

HEATING INPUT: 40,000–120,000 BTU/H

**TWO-STAGE, VARIABLE-SPEED  
ECM GAS FURNACE  
UP TO 96% AFUE**



**Contents**

Nomenclature..... 2  
 Product Specifications..... 3  
 Dimensions ..... 4  
 Airflow Data ..... 5  
 Wiring Diagrams ..... 9  
 Accessories ..... 10

**Standard Features**

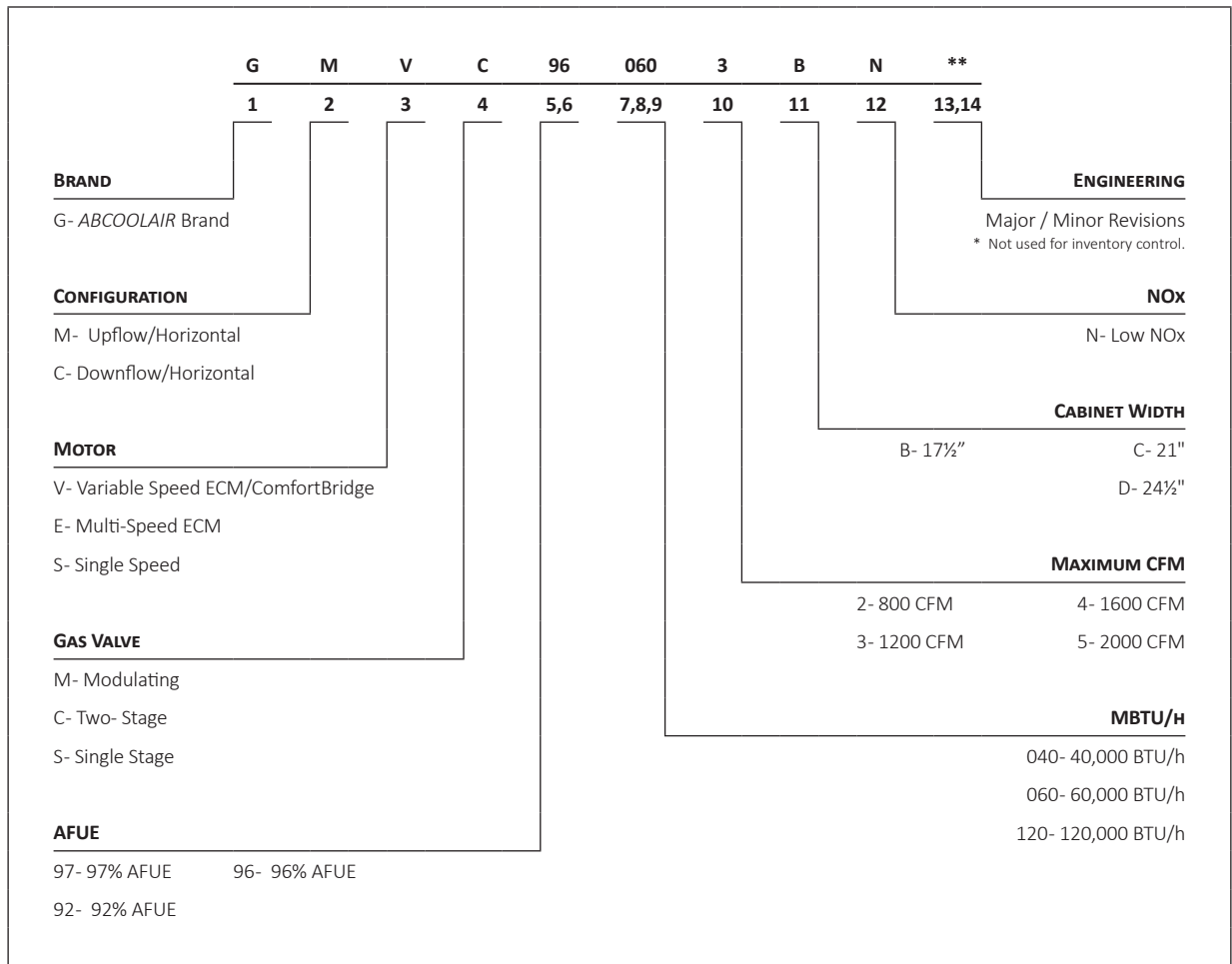
- Integrated communicating ComfortBridge™ Technology
- Commissioning and diagnostics via on board Bluetooth with the CoolCloud phone and tablet application
- Heavy-duty aluminized-steel tubular heat exchanger
- Stainless-steel secondary heat exchanger
- Two-stage gas valve provides quiet, economical heating
- Durable Silicon Nitride igniter
- Quiet two-speed induced draft blower
- Compatible with any single-stage thermostat
- Self-diagnostic control board with constant memory fault code history output to a triple 7-segment display
- Color-coded low-voltage terminals with provisions for electronic air cleaner
- Efficient and quiet variable-speed airflow system gently ramps up or down according to heating or cooling demand
- Multiple continuous fan speed options offer quiet air circulation
- Auto-Comfort and enhanced dehumidification modes available
- All models comply with California 40 ng/J Low NOx emissions standard
- Can no longer be installed in California’s South Coast Air Quality Management District (SCAQMD) on or after October 1, 2019.

**Cabinet Features**

- Designed for multi-position installation — upflow, horizontal left or right
- Certified for direct vent (2-pipe) or non-direct vent (1-pipe)
- Easy to install top venting with optional side venting
- Convenient left or right connection for gas and electrical service
- Cabinet air leakage ( $Q_{Leak} \leq 2\%$ )
- Heavy-gauge steel cabinet with durable baked-enamel finish
- Fully insulated heat exchanger and blower section
- Airtight solid bottom or side-return with easy-cut tabs for effortless removal in bottom air-inlet applications



\* Complete warranty details available from your local dealer or at [www.abcoolairhvac.com](http://www.abcoolairhvac.com). To receive the Lifetime Heat Exchanger Limited Warranty (good for as long as you own your home), 10-Year Unit Replacement Limited Warranty and 10-Year Parts Limited Warranty, online registration must be completed within 60 days of installation. Online registration is not required in California or Québec.



ACCESSORIES

MODEL	DESCRIPTION	GMVC96 0403BNB	GMVC96 0603BNB	GMVC96 0803BNB	GMVC96 0804CNB	GMVC96 1005CNB	GMVC96 1005DNB	GMVC96 1205DNB
CVENT-2	Concentric Vent Kit (2")	√	√	√	√	√	√	---
CVENT-3	Concentric Vent Kit (3")	√	√	√	√	√	√	√
RF000142	Drain Kit-Horizontal Left Vertical Flue	√	√	√	√	√	√	√
EFRO2	External Filter Rack with 16"x25" Permanent Filter	√	√	√	√	√	√	√
0170K00000S	Flush Mount Vent Kit- 3" or 2"	√	√	√	√	√	√	√
0170K00001S	Flush Mount Vent Kit- 2"	√	√	√	√	√	√	---
HASFK	High-Altitude Natural Gas Kit	HASFK-1	HASFK-1	HASFK-2	HASFK-2	HASFK-3	TBD	HASFK-2
HASFK	High-Altitude LP Gas Kit	HASFK-1	HASFK-1	HASFK-1	HASFK-2	HASFK-2	TBD	HASFK-2
LPLP03	Low LP Gas Pressure Switch	√	√	√	√	√	√	√
LPM-08	LP Conversion Kits	√	√	√	√	√	√	√

	GMVC96 0403BNB	GMVC96 0603BNB	GMVC96 0803BNB	GMVC96 0804CNB	GMVC96 1005CNB	GMVC96 1005DNB	GMVC96 1205DNB
<b>HEATING DATA</b>							
High Fire Input <sup>1</sup>	40,000	60,000	80,000	80,000	100,000	100,000	120,000
High Fire Output <sup>1</sup>	38,400	57,600	76,800	76,800	96,000	96,000	115,200
Low-Fire Steady-State Input <sup>1</sup>	28,000	42,000	56,000	56,000	70,000	70,000	84,000
Low-Fire Steady-State Output <sup>1</sup>	26,880	40,320	53,760	53,760	67,200	67,200	80,640
AFUE <sup>2</sup>	96	96	96	96	96	96	96
Temperature Rise Range (°F)	20- 50	35- 65	35- 65	25- 55	35- 65	30- 60	35- 65
Vent Diameter <sup>3</sup>	2" - 3"	2" - 3"	2" - 3"	2" - 3"	2" - 3"	2" - 3"	2" - 3"
No. of Burners	2	3	4	4	5	5	6
<b>CIRCULATOR BLOWER</b>							
Available AC @ 0.5" ESP	1.5- 3	1.5- 3	1.5- 3	1.5- 4	2- 5	2- 5	2- 5
Size (D x W)	10" x 8"	11" x 8"	11" x 8"	11" x 10"	11" x 10"	11" x 11"	11" x 11"
Horsepower @ 1075 RPM	½	½	½	¾	1	1	1
Speed	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM
<b>ELECTRICAL DATA</b>							
Min. Circuit Ampacity <sup>4</sup>	7.8	7.8	7.8	10.6	14.4	14.4	14.4
Max. Overcurrent Device (amps) <sup>5</sup>	15	15	15	15	20	20	20
<b>SHIPPING WEIGHT (LBS)</b>							
	114	117	120	141	143	153	156

<sup>1</sup> Natural Gas BTU/h

<sup>2</sup> DOE AFUE based upon Isolated Combustion System (ICS)

<sup>3</sup> Installer must supply one or two PVC pipes: one for combustion air (optional) and one for the flue outlet (required). Vent pipe must be either 2" or 3" in diameter, depending upon furnace input, number of elbows, length of run and installation (1 or 2 pipes). The optional Combustion Air Pipe is dependent on installation/code requirements and must be 2" or 3" diameter PVC.

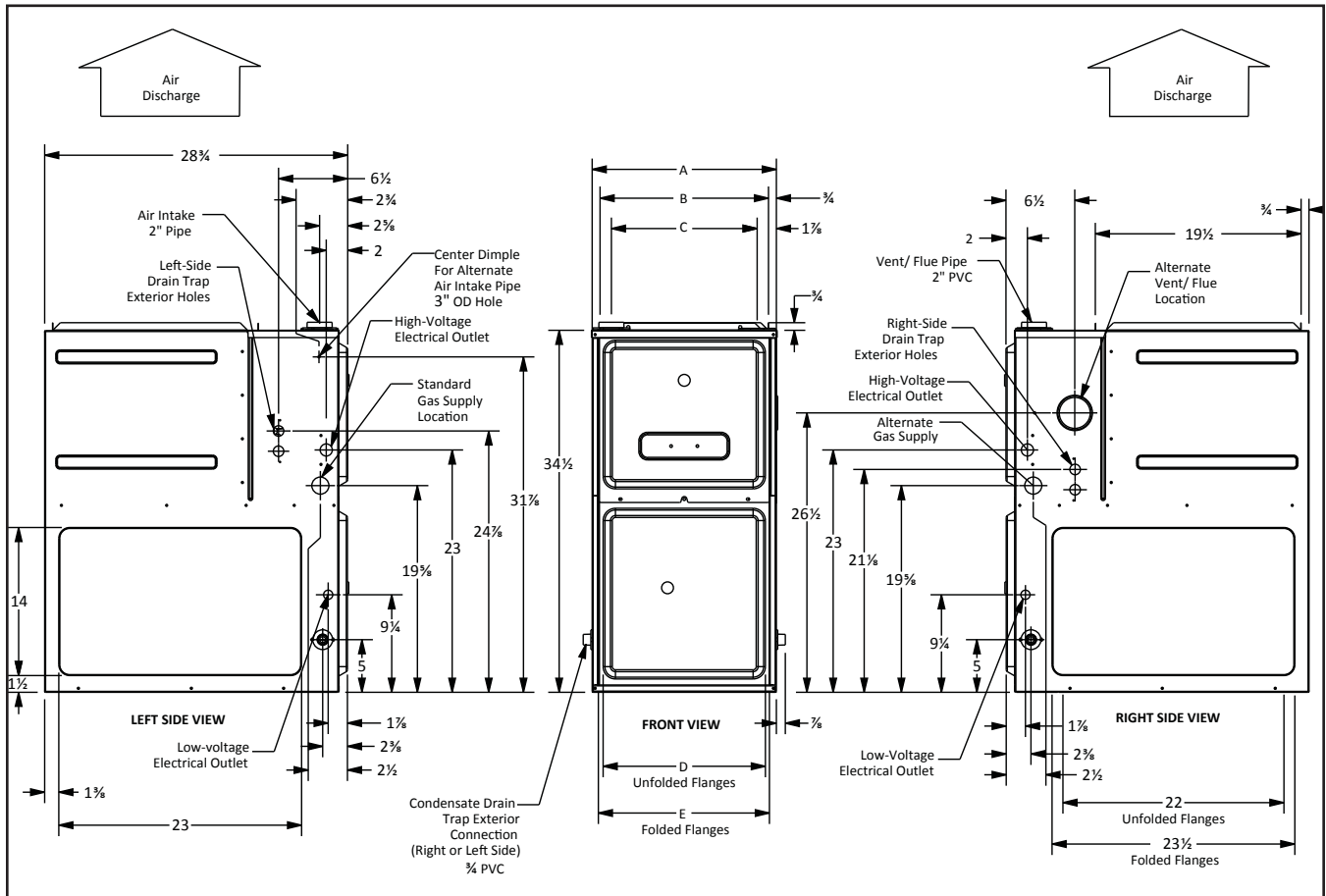
<sup>4</sup> Minimum Circuit Ampacity = (1.25 x Circulator Blower Amps) + ID Blower amps. Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.

<sup>5</sup> Maximum Overcurrent Protection Device refers to maximum recommended fuse or circuit breaker size. May use fuses or HACR-type circuit breakers of the same size as noted.

**NOTES**

- All furnaces are manufactured for use on 115 VAC, 60 Hz, single-phase electrical supply.
- Gas Service Connection ½" FPT
- Important: Size fuses and wires properly and make electrical connections in accordance with the National Electrical Code and/or all existing local codes.
- For bottom return: Failure to unfold flanges may reduce airflow by up to 18%. This could result in performance and noise issues.
- For servicing or cleaning, a 24" front clearance is required. Unit connections (electrical, flue and drain) may necessitate greater clearances than the minimum clearances listed above. In all cases, accessibility clearance must take precedence over clearances from the enclosure where accessibility clearances are greater.

# DIMENSIONS



MODEL	W	D	H
GMVC960403BNB	17½"	28⅞"	34½"
GMVC960603BNB	17½"	28⅞"	34½"
GMVC960803BNB	17½"	28⅞"	34½"
GMVC960804CNB	21"	28⅞"	34½"
GMVC961005CNB	21"	28⅞"	34½"
GMVC961005DNB	24½"	28⅞"	34½"
GMVC961205DNB	24½"	28⅞"	34½"

	AIR DISCHARGE			AIR RETURN	
	A	B	C	D	E
	17½"	16"	13⅞"	12⅞"	13⅝"
	17½"	16"	13⅞"	12⅞"	13⅝"
	17½"	16"	13⅞"	12⅞"	13⅝"
	21"	19½"	17⅞"	16"	17½"
	21"	19½"	17⅞"	16"	17½"
	24½"	23"	20⅞"	19⅞"	20⅞"
	24½"	23"	20⅞"	19⅞"	20⅞"

## MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS

POSITION	SIDES	REAR	FRONT	BOTTOM	FLUE	TOP
Upflow	0"	0"	3"	C	0"	1"
Horizontal	6"	0"	3"	C	0"	6"

C = If placed on combustible floor, the floor MUST be wood ONLY.

## MINIMUM FILTER SIZES

	GMVC96 0403BNB	GMVC96 0603BNB	GMVC96 0803BNB	GMVC96 0804CNB	GMVC96 1005CNB	GMVC96 1005DNB	GMVC96 1205DNB
Filter Size (in <sup>2</sup> ) (Qty)	(1) 16 x 25 (side or bottom)				(1) 20 x 25 (bottom) or (2) 16 x 25 (side)		

Note: Other size filters of equal or greater dimensions may be used. Filters may also be centrally located.

MODEL/TEMP RISE RANGE (MID RISE)	GMVC96 0403BNB* 20-50 (35)		GMVC96 0603BNB* 35-65 (50)		GMVC96 0803BNB* 35-65 (50)		GMVC96 0804CNB* 25-55 (40)		GMVC96 1005CNB* 35-65 (50)		GMVC96 1005DNB* 30-60 (45)		GMVC96 1205DNB* 35-65 (50)	
	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE
Recommended cfm for high heat / expected temperature rise	1010	35	1072	50	1400	50	1760	40	1770	50	1980	45	2150	50
Lowest recommended cfm for hi heat / expected temperature rise	710	50	820	65	1090	65	1300	55	1360	65	1480	60	1650	65
Maximum cfm for hi heat / expected temperature rise	1400	25	1400	38	1650	43	1760	40	2200	40	2200	40	2200	48

NOTE: Low Heat CFM = High Heat CFM X .7. Low Heat Temperature Rise Is Expected to Equal High Heat Temperature Rise ± 5%  
0140F02402-A

**GMVC960403BNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
1.5	600	420
2	800	560
2.5	1,000	700
3	1,200	840
MAX	1,400	

**GMVC960603BNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
1.5	600	420
2	800	560
2.5	1,000	700
3	1,200	840
MAX	1,400	

**GMVC960803BNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
1.5	600	420
2	800	560
2.5	1,000	700
3	1,200	840
MAX	1,650	

**GMVC960804CNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
2.5	1,000	700
3	1,200	840
4	1,600	1120
MAX	1,760	

**GMVC961005CNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
3	1,200	840
4	1,600	1,120
5	2,000	1,400
MAX	2,200	

**GMVC961005DNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
3	1,200	840
4	1,600	1,120
5	2,000	1,400
MAX	2,200	

**GMVC961205DNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

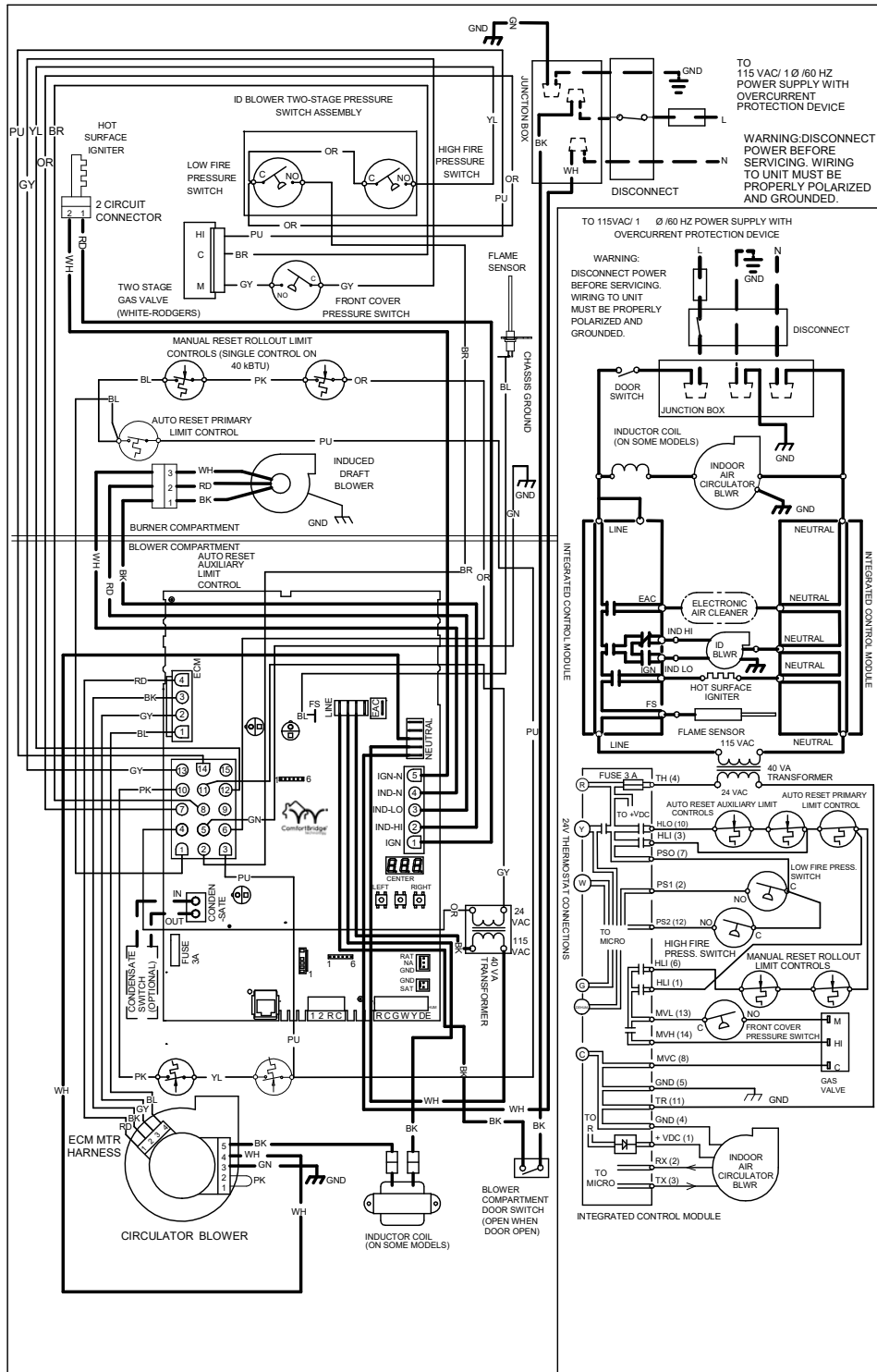
TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
3	1,200	840
4	1,600	1,120
5	2,000	1,400
MAX	2,200	

All furnaces ship as high speed for cooling. Installer must adjust blower speed as needed.

For most jobs, about 400 CFM per ton when cooling is desirable.

Do not operate above .5" w.c. ESP in heating mode. Operating CFM between .5" and .8" w.c. is tabulated for cooling purposes only.

# WIRING DIAGRAM



**High Voltage:** Disconnect all power before servicing or installing this unit. Multiple power sources may be present. Failure to do so may cause property damage, personal injury, or death.

**WARNING**

- NOTES:
1. SET HEAT ANTICIPATOR ON ROOM THERMOSTAT AT 0.7 AMPS.
  2. MANUFACTURER'S SPECIFIED REPLACEMENT PARTS MUST BE USED WHEN SERVICING.
  3. IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE FURNACE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C. USE COPPER CONDUCTORS ONLY.
  4. UNIT MUST BE PERMANENTLY GROUNDED AND CONFORM TO N.E.C. AND LOCAL CODES.



0140F02497-A

<b>COLOR CODES:</b>	LOW VOLTAGE (24V)	—————	EQUIPMENT GND	
PK PINK	LOW VOLTAGE FIELD	- - - - -	FIELD GND	
BR BROWN	HI VOLTAGE (115V)	—————	FIELD SPLICE	
WH WHITE	HI VOLTAGE FIELD	- - - - -	SWITCH (TEMP.)	
BL BLUE	JUNCTION		IGNITER	
GY GRAY	TERMINAL		SWITCH (PRESS.)	
RD RED	INTERNAL TO INTEGRATED CONTROL		OVERCURRENT PROT. DEVICE	
YL YELLOW	PLUG CONNECTION			
OR ORANGE				
PU PURPLE				
GN GREEN				
BK BLACK				

Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.