Service Facts

X341119P12

Gas Furnace – Var. Speed Blower – Var. Speed Inducer – Two Stage Heat – Direct Vent

Models:

* - First letter may be "A" or "T"

***UY060R9V3W** ***DY060R9V3W**
***UY080R9V3W** ***DY080R9V3W**
***UY100R9V4W** ***DY100R9V4W**
***UY120R9V5W** ***DY120R9V5W**

IMPORTANT — This document contains a wiring diagram and service information. This is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

⚠ WARNING DISCONNECT POWER BEFORE SERVICING

PRODUCT SPECIFICATIONS ①

MODEL	*UY060R9V3W	*UY080R9V3W	*UY100R9V4W	*UY120R9V5W
TYPE	Upflow / Horizontal	Upflow / Horizontal	Upflow / Horizontal	Upflow / Horizontal
RATINGS ②				
1st Stage Input BTUH	39,000	52,000	65,000	78,000
1st Stage Capacity BTUH (ICS) ③	37,000	48,000	60,000	72,000
2nd Stage Input BTUH	60,000	80,000	100,000	120,000
2nd Stage Capacity BTUH (ICS) ③	56,000	73,000	93,000	112,000
Temp. rise (Min.-Max.) °F.	35 - 65	35 - 65	35 - 65	40 - 70
BLOWER DRIVE	DIRECT	DIRECT	DIRECT	DIRECT
Diameter - Width (In.)	10 x 8	10 x 8	10 x 10	10 x 10
No. Used	1	1	1	1
Speeds (No.)	Variable	Variable	Variable	Variable
CFM vs. in. w.g.	See Fan Performance Table	See Fan Performance Table	See Fan Performance Table	See Fan Performance Table
Motor HP	1/2	1/2	1	1
R.P.M.	Variable	Variable	Variable	Variable
Volts / Ph / Hz	115/1/60	115/1/60	115/1/60	115/1/60
COMBUSTION FAN - Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Drive - No. Speeds	Direct - Variable	Direct - Variable	Direct - Variable	Direct - Variable
Motor HP - RPM	1/50 - 5000	1/50 - 5000	1/50 - 5000	1/50 - 5000
Volts / Ph / Hz	33 - 110/3/60 - 180	33 - 110/3/60 - 180	33 - 110/3/60 - 180	33 - 110/3/60 - 180
FLA	1.0	1.0	1.0	1.0
FILTER — Furnished?	Yes	Yes	Yes	Yes
Type Recommended	High Velocity	High Velocity	High Velocity	High Velocity
Hi Vel. (No.-Size-Thk.)	1 - 17x25 - 1 in.	1 - 17x25 - 1 in.	1 - 20x25 - 1 in.	1 - 24x25 - 1 in.
VENT — Size (in.)	2 Round	2 Round	3 Round	3 Round
HEAT EXCHANGER				
Type -Fired	Aluminized Steel - Type I	Aluminized Steel - Type I	Aluminized Steel - Type I	Aluminized Steel - Type I
-Unfired				
Gauge (Fired)	20	20	20	20
ORIFICES — Main				
Nat. Gas. Qty. — Drill Size	3 — 45	4 — 45	5 — 45	6 — 45
L.P. Gas Qty. — Drill Size	3 — 56	4 — 56	5 — 56	6 — 56
GAS VALVE	Redundant - Two Stage	Redundant - Two Stage	Redundant - Two Stage	Redundant - Two Stage
PILOT SAFETY DEVICE				
Type	Hot Surface Igniter	Hot Surface Igniter	Hot Surface Igniter	Hot Surface Igniter
BURNERS — Type	Multiport Inshot	Multiport Inshot	Multiport Inshot	Multiport Inshot
Number	3	4	5	6
POWER CONN. — V / Ph / Hz ④	115/1/60	115/1/60	115/1/60	115/1/60
Ampacity (In Amps)	11.1	11.1	13.5	15.2
Max. Overcurrent Protection (Amps)	15	15	20	20
PIPE CONN. SIZE (IN.)	1/2	1/2	1/2	1/2
DIMENSIONS	H x W x D	H x W x D	H x W x D	H x W x D
Crated (In.)	41-3/4 x 19-1/2 x 30-1/2	41-3/4 x 19-1/2 x 30-1/2	41-3/4 x 23 x 30-1/2	41-3/4 x 26-1/2 x 30-1/2
WEIGHT				
Shipping (Lbs.) / Net (Lbs)	158 / 146	168 / 156	197 / 185	206 / 193

① Central Furnace heating designs are certified by AGA and CSA.
② For U.S. applications, above input ratings (BTUH) are up to 2,000 feet, derate 4% per 1,000 feet for elevations above 2,000 feet above sea level.
For Canadian applications, above input ratings (BTUH) are up to 4,500 feet, derate 4% per 1,000 feet for elevations above 4,500 feet above sea level.
③ Based on U.S. government standard tests.
④ The above wiring specifications are in accordance with National Electrical Code; however, installations must comply with local codes.

NOTICE: Since the manufacturer has a policy of continuous product and product data improvement, it reserves the right to change design and specifications without notice.

Service Facts

PRODUCT SPECIFICATIONS ①

MODEL	*DY060R9V3W	*DY080R9V3W	*DY100R9V4W	*DY120R9V5W
TYPE	Downflow / Horizontal	Downflow / Horizontal	Downflow / Horizontal	Downflow / Horizontal
RATINGS ②				
1st Stage Input BTUH	39,000	52,000	65,000	78,000
1st Stage Capacity BTUH (ICS) ③	36,000	48,000	60,000	72,000
2nd Stage Input BTUH	60,000	80,000	100,000	120,000
2nd Stage Capacity BTUH (ICS) ③	56,000	74,000	94,000	112,000
Temp. rise (Min.-Max.) °F.	35 - 65	35 - 65	35 - 65	40 - 70
BLOWER DRIVE	DIRECT	DIRECT	DIRECT	DIRECT
Diameter - Width (In.)	10 x 8	10 x 8	10 x 10	10 x 10
No. Used	1	1	1	1
Speeds (No.)	Variable	Variable	Variable	Variable
CFM vs. in. w.g.	See Fan Performance Table	See Fan Performance Table	See Fan Performance Table	See Fan Performance Table
Motor HP	1/2	1/2	3/4	1
R.P.M.	Variable	Variable	Variable	Variable
Volts / Ph / Hz	115/1/60	115/1/60	115/1/60	115/1/60
COMBUSTION FAN - Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Drive - No. Speeds	Direct - Variable	Direct - Variable	Direct - Variable	Direct - Variable
Motor HP - RPM	1/50 - 5000	1/50 - 5000	1/50 - 5000	1/50 - 5000
Volts / Ph / Hz	33 - 110/3/60 - 180	33 - 110/3/60 - 180	33 - 110/3/60 - 180	33 - 110/3/60 - 180
FLA	1.0	1.0	1.0	1.0
FILTER — Furnished?	Yes	Yes	Yes	Yes
Type Recommended	High Velocity	High Velocity	High Velocity	High Velocity
Hi Vel. (No.-Size-Thk.)	2 - 14x20 - 1 in.	2 - 14x20 - 1 in.	2 - 16x20 - 1 in.	2 - 16x20 - 1 in.
VENT — Size (in.)	2 Round	2 Round	3 Round	3 Round
HEAT EXCHANGER				
Type -Fired	Aluminized Steel - Type I	Aluminized Steel - Type I	Aluminized Steel - Type I	Aluminized Steel - Type I
-Unfired				
Gauge (Fired)	20	20	20	20
ORIFICES — Main				
Nat. Gas. Qty. — Drill Size	3 — 45	4 — 45	5 — 45	6 — 45
L.P. Gas Qty. — Drill Size	3 — 56	4 — 56	5 — 56	6 — 56
GAS VALVE	Redundant - Two Stage	Redundant - Two Stage	Redundant - Two Stage	Redundant - Two Stage
PILOT SAFETY DEVICE				
Type	Hot Surface Igniter	Hot Surface Igniter	Hot Surface Igniter	Hot Surface Igniter
BURNERS — Type	Multiport Inshot	Multiport Inshot	Multiport Inshot	Multiport Inshot
Number	3	4	5	6
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Ampacity (In Amps)	11.1	11.1	13.5	15.2
Max. Overcurrent Protection (Amps)	15	15	20	20
PIPE CONN. SIZE (IN.)	1/2	1/2	1/2	1/2
DIMENSIONS	H x W x D	H x W x D	H x W x D	H x W x D
Crated (In.)	41-3/4 x 19-1/2 x 30-1/2	41-3/4 x 19-1/2 x 30-1/2	41-3/4 x 23 x 30-1/2	41-3/4 x 26-1/2 x 30-1/2
WEIGHT				
Shipping (Lbs.) / Net (Lbs)	160/ 146	168 / 158	185 / 175	206 / 196

① Central Furnace heating designs are certified by AGA and CSA.
② For U.S. applications, above input ratings (BTUH) are up to 2,000 feet, derate 4% per 1,000 feet for elevations above 2,000 feet above sea level.
For Canadian applications, above input ratings (BTUH) are up to 4,500 feet, derate 4% per 1,000 feet for elevations above 4,500 feet above sea level.
③ Based on U.S. government standard tests.
④ The above wiring specifications are in accordance with National Electrical Code; however, installations must comply with local codes.

SAFETY SECTION

⚠ WARNING

CARBON MONOXIDE POISONING HAZARD

Failure to follow the steps outlined below for each appliance connected to the venting system being placed into operation could result in carbon monoxide poisoning or death.

The following steps shall be followed for each appliance connected to the venting system being placed into operation, while all other appliances connected to the venting system are not in operation:

1. Seal any unused openings in the venting system.
2. Inspect the venting system for proper size and horizontal pitch, as required in the National Fuel Gas Code, ANSI Z223.1/NFPA 54 or the CAN/CGA B149 Installation Codes and these instructions. Determine that there is no blockage or restriction, leakage, corrosion and other deficiencies which could cause an unsafe condition.
3. As far as practical, close all building doors and windows and all doors between the space in which the appliance(s) connected to the venting system are located and other deficiencies which could cause an unsafe condition.
4. Close fireplace dampers.
5. Turn on clothes dryers and any appliance not connected to the venting system. Turn on any exhaust fans, such as range hoods and bathroom exhausts, so they are operating at maximum speed. Do not operate a summer exhaust fan.
6. Follow the lighting instructions. Place the appliance being inspected into operation. Adjust the thermostat so appliance is operating continuously.
7. If improper venting is observed during any of the above tests, the venting system must be corrected in accordance with the National Fuel Gas Code, ANSI Z221.1/NFPA 54 and/or CAN/CGA B149 Installation Codes.
8. After it has been determined that each appliance connected to the venting system properly vents where tested as outlined above, return doors, windows, exhaust fans, fireplace dampers and any other gas-fired burning appliance to their previous conditions of use.

⚠ WARNING

The cabinet must have an uninterrupted or unbroken ground according to National Electrical Code, ANSI/ NFPA 70 - "latest edition" and Canadian Electrical Code, CSA C22.1 or local codes to minimize personal injury if an electrical fault should occur. A failure to follow this warning could result in an electrical shock, fire, injury, or death.

⚠ WARNING

CARBON MONOXIDE POISONING HAZARD

Failure to follow the installation instructions for the venting system being placed into operation could result in carbon monoxide poisoning or death.

⚠ WARNING

FIRE OR EXPLOSION HAZARD

Failure to follow the safety warnings exactly could result in serious injury, death or property damage.

Never test for gas leaks with an open flame. Use a commercially available soap solution made specifically for the detection of leaks to check all connections. A fire or explosion may result causing property damage, personal injury, or loss of life.

⚠ WARNING

FIRE OR EXPLOSION HAZARD

Failure to follow the safety warnings exactly could result in serious injury, death or property damage.

Improper servicing could result in dangerous operation, serious injury, death, or property damage.

⚠ WARNING

BODILY INJURY CAN RESULT FROM HIGH VOLTAGE ELECTRICAL COMPONENTS, FAST MOVING FANS, AND COMBUSTIBLE GAS. FOR PROTECTION FROM THESE INHERENT HAZARDS DURING INSTALLATION AND SERVICING, THE ELECTRICAL SUPPLY MUST BE DISCONNECTED AND THE MAIN GAS VALVE MUST BE TURNED OFF. IF OPERATING CHECKS MUST BE PERFORMED WITH THE UNIT OPERATING, IT IS THE TECHNICIAN'S RESPONSIBILITY TO RECOGNIZE THESE HAZARDS AND PROCEED SAFELY.

⚠ CAUTION

The integrated furnace control is polarity sensitive. The hot leg of the 115 VAC power must be connected to the BLACK field lead.

Service Facts

SEQUENCE OF OPERATION

Thermostat call for heat (2-stage thermostat)
Call for 1st stage only:
W1 thermostat contacts close signaling the control module to run its self-check routine. After the control module has verified that the 1st stage pressure switch contacts are open and the limit switch(es) contacts are closed, the draft blower will be energized.

As the induced draft blower comes up to speed, the pressure switch contacts will close and the ignitor warm up period will begin. The ignitor will heat for approx. 20 seconds, then the gas valve is energized in 1st stage to permit gas flow to the burners.

The flame sensor confirms that ignition has been achieved within the 4 second ignition trial period.

As the flame sensor confirms that ignition has been achieved, the delay to fan ON period begins timing and after approx. 45 seconds the indoor blower motor will be energized at low speed and will continue to run during the heating cycle.

Call for 2nd stage after 1st stage:
W2 thermostat contacts close signaling a call for 2nd stage heat. After a 30 second delay, the induced draft blower will be energized on high speed and the 2nd stage pressure switch contacts will close. The gas valve is energized in 2nd stage and the indoor blower motor in high speed.

2nd stage satisfied, 1st stage still called:
W2 thermostat contacts open signaling that 2nd stage heating requirements are satisfied.

The induced draft blower is reduced to low speed allowing the 2nd stage pressure switch contacts to open and the gas valve is reduced to 1st stage. The indoor blower motor is reduced to low speed.

1st stage satisfied:
W1 thermostat contacts open signaling that 1st stage heating requirements are satisfied. The gas valve will close and the induced draft blower will be de-energized. The indoor blower motor will continue to run for the fan off period (Field selectable at 60, 100, 140 or 180 seconds), then will be de-energized by the control module.

Thermostat call for heat (1-stage Thermostat)
W1/W2 (jumpered) thermostat contacts close signaling a call for heat. 1st stage sequence of operation remains the same as above. 2nd stage heat will energize after the stage delay timer (field selectable at .5, 5, 10 or 15 minutes) has expired.

Thermostat satisfied:
W1/W2 (jumpered) contacts open signaling the control module to close the gas valve. The induced draft blower is switched to low speed and de-energized after the post purge timer has expired. The indoor blower motor will continue to operate after the flames are extinguished and then is switched to low heat speed for the FAN-OFF period.

⚠ WARNING

Should overheating occur, or the gas supply fail to shut off, shut off the gas valve to the unit before shutting off the electrical supply. Failure to follow this warning could result in property damage, personal injury, or death.

Indoor blower operation with thermostat fan switch "ON":
Fan is R-G.
R-W energized, fan continues to run without interruption.
Heat Low speed if it is a two stage furnace.
Heat speed if it is a single stage furnace.

INDOOR BLOWER TIMING

Heating: The integrated furnace control module controls the indoor blower. The blower start is fixed at 45 seconds after ignition. The FAN-OFF period is field selectable by dip switches SW-2, #1 and #2 at 60, 100, 140, or 180 seconds. The factory setting is 100 seconds.

W1-W2 stage delay (jumpered together) is field selectable by dip switch SW-1, #1 and #2 at .5, 5, 10 or 15 minutes. The factory setting is 10 minutes. (See wiring diagram).

Cooling: The fan delay-off period is set by dip switches on the Integrated Furnace Control. The options for cooling delay off is field selectable by dip switches #5 and #6.

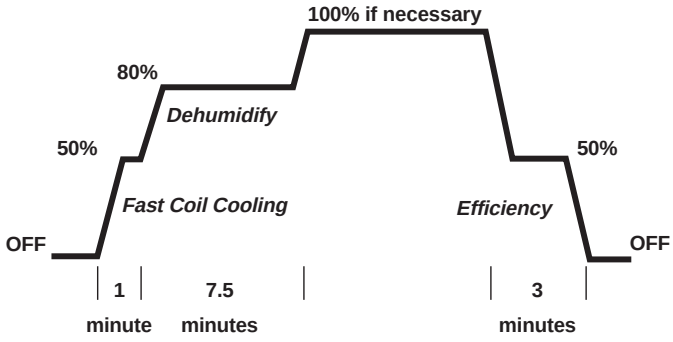
The following table and graph explain the delay-off settings:

COOLING OFF - DELAY OPTIONS

SWITCH SETTINGS		SELECTION	NOMINAL AIRFLOW
5 - OFF	6 - OFF	NONE	SAME
5 - ON	6 - OFF	1.5 MINUTES	100% *
5 - OFF	6 - ON	3 MINUTES	50%
5 - ON	6 - ON	**	50 - 100%

* - This setting is equivalent to BAY24X045 relay benefit

** - This selection provides ***ENHANCED MODE,*** which is a ramping up and ramping down of the blower speed to provide improved comfort, quietness, and potential energy savings. See Wiring Diagram notes on the unit or in the Service Facts for complete wiring setup for ***ENHANCED MODE***. The graph which follows, shows the ramping process.



⚠ WARNING

BODILY INJURY CAN RESULT FROM HIGH VOLTAGE ELECTRICAL COMPONENTS, FAST MOVING FANS, AND COMBUSTIBLE GAS. FOR PROTECTION FROM THESE INHERENT HAZARDS DURING INSTALLATION AND SERVICING, THE ELECTRICAL SUPPLY MUST BE DISCONNECTED AND THE MAIN GAS VALVE MUST BE TURNED OFF. IF OPERATING CHECKS MUST BE PERFORMED WITH THE UNIT OPERATING, IT IS THE TECHNICIAN'S RESPONSIBILITY TO RECOGNIZE THESE HAZARDS AND PROCEED SAFELY.

⚠ CAUTION

The integrated furnace control is polarity sensitive. The hot leg of the 115 VAC power must be connected to the BLACK field lead.

PERIODIC SERVICING REQUIREMENTS

⚠ WARNING

Disconnect power to the unit before removing the blower door. Allow a minimum of 10 seconds for IFC power supply to drain to 0 volts. Failure to follow this warning could result in property damage, personal injury or death.

⚠ WARNING

CARBON MONOXIDE POISONING HAZARD

Failure to follow the service and/or periodic maintenance instructions for the furnace and venting system, could result in carbon monoxide poisoning or death.

1. GENERAL INSPECTION – ***Examine the furnace installation annually for the following items:***
   a. All flue product carrying areas external to the furnace (i.e. chimney, vent connector) are clear and free of obstruction. A vent screen in the end of the vent (flue) pipe must be inspected for blockage annually.
   b. The vent connector is in place, slopes upward and is physically sound without holes or excessive corrosion.
   c. The return air duct connection(s) is physically sound, is sealed to the furnace and terminates outside the space containing the furnace.
   d. The physical support of the furnace should be sound without sagging, cracks, gaps, etc., around the base so as to provide a seal between the support and the base.
   e. There are no obvious signs of deterioration of the furnace.
2. FILTERS – Filters should be cleaned or replaced (with high velocity filters only), monthly and more frequently during high use times of the year such as midsummer or midwinter.
3. BLOWERS – The blower size and speed determine the air volume delivered by the furnace. The blower motor bearings are factory lubricated and under normal operating conditions do not require servicing. If motor lubrication is required it should only be done by a qualified servicer. Annual cleaning of the blower wheel and housing is recommended for maximum air output, and this must be performed only by a qualified servicer or service agency.
4. IGNITER – This unit has a special hot surface direct ignition device that automatically lights the burners. Please note that it is very fragile and should be handled with care.

⚠ CAUTION

Do not touch igniter. It is extremely hot.

5. BURNER – Gas burners do not normally require scheduled servicing, however, accumulation of foreign material may cause a yellowing flame or delayed ignition. Either condition indicates that a service call is required. For best operation, burners must be cleaned annually using brushes and vacuum cleaner.

   Turn off gas and electric power supply. To clean burners, remove burner box cover (6 to 8 screws) and top burner bracket. Lift burners from orifices.

   NOTE:
   Be careful not to break igniter when removing burners.

   Clean burners with brush and/or vacuum cleaner. Reassemble parts by reversal of the above procedure. The burner box must be resealed when replacing box cover.

NOTE:
On LP (propane) units, some light yellow tipping of the outer mantle is normal. Inner mantle should be bright blue.

Natural gas units should not have any yellow tipped flames. This condition indicates that a service call is required. For best operation, burners must be cleaned annually using brushes and vacuum cleaner.

NOTE:
On LP (propane) units, due to variations in BTU content and altitude, servicing may be required at shorter intervals.

⚠ WARNING

CARBON MONOXIDE POISONING HAZARD
Failure to follow the service and/or periodic maintenance instructions for the furnace and venting system, could result in carbon monoxide poisoning or death.

6. HEAT EXCHANGER/FLUE PIPE – These items must be inspected for signs of corrosion, and/or deterioration at the beginning of each heating season by a qualified service technician and cleaned annually for best operation. To clean flue gas passages, follow recommendations below:
   a. Turn off gas and electric power supply.
   b. Inspect flue pipe exterior for cracks, leaks, holes or leaky joints. Some discoloration of PVC pipe is normal.
   c. Remove burner compartment door from furnace.
   d. Inspect around insulation covering flue collector box. Inspect induced draft blower connections from recuperative cell and to the flue pipe connection.
   e. Remove burners. (See 4.)
   f. Use a mirror and flashlight to inspect interior of heat exchanger, be careful not to damage the igniter, flame sensor or other components.
   g. If any corrosion is present, contact a service agency. Heat exchanger should be cleaned by a qualified service technician.
   h. After inspection is complete replace burner box cover, burners, and furnace door.
   i. Restore gas supply. Check for leaks using a soap solution. Restore electrical supply. Check unit for normal operation.
7. COOLING COIL CONDENSATE DRAIN - If a cooling coil is installed with the furnace, condensate drains should be checked and cleaned periodically to assure that condensate can drain freely from coil to drain. If condensate cannot drain freely water damage could occur. (See Condensate Drain in Installer's Guide.)

⚠ CAUTION

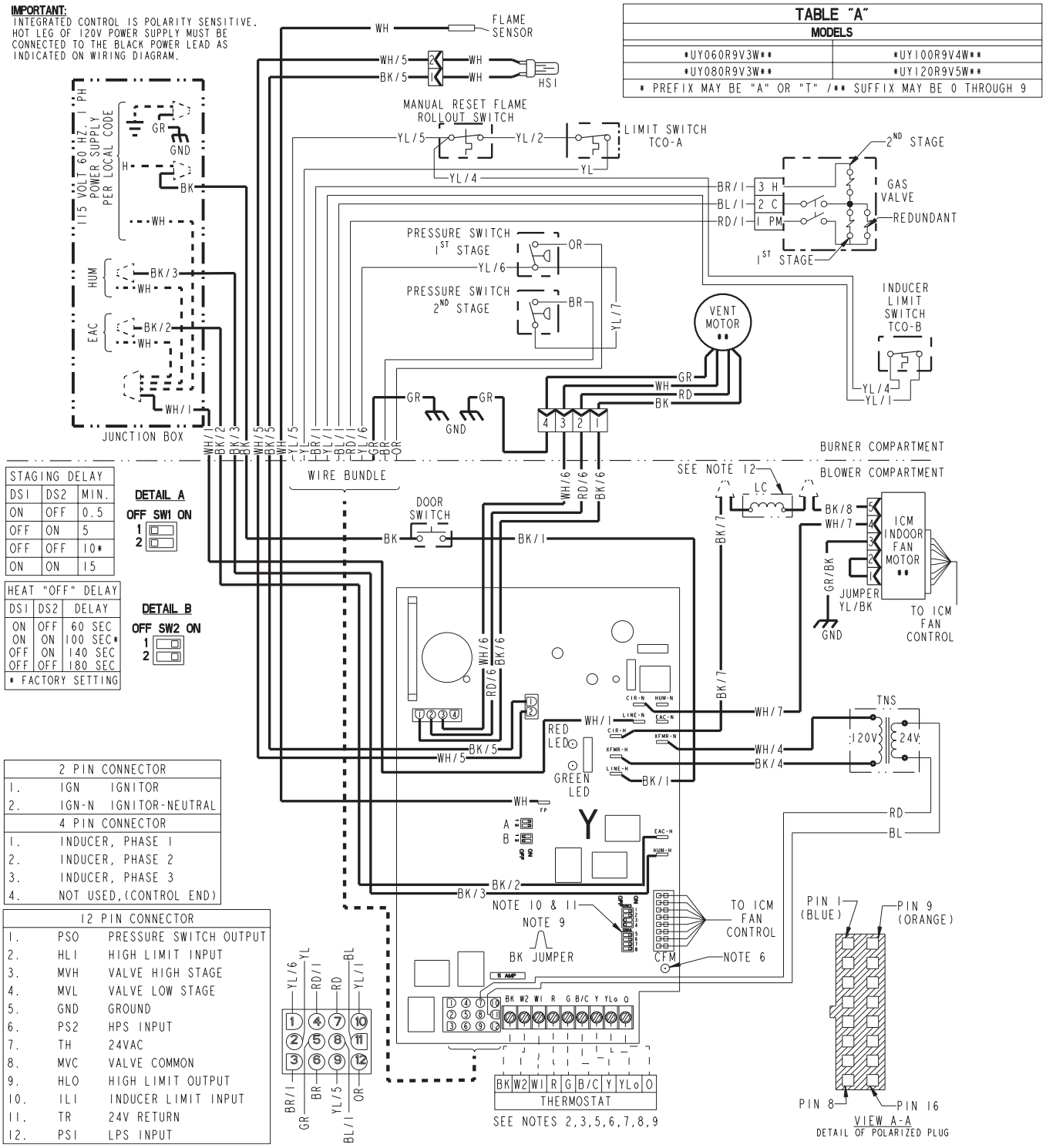
Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.

Verify proper operation after servicing.

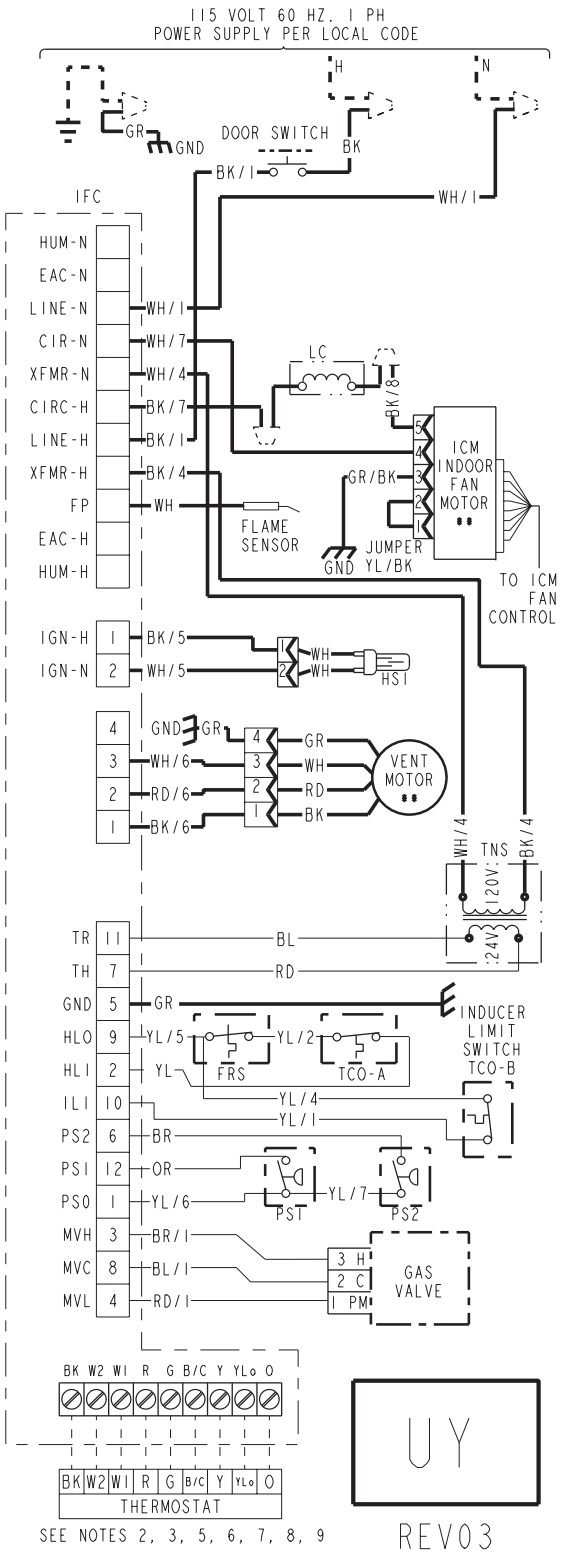
⚠ WARNING

NEVER USE AN OPEN FLAME TO TEST FOR GAS LEAKS: AN EXPLOSION COULD OCCUR, CAUSING INJURY OR DEATH.

*UY WIRING DIAGRAM



*UY SCHEMATIC DIAGRAM



DIAGNOSTIC CODES (SEE NOTE 13)	
RED LED - LitePort tm Data - 1 Flash every 20 seconds	
2 FLASHES - SYSTEM LOCKOUT RETRIES OR RECYCLES EXCEEDED	6 FLASHES - 115 VOLT AC POWER REVERSED OR IGNITER FAULT
3 FLASHES - PRESSURE SWITCH FAULT	7 FLASHES - GAS VALVE CIRCUIT ERROR
	8 FLASHES - LOW FLAME SENSE SIGNAL
4 FLASHES - OPEN LIMIT SWITCH	9 FLASHES - OPEN INDUCER LIMIT
5 FLASHES - FLAME SENSED WHEN NO FLAME SHOULD BE PRESENT	10 FLASHES - INDUCER COMMUNICATION FAULT
	CONTINUOUS ON - INTERNAL CONTROL FAILURE
GREEN LED - STATUS	
SLOW FLASH - NORMAL, NO CALL FOR HEAT	
FAST FLASH - NORMAL, CALL FOR HEAT PRESENT	
GREEN AND RED LED'S ON CONTINUOUS - FUSE OPEN OR INTERNAL CONTROL FAILURE	

WARNING ⚠	CAUTION ⚠
HAZARDOUS VOLTAGE DISCONNECT ALL ELECTRICAL POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING. FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.	USE COPPER CONDUCTORS ONLY! UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT.

INTEGRATED FURNACE CONTROL

REPLACE WITH PART CNT 04678 OR EQUIVALENT
ELECTRICAL RATING
INPUT: 25 V.A.C., 60 HZ.
XFMR SEC. CURRENT: 450 MA. + MV LOAD
MV OUTPUT: 1.5 A @ 24 V.A.C.
IND OUTPUT: 3 PHASE OUTPUT
IGN OUTPUT: 2.0 A @ 120V.A.C.
CIRC. BLOWER OUTPUT: 14.5 FLA,
25 LRA @ 120 VAC
HUMIDIFER & AIR CLEANER
MAX. LOAD: 1.0 A @ 120 VAC

TIMINGS
PREPURGE: 0 SEC.; INTERPURGE: 60 SEC.
POST PURGE: 5 SECONDS
IGNITOR WARMUP: 20 SECONDS
IAP: 3; TFI: 5 SECONDS
RETRIES: 2; RECYCLES: 10
HEAT ON DELAY: 45 SECONDS
COOL ON DELAY: 0 SECONDS
AUTO RESTART: 60 MINUTES
AUTO RESTART PURGE: 15 SECONDS

TCO THERMAL CUT OUT
PS PRESSURE SWITCH
FRS FLAME ROLLOUT SWITCH
FP FLAME SENSOR
CHASSIS GROUND
HSI HOT SURFACE IGNITER
DOOR SWITCH
FUSE
CF CAPACITOR
COIL

LINE / 24 V } FACTORY WIRING
LINE / -24 V } FIELD WIRING

** INTERNAL THERMAL PROTECTION

WIRE COLOR
BK/1
NUMBER ID (IF ANY)

BK	BLACK	GR	GREEN
WH	WHITE	BR	BROWN
YL	YELLOW	RD	RED
OR	ORANGE	BL	BLUE

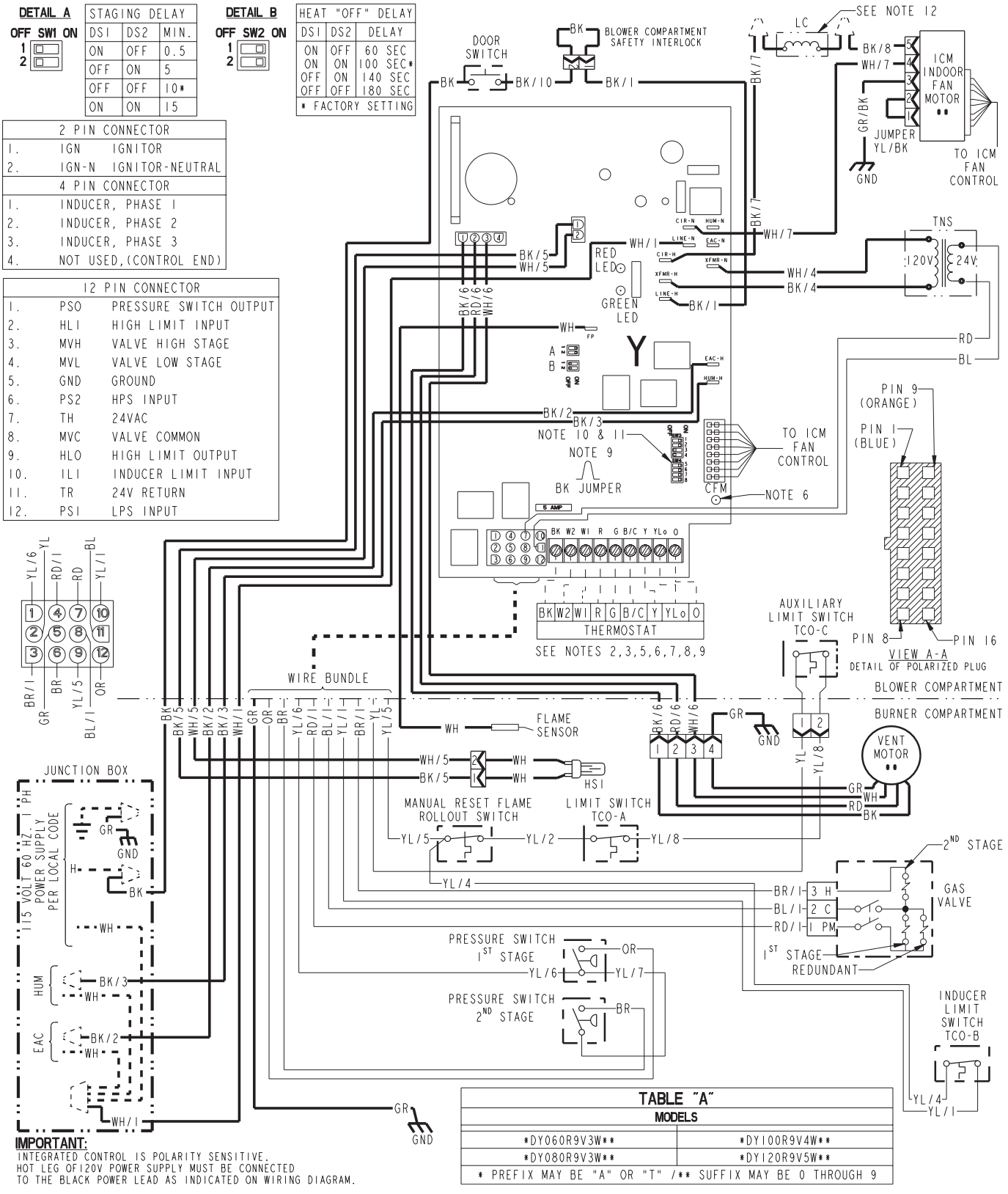
L	LINE	TH	24 VAC (HOT)
N	NEUTRAL	TR	24 VAC (COMMON)
GND	GROUND	MV	MAIN GAS VALVE
B/C	COMMON	TNS	TRANSFORMER
HLO	HIGH LIMIT OUTPUT	ILI	INDUCER LIMIT INPUT
HLI	HIGH LIMIT INPUT		

NOTES:

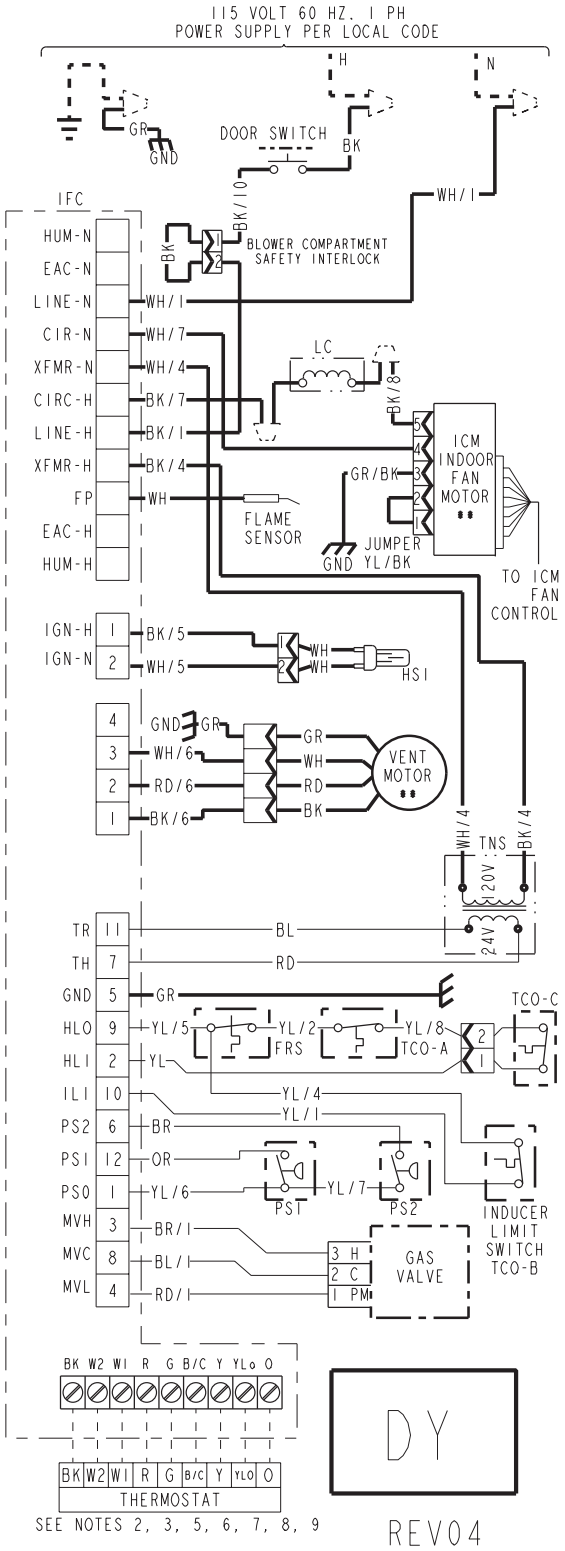
1. IF ANY OF THE ORIGINAL WIRING AS SUPPLIED WITH THIS FURNACE MUST BE REPLACED, IT ,MUST BE WITH WIRE HAVING A TEMPERATURE RATING OF AT LEAST 105 C.
2. THERMOSTAT HEAT ANTICIPATOR SETTING: FIRST STAGE.38 AMPS, SECOND STAGE .13 AMPS. IF SETTING IS NOT FIXED ON THERMOSTAT, FOR SINGLE STAGE HEATING THERMOSTAT SET AT .51 AMPS.
3. FOR PROPER OPERATION OF COOLING SPEED, "Y" TERMINAL MUST BE CONNECTED TO THE ROOM THERMOSTAT.
4. THESE LEADS PROVIDE 120V POWER CONNECTIONS FOR ELECTRONIC AIR CLEANER (EAC) AND HUMIDIFIER (HUM). MAX. LOAD: 1.0 AMPS EACH.
5. JUMPER W1 AND W2 FOR SINGLE STAGE HEATING THERMOSTAT, SECOND STAGE WILL BE ENERGIZED, DELAYED PER STAGING DELAY SETTING.
6. GREEN LIGHT (CFM) FLASHES ONCE PER 100 CFM COMMAND.
7. FOR HEAT PUMP SYSTEMS Y AND O MUST BE CONNECTED TO THE LOW-VOLTAGE TERMINAL BOARD.
8. FOR TWO SPEED SYSTEMS, USE YLO FOR LOW SPEED AND Y FOR HIGH SPEED CONNECTION TO THE LOW-VOLTAGE TERMINAL BOARD.
9. OPTIONAL HUMIDSTAT IS TO BE CONNECTED BETWEEN THE "R" AND "BK". FACTORY INSTALLED JUMPER "R" TO "BK" (BK JUMPER) ON THE CIRCUIT BOARD MUST BE CUT IF OPTIONAL HUMIDSTAT IS USED. THE JUMPER MUST ALSO BE CUT WHEN APPLYING AN AIRFLOW COMMAND SIGNAL TO THE "BK" INPUT SUCH AS WITH THE VARIABLE SPEED SINGLE-ZONE AND MULTI-ZONE SYSTEM CONTROLLERS. ON SINGLE SPEED COOLING ONLY / NON-HEAT PUMP SYSTEMS, JUMPER "Y" TO "O" FOR PROPER OPERATION OF THE DELAY PROFILES AND THE HUMIDSTAT. FOR TWO COMPRESSOR OR TWO SPEED SYSTEMS, JUMPER "YLO" TO "O".
10. SEE INDOOR MOTOR AIRFLOW SELECTION CHART, LOCATED IN THE FURNACE FOR DIP SWITCH SETTINGS TO SET AIRFLOW AND COOLING OFF DELAYS.
11. POWER MUST BE OFF WHEN DIP SWITCHES ARE SET.
12. USED FOR *UY100R9V4* AND *UY120R9V5* MODELS ONLY.
13. ON POWER-UP, LAST FOUR FAULTS, IF ANY, WILL BE FLASHED ON RED LED. GREEN LED WILL BE SOLID ON DURING LAST FAULT RECOVERY.

TABLE "A"	
MODELS	
*UY060R9V3W**	*UY100R9V4W**
*UY080R9V3W**	*UY120R9V5W**
* PREFIX MAY BE "A" OR "T" /** SUFFIX MAY BE 0 THROUGH 9	

*DY WIRING DIAGRAM



*DY SCHEMATIC DIAGRAM



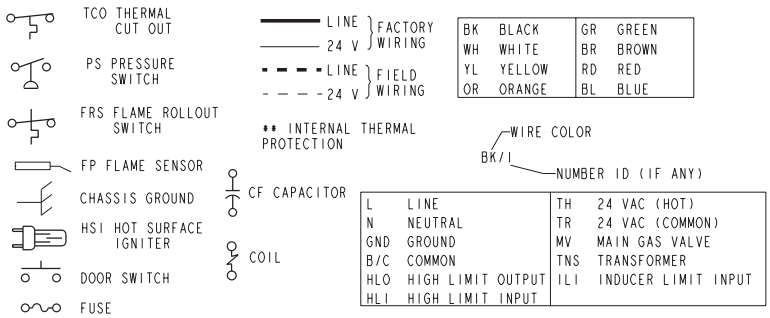
DIAGNOSTIC CODES (SEE NOTE 13)	
RED LED - LitePort tm Data - 1 Flash every 20 seconds	
2 FLASHES - SYSTEM LOCKOUT RETRIES OR RECYCLES EXCEEDED	6 FLASHES - 115 VOLT AC POWER REVERSED OR IGNITER FAULT
3 FLASHES - PRESSURE SWITCH FAULT	7 FLASHES - GAS VALVE CIRCUIT ERROR
	8 FLASHES - LOW FLAME SENSE SIGNAL
4 FLASHES - OPEN LIMIT SWITCH	9 FLASHES - OPEN INDUCER LIMIT
5 FLASHES - FLAME SENSED WHEN NO FLAME SHOULD BE PRESENT	10 FLASHES - INDUCER COMMUNICATION FAULT
	CONTINUOUS ON - INTERNAL CONTROL FAILURE
GREEN LED - STATUS	
SLOW FLASH - NORMAL, NO CALL FOR HEAT	
FAST FLASH - NORMAL, CALL FOR HEAT PRESENT	
GREEN AND RED LED'S ON CONTINUOUS - FUSE OPEN OR INTERNAL CONTROL FAILURE	

WARNING ⚠	CAUTION ⚠
HAZARDOUS VOLTAGE DISCONNECT ALL ELECTRICAL POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING. FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.	USE COPPER CONDUCTORS ONLY! UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT.

INTEGRATED FURNACE CONTROL

REPLACE WITH PART CNT 04678 OR EQUIVALENT
ELECTRICAL RATING
INPUT: 25 V.A.C., 60 HZ.
XFMR SEC. CURRENT: 450 MA. + MV LOAD
MV OUTPUT: 1.5 A @ 24 V.A.C.
IND OUTPUT: 3 PHASE OUTPUT
IGN OUTPUT: 2.0 A @ 120V.A.C.
CIRC. BLOWER OUTPUT: 14.5 FLA, 25 LRA @ 120 VAC
HUMIDIFER & AIR CLEANER MAX. LOAD: 1.0 A @ 120 VAC

TIMINGS
PREPURGE: 0 SEC.; INTERPURGE: 60 SEC.
POST PURGE: 5 SECONDS
IGNITOR WARMUP: 20 SECONDS
IAP: 3; TFI: 5 SECONDS
RETRIES: 2; RECYCLES: 10
HEAT ON DELAY: 45 SECONDS
COOL ON DELAY: 0 SECONDS
AUTO RESTART: 60 MINUTES
AUTO RESTART PURGE: 15 SECONDS



NOTES:

1. IF ANY OF THE ORIGINAL WIRING AS SUPPLIED WITH THIS FURNACE MUST BE REPLACED, IT ,MUST BE WITH WIRE HAVING A TEMPERATURE RATING OF AT LEAST 105 C.
2. THERMOSTAT HEAT ANTICIPATOR SETTING: FIRST STAGE.38 AMPS, SECOND STAGE .13 AMPS. IF SETTING IS NOT FIXED ON THERMOSTAT, FOR SINGLE STAGE HEATING THERMOSTAT SET AT .51 AMPS.
3. FOR PROPER OPERATION OF COOLING SPEED, "Y" TERMINAL MUST BE CONNECTED TO THE ROOM THERMOSTAT.
4. THESE LEADS PROVIDE 120V POWER CONNECTIONS FOR ELECTRONIC AIR CLEANER (EAC) AND HUMIDIFIER (HUM). MAX. LOAD: 1.0 AMPS EACH.
5. JUMPER W1 AND W2 FOR SINGLE STAGE HEATING THERMOSTAT, SECOND STAGE WILL BE ENERGIZED, DELAYED PER STAGING DELAY SETTING.
6. GREEN LIGHT (CFM) FLASHES ONCE PER 100 CFM COMMAND.
7. FOR HEAT PUMP SYSTEMS Y AND O MUST BE CONNECTED TO THE LOW-VOLTAGE TERMINAL BOARD.
8. FOR TWO SPEED SYSTEMS, USE YLO FOR LOW SPEED AND Y FOR HIGH SPEED CONNECTION TO THE LOW-VOLTAGE TERMINAL BOARD.
9. OPTIONAL HUMIDSTAT IS TO BE CONNECTED BETWEEN THE "R" AND "BK". FACTORY INSTALLED JUMPER "R" TO "BK" (BK JUMPER) ON THE CIRCUIT BOARD MUST BE CUT IF OPTIONAL HUMIDSTAT IS USED. THE JUMPER MUST ALSO BE CUT WHEN APPLYING AN AIRFLOW COMMAND SIGNAL TO THE "BK" INPUT SUCH AS WITH THE VARIABLE SPEED SINGLE-ZONE AND MULTI-ZONE SYSTEM CONTROLLERS. ON SINGLE SPEED COOLING ONLY / NON-HEAT PUMP SYSTEMS, JUMPER "Y" TO "O" FOR PROPER OPERATION OF THE DELAY PROFILES AND THE HUMIDSTAT. FOR TWO COMPRESSOR OR TWO SPEED SYSTEMS, JUMPER "YLO" TO "O".
10. SEE INDOOR MOTOR AIRFLOW SELECTION CHART, LOCATED IN THE FURNACE FOR DIP SWITCH SETTINGS TO SET AIRFLOW AND COOLING OFF DELAYS.
11. POWER MUST BE OFF WHEN DIP SWITCHES ARE SET.
12. USED FOR *UY100R9V4* AND *UY120R9V5* MODELS ONLY.
13. ON POWER-UP, LAST FOUR FAULTS, IF ANY, WILL BE FLASHED ON RED LED. GREEN LED WILL BE SOLID ON DURING LAST FAULT RECOVERY.

TABLE "A"	
MODELS	
*DY060R9V3W**	*DY100R9V4W**
*DY080R9V3W**	*DY120R9V5W**
* PREFIX MAY BE "A" OR "T" /** SUFFIX MAY BE 0 THROUGH 9	

Service Facts

*UY060R9V3W FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER									
1st Stage Capacity = 37,000 2nd Stage Capacity = 56,000									
	AIRFLOW SETTING	DIP SWITCH SETTING			EXTERNAL STATIC PRESSURE				
		SW 7	SW 8		0.1	0.3	0.5	0.7	0.9
HEATING 1ST STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	600 57 85	600 57 110	600 57 155	600 57 190	-
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	700 49 90	700 49 130	700 49 175	700 49 210	-
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	775 44 105	775 44 155	775 44 195	775 44 240	-
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	870 39 135	870 39 185	870 39 235	870 39 290	-
HEATING 2ND STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	860 61 140	920 57 200	920 57 245	920 57 300	670 79 245
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1000 53 190	1000 53 255	1000 53 305	1000 53 340	700 75 255
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	1125 47 250	1125 47 315	1125 47 370	1025 51 355	775 68 285
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1250 42 340	1250 42 405	1250 42 445	1100 48 390	1000 53 355

NOTES:
* First letter may be "A" or "T"
** Factory setting

*UY060R9V3W FURNACE COOLING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER											
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE				
		SW 1	SW 2	SW 3	SW 4		0.1	0.3	0.5	0.7	0.9
1.5	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM WATTS	575 65	575 90	575 125	550 155	-
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM WATTS	640 70	640 110	640 140	630 175	-
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM WATTS	700 85	700 125	700 160	700 200	-
2.0	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM WATTS	700 100	700 130	700 170	700 210	-
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM WATTS	800 115	800 155	800 200	800 250	-
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM WATTS	900 140	900 195	900 240	900 290	-
2.5	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM WATTS	875 130	875 180	875 230	875 270	-
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM WATTS	1000 175	1000 235	1000 285	1000 335	900 310
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM WATTS	1125 235	1125 295	1125 345	1100 370	925 318
3	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM WATTS	1050 195	1050 260	1050 305	1050 350	920 315
	NORMAL (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM WATTS	1200 275	1200 330	1200 385	1100 385	940 330
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM WATTS	1325 360	1325 425	1300 460	1175 425	1000 365

NOTES: * First letter may be "A" or "T"
1. At continuous fan setting: Heating or Cooling airflows are approximately 50% of selected cooling value.
2. LOW airflow (350 cfm/ton) is COMFORT & HUMID CLIMATE setting;
NORMAL airflow (400 cfm/ton) is typical setting;
HIGH airflow (450 cfm/ton) is DRY CLIMATE setting.

*UY080R9V3W FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER									
1st Stage Capacity = 49,000 2nd Stage Capacity = 73,000									
	AIRFLOW SETTING	DIP SWITCH SETTING			EXTERNAL STATIC PRESSURE				
		SW 7	SW 8		0.1	0.3	0.5	0.7	0.9
HEATING 1ST STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	800 56 105	800 56 140	800 56 180	800 56 220	800 56 265
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	860 52 115	880 51 165	890 50 215	920 48 265	910 49 320
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	960 46 150	990 45 200	1000 44 230	1020 44 310	1010 44 350
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1080 41 195	1110 40 255	1120 40 315	1120 40 365	1080 41 390
HEATING 2ND STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	1100 62 205	1100 62 260	1120 61 320	1120 61 370	1090 63 400
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1210 57 265	1240 55 340	1260 54 410	1260 54 470	1130 61 430
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	1360 50 365	1390 49 445	1400 49 500	1360 50 535	1210 57 475
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1360 50 355	1390 49 450	1400 49 520	1350 51 535	1180 58 465

NOTES:
* First letter may be "A" or "T"
** Factory setting

*UY080R9V3W FURNACE COOLING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER											
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE				
		SW 1	SW 2	SW 3	SW 4		0.1	0.3	0.5	0.7	0.9
2.0	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM WATTS	750 84	750 122	750 154	720 185	710 221
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM WATTS	840 109	840 146	840 181	840 226	820 264
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM WATTS	940 136	940 177	940 215	940 274	940 318
2.5	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM WATTS	850 113	850 150	870 200	890 250	890 295
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM WATTS	960 150	990 200	1000 230	1020 305	1010 350
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM WATTS	1080 195	1110 255	1120 315	1120 365	1080 390
3.0	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM WATTS	1020 175	1020 225	1040 280	1050 330	1050 375
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM WATTS	1170 240	1180 300	1200 365	1200 415	1130 420
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM WATTS	1290 310	1320 410	1350 470	1340 520	1150 440
3.5	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM WATTS	1170 250	1190 315	1210 370	1210 435	1100 405
	NORMAL (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM WATTS	1360 365	1390 445	1400 500	1360 535	1210 475
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM WATTS	1360 355	1390 450	1400 520	1350 535	1180 460

NOTES: * First letter may be "A" or "T"
1. At continuous fan setting: Heating or Cooling airflows are approximately 50% of selected cooling value.
2. LOW airflow (350 cfm/ton) is COMFORT & HUMID CLIMATE setting;
NORMAL airflow (400 cfm/ton) is typical setting;
HIGH airflow (450 cfm/ton) is DRY CLIMATE setting.

Service Facts

*UY100R9V4W FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER									
1st Stage Capacity = 62,000 2nd Stage Capacity = 93,000									
	AIRFLOW SETTING	DIP SWITCH SETTING			EXTERNAL STATIC PRESSURE				
		SW 7	SW 8		0.1	0.3	0.5	0.7	0.9
HEATING 1ST STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	873 64 100	893 63 145	900 62 195	899 62 240	902 62 290
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	971 58 115	997 56 170	1006 56 220	1022 55 280	1029 54 335
	MEDIUM **	ON	OFF	CFM TEMP. RISE WATTS	1136 49 160	1146 49 230	1165 48 295	1180 47 365	1184 47 425
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1258 44 225	1298 43 300	1319 42 390	1328 42 450	1286 44 490
HEATING 2ND STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	1260 68 213	1304 66 305	1329 65 380	1334 65 460	1317 65 510
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1464 59 315	1471 59 405	1478 58 485	1478 58 560	1350 64 540
	MEDIUM **	ON	OFF	CFM TEMP. RISE WATTS	1631 53 450	1678 51 570	1690 51 670	1579 55 645	1419 61 585
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1846 47 640	1867 46 760	1794 48 770	1644 52 700	1498 57 650

NOTES:
* First letter may be "A" or "T"
** Factory setting

*UY100R9V4W FURNACE COOLING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER											
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE				
		SW 1	SW 2	SW 3	SW 4		0.1	0.3	0.5	0.7	0.9
2.5	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM WATTS	808 75	824 125	840 170	835 210	830 250
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM WATTS	938 100	963 160	959 205	964 255	975 310
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM WATTS	1058 150	1100 200	1121 265	1136 330	1142 395
3.0	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM WATTS	1004 120	1010 175	1027 230	1044 285	1050 345
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM WATTS	1141 170	1190 245	1214 310	1229 380	1234 450
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM WATTS	1336 250	1375 330	1387 410	1388 480	1384 545
3.5	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM WATTS	1153 180	1206 250	1230 320	1239 395	1244 460
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM WATTS	1390 285	1418 465	1439 445	1441 515	1373 540
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM WATTS	1575 400	1606 495	1632 590	1596 645	1445 590
4.0	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM WATTS	1388 290	1423 360	1444 440	1444 515	1390 540
	NORMAL (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM WATTS	1610 415	1641 515	1666 635	1607 650	1449 595
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM WATTS	1847 630	1863 735	1816 780	1687 720	1532 665

NOTES: *First letter may be "A" or "T"
1. At Continuous fan setting: Heating or Cooling airflows are approximately 50% of selected cooling value.
2. LOW airflow (350 cfm/ton) is COMFORT & HUMID CLIMATE setting;
NORMAL airflow (400 cfm/ton) is typical setting;
HIGH airflow (450 cfm/ton) is DRY CLIMATE setting.

*UY120R9V5W FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER									
1st Stage Capacity = 74,000 2nd Stage Capacity = 112,000									
	AIRFLOW SETTING	DIP SWITCH SETTING			EXTERNAL STATIC PRESSURE				
		SW 7	SW 8		0.1	0.3	0.5	0.7	0.9
HEATING 1ST STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	1090 62 165	1120 60 225	1080 63 270	1070 63 310	1010 67 380
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1210 56 220	1200 56 280	1200 56 330	1180 57 395	1160 58 455
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	1340 50 295	1360 50 350	1370 49 425	1380 49 495	1330 51 535
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1430 47 390	1570 43 490	1580 43 565	1570 43 625	1390 49 565
HEATING 2ND STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	1660 63 485	1690 62 590	1680 62 640	1640 64 675	1460 72 600
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1870 56 675	1870 56 745	1810 58 770	1680 62 715	1490 70 625
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	2060 51 880	1990 53 890	1850 57 810	1710 61 750	1530 68 665
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	2200 48 1030	2090 50 965	1940 54 895	1790 58 830	1640 64 750

NOTES:
* First letter may be "A" or "T"
** Factory setting

*UY120R9V5W FURNACE COOLING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER											
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE				
		SW 1	SW 2	SW 3	SW 4		0.1	0.3	0.5	0.7	0.9
3.5	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM WATTS	1210 220	1210 270	1220 325	1230 400	1230 445
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM WATTS	1400 305	1440 390	1450 465	1450 510	1410 560
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM WATTS	1590 425	1600 520	1610 600	1600 645	1380 575
4.0	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM WATTS	1390 305	1400 375	1430 445	1440 515	1420 565
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM WATTS	1620 420	1650 530	1670 595	1640 660	1480 600
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM WATTS	1840 600	1830 690	1820 765	1670 700	1490 620
5	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM WATTS	1800 570	1780 630	1780 705	1700 695	1530 615
	NORMAL (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM WATTS	2050 845	2010 875	1860 805	1710 735	1530 655
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM WATTS	2160 995	2040 935	1920 875	1780 805	1620 730

NOTES: * First letter may be "A" or "T"
1. At continuous fan setting: Heating or Cooling airflows are approximately 50% of selected cooling value.
2. LOW airflow (350 cfm/ton) is COMFORT & HUMID CLIMATE setting;
NORMAL airflow (400 cfm/ton) is typical setting;
HIGH airflow (450 cfm/ton) is DRY CLIMATE setting.

Service Facts

*DY060R9V3W FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER									
1st STAGE CAPACITY = 37,000 2nd STAGE CAPACITY = 56,000									
	AIRFLOW SETTING	DIP SWITCH SETTING			EXTERNAL STATIC PRESSURE				
		SW 7	SW 8		0.1	0.3	0.5	0.7	0.9
HEATING 1ST STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	600 56 55	600 56 85	600 56 120	600 56 150	600 56 185
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	675 50 65	675 50 105	675 50 140	675 50 175	675 50 205
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	750 45 85	750 45 125	750 45 160	750 45 210	750 45 260
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	850 40 115	850 40 155	850 40 205	850 40 260	850 40 320
HEATING 2ND STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	900 58 125	900 58 165	900 58 220	900 58 270	900 58 315
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1000 52 170	1050 50 230	1050 50 295	1050 50 335	1050 50 370
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	2060 51 880	1990 53 890	1850 57 810	1710 61 750	1530 68 665
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	2200 48 1030	2090 50 965	1940 54 895	1790 58 830	1640 64 750

NOTES:
* First letter may be "A" or "T"
** Factory setting

*DY060R9V3W FURNACE COOLING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER											
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE				
		SW 1	SW 2	SW 3	SW 4		0.1	0.3	0.5	0.7	0.9
1.5	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM WATTS	525 45	525 70	525 100	525 135	525 160
	NORMAL (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM WATTS	600 55	600 85	600 120	600 150	600 185
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM WATTS	675 65	675 105	625 140	675 175	675 205
2.0	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM WATTS	700 70	700 115	700 145	700 185	700 220
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM WATTS	800 100	800 135	800 175	800 225	800 280
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM WATTS	900 125	900 165	900 220	900 270	900 330
2.5	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM WATTS	875 115	875 160	875 210	875 260	875 310
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM WATTS	1000 150	1000 207	1000 265	1000 320	1000 380
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM WATTS	1125 215	1125 285	1125 340	1125 395	1125 440
3	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM WATTS	1050 175	1050 240	1050 305	1050 345	1050 380
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM WATTS	1200 240	1200 315	1200 385	1200 440	1100 410
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM WATTS	1350 330	1350 410	1350 500	1275 485	1170 450

NOTES: * First letter may be "A" or "T"
1. At continuous fan setting: Heating or Cooling airflows are approximately 50% of selected cooling value.
2. LOW airflow (350 cfm/ton) is COMFORT & HUMID CLIMATE setting;
NORMAL airflow (400 cfm/ton) is typical setting;
HIGH airflow (450 cfm/ton) is DRY CLIMATE setting.

*DY080R9V3W FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER									
1st STAGE CAPACITY = 49,000 2nd STAGE CAPACITY = 73,000									
	AIRFLOW SETTING	DIP SWITCH SETTING			EXTERNAL STATIC PRESSURE				
		SW 7	SW 8		0.1	0.3	0.5	0.7	0.9
HEATING 1ST STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	800 56 130	800 56 170	800 56 210	790 56 245	-
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	900 49 162	900 49 210	900 49 260	900 49 295	-
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	1000 44 205	1000 44 265	1000 44 310	1000 44 345	800 56 295
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1170 38 305	1170 38 350	1170 38 400	1020 44 360	830 54 310
HEATING 2ND STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	1150 60 285	1150 60 345	1150 60 385	1020 67*** 360	830 83*** 305
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1275 54 380	1275 54 445	1200 57 425	1040 66*** 380	900 76*** 350
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	1430 48 515	1340 51 490	1220 56 455	1090 63 410	930 74*** 380
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1430 48 515	1340 51 490	1220 56 455	1090 63 410	930 74*** 380

NOTES: * - First letter may be "A" or "T"
** Factory setting
*** Above MAX Temperature change value

*DY080R9V3W - FURNACE COOLING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER											
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE				
		SW 1	SW 2	SW 3	SW 4		0.1	0.3	0.5	0.7	0.9
2.0	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM WATTS	700 95	700 105	700 115	680 200	670 235
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM WATTS	800 130	800 160	800 205	790 245	740 265
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM WATTS	900 160	900 215	900 255	900 300	750 270
2.5	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM WATTS	875 145	875 185	875 240	875 280	760 270
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM WATTS	1000 205	1000 265	1000 310	1000 340	800 295
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM WATTS	1150 295	1150 340	1150 385	1020 350	800 300
3.0	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM WATTS	1050 235	1050 295	1050 340	1010 350	800 290
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM WATTS	1200 335	1200 385	1200 410	1040 365	840 310
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM WATTS	1350 455	1350 480	1210 435	1070 390	900 345

NOTES: * First letter may be "A" or "T"
1. At continuous fan setting: Heating or Cooling airflows are approximately 50% of selected cooling value.
2. LOW airflow (350 cfm/ton) is COMFORT & HUMID CLIMATE setting;
NORMAL airflow (400 cfm/ton) is typical setting;
HIGH airflow (450 cfm/ton) is DRY CLIMATE setting.

Service Facts

*DY100R9V4W - FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER									
1st STAGE CAPACITY = 62,000 2nd STAGE CAPACITY = 93,000									
	AIRFLOW SETTING	DIP SWITCH SETTING			EXTERNAL STATIC PRESSURE				
		SW 7	SW 8		0.1	0.3	0.5	0.7	0.9
HEATING 1ST STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	923 61 110	955 59 165	960 58 210	958 58 265	947 59 310
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1020 55 145	1047 53 190	1053 53 250	1042 54 295	1029 54 350
	MEDIUM **	ON	OFF	CFM TEMP. RISE WATTS	1156 48 185	1166 48 240	1172 48 300	1177 48 350	1178 48 420
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1275 44 225	1305 43 290	1328 42 365	1328 42 445	1328 42 510
HEATING 2ND STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	1298 66 235	1320 65 305	1335 65 380	1343 64 445	1343 64 520
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1439 60 310	1459 59 390	1482 58 470	1483 58 550	1470 59 610
	MEDIUM **	ON	OFF	CFM TEMP. RISE WATTS	1639 53 430	1650 52 525	1650 52 600	1644 52 680	1496 58 640
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1790 18 570	1818 47 670	1813 47 770	1708 50 750	1535 56 675

NOTES: * - First letter may be "A" or "T"
** Factory setting
*** Above MAX temperature change

*DY100R9V4W - FURNACE COOLING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER											
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE				
		SW 1	SW 2	SW 3	SW 4		0.1	0.3	0.5	0.7	0.9
2.5	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM WATTS	870 100	885 140	887 185	881 230	876 270
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM WATTS	989 120	1018 180	1016 230	1012 285	999 325
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM WATTS	1124 175	1139 225	1130 275	1135 335	1135 390
3.0	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM WATTS	1053 145	1075 200	1070 245	1070 295	1049 350
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM WATTS	1186 195	1205 255	1220 310	1220 370	1216 440
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM WATTS	1336 255	1366 340	1383 405	1385 470	1381 545
3.5	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM WATTS	1216 190	1225 255	1235 320	1240 385	1243 445
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM WATTS	1394 270	1422 360	1436 430	1437 505	1430 580
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM WATTS	1579 395	1604 475	1610 555	1599 645	1517 640
4.0	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM WATTS	1377 270	1412 355	1426 430	1433 510	1428 575
	NORMAL (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM WATTS	1599 425	1624 510	1636 585	1618 670	1512 635
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM WATTS	1801 580	1818 690	1815 775	1694 735	1525 660

NOTES: * - First letter may be "A" or "T"
1. At continuous fan setting: Heating or Cooling airflows are approximately 50% of selected cooling value.
2. LOW airflow (350 cfm/ton) is COMFORT & HUMID CLIMATE setting;
NORMAL airflow (400 cfm/ton) is typical setting;
HIGH airflow (450 cfm/ton) is DRY CLIMATE setting.

*DY120R9V5W - FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER									
1st STAGE CAPACITY = 74,000 2nd STAGE CAPACITY = 112,000									
	AIRFLOW SETTING	DIP SWITCH SETTING			EXTERNAL STATIC PRESSURE				
		SW 8	SW 7		0.1	0.3	0.5	0.7	0.9
HEATING 1ST STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	1025 65 150	1025 65 200	1000 67 240	1000 67 290	1000 67 340
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1200 56 230	1200 56 270	1200 56 330	1200 56 390	1200 56 450
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	1350 49 280	1350 49 340	1350 49 490	1350 49 470	1350 49 530
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1550 43 400	1550 43 490	1550 43 560	1550 43 620	1450 46 600
HEATING 2ND STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	1550 66 380	1550 66 470	1550 66 540	1550 66 610	1450 71*** 690
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1850 56 660	1850 56 750	1850 56 780	1700 60 720	1500 69 640
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	2050 50 860	2000 51 880	1850 56 810	1700 60 750	1550 66 670
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	2105 49 1000	2050 50 940	1900 54 880	1775 58 820	1625 63 750

NOTES:
* First letter may be "A" or "T"
** Factory setting

*DY120R9V5W - FURNACE COOLING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER											
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE				
		SW 1	SW 2	SW 3	SW 4		0.1	0.3	0.5	0.7	0.9
3.5	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM WATTS	1225 240	1225 280	1225 340	1225 400	1225 450
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM WATTS	1400 310	1400 390	1400 470	1400 520	1400 570
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM WATTS	1600 450	1600 520	1600 590	1600 640	1450 600
4.0	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM WATTS	1400 300	1400 380	1400 450	1400 520	1400 570
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM WATTS	1600 460	1600 530	1600 610	1600 670	1450 600
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM WATTS	1800 610	1800 700	1800 760	1650 690	1500 630
5	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM WATTS	1750 580	1750 640	1750 720	1650 680	1450 610
	NORMAL (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM WATTS	2000 830	2000 860	1850 800	1700 740	1550 660
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM WATTS	2100 970	2000 910	1900 850	1650 780	1600 710

NOTES: * - First letter may be "A" or "T"
1. At continuous fan setting: Heating or Cooling airflows are approximately 50% of selected cooling value.
2. LOW airflow (350 cfm/ton) is COMFORT & HUMID CLIMATE setting;
NORMAL airflow (400 cfm/ton) is typical setting;
HIGH airflow (450 cfm/ton) is DRY CLIMATE setting.

Service Facts

INTEGRATED FURNACE CONTROL RED LED "ERROR" FLASH CODES	
2 Flashes ---	System Lockout (Retries or Recycles exceeded)
3 Flashes ---	Draft Pressure Error - Possible problems: a) Venting problem b) Pressure switch problem c) Inducer problem
4 Flashes ---	Open Temperature Limit Switch
5 Flashes ---	Flame sensed when no flame should be present
6 Flashes ---	115 volt AC power reversed, ignitor (Triac) fault, poor grounding or system voltage too low
7 Flashes ---	Gas valve circuit error
8 Flashes ---	Low flame sense
9 Flashes ---	Open Inducer Limit switch
10 Flashes ---	Inducer communication error
Solid ---	Internal GV error or Low TH voltage
Solid Red w/Solid Green "STATUS" LED	Continuous Reset caused by a blown fuse or internal error.

FAULT CODE RECOVERY

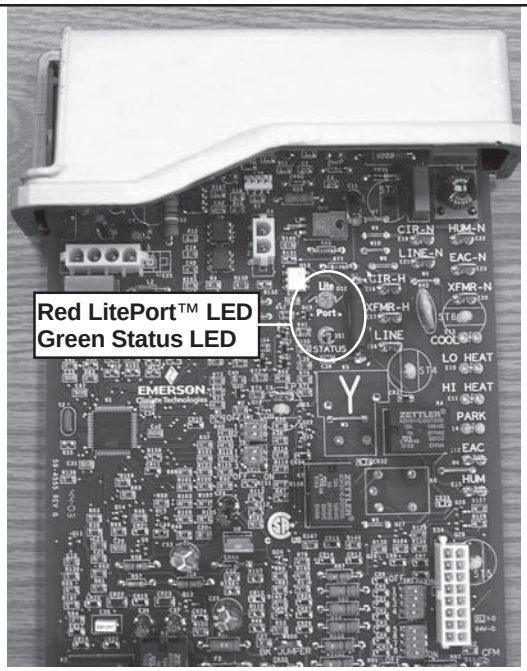
On power up, last 4 faults, if any, will be flashed on the red LED. The newest fault detected will flash first and the oldest last. There will be a 2 second delay between fault code flashes. Solid red LED error codes will not be displayed.

The Green LED will be on solid during last fault recovery. At any other time the control is powered, the Green LED indicator light will operate as shown in Table 14 and the red LED will flash LitePort data (one flash) every 20 seconds.

INTEGRATED FURNACE CONTROL GREEN "STATUS" LED FLASH CODES	
Flashing Slow ---	Normal - No call for Heat
Flashing Fast ---	Normal - Call for Heat

Fault Code Reset

The last 4 fault codes can be erased from memory by powering up the control with "G" energized and then applying "R" to the "W1" terminal 3 times within 6 seconds. The control will acknowledge the reset by turning on the red LED for 2 seconds.



***UY / DY Integrated Furnace Control**

NOTES

P.I.

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Tyler, TX 75707

For more information contact your local dealer (distributor)