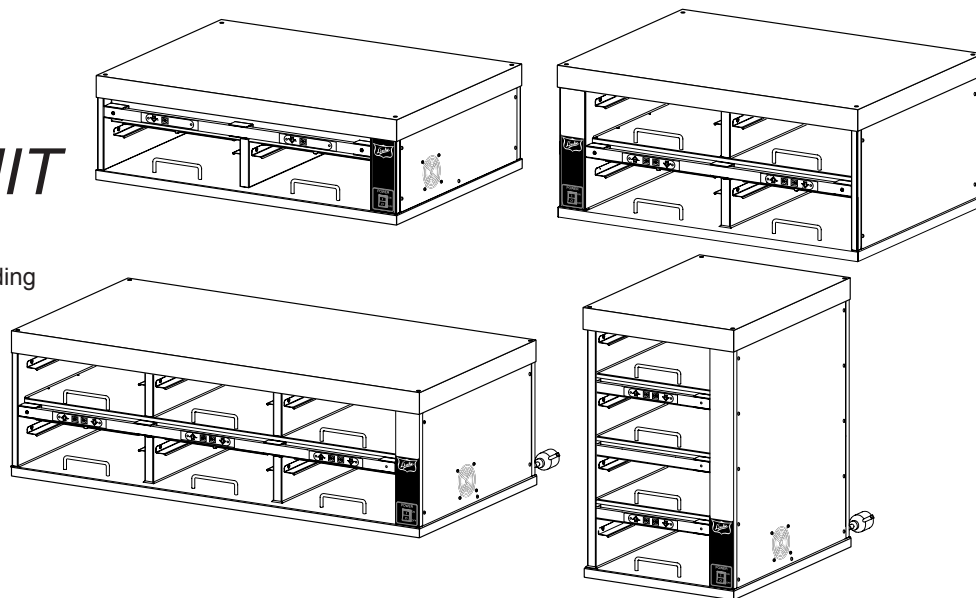# Owner's Manual

® *Duke* ®

"Your Solutions Partner"

# IRHU INFRARED HOLDING UNIT

U.S Patent 7105779, 7227102
Other U.S. and Foreign Patents Pending

## MODELS

IRHU-12
IRHU-22
IRHU-23
IRHU-41

**Please read this manual completely before attempting
to install, operate or service this equipment**

## Duke Manufacturing Co.

**2305 N. Broadway
St. Louis, MO 63102
Phone: 314-231-1130
Toll Free: 1-800-735-3853
Fax: 314-231-5074**

**www.dukemfg.com**

# TABLE OF CONTENTS

# MANUFACTURER'S INTRODUCTION

The Duke IR Holding Unit was developed in response to the need for extended food-holding capabilities to provide consistently high, "just cooked" food quality.

The Duke IR Holding Unit utilizes Duke's patented "Infra Red" holding technology that provides even heat distribution to food pans. This allows fried foods to be held for extended periods without noticeable degradation of quality, reducing food scrap/waste.

The self contained, individually formed, sealed compartments of the Duke IR Holding Unit eliminate food odor and taste transfer. Because the compartments are sealed, no disassembly is required for cleaning and product changes.

The unique design of the Duke IR Holding Unit allows the IR energy to be programmed for each compartment. The holding profile is preset at the factory. This reduces the likelihood of inconsistent performance between restaurant locations.

| Supplier Name | Duke Manufacturing Co |
|---|---|
| Address | 2305 N. Broadway<br>St. Louis, MO 63102 |
| Model # | IRHU-12XXXX-208 |
| | IRHU-12XXXX-230 |
| | IRHU-12XXXX-240 |
| | IRHU-22XXXX-208 |
| NOTE: XXXX denotes programming code. | IRHU-22XXXX-230 |
| | IRHU-22XXXX-240 |
| | IRHU-23XXXX-208 |
| | IRHU-23XXXX-230 |
| | IRHU-23XXXX-240 |
| | IRHU-41XXXX-208 |
| | IRHU-41XXXX-230 |
| | IRHU-41XXXX-240 |
| Serial # | |
| Date Received | |
| Date Installed | |
| Telephone | 800-735-DUKE (3853) |
| | 314-231-1130 |
| Fax | 314-231-5074 |
| Service Referral # | |
| Local Service Name | |
| Local Service # | |

# IMPORTANT SAFETY INSTRUCTIONS

⚠ **WARNING** :

**GENERAL WARNING -**
**Indicates information important**
**to the proper operation of the**
**equipment. Failure to observe**
**may result in damage to**
**the equipment and/or severe**
**bodily injury or death.**

⚠ **WARNING** :

**ELECTRICAL WARNING -**
**Indicates information relating**
**to possible shock hazard.**
**Failure to observe may result**
**in damage to the equipment**
**and/or severe bodily injury or**
**death.**

⚠ **WARNING** :

**HOT SURFACE WARNING -**
**Indicates information important**
**to the handling of equipment**
**and parts. Failure to observe**
**caution could result in**
**personal injury**

**CAUTION:**
**GENERAL CAUTION -**
**Indicates information important**
**to the proper operation of the**
**equipment. Failure to observe**
**may result in damage to the**
**equipment.**

**In addition to the warnings and cautions in this manual, use the following guidelines for safe operation of the unit.**
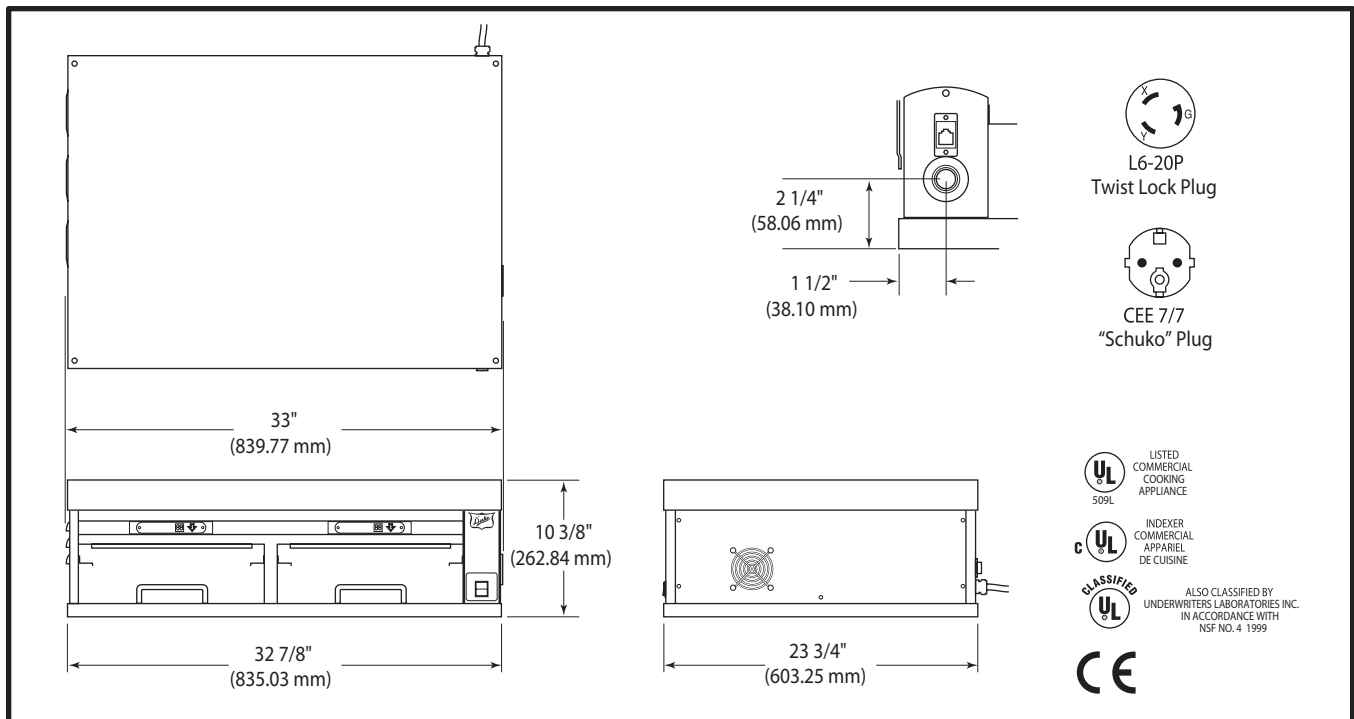
• Read all instructions before using equipment.

• For your safety, the equipment is furnished with a properly grounded cord connector. Do not attempt to defeat the grounded connector.

• Install or locate the equipment only for its intended use as described in this manual. Do not use corrosive chemicals in this equipment.

• Do not operate this equipment if it has a damaged cord or plug, if it is not working properly, or if it has been damaged or dropped.

• This equipment should be serviced by qualified personnel only. Contact the nearest Duke authorized service facility for adjustment or repair.

• Do not block or cover any openings on the unit.

• Do not immerse cord or plug in water.

• Keep cord away from heated surfaces.

• Do not allow cord to hang over edge of table or counter.

• Inspect glass daily for chips, cracks, or breaking. Discard all food and notify manager if any chips, cracks, or broken glass are found. Do not use equipment. All glass must be in good condition before using equipment to hold food.

**The following warnings and cautions appear throughout this manual and should be carefully observed.**

• Turn the unit off, disconnect the power source and allow unit to cool down before performing any service or maintenance on the unit.

• The procedures in this manual may include the use of chemical products. You must read the Material Safety Data Sheets before using any of these products.

• The unit should be grounded according to local electrical codes to prevent the possibility of electrical shock. It requires a grounded receptacle with separate electrical lines, protected by fuses or circuit breaker of the proper rating.

• Disposal of the unit must be in accordance with local environmental codes and/or any other applicable codes.

• SAVE THESE INSTRUCTIONS

# SPECIFICATIONS

| MODEL | SHIPPING WEIGHT | VOLTAGE | AMPS | WATTS | HZ |
|-------|-----------------|---------|------|-------|-----|
| IRHU-12XXXX-208 | 120lbs/55 Kg | 208 | 6.5 | 1350 | 50/60 |
| IRHU-12XXXX-230 | | 230 | 5.9 | | |
| IRHU-12XXXX-240 | | 240 | 5.6 | | |
| IRHU-22XXXX-208 | 170lbs/79 Kg | 208 | 13 | 2700 | |
| IRHU-22XXXX-230 | | 230 | 11.7 | | |
| IRHU-22XXXX-240 | | 240 | 11.3 | | |
| IRHU-23XXXX-208 | 245lbs/111 Kg | 208 | 19.5 | 4050 | |
| IRHU-23XXXX-230 | | 230 | 17.6 | | |
| IRHU-23XXXX-240 | | 240 | 16.9 | | |
| IRHU-41XXXX-208 | 175lbs/80 Kg | 208 | 13 | 2700 | |
| IRHU-41XXXX-230 | | 230 | 11.7 | | |
| IRHU-41XXXX-240 | | 240 | 11.3 | | |

33"
(839.77 mm)

10 3/8"
(262.84 mm)

32 7/8"
(835.03 mm)

23 3/4"
(603.25 mm)

2 1/4"
(58.06 mm)

1 1/2"
(38.10 mm)

L6-20P
Twist Lock Plug

CEE 7/7
"Schuko" Plug

UL
509L
LISTED COMMERCIAL COOKING APPLIANCE

c UL
INDEXER COMMERCIAL APPAREIL DE CUISINE

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UL
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CE

**IRHU-12**

23 3/4"
(603.25 mm)

2 5/8"
(65.54 mm)

1 1/2"
(38.10 mm)

33"
(839.77 mm)

15"
(380.31 mm)

32 7/8"
(835.03 mm)

23 3/4"
(603.25 mm)

L6-20P
Twist Lock Plug

CEE 7/7
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IN ACCORDANCE WITH
NSF NO. 4 1999

**IHRU-22**



23 3/4"
(603.25 mm)

2 1/4"
(58.06 mm)

1 1/2"
(38.10 mm)

47 7/8""
(1214.81 mm)

15"
(380.31 mm)

48"
(1219.17 mm)

23 3/4"
(603.25 mm)

L6-20P
Twist Lock Plug

CEE 7/7
"Schuko" Plug

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**IHRU-23**

17 7/8"
(454.96 mm)

29 7/8"
(759 mm)

1 1/8"
(29.91 mm)

23 5/8"
(601.40 mm)

2 1/8"
(53.98 mm)

2 1/2"
(63.89 mm)

L6-20P
Twist Lock Plug

CEE 7/7
"Schuko" Plug

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NSF NO. 4  1999

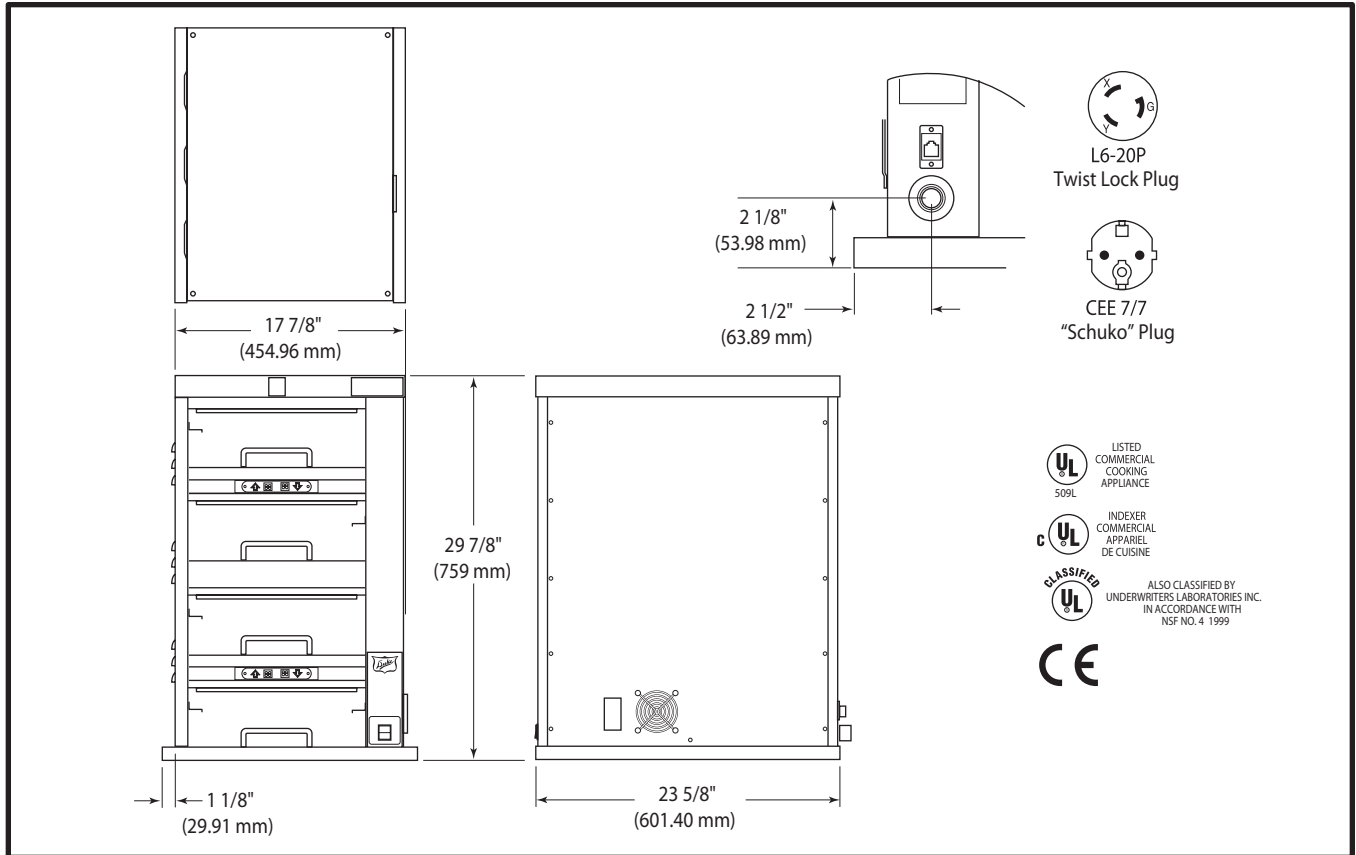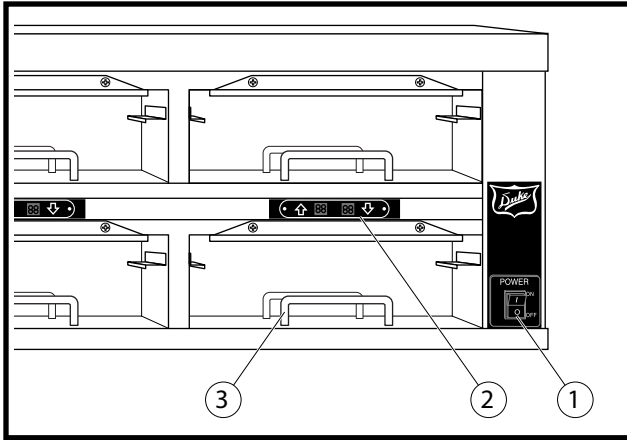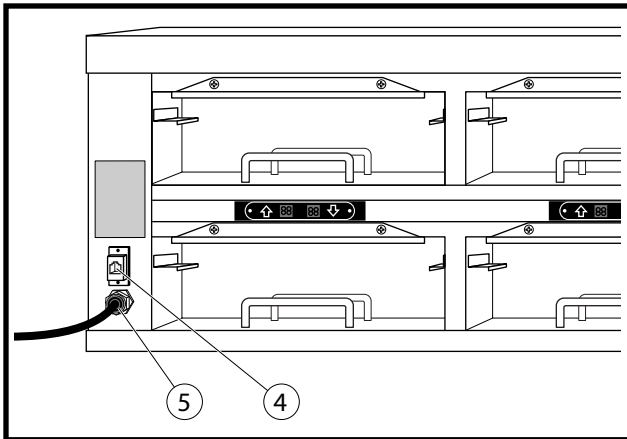**IHRU-41**

# MAIN FEATURES

## IRHU-12, IRHU-22 & IRHU-23 FEATURES
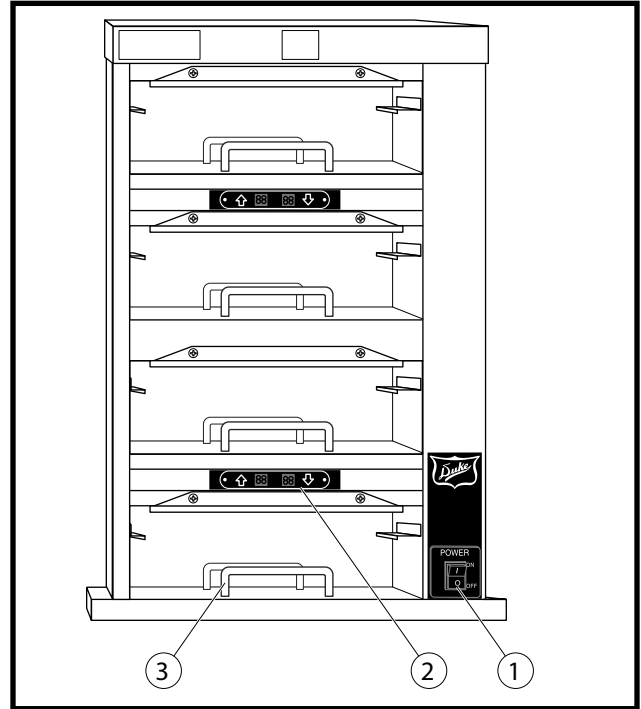


**IRHU-12, IRHU-22 & IRHU-23 Front View**

1. Power ON/OFF Switch

2. Digital Pan Timer Keyboard

3. Pan Stop (Note: the style of pan stop varies by model)
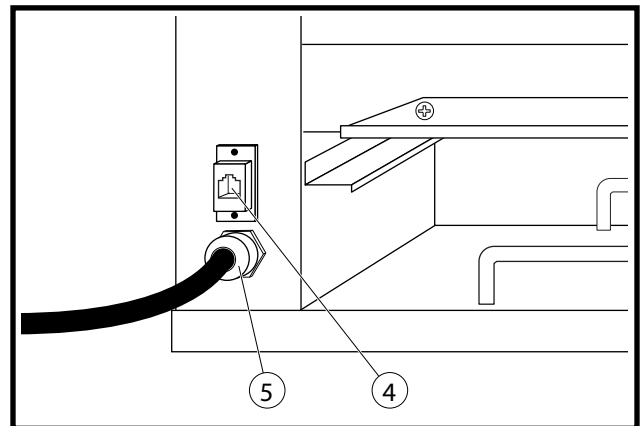


**IRHU-12, IRHU-22 & IRHU-23 Rear View**

4. Programming Connection Port

5. Power Cord with Strain Relief

## IRHU-41 FEATURES



**IRHU-41 Front View**

1. Power ON/OFF Switch

2. Digital Pan Timer Keyboard

3. Pan Stop (Note: the style of pan stop varies by model)



**IRHU-41 Rear View**

4. Programming Connection Point

5. Power Cord with Strain Relief

# INSTALLATION

## UNPACKING UNIT

- Inspect the shipping carton and/or container, carefully noting any exterior damage on the delivery receipt, which was not evident on the outside of the shipping container (concealed damage). Contact the carrier immediately and file a damage claim with them. Save all packing materials when filing a claim. Freight damage claims are the responsibility of the purchaser and are not covered by the warranty.

- Inspect unit for damage such as, broken glass, etc.

- Report any dents or breakage to source of purchase immediately.

- **Do not attempt to use unit if damaged.**

- Remove all materials from unit interior.

- If unit has been stored in extremely cold area, wait a few hours before connecting power.

## UNIT PLACEMENT

- Do not install unit next to or above source of heat, such as oven or deep fat fryer.

- Install unit on level countertop surface.

- Outlet should be located so that plug is accessible when the unit is in place.

**Minimum Clearances**

| Side | Clearance |
|---|---|
| Right Side | 0" |
| Left Side | 0" |
| Rear | 8" |
| Bottom | 0" |
| Top | 0" |

Proper airflow around unit will cool the electrical components. With restricted airflow, the unit may not operate properly and the life of the electrical parts may be reduced.

⚠ **WARNING**: **To avoid risk of electrical shock or death, this unit must be grounded and plug must not be altered.**

## EARTHING INSTRUCTIONS

Grounding reduces risk of electric shock by providing an escape wire for the electric current if an electrical short occurs. This unit is equipped with a cord having a grounding wire with a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded.

Consult a qualified electrician or servicer if grounding instructions are not completely understood, or if doubt exists as to whether the oven is properly grounded.

**Do not use an extension cord**. If the product power cord is too short, have a qualified electrician install a three-slot receptacle. This unit should be plugged into a separate circuit with the electrical rating as provided in product specifications.

## EXTERNAL EQUIPOTENTIAL EARTHING TERMINAL (EXPORT ONLY)

Equipment has secondary earthing terminal.

Terminal provides external earthing connection used in addition to earthing prong on plug. Located on outside of oven back, terminal is marked with this symbol.

## DIGITAL TIMERS

The digital pan timers count down in increments of one minute. The table below lists the display appearance corresponding to the actual hold time.

**Digital Timer Displays**

| ACTUAL TIME (MIN) | DISPLAY TIME |
|---|---|
| 0 – 59 | 00 – 59 |
| 60 – 119 | 1H |
| 61 – 179 | 2H |
| 180 – 239 | 3H |
| 240 | 4H |
| 270 | 4H |
| 300 | 5H |
| 330 | 5H |
| 360 | 6H |
| 390 | 6H |
| 420 | 7H |
| 450 | 7H |
| 480 | 8H |
| 510 | 8H |
| 540 | 9H |
| 570 | 9H |

# OPERATING INSTRUCTIONS

**NOTE:** Before starting, move the Power Switch to its OFF position then to its ON position. All the lights should be RED.
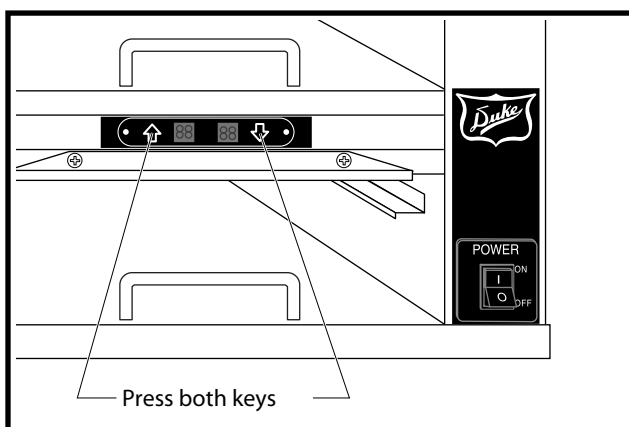
**NOTE:** Always stand on the front side of the warmer facing the ON/OFF switch.

## PROGRAMMING MODE

1. **Enter Programming Mode**

   Press and hold for 5 seconds the two keys closest to the ON/OFF switch.

   One solid RED light will turn on. The two displays will show numbers. All other displays will go out.

   Press both keys

   **Press both keys.**

2. **Select and View Settings**

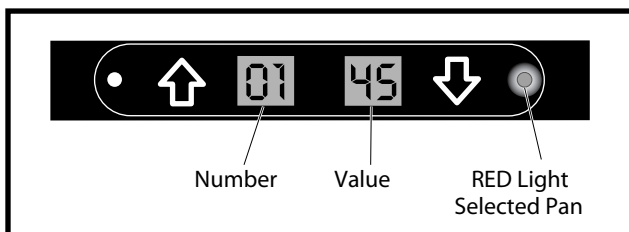   The solid RED light indicates the selected pan.

   The left display shows the setting number.

   The right display shows the value.

   *To change the setting number:*

   Press the arrow keys on the left display.

   View the values on the right display:

   Number    Value    RED Light
                       Selected Pan

### Settings

| 1 = Hold Time | 7 = Phase 3 Time |
|---|---|
| 2 = Cook Time | 8 = Phase 3 %Heat |
| 3 = Phase 1 Time | 9 = Phase 4 Enabled |
| 4 = Phase 1 %Heat | 10 = Linking |
| 5 = Phase 2 Time | 11 = Copying |
| 6 = Phase 2 %Heat | |

3. **Enter and Exit Edit Mode**

   **To enter edit mode** press and hold the DOWN arrow key for 3 seconds – the solid RED LED will blink.

   **To exit edit mode** press and hold the DOWN arrow key for 3 seconds – The blinking RED LED will turn solid.

4. **Edit Settings 1-8**

   Select the settings to be changed then enter edit mode. Use the UP DOWN arrow keys to change the value.

   NOTE: FF =    Phase at 100%
         9 =    Phase 4 Enable/Disable
               Enabled  = - -
               Disabled = 00

   Exit edit mode

5. **Edit Linking – Setting 10**

   Select Setting 10, then enter edit mode. The RED light indicates the selected pan. The GREEN lights = Pans linked to the selected pan. The OFF lights = Pans not linked to the selected pan.

   Press any arrow key to turn the GREEN lights off.

   Exit edit mode.

6. **Copy – Settings 11:** Copies the selected pan's values to another pan.

   Select setting 11, then enter edit mode. The blinking RED light indicates the selected pan.

   The GREEN lights = pans that already have the same values.

   The OFF lights = pans that have different values.

   To copy the selected pan, press any arrow key.

   The OFF light will turn YELLOW marking that pan to be copied.

Any YELLOW light may be pressed again to unmark that pan.

Exit edit mode to complete the copy.

**7. Select Another Pan.**

To select the top pan or bottom pan press both arrow keys together. The solid RED light will switch to the other pan. To select another pair of pans press both arrow keys by that pair. The numbers will light and the solid red light will move to the bottom of that pair.



Press both keys
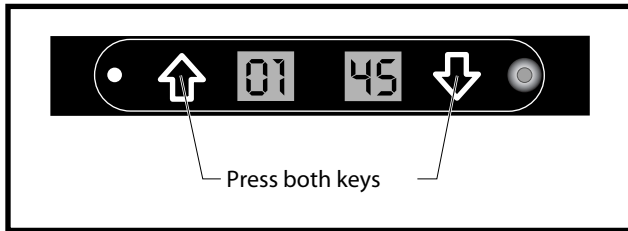
**8. Exit Programming Mode**

Review all settings as in step 2. Turn off the power to the unit and then back on – the unit will be in the normal operation mode.
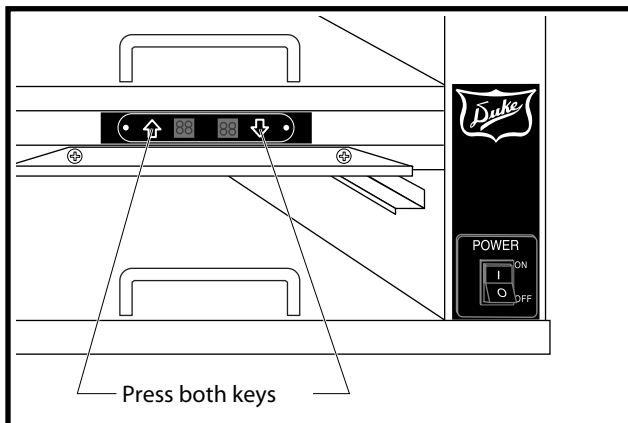
## SETUP MODE

**1. Enter Setup Mode**

Turn the power off.

Then while powering on press and hold the 2 keys closest to the ON/OFF switch.

1 solid RED light will turn on.

The 2 displays will show numbers.

All other displays will go out.



Press both keys
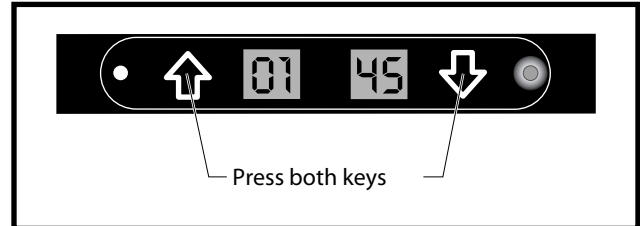
**2. Select and View Settings**

The left display shows the setting number

The right display shows the value

*To change the setting number:*

Press the arrow keys on the left display.

View the values on the right display.



Press both keys

### Settings:

**Setting # 99 –** Duty Cycle Length
- Do Not Change. Factory set at 06
- 03 = 30 seconds
- 06 = 60 seconds
- 12 = 120 seconds.

**Setting # 98** – Phase 4 On - % Heat
- Do Not Change. Factory set at 30
- 0 to 99, and FF = 100%

**Setting # 97** – Active Keyboards
- 01 - Back Only, 02 – Front Only (1X2 & 1X3)
- 01 - Front Only, 02 – Back Only (2x2)
- 03 - Both Front and Back Active

**Setting # 96** – Firmware Revision
- Displays firmware version

**Setting # 95** – Max Temperature
- Displays the max electrical compartment temperature in °C (00 Resets to 0°C)

**Setting # 94** – Actual Temperature
- Displays the actual electrical compartment temperature in °C.

**Setting # 93** – IR unit holding type
- Change in edit mode to override until the next power up.

**Setting # 92** – Current Monitor
- Do Not Change. Factory Set at 01.
- 01 – Current monitoring
- 00 – No current monitoring (until power off)

**Setting # 91** – Reset to factory default
- 01 – Reset

**Setting # 90** – Jumper Installed
- Change in edit mode to override until the next power up.

**Setting # 89** – Factory Setting
- Do Not Change.

**Setting # 88** – Factory Setting
- Do Not Change. (This setting does not exist in some programming.)

3. **Enter and Exit Edit Mode**

   **To enter edit mode** press and hold the DOWN arrow key for 3 seconds – the solid RED LED will blink.

   **To exit edit mode** press and hold the DOWN arrow key for 3 seconds – the blinking RED LED will turn solid.

4. **Edit Settings 99-90**

   Select the settings to be changed then enter edit mode.

   Use the UP and DOWN arrow keys to change the value.

5. **Exit Setup Mode**

   Press and hold the 2 keys closest to the ON/OFF switch for 5 seconds to enter normal mode.

# CARE AND CLEANING

⚠ **WARNING**: **Bottom and sides of warmer wells are very hot and cool slowly.**

**DANGER GLASS: Inspect glass daily for chips, cracks, or breaking. Discard all food and notify manager if any chips, cracks, or broken glass are found. Do not use equipment. All glass must be in good condition before using equipment to hold food.**

**CAUTION: Electrical shock hazard. Do not wash with water jet or hose.**

> Do not use caustic cleaners, acids, ammonia products, abrasive cleaners, or abrasive cloths. These can damage the stainless steel and plastic surfaces.

**CLEANING GUIDE AND CHECKLIST – DAILY**

Supplies:

YELLOW™ Dish soap Concentrate or LIQUID STORM™ Power Wash Detergent

KAY® SINK SANITIZER or KAYQUAT™ Sanitizer

EXCEED® Multi-Surface & Glass Cleaner

Clean, sanitizer-soaked towels.

## Procedure

**IMPORTANT: Use clean, sanitizer-soaked towels (Important: towels must be wrung out so that they are damp and not dripping, dripping towels may harm the unit,)**

1. Turn unit off and allow cooling for 10 minutes.

2. Remove all holding pans and wash, rinse and sanitize at the 3-compartment sink. Allow to air dry.

3. Spray a sanitizer-soaked towel with an EXCEED solution and wipe out all compartments on the holding unit. Wipe top compartments first and then lower compartments.

**NOTE:** Never spray cleaning solution directly onto the cabinet.

4. Spray a sanitizer-soaked towel with an EXCEED solution and wipe all glass surfaces covering the heating element in each compartment.

5. Spray a sanitizer-soaked towel with EXCEED solution and wipe the exterior of the cabinet.

6. Wipe out all the cleaned compartments with a clean, dampened food service towel.

7. Spray a clean, sanitizer-soaked towel with sanitizer solution and wipe out all cleaned compartments in the units.

**Inspection Checklist:**

• Inspect glass for chips, cracks, or breaking.

Make sure that:

• Unit is free of any visible food soils.

• Unit is free of grease or soils in holding compartment.

• Exterior of unit is free of smudges or soil.

• Holding pans are free of any food soil residue.

• Pans are free of damage such as cracks.

# TROUBLESHOOTING

## TESTING AND TROUBLESHOOTING GUIDE

### Pan Status Keyboard Test:

Press a pan button once. The corresponding light turns green. Press the same button again. The corresponding light turns red. Repeat for every button on all keyboards.

Troubleshooting:

1.  If the light turns red, and then turns off, the HOLD time is equal to 0. Program a new duration for at least one of the PHASEs for that pan.

2.  If the Keyboard test fails, plug the keyboard into a different Warmer jack on the Station Unit and repeat the test on that keyboard. If the keyboard continues to fail the test, the keyboard is suspect. If the keyboard passes the test when plugged into a different Warmer jack, the Station Unit is suspect.

### Station Interface Unit Power:

1.  Power up the Warmer unit.

2.  Observe that the keyboard lights illuminate yellow, then red or go out depending on the programmed hold times.

Troubleshooting:

Check that the Warmer control powers up and the Warmer heats up. If not, call Duke Mfg. for Warmer service at 314-231-1130 or 800-735-3853.

### Service Hot-Line:

If you believe that you have a Product Quality Timer System service issue, perform the steps outlined above. If a test fails, perform the troubleshooting steps to see if this resolves the problem. Continue the remainder of the testing, if possible, to uncover any additional problems and document the symptoms and results. Please have this data handy before calling the Duke troubleshooting Hot Line listed above. For optimum support, please be near the suspect units with a cordless phone, if available, when calling our Technicians.

**IMPORTANT:** Standard control location is at the right hand side on models IRHU-12 and IRHU-23. The IRHU-22 was designed to have the control location at the left hand side making the connection of the keyboard into the control board in reverse, i.e. Front keyboard plugs into the "BACK" at control board and back keyboard plugs into the "FRONT" at the control board.

# PARTS LISTS AND EXPLODED VIEWS

**IRHU-12, IRHU-22 & IRHU-23**

| Locator | P/N | Description | Quantity Per Unit | | |
|---|---|---|---|---|---|
| | | | IRHU-12 | IRHU-22 | IRHU-23 |
| 1 | 159243 | Cord, Power 20 Amp 250V – 208-240V units | 1 | 1 | |
| | 159142 | Cord, Power 30 Amp 250V – 208-240V Units | | | 1 |
| | 159157 | Cord Set, 16 Amp 230V CE – 230V Units | 1 | 1 | |
| | 159161 | Cord, HO7RN 3x2.5 MM2 – 230V Units | | | 1** |
| | 159158 | Plug, Pin & Sleeve, 32Amp, 3-Pole, 230V | | | 1 |
| 2 | 155749 | Transformer, 208/240-12V – 208/240V Unit | 1 | 1 | 1 |
| | 156838 | Transformer, 230-12V – 230V Unit | 1 | 1 | 1 |
| 3 | 159138 | Gasket, Silicone Foam, .25x.125x12.0 | 4 | 8 | 12 |
| 4 | 159139 | Gasket, Silicone Foam, .25x.125x19.0 | 4 | 8 | 12 |
| 5 | 156617 | Coupler, Straight 8x8 RJ45 | 1 | 1 | 1 |
| 6 | 156667* | Cable, Program w/RJ45* | 1 | 1 | 1 |
| 7 | 159072 | Lamp, 70V 225W – 208V Unit | 6 | 12 | 18 |
| | 159152 | Lamp, 77V 225W – 230V Unit | 6 | 12 | 18 |
| | 159124 | Lamp, 80V 225W – 240V Unit | 6 | 12 | 18 |
| 8 | 159149 | Block, Terminal, 2 Bar 8-Tab with fuse holder | 1 | 1 | 1 |
| 9 | 159077 | Relay, Mini, FS24D20-06 | 2 | 4 | 6 |
| 10 | 600143 | Kit, IRHU Control, Ver. 13 | 1 | 1 | 1 |
| | 600145 | Kit, IRHU Control, Ver. 16 | 1 | 1 | 1 |
| 11 | 159080 | Current Sensor with Connectors | 2 | 2 | 2 |
| 12 | 159140 | Screw, Captive, PNL 8-32x3/8" | 4 | 8 | 12 |
| 13 | 159084 | Switch, Lighted, DPST On-Off 20 AMP | 1 | 1 | 1 |
| 14 | 159087 | Thermostat, 180F with Reset | 1 | 1 | 1 |
| 15 | 159120 | Keyboard, Control 1x2 Front | 1 | | |
| | 159122 | Keyboard, Control 1x2 Back | 1 | | |
| | 159088 | Keyboard, Control 2x2 | | 2 | |
| | 159089 | Keyboard, Control 2x3 | | | 2 |
| 16 | 159090 | Glass, Tempered, 19-1/2 x 12 x ¼ | 2 | 4 | 6 |
| 17 | 159092 | Fan, Muffin, 80mmx80mmx38mm | 1 | 1 | 1 |
| 18 | 159026 | Bracket, Glass Mount | 2 | 4 | 6 |
| 19 | 159151* | Fuse, 20 Amp, Buckmann BK/AGC-20 | 2 | 2 | 2 |
| 20 | 159104 | Thermostat, 400F, Auto Reset | 1 | 2 | 4 |
| 21 | 159105 | Thermostat, 425F, Auto Reset | 1 | 2 | 4 |
| 22 | 512840 | Terminal Block, 3-Position | 1 | 1 | 1 |
| 23 | 512956 | Guard, Fan | 1 | 1 | 1 |
| 24 | 159158* | Plug, Pin/Sleeve, 32 Amp – 230V Unit | | | 1** |
| 25 | 159091 | Pan Stop as shown | 4 | 8 | 12 |
| | 159177 | Pan Stop (not shown) | 4 | 8 | 12 |

*Not Shown
**Requires Plug

**IHRU-22 Exploded View**

**IRHU-41**

| Locator | P/N | Description | Quantity |
|---|---|---|---|
| 1 | 159243<br>159157 | Cord, Power 20 Amp 250V – 208-240V units<br>Cord Set, 16 Amp 230V CE – 230V Units | 1<br>1 |
| 2 | 155749<br>156838 | Transformer, 208/240-12V – 208/240V Unit<br>Transformer, 230-12V – 230V Unit | 1<br>1 |
| 3 | 159138 | Gasket, Silicone Foam, .25x.125x12.0 | 8 |
| 4 | 159139 | Gasket, Silicone Foam, .25x.125x19.0 | 8 |
| 5 | 156617 | Coupler, Straight 8x8 RJ45 | 1 |
| 6 | 156667* | Cable, Program w/RJ45* | 1 |
| 7 | 159072<br>159152<br>159124 | Lamp, 70V 225W – 208V Unit<br>Lamp, 77V 225W – 230V Unit<br>Lamp, 80V 225W – 240V Unit | 12<br>12<br>12 |
| 8 | 159149 | Block, Terminal, 2 Bar 8-Tab with fuse holder | 1 |
| 9 | 159077 | Relay, Mini, FS24D20-06 | 4 |
| 10 | 600143<br>600145 | Kit, IRHU Control, Ver. 13<br>Kit, IRHU Control, Ver. 16 | 1<br>1 |
| 11 | 159080 | Current Sensor with Connectors | 2 |
| 12 | 159140 | Screw, Captive, PNL 8-32x3/8" | 16 |
| 13 | 159084 | Switch, Lighted, DPST On-Off 20 AMP | 1 |
| 14 | 159087 | Thermostat, 180F with Reset | 1 |
| 15 | 159289 | Keyboard, Control 4x1 Front | 2 |
| 16 | 159090 | Glass, Tempered, 19-1/2 x 12 x ¼ | 4 |
| 17 | 159092 | Fan, Muffin, 80mmx80mmx38mm | 1 |
| 18 | 159026 | Bracket, Glass Mount | 8 |
| 19 | 159151* | Fuse, 20 Amp, Buckmann BK/AGC-20 | 2 |
| 20 | 159104 | Thermostat, 400F, Auto Reset | 4 |
| 21 | 159105 | Thermostat, 425F, Auto Reset | 4 |
| 22 | 512840 | Terminal Block, 3-Position | 1 |
| 23 | 512956 | Guard, Fan | 1 |
| 24 | 159091<br>159177 | Pan Stop as shown<br>Pan Stop (not shown) | 4<br>4 |

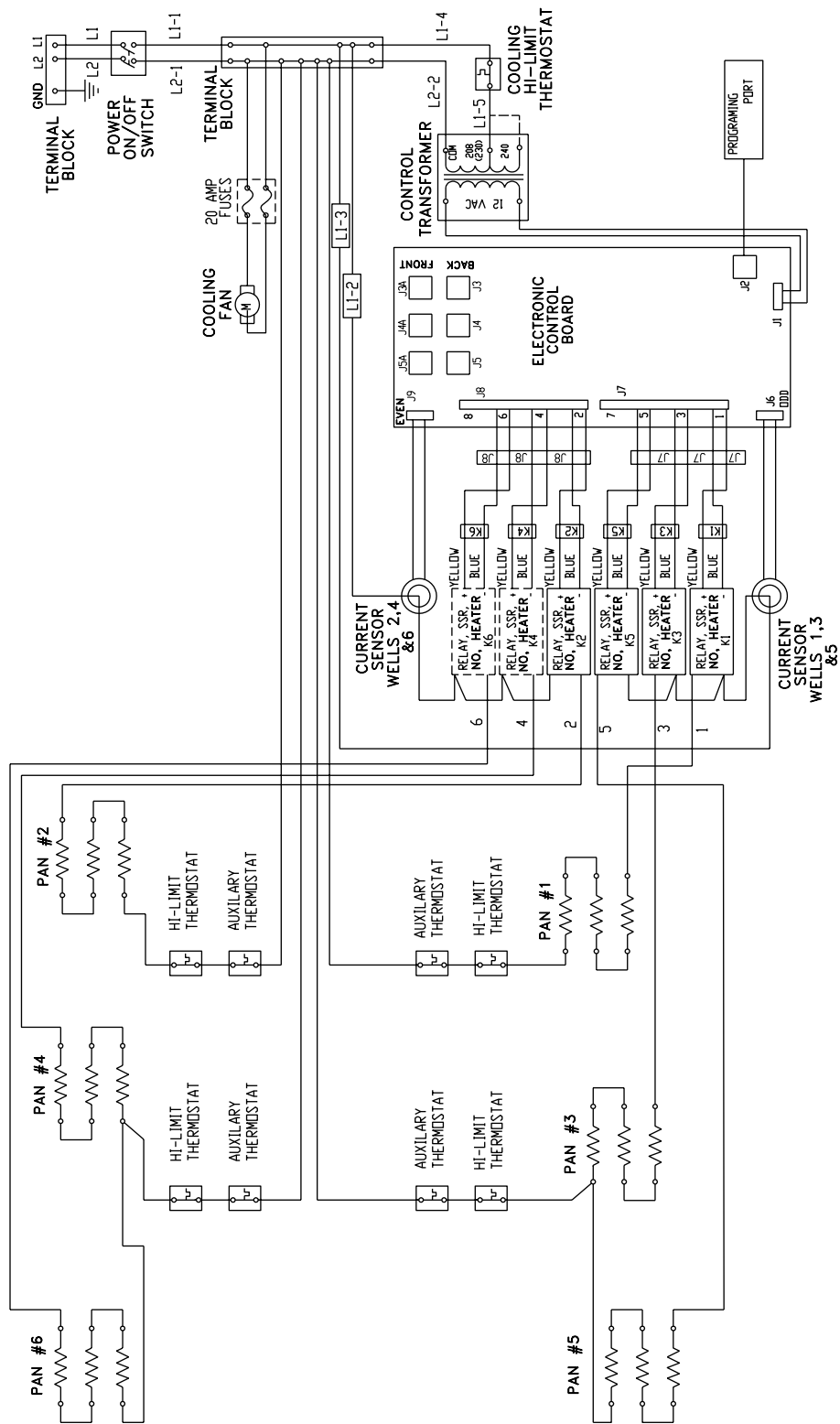*Not Shown

**IHRU-41 Exploded View**

# WIRING DIAGRAMS

**DUKE INFRARED HOLDING UNIT**
**MODEL IRHU-12**
**208/240 VAC 50/60 HZ 1 PH**
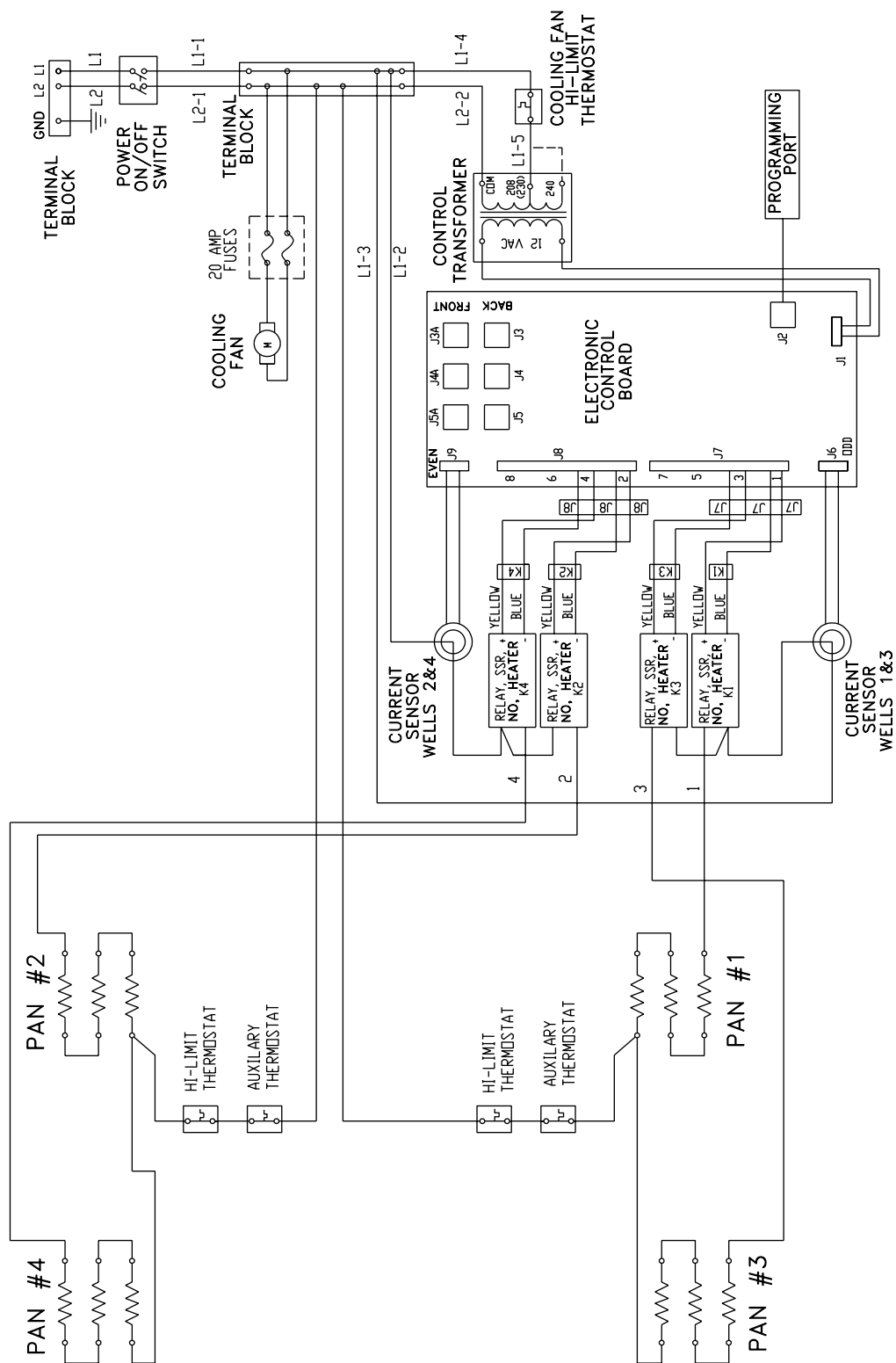
**DUKE INFRARED HOLDING UNIT**
**MODEL IRHU-22**
**208/230/240 VAC 50/60 HZ 1 PH**

**DUKE INFRARED HOLDING UNIT**
**MODEL IRHU-23**
**208/230/240 VAC 50/60 HZ 1 PH**

**DUKE INFRARED HOLDING UNIT**
**MODEL IRHU-41**
**208/230/240 VAC 50/60 HZ 1 PH**

# CUSTOMER ASSISTANCE

To aid in reporting this unit in case of loss or theft, please record below the model number and serial number located on the unit. We also suggest you record all the information listed and retain for future reference.

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**MODEL NUMBER** _____ **SERIAL NUMBER** _____

**DATE OF PURCHASE**_____

**DEALER**_____ **TELEPHONE** _____

**SERVICER**_____ **TELEPHONE** _____

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**TO PHONE:**

Dial 1-800-735-DUKE (3853)
SERVICE
PARTS
ADDITIONAL CUSTOMER IMFORMATION

**TO WRITE:**

Duke Manufacturing Co.
2305 N. Broadway
St. Louis, MO  63102

**TO ACCESS INTERNET:    www.dukemfg.com**

Please provide the following information when you write or call:

- Model Number

- Serial Number

- Date of Purchase

- Complete Mailing Address (including zip code)

- Description of the Problem

**NOTES**

"Your Solutions Partner"

# Duke Manufacturing Co.

**2305 N. Broadway**
**St. Louis, MO 63102**
**Phone: 314-231-1130**
**Toll Free: 1-800-735-3853**
**Fax: 314-231-5074**
**www.dukemfg.com**