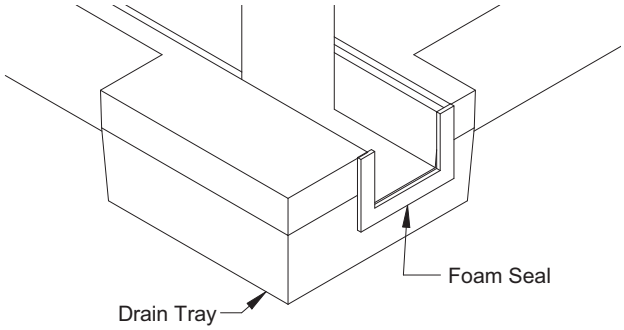


Fig. 48 — Close up of Foam Seal (Control Panel Side)

9. Place the condensate drain tray back into the chassis. Install the condensate tray support channels and secure with the self-tapping screws.
10. Insert the 3 in. duct collar through the duct collar flange opening. Bend the tabs back around the duct collar flange opening. See Fig. 49.

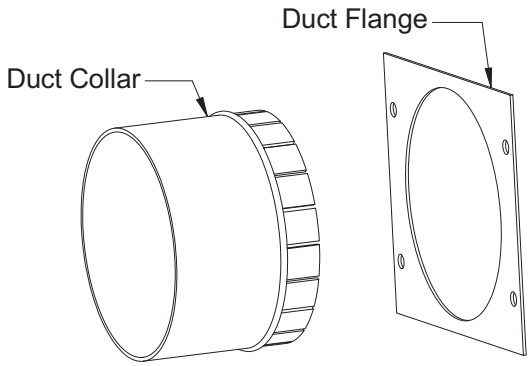


Fig. 49 — Duct Collar and Duct Flange

11. Mate and fasten the duct collar and duct collar flange assembly to the unit chassis around the fresh air intake opening using four (4) No. 6 x 1/2 in. self tapping screws (not included in the kit). The duct collar tabs will be secured in between the flange and the unit chassis. See Fig. 50 and 51.

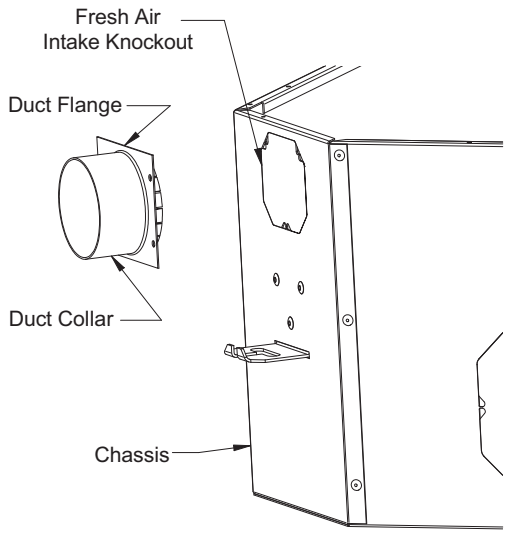


Fig. 50 — Exploded View of Fresh Kit Assembly

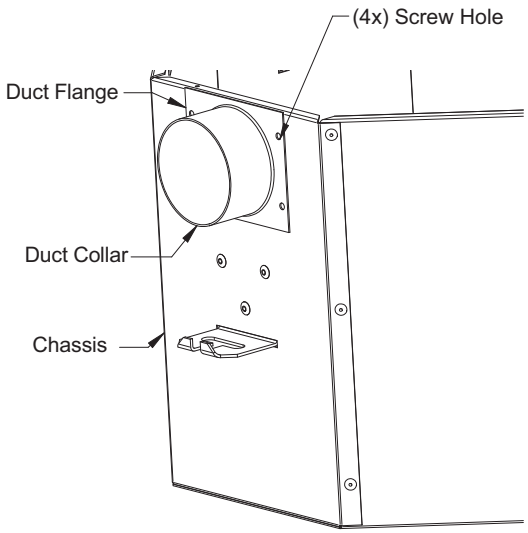


Fig. 51 — Assembled View of Fresh Kit

12. Repeat Steps 10 and 11 for each fresh air intake opening being utilized.
13. Install the fascia on the unit chassis and fasten the fascia mounting bolts. Do not over tighten the bolts as it may cause damage to the fascia.
14. Unclip the grille catches and install the MERV 10 or 13 filters. The MERV 10 or 13 filters are required to maximize fresh air volume intake. Lock the grilles in place to secure filters.

Step 5 — Piping Installation

⚠ CAUTION

- Units not approved for use in potable water systems.
- Hot water supplied to the hot water heating option must not exceed 200ºF (93°C) temperature or 125 psig (862 kPa) pressure.

⚠ ATTENTION

- Ces unités ne sont pas approuvées pour l'usage dans des systèmes à eau potable.
- La température de l'eau chaude alimentée en vertu de l'option de chauffage de l'eau chaude ne doit pas dépasser 200°F (93°C) ou une pression de 125 lb/po² (862 kPa).

IMPORTANT:

- No water-flow can cause a freeze condition resulting in damage to the coil.
- Never leave the unit filled with water in a building without heat unless antifreeze has been added.

IMPORTANT:

- L'absence d'écoulement d'eau risque de causer une condition de gel et d'endommager le serpentin.
- Ne laissez jamais l'appareil rempli d'eau dans un immeuble non chauffé sans lui ajouter de l'antigel.

1. Branch piping to and from the unit should include swing joints to allow for expansion and contraction of the piping without placing a strain on the unit coil.
2. Install pipe unions and shutoff valves in lines to and from each coil to allow maintenance or replacement of unit without shutting down and draining entire system. See Fig. 52.
3. Include a circuit setter in return line for water flow regulation.
4. A drain valve (hose bib) should also be provided for each coil line to allow removal of water from the coil if located in an area subject to freezing.
5. It is advisable to use a pipe line strainer before each coil.
6. Provide adequate pipe hangers, supports, or anchors to secure the piping system independently of the unit.
7. On 2-pipe systems with microprocessor controls, install the factory-provided changeover sensor on the main supply water line upstream from the unit where water maintains flow. This ensures accurate readings of water temperature. Wire extension and a plug are included.
8. Allow chilled water to enter the unit and vent air from the unit by opening the 1/4" air bleed. Re-tighten the bleed screw once all air has been removed.

NOTE: For models with digits 6,7 = 08 or 36, the HW coil is in reheat position. For models with digits 6,7 = 18, the HW coil is in the preheat position. Hot water heating is not available for models with digit 6,7 = 12.

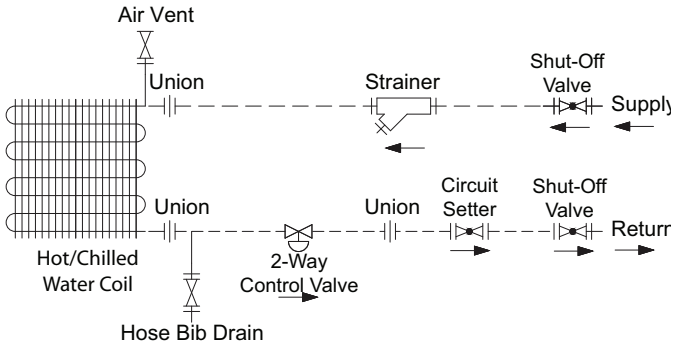


Fig. 52 — Installing Piping

PIPING INSULATION

Chilled water and condensate pipes should be insulated right up to the unit chassis to prevent condensation, which can damage the ceiling and objects located below the piping. Chilled water valves must also be insulated to prevent sweating.

Step 6 — Wiring

⚠ WARNING

- Disconnect power supply before making wiring connections or working on this equipment. Follow all applicable safety procedures to prevent accidental power up. Failure to do so can result in injury or death from electrical shock or moving parts and may cause equipment damage.
- All appliances must be wired strictly in accordance with the wiring diagram furnished with the appliance. Any wiring different from the wiring diagram could result in a hazard to persons and property.
- Any original factory wiring that requires replacement must be replaced with wiring material having a temperature rating of at least 221°F (105°C).
- Ensure that the supply voltage to the appliance, as indicated on the serial plate, is not 5% greater than rated voltage.
- When servicing or repairing this equipment, use only factory-approved service replacement parts. Refer to the rating plate on the appliance for complete appliance model number, serial number, and company address. Any substitution of parts or controls not approved by the factory will be at the owner's risk.

⚠ AVERTISSEMENT

- Débranchez l'alimentation électrique avant d'effectuer des connexions ou de travailler sur l'appareil. Respectez toutes les procédures de sécurité qui s'appliquent pour éviter toute mise en marche accidentelle. Le non-respect de cette directive peut entraîner des blessures ou la mort causées par un choc électrique ou des pièces mobiles, en plus d'endommager l'appareil.
- Tous les appareils doivent être branchés de manière strictement conforme au diagramme fourni. Tout câblage différent de celui du schéma peut créer des risques de dommages matériels ou de blessures.
- Tout câblage usine d'origine exigeant un remplacement doit être remplacé par un câble d'indice thermique nominal de 221°F (105 °C).
- Assurez-vous que la tension d'alimentation de l'appareil, comme indiqué sur la plaque de série, n'est pas de 5% supérieure à la tension nominale.
- Pour l'entretien et les réparations de cet appareil, utilisez uniquement des pièces d'origine certifiées. Le numéro de modèle complet, le numéro de série et l'adresse du fabricant figurent sur la plaque signalétique fixée à l'appareil. Toute substitution de pièce ou decommande non approuvée par le fabricant sera aux risques du propriétaire.

⚠ CAUTION

- Ensure that the supply voltage to the appliance, as indicated on the serial plate, is not 5% less than the rated voltage.
- In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.

⚠ ATTENTION

- Vérifiez que la tension d'alimentation de l'appareil n'est pas inférieure de plus de 5% à la tension nominale inscrite sur la plaque de série.
- Afin d'éviter tout danger causé par la réinitialisation involontaire du coupe-circuit thermique, cet appareil ne doit pas être alimenté par l'entremise d'un dispositif de commutation externe, comme une minuterie, ou relié à un circuit qui est régulièrement mis en marche et coupé par le service public.

1. Installation of wiring must conform with local building codes, or in the absence of local codes, with the National Electric Code ANSI/NFPA (American National Standards Institute/National Fire Protection Association) 70 - Latest Edition. Unit must be electrically grounded in conformance to this code. In Canada, wiring must comply with CSA (Canadian Standards Association) C22.1, Electrical Code:
2. Electric wiring must be sized to carry the full load amp draw of the motor, starter and any controls that are used with the unit. See Table 6 for electrical data.
3. External electrical service connections that must be installed include:
   a. Supply single phase power connection as indicated by Digit 8 of the nomenclature on the serial plate.
   b. Thermostats which are 24-v supplied from the unit (Electro-Mechanical control units, Digit 10=E). For thermostats that provide a modulating signal for valve control, there must be 24-v to the Y terminal and W terminal (if equipped with heating) for proper operation of unit control devices including relays and the condensate pump.
4. This equipment in its standard form is designed for an electrical supply of 208/230-1-60. When connection to a 115-1-60 supply is necessary, a factory-mounted step-up transformer must be fitted to the unit.
5. Any damage to or failure of units caused by incorrect wiring of the units is not covered by warranty.
6. Once the pipe work is complete, the electrical supply can be connected by routing the cable through the appropriate knockout and connecting the supply and ground cables to the unit's power terminals. Low voltage control wiring can be run through alternate knockouts, provided in the side in the side of the control panel.

NOTE: Low voltage control wiring can be run through alternate knockouts, provided in the side of the control panel.

Table 6 — Electric Data for All Voltages and for Units With or Without Electric Heat

42WKN NOMINAL CAPACITY (DIGIT 6, 7)	SUPPLY VOLTAGE (DIGIT 8)	PERFORMANCE (WITH ELECTRIC HEAT)			PERFORMANCE (NO ELECTRIC HEAT)		
		FLA	MCA	Recommended Fuse Size	FLA	MCA	Recommended Fuse Size
08 and 12 Small Chassis	A: 115/60/1	—	—	—	1.4	1.8	15
	J: 110/50/1						
	B: 208/60/1	N/A	N/A	N/A	0.7	0.9	15
	C: 230/60/1						
	K:220/50/1						
	H: 277/60/1	—	—	—	0.6	0.7	15
18 Medium Chassis	A: 115/60/1	—	—	—	2.8	3.5	15
	J: 110/50/1						
	B: 208/60/1	—	—	—	1.4	1.8	15
	C: 230/60/1						
	K: 220/50/1						
	H: 277/60/1	—	—	—	1.2	1.5	15
36 Large Chassis	A: 115/60/1	—	—	—	5.6	7.0	15
	J: 110/50/1						
	B: 208/60/1	—	—	—	2.8	3.5	15
	C: 230/60/1						
	K: 220/50/1						
	H: 277/60/1	—	—	—	2.3	2.9	15

TERMINAL STRIP CONNECTIONS
INSTALLATION

The terminal strip connections are designed to clamp down on the incoming building power and thermostat wiring connections. To properly connect the wires to the terminal strip:

1. Push a small flat head screwdriver into the square hole on the terminal. Press firmly until the screwdriver hits the back stop and opens the terminal. See Fig. 53.
2. Remove approximately 3/8 in. (9.5 mm) of insulation from the end of the wire and push the stripped wire into the oval hole in the terminal.
3. Remove the screwdriver. Pull on the wire to make sure that it is securely clamped in the terminal.
4. Make sure that the terminal clamp is in contact with bare wire (insulation removed).

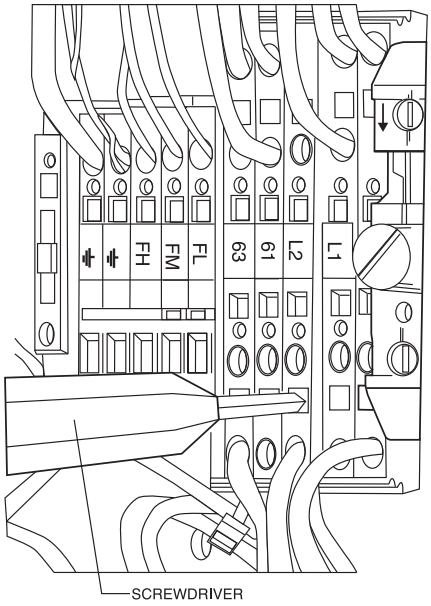


Fig. 53 — Terminal Strip

Disconnect Switch

For models with a factory installed disconnect switch (Digit 12 = D), the switch will be installed on the side of the control panel. See Fig. 54 and Fig. 2-4 dimensional drawings for the location of the control panel on the unit.

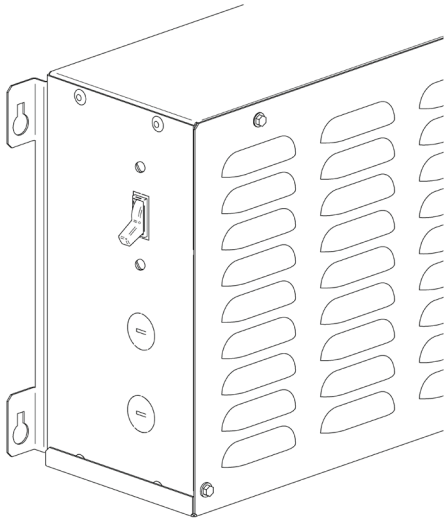
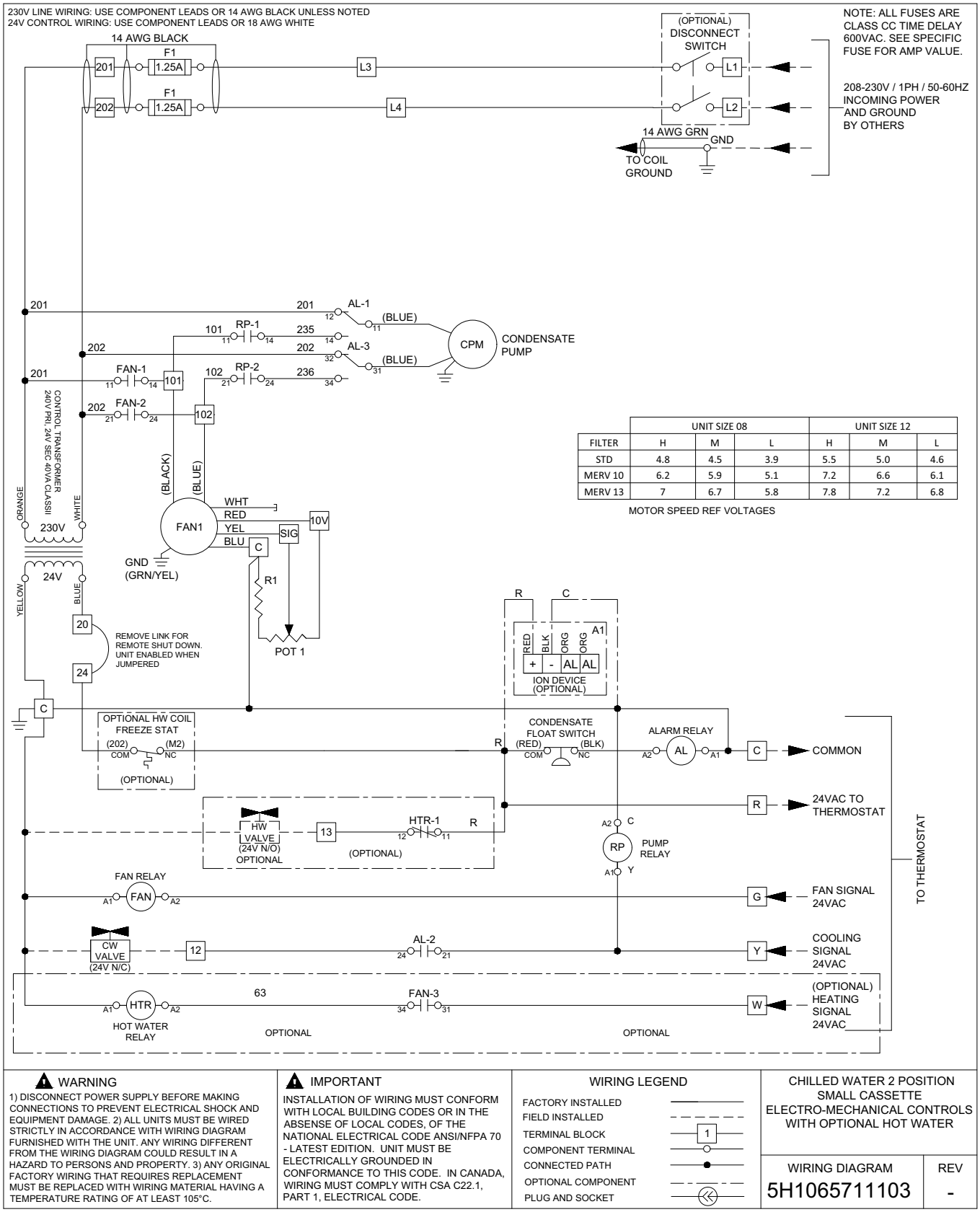


Fig. 54 — Factory Installed Disconnect Switch

Refer to Fig. 55-60 for typical 42WKN unit wiring diagrams.



	UNIT SIZE 08			UNIT SIZE 12		
FILTER	H	M	L	H	M	L
STD	4.8	4.5	3.9	5.5	5.0	4.6
MERV 10	6.2	5.9	5.1	7.2	6.6	6.1
MERV 13	7	6.7	5.8	7.8	7.2	6.8

MOTOR SPEED REF VOLTAGES

WARNING

1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.

IMPORTANT

INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.

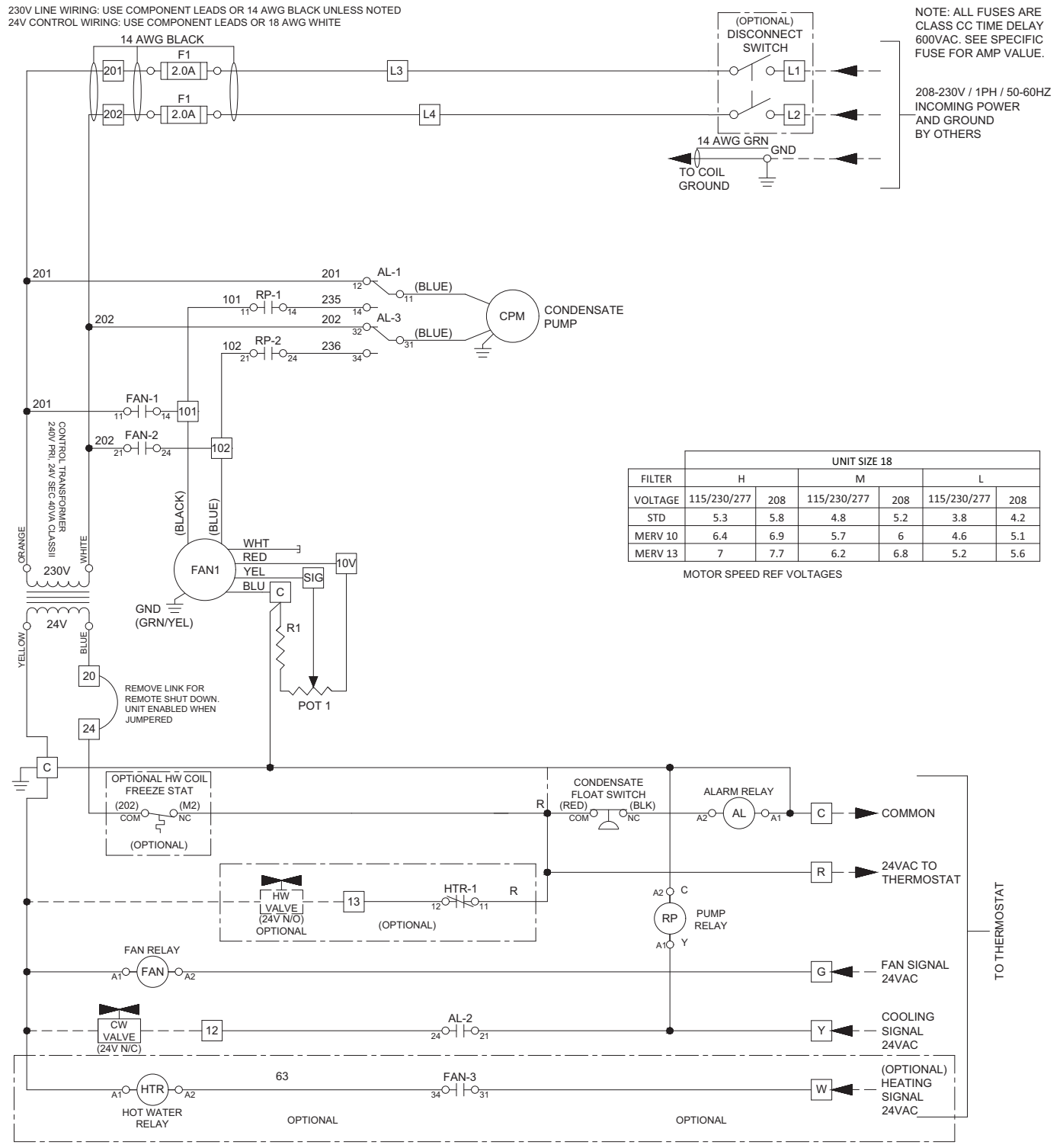
WIRING LEGEND

- FACTORY INSTALLED
- FIELD INSTALLED
- TERMINAL BLOCK
- COMPONENT TERMINAL
- CONNECTED PATH
- OPTIONAL COMPONENT
- PLUG AND SOCKET

CHILLED WATER 2 POSITION SMALL CASSETTE ELECTRO-MECHANICAL CONTROLS WITH OPTIONAL HOT WATER

WIRING DIAGRAM	REV
5H1065711103	-

Fig. 55 — 42WKN Unit 2-Pipe (Cooling or Heating Only) or 4-Pipe with Electro-Mechanical Control Wiring Diagram, Sizes 08 and 12 (for reference only)



	UNIT SIZE 18					
FILTER	H		M		L	
VOLTAGE	115/230/277	208	115/230/277	208	115/230/277	208
STD	5.3	5.8	4.8	5.2	3.8	4.2
MERV 10	6.4	6.9	5.7	6	4.6	5.1
MERV 13	7	7.7	6.2	6.8	5.2	5.6

MOTOR SPEED REF VOLTAGES

WARNING

1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.

IMPORTANT

INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.

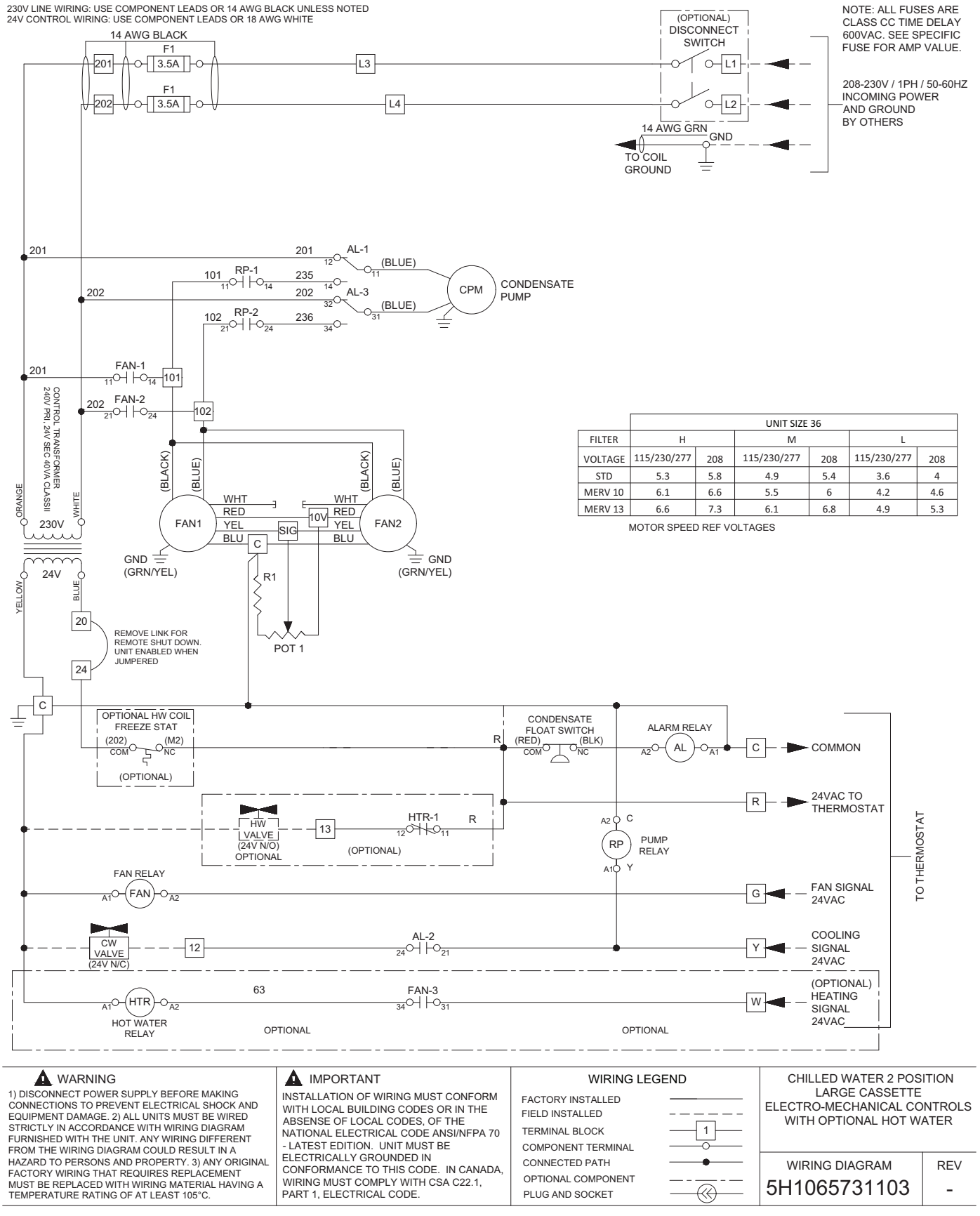
WIRING LEGEND

- FACTORY INSTALLED
- FIELD INSTALLED
- TERMINAL BLOCK
- COMPONENT TERMINAL
- CONNECTED PATH
- OPTIONAL COMPONENT
- PLUG AND SOCKET

CHILLED WATER 2 POSITION
MEDIUM CASSETTE
ELECTRO-MECHANICAL CONTROLS
WITH OPTIONAL HOT WATER

WIRING DIAGRAM	REV
5H1065721103	-

Fig. 56 — 42WKN Unit 2-Pipe (Cooling or Heating Only) or 4-Pipe with Electro-Mechanical Control Wiring Diagram, Size 18



	UNIT SIZE 36					
FILTER	H		M		L	
VOLTAGE	115/230/277	208	115/230/277	208	115/230/277	208
STD	5.3	5.8	4.9	5.4	3.6	4
MERV 10	6.1	6.6	5.5	6	4.2	4.6
MERV 13	6.6	7.3	6.1	6.8	4.9	5.3

MOTOR SPEED REF VOLTAGES

WARNING

1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.

IMPORTANT

INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.

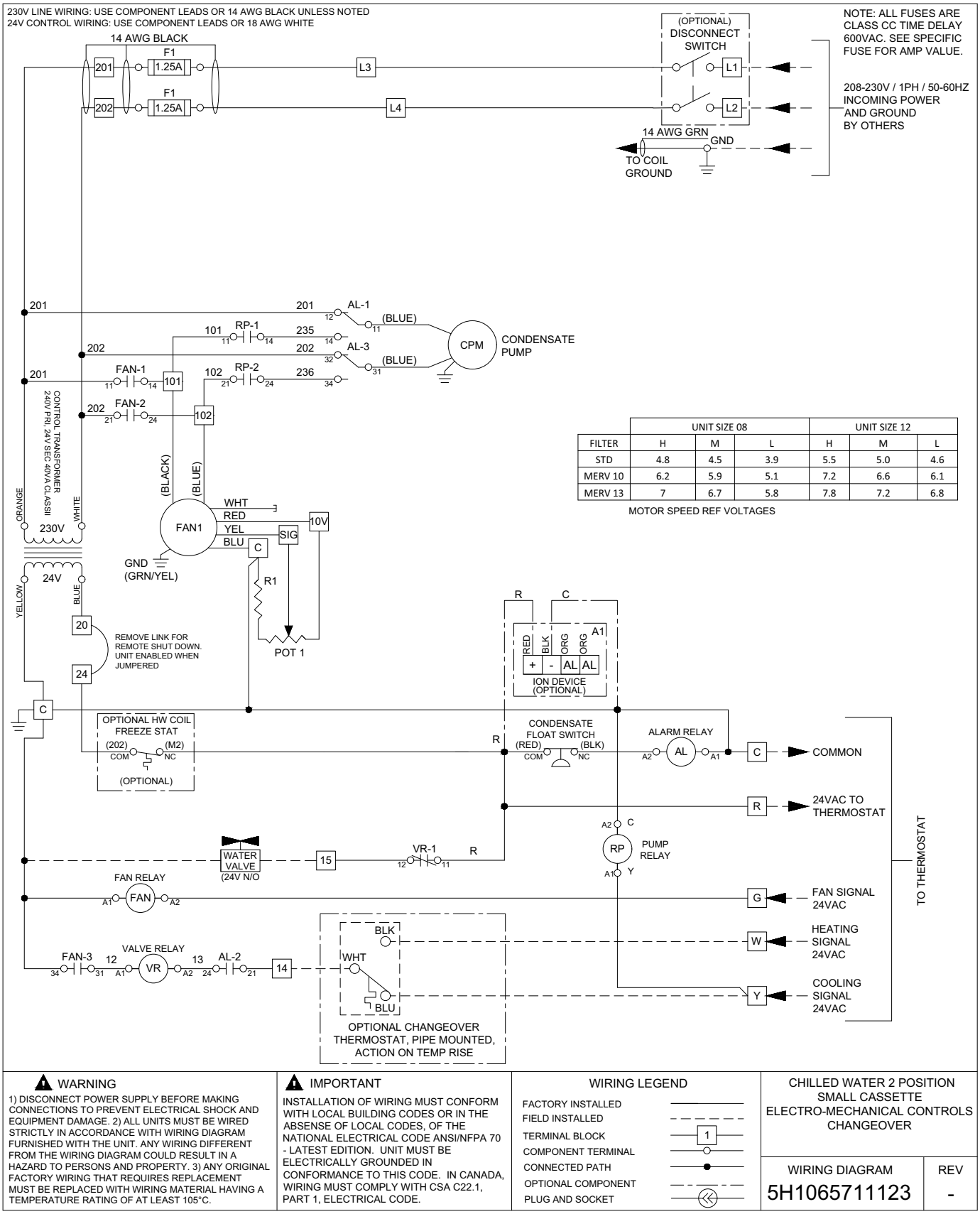
WIRING LEGEND

- FACTORY INSTALLED
- FIELD INSTALLED
- TERMINAL BLOCK
- COMPONENT TERMINAL
- CONNECTED PATH
- OPTIONAL COMPONENT
- PLUG AND SOCKET

CHILLED WATER 2 POSITION
LARGE CASSETTE
ELECTRO-MECHANICAL CONTROLS
WITH OPTIONAL HOT WATER

WIRING DIAGRAM	REV
5H1065731103	-

Fig. 57 — 42WKN Unit 2-Pipe (Cooling or Heating Only) or 4-Pipe with Electro-Mechanical Control Wiring Diagram, Size 36



	UNIT SIZE 08			UNIT SIZE 12		
FILTER	H	M	L	H	M	L
STD	4.8	4.5	3.9	5.5	5.0	4.6
MERV 10	6.2	5.9	5.1	7.2	6.6	6.1
MERV 13	7	6.7	5.8	7.8	7.2	6.8

MOTOR SPEED REF VOLTAGES

WARNING

1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.

IMPORTANT

INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.

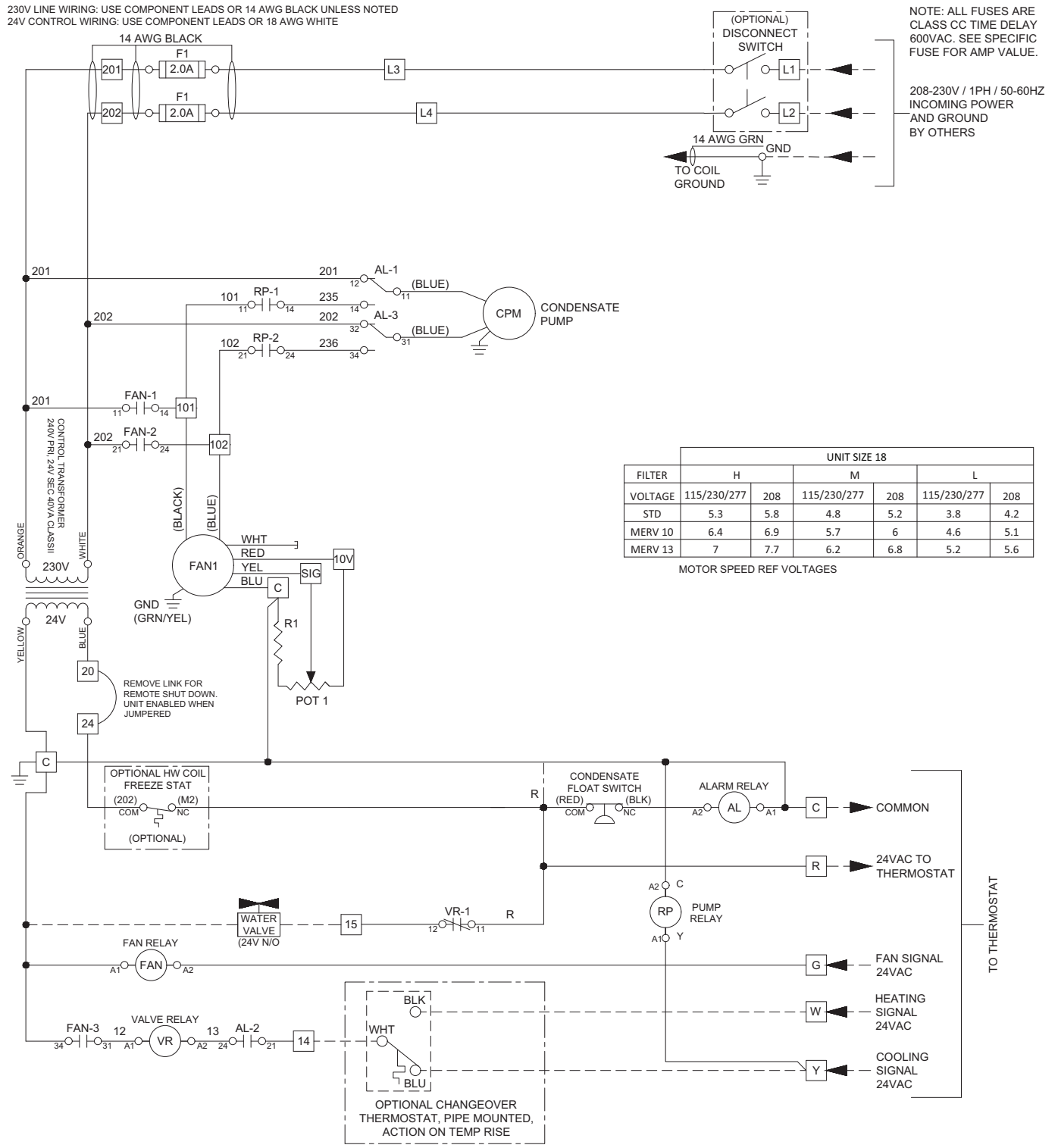
WIRING LEGEND

- FACTORY INSTALLED
- FIELD INSTALLED
- TERMINAL BLOCK
- COMPONENT TERMINAL
- CONNECTED PATH
- OPTIONAL COMPONENT
- PLUG AND SOCKET

CHILLED WATER 2 POSITION SMALL CASSETTE ELECTRO-MECHANICAL CONTROLS CHANGEOVER

WIRING DIAGRAM	REV
5H1065711123	-

Fig. 58 — 42WKN Unit 2-Pipe System with Heating/Cooling Changeover, Aquastat, and Electro-Mechanical Control Wiring Diagram, Sizes 08 and 12



	UNIT SIZE 18					
FILTER	H		M		L	
VOLTAGE	115/230/277	208	115/230/277	208	115/230/277	208
STD	5.3	5.8	4.8	5.2	3.8	4.2
MERV 10	6.4	6.9	5.7	6	4.6	5.1
MERV 13	7	7.7	6.2	6.8	5.2	5.6

MOTOR SPEED REF VOLTAGES

WARNING

1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.

IMPORTANT

INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.

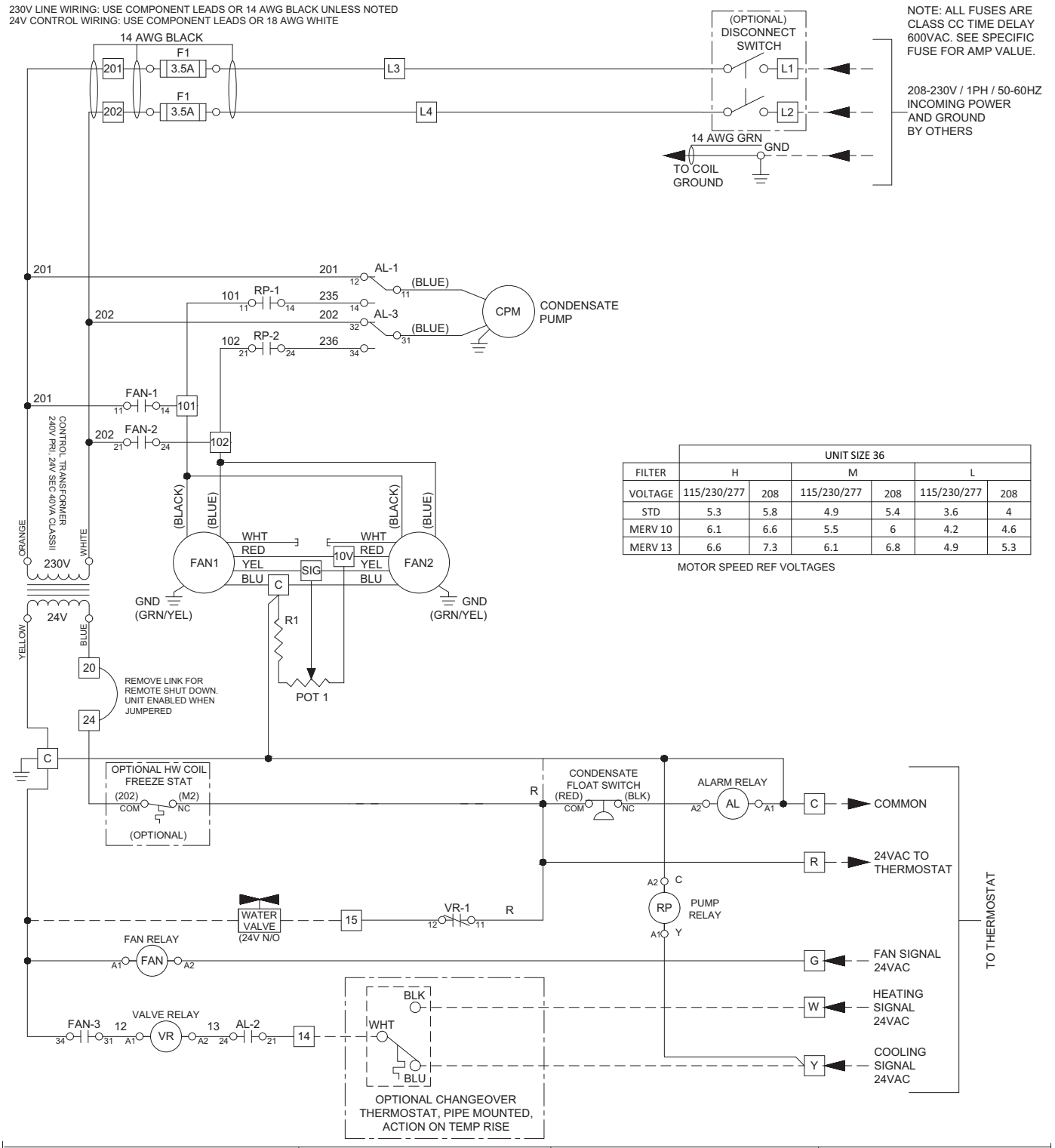
WIRING LEGEND

- FACTORY INSTALLED
- FIELD INSTALLED
- TERMINAL BLOCK
- COMPONENT TERMINAL
- CONNECTED PATH
- OPTIONAL COMPONENT
- PLUG AND SOCKET

CHILLED WATER 2 POSITION MEDIUM CASSETTE ELECTRO-MECHANICAL CONTROLS CHANGEOVER

WIRING DIAGRAM	REV
5H1065721123	-

Fig. 59 — 42WKN Unit 2-Pipe System with Heating/Cooling Changeover, Aquastat, and Electro-Mechanical Control Wiring Diagram, Size 18



FILTER	UNIT SIZE 36					
	H		M		L	
VOLTAGE	115/230/277	208	115/230/277	208	115/230/277	208
STD	5.3	5.8	4.9	5.4	3.6	4
MERV 10	6.1	6.6	5.5	6	4.2	4.6
MERV 13	6.6	7.3	6.1	6.8	4.9	5.3

MOTOR SPEED REF VOLTAGES

WARNING

1) DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. 2) ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. 3) ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C.

IMPORTANT

INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENSE OF LOCAL CODES, OF THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE.

WIRING LEGEND

- FACTORY INSTALLED
- FIELD INSTALLED
- TERMINAL BLOCK
- COMPONENT TERMINAL
- CONNECTED PATH
- OPTIONAL COMPONENT
- PLUG AND SOCKET

CHILLED WATER 2 POSITION
LARGE CASSETTE
ELECTRO-MECHANICAL CONTROLS
CHANGEOVER

WIRING DIAGRAM	REV
5H1065731123	-

Fig. 60 — 42WKN Unit 2-Pipe System with Heating/Cooling Changeover, Aquastat, and Electro-Mechanical Control Wiring Diagram, Size 36

Step 7 — Install Optional Ceiling Cassette

INSTALL CEILING CASSETTE SHROUD

The ceiling cassette shroud shown in Fig. 61 is for the small casing size (model sizes are 08 or 12). The medium and large casing sizes, while not shown, are similar in construction and installation.

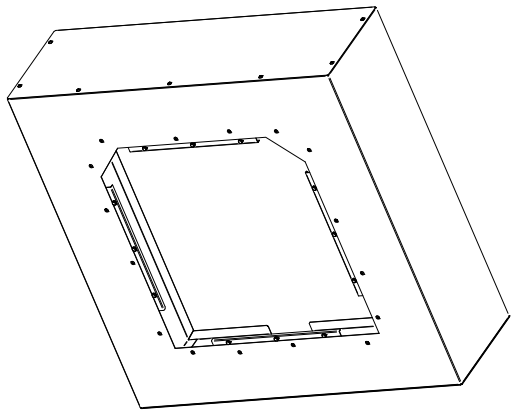


Fig. 61 — Ceiling Cassette Shroud

⚠ WARNING

Disconnect power supply before making wiring connections or working on this equipment. Follow all applicable safety procedures to prevent accidental power up. Failure to do so can result in injury or death from electrical shock or moving parts and may cause equipment damage.

IMPORTANT:

- The use of this manual is specifically intended for a qualified installation and service agency. All installation and service of these kits must be performed by a qualified installation and service agency.
- These instructions must also be used in conjunction with the Installation and Service manual originally shipped with the unit, in addition to any other accompanying component supplier literature.

CEILING CASSETTE SHROUD APPLICATION

The shroud is a sheet metal cover for the unit housing. It provides a finished look to the ceiling cassettes unit when it is installed below the suspended ceiling. The shroud is painted Sky White (hammertone finish).

Ceiling Cassette Shroud Includes:

- (1x) shroud
- 10-24 x 1/2 in. self-drilling screws
- (1x) main disconnect label

CEILING CASETTE ASSEMBLY AND INSTALLATION

The recommended procedure for assembly and installation is described as follows:

1. Install and secure the ceiling cassette unit to the ceiling per the unit's Installation and Service Manual originally shipped with the unit.
2. Complete all piping installation and electrical wiring per the unit's Installation and Service Manual before installing the shroud on the unit casing.

   NOTE: Do not install the fascia until after the shroud is secured to the unit.
3. Disconnect power to the unit and make sure the disconnect switch (if applicable) is in the off position before beginning to install the shroud.
4. On the unit, identify the side where the piping connections and electrical box are located. On the shroud, there is an open cutout for the piping connections and a removable panel for disconnect switch access (if applicable). See Fig. 62. The piping and disconnect switch access side of the shroud needs to be match the unit's piping/electrical side.

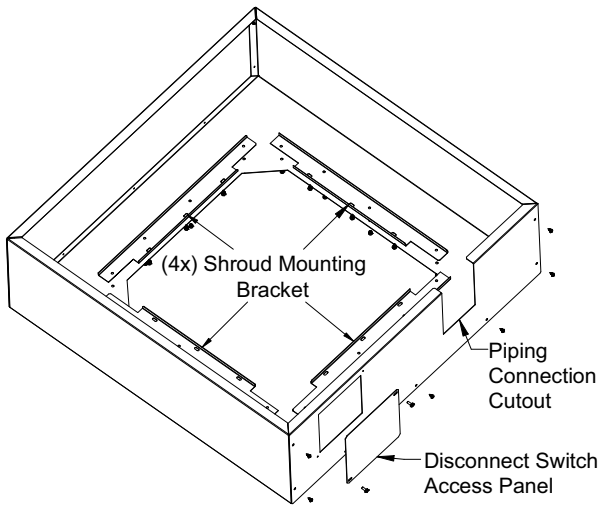


Fig. 62 — Shroud Components

5. Once the orientation of the shroud has been confirmed, it is recommended two persons lift the shroud and hold the shroud up against the unit casing. Follow the next steps for mounting instructions.
6. On the shroud, there are 4x mounting brackets (See Fig. 62) with screw clearance holes. Match up the clearance holes on the mounting brackets to the bite screw holes located on the unit casing. See Fig. 63.

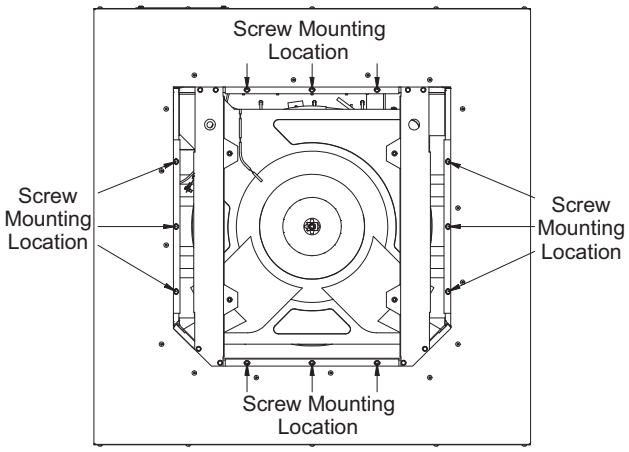


Fig. 63 — Screw Mounting Locations (Bottom View)

7. Using the screws, secure the shroud to the unit casing. See Fig. 64 and 65. For the small casing size, there are 3x mounting screw locations per side/bracket. For the medium casing size, there are 4x mounting screw locations per side/bracket. For the large casing size, there are 5x mounting screw locations on the long side/bracket and 4x mounting screw locations on the short side/bracket.

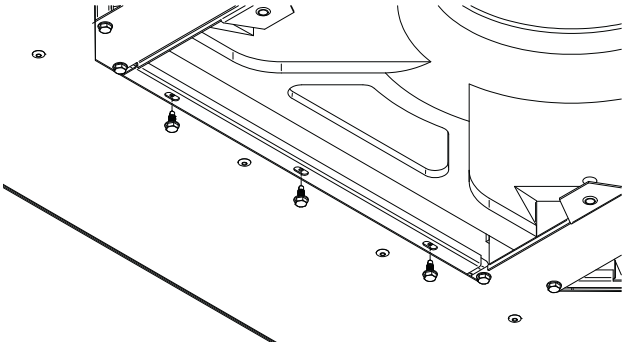


Fig. 64 — Shroud Screw Mounting

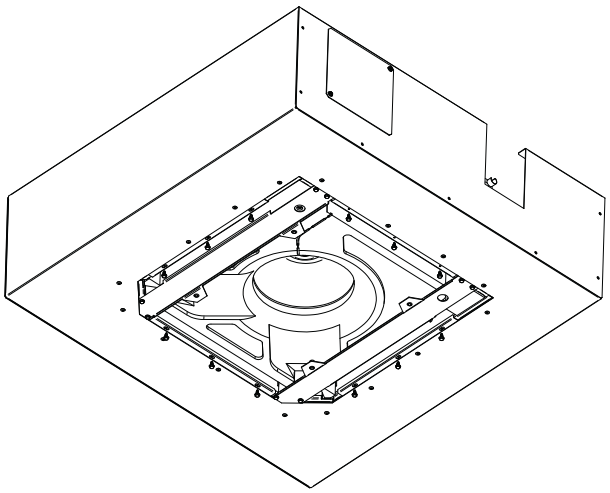


Fig. 65 — Shroud and Unit Assembly

8. Once the shroud is secured to the unit, the fascia can be installed per the Installation and Service manual provided with the unit. See Fig. 66.

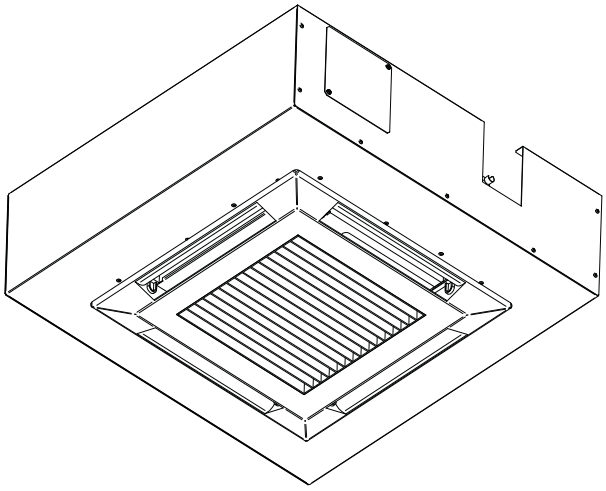


Fig. 66 — Unit, Shroud and Fascia Assembly

9. If the unit has a factory installed disconnect, place the main disconnect label (See Fig. 68) on the removable disconnect switch access panel (See Fig. 62 and 67). If the unit does not have a factory installed disconnect switch, the main disconnect label can be discarded.

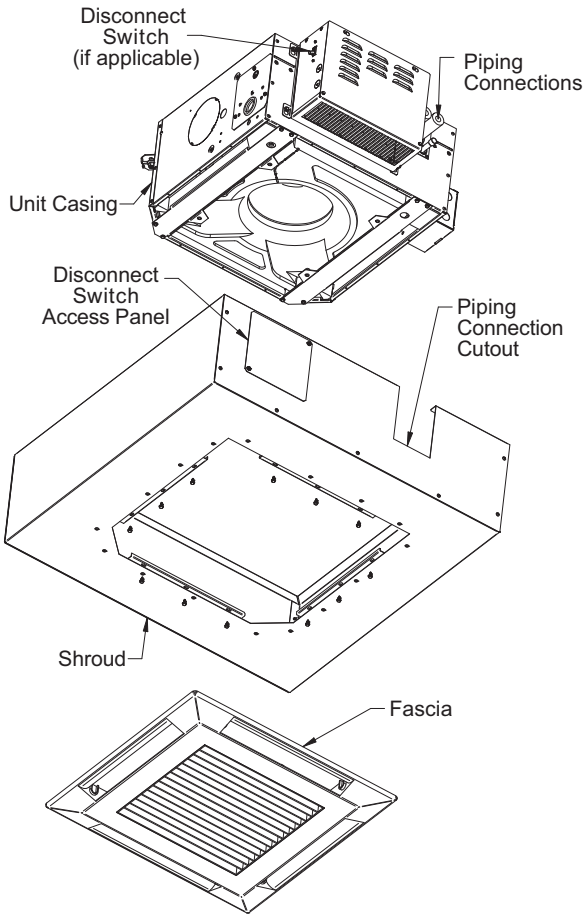


Fig. 67 — Unit, Shroud, Fascia Exploded View

Fig. 68 — Main Disconnect Label

10. To have full accessibility for servicing, the shroud needs to be removed. Turn off power to the unit and make sure the disconnect switch (if applicable) is in the off position. Remove the fascia per the unit's Installation and Service Manual. Remove the screws holding the shroud in place via the mounting brackets. It is recommended to have another person hold the shroud in place as the screws are removed to prevent the shroud from falling as the shroud becomes detached. Once the screws are removed, carefully remove the shroud from the unit casing.

Step 8 — Install Fascia Assembly

Once the piping and electrical services have been connected, the 4 fascia mounting bolts can be unscrewed approximately 1 in. (2.54 cm) from the condensate tray support channels.

The fascia can now be unpacked for fitting to the unit chassis. Ensure the black fir tree fasteners holding the fascia polystyrene are pushed in firmly in case of transit vibration. If using branch ducting, the fascia aperture side opposite the ducting must be blanked off. Take one of the polystyrene blanking pieces and push it into the recess in the polystyrene fascia insulation. See Fig. 69. Install the fascia by removing the inlet grilles and filters, locating the 4 fascia mounting bolts on the chassis through the 4 keyhole brackets on the fascia and then sliding the fascia sideways until it locks into position.

NOTE: Up to 2 non-adjacent sides can be blanked off.

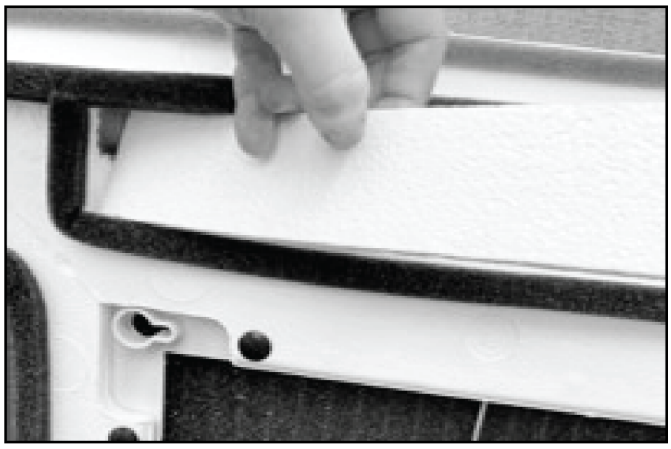


Fig. 69 — Blanking Off Fascia

NOTE: Make sure the foam insulating strip profile on the fascia matches the square and angled corners of the unit housing.

On microprocessor-controlled units, ensure that the display panel cable is routed to the electrical panel and securely fastened to its connector on the microprocessor circuit board. (Refer to the unit's electrical wiring schematic.) Take care to ensure that the connector is connected in the proper orientation and that the wires are not routed such that they may become trapped, cut, broken or chaffed.

The fascia can now be tightened up to the unit chassis until a good seal is obtained between fascia and chassis.

NOTE: Do not over tighten the bolts. To do so may cause damage to the fascia.

Reinstall filters in fascia. The inlet grilles can now be fitted to the fascia to complete the installation.

PRE-START-UP

IMPORTANT: Start up and adjustment procedures, installation, and service of these appliances must be performed by a qualified installation and service agency.

IMPORTANT: Les procédures de démarrage et de réglage, l'installation et le service de ces appareils doivent être confiés à un centre d'installation et de service qualifié.

See the start-up sheet example in Fig. 74. A start-up sheet is supplied with the unit.

Pre-Start Checks

Once installation is complete, it is important that the following pre-start checks are made:

1. All piping is complete and insulated where necessary.
2. All fans are able to rotate freely.
3. All electrical connections (both power and control) are properly terminated.
4. All condensate drains are installed correctly.
5. The power supply is of the correct voltage and frequency.
6. The units are properly grounded in accordance with current electrical codes.
7. For microprocessor-controlled units, check that the display panel cable is properly connected to the microprocessor main circuit board and that the DIP switches are correctly set (refer to unit wiring schematic). If the DIP switches are set incorrectly, remove main power supply before making any changes.
8. For microprocessor controlled units (Model Digit 10=M), check that the batteries are installed in the infrared transmitter.

Fan Speed Settings

Units are equipped with a potentiometer to provide adjustable fan speed control. The fan can also be controlled via an external 3-10 vdc signal by others by making simple wiring changes.

Both methods of motor control are described below, including the changes required to control the fan speed via an external 3-10 vdc signal.

1. For units with Electro-Mechanical controls (Digit 10=E) without an external 3-10Vdc signal for fan speed control, set the unit to the desired fan speed following the steps below.
   a. A factory installed potentiometer is located on the side of the control box. See Fig. 70. This potentiometer adjusts the fan speed and airflow of the unit.
   b. Tables 9 and 10 show which vdc signals correspond to high, medium, and low speeds for each model size. Use these tables to determine the vdc signal needed to obtain the desired fan speed.
   c. Check that the unit is off and the fan is not running. Using a voltmeter, plug the voltmeter leads into the "C" terminal and "SIG" terminal located in the control panel. The voltmeter will be used to measure the voltage signal across the potentiometer and the EC motor.
   d. Turn on the unit and confirm the fan is running. The voltmeter should display a value between 3-10 vdc. Turn the

potentiometer dial counter-clockwise to increase the vdc signal (increase speed) or clockwise to decrease the vdc signal (decrease speed). See Fig. 71. Once the voltmeter reads the desired vdc signal, stop turning the potentiometer dial.

e. Turn off the unit and confirm the fan is off. Remove the voltmeter leads from the "C" and "SIG" terminals. Do not touch the potentiometer dial to avoid changing the set fan speed.

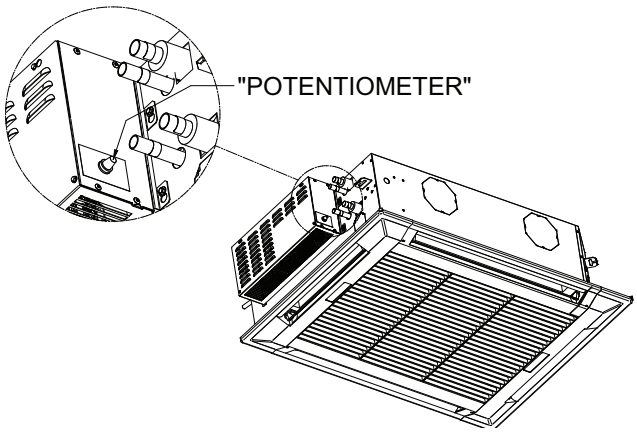


Fig. 70 — Potentiometer Location

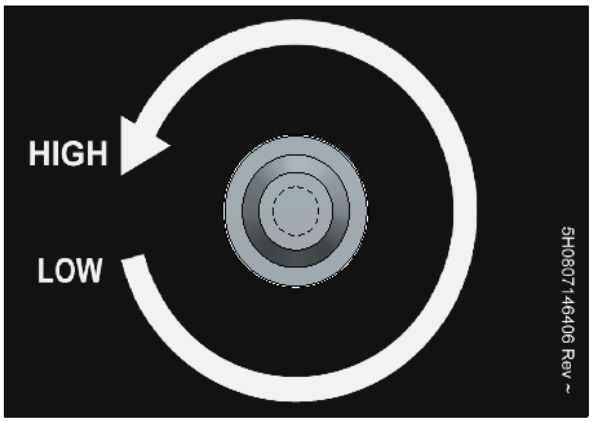


Fig. 71 — Potentiometer Label

2. For units with Electro-Mechanical controls (Digit 10=E) using 3-10 vdc signal for fan speed control, set the unit to the desired fan speed following the steps below:
   a. Disconnect power to the unit. Refer to the unit's wiring diagram and locate the potentiometer (labeled as POT 1 on the wiring diagram) and wires going into the fan terminals.
   b. Disconnect the potentiometer's wires from the EC motor controller by removing the wires from terminals "C", "SIG", and "10-v". See Fig. 72 and 73 for the wiring diagram changes. Add a wire nut to the potentiometer wires and tuck wires inside the control panel for future use.
   c. Connect the external wire providing the 3-10 vdc signal for fan speed control into the "SIG" and "C" terminals in the control panel.
   d. For proper operation, the external vdc signal should be between 3 vdc to 10 vdc. Refer to Tables 7-10 for the corresponding vdc signals and high, medium, and low fan speeds.
   e. Turn power back on to the unit. Provide a signal to turn on the fan and a 3-10 vdc signal to the EC motor control. Confirm the fan is running.
3. For microprocessor controlled units (Digit 10=M), use the transmitter or touchscreen panel to change the fan speed between low, medium, and high speeds. The vdc signal being provided, whether by a BMS or the microprocessor controller, should always be between 3 vdc to 10 vdc.

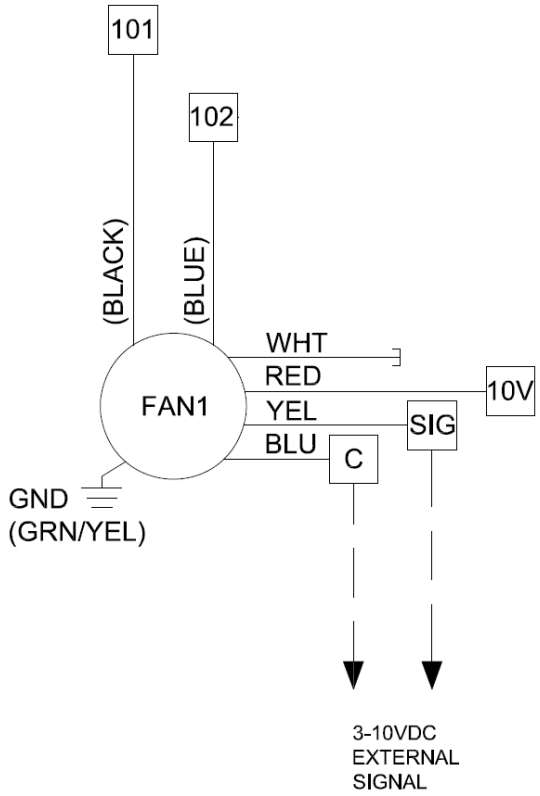


Fig. 72 — 3-10 VDC Wiring for Sizes 08, 12, and 18

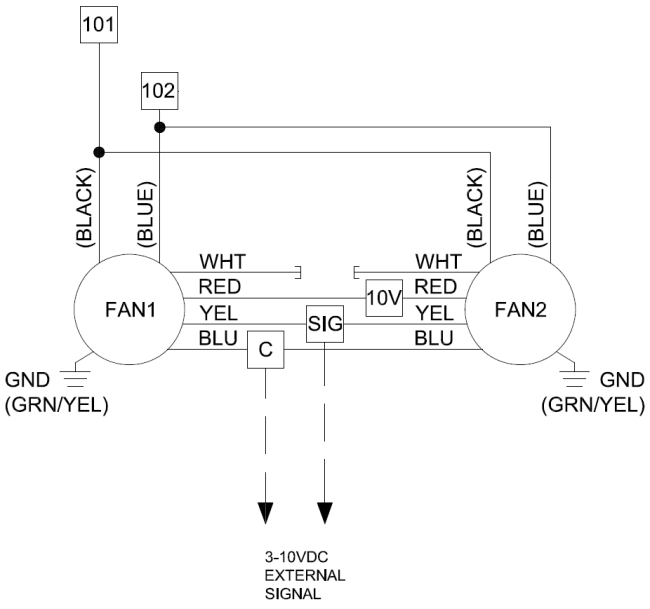


Fig. 73 — 3-10 VDC Wiring for Size 36 Units

Table 7 — 42WKN08 (Model Digits=1-7) Fan Speeds to Corresponding Vdc Signal

FILTER TYPE (Model Digit = 12)	VOLTAGE (v)	FAN SPEED	AIR FLOW (cfm - m³/min)	VDC SIGNAL
Standard (Model Digit 12 = A)	110/115/220/230/277	High	330 CFM - 9.3 m³/min	4.8
	208			4.8
	110/115/220/230/277	Medium	300 CFM - 8.5 m³/min	4.5
	208			4.5
	110/115/220/230/277	Low	260 CFM - 7.4 m³/min	3.9
	208			3.9
MERV 10 (Model Digit 12 = B)	110/115/220/230/277	High	330 CFM - 9.3 m³/min	6.2
	208			6.2
	110/115/220/230/277	Medium	300 CFM - 8.5 m³/min	5.9
	208			5.9
	110/115/220/230/277	Low	260 CFM - 7.4 m³/min	5.1
	208			5.1
MERV 13 (Model Digit 12 = C)	110/115/220/230/277	High	330 CFM - 9.3 m³/min	7.0
	208			7.0
	110/115/220/230/277	Medium	300 CFM - 8.5 m³/min	6.7
	208			6.7
	110/115/220/230/277	Low	260 CFM - 7.4 m³/min	5.8
	208			5.8

Table 8 — 42WKN12 (Model Digits=1-7) Fan Speeds to Corresponding Vdc Signal

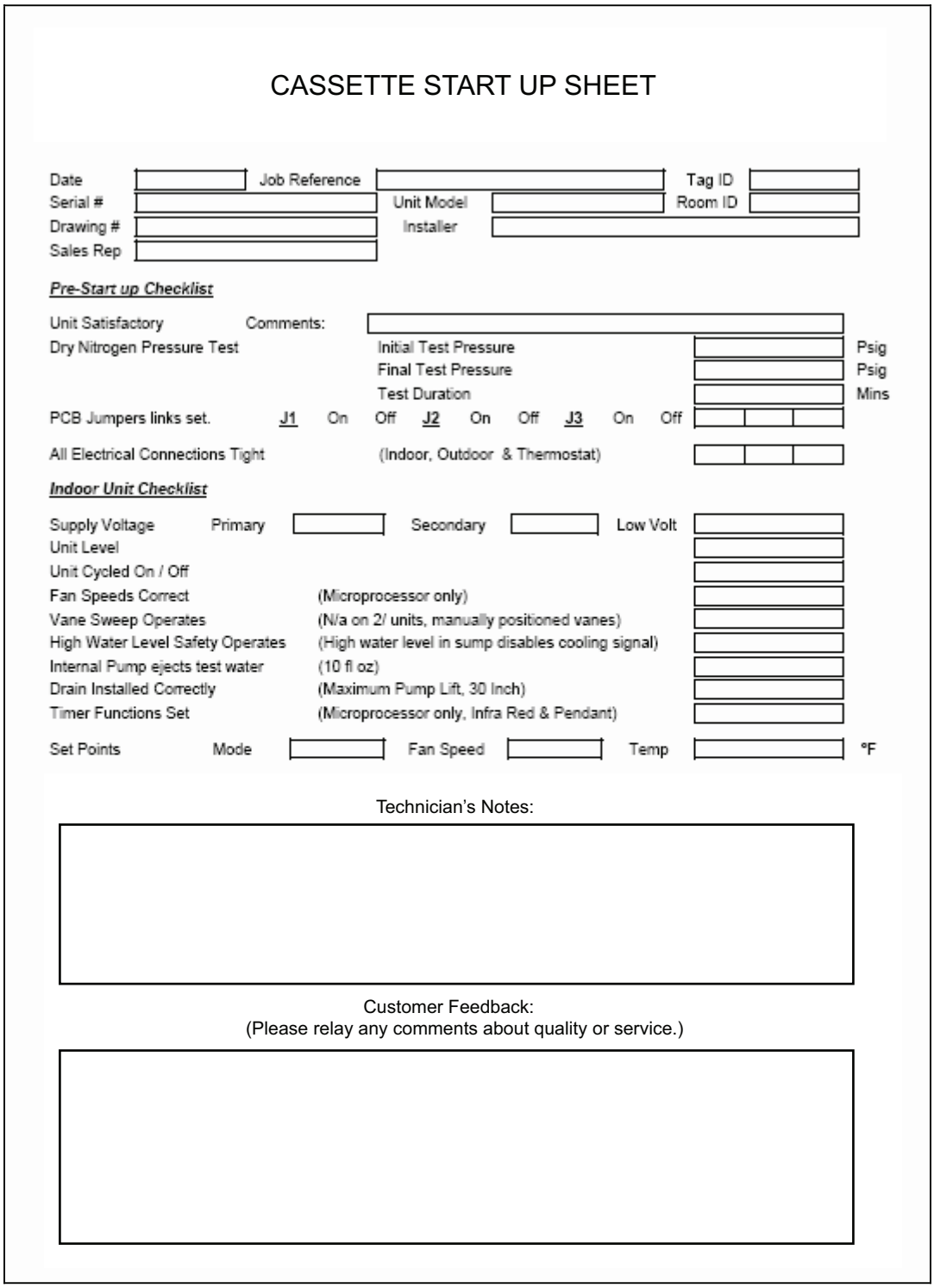
FILTER TYPE (Model Digit = 12)	VOLTAGE (v)	FAN SPEED	AIR FLOW (cfm - m³/min)	VDC SIGNAL
Standard (Model Digit 12 = A)	110/115/220/230/277	High	360 CFM - 10.2 m³/min	5.5
	208			5.5
	110/115/220/230/277	Medium	330 CFM - 9.3 m³/min	5.0
	208			5.0
	110/115/220/230/277	Low	300 CFM - 8.5 m³/min	4.6
	208			4.6
MERV 10 (Model Digit 12 = B)	110/115/220/230/277	High	360 CFM - 10.2 m³/min	7.2
	208			7.2
	110/115/220/230/277	Medium	330 CFM - 9.3 m³/min	6.6
	208			6.6
	110/115/220/230/277	Low	300 CFM - 8.5 m³/min	6.1
	208			6.1
MERV 13 (Model Digit 12 = C)	110/115/220/230/277	High	360 CFM - 10.2 m³/min	7.8
	208			7.8
	110/115/220/230/277	Medium	330 CFM - 9.3 m³/min	7.2
	208			7.2
	110/115/220/230/277	Low	300 CFM - 8.5 m³/min	6.8
	208			6.8

Table 9 — 42WKN18 (Model Digits=1-7) Fan Speeds to Corresponding Vdc Signal

FILTER TYPE (Model Digit = 12)	VOLTAGE (v)	FAN SPEED	AIR FLOW (cfm - m³/min)	VDC SIGNAL
Standard (Model Digit 12 = A)	110/115/220/230/277	High	620 CFM - 17.6 m³/min	5.3
	208			5.8
	110/115/220/230/277	Medium	540 CFM - 15.3 m³/min	4.8
	208			5.2
	110/115/220/230/277	Low	460 CFM - 13.0 m³/min	3.8
	208			4.2
MERV 10 (Model Digit 12 = B)	110/115/220/230/277	High	620 CFM - 17.6 m³/min	6.4
	208			6.9
	110/115/220/230/277	Medium	540 CFM - 15.3 m³/min	5.7
	208			6.0
	110/115/220/230/277	Low	460 CFM - 13.0 m³/min	4.6
	208			5.1
MERV 13 (Model Digit 12 = C)	110/115/220/230/277	High	460 CFM - 17.6 m³/min	7.0
	208			7.7
	110/115/220/230/277	Medium	540 CFM - 15.3 m³/min	6.2
	208			6.8
	110/115/220/230/277	Low	460 CFM - 13.0 m³/min	5.2
	208			5.6

Table 10 — 42WKN36 (Model Digits=1-7) Fan Speeds to Corresponding Vdc Signal

FILTER TYPE (Model Digit = 12)	VOLTAGE (V)	FAN SPEED	AIR FLOW (cfm - m³/min)	VDC SIGNAL
Standard (Model Digit 12 = A)	110/115/220/230/277	High	1080 CFM - 30.6 m³/min	5.3
	208			5.8
	110/115/220/230/277	Medium	940 CFM - 26.6 m³/min	4.9
	208			5.4
	110/115/220/230/277	Low	740 CFM - 21.0 m³/min	3.6
	208			4.0
MERV 10 (Model Digit 12 = B)	110/115/220/230/277	High	1080 CFM - 30.6 m³/min	6.1
	208			6.6
	110/115/220/230/277	Medium	940 CFM - 26.6 m³/min	5.5
	208			6.0
	110/115/220/230/277	Low	740 CFM - 21.0 m³/min	4.2
	208			4.6
MERV 13 (Model Digit 12 = B)	110/115/220/230/277	High	1080 CFM - 30.6 m³/min	6.6
	208			7.3
	110/115/220/230/277	Medium	940 CFM - 26.6 m³/min	6.1
	208			6.8
	110/115/220/230/277	Low	740 CFM - 21.0 m³/min	4.9
	208			5.3



CASSETTE START UP SHEET

Date | Job Reference | Tag ID
Serial # | Unit Model | Room ID
Drawing # | Installer
Sales Rep

Pre-Start up Checklist

Unit Satisfactory | Comments:
Dry Nitrogen Pressure Test | Initial Test Pressure | Psig
Final Test Pressure | Psig
Test Duration | Mins
PCB Jumpers links set. J1 On Off J2 On Off J3 On Off
All Electrical Connections Tight | (Indoor, Outdoor & Thermostat)

Indoor Unit Checklist

Supply Voltage | Primary | Secondary | Low Volt
Unit Level
Unit Cycled On / Off
Fan Speeds Correct | (Microprocessor only)
Vane Sweep Operates | (N/a on 2/ units, manually positioned vanes)
High Water Level Safety Operates | (High water level in sump disables cooling signal)
Internal Pump ejects test water | (10 fl oz)
Drain Installed Correctly | (Maximum Pump Lift, 30 Inch)
Timer Functions Set | (Microprocessor only, Infra Red & Pendant)

Set Points | Mode | Fan Speed | Temp | °F

Technician's Notes:

Customer Feedback:
(Please relay any comments about quality or service.)

NOTE: Any feedback may be submitted by fax to either the sale engineer or to the local Carrier office.

Fig. 74 — Start-Up Sheet Example

Control Circuit Checks

After piping connections are complete and checked for leaks, the next step is to verify the unit controls are functioning correctly. The following steps are to be performed:

1. Isolate the unit from the chilled water supply. A system electrical check can now be carried out.
2. Turn on the unit.
   a. For electromechanical units (Digit 10=E), use the field-installed thermostat to send 24 vac to the G thermostat terminal. Confirm the fan is running.
   b. For microprocessor units (Digit 10=M), use the infrared transmitter or the field-installed touchscreen panel to change the mode to fan-only as indicated by the propeller icon. Confirm the fan is running. Check that the high, medium, and low fan speeds are operating correctly by changing the fan speed via the transmitter or field installed touchscreen panel.
3. Check the operation of the chilled water valve by switching the system to cooling mode forcing a call for cooling.
   a. For electromechanical units (Digit 10=E), the thermostat should be sending 24 vac to the G and Y thermostat terminals which will start the fan and open the water valve.
   b. For microprocessor units (Digit 10=M), use the transmitter or touchscreen to change the mode to cooling-only as indicated by the snowflake icon. Lower the temperature setpoint until the controller starts the fan and powers the cooling relay.
4. For units with heating (Model Digit 11=A or B or C), check the operation of the hot water valve or electric heat element by switching the system to heating mode and forcing a call for heat.
   a. a. For electromechanical units (Digit 10=E), the thermostat should be sending 24 vac to the G and W thermostat terminals to start the fan and open the hot water valve.
   b. For microprocessor units (Digit 10=M), use the transmitter or touchscreen to change the mode to heating-only as indicated by the hot surface icon. Raise the temperature setpoint until the controller starts the fan and powers the heating relay. The microprocessor controller will keep the fan running for an additional 30 seconds after a heating cycle ends to dissipate heat from the coil.
5. Repeat Steps 1-4 above for all units in the same system. With the unit functions verified, the system can now be balanced following typical balance procedures outside the scope of this manual.

Sequence of Operation

ELECTRO-MECHANICAL CONTROLS

A 24-v signal from the thermostat to terminal G supplies power to the blower motor(s) and condensate pump. The condensate pump will run continuously during cooling operation, as long as there is a call for cooling. A call for heating, at terminal W, or cooling, at terminal Y, will energize the water valve actuator and allow water to flow through the cassette coil. When the call for heating or cooling is satisfied, the valve will close.

If the temperature drops below the set point of the coil freezestat, the water valve with automatically open to circulate water through the coil.

If the condensate float switch detects a high level of water in the condensate tray, the switch will open, activate the condensate pump and disable the heating/cooling signal until the water level drops down to normal.

MICROPROCESSOR CONTROLS

The microprocessor monitors indoor coil temperature and return-air temperature. The receiver contains a self-diagnostic feature. When a low indoor coil temperature is detected, the cooling action is stopped. If a sensor fails, then an alarm is displayed on the fascia mounted receiver.

OPERATION

When using the IR transmitter (see Fig. 35), always point the transmitter head directly at the receiver. At the time of transmission, the transmit indicator symbol will display and an audible alarm will be heard if the signal has been received.

When the batteries are first installed, the transmitter or optional touchscreen thermostat default set point will be 73°F (23°C), auto fan speed will be selected, and the system will be set to auto mode.

When a parameter is changed in the Remote Control, it must be sent to the thermostat by pressing ON/SEND.

Refer to Fig. 35 for button locations.

On/Off

Press the ON/SEND button to activate the air conditioner / fan coil unit and/or update information.

Fan Speeds

Press the FAN button to switch between fan speeds:

- High Speed
- Medium Speed
- Low Speed
- Auto Speed A

Press the ON/SEND button to send information to thermostat.

Modes

Press the MODE button to switch between unit modes:

- Cool
- Heat
- Auto change-over
- Fan only

Press the ON/SEND button to send information to thermostat.

Temperature Setpoint

Adjust the desired temperature using the (+) or (–) buttons. Press the ON/SEND button to send information to thermostat.

Battery Replacement

When the batteries are low, the remote control display will dim. If the batteries are not replaced, the display will turn off completely.

1. Pull the battery cover down to reveal the batteries.
2. Remove the old batteries.
3. Wait for 10 minutes before installing the new batteries.
4. Install 2 new AAA batteries. Pay attention to the polarity.
5. Replace the battery cover.

IMPORTANT: The remote control will not operate unless at least 10 minutes pass between removing the old batteries and installing the new ones.

Setting DIP Switches

⚠ WARNING

- Disconnect power supply before making wiring connections or working on this equipment. Follow all applicable safety procedures to prevent accidental power up. Failure to do so can result in injury or death from electrical shock or moving parts and may cause equipment damage.
- All appliances must be wired strictly in accordance with the wiring diagram furnished with the appliance. Any wiring different from the wiring diagram could result in a hazard to persons and property.
- Any original factory wiring that requires replacement must be replaced with wiring material having a temperature rating of at least 221°F (105°C).
- Ensure that the supply voltage to the appliance, as indicated on the serial plate, is not 5% greater than rated voltage.
- When servicing or repairing this equipment, use only factory-approved service replacement parts. Refer to the rating plate on the appliance for complete appliance model number, serial number, and company address. Any substitution of parts or controls not approved by the factory will be at the owner's risk.

⚠ AVERTISSEMENT

- Débranchez l'alimentation électrique avant d'effectuer des connexions ou de travailler sur l'appareil. Respectez toutes les procédures de sécurité qui s'appliquent pour éviter toute mise en marche accidentelle. Le non-respect de cette directive peut entraîner des blessures ou la mort causées par un choc électrique ou des pièces mobiles, en plus d'endommager l'appareil.
- Tous les appareils doivent être branchés de manière strictement conforme au diagramme fourni. Tout câblage différent de celui du schéma peut créer des risques de dommages matériels ou de blessures.
- Tout câblage usine d'origine exigeant un remplacement doit être remplacé par un câble d'indice thermique nominal de 221°F (105 °C).
- Assurez-vous que la tension d'alimentation de l'appareil, comme indiqué sur la plaque de série, n'est pas de 5% supérieure à la tension nominale.
- Pour l'entretien et les réparations de cet appareil, utilisez uniquement des pièces d'origine certifiées. Le numéro de modèle complet, le numéro de série et l'adresse du fabricant figurent sur la plaque signalétique fixée à l'appareil. Toute substitution de pièce ou decommande non approuvée par le fabricant sera aux risques du propriétaire.

Microprocessor DIP Switch Settings

DIP Switches 3.1 through 3.8 are located on the Microprocessor Controller to offer different control features and their functionality is listed below in Table 11. Ensure the DIP switches are set in the correct ON/OFF position.

Table 11 — Microprocessor Dipswitch Settings

DIP SWITCH	FUNCTION	DIP SWITCH POSITION
SW3.1	0-10V Fan Control	Always ON
SW3.2		Always ON
SW3.3	Heating Option	If Digit 9 = C, OFF. If Digit 9 = A, B, or N, ON.
SW3.4	N/A	Always OFF
SW3.5		Always OFF
SW3.6		Always OFF
SW3.7	Chilled Water Cooling	Always ON
SW3.8	BMS Comm. Protocol	Modbus = OFF; BACnet = ON

Main Control Functions

INDOOR FAN OPERATION

The indoor fan will run continuously at the most recently set speed or will alter the speed according to the room temperature conditions when set to Auto. The indoor fan will continue to run until the unit is turned off by the user or via a pre-set time setting. When the unit is turned off during heating, the indoor fan will continue to run for approximately two minutes, this helps to dissipate residual heat from the electric heaters. In Unoccupied mode, the fan will cycle with a call for heating or cooling.

TEMPERATURE CONTROL

The microprocessor controller references the factory mounted return air sensor and compares it to the temperature setpoint to determine when cooling or heating is required. By default, the controller will have a single setpoint for cooling and heating during Occupied mode of 73°F (22.8°C). When the controller is set to Auto mode, it will power the cooling relay when the return air temperature is warmer than setpoint and the heating relay when it is cooler than setpoint. A deadband of 4°F (2.2°C) centered around the setpoint is used to prevent short cycling.

When the mode is set to Cooling-only, the controller will only cycle temperature control when the return air is warmer than setpoint. When set to Heating-only, it will only cycle temperature control when the return air is cooler than setpoint.

In 2-Pipe units (Digits 11=C), cooling will be locked out if the water temperature supplied to the coil is warmer than 68°F (20°C). Heating will be locked out if the water is cooler than 86°F (30°C).

OCCUPANCY CONTROL

By default, the controller can be toggled On/Off with either the transmitter or the touchscreen panel. The cassette will operate as if the space is Occupied whenever it is On. If it is necessary to set back temperatures, the controller can be switched to Unoccupied mode using the BMS. The BMS or the touchscreen panel can also be used to enable the controllers digital input for an occupancy sensor.

POWER FAILURE

The controller will auto restart in its previous mode of operation after a power failure. When power is restored, the controller will revert to its last operating mode, e.g. if the controller was turned on before power fail, after power is restored, the controller will automatically turn on. Alternatively, if the controller was turned off before power fail, after power is restored, the controller will remain off.

Alarms

The controller monitors the following alarm conditions:

- return-air sensor failure
- indoor coil under temperature (if freeze stat is on unit)
- condensate high level
- change over water sensor failure

MAINTENANCE

⚠ CAUTION

When servicing or repairing this equipment, use only factory-approved service replacement parts. Refer to the rating plate on the appliance for complete appliance model number, serial number and company address. Any substitution of parts or controls not approved by the factory will be at the owner's risk.

⚠ AVERTISSEMENT

Pour l'entretien et les réparations de cet appareil, utilisez uniquement des pièces d'origine certifiées. Le numéro de modèle complet, le numéro de série et l'adresse du fabricant figurent sur la plaque signalétique fixée à l'appareil. Toute substitution de pièce ou decommande non approuvée par le fabricant sera aux risques du propriétaire.

⚠ CAUTION

- Do not attempt to reuse any mechanical or electrical controllers which have been wet. Replace defective controller.
- When servicing the unit, some components may be hot enough to cause pain or injury. Allow time for cooling of hot components before servicing.

⚠ ATTENTION

- Ne tentez pas de réutiliser un composant mécanique ou électrique qui a été mouillé. Ces composants doivent être remplacés.
- Durant l'entretien de l'unité, certains composants peuvent être assez chauds pour causer de la douleur ou une blessure. Laissez les composants chauds se refroidir avant de procéder à tout entretien.

Maintenance Schedule

EVERY 3 MONTHS

Check the air filter condition. Clean if necessary (see the following Filter Removal and Cleaning section).

EVERY 6 MONTHS

1. Follow 3-month maintenance schedule in addition to below steps.
2. Clean condensate tray with biocide suitable for polystyrene.
3. Clean fascia.

EVERY 12 MONTHS

1. Follow 6-month maintenance schedule in addition to below steps.
2. Check all electrical connections for security.
3. Check condensate pump operation.
4. Check the heating and cooling action, to ensure proper operation.

Filter Removal and Cleaning

1. Disconnect power.
2. Unclip the catches along the edge of each grille and allow them to hang from the fascia by the molded plastic hinges located along the opposite edge.
3. If desired, the grilles can be removed from the fascia completely.
4. Slide the filter out of the small plastic retaining clips on the back of each grille.
5. Gently vacuum clean the filters on a medium vacuum power.
6. When cleaned, reverse Steps 2-4 to replace the filters.

Recommended Spares

It is recommended that one complete set of air filters be kept on hand for use as needed.

DISASSEMBLY PROCEDURE

⚠ WARNING

Disconnect power supply before making wiring connections or working on this equipment. Follow all applicable safety procedures to prevent accidental power up. Failure to do so can result in injury or death from electrical shock or moving parts and may cause equipment damage.

⚠ AVERTISSEMENT

Débranchez l'alimentation électrique avant d'effectuer des connexions ou de travailler sur l'appareil. Respectez toutes les procédures de sécurité qui s'appliquent pour éviter toute mise en marche accidentelle. Le non-respect de cette directive peut entraîner des blessures ou la mort causées par un choc électrique ou des pièces mobiles, en plus d'endommager l'appareil.

Fan Removal

1. Remove the electrical panel lid and disconnect the fan connections from within the electrical panel.
2. Unclip the grille catches and remove the grille(s) from the fascia.
3. For model size:
   a. Model sizes 08 and 12: Remove the fascia by loosening the (4) fascia mounting bolts and then slide the fascia horizontally until it releases from the chassis. Drain the condensate tray by removing the small black rubber drain plug, catching the condensate (if any) in a suitable container. Remove the self-tapping screws securing the (2) insulated metal condensate tray support channels and pull away from the condensate tray. Pull the condensate tray downwards and away from the chassis.
   b. Model size 18 and 36: Remove the M6 screws from the black plastic venturi and pull the inlet ring downwards from the condensate tray.
4. For model size:
   a. Model sizes 08 and 20: Rotate the fan by hand until (2) M6 nuts are visible through the fan mounting access holes. Remove the (2) nuts.
   b. Model sizes 18 and 36: Remove (8) M6 nuts from the mounting plate bracket while supporting the fan to

prevent it from falling. The fan assembly can now be dropped down from the unit.

5. For model size:
   a. Model sizes 08 and 12: Rotate the fan 90° until the remaining (2) nuts are visible and remove while supporting the fan to prevent it from falling. The fan can now be dropped down from the unit.
   b. Model sizes 18 and 36: Once fan assembly is removed from case, unfasten the (4) M6 screws from motor to mounting bracket.

Condensate Tray Removal

1. Unclip the grille catches and remove the grille(s) from the fascia.
2. Remove the fascia by loosening the fascia mounting bolts and then slide the fascia horizontally until it releases from the chassis. If the unit is microprocessor controlled, disconnect the infrared receiver by pulling apart the provided plug connectors before removing the fascia.
3. Drain the condensate tray by removing the small black rubber drain plug, catching any condensate in a suitable container.
4. Remove the self-tapping screws securing the 2 insulated metal condensate tray support channels and pull the channels away from the condensate tray. Pull the condensate tray, complete with inlet ring (inlet ring on unit sizes 18 and 36 only) downward away from the chassis. Be careful, as pan may still contain condensate.

Condensate Pump Removal

1. Disconnect the condensate pump and float switch wires from inside the electrical panel.
2. Unscrew the 3 M4 screws holding the pump inspection plate in place and pull the pump and mounting bracket away from the chassis while feeding the pump wires between condensate tray and insulation.

TROUBLESHOOTING

See Table 12 for troubleshooting information.

⚠ WARNING

- Disconnect power supply before making wiring connections or working on this equipment. Follow all applicable safety procedures to prevent accidental power up. Failure to do so can result in injury or death from electrical shock or moving parts and may cause equipment damage.
- When servicing or repairing this equipment, use only factory-approved service replacement parts. A complete replacement parts list may be obtained by contacting the factory. Refer to the rating plate on the appliance for complete appliance model number, serial number, and company address. Any substitution of parts or controls not approved by the factory will be at the owner's risk.

⚠ AVERTISSEMENT

- Débranchez l'alimentation électrique avant d'effectuer des connexions ou de travailler sur l'appareil. Respectez toutes les procédures de sécurité qui s'appliquent pour éviter toute mise en marche accidentelle. Le non-respect de cette directive peut entraîner des blessures ou la mort causées par un choc électrique ou des pièces mobiles, en plus d'endommager l'appareil.
- Pour l'entretien et les réparations de cet appareil, utilisez uniquement des pièces d'origine certifiées. Le numéro de modèle complet, le numéro de série et l'adresse du fabricant figurent sur la plaque signalétique fixée à l'appareil. Toute substitution de pièce ou decommande non approuvée par le fabricant sera aux risques du propriétaire.

⚠ CAUTION

Do not attempt to reuse any mechanical or electrical component which has been wet. Such component must be replaced.

When servicing the unit, some components may be hot enough to cause pain or injury. Allow time for cooling of hot components before servicing.

⚠ AVERTISSEMENT

Ne tentez pas de réutiliser un composant mécanique ou électrique qui a été mouillé. Ces composants doivent être remplacés.

Durant l'entretien de l'unité, certains composants peuvent être assez chauds pour causer de la douleur ou une blessure. Laissez les composants chauds se refroidir avant de procéder à tout entretien.

IMPORTANT:

- Start up and adjustment procedures, installation, and service of these appliances must be performed by a qualified installation and service agency.
- No water-flow can cause a freeze condition resulting in damage to the coil.
- Never leave the unit filled with water in a building without heat unless antifreeze has been added.
- To check most of the Possible Remedies in the Troubleshooting guide, refer to the applicable sections of the manual.

IMPORTANT:

- Les procédures de démarrage et de réglage, l'installation et le service de ces appareils doivent être confiés à un centre d'installation et de service qualifié.
- L'absence d'écoulement d'eau risque de causer une condition de gel et d'endommager le serpentin.
- Ne laissez jamais l'appareil rempli d'eau dans un immeuble non chauffé sans lui ajouter de l'antigel.
- Pour essayer la plupart des solutions possibles suggérées dans le guide de dépannage, reportez-vous aux sections correspondantes du manuel.

Table 12 — Troubleshooting

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
Two LEDs Flashing (Microprocessor Units Only)	Faulty float switch (Connected to microprocessor terminals 'DI1')	See Condensate High Level section in this table.
	Fan thermal trip (Connected to microprocessor terminals 'DI1')	See Fans Will Not Run section in this table.
	Freeze stat alarm (Connected to microprocessor terminals 'DI1')	—
	Return air sensor failure (Connected to microprocessor terminals 'T1')	After checking the above, use the unit wiring schematic to isolate the return air sensor and measure the resistance. Sensor is 50K at 72°F type. Check and replace if necessary.
Unit Will Not Operate	No power mains power	Check power supply to the unit. For microprocessor units, check power to the microprocessor and check the on-board microprocessor fuse.
	No 24-v control circuit power	Check the 24-v feed from the control transformer. If not present, check transformer windings and replace if necessary.
	Control circuit disabled by unit protection device	In some models, particularly electro-mechanical units, some protection devices (such as freezestats, fan trips, etc.) are wired in line with the 24-v control circuit feed to cause the unit to shut down in an alarm condition. Use the unit's wiring schematic to identify these devices and investigate accordingly.
	Infrared receiver failure (microprocessor units only)	If the green LED is lit or flashing, receiver is OK. If there are no lit LEDs and the unit will not respond to the transmitter, press the on/off button on the fascia display panel. If the unit responds to the on/off button receiver is OK. Check transmitter.
	Transmitter failure (microprocessor units only)	Try new batteries first. If no response, press on/off button on unit fascia. If the unit responds to the on/off button transmitter is faulty.
	Microprocessor failure (microprocessor units only)	The microprocessor is the least likely component to be at fault. Investigate all other possibilities in every section of this troubleshooting guide first. Replace the microprocessor only after all other avenues of investigation are exhausted.
Fans Will Not Run	Loose wire	Check all fan wire connections. Use unit's electrical schematic to verify that fan is wired correctly.
	Faulty fan capacitor	Check fan capacitors and replace if necessary.
	Faulty fan motor	Check fan motor protector for open circuit, and replace if necessary.
	Fan thermal trip	Motor temperature limits exceeded. Check fan motor protector for open circuit, and replace if necessary.
	Faulty PCB	On electro-mechanical units check for a signal at "G" terminal.
		On microprocessor units check for steady green light on display panel.
No Cooling	Incorrect MODE setting (microprocessor units only)	Check that the transmitter MODE is set to Cooling or Auto Mode.
	Set point too high	Check the set point on the transmitter or wall-mounted thermostat and adjust if necessary.
	Dirty or blocked air filter	Check filter condition.
	High condensate level trip	Drain the condensate tray and investigate. See Condensate High Level section.
	Sensor failure (microprocessor units only)	If any of the sensors are faulty, the microprocessor will disable the cooling operation. (See the "Self Diagnostics" section on page 10.)
	Faulty valve actuator (chilled water units only)	Check cooling signal present at actuator. Check actuator by manually opening the valve. Replace actuator if necessary.
Condensate High Level (Microprocessor Units: LEDs Will Flash)	Maximum pump lift exceeded	Check that the condensate pump head is no greater than 30 in. (See page 42 of this manual for installation guide.)
	Blocked/kinked condensate pipe	See Water Leaking from Unit section in this table.
	Condensate pump blocked or failed	See Water Leaking from Unit section in this table.
	Coil freeze up	A coil freeze condition may have caused excessive condensate to collect in the drip tray.

Table 12 — Troubleshooting (cont)

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
Water Leaking from Unit (also see Condensate High Level Section)	Condensate plug loose or missing	Check that the rubber condensate plug is securely fitted to the underside of the unit's polystyrene drip tray. On some models this is located underneath the fascia support rails on the pump side of the unit.
	Unit installed unevenly	With fascia removed, ensure that the unit chassis is level (at the face) both front to back and left to right, to ensure correct condensate flow.
	Condensate drain piping installed incorrectly	Check that the site installed condensate gravity drain slopes 'downhill' away from the unit. (See page 42 of this manual for installation guide.)
	Blocked/kinked condensate pipe	Check condensate piping for blocks/kinks, clear as necessary. Check for a water tight connection between the condensate outlet and the site installed condensate gravity drain.
	Condensate pump blocked or failed	Clear any blockages and ensure that power is being applied to the pump. If the pump still does not run, replace the pump.
	Float switch failure	Check that the float switch operates correctly and is properly positioned. Float switch is normally closed, opens on rise of water level.
No Heating (Hot Water)	Incorrect MODE setting (Microprocessor units only)	Check that the transmitter MODE is set to Heat or Auto Mode.
	Set point too low	Check the set point on the transmitter or wall mounted thermostat and adjust if necessary.
	Blocked or dirty filters causing low airflow	Check condition of filters. (See page 64 for filter removal and cleaning instructions.)
	No hot water/pumps failed	Check hot water source and supply to unit.
	Faulty valve/actuator	Check actuator by manually opening and closing valve, replace if faulty.
	Faulty heater relay	Check signals to relay and check action of relay contacts. Replace relay or PCB if necessary.
No Heating (Electric Heat)	Incorrect MODE setting (microprocessor units only)	Check that the transmitter MODE is set to Heat or Auto Mode.
	Set point too low	Check the set point on the transmitter or wall-mounted thermostat and adjust if necessary.
	Overheat cutout tripped (Also see Electric Overheat section)	Investigate cause of over heat condition. Possible low airflow, check filter condition. (See page 64 for filter removal and cleaning instructions.) Possible fan failure. Check fans. (See Fans Will Not Run section.) Remove power from unit and reset manual overheat cutout by rubbing. DO NOT PRESS. Consult Factory for instruction if necessary.
	Heater element failed	Investigate and replace if necessary.
	Faulty heater relay	Check signals to relay and check action of relay contacts. Replace relay or PCB if necessary.
Electric Overheat	Automatic or manual reset overheat cutout tripped	The electric heat circuit contains one automatic reset and one manual reset overheat cutout protection switch for each electric heat element fitted to the unit. The cutouts are wired in line with the main power flowing in each element and operate as described below. If the electric heat continues to overheat and trip, increase the fan speed to the specified low speed or higher. Automatic cutout: If the auto cutout trips, the electric heat is temporarily disabled until the unit temperature falls and causes the overheat cutout to automatically reset. Manual cutout: If the manual cutout trips, the electric heat is disabled until the unit temperature falls and the overheat cutout is manually reset. It will typically take five minutes for the unit temperature to fall sufficiently to allow the cutout to be reset. The cutout should only be reset by a qualified and competent electrician and with the main power switched off. Ensure the elements have cooled sufficiently.

LEGEND

LED — Light-Emitting Diode
PCB — Printed Circuit Board

REPLACEMENT PARTS

Please quote the unit type and unit serial number when ordering replacement parts or contacting the factory about the unit. This information can be found on the serial plate attached to the unit. See Fig. 75.

When a component part fails, contact your local Carrier representative to order a replacement part. See Fig. 76 for the 42WKN unit exploded views and parts lists. If the part is considered to be under warranty, the following details are required to process this requirement:

1. Full description of part required, including the unit's part number, if known.
2. The original equipment serial number.
3. An appropriate purchase order number.

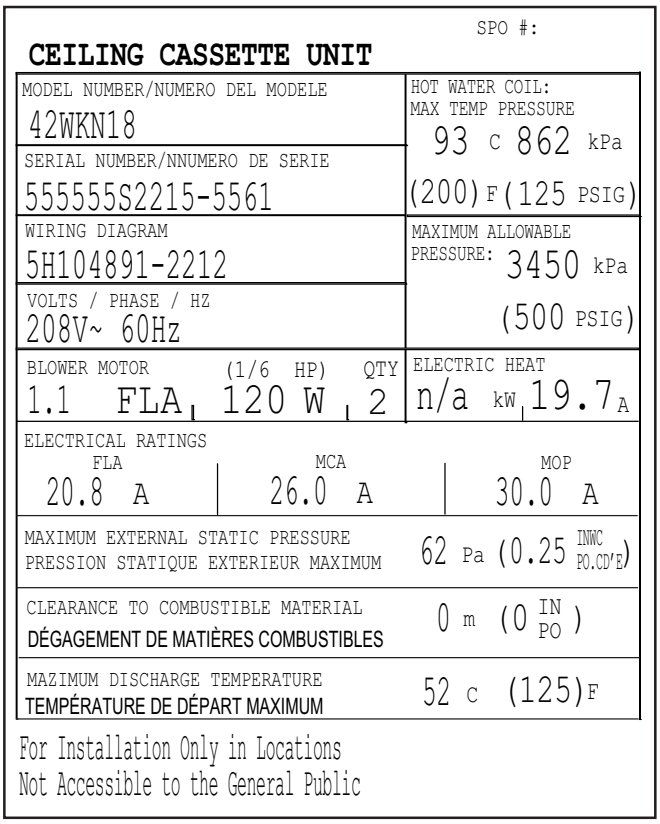
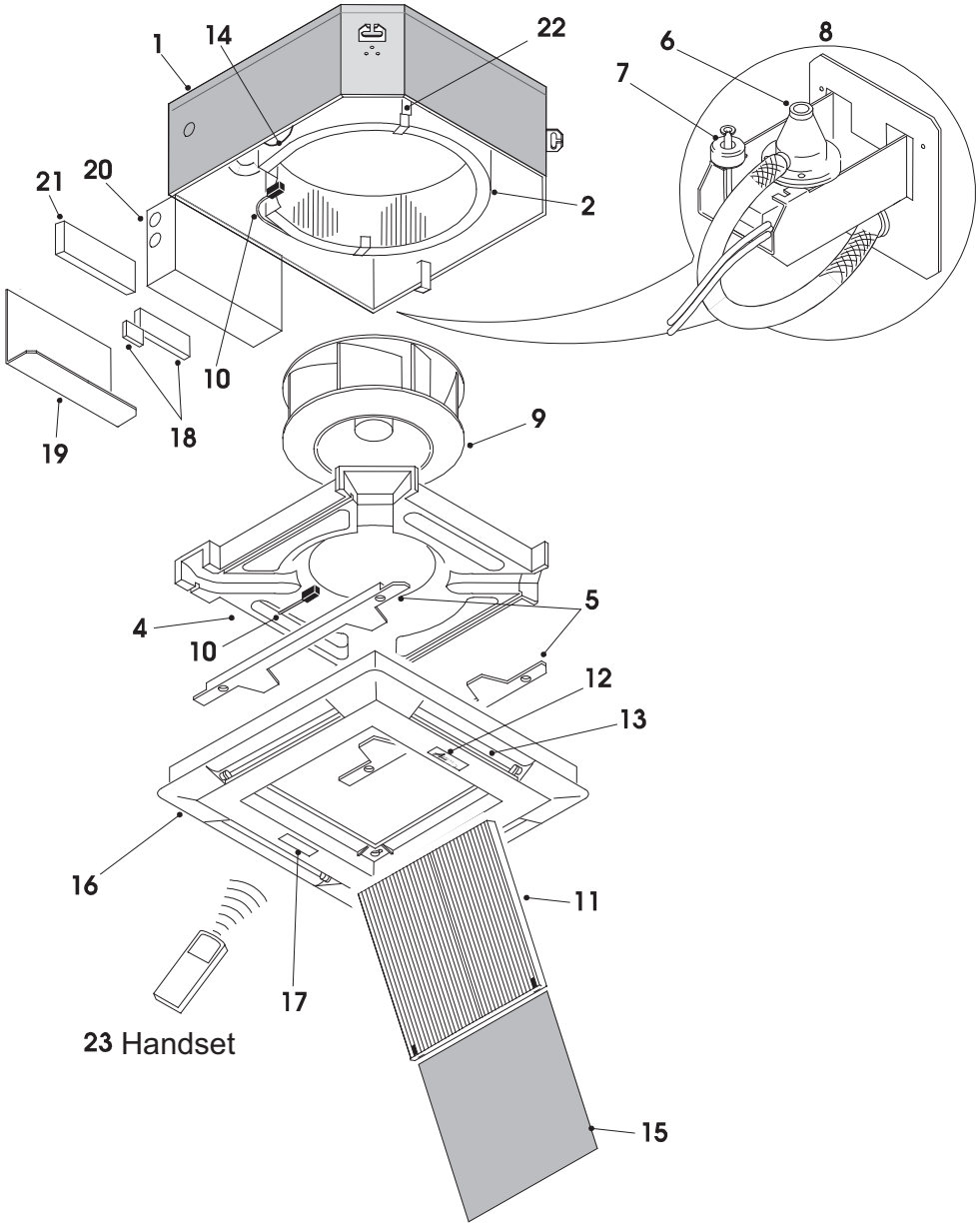


Fig. 75 — Serial Plate Example



	DESCRIPTION
1	Cassette Chassis
2	Chilled Water Coil
3	Not Used
4	Condensate Tray
5	Condensate Tray Supports (2)
6	Condensate Pump
7	High Level Switch
8	Condensate Pump Assembly (Shown Inverted)
9	Fan/Motor Assembly
10	Coil/Return Air Sensors (Microprocessor Control Only)
11	Grille
12	Label
13	Air Deflector Vanes (4)

	DESCRIPTION
14	Freeze Protection Thermostat (Electro-Mechanical Version Only)
15	Filter
16	Fascia Assembly
17	Receiver (Microprocessor Control Only)
18	Terminal Rail, Relays and Timer (Micro and Electro-Mechanical Version)
19	Control Box Lid
20	Control Box
21	Microprocessor Controller (Microprocessor Control Only)
22	Coil Support Brackets
23	Remote Handset (Microprocessor Control Only)

Fig. 76 — Unit Exploded View and Parts List (42WKN08,12 Shown)

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